

A GUIDE TO
EXPERIMENTAL ELEMENTARY PARTICLE PHYSICS LITERATURE
(1985-1989)

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Abstract

We present an indexed guide to experimental high energy physics literature for the years 1985-89. No actual data are given, but approximately 3500 papers are indexed by Beam/Target/Momentum, Reaction/Momentum (including the final state), Final State Particle, and Accelerator/Experiment/Detector.

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1. Overview

This report is a guide to experimental particle physics papers issued during the years 1985-89. It is based on the *DOCUMENTS* database, maintained on the BDMS/4 system under VMS at Serpukhov. The database is accessible from many sites around the world.

Papers covered in this report are those containing new experimental data. Thus a theoretical paper that extracts new information from an experiment would be included. No actual data are presented in this report. We include papers published or preprinted during the years 1985 through 1989. Papers appearing earlier may be found in the previous edition of this report.¹

This Introduction describes how to use this book and the *DOCUMENTS* database. Section 2 discusses the scope of this compilation, and the sources of information. Section 3 discusses the particle naming scheme we use. Section 4 tells how to use this book. Section 5 tells how to access the *DOCUMENTS* database on which this book is based. Section 6 lists some other publicly accessible databases. Section 7 gives a short graphical summary of the contents of our database.

The body of this report is organized as follows: Each paper is referenced by an "ID" giving the first author's name and the year of first preprinting or publication, e.g., Smith 84. The first *Index* is a complete list of all these ID's, each with the title and preprint number and/or publication reference.

Following this are four other *Indices*. When you find the ID of a paper in any of these indices, you can then find the full reference in the Index of ID's. The Beam/Target/Momentum Index lets you locate papers by beam particle, target particle, and beam momentum (or center-of-mass energy). The Reaction/Momentum/Data-Descriptor Index, lets you locate papers by both the initial and final state of the reaction. The Final-State-Particle/Decay Index directs you to papers by a specific particle and its decay in the final state of a reaction. Finally, the Accelerator/Experiment/Detector Index organizes papers according to the facility at which the experiment was done.

Following the Indices are four *Vocabularies*. Our "spelling conventions" for particle names are given in the Particle Vocabulary. We use the same nomenclature for particles as is used in the "Review of Particle Properties,"² as explained in Section 3 of this Introduction, and some further general rules are given in Section 4.

Names and abbreviations assigned to accelerators and detectors appear in the Accelerator and Detector Vocabularies. The Data Descriptor Vocabulary contains abbreviations used in the Reaction/Momentum/Data Descriptor Index.

Please bring any errors and omissions you may find to our attention.

2. Scope of this Compilation

The starting point for our compilations is bibliographic data from a scan of the literature available at Serpukhov. Additional bibliographic data comes from the SLAC-SPIRES *HEP* database, a joint project of the SLAC and DESY libraries. Then the INIS database is used to check for completeness. From the full list of papers in these databases, we then select those with experimental data. All decisions are made by a physicist; in cases of uncertainty about the "newness" or "originality" of data, we include the paper.

"Data" means not only the obvious experimentally measured quantities, but also some derived quantities, such as partial-wave phase shifts. We exclude instrumentation papers and studies of properties of the cosmic-ray flux itself (although cross sections and other properties of reactions or particles measured in cosmic-ray experiments are included). We also exclude papers mostly of interest to nuclear physicists, such as nuclear-level or other nuclear-structure measurements. There are of course "gray" areas: many elementary particle physics experiments measure scattering phenomena off nuclei. Heavy-ion experiments are also frequently of interest to elementary particle physicists. In these areas, we generally include papers that report more than just nuclear structure parameters and that involve beam energies above about 1 GeV/nucleon, or that report measurements on light nuclear targets (such as the isotopes of hydrogen, helium, or lithium). Other papers are decided on a case-by-case basis by a physicist.

A separate publication, "Current Experiments in Elementary Particle Physics," LBL-91 Revised (1989)³ is also available, covering current, approved experiments at the major world accelerators. It includes a spokesperson index and summaries of fixed-target beams available at many accelerators.

3. The Names of Hadrons

3.1 Introduction

In the 1986 edition of the "Review of Particle Properties,"⁴ we introduced a new naming scheme for hadrons. The virtues sought after were as follows. The symbols were to be as few and as simple as possible, with those already in common use retained where possible; the symbols were to convey unambiguously the important quantum numbers of the particles they name; and the quark model was to guide the whole scheme, without limiting it. Some compromise between simplicity and long-established usage was unavoidable.

Changes from older terminology affected mainly the heavier mesons made of *u*, *d*, and *s* quarks. Otherwise, the only important change was that the *F*[±] became the *D*_{*s*}[±]. None of the lightest pseudoscalar or vector meson names changed, nor did those of the *c**̄c* or *b**̄b* mesons (we do, however, now use *χ*_{*c*} for the *c**̄c* *χ* states), nor did any of the established baryons.

We follow custom and use spectroscopic names [e.g., $\Upsilon(1S)$] as the primary name for most of those ψ , Υ , and χ states whose spectroscopic identity is known. We continue to use the nominal mass form [e.g., $\Upsilon(9460)$] as an alternate or as the primary name when the spectroscopic identity is not known.

3.2 "Neutral-flavor" mesons ($S = C = B = T = 0$)

Table 1 shows the naming scheme for mesons having the strangeness and all heavy-flavor quantum numbers equal to zero. The naming scheme is designed for all mesons, whether ordinary or exotic. First, we assigned names to those states with quantum numbers compatible with being $q\bar{q}$ states. The rows of the Table give the possible $q\bar{q}$ content. The columns give the possible parity/charge-conjugation states, $PC = -+, +-, -, ++$; these combinations correspond one-to-one with the angular-momentum state ${}^{2S+1}L_J$ of the $q\bar{q}$ system being

$${}^1(L \text{ even})_J, {}^1(L \text{ odd})_J, {}^3(L \text{ even})_J, \text{ or } {}^3(L \text{ odd})_J.$$

The entries in the Table give the particle symbol. The spin J is added to the symbol as a subscript except for pseudoscalar and vector mesons. Then the mass is added in parentheses for any meson that decays strongly; however, for the lowest-mass meson resonances, we sometimes shorten the names [e.g., ρ for $\rho(770)$].

Table 1. Symbols for mesons in which the strangeness and all heavy-flavor quantum numbers are equal to zero.

$q\bar{q}$ content	J^{PC}			
	0^{-+}	1^{+-}	0^{--}	0^{++}
	2^{-+}	3^{+-}	2^{--}	1^{++}
			${}^{2S+1}L_J$	
	${}^1\text{even}_J$	${}^1\text{odd}_J$	${}^3\text{even}_J$	${}^3\text{odd}_J$
$u\bar{d}, d\bar{u}$	π	b	ρ	a
$d\bar{d} - u\bar{u}$				
$d\bar{d} + u\bar{u}$	η, η'	h, h'	ω, ϕ	f, f'
$c\bar{c}$	η_c	h_c	ψ^\ddagger	χ
$b\bar{b}$	η_b	h_b	Υ	χ_b
$t\bar{t}$	η_t	h_t	θ	χ_t

[‡] The $J/\psi(1S)$ remains the $J/\psi(1S)$.

Experimental determination of the mass, quark content (where relevant), and quantum numbers I , J , P , and C (or G) of a meson thus fixes its symbol. Conversely, these properties may be inferred unambiguously from the symbol.

If the main symbol cannot be assigned because the quantum numbers are unknown, X is used. Sometimes it is not known whether a meson is mainly the isospin-0 mix of $u\bar{u}$ and $d\bar{d}$ or is mainly $s\bar{s}$; a prime (or symbol ϕ) may be used to distinguish two such mixing states.

Names have been assigned for the anticipated $t\bar{t}$ mesons.

Gluonium states or other mesons that are not $q\bar{q}$ states are, if the quantum numbers are *not* exotic, to be named just as the $q\bar{q}$ mesons are named. Such non- $q\bar{q}$ states will probably be difficult to distinguish from $q\bar{q}$ states and will likely mix with them; that is, our scheme makes no attempt to distinguish the "mostly gluonium" or "mostly $q\bar{q}$ " nature of a particle.

An "exotic" meson with quantum numbers that a $q\bar{q}$ system cannot have, namely $J^{PC} = 0^{--}, 0^{+-}, 1^{-+}, 2^{+-}, 3^{-+}, \dots$, will use the same symbol as would an ordinary meson that has all the same quantum numbers as the exotic meson except for the C parity. Then a caret or "hat" is added to the symbol. For example, an isospin-1 0^{--} meson would be a $\hat{\pi}$, an isospin-0 1^{-+} meson would be an $\hat{\omega}$.

The results of this scheme are as follows. None of the lowest-mass pseudoscalar or vector mesons (π , η , and η' ; ρ , ω , and ϕ) changed names, nor did any of the $c\bar{c}$ or $b\bar{b}$ mesons (except for χ becoming χ_c). Established mesons whose names changed slightly are:

Old name	New name	Old name	New name
$H(1170)$	$h_1(1170)$	$A_2(1320)$	$a_2(1320)$
$B(1235)$	$b_1(1235)$	$f'(1525)$	$f'_2(1525)$
$A_1(1260)$	$a_1(1260)$	$\omega(1670)$	$\omega_3(1670)$
$f(1270)$	$f_2(1270)$		

Established mesons whose names changed completely are:

Old name	New name	Old name	New name
$S(975)$	$f_0(975)$	$A_3(1670)$	$\pi_2(1670)$
$\delta(980)$	$a_0(980)$	$g(1690)$	$\rho_3(1690)$
$D(1285)$	$f_1(1285)$	$\theta(1720)$	$f_2(1720)$
$\epsilon(1400)$	$f_0(1400)$	$X(1850)$	$\phi(1850)$
$E(1420)$	$f_1(1420)$	$h(2030)$	$f_4(2050)$
$\iota(1440)$	$\eta(1440)$		

Note that the $S(975)$, $D(1285)$, $\epsilon(1300)$, $E(1420)$, $\theta(1690)$, and $h(2030)$ all became f mesons. The new scheme reveals that all have $PC = ++$ and are ${}^3(L \text{ odd})_J$ states.

3.3 Mesons with nonzero S , C , B , and/or T

A meson with nonzero S , C , B , and/or T cannot be an eigenstate of charge conjugation. Also, in each such

meson one of the quarks must be heavier than the other. The naming rules are:

- The main symbol is an upper-case italic letter indicating the heavier quark as follows:
 $s \rightarrow \bar{K}$ $c \rightarrow D$ $b \rightarrow \bar{B}$ $t \rightarrow T$.
- If the lighter quark is not a u or a d quark, its identity is given by a subscript.
- If the spin-parity is in the "normal" series, $J^P = 0^+, 1^-, 2^+, \dots$, a superscript "*" is added.
- The spin is added as a subscript unless the meson is a pseudoscalar or a vector.

Thus the pseudoscalar and vector K , K^* , D , D^* , and B mesons did not change names. Established mesons whose names did change were:

Old name	New name	Old name	New name
$Q_1(1270)$	$K_1(1270)$	$L(1770)$	$K_2(1770)$
$Q_2(1400)$	$K_1(1400)$	$K^*(1780)$	$K_3^*(1780)$
$\kappa(1430)$	$K_0^*(1430)$	$K^*(2045)$	$K_4^*(2045)$
$K^*(1440)$	$K_2^*(1440)$	F	D_s

Most notably, the F (the $c\bar{s}$ state) changed to D_s . However, with the prospect of B_s , B_c , T_s , and similar mesons, there was no consistent and simple alternative. The rules can lead to cumbersome symbols, such as D_{s2}^* , but such particles are unlikely to be often seen.

3.4 Baryons

No change has been made to the symbols N , Δ , Λ , Σ , Ξ , and Ω that have been used 25 years for the baryons made of light quarks (u , d , and s). These symbols indicate the isospin and quark content, as do the symbols used for the baryons containing one or more heavy quarks (c , b , and t quarks). The following system was invented earlier and independently by Hendry and Lichtenberg and by Samios. The rules are:

- Baryons with *three* u and/or d quarks are N 's (isospin 1/2) or Δ 's (isospin 3/2).
- Baryons with *two* u and/or d quarks are Λ 's (isospin 0) or Σ 's (isospin 1). If the third quark is a heavy quark (not an s quark), its identity is given by a subscript. This nomenclature was already used for the $\Lambda_c(2285)$, $\Sigma_c(2455)$, and $\Lambda_b(5500)$.
- Baryons with *one* u or d quark are Ξ 's (isospin 1/2). One or two subscripts are used if one or both of the remaining quarks are heavy: Ξ_c , Ξ_{cc} , Ξ_b , etc.
- Baryons with *no* u or d quarks are Ω 's (isospin 0) with subscripts indicating any heavy-quark content.

In short, the total number of u and d quarks together with the isospin determine the main symbol, and subscripts indicate any content of heavy quarks. A Σ always has isospin 1, an Ω always has isospin 0, etc.

4. Using this Compilation

Each paper is assigned a unique "ID," comprised of the first author's name and the date of the first preprinting or publication. In case of duplicates, we append a letter "B," "C," etc., as in

Jones 84
 Jones 84B
 Jones 84C.

The maximum length of the ID is 16 characters, so long author's names are truncated.

All references for the paper corresponding to an ID are given in the ID/Reference>Title Index. When a paper has been preprinted and published, both references are given. In these cases, the year in the ID, which is usually that of the preprint, may not match the year of the published reference. In a very few cases, the first author of the preprint may not be the same as that of the publication, in which case the ID usually reflects the preprint's first author.

To see a paper's full author list or to search for a set of papers by the name of one or more authors, one may query the *DOCUMENTS* or *HEP* databases.

The first page of each index explains its use. It is worthwhile to understand a few of our conventions.

- Some "particle" names actually represent groups of particles. For example,
 - * "X" is used for inclusive measurements or, if used as the only particle in the final state, for total cross-section measurements.
 - * "(vees)" means *zero or more* unspecified neutral vees,
 - * "vee(s)" means *one or more* unspecified neutral vees, and
 - * "vees" means *two or more* of the same.
 - * "Mult[charged-hadron]" means a *collection of reactions* for which the multiplicity distribution of charged hadrons has been measured.
 - * "Inelastic" means a sum over all inelastic final states.
 - * "Jet" means a jet of particles, treated as a single entity.
 - * " $\gamma\gamma$ " means final states in which the occurrence of photons has been excluded.
- In using the computer database, all antiparticles commonly written with a bar over the name are spelled with the letters "BAR" appended to the particle name. Thus, KBAR, LAMBDA/CBAR, etc.
- Particles tend to be encoded in the same language the experimenters used, leading to some inevitable ambiguity. For example, "charged" in one paper may be called "charged-hadron" in another paper.
- Reactions are listed in the shortest form possible. Identical particles are grouped together, so the reaction $\pi^- p \rightarrow \pi^+ \pi^+ \pi^- \pi^- p$ appears as $\pi^- p \rightarrow p 2\pi^+ 3\pi^-$.

5. Accessing the IHEP DOCUMENTS Database

Anyone who has an account on VXCERN can directly access the IHEP databases, including *DOCUMENTS*. (See the subsection on 'Databases under VMS (at CERN)' for a list of the other databases.)

Otherwise, remote interactive access can be achieved from other VAXes with DECNET access to VXCERN (where the databases themselves reside). The remote software (20,000 blocks) can be obtained from either VXCERN::YGSCD or LBL::PDG.

In the following description, words in **Typewriter Font** must be typed as given. Only the letters in **UPPER CASE** are necessary and these must be entered in upper case. Words in *italics* in brackets < ... > are "variables" for which the user substitutes an appropriate value, again in upper case.

Access to the IHEP-CERN databases can then be initialized by the system manager (as is done on VXCERN) or by having each user type:

disk: [directory.]COMPAS.BDMS.COM]BDMSINI

(For example, on the CSA cluster at LBL, substitute DISK\$PHYSICS00 for 'disk' and WAGMAN for 'directory'.) To enter the system and obtain general information, type:

PPDS

or, in particular (to select *DOCUMENTS*), type:

PPDS DOCUMENTS

- For a short explanation of the database, type:
HELPbase
- For a list of database commands, type:
?
- For an explanation of a particular database command, type:
?<command-word>
(e.g., ?FIND, ?HELPbase, ??)
- To see the record structure and names of key data elements for searching, type:
FDT
- To browse the index of a key data element, type:
INDEX,<key data element name>
(e.g., INDEX,AC)

The following are typical examples of the search command FIND. Notice the use of the '**' to terminate each search statement and the use of the ';' to separate data elements. Previous search results can be combined with a current search by use of 'set numbers':

```
FInd AC=BNL;**
FInd AC=BNL; OR AC=BONN;**
FInd (1) and RE=PI+ P;**
FInd (1) and (2) **
```

The last example combines the results of two searches labelled SET (1) and SET (2). Notice that ';' is *not* used when searching for 'SETS'. Each successful search produces a list of all previous SET numbers along with

the search command. Enter DIR, to get a list of these SET numbers and commands.

- To do a truncated search:
FInd DE=HBC/;**
Finds all detectors that begin with HBC.
- To do a string search:
FInd DE/C=BC;**
Finds all detectors that have BC anywhere in the name.
- The following examples are WRONG:
FInd AC BNL;** (Error: no '=')
FInd AC=BNL** (Error: no ';')
FInd AC=BNL OR AC=BONN;**
(Error: no ';' after BNL)
FInd AC=BNL OR BONN;**
(Error: no ';' and no 'AC=')
- To see the results of a search with key data element names, type:
LIST
LInst,AC,RE,SC. (for individual data elements)
- Or for an attractive listing, type:
DOcument them LOokfile
- To save the results of a search in a file, type one of the following:
DOcument
DUMp
PRInt

The results are stored in files DOC.DOC, DOC.DUM, or DOC.PRN respectively. The first file contains a user-friendly listing, the second one contains a highly compressed dump of each record (with data element and value), and the third one is a line-by-line decompressed version of the second file. Another file automatically created, DOC.AUD, contains a history of your commands.

The searchable information includes two groups of key data elements:

BIBLIOGRAPHIC: ID (short code—SC), references, date of document (year), authors and affiliations, and experiment number.

TOPICAL: beam particle, target particle, reaction, particle in the final states of reactions, momentum in initial states, type of data obtained, particle whose property has been measured, accelerator and/or detector, and initial state polarization. It is possible to construct complex queries including any set of key data elements.

6. Other Related Databases

6.1 Databases under VMS (at CERN)

Large user-friendly databases are now available to anyone with DECNET access to VXCERN by using the commands PPDS DOCUMENTS, PPDS EXPERIMENTS, etc. (See the section on 'Accessing the IHEP DOCUMENTS Database' above.) They are maintained by the Serpukhov COMPAS group and the CERN-HERA group

with input from the world-wide Particle Data Group collaboration. They are managed by BDMS/4, a menu-driven database management system with on-line help information. This system consists of:

- the archival databases *DOCUMENTS*, *EXPERIMENTS*, and *REACTIONS*,
- the evaluated data compilations *PP* (Particle Properties) and *CS* (integrated reaction cross sections), and
- the supplementary database *VOCABULARY* (the vocabulary used by the other databases).

The *DOCUMENTS* database contains information extracted from experimental papers (but no actual data). It covers 1974 to the present with earlier papers as far back as 1936.

The *EXPERIMENTS* database contains information in the *DOCUMENTS* format extracted from laboratory proposals. It covers 1961 to the present.

The *REACTIONS* database contains actual physics data extracted from experimental papers. It covers 1952 to the present.

The *PP* database contains information from the "Review of Particle Properties" Summary Tables.²

The *CS* database contains data from CERN-HERA, UCRL, and LBL cross-section compilations. All data are double checked. It is regularly updated from the *REACTIONS* database. It covers 1950 to the present.

These databases (except for *CS*) overlap in large part those maintained at SLAC, where they are called *EXPERIMENTS*, *DATAGUIDE*, *REACTIONS*, and *PARTICLES*, respectively. (See the next subsection.) They are not, however, even when titled the same, identical to the SLAC databases. For example, the *PP* database contains only the Summary Table information from the "Review of Particle Properties"² instead of the Full Listings which are available in the SLAC database *PARTICLES*. As another example, the *DATAGUIDE* database at SLAC is out-of-date and will eventually be replaced with data taken from *DOCUMENTS*.

6.2 Databases under SLAC-SPIRES

SLAC and the Berkeley and United Kingdom Particle Data Groups, in collaboration with other groups and institutions, maintain several particle physics databases on SLAC's IBM computer in the SPIRES database management system. For detailed information and examples of their use, see the "User's Guide"⁵ available from the Berkeley Particle Data Group, and the "Search Guide to HEP" available from the Library, SLAC, P.O. Box 4349, Stanford, CA 94309, USA. Or contact Louise Addis at SLAC: ADDIS@SLACVM, phone (415) 926-2411.

The *HEP* database contains bibliographic information on particle physics papers (journal articles, preprints, reports, theses, etc.). It covers 1974 to the present, is maintained by the SLAC Library in collaboration with the DESY HEP Index Group, and is updated daily. It is searchable by author, institution, title, topic, report number, citation, and other bibli-

graphic items. It is used to produce the biweekly "Preprints in Particles and Fields."

The *DATAGUIDE* database was used to produce the previous edition of this report.¹ It covers 1976 to 1985 (thus is out-of-date) and will eventually be replaced by a *DOCUMENTS* database maintained by the Serpukhov COMPAS Group and the Berkeley PDG. It is searchable by reaction, lab momentum, c.m. energy, particle studied, accelerator, detector, and other items. The previous edition¹ tells how to access and use it.

The *PARTICLES* database contains the Full Listings from the "Review of Particle Properties,"² but no Particle Properties Summary Tables or Miscellaneous Tables, Figures, and Formulae. It is maintained by the Berkeley PDG in collaboration with the entire authorship of the "Review." It is updated around April each year. It is searchable by particle and particle property (e.g., mass, lifetime, etc.).

The *REACTIONS* database contains numerical data on reactions: differential and total cross sections, structure functions, polarization measurements, and many other items from most current aspects of experimental particle physics. It covers 1978 to the present. It is compiled by the United Kingdom Particle Data Group (University of Durham and Rutherford Appleton Lab) in collaboration with the Serpukhov COMPAS Group. It is updated approximately annually, and is searchable by first author, reference, reaction, lab momentum, quantity measured, and final-state particle.

The *EXPERIMENTS* database contains summaries of approved experiments at the major laboratories. It covers approximately 1975 to 1989, with coverage since 1980 being more complete. It is maintained by the Berkeley PDG in collaboration with correspondents at various labs and is updated periodically. It is searchable by experiment number, author, accelerator, detector, reaction, beam momentum, journal paper, and other items. The report "Current Experiments in Elementary Particle Physics,"³ is produced from it.

The *CONF* database contains names and dates of past and future conferences of interest to particle physicists.

The *HEPNAMES* database has electronic-mail addresses of many people working in high-energy physics.

The *INST* database has addresses (including phone and fax numbers) of high-energy physics institutions.

6.3 QSPIRES Access to SLAC-SPIRES

People without a SLAC computing account can use QSPIRES (see 'NOTE' below) to access the databases at SLAC either interactively via BITNET using the 'tell' command ('send', 'bsend', or a similar command on some systems) or using electronic mail.

Here is an interactive search on HEP; the query is refined as QSPIRES sends responses to your screen:

```
tell QSPIRES@SLACVM FIND TITLE E+ E-
(response)
```

```
tell QSPIRES@SLACVM AND 20
(response)
tell QSPIRES@SLACVM AND DATE 1988
(response)
```

To receive the search result on your screen (≤ 10 records):

```
tell QSPIRES@SLACVM OUTPUT (TYPE
```

To receive the search result instead as electronic mail:

```
tell QSPIRES@SLACVM OUTPUT PRINT BRIEF
```

You may combine search criteria in a single command (FIND TITLE HADRON AND PION AND DATE 1988), but the command 'OUTPUT PRINT BRIEF' must be separate. Also note that a QSPIRES search defaults to the HEP database. To search another database, like CONF:

```
tell QSPIRES@SLACVM FIND PLACE VIENNA (IN CONF
tell QSPIRES@SLACVM OUTPUT PRINT BRIEF
```

or tell QSPIRES@SLACVM OUTPUT (TYPE

Or to access the electronic version of the "Review of Particle Properties" (results always being returned as mail):

```
tell QSPIRES@SLACVM
EXPLAIN PARTICLES (IN PARTICLES
tell QSPIRES@SLACVM
FIND PP ETA MODES (IN PARTICLES
```

For the HEPNAMES and INST databases, you may use the special short-cut searches:

```
tell QSPIRES@SLACVM WHOIS ARMSTRONG.B
tell QSPIRES@SLACVM WHEREIS FERMILAB
```

If your system does not support interactive BITNET communication or is not on the BITNET network, send electronic mail to one of the following:

For BITNET:

QSPIRES AT SLACVM

For non-LBL DECNET:

LBL:::"QSPIRES@SLACVM.BITNET"

For LBL DECNET:

ST%"QSPIRES@SLACVM.BITNET"

For Internet:

QSPIRES%SLACVM.BITNET@LBL.GOV

as in the examples above. You **must** remove the 'tell QSPIRES@SLACVM' from all messages:

FIND PLACE VIENNA (IN CONF

Each mail message must contain **only one line**, and the mail 'subject line' must be blank. QSPIRES will send its responses as mail. For other networks, contact your local system manager.

For more information, you can send electronic mail to HEPNAMES@SLACVM and request material on the QSPIRES commands. You can get the 'HELP' file by mailing the command 'HELP' to QSPIRES@SLACVM.

- NOTE: Use of QSPIRES is free. Anyone may use the special short-cut searches for the HEPNAMES and INST databases. Other use of QSPIRES requires that your specific computer node be registered with SLAC: an individual account is **not** required. Send mail to QSPIRES@SLACVM for questions about node registration.

6.4 QSPIRES HEP Databases at other Institutions

SLAC/DESY HEP and several of the other databases mentioned above are available on SPIRES at DESY, KEK, and Kyoto University, RIFP. Clone copies of HEP are kept current by nightly updates.

Contacts at these institutions are:

DESY - Hartmut Preissner (L00HTTP@DHHDESY3);

KEK - Y. Miura (MIURA@JPNKEKVM);

Kyoto University, RIFP - K. Aoki (AOKI@JPNRIFP). Kyoto also operates a 'remote SPIRES' for Japan.

6.5 The CERN Preprint Database

CERN maintains a database of high-energy physics preprints, PREP, similar to the SLAC/DESY HEP database. (CERN proposes adding journal articles, making their database comparable in scope to HEP.) For information on QALICE, a QSPIRES-like facility for accessing this database, contact Maja Gracco (MGR@CERNVM).

The PREP database will also run on an IBM PC (or compatible) using Micro CDS/ISIS, an information storage and retrieval system developed by UNESCO. The system is called MicroPREP and is intended for use in countries without direct access to BITNET or other electronic mail capabilities. For further information, contact Alec Hester, CERN Scientific Information Service, CH-1211 Geneva 23, Switzerland.

6.6 The Durham-RAL Particle Physics Databases

These databases contain compilations of experimental particle physics data (e.g., reaction cross sections, polarizations, etc.) and may be searched interactively using VM/CMS on both the Rutherford Appleton Laboratory (RAL) and CERN central computers. The topics include:

- two-body (and quasi-two-body) reactions;
- hadron and photon one- and two-particle inclusive distributions;
- lepton-produced inclusive data (i.e., deep inelastic scattering, structure functions, etc.);
- data from e^+e^- annihilations.

A subset of the SLAC/DESY HEP literature-searching guide (from 1980 onwards) is linked to the reaction data to inform users when new data is available. Also available are the EXPERIMENTS and PARTICLES databases from the SLAC system. (See above.)

The databases run under the Berkeley Database Management System and are menu-driven with full on-line help information for easy use. They can be accessed by anyone having network access to the RAL or CERN computers. For PSS access to RAL, the relevant address is 23422351919169, then .2) — a guest account, PDG (password HEPDATA), is available at RAL for those without a CMS account. An EXEC file, HEPDATA, resident on the user-disk (UDISK), gives interactive access to the databases. The data are retrieved using simple keyword-based searches, and resulting data records can be listed on the terminal, sent

to a printer, or transferred to the user's own machine as desired.

To insure that the databases are current, experimentalists are urged to send their data to the compilers as soon as they are available.

For more information or a user guide (1988 edition), contact Mike Whalley at Durham University, South Rd., Durham City DH1 3LE, England (MRW@UKACRL or MRW@CERNVM) or Dick Roberts at Rutherford Appleton Lab, Chilton, Didcot, Oxon. OX11 0QX, England (RGR@UKACRL). At CERN, user guides may be obtained from Alec Hester of the CERN library (HES@CERNVM).

7. Some History

We present a few figures showing the development of major accelerator centers and a historical perspective of accelerator usage. The presentation is three-fold. Figure 1 presents the total publication rate in worldwide particle physics from the very beginning, as it reflected in the *DOCUMENTS* and *REACTIONS* databases. Figures 2 through 5 show cumulative curves of major laboratories' contributions to the literature. Figures 6 through 10 show the evolution of accelerator usage by home experimental groups (i.e., the number of journal papers generated by experiments involving home accelerators divided by the total number of journal papers generated by that laboratory).

REFERENCES

1. G.P. Yost *et al.*, "A Guide to Data in Elementary Particle Physics," LBL-90 Revised (1986).
2. Particle Data Group, "Review of Particle Properties," Phys. Lett. **B239** (1990).
3. Particle Data Group, "Current Experiments in Elementary Particle Physics," LBL-91 Revised (1989). See also G. Gidal *et al.*, "Major Detectors in Elementary Particle Physics," LBL-91 Supplement, Revised (1985).
4. Particle Data Group, "Review of Particle Properties," Phys. Lett. **170B** (1986).
5. A. Rittenberg *et al.*, "A User's Guide to Particle Physics Computer-Searchable Databases on the SLAC-SPIRES System," LBL-19173 (1986).

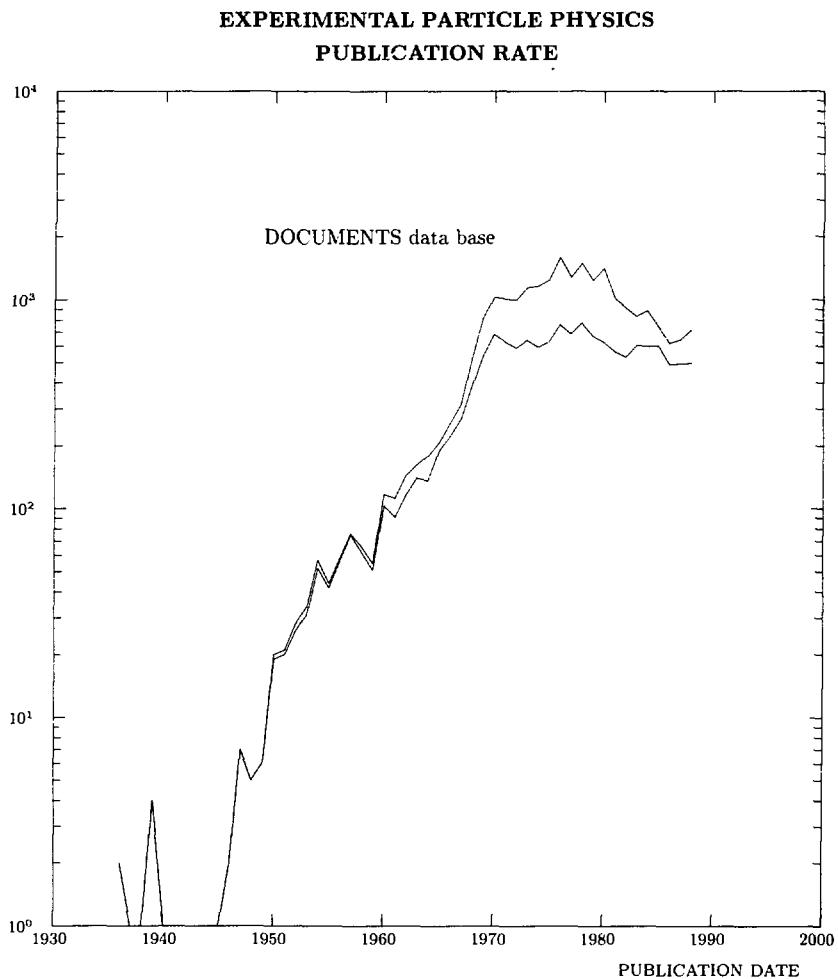


Fig. 1. The number of experimental papers produced each year. The lower curve gives the number of journal papers, and thus doesn't include unpublished preprints.

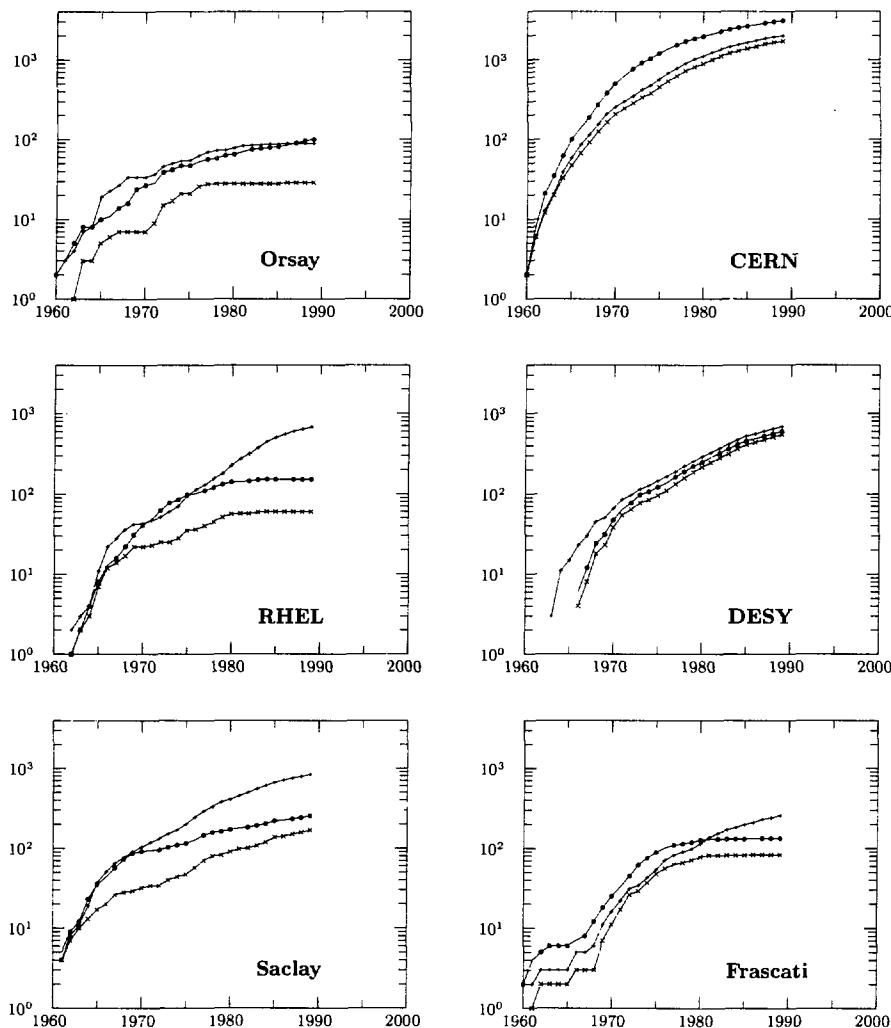


Fig. 2. The cumulative number of papers from major European accelerator laboratories. A + indicates papers with authors from the laboratory, a ● indicates papers on data taken at an accelerator at that laboratory, and an x indicates papers both with authors from the laboratory and data from its accelerator(s).

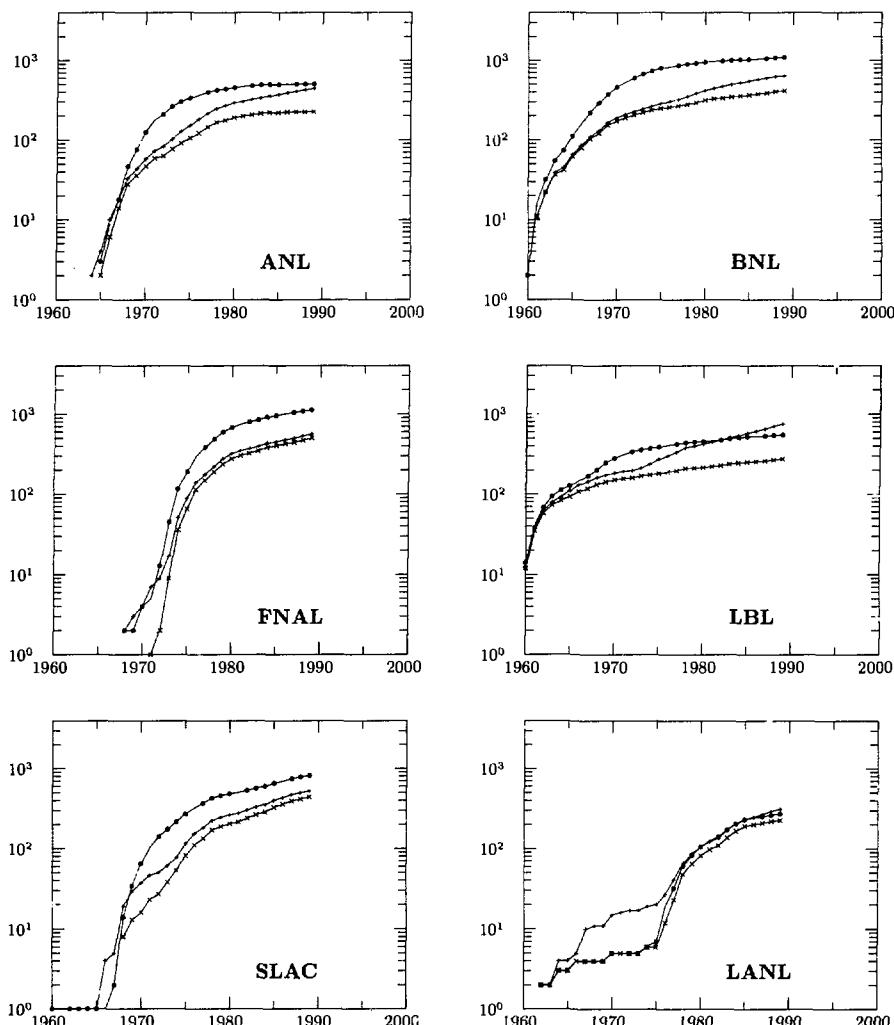


Fig. 3. The cumulative number of papers from major USA accelerator laboratories. A + indicates papers with authors from the laboratory, a • indicates papers on data taken at an accelerator at that laboratory, and an x indicates papers both with authors from the laboratory and data from its accelerator(s).

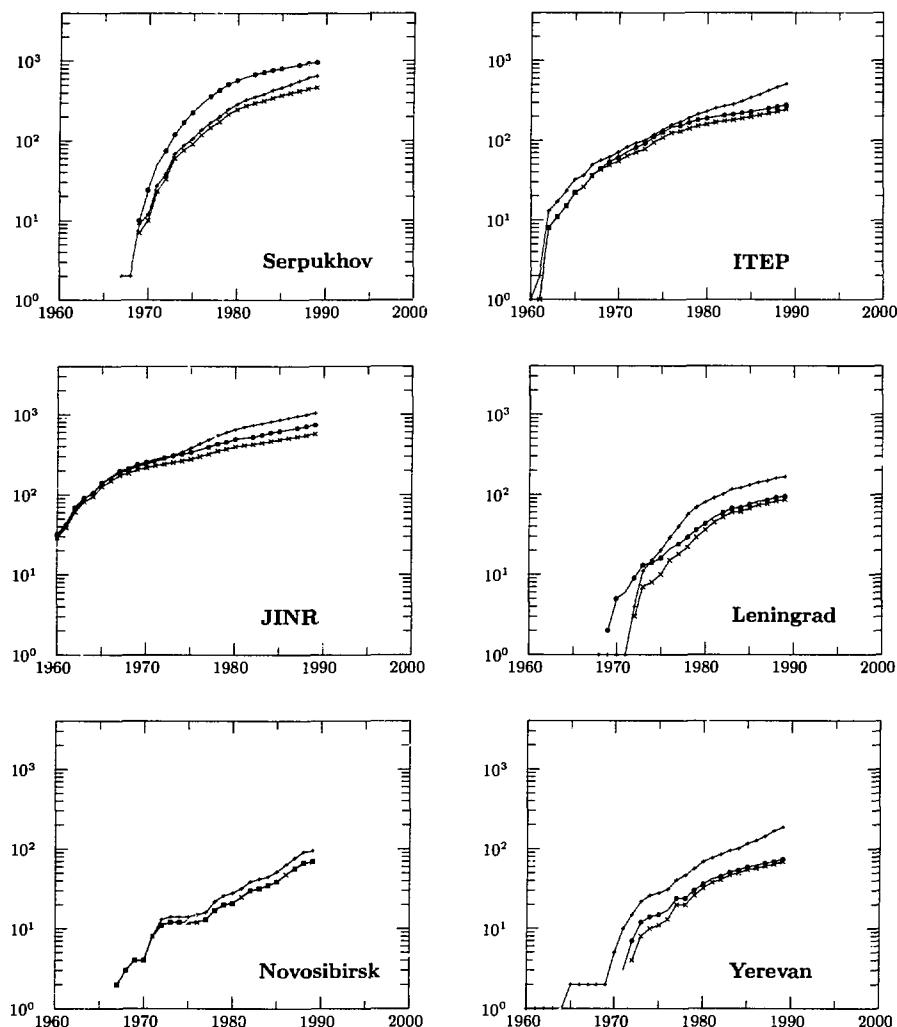


Fig. 4. The cumulative number of papers from major USSR accelerator laboratories. A + indicates papers with authors from the laboratory, a • indicates papers on data taken at an accelerator at that laboratory, and an × indicates papers both with authors from the laboratory and data from its accelerator(s).

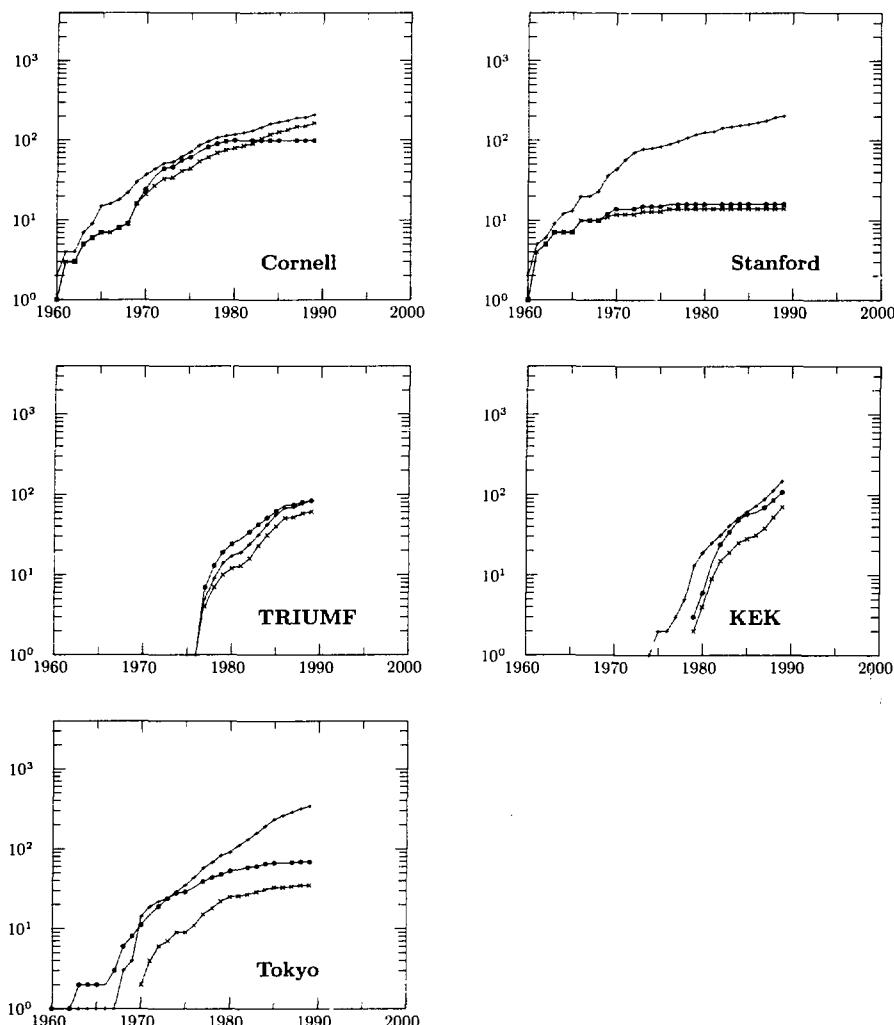


Fig. 5. The cumulative number of papers from some USA, Canadian, and Japanese accelerator laboratories. A + indicates papers with authors from the laboratory, a • indicates papers on data taken at an accelerator at that laboratory, and an x indicates papers both with authors from the laboratory and data from its accelerator(s).

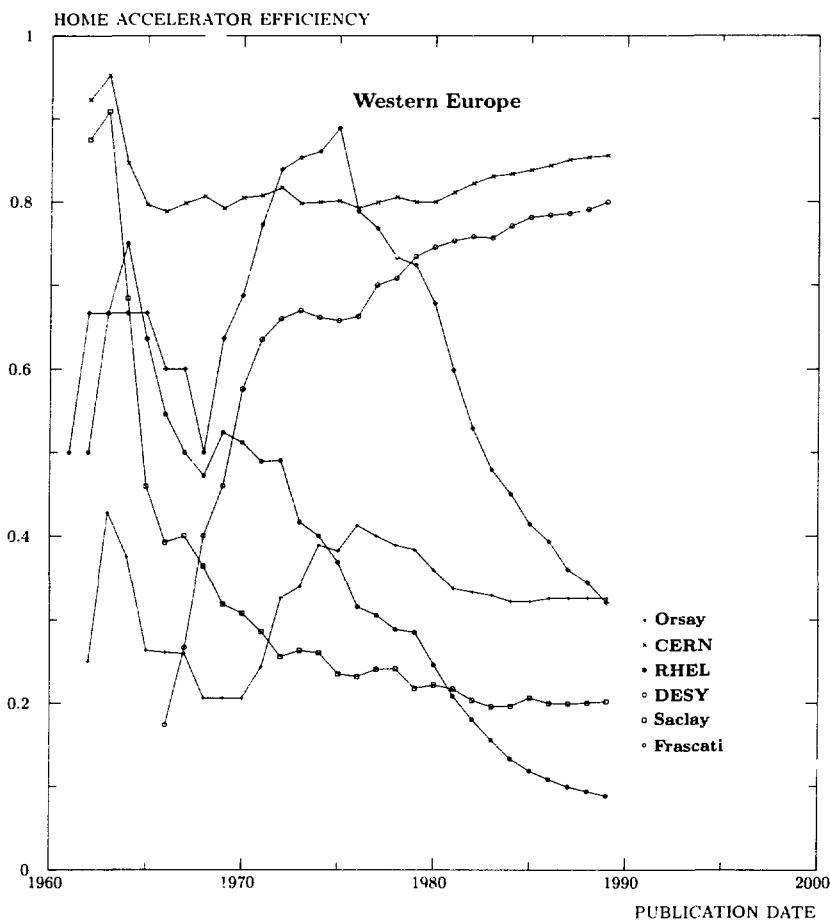


Fig. 6. The fraction of all the experimental papers with authors from a given laboratory that present data taken at an accelerator at that laboratory.

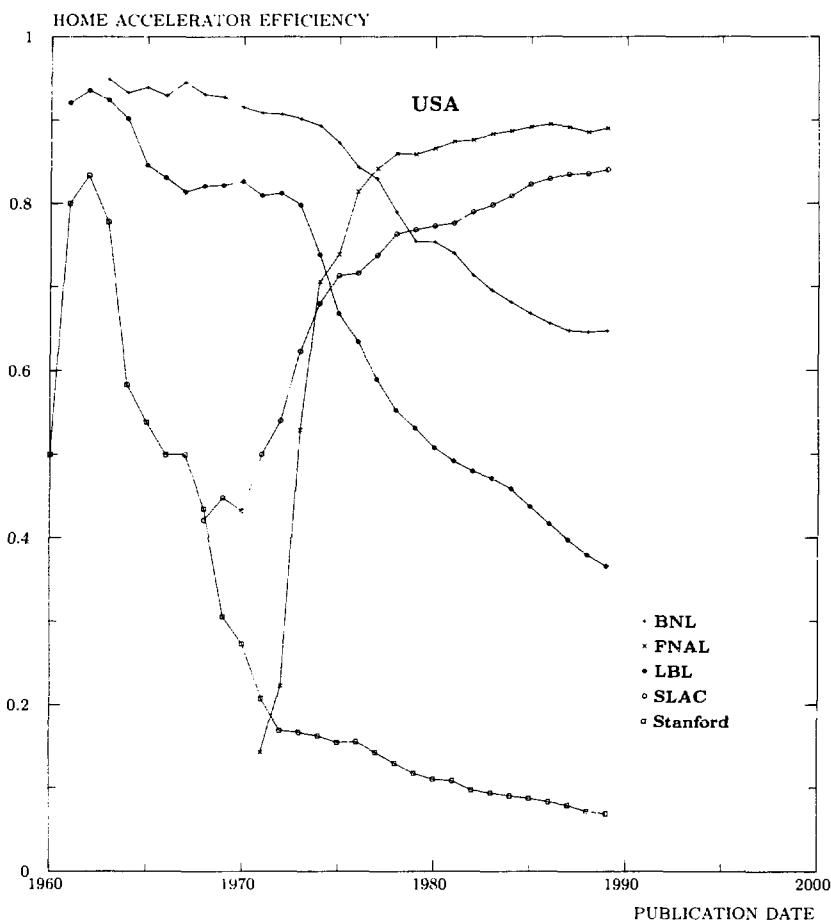


Fig. 7. The fraction of all the experimental papers with authors from a given laboratory that present data taken at an accelerator at that laboratory.

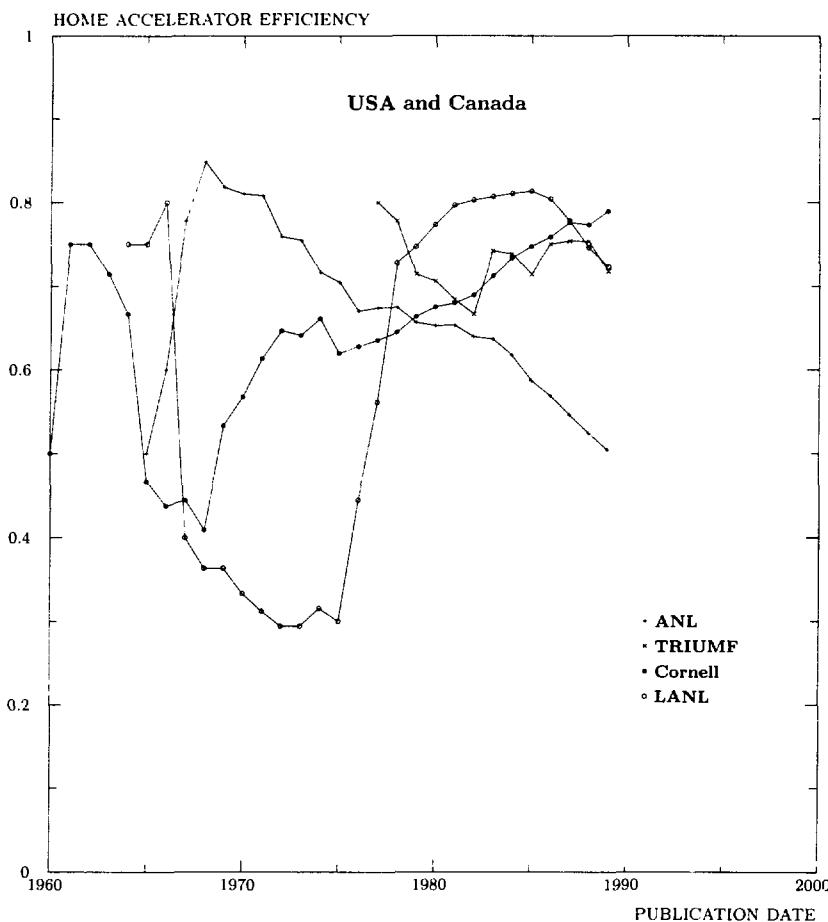


Fig. 8. The fraction of all the experimental papers with authors from a given laboratory that present data taken at an accelerator at that laboratory.

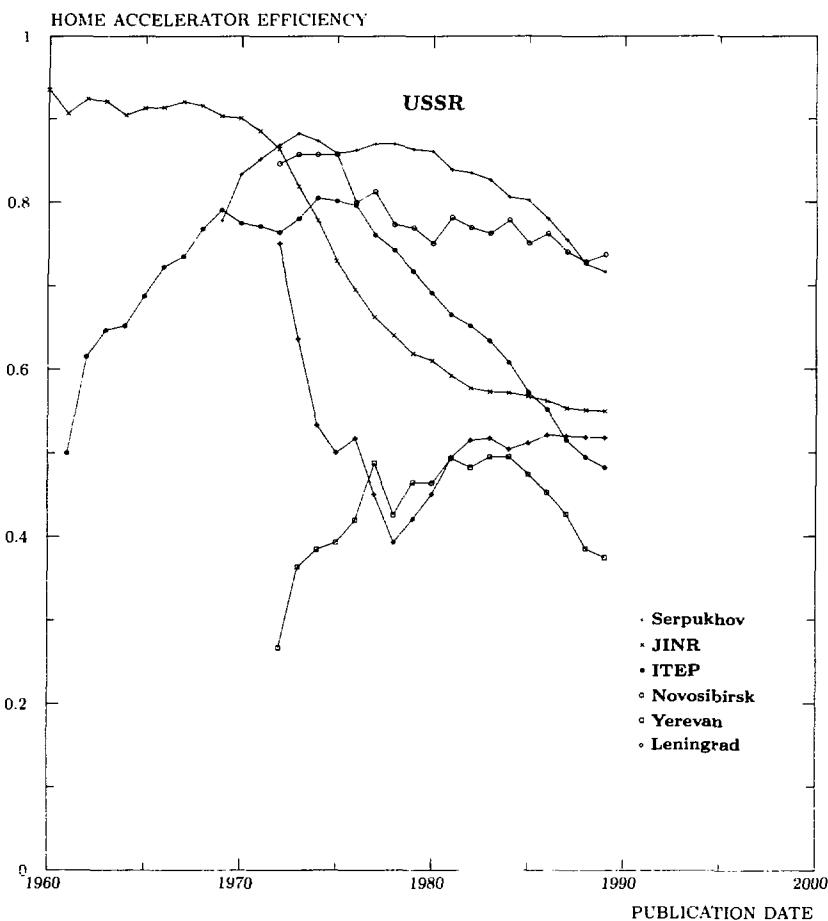


Fig. 9. The fraction of all the experimental papers with authors from a given laboratory that present data taken at an accelerator at that laboratory.

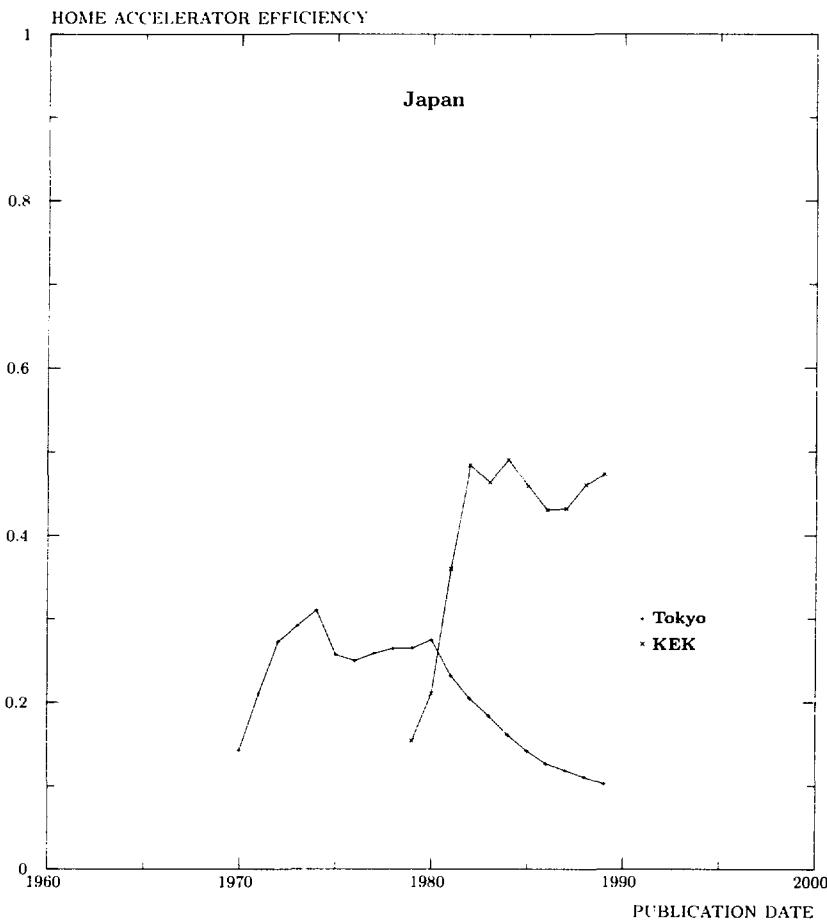


Fig. 10. The fraction of all the experimental papers with authors from a given laboratory that present data taken at an accelerator at that laboratory.

Each paper is assigned an identifier (ID) composed of the name of the first author and the year the paper appeared, as in JONES 87. Other papers with the same first author and year are listed as JONES 87B, JONES 87C, etc. In the other indices, the papers are referred to by this ID. The present index then provides the reference and the title of the paper. Due to text processing procedures, titles of papers in this index may differ slightly from the original titles, especially concerning particle names.

One may use this index to see if a preprint has been published. Note, however, that the year of preprinting and the year of publishing are often different, and our ID is usually that of the year of preprinting.

Illustrative Key

Document ID: all other indices in this volume refer to this paper by this ID.

Primary Reference: the journal reference for this paper, if the paper was published.

Additional References: the preprint number (occasionally there is more than one).

Title of Paper

Dougherty 88	LBL-26303: An Experimental Investigation of Double Beta Decay of ^{100}Mo
Dowell 88	CERN-EP-88-154: Recent Results from the UA1 Experiment
Drechsel 85	[Phys. Rev. Lett. 54:30,1985] Search for Anomalous Fragments of ^{56}Fe Using Plastic Nuclear Track Detectors
Dropesky 86	Phys. Rev. C32:1305,1985; Excitation Functions for the Production of ^{18}F and ^{24}Na from Al and Si with Fast Pions
Druzhinin 88	Z. Phys. C37:1,1988; NOVO-87-52: Search for Rare Radiative Decays of the ϕ Meson at VEPP-2M
Dubar 89	Yad. Phys. 49:1239,1989; Parametrization of Total Cross Sections at Intermediate Energies
Dubinina 88	Pisma Zh. Eksp. Teor. Fiz. 48:233,1988; Observation of the Slow Pion Production in the Nucleus Nucleus Interactions
Duffy 85	Phys. Rev. Lett. 55:1816,1985; A-dependence of Charm Production
Dugan 85B	Phys. Rev. Lett. 55:170,1985; HUTP-85/A033; New Neutrino Constraints on Majorana Mass Matrices
Dukhovskoj 87	Yad. Phys. 47:1816,1988; ITEP-87-198; Measurement of the Total Cross Sections of the Proton Interactions with Nuclei ^6Li, ^7Li, and ^9Be at 2 GeV/ c

- Aarnio 89 Phys. Lett. 231B 539 (1989). CERN EP-89-134
Measurement of the Mass and Width of the Z^0 -Particle from Multihadronic Final States Produced in $e^+ e^-$ Annihilations
 Aarnio 90 CERN-EP-90-19.
Study of Hadronic Decays of the Z^0 Boson
 Aarnio 90B Phys. Lett. 241B 425 (1990). CERN EP-90-31.
Study of the Leptonic Decays of the Z^0 Boson
 Abachi 85 Phys. Rev. D33 2733 (1986). LBL-19891.
Search for Production of Fractional Charges, New Particles, and Subthreshold Antiprotons, in Relativistic Nuclear Collisions
 Abachi 86 Phys. Rev. Lett. 56 1039 (1986).
Upper Limit on the Tau-neutrino Mass
 Abachi 86B Phys. Lett. 182B 101 (1986).
Search for Wrong Sign D^0 Decays
 Abachi 86C Phys. Rev. Lett. 57 1990 (1986).
Observation of Tensor and Scalar Mesons Produced in $e^+ e^-$ Annihilation at 29 GeV
 Abachi 86D Phys. Lett. 181B 403 (1986).
Asymmetry in the Angular Distribution of Inclusive Λ Baryons from $e^+ e^-$ Annihilations at $E_{cm}=29$ GeV
 Abachi 87 Phys. Rev. D35 2880 (1987). ANL-HEP-PR 86-138.
Tau-neutrino Mass Limit
 Abachi 87B Phys. Lett. 199B 151 (1987). ANL-HEP-PR 87-80. PU-87-602. IJHEP-87-10. UM-HE-87-17.
Charged $K^*(892)$ Production in $e^+ e^-$ Annihilations at 29 GeV
 Abachi 87C Phys. Lett. 199B 585 (1987).
Measurements of the Spin Density Matrix of $D^*(2010)$ Mesons Produced in $e^+ e^-$ Annihilations
 Abachi 87D Phys. Rev. Lett. 58 2627 (1987).
Production of Strange Baryons in $e^+ e^-$ Annihilation at 29 GeV
 Abachi 87E Phys. Rev. Lett. 59:2519 (1987).
Measurement of the Tau-Lepton Lifetime
 Abachi 87F Phys. Lett. 197B 291 (1987).
Inclusive η Production in π^\pm Decays
 Abachi 88 Phys. Lett. 212B 533 (1988). ANL-HEP-PR 88-5. IJHEP-88-3. UM-HE-88-5. PU-88-614.
Measurement of Upper Limits for the Decay Widths of $D^*(2010)^+$ and $D^*(2010)^0$
 Abachi 88B Phys. Lett. 205B 111 (1988).
Production of η Mesons in $e^+ e^-$ Annihilation at $\sqrt{s}=29$ GeV
 Abachi 88C Phys. Lett. 205B 411 (1988).
Measurement of the $D^0 \rightarrow K^- \pi^+$ Branching Fraction
 Abachi 89 Phys. Lett. 220B 405 (1989). PU-89-628. IM-HE-89-23. IJHEP-89-3.
Measurement of the Branching Ratio for $\tau^+ \rightarrow e^+ \bar{\nu}_e \nu_\tau$
 Abachi 89B Phys. Rev. D40:902 (1989). ANL-HEP-PR-88-90. IJHEP-88-9. UM-HE 88-38. PU-88-624.
Production Cross Section and Topological Decay Branching Fractions of the Tau-Lepton
 Abachi 89C Phys. Rev. D41:2045 (1990). ANL-HEP-PR-89-73. IJHEP-89-4. UM-HE-89-25. PU-89-631.
Quark Hadronization Probed by K^0 Mesons
 Abachi 89D Phys. Rev. D42:706 (1990). ANL-HEP-PR-89-09; IJHEP-89-1. UM-HE-89-01. PU-89-625.
Study of Vector Meson Production in $e^+ e^-$ Annihilation at $\sqrt{s}=29$ GeV
 Abaev 84 Z. Phys. A322 603 (1985). LENI-84-946.
Phase Shift Analysis of $\pi^+ p$ Scattering in the Region 194 MeV - 600 MeV
 Abaev 87 LENI-87-1318.
Measurement of Narrow Dibaryon Resonances with the Isospin $T=2$
 Abaev 88B Yad. Phys. 48:1338 (1988). Sov. J. Nucl. Phys. 48:852 (1988).
Measurement of the Spin Rotation Parameters R and A in Elastic $\pi^+ p$ Scattering at 450 and 560 MeV
 Abashidze 84 Nucl. Phys. A437 573 (1985). JINR-E1-84-417.
Emission of Light Fragments ^3H , ^3He , and ^4He in ^4He nucleus Collisions at 3.33 GeV/Nucleon Kinetic Energy
 Abashidze 85 JINR-P1-85-491.
Differential Cross Section for the Formation of Helium and Lithium Isotopes in the Interaction of Alpha Particles with Silver and Gold
 Abashidze 85B Yad. Phys. 42:383 (1985).
Factorization of Fragmentation Cross Sections in Relativistic p Nuclei and ^4He Nuclei Interactions
 Abatzis 90 Phys. Lett. 244B 130 (1990). CERN EP-90-50.
A and $\bar{\Lambda}$ Production in Sulphur-Tungsten Interactions at 200 GeV/c per Nucleon
 Abbott 87 Phys. Lett. 197B 285 (1987). BNL-10050.
Measurement of Energy Emission from ^{16}O nucleus and p nucleus Collisions at 14.5 GeV/c per Nucleon with a Lead Glass Array
 Abbott 90 Phys. Rev. Lett. 64:847 (1990).
Kaon and Pion Production in Central Si Au Collisions at 14.6 A GeV/c
 Abdinov 84B Yad. Phys. 41:1546 (1985). Sov. J. Nucl. Phys. 41:979 (1985). JINR-P1-84-121.
Mechanisms of Cumulative Proton Production in π^- nucleus Interactions at 5 GeV/c: A Phenomenological Analysis
 Abdinov 86 Yad. Phys. 43:624 (1986). Sov. J. Nucl. Phys. 43:398 (1986). JINR-P1-85-181.
Measurement of ρ^0 Meson Total Interaction Cross Section for Internuclear Nucleons in π^- C Collisions at 5 GeV/c
 Abdinov 86B Yad. Phys. 44:1502 (1986). JINR-P1-86-11.
Search for Multibaryon Resonances in the π^- ^{12}C Interactions at 5 GeV/c
 Abdinov 86C Kr. Sov. JINR 15:34 (1986).
Observation of Narrow Diproton Resonances with 1966 and 1989 MeV/c² Masses
 Abdinov 86D Yad. Phys. 44:1016 (1986).
Absorption of Slow Secondary π^- Mesons in Hadron Nuclear Interactions
 Abdinov 87 Yad. Phys. 45:418 (1987).
Dependence of Averaged Inclusive Characteristics of Charged Pions and Protons on the Cumulative Number in π^- C Interactions at 5 GeV/c

- Abdullin 87 ITEL-87-29:
Analysis of the Reaction ${}^3\text{He} p \rightarrow p p p n$ at 5 GeV/c ${}^3\text{He}$ Nuclei in the Pole-Graph Model
 Abdullin 88 Yad. Phys. 48:917.1988;
Analysis of the ${}^3\text{He} p \rightarrow$ deuteron $p n \pi^+$ Reactions at 5 GeV/c ${}^3\text{He}$ Momentum in the Entire Phase Space
 Abdullin 88B ITEL-88-130;
An Investigation of the Reaction ${}^3\text{H} \rightarrow 2p 2n (\pi^0)$ at the ${}^3\text{H}$ Momentum of 5 GeV/c
 Abdullin 88C ITEL-88-159;
Analysis of the ${}^3\text{He} \rightarrow 2p 2n \pi^+$ Reaction at the ${}^3\text{He}$ Momentum of 5 GeV/c in the Total Phase Volume
 Abdullin 88D ITEL-88-161;
Analysis of the ${}^3\text{He} \rightarrow$ deuteron $p n \pi^+$ Reaction at the ${}^3\text{He}$ Momentum of 5 GeV/c in the Total Phase Volume
 Abdullin 89 Yad. Phys. 49:169.1989;
Cross Section of Tritium Interactions with Protons and ${}^3\text{H} p$ Elastic Scattering at 5 GeV/c
 Abdullin 89B ITEL-89-17;
Quasielastic ${}^3\text{H} p$ Scattering at 5 GeV/c ${}^3\text{H}$ Momentum
 Abdullin 89C Yad. Phys. 50:400.1989; ITEL-89-7;
Reaction ${}^3\text{H} p \rightarrow$ deuteron $p n$ at 5 GeV/c ${}^3\text{H}$ Momentum
 Abdullin 89D Pisma Zh. Eksp. Teor. Fiz. 49:413.1989; ITEL-89-51;
Determination of the Nucleon Momentum Distributions in the ${}^3\text{He}$ and ${}^3\text{H}$ Nucleus from the Reactions ${}^3\text{He} p \rightarrow p$ deuteron and ${}^3\text{H} p \rightarrow p$ deuteron
 Abdullin 89E Yad. Phys. 49:165.1989; Sov. J. Nucl. Phys. 49:1018.1989;
Total-Phase-Space Analysis of Reaction ${}^3\text{He} p \rightarrow 2p 2n \pi^+$ at 5 GeV/c Momentum of Nuclei
 Abdullin 89F Yad. Phys. 52:15.1990; ITEL-89-96;
Cumulative Nucleon Production in ${}^3\text{He} p$ and ${}^3\text{H} p$ Interactions at the 5 GeV/c Nucleus Momentum
 Abdullin 89G ITEL-89-159;
The Total Phase Space Study of the Reaction ${}^3\text{H} p \rightarrow$ deuteron $p p \pi^-$ at Nucleus Momentum of 5 GeV/c
 Abdullin 89H Pisma Zh. Eksp. Teor. Fiz. 50:213.1989; ITEL-89-117;
A Search for Anomalies with Charge Z=2 in the ${}^3\text{He}$ Interactions at 5 GeV/c ${}^3\text{He}$ Momentum
 Abdullin 90 Yad. Phys. 51:1251.1990;
Search for a $\Delta(1232 P_{33})^{++}$ $n n$ Configuration in ${}^3\text{He}$
 Abdurakhimov 88 JINR-P1-88-406;
Size of π^- Meson Emission Region in Inelastic and Central Nuclear-Nuclear Interactions at $E=3.66$ A GeV
 Abdurakhimov 88B JINR-P1-88-903.
Emission of Rigid Gamma-Quanta in π^- Xe Interactions at 3.5 GeV/c
 Abdurakhimov 89 JINR-P1-89-272;
Longitudinal and Transverse Dimensions of π^- Meson Emission Region in Central ${}^{12}\text{C} + \text{Cu}$ Collisions at 3.66 A GeV Energy
 Abdurakhimov 89C Nuovo Cim. 102A:645.1989;
Experimental Study of Relativistic Hypernuclei Using the HYBS-Spectrometer
 Abdurazakova 87 Acta Phys. Polon. B18:249.1987;
Interaction of the 800 GeV Protons from Fermilab with Emulsion Nuclei
 Abdurazakova 88 Yad. Phys. 47:1299.1988;
The Shape of Relativistic ${}^4\text{He}$ Transverse Momentum Distribution in High Energy Nucleus-Nucleus Collisions
 Abduzhamilov 87 Phys. Rev. D35:3537.1987;
Charged Particle Multiplicity and Angular Distributions in Proton Nucleus Interactions at 800 GeV
 Abduzhamilov 88 Yad. Phys. 48:446.1988; Sov. J. Nucl. Phys. 48:280.1988;
Azimuthal Correlation in Six-Prong $p p$ Interactions at 200 and 400 GeV/c
 Abduzhamilov 88B Z. Phys. C40:1.1988;
Angular Distributions in Proton-Nucleus Interactions in Emulsion at 800 GeV
 Abduzhamilov 88C Z. Phys. C40:223.1988;
Multiplicity in Proton-Nucleus Interactions in Emulsion at 800 GeV
 Abduzhamilov 89 Phys. Rev. D39:86.1989;
Central Collisions of 800 GeV Protons with Ag/Br Nuclei in Nuclear Emulsion
 Abe 85 Phys. Rev. D32:2288.1985;
Test of π -Channel Helicity Conservation in Inelastic ρ^0 Diffraction in 20 GeV Photoproduction
 Abe 85B Phys. Rev. D32:2869.1985;
Inclusive Photoproduction of Strange Baryons at 20 GeV
 Abe 86 Phys. Rev. D33:1.1986; RAL-85-055; SLAC-PUB-3722; UTHEP-85-0001;
Lifetimes, Cross Sections and Production Mechanisms of Charmed Particles Produced by 20 GeV Photons
 Abe 86B Phys. Rev. Lett. 56:1107.1986;
Precise Determination of $\sin^2 \theta_W$ from Measurements of the Differential Cross Sections for $\nu_\mu p \rightarrow \nu_\mu p$ and $\bar{\nu}_\mu p \rightarrow \bar{\nu}_\mu p$
 Abe 86C Phys. Rev. D34:1950.1986;
Inclusive Λ Polarization in Proton Nucleus Collisions at 12 GeV
 Abe 86D Phys. Rev. Lett. 58:626.1986;
Measurement of the Weak-Neutral Current Coupling Constants of the Electron and Limits on the Electromagnetic Properties of the Muon Neutrino
 Abe 87 KEK-87-80; KOBE-HEP-87-02; KUNS-892; OULNS-87-04; TMU-HEL-87-21;
Measurement of the Reactions $e^+ e^- \rightarrow e^+ e^-$ and $e^+ e^- \rightarrow \gamma \gamma$ at $\sqrt{s}=52$ GeV
 Abe 87B Phys. Rev. D36:1302.1987;
Production of Neutral Strange Particle K_S and Λ by 12 GeV Protons on Nuclear Targets
 Abe 87C KEK-87-79; KOBE-HEP-87-01; KUNS-891; OULNS-87-3; TMU-HEL-87-20;
Search for the Top Quark in $e^+ e^-$ Annihilation at $\sqrt{s}=50$ GeV: The First Result from the VENUS Detector at TRISTAN
 Abe 88 Phys. Lett. 200B:266.1988;
Leading Particles Distribution in 200 GeV/c $p +$ Nucleus Interactions
 Abe 88B Phys. Lett. 207B:355.1988; KEK-87-165; HUPD-8803; KOBE-HEP-88-01; KUNS-914; OULNS-87-08; TMU-HEL-88-20;
Study of Multihadron Events with Isolated Leptons in $e^+ e^-$ Annihilation at $50 < \sqrt{s} < 55$ GeV

Abe 88C

- Phys. Rev. Lett. 61:1819,1988; ANL-HEP-PR-88-32;
Transverse Momentum Distributions of Charged Particles Produced in $\bar{p} p$ Interactions at $\sqrt{s}=630$ and 1800 GeV
- Abe 88D Phys. Rev. Lett. 61:915,1988;
Search for New Charged Leptons Decaying into Massive Neutrinos and Stable Charged Leptons in $e^+ e^-$ Collisions
- Abe 88E Phys. Lett. 213B:400,1988; KEK-88-33; KOBE-HEP-88-02; KUNS-937; HUPD-8808; OULNS-88-04 TMUP-HEL-88-22;
Search for Excited Electrons in the $e^+ e^-$ Reactions up to the $\sqrt{s}=56$ GeV
- Abe 88F Phys. Rev. D39:3524,1989; KEK-88-111; HUPD-8815; KOBE-HEP-88-06; KUNS-954; OULNS-88-08; TMUP-HEL-88-23;
Search for a Fourth Generation Quark with $Q=e/3$ in $e^+ e^-$ Collisions at $\sqrt{s}=56 - 57$ GeV
- Abe 89 Phys. Rev. Lett. 62:613,1989; FERMILAB-PUB-88-213-E;
Measurement of the Inclusive Jet Cross Section in $\bar{p} p$ Collisions at $\sqrt{s}=1.8$ TeV
- Abe 89B Phys. Rev. Lett. 62:1005,1989; FERMILAB-PUB-88-207-E;
Measurement of W^\pm -Boson Production in 1.8 TeV $\bar{p} p$ Collisions
- Abe 89C Phys. Rev. Lett. 62:1825,1989;
Limits on the Masses of Supersymmetric Particles from 1.8 TeV $p \bar{p}$ Collisions
- Abe 89D Phys. Rev. Lett. 62:3020,1989; FERMILAB-PUB-89-62-E;
Dijet Angular Distributions from $\bar{p} p$ Collisions at $\sqrt{s}=1.8$ TeV
- Abe 89E Phys. Rev. Lett. 62:1709,1989;
Determination of $\sin^2\theta_W$ from Measurements of Differential Cross Sections for Muon-Neutrino and - Antineutrino Scattering by Electron
- Abe 89F Z. Phys. C45:175,1989; KEK-89-66; OULNS-89-06; KOBE-HEP-89-03; HUPD-8909; KUNS-982; TMUP-HEL-89-20;
Measurement of the Differential Cross Section of $e^+ e^- \rightarrow \gamma \gamma$ and $e^+ e^- \rightarrow \gamma \gamma \gamma$ at $\sqrt{s}=55, 56, 56.5$ and 57 GeV and Search for Unstable Photino Pair Production
- Abe 89H Phys. Rev. Lett. 63:1447,1989; FERMILAB-PUB-89-161-E; ANL-HEP-PR-89-71;
Search for Heavy Stable Charged Particles in 1.8 TeV $\bar{p} p$ Collisions at the Fermilab Collider
- Abe 89I Phys. Lett. 232B:431,1989; KEK-89-68; TMUP-HEL-89-21; OULNS-89-07; KOBE-HEP-89-04; HUPD-8910; KUNS-983;
A Study on Single Photon Production at $\sqrt{s}=54.0 - 81.4$ GeV
- Abe 89J Phys. Rev. Lett. 63:1776,1989; KEK-89-39;
Search for Isolated Photons from Flavor-Changing Neutral-Current Decay of a New Quark at the KEK $e^+ e^-$ Collider TRISTAN
- Abe 89K Phys. Lett. 232B:425,1989; KEK-89-89; HUPD-8911; OULNS-89-08; KOBE-HEP-89-05; KUNS-984; TMUP-HEL-89-22;
Charge Asymmetry of Hadron Jets and Limits on the Compositeness Scales in $e^+ e^- \rightarrow q \bar{q}$ Reaction at $\sqrt{s} = 57.6$ GeV
- Abe 89L Phys. Rev. D40:3791,1989;
 K^0 Production in $\bar{p} p$ Interactions at $\sqrt{s}=630$ and 1800 GeV
- Abe 89M Phys. Rev. D41:2330,1990; FERMILAB-PUB-89-201-E;
Pseudorapidity Distributions of Charged Particles Produced in $\bar{p} p$ Interactions at $\sqrt{s}=630$ and 1800 GeV
- Abe 89N FERMILAB-PUB-89-206-E;
Two Jet Differential Cross Section in $\bar{p} p$ Collisions at $\sqrt{s}=1.8$ TeV
- Abe 89O Phys. Rev. Lett. 64:348,1990; FERMILAB-PUB-89-171-E;
Measurement of D^* (2010) Produced in Jets from $\bar{p} p$ Collisions at $\sqrt{s}=1.8$ TeV
- Abe 89P KEK-89-192;
Measurement of the Reactions $e^+ e^- \rightarrow \mu^+ \mu^-$ and $e^+ e^- \rightarrow \tau^+ \tau^-$ between $E_{cm}=50$ and 60.8 GeV
- Abe 89Q FERMILAB-PUB-89-245-E;
Measurement of the Ratio $\Sigma(W^\pm \rightarrow e^\pm \nu)/\Sigma(Z^0 \rightarrow e^- e^+)$ in $\bar{p} p$ Collisions at $\sqrt{s}=1.8$ TeV
- Abe 89R Phys. Rev. D41:1717,1990; FERMILAB-PUB-89-250-E;
Search for a Light Higgs Boson at the Tevatron Proton-Antiproton Collider
- Abe 89S Phys. Rev. D41:1722,1990; FERMILAB-PUB-89-229-E;
The Two Jet Invariant Mass Distribution at $\sqrt{s}=1.8$ TeV
- Abe 89T Phys. Rev. Lett. 63:720,1989; FERMILAB-PUB-89-160-E; ANL-HEP-PR-89-66;
Measurement of the Mass and Width of Z^0 Boson at the Fermilab Tevatron
- Abe 90 Phys. Lett. 234B:382,1990; KEK-89-135; HUPD-8916; KOBE-HEP-89-09; KUNS-990; OULNS-89-10; TMUP-HEL-89-31;
Measurement of R and Search for New Quark Flavors Decaying into Multi-Jet Final States in $e^+ e^-$ Collisions between 54 GeV and 81.4 GeV c.m. Energies
- Abe 90B FERMILAB-PUB-90-71-E;
Jet Fragmentation Properties of $\bar{p} p$ Collisions at $\sqrt{s}=1.8$ TeV
- Abe 90C KEK-90-4; HUPD-9004; KOBE-HEP-90-01; KUNS-1005; OULNS-89-13; TMUP-HEP-90-10;
Determination of the QCD Scale Parameter Λ_{MS} with QCD Cascade on the Basis of the Next-to-Leading Logarithmic Approximation
- Abegg 55 Phys. Rev. Lett. 56:2571,1986; TRI-PP-85-70;
Test of Charge Symmetry in $n p$ Elastic Scattering at 477 MeV
- Abegg 89 Phys. Rev. D39:2464,1989; TRI-PP-87-60;
Charge Symmetry Breaking in $n p$ Elastic Scattering at 477 MeV
- Abegg 89B Phys. Rev. C40:2406,1990; TRI-PP-89-56;
 $n p$ Elastic Scattering Analyzing Power Characteristics at Intermediate Energies
- Ableev 84B Yad. Phys. 42:205,1985; JINR-P1-84-476;
The Search for Anomalous Deuterons in the ${}^3\text{He} + \text{C} \rightarrow$ deuteron X Reaction at 10.8 GeV/c Momentum
- Ableev 85 Acta Phys. Polon. B16:913,1985; JINR-P1-85-924;
Alpha Nuclear Differential Cross Sections at 4.45 GeV/c per Nucleon
- Ableev 86 Kr. Soob. JINR 13:5,1985;
The Search for Exotic Longlived Dibaryons
- Ableev 87 Yad. Phys. 46:549,1987; JINR-P1-86-435;
Charge-Exchange p (${}^4\text{He}, {}^3\text{H}$) at Momenta 4.4 – 18.3 GeV/c with $\Delta(1232 P_{33})$ Isobar Production
- Ableev 87B Pis'ma Zh. Eksp. Teor. Fiz. 45:467,1987; JINR-P1-87-93;
Momentum Distribution of Protons and Deuterons from ${}^3\text{He}$ Fragmentation at 10.78 GeV/c on Carbon at Zero Angles
- Ableev 87C Yad. Phys. 48:27,1988; JINR-P1-87-374;
Charge-Exchange of ${}^3\text{He}$ Relativistic Nuclei to Tritons on Carbon with Δ -Isobar Excitation in the Target Nucleus
- Ableev 87D JINR-E1-87-797;
 Δ -Isobar Excitations of Nuclei in Charge-Exchange Reactions

Ableev 87E

Achasov 84F

- Ableev 87E JINR-E1-87-246;
Observation of the Dominance of the Target $\Delta(1232 P_{33})$ Excitation and Their Collective Nature in the $(^3\text{He}, ^3\text{H})$ Charge Exchange at High Energies
 Ableev 88 Pisma Zh. Eksp. Teor. Fiz. 47:558,1988; JINR-E1-88-250;
Measurement of Tensor Analyzing Power for the ${}^{12}\text{C}$ (deuteron, p) Reaction at $P=0.1 \text{ GeV}/c$ and Zero Angle Proton Emission
 Ableev 89 JINR-E1-89-341;
Proton and Triton Momentum Distributions from ${}^4\text{He}$ Fragmentation at Relativistic Energies
 Abov 89 Phys. Lett. 217B:225,1989;
The Investigation of Parity Violation in the Process ${}^{207}\text{Pb} (n, \gamma) {}^{208}\text{Pb}$
 Abraamyan 88 JINR-P1-88-334;
Inclusive Production of π^0 -Mesons in p C-Collisions at $4.5 \text{ GeV}/c$
 Abraamyan 89 Yad. Phys. 51:150,1989; JINR-P1-89-240;
Inclusive π^0 Production in He C Interactions at $4.5 \text{ GeV}/c/\text{Nucleon}$
 Abramov 84 Nucl. Phys. B245:1,1984; Yad. Phys. 41:137,1985; Sov. J. Nucl. Phys. 41:87,1985; IFVE-84-12;
Production of Charged Hadron Pairs with Large Symmetric Transverse Momenta in $p p$ Collisions at 70 GeV
 Abramov 84C Yad. Phys. 41:700,1985; Sov. J. Nucl. Phys. 41:445,1985; IFVE-84-88;
Large Transverse Momentum Inclusive Hadron Production in $p p$ Collisions at 70 GeV
 Abramov 84D Z. Phys. C27:491,1985; IFVE-84-143;
Observation of Puzzling Λ -Dependence of Symmetric Hadron Pairs at High p_T
 Abramov 84E Z. Phys. C24:205,1984; Yad. Phys. 41:357,1985; IFVE-84-26;
High p_T Hadron Production off Nuclei at $70 \text{ GeV}/c$
 Abramov 85 ITEP-85-160;
Backward π^- deuteron Elastic Scattering from 1.75 to 3.1 GeV/c
 Abramov 86 Yad. Phys. 45:1362,1987; IFVE-86-56;
High p_T Deuteron and Antideuteron Production in $p p$ and p Nuclei Collisions at 70 GeV
 Abramov 86B Yad. Phys. 45:725,1987; IFVE-86-119;
A Search for Anomalously Interacting Stable Particles in the Mass Range from $1.0 \text{ GeV}/c^2$ to $1.8 \text{ GeV}/c^2$
 Abramov 87 Phys. Lett. 189A:295,1987;
Backward π^- deuteron Elastic Scattering from 1.75 to 3.1 GeV/c
 Abramov 88 Yad. Phys. 48:154,1988; Sov. J. Nucl. Phys. 48:96,1988;
Measurement of $\pi^\pm n \rightarrow p X$ Inclusive Cross Sections at 1.84, 2.22 and 2.63 GeV/c and Test of Inelastic Intermediate States Model for Pion-Deuteron Backward Scattering
 Abramov 89B Yad. Phys. 50:1042,1989; ITEP-89-106;
New Results on Backward Pion-Deuteron Scattering from 0.83 to 1.16 GeV/c
 Abramov 89C ITEP-89-29;
A Search for Exotic Baryon E^{+++} in the Baryon Exchange Reaction $\pi^+ p \rightarrow p \pi^+ \pi^+ \pi^-$ at $4 \text{ GeV}/c$
 Abramowicz 85 Z. Phys. C28:51,1985;
Measurement of the Neutral to Charged Current Cross Section Ratios in Neutrino and Antineutrino Nucleon Interactions and Determination of Weinberg Angle
 Abramowicz 86 Phys. Rev. Lett. 57:298,1986; CERN-EP-86-38;
A Precision Measurement of $\sin^2 \theta_W$ from Semileptonic Neutrino Scattering
 Abrams 89 Phys. Rev. Lett. 63:224,1989; SLAC-PUB-5037; LBL-27518;
Initial Measurements of Z^0 -Boson Resonance Parameters in $e^+ e^-$ Annihilation
 Abrams 89B Phys. Rev. Lett. 63:2173,1989; SLAC-PUB-5113; LBL-27857;
Measurements of Z^0 -Boson Resonance Parameters in $e^+ e^-$ Annihilation
 Abrams 89C SLAC-PUB-5124; LBL-27898;
Measurement of Z^0 Decays into Lepton Pairs
 Abrams 89D Phys. Rev. Lett. 63:1558,1989; SLAC-PUB-5045; LBL-27557; CALT-68-1605;
First Measurements of Hadronic Decays of the Z^0 Boson
 Abrams 89E Phys. Rev. Lett. 64:1334,1990; SLAC-PUB-5092; LBL-27740;
Measurements of Charged Particle Inclusive Distributions in Hadronic Decays of the Z^0 Boson
 Abrams 89F Phys. Rev. Lett. 63:2417,1989; SLAC-PUB-5136; LBL-27838;
Searches for New Quarks and Leptons Produced in Z^0 Boson Decay
 Abreu 85 Z. Phys. A324:1,1986; CERN-EP-85-99;
Inclusive Proton and Antiproton Production in $\pi^\pm p$ and π^\pm nucleus Interactions at $30 \text{ GeV}/c$
 Abreu 89 LAPP-EXP-89-15; C89/09/06;
The Production of ϕ in $200 \text{ GeV}/\text{Nucleon}$ S-U and O-U Interactions
 Abreu 90 Phys. Lett. 241B:449,1990; CERN-EP-90-33;
Search for Heavy Charged Scalars in Z^0 Decays
 Abreu 90B Phys. Lett. 242B:536,1990; CERN-EP-90-46;
Search for t and b' Quarks in Hadronic Decays of the Z^0
 Abreu 90C CERN-EP-90-60;
Search for Pair Production of Neutral Higgs Bosons in Z^0 Decays
 Abreu 90D Phys. Lett. 247B:137,1990; CERN-EP-90-78;
A Study for Intermittency in Hadronic Z^0 Decays
 Abreu 90E Phys. Lett. 247B:148,1990; ; CERN-EP-90-79;
Search for Scalar Quarks in Z^0 Decays
 Abreu 90F Nucl. Phys. B342:1,1990; CERN-EP-90-44;
Search for Light Neutral Higgs Particles Produced in Z^0 Decays
 Abrosimov 85 LENI-85-1073;
Measurement of π^+ Meson Lifetime
 Abrosimov 85B Pisma Zh. Eksp. Teor. Fiz. 43:214,1986; LENI-85-1146;
 K^+ Meson Production in Proton-Nuclear Interactions from Be, C, Cu, Sn, and Pb in the Energy Range from 800 MeV to 1000 MeV
 Absemetova 85 Yad. Phys. 42:1434,1985;
Energy and Azimuthal Characteristics of Slow Particles in Inelastic Interactions of High-Energy Hadrons with Emulsion Nuclei
 Achasov 84F Phys. Lett. 156B:434,1985; TF-83-142;
Mystery of $J/\psi(1S) \rightarrow \gamma \rho \rho$, $J/\psi(1S) \rightarrow \gamma \omega \omega$ and $J/\psi(1S) \rightarrow \gamma \gamma \rho^0$ Decays

- Ackle 89 SLAC-PUB-4473; UTHEP-87-1101:
A Search for a Short Lived Axion Decaying to $e^+ e^-$ in a 20 GeV Photoproduction Experiment
Adachi 87 KEK-87-121; DPNU-87-55; KOBE-HEP-87-08; NWU-HEP-87-04; OCU-HEP-87-04; TUAT-HEP-87-04; UT-HE-87-09;
Adachi 88 Charge Asymmetry Measurement in $e^+ e^- \rightarrow \mu^+ \mu^-$ and $\tau^+ \tau^-$ Reactions at $\sqrt{s}=52$ GeV
Phys. Lett. 200B:391,1988; KEK-87-103; DPNU-87-53; KOBE-HEP-87-06; NWU-HEP-87-02; OCU-HEP-87-02; TUAT-HEP-87-02; UT-HE-87-07;
Measurement of the Processes $e^+ e^- \rightarrow e^+ e^-$ and $e^+ e^- \rightarrow \gamma \gamma$ at $\sqrt{s}=50$ GeV
Adachi 88B Phys. Rev. D37:1339,1988; INS-661; KEK-87-109; UT-HE-87-08; DPNU-87-54; KOBE-HEP-87-07; NWU-HEP-87-03; OCU-HEP-87-03; TUAT-HEP-87-03;
Search for Sequential Heavy Leptons in $e^+ e^-$ Collisions at $\sqrt{s}=52$ GeV
Adachi 88C Phys. Rev. Lett. 60:97,1988; UT-HE-87-06;
Search for Top Quark in $e^+ e^-$ Collisions at $\sqrt{s}=52$ GeV
Adachi 88D Phys. Lett. 208B:319,1988;
Charge Asymmetry Measurement in $e^+ e^- \rightarrow \mu^+ \mu^-$ and $\tau^+ \tau^-$ Reactions at $\sqrt{s}=52$ GeV and 55 GeV
Adachi 89 Phys. Lett. 218B:105,1989; KEK-88-101;
Search for SUSY Particles at TRISTAN
Adachi 89B KEK-89-31;
Search for New Particles in $e^+ e^-$ Annihilation at TRISTAN
Adachi 89C Phys. Lett. 227B:495,1989; KEK-89-37;
Measurement of a_S in $e^+ e^-$ Annihilation at $\sqrt{s}=53.3$ GeV and 58.5 GeV
Adachi 89D Phys. Lett. 228B:553,1989; KEK-89-90; UT-HE-89-07; TUAT-HEP-89-02; PU-89-634; OCU-HEP-89-03; NWU-HEP-89-03; KOBE-HEP-89-07; INS-REP-767; DPNU-89-45;
A Search for Excited Leptons in the Energy Region $\sqrt{s}=52 - 60.8$ GeV
Adachi 89E Phys. Lett. 229B:427,1989; KEK-89-75;
A Search for a Fourth-Generation Charge -1/3 (b') Quark Using Inclusive Muons in $e^+ e^-$ Annihilations at $\sqrt{s}=56.5$ to 60.9 GeV
Adachi 90 Phys. Lett. 234B:185,1990; KEK-89-156;
A Study of Pion Pair Production in the Two-Photon Process
Adachi 90B Phys. Lett. 234B:525,1990; KEK-89-136; DPNU-89-51; INS-779; KOBE-HEP-89-10; NWU-HEP-89-04; OCU-HEP-89-04; PU-89-636; TU-HEP-89-03; TUAT-HEP-89-03; UT-HE-89-08;
Measurement of the Total Hadronic Cross Section in $e^+ e^-$ Annihilation and Determination of the Standard Model Parameters
Adachi 90C Phys. Lett. 240B:513,1990;
A Search for Charged Higgs Bosons at TRISTAN
Adamovich 86B Phys. Lett. 187B:437,1987; CERN-EP-86-69;
Cross Sections and Some Features of Charm Photoproduction at γ Energies of 20 GeV to 70 GeV
Adamovich 86E Eur. Lett. 4:887,1987; CERN-EP-86-77;
Measurement of Charmed Particle Lifetimes and Decay Branching Ratios
Adamovich 88 Phys. Lett. 201B:397,1988;
Multiplicities and Rapidity Densities in 200 A GeV ^{16}O Interactions with Emulsion Nuclei
Adamovich 88B Phys. Rev. Lett. 62:2801,1989; LUJP-8813;
Limiting Fragmentation in Oxygen Induced Emulsion Interactions at 14.6, 60 and 200 A GeV
Adamovich 88C Phys. Lett. 223B:262,1989; LUJP-8814;
Scaling Properties of Charged Particles Multiplicity Distributions in Oxygen Induced Emulsion Interactions at 14.6, 60 and 200 A GeV
Adamovich 88D HZPP-88-01;
Charged Particle Spectra in Oxygen Induced Reactions at 14.6 GeV/Nucleon and 60 GeV/Nucleon
Adamovich 89 Phys. Lett. 227B:285,1989; LUJP-8905;
Rapidity Densities and their Fluctuations in Central 200 A GeV ^{32}S Interactions with Au and Ag/Br Nuclei
Adamovich 89B LUJP-8904;
Substructural Dependence of the Multiparticle Production in Relativistic Heavy-Ion Interactions
Adamovich 89C Phys. Lett. 234B:180,1989; LUJP-8906;
Target Nucleus Fragmentation in $^{16}\text{O} + (\text{Ag},\text{Br})$ Interactions at 200 A GeV
Adamovich 89D Phys. Lett. 230B:175,1989; LUJP-8907;
A Study of Recoil Protons in Ultra-Relativistic Nucleus-Nucleus Collisions
Adamovich 89E LUJP-8912;
On the Multiplicity Fluctuations in Relativistic Heavy-Ion Collisions
Adamovich 90 Mod. Phys. Lett. A5:169,1990;
On the Energy and Mass Dependence of the Multiplicity in Relativistic Heavy Ion Interactions
Adams 87 KEK-87-38;
Spin Observables in Small-Angle Elastic p deuteron $\rightarrow p$ deuteron Scattering with an L -type Deuteron Target at 800 MeV
Adams 89 Phys. Lett. 219B:399,1989;
Analyzing Powers for p (polarized) deuteron $\rightarrow {}^3\text{He} \pi^0$ at 800 MeV
Adamus 86 Phys. Lett. 177B:239,1986; IFVE-86-209;
Rapidity Dependence of Negative and All Charged Multiplicities in Nondiffractive $\pi^+ p$ and $p p$ Collisions at 250 GeV/c
Adamus 86B Z. Phys. C32:475,1986;
Cross Sections and Charged Multiplicity Distributions for $\pi^+ p$, $K^+ p$ and $p p$ Interactions at 250 GeV/c
Adamus 86C Yad. Phys. 47:429,1988; Z. Phys. C35:7,1987; IFVE-86-210;
Inclusive π^0 Production in $\pi^+ p$, $K^+ p$ and $p p$ Interactions at 250 GeV/c
Adamus 87 Phys. Lett. 198B:427,1987; IFVE-87-111;
Strangeness Suppression and Inclusive ϕ and $K^*(892)^0$ Production in $K^+ p$ Interactions at 250 GeV/c
Adamus 87B Phys. Lett. 183B:425,1987; Yad. Phys. 47:136,1988; IFVE-86-211;
Suppression of Valence Quark Recombination in π^+ Fragmentation into ρ^+
Adamus 87C Phys. Lett. 185B:200,1987; IFVE-87-33; CERN-EP-86-218;
Maximum Particle Densities in Rapidity Space of $\pi^+ p$, $K^+ p$ and $p p$ Collisions at 250 GeV/c
Adamus 87D Phys. Lett. 186B:223,1987; IFVE-87-29;
 $\pi^+ p$ and $K^+ p$ Elastic Scattering at 250 GeV/c

- Phys. Lett. 198B:292,1987; IFVE-87-112;
A Comparison of Inclusive ρ^0 , ρ^+ and ω Production in $K^+ p$ Interactions at 250 GeV/c
 Adamus 88
 Z. Phys. C37:347,1988;
Bose-Einstein Correlation in $K^+ p$ and $\pi^+ p$ at 250 GeV
 Adamus 88B
 Z. Phys. C37:215,1988;
Phase Space Dependence of the Multiplicity Distribution in $\pi^+ p$ and $p p$ Collisions at 250 GeV/c
 Adamus 88C
 Phys. Lett. 205B:461,1988;
Multiplicity Distribution in Separated Phase Space Intervals
 Adamus 88F
 Z. Phys. C39:301,1988;
Single Diffraction Dissociation in $\pi^+ p$ and $K^+ p$ Interactions at 250 GeV/c
 Adamus 88G
 Z. Phys. C39:311,1988; IFVE-88-121;
Charged Particle Production in $K^+ p$, $\pi^+ p$ and $p p$ Interactions at 250 GeV/c
 Adamyan 84C
 Pisma Zh. Eksp. Teor. Fiz. 42:345,1985; YERE-722(37)-84;
Cross Section Asymmetry of the $\gamma n \rightarrow \pi^- p$ Reaction by Polarized Photons in the Third and Fourth Resonance Regions
 Adamyan 86
 Czech. J. Phys. B36:945,1986;
Cross Section Asymmetry for the Reactions γ deuteron $\rightarrow p n$, γ deuteron $\rightarrow \pi^0$ deuteron by Linearly Polarized Photons in the Energy Range $E(\gamma)=0.4 - 0.8$ GeV
 Adamyan 88
 YERE-1061(24)-88;
Experimental Study of the Photoproduction γ deuteron \rightarrow deuteron π^0 and Photodisintegration γ deuteron $\rightarrow p n$, γ 6 Li $\rightarrow p n$ X and γ 4 He $\rightarrow p n$ X Processes by Linearly Polarized Photons in Energy Range 0.3 - 1 GeV
 Adamyan 89
 Phys. Lett. 232B:296,1989;
Cross Section Asymmetry for the Reaction γ deuteron \rightarrow deuteron π^0 in the Energy Range 0.5 - 0.9 GeV
 Adeishvili 87
 JETP 65:882,1987; Zh. Eksp. Teor. Fiz. 92:1574,1987;
Experimental Study of 780 MeV Electron Scattering by a Silicon Crystal
 Adelberger 87
 Phys. Rev. Lett. 59:849,1987;
New Constraints on Composition Dependent Interactions Weaker than Gravity
 Aderholz 86
 Phys. Lett. 173B:211,1986; CERN-EP-86-31;
Measurement of Total Cross Section for Neutrino and Antineutrino Charged Current Interactions in Hydrogen and Neon
 Aderholz 89
 Phys. Rev. Lett. 63:2349,1989; IIHE-88-08.
Coherent Production of $\pi^+ \pi^-$ Mesons by Charged Current Interactions of Neutrinos and Anti-neutrinos on Near Nuclei at the Fermilab TEVATRON
 Adeva 85
 Phys. Lett. 152B:439,1985;
New Particles Searches
 Adeva 85B
 Phys. Rev. Lett. 55:665,1985;
Measurement of $e^+ e^- \rightarrow \mu^+ \mu^-$: A Test of Electroweak Theories
 Adeva 85C
 Phys. Rev. Lett. 54:1750,1985;
Measurement of Strong Coupling Constant α_S to Second Order for $22 \leq E_{cm} \leq 46, 78$ GeV
 Adeva 86
 Phys. Rev. D34:681,1986;
Study of Hadron and Inclusive Muon Production from $e^+ e^-$ Annihilation at $39.79 \leq E_{cm} \leq 46.78$ GeV
 Adeva 86B
 Phys. Lett. 179B:177,1986;
The Production and Decay of Tau Leptons
 Adeva 86C
 Phys. Lett. 180B:181,1986;
Measurement of Strong Coupling Constant α_S to Complete Second Order
 Adeva 87
 Phys. Lett. 194B:167,1987;
Search for SUSY Particles photino, \tilde{e} , $\tilde{\nu}$, wino⁺ in Electron Positron Annihilation at 44 GeV
 Adeva 88
 Phys. Rev. D38:2665,1988;
Electroweak Studies in $e^+ e^-$ Collisions $12 < \sqrt{s} < 46.78$ GeV
 Adeva 89
 Phys. Lett. 231B:509,1989; L3-001;
A Determination of the Properties of the Neutral Intermediate Vector Boson Z^0
 Adeva 89B
 Phys. Lett. 233B:530,1989; L3-002;
Mass Limits for Scalar Muons, Scalar Electrons, and Winos from $e^+ e^-$ Collisions Near $\sqrt{s} = 91$ GeV
 Adeva 90
 Phys. Lett. 237B:136,1990; L3-004;
Measurement of Z^0 Decays to hadrons, and a Precise Determination of the Number of Neutrino Species
 Adeva 90B
 Phys. Lett. 236B:109,1990; L3-003;
Measurement of Ga and Gv the Neutral Current Coupling Constant to Leptons
 Adeva 90C
 Phys. Lett. 238B:122,1990; L3-005;
A Measurement of the Z^0 Leptonic Partial Widths and the Vector and Axial Vector Coupling Constants
 Adeva 90D
 Phys. Lett. 241B:416,1990; L3-006;
Measurement of $Z^0 \rightarrow b \bar{b}$ Decay Properties
 Adiels 86
 Z. Phys. C35:15,1987; Z. Phys. C35:19,1987; CERN-EP-86-154;
Experimental Determination of the Branching Ratios $p \bar{p} \rightarrow 2\pi^0, \pi^0 \gamma$ and 2γ at Rest
 Adiels 86B
 Phys. Lett. 182B:405,1986; CERN-EP-86-155;
Search for Narrow Signals in the γ Spectrum from $p \bar{p}$ Annihilation at Rest
 Adiels 88
 Z. Phys. C42:49,1989; CERN-EP-88-142;
Experimental Study of the Inclusive η -Spectrum from $p \bar{p}$ Annihilations at Rest in Liquid Hydrogen
 Adler 87
 Phys. Lett. 196B:107,1987; SLAC-PUB-4346;
Resonant Substructure in $K \pi \pi$ Decays of Charmed D Mesons
 Adler 87B
 Phys. Rev. Lett. 59:1527,1987; SLAC-PUB-4205; SLAC-PUB-4205;
Measurement of the Decay $\tau^\pm \rightarrow \rho^\pm$
 Adler 88
 Phys. Rev. Lett. 60:1375,1988; Phys. Rev. Lett. 63:1658,1989; SLAC-PUB-4343;
Search for the Decay $D^+ \rightarrow \mu^+ \nu_\mu$ and Upper Limit on the Pseudoscalar Decay Constant
 Adler 88B
 Phys. Rev. D37:2023,1988; Phys. Rev. D40:3788,1989; SLAC-PUB-4438;
Search for the Decay $D^0 \rightarrow e^+ e^-$
 Adler 88C
 Phys. Lett. 208B:152,1988; Phys. Lett. 227B:501,1989; SLAC-PUB-4518;
Measurement of the $D^*(2010)$ Branching Ratios
 Adler 88D
 SLAC-PUB-4686;
Measurements of $f_1(1285) \rightarrow \pi^+ \pi^- \pi^+ \pi^-$, $\eta_c(1S) \rightarrow \rho^0 \rho^0$ and $\eta_c(1S) \rightarrow f_2(1270) f_2(1270)$ in Radiative $J/\psi(1S)$ Decays

- Adler 88F Phys. Rev. Lett. 60:89,1988; SLAC-PUB-4291;
A Reanalysis of Charmed D Meson Branching Fractions
- Adler 89 Phys. Rev. Lett. 62:1821,1989; SLAC-PUB-1745;
Measurement of the Branching Fractions for $D^0 \rightarrow \pi^- e^+ \nu_e$ and $D^0 \rightarrow K^- e^+ \nu_e$ and Determination of $(V_{CD}/V_{CS})^2$
- Adler 89B Phys. Rev. Lett. 63:1211,1989; SLAC-PUB-4952;
Observation of $D_S^+ \rightarrow K^0 K^+$ and $D_S^+ \rightarrow \bar{K}^*(892)^0 K^+$ and an Upper Limit on $D_S^+ \rightarrow K^0 \pi^+$
- Adler 89C Phys. Rev. D40:906,1989; SLAC-PUB-4671;
A Search for the Decay $D^0 \rightarrow K^0 e^+ e^-$
- Adler 89D SLAC-PUB-5130; CALT-68-1606;
Resonant Substructure in $K^- \pi^+ \pi^+ \pi^-$ Decays of D^0 Mesons
- Adler 89E SLAC-PUB-5052;
Recent Results on Hadronic D_S^\pm and D Meson Decays from the MARK-III
- Adyasevich 85 Phys. Lett. 161B:55,1985;
Universal Particle Rapidity Distributions in High Energy Nucleus-Nucleus Collision
- Adyasevich 85B KIAE-85-4152-2;
Invariant Cross Sections of Protons Emitted in the Interactions of ${}^3\text{He}$ Nuclei with C, Cu and Pb Targets at 4.9 GeV/Nucleon
- Adyasevich 85C KIAE-85-4148-2;
Invariant Cross Sections of Deuterons Emitted in the Interactions of ${}^{12}\text{C}$ Nuclei with C, Cu Sn and Pb Targets at 3.6 GeV/Nucleon
- Adyasevich 87 Yad. Phys. 45:346,1987;
Inclusive Spectra of Protons Emitted in Interactions of 4.9 GeV/Nucleon ${}^3\text{He}$ Nuclei with C, Cu, and Pb Nuclei
- Adyasevich 87B Yad. Phys. 46:1353,1987;
Emission of Compound Light Fragments in Collisions Between Relativistic Nuclei
- Adyasevich 88B Vopr. At. Nauki i Techn. ser. Obsch. 2-42:13,1988;
The Measurement of Two-particles Correlations of Fragments in the Interaction of ${}^{12}\text{C}$ Nuclei at the 3.6 GeV/Nucleon Energy with Pb Nuclei
- Adyasevich 89 Vopr. At. Nauki i Techn. ser. Yad. 2:9,1989;
The Measurement of Two Particle Correlation in the Reactions C + Pb (3.6 GeV/N)
- Afanasyev 88 Yad. Phys. 47:1656,1988;
Cross Sections of K^\pm Meson Interaction with C, Al, Ti, and Cd Nuclei in 1.5 GeV/c Range
- Afanasyev 90 Phys. Lett. 236B:116,1990;
Measurement of the Branching Ratio for π^0 -Meson Decay into a Photon and a Positronium Atom
- Afanasyev 90B Yad. Phys. 51:1040,1990;
Measurement of the Photon Internal Conversion Coefficient into Positronium Atom and of the $\pi^0 \rightarrow \gamma$ positronium Branching Ratio
- Afonin 85 Pisma Zh. Eksp. Teor. Fiz. 41:355,1985; Jett Lett. 41:435,1988;
Neutrino Experiment at Rovno AES: The Cross Sections of Inverse β -Decay
- Afonin 85B Pisma Zh. Eksp. Teor. Fiz. 42:230,1985; Jett Lett. 42:285,1988;
Search of Neutrino Oscillations at Rovno AES
- Afonin 85C Yad. Phys. 42:1138,1985; Sov. J. Nucl. Phys. 42:719,1985;
Measurement of Inverse β -Decay Section by Means of Scintillation Detector at Rovno AES
- Afonin 86 Pisma Zh. Eksp. Teor. Fiz. 44:111,1986;
Comparison of $\bar{\nu}_e$ Intensities at Two Distances from Rovno AES Reactor
- Afonin 87 Pisma Zh. Eksp. Teor. Fiz. 45:201,1987;
 $\bar{\nu}_e$ Spectra at Two Distances from Rovno AES Reactor: Search for Oscillations
- Afonin 87B Yad. Phys. 46:1304,1987;
Measurement of the Cross Section of Inverse β -Decay at Reactor of Rovno AES: Results from Scintillation Method
- Afonin 87C Yad. Phys. 46:1590,1987;
Total Cross Section of Inverse β -Decay (Results of Experiment at Reactor of Rovno AES, Made by Integral Method)
- Afonin 88 KIAE-88-4746-2;
Measurements in the Neutrino Flux of the Rovno AES by Spectrometer RONS
- Afonin 88B Zh. Eksp. Teor. Fiz. 94(2):1,1988;
Investigation of the $\bar{\nu}_e p \rightarrow e^+ n$ Reaction in a Nuclear Reactor
- Agababyan 85B YERE-820(47)-85;
Investigation of Incoherent Production of Pion Systems in Reactions π^- Nuclei $\rightarrow \pi^- \pi^-$ Nuclei and π^- Nuclei $\rightarrow \pi^- \pi^- \pi^+$ Nuclei on Nuclei at 5 GeV/c
- Agababyan 85C Yad. Phys. 41:1401,1985;
Study of Deuteron Photodisintegration by Linearly Polarized Photon in the Energy Range 0.4 - 0.8 GeV
- Agababyan 89 Z. Phys. C41:539,1989; IFVE-89-120;
Inclusive Meson Resonance Production in $K^+ p$ Interactions at 250 GeV/c
- Agababyan 89B Yad. Phys. 50:1341,1989;
Measurement of Polarization Parameters Σ , T , and P in π^0 Photoproduction at $E(\gamma)=0.9 - 1.35$ GeV
- Agakishiev 84B Yad. Phys. 40:1209,1984; Z. Phys. C27:177,1985; JINR-P1-84-35;
Multiplicities, Momentum and Angular Characteristics of π^- Mesons Produced in Interactions of Protons, Deuterons, Alphas and Carbon Nuclei with Carbon at 4.2 GeV/c per Nucleon
- Agakishiev 84E Yad. Phys. 41:1562,1985; JINR-P1-84-551;
Correlation Phenomenon in Multinucleon C C Interaction at 4.2 GeV/c per Nucleon
- Agakishiev 85 Yad. Phys. 43:366,1986; Sov. J. Nucl. Phys. 43:234,1986; JINR-P1-85-220;
 Λ and K^0 Production in C p and C C Interactions at 4.2 GeV/c per Nucleon
- Agakishiev 86B Yad. Phys. 45:1373,1987; JINR-P1-86-370;
Analysis of Behaviour of π^- Mesons and Protons Produced in nucleus nucleus Interactions at 4.2 GeV/c per Nucleon Depending on the Number of Interacting Protons
- Agakishiev 87 Yad. Phys. 47:1292,1988; JINR-P1-87-442;
Two Particle Correlations and Regions of Proton Emissittance Regions in p Ta Interactions at $P=10$ GeV/c
- Agakishiev 87B JINR-P1-87-924;
Sizes of Cumulative Pion and Proton Formation Region According to the Data on p C, p Ta and π^- C

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- Agakishiev 87B (cont'd) **Interaction at $p(p)=10 \text{ GeV}/c$ and $p(\pi^-)=40 \text{ GeV}/c$**
 Agakishiev 87C Yad. Phys. 45:423,1987;
 Inclusive Distributions of π^- Mesons Produced in π^- C Interactions at $P=40 \text{ GeV}/c$ and in p C and p Ta Interactions at $P=9.9 \text{ GeV}/c$
 Agakishiev 88 Yad. Phys. 49:481,1989; JINR-P1-88-154;
 Dependence of the Characteristics of Proton-Nucleus Interactions at 4.2 and 10 GeV/c on a Leading-Particles Energy
 Agakishiev 89 JINR-P1-89-557;
 Characteristics of Cumulative A - Hyperons Produced in Nucleus - Nucleus Collisions
 Agakishiev 89B Yad. Phys. 51:1591,1990; JINR-P1-89-793;
 Dependence of π^- Meson Spectra at Fixed Angles on the Atomic Weight of Projectile in Interactions between Light Nuclei (p , deuteron, ^4He , C) and Carbon Nucleus at 4.2 GeV/c per Nucleon
 Agakishiev 89C Yad. Phys. 51:759,1990; JINR-P1-89-488;
 Comparative Characteristics of Central and Noncentral C C Interactions at 4.2 GeV per Nucleon
 Aggarwal 85 Z. Phys. C26:323,1985.
 Experimental Study of Proton Emulsion Nuclei Interactions at High Energy
 Aggarwal 85B Phys. Rev. C31:1233,1985.
 Momentum and Boltzmann Distributions of Neon Fragments at Approximately 300 $\text{MeV}/\text{Nucleon}$
 Aglamazov 85 Izv. Akad. Nauk SSSR. Fiz. 49:1380,1985;
 Cross Section of Inelastic Interaction of Cosmic Ray Muons
 Aglietta 86B Nuovo Cim. 9C:588,1986.
 Monopole Search with the Mont Blanc LSD Experiment
 Aglietta 89 Eur. Lett. 8:611,1989.
 Experimental Study of Atmospheric Neutrino Flux in the NUSEX Experiment
 Aguilarbenit 85 IFVE-85-21;
 New Results on Neutral D Meson Properties in 380 GeV/c π^- p Interactions
 Aguilarbenit 85C Phys. Lett. 156B:444,1985; CERN-EP-85-02;
 A Search for D_S^\pm Production in 380 GeV/c π^- p Interactions
 Aguilarbenit 85D Phys. Lett. 164B:404,1985; CERN-EP-85-123;
 D \bar{D} Correlations in 380 GeV/c π^- p and p p Interactions
 Aguilarbenit 85E Phys. Lett. 161B:400,1985; Yad. Phys. 44:998,1986; Sov. J. Nucl. Phys. 44:644,1986; IFVE-86-57; CERN-EP-85-118;
 Inclusive Properties of D Meson Produced in 380 GeV π^- p Interactions
 Aguilarbenit 85F Phys. Lett. 160B:217,1985; CERN-EP-85-105;
 Search for Anomalies in 380 GeV/c π^- p and p p Interactions
 Aguilarbenit 86 Phys. Lett. 168B:170,1986;
 Measurement of D Meson Branching Ratios
 Aguilarbenit 86B Phys. Lett. 169B:106,1986; CERN-EP-86-06; IFVE-86-168;
 Neutral and Charged D^* (2010) Production in 380 GeV/c π^- p Interactions
 Aguilarbenit 86C Z. Phys. C34:419,1987; Yad. Phys. 46:1098,1987; IFVE-86-196; CERN-EP-86-165;
 Inclusive π^0 and η Meson Production in π^- p Interactions at 380 GeV/c
 Aguilarbenit 86D Z. Phys. C31:491,1986; CERN-EP-85-103;
 Charm Hadron Properties in 380 GeV/c π^- p Interactions
 Aguilarbenit 87 Phys. Lett. 199B:462,1987; CERN-EP-87-126; IFVE-88-30;
 Λ_c^+ Production Characteristics in Proton-Proton Interactions at 400 GeV/c
 Aguilarbenit 87B Phys. Lett. 193B:140,1987; CERN-EP-87-38;
 D-Meson Lifetimes
 Aguilarbenit 87C Phys. Lett. 189B:476,1987; Yad. Phys. 48:757,1988; CERN-EP-87-45; IFVE-87-189;
 \bar{D} -Meson Production from 400 GeV/c p p Interactions
 Aguilarbenit 87D Z. Phys. C34:143,1987; CERN-EP-86-167;
 Determination of D-Meson Lifetimes
 Aguilarbenit 87E Z. Phys. C36:551,1987; CERN-EP-87-135;
 Inclusive D-Meson Branching Ratios
 Aguilarbenit 87F Z. Phys. C36:559,1987; CERN-EP-87-61;
 Exclusive Hadron Branching Ratios of the D Meson
 Aguilarbenit 87H Phys. Lett. 189B:254,1987; Yad. Phys. 48:1310,1988; Sov. J. Nucl. Phys. 48:833,1988; IFVE-87-114; CERN-EP-87-17;
 Lifetime Measurement of Λ_c^+
 Aguilarbenit 88 Phys. Lett. 201B:176,1988; CERN-EP-87-212;
 D-Meson Production from 400 GeV/c p p Interactions. Evidence for Leading Diquarks?
 Aguilarbenit 88B Z. Phys. C40:321,1988;
 Charm Hadron Properties in 400 GeV/c p p Interactions
 Aguilarbenit 88C Z. Phys. C41:191,1988;
 Comparative Properties of 400 GeV/c Proton-Proton Interactions with and without Charm Production
 Aguilarbenit 89 Z. Phys. C44:531,1989; CERN-EP-89-58;
 Vector Meson Production in π^- p Interaction at 380 GeV/c
 Ahlen 87 Phys. Lett. 195B:603,1987;
 Limits on Cold Dark Matter Candidates from an Ultralow Background Germanium Spectrometer
 Ahlen 88 Phys. Rev. Lett. 61:145,1988;
 New Limit on the Low-Energy \bar{p}/p Ratio in the Galactic Cosmic Radiation
 Ahmad 84 Phys. Lett. 152B:135,1985; CERN-EP-84-167;
 Search for Monochromatic Pion Emission in $\bar{p} p$ Annihilation from Atomic P States
 Ahmad 85B Nucl. Phys. B254:441,1985;
 Multiparticle Production in π^- Emulsion Collision at 340 GeV/c
 Ahmad 85C Phys. Lett. 157B:333,1985; CERN-EP-85-05;
 First Observation of K X rays from $\bar{p} p$ Atoms
 Ahmad 86 TRI-PP-86-45;
 Antiproton-Proton Annihilation into Collinear Charged Pions and Kaons
 Ahmad 87 Phys. Rev. Lett. 59:970,1987;
 Searches for $\mu^- e^-$ and $\mu^- e^+$ Conversion in Titanium
 Ahmad 88 Phys. Rev. D38:2102,1988; TRI-PP-88-51;
 Search for Muon-Electron and Muon-Positron Conversion

- Ahmad 89 Acta Phys. Polon. B20:701,1989;
 Multiparticle Production in 340 GeV π^- Nucleus Collisions
- Ahmad 90 Nuovo Cim. 103A:517,1990;
 Characteristics of Hadron Nucleus Interactions with and without Emission of Hadrons in the Backward Hemisphere
- Ahn 86 Phys. Lett. 177B:233,1986; FERMILAB-PUB-86-74-EXP;
 Valence Quark Effects in Beam Remnants in High E_t p p Collisions at $E_{cm}=27.4$ GeV
- Ahn 87 Phys. Lett. 183B:115,1987;
 Scaling and Fragmentation Distributions of Beam Remnants in High E_t Proton Proton Collisions at $E_{cm}=27.4$ GeV
- Ahram 86 Phys. Rev. D33:25,1986;
 Study of Inelastic Interactions of 340 GeV/c Pions with Emulsion Nuclei
- Ahrens 85 Phys. Rev. Lett. 54:18,1985;
 Measurement of the Ratio of Cross Sections for Neutrino and Antineutrino Scattering from Electrons
- Ahrens 85B Phys. Rev. D31:2732,1985;
 New Limit on the Strength of Mixing between ν_μ and ν_e
- Ahrens 86 Phys. Rev. D34:75,1986;
 Determination of the Neutrino Fluxes in the Brookhaven Wide Beams
- Ahrens 87 Phys. Rev. D36:702,1987;
 Comparison of Narrow-Band and Wide Band Neutrino Beams in the Search for $\nu_\mu \rightarrow \nu_e$ Oscillations
- Ahrens 87B Phys. Lett. 194B:586,1987;
 A Search for Heavy Neutrino Decays in a Neutrino Beam
- Ahrens 87C Phys. Rev. D35:785,1987;
 Measurement of Neutrino-Proton and Antineutrino-Proton Elastic Scattering
- Ahrens 88 Phys. Lett. 202B:284,1988;
 A Study of the Axial-Vector Form Factor and Second-Class Currents in Antineutrino Quasielastic Scattering
- Aibergenov 86 Czech. J. Phys. B36:948,1986;
 Radiative Photoproduction of Pions and Pion Compton Scattering
- Aihara 84F Z. Phys. C27:187,1985; LBL-18326;
 Inclusive γ and π^0 Production Cross Sections and Energy Fractions in $e^+ e^-$ Annihilation at 28 GeV
- Aihara 84G Z. Phys. C28:31,1985; LBL-18408;
 Tests of Models for Quark and Gluon Fragmentation in $e^+ e^-$ Annihilation at 29 GeV
- Aihara 85 Phys. Rev. Lett. 53:2378,1985; LBL-18325;
 $K^*(892)^0$ and K_S Meson Production in $e^+ e^-$ Annihilation at 29 GeV
- Aihara 85B Phys. Rev. Lett. 54:274,1985; LBL-18382;
 Λ Production in $e^+ e^-$ Annihilation at 29 GeV
- Aihara 85C Z. Phys. C27:495,1985; LBL-18911;
 Quark Fragmentation Functions and Long Range Correlations in $e^+ e^-$ Annihilation at 29 GeV
- Aihara 85D Phys. Rev. Lett. 54:2564,1985; UCR-TPC-85-08;
 Exclusive Production of $K^+ K^- \pi^+ \pi^-$ in Photon-Photon Collisions
- Aihara 85E Phys. Rev. D31:2719,1985;
 Prompt Muon Production in $e^+ e^-$ Annihilation at 29 GeV
- Aihara 85F Z. Phys. C27:39,1985; LBL-17545;
 Prompt Electron Production in $e^+ e^-$ Annihilation at 29 GeV
- Aihara 85G Phys. Rev. Lett. 55:1047,1985; LBL-19566;
 Baryon Production in $e^+ e^-$ Annihilation at 29 GeV: Clusters or Diquarks?
- Aihara 86 Phys. Rev. D33:844,1986;
 Study of η Formation in Photon Photon Collisions
- Aihara 86B Phys. Rev. Lett. 57:945,1986; LBL-21543;
 Comparison of the Particle Flow in $q \bar{q}$ gluon and $q \bar{q} \gamma$ Events in $e^+ e^-$ Annihilation
- Aihara 86C Phys. Rev. Lett. 57:51,1986;
 Experimental Limit on $\eta(1440) \rightarrow \gamma \gamma$ and the Interpretation of the $\eta(1440)$ as a Glueball
- Aihara 86D Phys. Rev. Lett. 57:404,1986; UCR-TPC-86-01;
 Pion and Kaon Pair Production in Photon Photon Collisions
- Aihara 86E Phys. Rev. D34:1945,1986; IS-J-1848;
 Charged D^* (2010) Meson Production in $e^+ e^-$ Annihilation at $\sqrt{s}=29$ GeV
- Aihara 86F Phys. Rev. Lett. 57:3140,1986; LBL-22037;
 Study of Baryon Correlations in $e^+ e^-$ Annihilation at 29 GeV
- Aihara 86G Phys. Rev. Lett. 57:1836,1986; LBL-21766;
 Measurement of the Inclusive Branching Fraction $\tau^- \rightarrow \nu_\tau \pi^- \pi^0 + \text{Neutral Meson(s)}$
- Aihara 86H Phys. Rev. Lett. 57:3245,1986;
 Search for High Mass Narrow Resonances in Virtual Photon Photon Interactions
- Aihara 86I Phys. Rev. D35:1553,1986;
 Measurement of τ^\pm Branching Ratios
- Aihara 86J Phys. Rev. Lett. 57:2500,1986;
 Evidence for Spin-1 Particle Produced by Two Photon
- Aihara 87 Phys. Rev. D35:2650,1987;
 Study of η' Formation in Photon Photon Collisions
- Aihara 87B Phys. Lett. 184B:114,1987; LBL-21544;
 **Comparison of π^\pm , K^\pm and $p \bar{p}$ Production in the Central Rapidity Region in Hadron Hadron Collisions
 and in $e^+ e^-$ Annihilation**
- Aihara 87C Phys. Lett. 184B:299,1987;
 Pion and Kaon Multiplicities in Heavy Quark Jets from $e^+ e^-$ Annihilation at 29 GeV
- Aihara 87D Z. Phys. C34:1,1987;
 Measurement of the Photon Structure Function $F_2(x, Q^2)$ in the Region $0.2 < Q^2 < 7$ GeV²
- Aihara 87E Phys. Rev. D36:3506,1987;
 Exclusive Production of Proton-Antiproton Pairs in Two-Photon Collisions
- Aihara 87F Phys. Rev. Lett. 58:97,1987;
 Observation of Scaling of the Photon Structure Function F_2 at Low Q^2

- Aihara 87G Phys. Rev. Lett. 59:751,1987; LBL-23176;
Experimental Limit on the Decay $\tau^- \rightarrow \nu_\tau K^- K^0$
- Aihara 88 Phys. Rev. D37:28,1988;
Production of Four-Prong Final States in Photon-Photon Collisions
- Aihara 88B Phys. Rev. Lett. 60:2355,1988;
Charmonium Production in Photon-Photon Collisions
- Aihara 88C Phys. Rev. Lett. 61:1263,1988; LBL-24896;
Charged Hadron Inclusive Cross Sections and Fractions in $e^+ e^-$ Annihilations at $\sqrt{s}=29$ GeV
- Aihara 88D Phys. Rev. D38:1,1988;
Formation of Spin-1 Mesons by Photon-Photon Fusion
- Aihara 88E Phys. Lett. 209B:107,1988.
 $f_1(1285)$ Formation in Photon-Photon Fusion Reaction
- Aihara 88F LBL-23737:
Charged Hadron Production in $e^+ e^-$ Annihilation at $\sqrt{s}=29$ GeV
- Aihara 89 Phys. Rev. D40:2772,1989; NIKHEF-H-89-9;
Exclusive Production of $p \bar{p} \pi^+ \pi^-$ in Photon-Photon Collisions
- Aihara 89B Z. Phys. C44:357,1989; UT-HE-89-02;
Evidence of Soft and Collinear Gluon Emission in $e^+ e^-$ Hadronic Events
- Aihara 89C SLAC-PUB-5101; UC-IIRPA-89-02;
A Measurement of the Total Hadronic Cross Section in Tagged $\gamma \gamma$ Reactions
- Aivazyan 86 YERE-859(10)-86;
Inclusive Spectra of He, Li, Be, Bor Fragments Produced on Nuclei by Electrons with Energies of 2 and 4.5 GeV at Angles 50 and 130 Degrees
- Aivazyan 86B YERE-857(8)-86;
The Dependence of Inclusive Electroproduction Cross Sections of He, Li, Be Fragments on the Charge, the Angle of Emission, the Energy of Electrons, the Mass Number of the Target Nucleus and their Analysis
- Aivazyan 88 Phys. Lett. 209B:193,1988; HEN-286;
Multiplicity Dependence of the Average Transverse Momentum in $\pi^+ p$, $K^+ p$ and $p p$ Collisions at 250 GeV
- Aivazyan 89 Z. Phys. C42:533,1989;
Forward-Backward Multiplicity Correlations in $\pi^+ p$, $K^+ p$ and $p p$ Collisions at 250 GeV/c
- Ajaltouni 85B LAL-85-45;
Results on Photon-Photon Physics with the DM2 Detector
- Ajaltouni 87 Phys. Lett. 194B:573,1987; LAL-87-15;
Pion Pair Production in Photon-Photon Collisions at DCI
- Ajaltouni 88 LAL-88-30;
Three and Five Photon Decays of the $J/\psi(1S)$
- Ajaltouni 88B LAL-88-06;
Study of the Decays $J/\psi(1S) \rightarrow$ Vector + Pseudoscalar
- Ajinenko 83B Z. Phys. C25:103,1985; IFVE-83-153;
Inclusive $K^*(892)^+$, $K_s^*(1430)^+$ and $K^*(892)^-$ Production in $K^+ p$ Interactions at 32 GeV/c
- Ajinenko 84 Sov. J. Nucl. Phys. 41:214,1985; Yad. Phys. 41:338,1985; IFVE-84-107;
Reactions with Two Neutral Kaons Inclusive Production in $K^+ p$ Interactions at 32 GeV/c
- Ajinenko 84B Sov. J. Nucl. Phys. 41:972,1985; Yad. Phys. 41:1535,1985; IFVE-84-180;
Upper Limits on Production Cross Sections of Charmed Particles in $K^+ p$ Interactions at 32 GeV/c
- Ajinenko 84C Sov. J. Nucl. Phys. 41:593,1985; Yad. Phys. 41:925,1985; IFVE-84-154;
Inclusive $K_S \Lambda$, $K_S \bar{\Lambda}$ and $\Lambda \bar{\Lambda}$ Pair Production in $K^+ p$ Interactions at 32 GeV/c
- Ajinenko 85 Yad. Phys. 43:1195,1986; Sov. J. Nucl. Phys. 43:765,1986; IFVE-85-108;
Study of the Reaction $K^+ p \rightarrow p \Lambda X$ at 32 GeV/c
- Ajinenko 86B Yad. Phys. 45:1026,1987; IFVE-86-115;
Inclusive π^\pm Mesons Production in Association with Two Leading Particles in $K^- p$ Reactions at 32 GeV/c
- Ajinenko 86C Yad. Phys. 44:644,1986; Sov. J. Nucl. Phys. 44:417,1986;
Cross Sections of Exclusive $K^+ p$ Reactions at 32 GeV/c
- Ajinenko 87 Phys. Lett. 197B:457,1987; IFVE-87-113;
Indication of an Onset of Hard-like Effects in $K^+ p$ and $\pi^+ p$ and $p p$ Collisions at 250 GeV/c
- Ajinenko 87B Yad. Phys. 46:818,1987; IFVE-86-177;
Diffraction Processes in 6 body Exclusive $K^+ p$ Reactions at 32 GeV/c
- Ajinenko 89 Z. Phys. C42:377,1989;
Multiplicity Distribution in $K^+ Al$ and $K^+ Au$ Collisions at 250 GeV/c and a Test of the Multiple Collisions Model
- Ajinenko 89B Z. Phys. C43:15,1989; IFVE-89-70;
A Study of 4⁺ and 6 body Reaction in $K^+ p$ and $\pi^+ p$ Interactions at 250 GeV/c
- Ajinenko 89C Phys. Lett. 222B:306,1989; HEN-309;
Intermittency Patterns in $\pi^+ p$ and $K^+ p$ Collisions at 250 GeV/c
- Ajinenko 89D Z. Phys. C43:37,1989;
Charge and Energy Flow in $\pi^+ p$, $K^+ p$ and $p p$ Interactions at 250 GeV/c
- Ajinenko 89E Z. Phys. C44:573,1989; IFVE-89-172;
Strange and Non-Strange Baryon Production in $\pi^+ p$ and $K^+ p$ Interactions at 250 GeV/c
- Ajinenko 90 Phys. Lett. 235B:377,1990;
Intermittency Effects in $\pi^+ p$ and $K^+ p$ Collisions at 250 GeV/c
- Ajinenko 90B Z. Phys. C46:569,1990;
Negative Binomial and Multiplicity Distributions in 250 GeV/c K^+ and π^+ Interactions on Al and Au Nuclei
- Ajnudinov 88 ITEP-88-118;
The Track Experiment for Double β -Decay of ^{136}Xe
- Akchurin 89 Phys. Lett. 229B:299,1989; ANL-HEP-PR-89-82;
Analyzing-Power Measurement of Coulomb-Nuclear Interference with the Polarized-Proton and Antiproton Beams at 185 GeV/c
- Akerlof 85 Phys. Lett. 156B:271,1985; ANL-HEP-PR-85-11-REV; U'N-HE-85-03-REV; IJHEP-63-REV; PU-85-523-REV;
Experimental Limits on Monojet Production in $e^+ e^-$ Annihilations at 29 GeV

- Akerlof 85B Phys. Rev. Lett. 55:570,1985;
Measurement of the Topological Branching Fractions of the Tau Lepton
- Akerlof 88 Phys. Rev. D37:577,1988;
Experimental Limits on Massive Neutrinos from $e^+ e^-$ Annihilation at 29 GeV
- Akesson 84B Phys. Lett. 152B:140,1985; CERN-EP-84-155;
A Measurement of Alpha-Alpha Elastic Scattering at the CERN ISR
- Akesson 85 Phys. Rev. D31:976,1985;
Rapidity and Charge Correlations of Centrally Produced Charged Particles in Event with a High Momentum π^0 near 11 Degrees
- Akesson 85B Phys. Lett. 155B:128,1985; CERN-EP-85-12;
Bose-Einstein Correlations between Kaons
- Akesson 85C Phys. Lett. 152B:111,1985; CERN-EP-84-169;
Production of Prompt Positrons at Low Transverse Momentum in 63 GeV $p p$ Collisions at the CERN Intersecting Storage Rings
- Akesson 85D Nucl. Phys. B264:154,1986; CERN-EP-85-115;
A Search for Glueballs and a Study of Double Pomeron Exchange at the CERN Intersecting Storage Rings
- Z. Phys. C30:27,1986; CERN-EP-85-164;
- Akesson 85E Dijet Production Cross Section and Fragmentation of Jets Produced in $p p$ Collisions at 63 GeV
- Z. Phys. C30:27,1986; CERN-EP-85-164;
- Akesson 85F Phys. Rev. Lett. 55:2535,1985;
Search for Quark Deconfinement: Strangeness Production in $p p$, deuteron-deuteron, p He, and He He Collisions at $\sqrt{s}=31.5$ and 44 GeV
- Akesson 85G Phys. Lett. 158B:282,1985; CERN-EP-85-55;
A Comparison of Direct Photon, π^0 , and η Production in $\bar{p} p$ and $p p$ Interactions at the CERN ISR
- Akesson 86 Z. Phys. C32:317,1986; CERN-EP-86-52;
Three Jet Production in $p p$ Collisions at 63 GeV and a Determination of o_S
- Akesson 86B Z. Phys. C32:491,1986; CERN-EP-86-37;
A Study of the Production of Two Direct Photons in $p p$ Collisions at the CERN ISR
- Akesson 86C Phys. Lett. 178B:447,1986; CERN-EP-86-84;
Inclusive η Production at Low Transverse Momentum in 63 GeV $p p$ Collisions at the CERN ISR
- Akesson 86D Z. Phys. C34:293,1987; CERN-EP-86-195;
Direct Photon Plus Away Side Jet Production in $p p$ Collisions at $E_{cm}=63$ GeV and a Determination of the Gluon Distribution
- Akesson 86E Phys. Scr. 34:106,1986;
A Comparison of Particles Recoiling from High p_T Direct Photons and π^0 's at the ISR
- Akesson 86F Phys. Lett. 187B:420,1987; CERN-EP-86-215;
Evidence for a Directional Dependence of Bose-Einstein Correlations at the CERN Intersecting Storage Rings
- Akesson 87 Z. Phys. C34:163,1987; CERN-EP-86-216;
Double Parton Scattering in $p p$ Collisions at $E_{cm}=63$ GeV
- Akesson 87B Phys. Lett. 192B:463,1987; CERN-EP-87-16;
Correlations Between the Production of Prompt Positrons at Low Transverse Momentum and the Associated Charged Multiplicity
- Akesson 87C Phys. Rev. D36:2615,1987; CERN-EP-87-85;
Search for Direct γ Production at Low Transverse Momentum in 63 GeV $p p$ Collisions
- Akesson 87E Z. Phys. C36:517,1987; CERN-EP-87-142;
Pion Interferometry in Jet Events at the CERN Intersecting Storage Rings
- Akesson 88 Z. Phys. C38:383,1988;
The Transverse Energy Distribution in ^{16}O - Nucleus Collisions at 60 and 200 GeV per Nucleon
- Akesson 88B Z. Phys. C38:397,1988;
The Transverse Energy Distribution in Hadron-Lead Collisions
- Akesson 88C Phys. Lett. 214B:295,1988;
The Transverse Energy Distribution of ^{32}S - Nucleus Collisions at 200 GeV per Nucleon
- Akesson 88D Phys. Rev. D38:2687,1988;
Comparison of Low p_T Photon Production in High- and Low-multiplicity Collisions at the CERN-ISR
- Akesson 89 Phys. Lett. 231B:359,1989;
Measurement $d\sigma/dE_t$ in Collisions of Light Nuclei at $\sqrt{s_{nn}}=31.5$ GeV
- Akesson 89B Nucl. Phys. B333:48,1990; CERN-EP-89-97;
Charged Particle Multiplicity Distributions in Oxygen - Nucleus Collisions at 60 GeV and 200 GeV per Nucleon
- Akesson 89D CERN-EP-89-113;
Inclusive Photon Production in p nucleus and nucleus-nucleus Collisions at 200 GeV/Nucleon
- Akesson 89E CERN-EP-89-111;
Inclusive Negative Particle p_T Spectra in p -nucleus and nucleus-nucleus Collisions at 200 GeV per Nucleon
- Akesson 90 Nucl. Phys. B342:279,1990; CERN-EP-90-42;
An Emulsion Study of ^{16}O and ^{32}S Interactions at 200 GeV per Nucleon Selected by Transverse Energy
- Akesson 90B Phys. Lett. 238B:442,1990; CERN-EP-89-172;
Search for Scalar Electrons and Winos at the CERN $\bar{p} p$ Collider
- Akesson 90C Z. Phys. C46:179,1990;
Search for Top Quark Production at the CERN $\bar{p} p$ Collider
JINR-P1-85-639;
Two-Proton Correlation in He C Interactions at 4.2 GeV/c per Nucleon
- Akhmerov 87 Izv. Akad. Nauk SSSR. Fiz. 51:140,1987;
Scattering of Electrons on ^3He under 127 Degrees
- Akiba 85 Phys. Rev. D32:2911,1985; KEK-85-20;
A Study of the Radiative Decay $K^+ \rightarrow \mu^+ \nu_\mu \gamma$
- Akimenko 85 Yad. Phys. 43:615,1986; Sov. J. Nucl. Phys. 43:392,1986; IFVE-85-93;
Relative Yields of η Mesons Produced by 10 GeV Pions and Kaons
- Akimenko 89 Yad. Phys. 51:437,1989; IFVE-89-95;
Study of Exclusive Processes $\pi^+ \rightarrow \eta$ and $\pi^+ \rightarrow \pi^0 \pi^0$ on Nuclei at 10.5 GeV/c
- Akimenko 90B IFVE-90-10;
Experimental Study of K^0 -Meson Inclusive Production in K^+ nucleus Interaction at 11.2 GeV

- Akimenko 90C IFVE-90-36:
Experimental Study of Inclusive $K^*(892)^0$ Meson Production in K^+ nucleus Interactions at 11.2 GeV
 Kr. Sools JINR 35:11,1989;
- Akimov 89 Investigation of Anomalous Pion Production in the Reaction p Cu $\rightarrow \pi^+ X$ by 350 MeV Protons
 Yad. Phys. 44:162,1986;
- Akopova 86 Time Averaged Charge and Energy Spectra of Galactic Nuclei with $Z \geq 50$
 Yad. Phys. 44:162,1986;
- Akrawy 89 Phys. Lett. 231B:530,1989; CERN-EP-89-133;
Measurement of the Z^0 Mass and Width with the OPAL Detector at LEP
- Akrawy 89B Phys. Lett. 236B:364,1989; CERN-EP-89-154;
A Search for the Top and b' Quarks in Hadronic Z^0 Decays
- Akrawy 89C Phys. Lett. 235B:389,1989; CERN-EP-89-153;
A Study of Jet Production Rates and a Test of QCD on the Z^0 Resonance
- Akrawy 89D CERN-EP-89-175;
- Akrawy 89E A Search for New Charged Heavy Leptons with the OPAL Detectors at LEP
 CERN-EP-89-176;
- Akrawy 90 A Search for Coplanar Pairs of Leptons or Jets in Z^0 Decays: Mass Limits on Supersymmetric Particles
 Phys. Lett. 235B:379,1990; CERN-EP-89-147;
Measurement of the Decay of the Z^0 into Lepton Pairs
- Akrawy 90B CERN-EP-90-00;
- Akrawy 90C A Direct Search for New Charged Heavy Leptons at LEP
 Z. Phys. C47:565,1990; CERN-EP-90-48;
A Measurement of Global Event Shape Distributions in the Hadronic Decays of the Z^0
- Akrawy 90D Phys. Lett. 242B:299,1990; CERN-EP-90-38;
- Akrawy 90E Phys. Lett. 240B:497,1990; CERN-EP-90-27;
A Combined Analysis of the Hadronic and Leptonic Decays of the Z^0
- Akrawy 90F Phys. Lett. 241B:133,1990; CERN-EP-90-29;
A Study of the Reaction $e^+ e^- \rightarrow 2\gamma$ at LEP
- Akrawy 90G Phys. Lett. 244B:135,1990; CERN-EP-90-49;
Search for Excited Leptons at LEP
- Akrawy 90H CERN-EP-90-55;
Evidence for Final State Photons in Multihadronic Decays of the Z^0
- Akrawy 90I CERN-EP-90-72;
Limits on Neutral Heavy Lepton Production from Z^0 Decay
- Akrawy 90J Phys. Lett. 236B:224,1990; CERN-EP-89-174;
Mass Limits for Standard Model Higgs Boson in $e^+ e^-$ Collisions at LEP
- Akrawy 90K CERN-EP-90-81;
Analysis of Z^0 Couplings to Charged Leptons
- Akrawy 90L Phys. Lett. 247B:617,1990; CERN-EP-90-94;
A Study of Coherence of Soft Gluons in Hadron Jets
- Akrawy 90M Phys. Lett. 248B:211,1990; CERN-PPE-90-95;
A Direct Search for Neutralino Production at LEP
- Akrawy 90N CERN-EP-90-100;
Search for Neutral Higgs Bosons in $e^+ e^-$ Collisions at LEP
- Alam 86 Phys. Rev. D34:3279,1986;
Study of the Decay $B \rightarrow J/\psi(1S) X$
- Alam 87 Phys. Rev. Lett. 58:1814,1987;
Branching Ratios of B (unspec) Mesons to K^+ , K^- , and K^0/\bar{K}^0
- Alam 87B Phys. Rev. Lett. 59:22,1987;
Evidence for Charmed Baryons in B Meson Decay
- Alam 89 Phys. Rev. D40:712,1989; Phys. Rev. D40:3790,1989; CLNS-89-88H; CLEO-89-4;
Search for a Neutral Higgs Boson in B Meson Decay
- Alam 89B Phys. Lett. 226B:401,1989; CLNS-89-92; CLEO-89-9;
Measurement of the Isospin Mass Splitting $\Xi_c(2460)^+ \Xi_c(2480)^0$
- Alanakyan 84 Yad. Phys. 41:353,1985; YERE-707(22)-84;
Structure Functions of the Nuclei ^{12}C , ^{63}Cu , ^{208}Pb in the Cumulative Proton Photoproduction
- Alanakyan 87 Yad. Phys. 45:751,1987; YERE-889(40)-86;
Correlations in Photoproduction of Cumulative Protons
- Alanakyan 88 Yad. Phys. 47:1653,1988; YERE-979(29)-87;
Different Features of Spectra and Structure Functions of Nuclei from Inclusive and Backward-Forward Correlation Production of Cumulative Photoprottons
- Albajar 86 Phys. Lett. 185B:233,1987; CERN-EP-86-81;
Events with Large Missing Transverse Energy at the CERN Collider: $W^\pm \rightarrow \tau^\pm \nu$ Decay and Test of $\tau^\pm \mu^\pm e^\pm$ Universality at $Q^2 = m(W^\pm)^2$. Paper 1
- Albajar 86B Phys. Lett. 185B:241,1987; CERN-EP-86-82;
Events with Large Missing Transverse Energy at the CERN Collider. Search for the Decays of W^\pm into Heavy Leptons and Z^0 into Non Interacting Particles. Paper 2
- Albajar 86C Phys. Lett. 186B:237,1987; CERN-EP-86-208;
Beauty Production at the CERN Proton Antiproton Collider. Paper 1
- Albajar 87 Phys. Lett. 198B:271,1987; CERN-EP-87-149;
Intermediate Vector-Boson Cross Sections at the CERN Super Proton Synchrotron Collider and the Number of Neutrino Types
- Albajar 87B Phys. Lett. 198B:261,1987; CERN-EP-87-148;
Events with Large Missing Transverse Energy at the CERN Collider: III. Mass Limits on Supersymmetric Particles
- Albajar 87C Phys. Lett. 186B:247,1987; CERN-EP-86-209;
Search for B^0 - \bar{B}^0 Oscillations at the CERN Proton Antiproton Collider. Paper 2
- Albajar 87D Z. Phys. C36:33,1987; RAL-87-037; CERN-PRE-87-05;
Analysis of the Highest Transverse Energy Events Seen in the UA1 Detector at the $\bar{p} p$ Collider
- Albajar 87E Phys. Lett. 193B:389,1987; CERN-EP-87-82;
Production of W^\pm 's with Large Transverse Momentum at the CERN Proton Antiproton Collider

- Albajar 88 Nucl. Phys. B309:405,1988; CERN-EP-88-29;
Production of Low Transverse Energy Cluster in $\bar{p} p$ Collisions at $\sqrt{s}=0.2 - 0.8$ TeV and their Interpretation in Terms of QCD Jets
- Albajar 88B Phys. Lett. 209B:395,1988; CERN-EP-88-45;
Direct Photon Production at the CERN Proton-Antiproton Collider
- Albajar 88C Phys. Lett. 209B:397,1988; CERN-EP-88-46;
Low Mass Dimuon Production at the CERN Proton-Antiproton Collider
- Albajar 88D Phys. Lett. 213B:405,1988; CERN-EP-88-100;
Measurement of the Bottom Quark Production Cross Section in Proton-Antiproton Collisions at $\sqrt{s}=0.63$ TeV
- Albajar 88E Phys. Lett. 200B:380,1988;
High Transverse Momentum $J/\psi(1S)$ Production at the CERN Proton-Antiproton Collider
- Albajar 88F Z. Phys. C37:489,1988;
Study Heavy Flavor Production in Events with a Muon Accompanied by Jets at the CERN Proton-Antiproton Collider
- Albajar 88G Z. Phys. C37:505,1988;
Search for New Heavy Quarks at CERN Proton-Antiproton Collider
- Albajar 88H Phys. Lett. 209B:127,1988; CERN-EP-88-54;
Two Jet Mass Distributions at the CERN Proton - Antiproton Collider
- Albajar 89 Phys. Lett. 226B:410,1989; Phys. Lett. 229B:439,1989; CERN-EP-89-71;
Bose-Einstein Correlation in $\bar{p} p$ Interactions at $\sqrt{s}=0.2$ to 0.9 TeV
- Albajar 89B Z. Phys. C44:15,1989; CERN-EP-88-168;
Studies of Intermediate Vector Boson Production and Decay in UA1 at the CERN Proton-Antiproton Collider
- Albajar 89C CERN-EP-89-138;
Comparison of W^\pm and Direct Photon Cross Sections at Large Transverse Momenta
- Albajar 90 CERN-EP-90-56;
Intermittency Studies in $p \bar{p}$ Collisions at $\sqrt{s}=630$ GeV
- Albajar 90B Nucl. Phys. B335:261,1990; CERN-EP-89-85;
A Study of the General Characteristics of Proton Antiproton Collisions at $\sqrt{s} = 0.2$ TeV to 0.9 TeV
- Albajar 90C Phys. Lett. 241B:283,1990; CERN-EP-90-35;
Experimental Limit on the Decay $W^\pm \rightarrow \pi^\pm \gamma$ at the CERN Proton-Antiproton Collider
- Albajar 90D Phys. Lett. 244B:566,1990; CERN-EP-90-61;
A Study of the $D^*(2010)$ Content of Jets at the CERN $p \bar{p}$ Collider
- Albajar 90E CERN-EP-90-57;
Search for New Heavy Quarks in Proton-Antiproton Collisions at $\sqrt{s}=0.63$ TeV
- Albanese 85 Phys. Lett. 158B:186,1985; CERN-EP-85-76;
Direct Observation of the Decay of Beauty Particles into Charm Particles
- Albini 85 Sov. J. Nucl. Phys. 43:585,1986; Yad. Phys. 43:917,1986; JINR-P1-85-144;
Investigation of Inclusive Processes π^- nucleus $\rightarrow p X$ at 40 GeV/c
- Albrecht 85 Phys. Lett. 150B:235,1985;
Production and Decay of the Charged $D^*(2010)$ Meson in $e^+ e^-$ Annihilation at 10 GeV Centre of Mass Energy
- Albrecht 85B Phys. Lett. 146B:111,1985;
Evidence for D_S^+ Meson Production in $e^+ e^-$ Annihilation at 10 GeV Centre of Mass Energy
- Albrecht 85C Phys. Lett. 154B:452,1985;
Search for Narrow States Coupling to Tau Pairs in Radiative Υ Decays
- Albrecht 85D Phys. Lett. 153B:343,1985;
Production and Decay of the D_S^\pm Meson in $e^+ e^-$ Annihilation at 10 GeV Centre of Mass Energy
- Albrecht 85E Phys. Lett. 157B:326,1985;
Observation of Antideuteron Production in Electron Positron Annihilation at 10 GeV Center of Mass Energy
- Albrecht 85F Phys. Lett. 156B:134,1985;
Search for Fractionally Charged Particles Produced in $e^+ e^-$ Annihilation
- Albrecht 85G Phys. Lett. 158B:525,1985;
Direct Evidence for W^\pm Exchange in Charmed Meson Decay
- Albrecht 85H Phys. Lett. 160B:331,1985; DESY-85-068;
Radiative Decays of the $\Upsilon(2S)$ into the Three χ_b (unspec) States
- Albrecht 85I Z. Phys. C28:45,1985;
A Determination of the Muon Pair Branching Ratio of the $\Upsilon(1S)$ Meson
- Albrecht 85J Phys. Lett. 163B:404,1985;
An Upper Limit on the Mass of the Tau Neutrino
- Albrecht 85K Phys. Lett. 162B:395,1985;
Observation of B Meson Decay into $J/\psi(1S)$
- Albrecht 85L Z. Phys. C29:167,1985;
Upper Limit for the Emission of Monoenergetic Photons in $\Upsilon(1S)$ and $\Upsilon(2S)$ Meson Decays
- Albrecht 85M Phys. Lett. 179B:398,1985;
Observation of D_S^\pm Meson Decay into $K^*(892) K$
- Albrecht 85N Phys. Lett. 182B:95,1985;
Determination of the Branching Ratio for the Decay $B \rightarrow D^*(2010)^- \pi^+$
- Albrecht 86 Phys. Lett. 167B:360,1986;
Search for Gluinos in Decays of the $\chi_{b1}(1P)$ Meson
- Albrecht 86B Phys. Rev. Lett. 56:549,1986;
Observation of a New Charmed Meson
- Albrecht 86C Phys. Lett. 179B:403,1986; DESY-86-077;
Search for Exotic Decay Modes of the $\Upsilon(1S)$
- Albrecht 86D Z. Phys. C31:181,1986; DESY-86-002;
An Upper Limit for Two Jet Production in Direct $\Upsilon(1S)$ Decays
- Albrecht 86E Z. Phys. C33:7,1986; DESY-86-060; C86/07/16;
Measurement of Tau Decays into Three Charged Pions

Albrecht 86F

Albrecht 88Q

Albrecht 86F	DESY-86-061: Observation of D_S^+ Decays into $K^*(892)^+ K^-$
Albrecht 86G	Phys. Lett. 183B:419,1987; DESY-86-130: Observation of Octet and Decuplet Hyperons in $e^+ e^-$ Annihilation at 10 GeV Centre-of-Mass Energy
Albrecht 87	Phys. Lett. 199B:297,1987: Forward and Transverse Energy Distribution in Oxygen-Induced Reaction at 80 A GeV and 200 A GeV
Albrecht 87B	Phys. Lett. 185B:218,1987: Reconstruction of B Mesons
Albrecht 87C	Phys. Lett. 185B:228,1987; DESY-86-166: Search for Lepton Number and Lepton Flavour Violation in Tau Decays
Albrecht 87D	Phys. Lett. 187B:425,1987; DESY-87-001: Observation of Inclusive D_S^\pm Production in B Meson Decay
Albrecht 87E	Z. Phys. C33:359,1987: The Decay $D^0 \rightarrow K^0 \phi$
Albrecht 87F	Phys. Lett. 199B:447,1987; DESY-87-085: An Upper Limit on $D^0 - \bar{D}^0$ Mixing
Albrecht 87G	Phys. Lett. 199B:451,1987; DESY-87-111: B Meson Decays into Charmonium States
Albrecht 87H	Phys. Lett. 199B:291,1987; DESY-87-087: Determination of α_s from a Measurement of the Direct Photon Spectrum in $\Upsilon(1S)$ Decays
Albrecht 87I	Phys. Lett. 185B:223,1987; DESY-86-142: Evidence for the Decay $\tau^- \rightarrow \omega \pi^- \nu_\tau$
Albrecht 87J	Phys. Lett. 196B:101,1987; DESY-87-048: First Observation of $\gamma \gamma \rightarrow \omega \rho^0$
Albrecht 87K	Phys. Lett. 198B:577,1987; DESY-87-052: First Observation of $\gamma \gamma \rightarrow 2\omega$
Albrecht 87L	Phys. Lett. 199B:580,1987; DESY-87-128: A Measurement of the Tau Lifetime
Albrecht 87M	Phys. Lett. 199B:457,1987; DESY-87-063: Measurement of $\eta' \rightarrow \pi^+ \pi^- \gamma$ in $\gamma \gamma$ Collisions
Albrecht 87N	Phys. Lett. 267B:349,1988; DESY-87-156: Measurement of $D_S^+ - D_S^0$ Mass Difference
Albrecht 87O	Phys. Lett. 197B:452,1987; DESY-87-079: Measurement of the Decay $B^0 \rightarrow D^*(2010)^- \ell^+ \nu$
Albrecht 87P	Phys. Lett. 192B:245,1987; DESY-87-029: Observation of $B^0 - \bar{B}^0$ Mixing
A'brecht 87Q	Z. Phys. C35:283,1987; DESY-86-169: The Hadronic Transitions from $\Upsilon(2S)$ to $\Upsilon(1S)$
Albrecht 87R	Phys. Lett. 195B:102,1987; DESY-87-045: Search for the Decay $D_S^+ \rightarrow \rho^0 \pi$ as Evidence for Quark Annihilation
Albrecht 87S	Phys. Lett. 198B:255,1987; DESY-87-095: First Observation of $\gamma \gamma \rightarrow K^*(892)^0 \bar{K}^*(892)^0$
Albrecht 87T	Phys. Lett. 195B:307,1987; DESY-87-055: Search for the Decay $\tau^- \rightarrow \nu_\tau \nu \pi^-$
Albrecht 88	Phys. Lett. 202B:596,1988: Charge Particles Distributions in ^{16}O Induced Nuclear Reactions at 80 and 200 GeV
Albrecht 88B	Phys. Lett. 201B:390,1988: Photon and Neutral Pion Distribution in 60 and 200 A GeV $^{16}\text{O} +$ Nucleus and Proton + Nucleus Reactions
Albrecht 88C	Phys. Lett. 202B:149,1988; DESY-87-148: An Improved Upper Limit on the ν_τ Mass from the Decay $\tau^- \rightarrow 3\pi^- 2\pi^+ \nu_\tau$
Albrecht 88D	Phys. Lett. 207B:109,1988; DESY-88-011: Observation of the Charmed Baryon Λ_c^+ in $e^+ e^-$ Annihilation at 10 GeV
Albrecht 88E	Phys. Lett. 210B:258,1988; DESY-88-062: Search for Decay $B \rightarrow K^* \gamma$
Albrecht 88F	Phys. Lett. 209B:380,1988; DESY-88-053: Search for D^0 Decays into Lepton Pairs
Albrecht 88G	Phys. Lett. 210B:263,1988; DESY-88-012: Observation of Inclusive Beauty-Meson Decays into Λ_c^+ Baryons
Albrecht 88H	Phys. Lett. 211B:489,1988; DESY-88-058: Observation of the Charmed Baryon $\Sigma_c(2455)$ in $e^+ e^-$ Annihilations
Albrecht 88I	Z. Phys. C39:177,1988; DESY-87-141: Hyperon Production in $e^+ e^-$ Annihilation at 10 GeV Centre of Mass Energy
Albrecht 88J	Phys. Lett. 210B:267,1988; DESY-88-037: Lifetimes of Charmed Mesons
Albrecht 88K	Z. Phys. C41:557,1989; DESY-88-079: Inclusive ϕ -Meson Production in Electron-Positron Interactions in the Energy Region of the Υ Resonances
Albrecht 88L	Phys. Lett. 210B:273,1988; DESY-88-016: A Search for ω and ϕ Production in the Reactions $\gamma \gamma \rightarrow K^+ K^- \pi^+ \pi^- \pi^0$ and $\gamma \gamma \rightarrow 2K^+ 2K^-$
Albrecht 88M	Phys. Lett. 215B:424,1988; DESY-88-131: B Meson Decays to D and $D \rho$
Albrecht 88N	Phys. Lett. 212B:528,1988; DESY-88-084: First Observation of $\gamma \gamma \rightarrow K^*(892)^+ K^*(892)^-$
Albrecht 88O	Z. Phys. C41:1,1988; DESY-88-088: Measurement of the Decays $\tau^- \rightarrow K^*(892)^- \nu_\tau$ and $\tau^- \rightarrow \rho^- \nu_\tau$
Albrecht 88P	Z. Phys. C41:405,1988; DESY-88-113: Upper Limit for the Decay of τ^\pm Leptons into η Mesons
Albrecht 88Q	Phys. Lett. 215B:429,1989; DESY-88-072: Observation of the Orbitally Excited $\Lambda(1520 D_{03})$ Baryon in $e^+ e^-$ Annihilations

Albrecht 88R

- Albrecht 88R Z. Phys. C42:543,1989; DESY-88-194;
Two-Photon Production of Final States with a $p\bar{p}$ Pair
- Albrecht 88S Z. Phys. C43:181,1988; DESY-88-168;
Measurement of D^0 Decays into $\bar{K}^0 \omega$, $\bar{K}^0 \eta$ and $\bar{K}^*(892)^0 \eta$
- Albrecht 88T Phys. Lett. 209B:119,1988; DESY-88-054;
Observation of the Charmless B Meson Decays
- Albrecht 89 Phys. Lett. 221B:422,1989; DESY-88-179;
Observation of $D^*(2459)^0$ in $e^+ e^-$ Annihilation
- Albrecht 89B Z. Phys. C43:45,1989; DESY-89-013;
Results on Baryon Antibaryon Correlations in $e^+ e^-$ Annihilation
- Albrecht 89C Phys. Lett. 219B:121,1989; DESY-88-178;
Measurement of $D^*(2010)^+$ Polarization in the Decay $\bar{B}^0 \rightarrow D^*(2010)^+ e^- \bar{\nu}$
- Albrecht 89D Phys. Lett. 221B:427,1989; GS1-89-29;
Fluctuation and Intermittency in 200 A GeV $^{16}\text{O} + (\text{C}, \text{Au})$ Reaction
- Albrecht 89E Z. Phys. C42:519,1989; DESY-88-145;
Measurement of Inclusive B -Meson Decays into Baryons
- Albrecht 89F Phys. Lett. 217B:205,1989; DESY-88-150;
A Measurement of $\gamma \gamma \rightarrow \rho^+ \rho^-$
- Albrecht 89G Z. Phys. C46:15,1990; DESY-89-066;
Inclusive π^0 and η Production in Electron Positron Interactions at $\sqrt{s}=10$ GeV
- Albrecht 89H Z. Phys. C44:547,1989; DESY-89-014;
Inclusive Production of Charged Pions, Charged and Neutral Kaons and Antiprotons in $e^+ e^-$ Annihilation at 10 GeV and in Direct $\Upsilon(2S)$ Decays
- Albrecht 89I Phys. Lett. 230B:169,1989; DESY-89-061;
Observation of $\Delta(1232 p_{33})^{++}$ Production in $e^+ e^-$ Annihilations around 10 GeV
- Albrecht 89J Z. Phys. C42:349,1989; DESY-88-116;
Search for Exclusive Radiative Decays of $\Upsilon(1S)$ and $\Upsilon(2S)$ Mesons
- Albrecht 89K DESY-89-179;
Measurement of $K^+ K^-$ Production in $\gamma \gamma$ Collisions
- Albrecht 89L Phys. Lett. 229B:304,1989; DESY-89-086;
Search for $b \rightarrow s \gamma$ in Exclusive Decays of B Mesons
- Albrecht 89M Z. Phys. C45:31,1989; LUIP-8903;
Global and Local Fluctuations in Multiplicity and Transverse Energy for Central Ultra-Relativistic Heavy-Ion Interactions
- Albrecht 89N Phys. Lett. 229B:175,1989; DESY-89-082;
Measurement of the Decay $B^0 \rightarrow D^- \ell^+ \nu$
- Albrecht 89O Phys. Lett. 236B:102,1990; DESY-89-144;
Study of Antideuteron Production in $e^+ e^-$ Annihilation at 10 GeV Center of Mass Energy
- Albrecht 89P Phys. Lett. 230B:162,1989; DESY-89-119;
Observation of a New Charmed-Strange Meson
- Albrecht 89Q Phys. Lett. 232B:554,1989; DESY-89-117;
Measurement of the Lifetime Ratio $\tau(B^+)/\tau(B^0)$
- Albrecht 89R Z. Phys. C46:9,1990; DESY-89-102;
A Study of Cabibbo-Suppressed D^0 Decays
- Albrecht 89S DESY-89-096;
Search for $b \rightarrow s$ gluon in B Meson Decays
- Albrecht 89T DESY-89-163;
Search for Rare Semileptonic B -Meson Decays
- Albrecht 89U DESY-89-166;
Search for $B \rightarrow$ strange charged $+$ charged $-$ in Exclusive Decays of B Mesons
- Albrecht 89V Phys. Lett. 232B:398,1989; DESY-89-103;
Resonance Decomposition of the $D_1(2420)^0$ Through a Decay Angular Analysis
- Albrecht 89W DESY-89-164;
Evidence for a Higher Twist Effect in Electron Positron Annihilation into Hadrons at 10 GeV Centre of Mass Energy
- Albrecht 89X Phys. Lett. 231B:208,1989; DESY-89-085;
Observation of the Charged Isospin Partner of the $D_2^*(2460)^0$
- Albrecht 90 DESY-90-032;
Observation of the Decay $D_S^+ \rightarrow \eta' \pi^+$
- Albrecht 90B DESY-90-033;
Study of p and $\Lambda \bar{\Lambda}$ Production in $e^+ e^-$ Annihilation at 10 GeV Center of Mass Energy
- Albrecht 90C Z. Phys. C45:529,1990; GS1-89-59;
Transverse Energy Production in the Target Fragmentation Region in ^{16}O Nucleus Reactions at 60 A GeV and 200 A GeV
- Albrecht 90D Phys. Lett. 234B:409,1990; DESY-89-152;
Observation of Semileptonic Charmless B Meson Decays
- Albrecht 90E Phys. Lett. 241B:278,1990; DESY-90-008;
Search for Hadronic $b \rightarrow u$ Decays
- Albrow 88 RAL-88-057;
Summary Talk: 23rd Rencontre De Moriond, Mar 13 - 19, 1988
- Alde 86 Nucl. Phys. B269:485,1986; Yad. Phys. 44:120,1986; Sov. J. Nucl. Phys. 44:75,1986; CERN-EP-85-153; IFVE-86-18;
Production of $f_0(1590)$ and Other Mesons Decaying into η Pairs by 100 GeV/c π^- on Protons
- Alde 86B Phys. Lett. 177B:115,1986; Yad. Phys. 45:117,1987; CERN-EP-86-72; IFVE-86-92;
Matrix Element of the $\eta' \rightarrow \eta \pi^0 \pi^0$ Decay
- Alde 86C Phys. Lett. 182B:105,1986; Pis'ma Zh. Eksp. Teor. Fiz. 44:441,1986; IFVE-86-155; CERN-EP-86-140;
Observation of a Narrow Meson with a Mass of 1750 MeV Decaying into $\eta \eta$ Pair
- Alde 86D Yad. Phys. 45:1341,1987; CERN-EP-86-151; IFVE-86-154;
 $\eta' \rightarrow \omega \gamma$ Decay
- Alde 86E Phys. Lett. 177B:120,1986; Yad. Phys. 45:105,1987; CERN-EP-86-71; IFVE-86-114;
2.22 GeV $\eta \eta'$ Structure Observed in 38 GeV/c and 100 GeV/c $\pi^- p$ Collisions

Alde 87

Alekseev 88B

- Alde 87 Phys. Lett. 201B:160,1988; Yad. Phys. 47:1639,1988; Sov. J. Nucl. Phys. 47:1038,1988; IFVE-87-163; CERN-EP-87-197:
Production of $f_0(1590)$ Meson in 300 GeV Central $\pi^- n$ Nuclei Collisions
- Alde 87B Z. Phys. C36:603,1987; Yad. Phys. 47:385,1988; CERN-EP-87-196; IFVE-87-88:
Study of Neutral Decays of the η' Meson
- Alde 87C Yad. Phys. 47:1273,1988; IFVE-87-171;
Observation of the Tensor $X(1810)$ Meson in 300 GeV Central $\pi^- n$ Collisions
- Alde 87D Phys. Lett. 198B:286,1987; Yad. Phys. 47:997,1988; CERN-EP-87-161; IFVE-87-100;
- Neutral Mesons Decaying into $4\pi^0$
- Alde 88B Z. Phys. C43:541,1989; Yad. Phys. 49:712,1989; Sov. J. Nucl. Phys. 49:440,1989; IFVE-88-154; CERN-EP-88-170;
Pseudoscalar Meson Production in Central $\pi^- n$ Interactions at 300 GeV
- Alde 88C Yad. Phys. 49:1021,1989; Sov. J. Nucl. Phys. 49:636,1989; IFVE-88-163;
Study of $\omega - \omega$ Systems Produced in 38 GeV/c $\pi^- p$ Collisions
- Alde 88D Yad. Phys. 48:1724,1988; Phys. Lett. 216B:477,1989; Yad. Phys. 48:1724,1988; Phys. Lett. 216B:447,1989; Sov. J. Nucl. Phys. 48:1035,1988; IFVE-88-153;
Evidence for a 1.9 GeV Meson Decaying into $\eta' \eta$
- Alde 88E Phys. Lett. 205B:397,1988;
Evidence for a 1^{-+} Exotic Meson
- Alde 89 Phys. Lett. 216B:451,1989;
Study of $\omega - \omega$ -Systems Produced in 38 GeV/c $\pi^- p$ Collisions
- Alde 90 Phys. Lett. 241B:600,1990; CERN-EP-90-39; IFVE-90-9;
Further Study of Mesons which Decay into $\omega \omega$
- Alder 89 SLAC-PUB-5044;
Upper Limit on the Absolute Branching Fraction for $D_S^+ \rightarrow \phi \pi^+$
- Aleev 84C Yad. Phys. 43:619,1986; Sov. J. Nucl. Phys. 43:395,1986; JINR-D1-84-859;
Polarization of Charmed Λ_c Baryons Produced in Neutron-Carbon Interactions
- Aleev 85 Czech. J. Phys. B36:1303,1986; JINR-E1-85-662;
Observation of D Mesons in n C Interactions at 40 - 70 GeV/c
- Aleev 85B Yad. Phys. 44:1010,1986; Sov. J. Nucl. Phys. 44:652,1986; JINR-P1-85-948;
 A -dependence of Narrow Baryon Resonance Production Cross Section
- Aleev 86 Yad. Phys. 44:661,1986; Sov. J. Nucl. Phys. 44:429,1986;
Inclusive Production of Hyperons and Antihyperons in Neutron Carbon Collisions at n Energy of about 40 GeV
- Aleev 86B Kr. Soob. JINR 19:6,1986;
Polarization of Ξ^- Produced Inclusively by Neutrons
- Aleev 86C Kr. Soob. JINR 19:16,1986;
Observation of $X(3100)$ in BIS-2 Experiments
- Aleev 87 Z. Phys. C36:27,1987; JINR-D1-86-550;
 A -dependence of Polarization of Λ Produced Inclusively in Neutron-Nucleus Interactions
- Aleev 87B Yad. Phys. 46:1127,1987; JINR-D1-86-422;
 A -dependence of the Production Cross Section of Λ_c^+ Charmed Baryons in Neutron-Nucleus Interactions
- Aleev 88 Z. Phys. C37:243,1988; JINR-E1-87-265;
Production of \bar{D}^0 and D^- Mesons in Neutron-Carbon Interactions at 40 - 70 GeV
- Aleev 88B JINR-P1-88-51;
Diffraction Dissociation of Neutrons in ΛK^0 on Hydrogen at about 40 GeV Energy
- Aleev 88C JINR-P1-88-397;
Production of Charmed Baryons Λ_c^+ in $n p$ Interactions at 40 - 70 GeV Neutron Energy
- Aleev 88D JINR-D1-88-368;
Observation of Narrow Baryoniums in the Experiment BIS-2. Strange Baryoniums
- Aleev 88F JINR-D1-88-369;
Observation of Narrow Baryoniums at the Experiment BIS-2. Baryoniums with Hidden Strangeness
- Aleev 88G JINR-D1-88-194;
Search for Nonstrange Baryonium Decaying into Strange Particles
- Aleev 89 JINR-D1-89-624;
Search for Narrow Baryonium Resonance with Hidden Strangeness
- Aleev 89B JINR-D1-89-701;
Observation of $\Sigma_c(2455)$ Charmed Baryon in $n p$ Interaction at the Serpukhov Accelerator
- Aleev 89C JINR-D1-89-345;
Inclusive Production of ϕ -Mesons in Neutrino-Proton Interactions at 30 - 70 GeV
- Aleklett 87 Phys. Lett. 197B:34,1987;
Production of Intermediate Mass Fragments in Ultrarelativistic Nuclear Collisions
- Aleksan 86 SACLAY-DPHPE-86-08;
Search for Heavy Neutral Leptons at CELLO
- Aleksandrov 87B LENI-87-1339;
Production of ^{149}Tb from Gd, Tb, Ho, Tm, Ta, Au by 1 GeV Protons
- Aleksandrov 89 LENI-89-1561;
Measurement of Spallation Cross Sections at the Synchrocyclotron Internal Beam
- Aleksanyan 86 Yad. Phys. 45:1015,1987; YERE-902(53)-86;
Measurement of Compton Forward Cross Section on ${}^4\text{He}$ Nuclei in the Energy Range of $E=1.8 - 3.8$ GeV
- Alekseenko 86 Pisma Zh. Eksp. Teor. Fiz. 44:202,1986;
On the Probable Flash of Cygnus X-3 Source in the Energy Range of $E>10^{14}$ eV
- Alekseev 87 Pisma Zh. Eksp. Teor. Fiz. 45:461,1987;
About Possible Registration of Neutrino Signal at Baksan Underground Telescope of MINR
- Alekseev 87B Yad. Phys. 46:1360,1987; JINR-P1-87-72;
Observation of Inverse Electroproduction of Pions on ${}^{12}\text{C}$ Nucleus at 164 MeV Pion Energy and Determination of Isovector F_1 Nucleon Form Factor
- Alekseev 88 ITEP-88-23;
Measurement of Λ -Hyperon Polarization Produced by Neutrons with Momenta 4 - 10 GeV/c on Carbon Nucleus
- Alekseev 88B ITEP-88-185;
Measurement of Relative Differential Cross Section of the Elastic $\pi^- p$ Scattering in the Backward Hemisphere at 1.43 - 2.07 GeV/c

- Alekseev 88C Phys. Lett. 205B:209,1988;
Detection of the Neutrino Signal from SN1987A in the LMC Using the INR Baksan Underground Scintillation Telescope
- Alekseev 89 Yad. Phys. 51:425,1989; ITEP-89-111;
Asymmetry in $\pi^- p$ (polarized) Elastic Scattering in Momentum Range 1.4 - 2.1 GeV/c
- Alekseeva 88 Vopr. At. Nauki i Tekhn. ser. Obsch. 2:42-5,1988;
The Influence of the Fragment Production Angle on the Anomalon Effect
- Aleshin 84 Yad. Phys. 45:1358,1987; ITEP-84-117;
Measurement of Protons Polarization at $\pi^- p \rightarrow p \pi^+ \pi^- \pi^-$ Reaction at 4.35 GeV/c and 4.85 GeV/c Momenta
- Aleshin 85 ITEP-85-67;
Various Channel Cross Sections of Strange Particle Production Reactions in $\pi^- p$ Interactions at 4.5 GeV/c Momentum
- Aleshin 86 Pis'ma Zh. Eksp. Teor. Fiz. 43:159,1986; JETP Lett. 43:200,1986; ITEP-82-103;
Search for Events Containing Six Quarks in the Final State
- Aleshin 86B Yad. Phys. 46:1701,1987; ITEP-86-122;
Production of π^0 Mesons in the $\pi^- p \rightarrow \pi^0 \pi^+ \pi^- \pi^- p$ at 4.5 GeV/c
- Aleshin 87 ITEP-87-40;
Production of Heavy Isobars in the $\pi^- p \rightarrow \pi^0 \pi^+ \pi^- \pi^- p$ Reaction at 4.5 GeV/c Momentum
- Aleshin 87B LENI-87-1259;
Study of Polarization in Inclusive Proton-Deuteron Breakup Reaction p deuteron $\rightarrow p p n$ at 1.0 GeV
- Aleshin 87C Yad. Phys. 45:1800,1987; ITEP-86-123;
Study of $b_1(1235)^-$ Meson Production at 4.5 GeV/c in the Reaction of $\pi^- p \rightarrow b_1(1235)^- p$
- Aleshin 87D Yad. Phys. 48:148,1988; Sov. J. Nucl. Phys. 48:92,1987; ITEP-87-92;
Nonconservation of Helicity at the Diffraction Production of $b_1(1235)$ Mesons in the $\pi^- p \rightarrow b_1(1235)^- p$
- Aleshin 87E KFKI-1987-17-A;
Study of Proton-Deuteron Break-up Reaction in Exclusive Experiment at 1 GeV
- Aleshin 90 Phys. Lett. 237B:29,1990;
Study Proton-Deuteron Break-up Reaction in Complete Kinematics at 1 GeV
- Alexander 86 Phys. Rev. D34:315,1986;
Longitudinal Photon Polarization in Muon Pair Production at High x_F
- Alexander 89 CLNS-89-940; CLEO-89-12;
The Decay $D^0 \rightarrow K^0 \bar{K}^0$
- Alexander 90 CLEO-90-2;
Observation of $\Upsilon(4S)$ Decays into non $B \bar{B}$ Final States Containing $\psi(\text{unspec})$ Mesons
- Alexopoulos 88B Phys. Rev. Lett. 60:1622,1988; DUKHEP-88-1;
Multiplicity Dependence of the Transverse-Momentum Spectrum for Centrally Produced Hadrons in Antiproton-Proton Collisions at $\sqrt{s}=1.8$ TeV
- Alexopoulos 90 UND-HEP-02-90;
Mass Identified Particle Yields in Antiproton - Proton Collisions at $\sqrt{s}=1.8$ TeV
- Alfimenkov 88 LENI-88-1392;
On Neutron Lifetime Measurement with Ultracold Neutrons
- Alibekov 85 Izv. Akad. Nauk SSSR. Fiz. 49:1268,1985;
On the Possibility to Isolate Pionic Interactions at the Group Hadron Fall at Mountain Level
- Aliev 89 Yad. Phys. 51:1597,1990; PTIU-89-103;
Forward-Backward Correlation in Hadron-Nucleus Interactions
- Alimov 85 Yad. Phys. 41:1553,1985;
Production of Protons in Single and Multinucleon p ^{20}Ne Interactions at 300 GeV/c
- Alimov 88 PTIU-88-66;
Observation of the Cumulative Isobars in p ^{20}Ne Interactions at 300 GeV/c
- Alimov 89 PTIU-89-105;
Cumulative Nucleons and Processes of Intranucleus Absorption of Pions by Two-nucleon Systems in p ^{20}Ne Interactions at 300 GeV
- Alimov 89B Yad. Phys. 51:1600,1990; FVE-89-106;
Correlation between γ -Quanta and Charged Particles Multiplicities in p ^{20}Ne and p nucleon Interactions at 300 GeV
- Alitti 89 Phys. Lett. 235B:363,1989; CERN-EP-89-151;
A Search for the Square and Gluino Production at the CERN $\bar{p} p$ Collider
- Alitti 90 Z. Phys. C47:11,1990; CERN-EP-90-20;
Measurement of W^\pm and Z^0 Production Cross Section at the CERN $\bar{p} p$ Collider
- Alitti 90B Z. Phys. C47:523,1990; CERN-EP-90-52;
Measurement of the Transverse Momentum Distributions of W^\pm and Z^0 Bosons at the CERN $\bar{p} p$ Collider
- Alitti 90C Phys. Lett. 241B:150,1990; CERN-EP-90-22;
A Precise Determination of the W^\pm and Z^0 Masses at the CERN $\bar{p} p$ Collider
- Alitti 90D CERN-PPE-90-105;
A Measurement of Two-Jet Decays of the W^\pm and Z^0 Bosons at the CERN $\bar{p} p$ Collider
- Alkhazov 85 Yad. Phys. 41:561,1985; Sov. J. Nucl. Phys. 41:357,1985;
Elastic Scattering of 1 GeV Protons by He Isotopes
- Alkhazov 85B Yad. Phys. 42:8,1985; Sov. J. Nucl. Phys. 42:4,1985;
Elastic Scattering of 1 GeV Protons and Matter Distributions in 1p Shell Nuclei
- Allaberdin 87 Yad. Phys. 46:1785,1987; JINR-P2-86-731;
Enhancement of Pairing Correlations of Nucleons in Hadron-Nucleus Interactions
- Allaby 86 Phys. Lett. 179B:301,1986; CERN-EP-86-125;
Test of the Universality of the Electron Neutrino and Muon Neutrino Coupling to the Charged Weak Current
- Allaby 86B Phys. Lett. 177B:446,1986; CERN-EP-86-94;
A Precise Determination of the Electroweak Mixing Angle from Semileptonic Neutrino Scattering
- Allaby 87 Z. Phys. C36:611,1987; CERN-EP-87-140;
A Precise Determination of the Electroweak Mixing Angle from Semileptonic Neutrino Scattering
- Allaby 88 Z. Phys. C38:403,1988; CERN-EP-87-225;
Total Cross Sections of Charged-Current Neutrino and Antineutrino Interactions on Isoscalar Nuclei

Allaby 88C

Althoff 85F

- Allaby 88C Phys. Lett. 213B:554.1988; CERN-EP-88-81;
Experimental Study of x -Distributions in Semileptonic Neutral-Current Neutrino and Antineutrino Reactions
- Allaby 89 Phys. Lett. 231B:317.1989; CERN-EP-89-79;
Evidence for Neutral Neutrino Current Coupling to Right Handed Quarks
- Allasia 85 Phys. Rev. D31:2996.1985;
Search for $\mu^\pm \pi^\pm$ Mass Enhancements in Neutrino and Antineutrino Deuterium Charged Current Interactions
- Allasia 85B Nucl. Phys. B268:1.1986; DFUB-10-85;
Inclusive ρ^0 Production in $\bar{\nu}_\mu$ deuteron and ν_μ deuteron Charged Current Interactions
- Allasia 85C Z. Phys. C28:321.1985;
 Q^2 Dependence of the Proton and Neutron Structure Functions from Neutrino and Antineutrino Scattering in Deuterium
- Allasia 85D Phys. Lett. 154B:231.1985;
Fragmentation into Strange Particles in High Energy νp , νn , $\bar{\nu} p$ and $\bar{\nu} n$ Interactions
- Allasia 86 Phys. Lett. 174B:450.1986;
Search for a $\Delta(1232 P_{33}) - \Delta'(1232 P_{33})$ Structure of the Deuteron
- Allasia 88 Z. Phys. C37:327.1988;
Bose-Einstein Correlations in Neutrino and Antineutrino Interactions in Deuterium
- Allasia 88B Phys. Rev. D37:219.1988;
Search for Fractionally Charged Particles in (Anti)neutrino-Deuterium Interactions
- Allasia 88C Nucl. Phys. B307:1.1988; DPHEP-88-03;
Determination of the Neutral Current Chiral Coupling Constants $U(l)$, $U(r)$, $D(l)$ and $D(r)$ from Neutrino and Antineutrino Deuterium Experiment
- Allday 88 Z. Phys. C40:29.1988;
Annihilation and Topological Cross Sections for $p p$ and $\bar{p} p$ Interactions at 200 GeV/c
- Allen 85 Nucl. Phys. B264:221.1986; CERN-EP-85-33;
A Study of Single Meson Production in Neutrino and Antineutrino Charged Current Interactions on Protons
- Allen 85B Phys. Rev. Lett. 55:2401.1985;
First Observation and Cross Section Measurement of $\nu_e e^- \rightarrow \nu_\tau e^-$
- Allen 89 Phys. Rev. Lett. 64:1330.1990; LA-UR-89-3723;
Measurement of e^\pm Interference Between W^\pm and Z^0 Exchange in Electron-Neutrino Electron Scattering
- Allison 89 ANL-HEP-CP-89-14; DK-411;
Underground Muon Observations in the SOUDAN-2 Detector
- Allison 89B ANL-HEP-CP-89-92; PDK-402;
Contained events in SOUDAN-2
- Allkofer 85 Phys. Rev. D31:1557.1985;
Primary Cosmic Ray Energy Spectrum up to 50 TeV Derived from Sea-Level Muon Measurements
- Allkofer 85B Nucl. Phys. B259:1.1985;
Cosmic Ray Energy Spectra at Sea-Level up to 10 TeV
- Allport 89 Phys. Lett. 232B:417.1989; CERN-EP-89-127;
Observation of Shadowing of Neutrino and Antineutrino - Nucleus Interactions and Comparison with PCAC Predictions
- Alner 84B Phys. Lett. 151B:309.1985; CERN-EP-84-111;
Observation of Ξ^- Production in $\bar{p} p$ Interactions at 540 GeV CMS Energy
- Alner 85 Phys. Lett. 160B:199.1985; CERN-EP-85-62;
New Empirical Regularity for Multiplicity Distributions in Place of KNO Scaling
- Alner 85B Nucl. Phys. B258:505.1985; CERN-EP-85-81;
Kaon Production in $\bar{p} p$ Reactions at a Centre of Mass Energy of 540 GeV
- Alner 85C Phys. Lett. 160B:193.1985; CERN-EP-85-61;
Multiplicity Distributions in Different Pseudorapidity Intervals at CMS Energy of 540 GeV
- Alner 85D Phys. Lett. 167B:476.1986; CERN-EP-85-197;
Scaling Violations in Multiplicity Distributions at 200 and 900 GeV
- Alner 86 Z. Phys. C32:153.1986; CERN-EP-86-57;
Antiproton Proton Cross Sections at 200 and 900 GeV cm Energy
- Alner 86B Z. Phys. C33:1.1986; CERN-EP-86-126;
Scaling of Pseudorapidity Distributions at c.m. Energies up to 0.8 TeV
- Alner 86C Phys. Lett. 180B:415.1986; CERN-EP-86-127;
An Accelerator Search at 900 GeV c.m. Energy for the Centauro Phenomenon
- Alstongarnjo 88 Phys. Rev. Lett. 60:1928.1988;
Limit on Majoron Emission in $\beta\beta$ Decay of ^{100}Mo
- Alstongarnjo 89 Phys. Rev. Lett. 63:1671.1989;
Search for Neutrinoless Double-beta Decay of ^{100}Mo
- Altarev 86 Pis'ma Zh. Eksp. Teor. Fiz. 44:360.1986;
Search for the Neutron Electric Dipole Moment
- Althoff 84R Z. Phys. C26:521.1985; OUNP-65-84; DESY-84-091;
The Production and Decay of τ^\pm Leptons in $e^+ e^-$ Annihilation at PETRA Energies
- Althoff 85 Phys. Lett. 154B:236.1985;
Search for Spinless Bosons in $e^+ e^-$ Annihilation
- Althoff 85B Z. Phys. C27:27.1985;
A Detailed Study of Strange Particle Production in $e^+ e^-$ Annihilation at High Energy
- Althoff 85C Z. Phys. C29:29.1985; DESY-85-063;
A Study of 3 Jet Events in $e^+ e^-$ Annihilation into Hadrons at 34.6 GeV CMS Energy
- Althoff 85D Z. Phys. C29:189.1985; DESY-85-093;
Search for Two-Photon Production of Resonances Decaying into $K \bar{K}$ and $K \bar{K} \pi$
- Althoff 85E Z. Phys. C30:355.1986; OXFORD-NP-89-85; DESY-85-126;
Bose-Einstein Correlations Observed in $e^+ e^-$ Annihilation at a Centre of Mass Energy of 34 GeV
- Althoff 85F Z. Phys. C29:347.1985; DESY-85-077;
Particle Correlation Observed in $e^+ e^-$ Annihilation into Hadrons at CMS Energies between 29 and 37 GeV

- Althoff 86 Z. Phys. C31:537.1986; DESY-86-028:
Measurement of the Radiative Width of the $\alpha_2(1320)$ in Two Photon Interactions
- Althoff 86B Z. Phys. C31:527.1986; DESY-86-026:
Measurement of the Photon Structure Function F_2 at Q^2 from 7 to 70 (GeV/c^2)²
- Althoff 86C Z. Phys. C32:343.1986; DESY-86-027:
A Measurement of the D^0 Lifetime
- Althoff 86D Z. Phys. C32:11.1986; DESY-86-025:
Vector Meson Production in the Final State $K^+ K^- \pi^+ \pi^-$ of Photon Photon Collisions
- Althoff 89 Z. Phys. C43:375.1989; BONN-ME-89-01:
Photodisintegration of Polarized Deuterons - Measurement of Angular Distributions at $E(\gamma) = 450, 550$ and 650 MeV
- Altzizoglou 85 Phys. Rev. Lett. 55:799.1985:
Experimental Search for Heavy Neutrino in the β Spectrum of ^{35}S
- Alvarez 90 Z. Phys. C47:539.1990; CERN-EP-90-26:
Lifetime Measurements of the D^+ , D^0 , D_S^+ , and Λ_c^+ Charmed Particles
- Alvarez 90B CERN-EP-90-66:
Photoproduction of the Λ_c Charmed Baryon
- Alvarez 90C CERN-EP-90-65:
Measurement of D_S^\pm and Cabibbo-Suppressed D^\pm Decays
- Amaglobeli 87 Yad. Phys. 45:1020.1987; Sov. J. Nucl. Phys. 45:632.1987:
Baryon State with Hidden Strangeness
- Amaglobeli 89 Yad. Phys. 50:695.1989:
Asymmetry Measurement in π^0 and η - Meson Inclusive Production in Central Region at 40 GeV/c
- Amako 87 KEK-87-106:
New Results from VENUS at TRISTAN
- Amaldi 85 Phys. Lett. 153B:444.1985; CERN-EP-85-10:
New Limits on the Single-Gamma Decay of Orthopositronium
- Ameev 85 Yad. Phys. 41:938.1985; ALMA-84-14:
Investigation of the Mechanism of Relativistic Nucleus Interaction from Analysis of C C Collisions
- Ameeva 87 ALMA-87-10:
Exotic Baryon Systems in Multiparticle Interactions
- Ameeva 89 Yad. Phys. 51:1047.1990; JINR-P1-89-560:
Inelastic Interaction of Silicon Nuclei with Nuclear Emulsion at 4.5 GeV/c
- Amelin 86 Pisma Zh. Eksp. Teor. Fiz. 43:455.1986:
Possible Observation of Cumulative Dibaryon Resonance
- Amelin 87 Atom. Nucl. Elem. Particles. p.36:
The Baryon Resonances in π^- Ne Interactions at 8.2 GeV/c
- Amelin 87B Atom. Nucl. Elem. Particles. p.40:
The Search of the Narrow Dibaryon Resonances in Pion-Nucleus Interactions
- Amelin 90 Pisma Zh. Eksp. Teor. Fiz. 51:607.1990:
Production of the Superheavy Hydrogen Isotopes in the π^- Capture by ^6Li , ^7Li Nuclei
- Amendolia 85 Phys. Lett. 155B:457.1985; CERN-EP-85-14:
First Measurement of the Reaction $\pi^- e^- \rightarrow \pi^- \pi^0 e^-$
- Amendolia 86 Nucl. Phys. B277:168.1986; CERN-EP-86-34:
A Measurement of the Space Like Electromagnetic Form Factor
- Amendolia 86B Phys. Lett. 178B:35.1986; CERN-EP-86-98:
A Measurement of the Kaon Charge Radius
- Amendolia 87 CERN-EP-87-20:
A Measurement of D^0 Lifetime
- Amendolia 87B Z. Phys. C36:513.1987:
 Λ_c^+ Photoproduction and Lifetime Measurement
- Amidei 88 Phys. Rev. D37:1750.1988; SLAC-PUB-4362; LBL-23707:
Measurement of the τ^\pm Lifetime
- Ammar 86B Phys. Lett. 178B:124.1986; CERN-EP-86-85:
Multiplicity of Charged Particles in 800 GeV p p Interactions
- Ammar 87 Phys. Lett. 183B:110.1987; CERN-EP-86-122; FERMILAB-PUB-86-112-E:
Inclusive Charm Cross Sections in 800 GeV/c p p Interactions
- Ammar 88 LEBD-88-48:
The Study of Cumulative Effects in the Neutrino Emulsion Collisions
- Ammar 88B Phys. Rev. Lett. 61:2185.1988;
 D -Meson Production in 800 GeV/c p p Interactions
- Ammar 89 Pisma Zh. Eksp. Teor. Fiz. 49:189.1989:
Cumulative Proton Production in the Interaction of Neutrino with Photoemulsion Nuclei
- Ammar 89B Pisma Zh. Eksp. Teor. Fiz. 49:421.1989; IFVE-89-71:
Nuclear Effects on the Average Multiplicity of Charged Particles in High Energy Neutrino Interactions
- Ammosov 84G Yad. Phys. 42:374.1985; IFVE-84-191:
A Study of Reaction $\bar{\nu}$ nucleon $\rightarrow \mu^+ \rho^-$ nucleon at High Energy
- Ammosov 84H Yad. Phys. 42:664.1985; Sov. J. Nucl. Phys. 42:421.1985; IFVE-84-179:
Limitations for Parton Momentum in Nucleon from Charged Current $\bar{\nu}$ n Interactions
- Ammosov 85 IFVE-85-110:
Neutrino (Antineutrino) Interaction Cross Section Ratio in Neutral and Charged Current Channels up to 30 GeV
- Ammosov 85B Z. Phys. C30:175.1986; IFVE-85-107:
Study of ν ($\bar{\nu}$) Interactions with Nuclei at 3 - 30 GeV
- Ammosov 85C Yad. Phys. 43:1186.1986; IFVE-85-109:
Study of Cumulative Proton Production in Neutrino-Nucleus Interactions
- Ammosov 85D Z. Phys. C30:183.1986; IFVE-85-188:
Neutral Strange Particle Production in Neutrino Charged Current Interactions at 3 - 30 GeV
- Ammosov 86 Pisma Zh. Eksp. Teor. Fiz. 43:502.1986:
Observation of the Pseudovector Charm-Strange Meson Cascade Radiative Decay

Ammosov 86B

Andersen 89

- Ammosov 86B Pisma Zh. Eksp. Teor. Fiz. 43:554,1986;
Quasielastic Production of A Hyperon in the Antineutrino Interactions at High Energy
- Ammosov 86C Yad. Phys. 45:1662,1987; IFVE-86-160;
Charged Current Antineutrino-induced Coherent Negative Pion Production off Neon
- Ammosov 86D Yad. Phys. 45:733,1987; IFVE-86-135;
Study of Inclusive Characteristics of ρ^0 and $K^*(892)^0$ Mesons in Antineutrino Charged Current Induced Quark Jet
- Ammosov 86E IFVE-86-94;
Inclusive ρ^0 and $K^*(892)^0$ Production in ν_μ n Charged Current Interactions
- Ammosov 86F Z. Phys. C36:377,1986; IFVE-86-95;
Neutral Strange Particle Exclusive Production in Charged Current High Energy Antineutrino Interactions
- Ammosov 86G IFVE-86-244;
Study of Polarization Effects in ρ^0 Meson Production in the (Anti)Neutrino Charged Current Induced Quark Jet
- Ammosov 86H Yad. Phys. 46:130,1987; Sov. J. Nucl. Phys. 46:80,1987; PHE-86-10; IFVE-86-133;
Inclusive ρ^0 Meson Productions in Neutrino Interactions at SKAT Chamber
- Ammosov 86I Z. Phys. C30:569,1986;
Results for Neutral to Charged Current Cross Section Ratios from ν and $\bar{\nu}$ nucleus Interactions below 30 GeV
- Ammosov 87 Yad. Phys. 45:1346,1987;
Investigation of Inclusive Characteristics of ρ^0 and $K^*(892)^0$ Mesons in Quark Jets from Charged Current $\bar{\nu}$ Interactions
- Ammosov 87B Pisma Zh. Eksp. Teor. Fiz. 46:52,1987; IFVE-87-82;
Influence of Nonperturbative Effects on the Scaling Violation in Neutrino Interactions at $Q^2=2 - 100$ GeV 2
- Ammosov 87C IJL-87-17;
Study of Charged Hadrons Inclusive Characteristics in Neutrino Interactions with Photoemulsion and Ne+n Nuclei
- Ammosov 87D Z. Phys. C35:329,1987; IFVE-86-222;
Production of μ^+ e^+ Pairs in Neutrino Interactions in the SKAT Bubble Chamber Experiment
- Ammosov 87E Phys. Lett. 189B:245,1987; IFVE-86-223;
Observation of $\mu^- e^-$ Events in Neutrino Interactions at 3 - 30 GeV Neutrino Energy
- Ammosov 87F Pisma Zh. Eksp. Teor. Fiz. 45:453,1987;
The Antineutrino Production of the Charmed Charged Vector Mesons
- Ammosov 88 Yad. Phys. 47:1015,1988; Sov. J. Nucl. Phys. 47:646,1988; IFVE-87-81;
Study of Nucleon Structure Function in Neutrino Interactions at 10 - 200 GeV
- Ammosov 88B Yad. Phys. 50:106,1989; Sov. J. Nucl. Phys. 50:67,1989; IFVE-88-122;
Study of $\nu p - \mu^- \Delta(1232 P_{33})^{++}$ Reaction at Energy 3 - 30 GeV
- Ammosov 88C Pisma Zh. Eksp. Teor. Fiz. 47:555,1988; IFVE-88-77;
Observation of $a_1(1280)^-$ Coherent Production in Antineutrino Neon Charged Current Interactions
- Ammosov 88D Z. Phys. C40:487,1988; IFVE-88-81;
 ν_e - $\bar{\nu}_e$ Universality Check and Search for Neutrino Oscillations
- Ammosov 88E Z. Phys. C40:493,1988; IFVE-88-82;
Final Result on $\mu^- e^-$ Pair Production in Neutrino Interactions with Chamber SKAT Filled with Freon
- Ammosov 88G Yad. Phys. 47:113,1988;
Observation of Muon Internal Bremsstrahlung in ν_μ nucleus $\rightarrow \mu^- X$ Reaction
- Amos 85 Nucl. Phys. B262:689,1985; CERN-EP-85-94;
Measurement of Small-Angle Antiproton Proton and Proton Proton Elastic Scattering at the CERN Intersecting Storage Rings
- Amos 88 Phys. Rev. Lett. 61:525,1988; FERMILAB-PUB-88-38-E;
Measurement of the Nuclear Slope Parameter of the $p \bar{p}$ Elastic Scattering Distribution at $\sqrt{s}=1800$ GeV
- Amos 89 Phys. Rev. Lett. 63:2784,1990; FERMILAB-PUB-89-176-E;
Measurement of the $\bar{p} p$ Total Cross Section at $\sqrt{s}=1.8$ TeV
- Amos 90 Phys. Lett. 243B:158,1990; CLNS-90-981;
A Luminosity-Independent Measurement of the $\bar{p} p$ Total Cross Sections at $\sqrt{s} = 1.8$ TeV
- Amos 90B Phys. Lett. 247B:127,1990; FERMILAB-PUB-90-96-E;
Antiproton-Proton Elastic Scattering at $\sqrt{s}=1.8$ TeV from $|t|=0.34$ to .65 (GeV/c) 2
- Amroyan 88 Yad. Phys. 48:461,1988;
Analysis of Charge Distribution of Ag Photospallation Products at $E<4.5$ GeV
- Aniroyan 89 YER-E1-1193(70)-89;
Investigation of Some Characteristics of Photoproduction of ^7Be and ^{24}Na
- Anada 88 Phys. Rev. D37:552,1988;
Neutrino Vacuum Oscillation and Neutrino Burst from SN1987A
- Ananiev 83 Yad. Phys. 41:912,1985; Sov. J. Nucl. Phys. 41:585,1985; JINR-P1-83-709;
Search for axion at the Impulsive Reactor 1BR-2
- Ananieva 86 JINR-E1-86-523;
Double Charge Exchange of Negative Pions in Inclusive Reactions on Nuclei at 40 GeV/c
- Ananikyan 87 Yad. Phys. 46:401,1987;
Hadronic Photocabsorption and the Coherent Photoproduction of π^0 Mesons on Be and C Nuclei in the Resonance Energy Region
- Ananin 85 Yad. Phys. 41:1393,1985;
Elastic Photoproduction of Neutral Pions on Helium Nucleus near the Resonance $\Delta(1232 P_{33})$
- Anassontzis 85 Phys. Rev. Lett. 54:2572,1985; FERMILAB-PUB-85-34-E;
Continuum Dimuon Production in \bar{p} Wt Collisions at 125 GeV/c
- Anassontzis 87 Phys. Rev. D38:1377,1988; FERMILAB-PUB-87-217-E;
High Mass Dimuon Production in \bar{p} n and π^- n Interactions at 125 GeV/c
- Anassontzis 90 Yad. Phys. 51:1314,1990; CERN-EP-89-98;
High p_T γ and π^0 Production, Inclusive and with a Recoil Hadronic Jet, in $p p$ Collisions at $\sqrt{s} = 63$ GeV
- Ander 89 Phys. Rev. Lett. 62:985,1989;
Test of Newton's Inverse-Squared Law in the Greenland Ice Cap
- Andersen 89 Phys. Lett. 220B:328,1989; CERN-EP-89-35;
A Measurement of Cross Sections for ^{32}S Interactions with Al, Fe, Cu, Ag and Pb at 200 GeV/c per

- Andersen 89 (cont'd) **Nucleon**
 Andersen 85B Phys. Rev. C31:1161.1985:
 Particle Hole Strength Excited in the ^{48}Ca (p, n) ^{48}Sc Reaction at 134 MeV and 160 MeV: Gamow-Teller Strength
 Ando 86 KEK-86-8:
 Evidence for Two Pseudoscalar Resonances of $\eta \pi^+ \pi^-$ System in the $f_1(1285)$ and $\eta(1295)$ Regions
 Andreev 84 Yad. Phys. 42:1420.1985; Sov. J. Nucl. Phys. 42:899.1985; LENI-84-1011:
 Correlation Measurements of the Spectra of Backward Protons in the Reaction p deuteron $\rightarrow 2p\ n$ at Incident Momenta 1.2 - 1.7 GeV/c
 Andreev 85 LENI-85-1055:
 Search of Massive Neutrino in $\pi^+ \rightarrow \mu^+ \bar{\nu}_\mu$
 Andreev 86 Pis'ma Zh. Eksp. Teor. Fiz. 44:401.1986:
 Is the Cygnus X-3 Source Observed at Underground Experiments?
 Andreev 87 Pis'ma Zh. Eksp. Teor. Fiz. 45:519.1987:
 Correlations of Secondary Charged Particles at nucleon-Ta Nuclei Interactions at 6.1 GeV/c
 Andreev 87B LENI-87-1271:
 The Reaction p deuteron $\rightarrow p\ p\ n$ and the Narrow Dibaryon Resonances
 Andreev 87C Pis'ma Zh. Eksp. Teor. Fiz. 45:508.1987:
 Observation of Invariant Mass Structure of Two Nucleons from the Reaction of Splitting Deuteron by Protons
 Andreev 88 Vopr. At. Nauki i Techn. ser. Obsch. 1-41:29.1988:
 The Possible Observation of the Dibaryon Resonances in the Reaction p deuteron $\rightarrow p\ p\ n$
 Andreev 88B LENI-88-1453:
 Experimental Study of the Reaction $p\ p \rightarrow p\ p\ \pi^0$ in the Energy Region 600 - 900 MeV
 Andreev 90B Nuovo Cim. 103A:1163.1990; Yad. Phys. 51:142.1990:
 Multiplicities and Correlations of Secondary Charged Particles in the Interactions of Antineutrons and Antideuterons with a Momentum of 6.1 GeV/c per Nucleon with Tantalum Nuclei
 Andreeva 85B ALMA-85-13:
 Study of General Characteristics of Interactions of Protons with Light and Heavy Photoemulsion Nuclei at Energies of 260 and 400 GeV
 Andreeva 85C JINR-P1-85-692:
 Topological Characteristics of the 4.1 GeV/c A ^{22}Ne Nuclei Fragmentation Process on Photoemulsion Nuclei
 Andreeva 86 Yad. Phys. 45:123.1987; JINR-P1-86-8:
 Multiplicities and Angular Distributions of Charged Particles in the Interactions of ^{22}Ne Nuclei in the Photoemulsion at 4.1 A GeV/c
 Andreeva 86B ALMA-86-04:
 Search for Exotic Baryon Systems at the Relativistic Nuclear Separative Reactions
 Andreeva 88 Yad. Phys. 47:157.1988; JINR-P1-86-828:
 Fragmentation of ^{22}Ne Relativistic Nuclei on Photoemulsion Nuclei
 Andreeva 88B Pis'ma Zh. Eksp. Teor. Fiz. 47:20.1988:
 Transverse Momentum Alpha-Fragments from Collisions ^{22}Ne with Emulsion Nucleus at the 4.1 A GeV/c Momentum
 Andreeva 88C Yad. Phys. 47:949.1988:
 Correlation Phenomena in Fragmentation of Relativistic Nucleus ^{22}Ne at $P=90$ GeV/c
 Andreeva 89 JINR-P1-89-213:
 Central Interactions of ^{22}Ne Nuclei with Heavy Photoemulsion Nuclei at $P=4.1$ A GeV/c
 Andronenko 86 LENI-86-1169:
 Measurement of Multiplicity Correlations in Cumulative Reactions
 Andryakov 87 Yad. Phys. 47:1268.1988; ITEP-87-83:
 Interference of Pions, Observed in $\pi^- p$ Interactions at 4 GeV/c and Influence of the Resonances on Space-Time Characteristics
 Andryakov 88 ITEP-88-37:
 The Interference of the Pairs of Pions. Discovering of the Positive Correlations in $(\pi^0 \pi^\pm)$ Systems
 Andryakov 89 ITEP-89-67:
 Interference of Identical Pions in $\pi^+ p$ Interactions at 4.5 GeV/c
 Angelescu 90 Nuovo Cim. 103A:93.1990:
 Pion Absorption in ^3He at 100, 120, and 145 MeV
 Angelini 86 Phys. Lett. 179B:307.1986:
 New Experimental Limits on $\nu_\mu \rightarrow \nu_e$ Oscillations
 Angelis 85 Nucl. Phys. B263:228.1985; CERN-EP-85-101:
 High Transverse Energy and High Transverse Momentum Events in $p\ \bar{p}$ and $p\ p$ Interactions at the CERN Intersecting Storage Rings
 Angelis 86 Phys. Lett. 168B:158.1986; CERN-EP-86-18: BNL-38470:
 Observation of KNO Scaling in the Neutral Energy Spectra from He He and $p\ p$ Collisions at ISR Energies
 Angelis 87 Phys. Lett. 185B:213.1987; BNL-39112; CERN-PRE-87-026:
 Large Transverse Momentum π^0 Production in He He, deuteron deuteron and $p\ p$ Collisions at the CERN ISR
 Angelis 90 Nucl. Phys. B327:541.1990; PRINT-89-0666-MICHIGAN-STATE:
 Direct Photon Production at the CERN ISR
 Angelopoulos 85 Phys. Lett. 159B:210.1985:
 A Search for Structure in Charged Meson Spectra from Proton-Antiproton Annihilations at Rest
 Angelopoulos 86 Phys. Lett. 178B:441.1986:
 A Search for Narrow Lines in γ Spectra from Proton Antiproton Annihilations at Rest
 Angelopoulos 88 Phys. Lett. 203B:590.1988:
 Neutron Emission from Antiproton Annihilation at Rest in Uranium
 Angelopoulos 88B Phys. Lett. 212B:129.1988:
 A Measurement of the S- and P-Wave Content of Antiproton Annihilation at Rest into Two Pions in Liquid Deuterium
 Angelov 88 JINR-P1-88-905:
 The Correlation of Secondary Particles in p C, deuteron C, ^4He C, C C Interactions at 4.2 GeV/c per Nucleon Momentum

Angelov 89

Ansorge 88

- Angelov 89 Kr. Soob, JINR 38:11,1989;
Clustering in Processes of Multiple Particle Production by Nuclei and Its Connection with Cumulative Creation of Hadrons
 Anikina 85 Yad. Phys. 41:711,1985;
Associative Production of Backward Emitted Fast Fragments in Nucleus-Nucleus Interactions
 Anikina 85B JINR-E1-85-578;
Study of the Polarization for A Produced in nucleus nucleus Interactions
 Anikina 85C Yad. Phys. 43:1217,1986; JINR-P1-85-208;
The Spectra of p , deuteron, ^3H Emitted at 160 Degrees in 3.6 GeV per Nucleon ^{12}C Collisions with Nuclei
 Anikina 86B Y. I. Phys. 45:1680,1987; JINR-P1-86-477;
Experimental Data on Average Number of Interacted Protons in Inelastic and Central nucleus nucleus Collisions at 3.6 GeV/Nucleon
 Anikina 86C JINR-P1-86-733;
Investigation of Central and Peripheral Interactions of ^{12}C (3.6 GeV/Nucleon) with Cu, Pb Nuclei
 Anikina 86D Phys. Rev. C33:895,1986;
Pion Production in Inelastic and Central Nuclear Collisions at High Energy
 Anikina 89 Kr. Soob, JINR 34:12,1989;
Experimental Data on Multiplicities in Central Collisions
 Aniol 85 Phys. Rev. C33:1714,1986; TRI-PP-85-99;
Pion Absorption on ^3He at $T(\pi)=62.5$ MeV and 82.8 MeV
 Anjos 86 Phys. Rev. Lett. 58:311,1987; FERMILAB-PUB-86-155-E;
Measurement of the D^+ and D^0 Lifetimes
 Anjos 87 FERMILAB-CONF-87-37-E;
Charm Photoproduction Results from the Fermilab Tagged Photon Spectrometer
 Anjos 87B Phys. Rev. Lett. 60:1379,1988; FERMILAB-PUB-87-218-E;
Measurements of the Λ_c^+ Lifetime
 Anjos 87C Phys. Rev. Lett. 58:1818,1987; FERMILAB-PUB-87-29-E;
Measurement of the D_S^+ Lifetime
 Anjos 87D FERMILAB-CONF-87-143-E;
A Search for Flavor Changing Neutral Current Processes in Decays of Charmed Mesons
 Anjos 88 Phys. Rev. Lett. 60:1239,1988; FERMILAB-PUB-87-219-E;
Study of D^0 - \bar{D}^0 Mixing
 Anjos 88B Phys. Rev. Lett. 62:1587,1989; FERMILAB-PUB-88-141-E; FERMILAB-CONF-87-142-E;
A Study of the Semileptonic Decay Mode $D^0 \rightarrow K^- e^+ \nu_e$
 Anjos 88C Phys. Rev. Lett. 62:513,1989; FERMILAB-PUB-88-125-E;
Charm Photoproduction Results from E691
 Anjos 88D Phys. Rev. Lett. 62:125,1989; FERMILAB-PUB-88-90-E;
Measurement of D_S^\pm Decays to Non-strange States
 Anjos 88E Phys. Rev. Lett. 62:722,1989; FERMILAB-PUB-88-143-E;
Experimental Study of the Semileptonic Decay $D^+ \rightarrow \bar{K}^*(892)^0 e^+ \nu_e$
 Anjos 88F Phys. Rev. Lett. 62:1717,1989; FERMILAB-PUB-88-155-E;
Observation of Excited Charmed Mesons
 Anjos 88G Phys. Rev. Lett. 60:897,1988; FERMILAB-PUB-87-203-E;
Measurement of D_S^\pm Decays and Cabibbo-suppressed D^+ Decays
 Anjos 89 Phys. Rev. Lett. 62:1721,1989; FERMILAB-PUB-89-29-E;
Observation of $\Sigma_c(2455)^0 \rightarrow \Lambda_c^+ \pi^-$ Decays
 Anjos 89B Phys. Lett. 223B:267,1989; FERMILAB-PUB-89-23-E;
A Study of D_S^\pm and D^\pm Decays into Four-Body Final States, Including η , π^\pm and ω , π^\pm
 Anjos 89C Phys. Rev. D41:801,1990; FERMILAB-PUB-89-144-E;
A Study of Decays of the Λ_c^+
 Anjos 90 FERMILAB-PUB-90-106-E;
Experimental Results on the Decays $D \rightarrow K 4\pi$
 Anjos 90C FERMILAB-PUB-90-82-E;
Study of $D_S^+ \rightarrow \phi e^+ \nu_e$ and the Absolute $D_S^+ \rightarrow \phi \pi^+$ Branching Function
 Anoshin 87 JINR-P1-87-439;
The Charge Dependence of the Effective Mass Spectra of $\pi^\pm p$ Pairs in π^- C Cumulative Interactions at $P=40$ GeV/c with a Total Nuclear Breakup
 Ansari 87 Z. Phys. C36:175,1987; CERN-EP-87-79;
Jet Measures and Hadronic Event Shapes at the CERN $\bar{p} p$ Collider
 Ansari 87B Phys. Lett. 186B:452,1987; CERN-EP-87-04;
Search for Decays of the W^\pm and Z^0 Bosons into $q \bar{q}$ Pairs
 Ansari 87C Phys. Lett. 194B:158,1987; CERN-EP-87-48;
Measurement of W^\pm and Z^0 Production Properties at the CERN $\bar{p} p$ Collider
 Ansari 87D Phys. Lett. 195B:613,1987; CERN-EP-87-117;
Search for Exotic Processes at the CERN $\bar{p} p$ Collider
 Ansari 87F Phys. Lett. 186B:440,1987; CERN-EP-87-05;
Measurement of the Standard Model Parameters from a Study of W^\pm and Z^0 Bosons
 Ansari 88 Phys. Lett. 215B:175,1988; CERN-EP-88-134;
Measurement of the Strong Coupling Constant α_S from a Study of W^\pm Bosons Produced in Association with Jets
 Ansari 88B Z. Phys. C41:395,1988;
Direct Photon Production in $\bar{p} p$ at $E_{cm}=830$ GeV
 Ansorge 86 Z. Phys. C33:175,1986; BONN-HE-86-19;
Diffraction Dissociation at the CERN Pulsed $\bar{p} p$ Collider at c.m. Energies of 800 and 200 GeV
 Ansorge 87 Phys. Lett. 199B:311,1987; CERN-PRE-87-025;
Kaon Production at 200 and 900 GeV c.m. Energy
 Ansorge 88 Z. Phys. C41:179,1988;
Kaon Production in $\bar{p} p$ Interactions at c.m. Energies from 200 to 800 GeV

- Ansorge 89 Z. Phys. C43:75,1989;
Photon Production at c.m. Energies of 200 and 900 GeV
 Ansorge 89B USIP-89-02; CERN-EP-89-41;
Hyperon Production at 200 GeV and 900 GeV c.m. Energy
 Ansorge 89C Z. Phys. C43:357,1989; CERN-EP-88-172;
Charged Particle Multiplicity Distributions at 200 GeV and 900 GeV c.m. Energy
 Antille 87 Phys. Lett. 194B:568,1987; CERN-EP-87-121;
A Measurement of the Inclusive π^0 and η Production Cross Sections at High p_T in $\bar{p} p$ Collisions at $E_{cm}=24.3$ GeV
 Antipov 85 Z. Phys. C26:95,1985;
Experimental Estimation of the Sum of Pion Electrical and Magnetic Polarizabilities
 Antipov 85B Z. Phys. C27:21,1985; JINR-E1-84-514;
Study of $\pi \pi^0$ Production by Pions in the Nuclear Coulomb Field at Threshold
 Antipov 85C Kr. Soob. JINR 11:11,1985;
Measurement of Coupling Constant $\gamma \rightarrow 3\pi$ in the Process of Pion Pair Production by Pions in the Nuclear Coulomb Field
 Antipov 86 Phys. Rev. Lett. 56:796,1986;
Experimental Measurement of the $\gamma \rightarrow 3\pi$ Coupling Constant
 Antipov 86B Phys. Rev. D36:21,1987; JINR-P1-86-498;
Investigation of $\gamma \rightarrow 3\pi$ Chiral Anomaly During Pion Pair Production by Pions in the Nuclear Coulomb Field
 Antipov 86C Yad. Phys. 45:1041,1987; IFVE-86-134;
Observation of the ρ^0 and π^- Mesons Resonant State in the $\pi_2(1670)$ Region
 Antipov 86D JINR-P1-86-710;
Investigation of Compton Effect on π^- Meson and Charged Pion Polarizability
 Antipov 87 Yad. Phys. 48:471,1988; IFVE-87-153;
Inclusive Cross Section Measurement of Cumulative Protons Production in $\pi^- (K^-, \bar{p})$ Be Interaction at 40 GeV/c
 Antipov 87B Yad. Phys. 48:138,1988; Sov. J. Nucl. Phys. 48:85,1988; JINR-P1-87-539;
Elastic Scattering of π^- and K^- Mesons on Protons at 43 GeV/c Momentum
 Antipov 88 IFVE-88-177;
On Measurement of $\rho^0 \rightarrow \mu^+ \mu^-$ Decay Branching Ratio in Coherent Dissociation Processes $\pi^- \rightarrow \mu^+ \mu^- \pi^-$ and $\pi^- \rightarrow \pi^+ \pi^- \pi^-$
 Antipov 88B Pis'ma Zh. Eksp. Teor. Fiz. 48:519,1988;
Measurement of $\rho^0 \rightarrow \mu^+ \mu^-$ Decay Branching Ratio
 Antipov 89 Z. Phys. C42:185,1989;
Determination of the Branching Ratio of $\rho^0 \rightarrow \mu^+ \mu^-$ in the Coherent Dissociation $\pi^- \rightarrow \mu^+ \mu^- \pi^-$ and $\pi^- \rightarrow \pi^+ \pi^- \pi^-$
 Antipov 89B Yad. Phys. 51:705,1990; Eur. Lett. 11:725,1990; JINR-P1-89-367;
The Investigation of Radiative Scattering $\pi^- p \rightarrow \pi^- p \gamma$ at 43 GeV
 Antipov 89C JINR-P1-89-282;
The Diffractive Production of $K^- \pi^- \pi^+$ System on Nuclei at 40 GeV
 Antonchik 85 Yad. Phys. 42:289,1985;
Inelastic Collisions of ^{56}Fe Nuclei at 1.8 GeV/Nucleon Energy with Ag and Br Nuclei and Cascade Model of Nucleus Nucleus Interactions
 Antonchik 87 Yad. Phys. 46:1344,1987;
Fast Fragment in Interactions of Relativistic Nuclei with Photoemulsion
 Antonchik 90 Yad. Phys. 51:765,1990;
Interaction of Relativistic Nuclei ^{40}Ar and Cascade-Evaporation Model
 Antonchik 90B Yad. Phys. 51:936,1990;
The Effect of Bombarding Nucleus Mass upon Light Charged Particles Emission with Energy below 400 MeV/Nucleon
 Antonelli 88 Phys. Lett. 212B:133,1988; LAL-88-11;
Measurement of the Reaction $e^+ e^- \rightarrow \eta \pi^+ \pi^-$ in the Center of Mass Energy Interval 1350 – 2400 MeV
 Antos 87 Czech. J. Phys. B36:1347,1987;
A Study of the ρ^0 Meson Polarization in $\pi^- p$ Reaction at 5 GeV/c
 Antos 88 Yad. Phys. 48:723,1988;
 $(1232 \text{ Pas})^{++}$ Inclusive Production in $\pi^- p$ Interactions at 5 GeV/c
 Antreasyan 86 Phys. Rev. D33:1847,1986; SLAC-PUB-3761; DESY-85-97;
Formation of $a_0(980)$ and $a_2(1320)$ in Photon Photon Collisions
 Antreasyan 86B Nuovo Cim. 99A:595,1988; INFN-PIAE-86-9;
Associated Multiplicities in μ^\pm Pair Events at the ISR
 Antreasyan 87 Phys. Rev. D36:2633,1987; SLAC-PUB-4305; DESY-87-054;
Measurement of the Properties of η' and Search for Other Resonances in $\gamma \gamma \rightarrow \eta 2\pi^0$
 Aoki 87 Phys. Lett. 187B:185,1987; CERN-EP-86-97;
The Double Associated Production of Charmed Particles by the Interaction of 350 GeV/c π^- Mesons with Emulsion Nuclei
 Aoki 88 Phys. Lett. 209B:113,1988; CERN-EP-88-52;
Some Properties of Charmed Particles Produced in Nucleus Interactions
 Aoki 89 Phys. Lett. 224B:441,1989; CERN-EP-89-67;
The Production of Charmed Particles in High Energy ^{16}O -Emulsion Central Interactions
 Apalikov 85 Pis'ma Zh. Eksp. Teor. Fiz. 42:233,1985; ITEP-85-114;
Searches for Heavy Neutrino in β -Decay
 Apel 85 Yad. Phys. 41:126,1985; Nucl. Phys. B193:269,1981; Sov. J. Nucl. Phys. 41:80,1985;
Analysis of the Reaction $\pi^- p \rightarrow \pi^0 \eta n$ at 40 GeV/c Beam Momentum
 Apel 85B Yad. Phys. 41:347,1985; Nucl. Phys. B201:197,1982; Sov. J. Nucl. Phys. 41:220,1985;
Measurement of $\pi^- p \rightarrow 2\pi^0 n$ at 25 GeV/c
 Apokin 85B Z. Phys. C35:173,1987; IFVE-86-2;
Polarization Parameters in the Reactions $\pi^- p$ (polarized) $\rightarrow \eta n$ and $\pi^- p$ (polarized) $\rightarrow \eta' n$ at 40 GeV/c
 Apokin 86 Yad. Phys. 45:1355,1987; IFVE-86-132;
Polarization Asymmetry Oscillations in Reaction $\pi^- p \rightarrow \pi^0 n$ at $-t < 3$ (GeV/c)²

Apokin 86B

Arends 88

- Apokin 86B Yad. Phys. 47:1644,1988; Sov. J. Nucl. Phys. 47:1041,1986; IFVE-86-239;
 $\pi^- p \rightarrow f_2(1270) n$ Reaction in the Region $-t < 2.0$ at 40 GeV/c
- Apokin 86C Yad. Phys. 46:1108,1987; IFVE-86-240:
Quasielastic Charge Exchange of Negative Pions on Carbon into $\pi^0, \eta, \eta', \omega$ and $f_2(1270)$ Mesons at 39.1 GeV/c
- Apokin 86D Yad. Phys. 46:1482,1987; IFVE-86-241:
Z-dependence of Differential and Total Cross Sections in Quasibinary Exchange Reactions on Nuclei: $\pi^- A(Z) \rightarrow (\pi^-, \eta, \omega, f_2(1270)) A(Z-1)$ at 39.1 GeV/c
- Apokin 88 Yad. Phys. 47:727,1988; IFVE-87-44:
Asymmetry Observation in the Reaction $\pi^- p \rightarrow \pi^0 \pi^0 n$
- Apokin 88B Yad. Phys. 49:156,1989; Sov. J. Nucl. Phys. 49:97,1989; IFVE-88-78:
Asymmetry Measurement of π^0 Mesons Produced in Beam Fragmentation Region on Polarized Protons
- Apokin 88C Yad. Phys. 49:165,1989; Sov. J. Nucl. Phys. 49:103,1989; IFVE-88-79:
Result on Azimuthal Asymmetry Measurement of $\pi^0 -$ Mesons Produced in Beam Fragmentation Region on Polarized Deuterons
- Apokin 89 IFVE-89-37:
Measurement of One-Spin Asymmetries in Inclusive π^0 and η Production at 90 Degrees CMS in the Reactions $\pi^- p$ (polarized) $\rightarrow \pi^0 (\eta) X$ at 40 GeV/c
- Apokin 89B Yad. Phys. 49:445,1989; Sov. J. Nucl. Phys. 49:278,1989; IFVE-88-76:
 $\pi^+ \pi^- \rightarrow 2\pi^0$ Cross Section at c.m. Energies $0.55 \text{ GeV} < m < 2 \text{ GeV}$ from the Reaction $\pi^- p \rightarrow 2\pi^0 n$ at 39.1 GeV/c
- Appel 85 Phys. Lett. 160B:349,1985; CERN-EP-85-111:
Measurement of the \sqrt{s} Dependence of Jet Production at the CERN $\bar{p} p$ Collider
- Appel 85B Phys. Lett. 165B:441,1985; CERN-EP-85-136:
Experimental Study of the Emergence of Two-Jet Dominance in $\bar{p} p$ Collisions at 630 GeV
- Appel 85C Z. Phys. C30:341,1986; CERN-EP-85-189:
A Study of Three Jet Events at the CERN $\bar{p} p$ Collider
- Appel 86 Z. Phys. C30:1,1986; CERN-EP-85-166:
Measurement of W^\pm and Z^0 Properties at the CERN $\bar{p} p$ Collider
- Appel 86B Phys. Lett. 176B:239,1986; CERN-EP-86-64:
Direct Photon Production at the CERN $\bar{p} p$ Collider
- Aprile 86 Phys. Rev. D34:2566,1986:
Measurements of Double- and Triple-spin Parameters in $p p$ Elastic Scattering between 440 and 500 MeV
- Apsimon 89 Z. Phys. C43:63,1989; CERN-EP-89-31:
Inclusive Photoproduction of Single Charged Particles at High P -transverse
- Apsimon 90 Z. Phys. C46:35,1990:
A Study of the Point-Like Interactions of the Photon Using Energy-Flows in Photon- and Hadro-Production for Incident Energies between 65 and 170 GeV
- Arakelyan 85 Yad. Phys. 42:3,1985:
Total Cross Section of π^0 Meson and Hadron Photoproduction on Be, C, O and Al Nuclei in the Energy Range 200 – 900 MeV
- Arakelyan 86 Yad. Phys. 44:10,1986:
Spallation of Nickel Isotopes Induced by Photons of 4.5 GeV Maximum Energy
- Arakelyan 87 Yad. Phys. 46:1706,1987:
Estimate of Contribution Introduced by Secondary Reactions to Cumulative Proton Production in $\pi^- C$ Interactions at 5 GeV/c
- Arakelyan 89 Yad. Phys. 49:1253,1989:
Electrofusion Cross Section and Fission Yield Measurement for ^{235}U and ^{238}U Nuclei at Energies 1.33 – 4.32 GeV
- Arakelyan 89C YERE-1104(67)-88:
Measurement of the Cross Sections of Photo and Electrofusion of ^{235}U and ^{238}U in the Energy Range 1.33 – 4.32 GeV
- Arakelyan 89D YERE-1165(42)-89:
Measurement of Charged Hadron Production Multiplicity at Interaction of Photons with $E=5 - 3.3 \text{ GeV}$ with Al, Cu and Pb Nuclei
- Arakelyan 89E Yad. Phys. 49:1651,1989; YERE-1103(66)-88:
Experimental Study of Shadowing in the Electrofusion of ^{238}U Nuclei at $E(\gamma)=1 - 3.5 \text{ GeV}$ and Low Q^2
- Arakelyan 90 Yad. Phys. 51:1582,1990:
Investigation of the (γ, π) and $(\gamma, \pi Xn)$ Reactions on Medium Weight and Medium Heavy Nuclei
- Arditto 87 CERN-EP-87-162:
Interactions of 80 and 200 A GeV ^{16}O Ions in Nuclear Emulsion
- Arefiev 85 ITEP-85-25:
Measurement of π^+, p , deuteron, $^3\text{H}, ^3\text{He}$ Inclusive Cross Sections at 3.5 Degrees in Protons Interactions with Be, Al, Cu, Ta Nuclei at 6.37 and 8.08 GeV/c
- Arefiev 86 ITEP-86-150:
Search for Exotic Baryon Resonances with $J=5/2$ at $\pi^+ p \rightarrow p \pi^+ \pi^+ \pi^-$ at 3.94 GeV/c
- Arefiev 86B ITEP-86-76:
Study of $\pi^+ p \rightarrow \Delta(1232 P_{33})^{++} \rho^0$ Reaction of Baryon Exchange at 3.94 GeV/c
- Arefiev 87 ITEP-87-54:
Search for the Baryon Resonances with $J=5/2$ in the $\pi^+ p \rightarrow p \pi^+ \pi^+ \pi^- \pi^0$ Reaction at the Momentum of 3.94 GeV/c
- Arefiev 90 Yad. Phys. 51:406,1990:
Reaction $\pi^+ p \rightarrow p \pi^+ \pi^+ \pi^- (\pi^0)$ at 3.94 GeV/c Incident Momentum: Analysis in the OPER Model
- Arefiev 90B Yad. Phys. 51:414,1990:
Reaction $\pi^+ p \rightarrow p \pi^+ \pi^+ \pi^- (\pi^0)$ at 3.94 GeV/c Incident Momentum: Production of Resonances, Including Those with $J=5/2$ in Baryon Exchange Processes
- Arends 85 Nucl. Phys. A454:579,1986; BONN-HE-85-14:
Measurement of Total Cross Sections for π^0 Photoproduction on Nuclei in the $\Delta(1232 P_{33})$ Resonance Region
- Arends 88 BONN-IR-88-05:
Photonicuclear Reactions in the $\Delta(1232 P_{33})$ Resonance Region

- Arenton 85 Phys. Rev. D31:984,1985.
Measurement of the Dijet Cross Section in 400 GeV/c $p p$ Interactions
 ANL-HEP-CP-84-95.
- Arenton 85B **Results from a Hadron Jet Experiment at $E_{cm}=19.4$ and 27.4 GeV**
 Nucl. Phys. B274:707,1986; PRINT-86-1158-ARIZONA.
- Arenton 86 **Observation of Massive $\Lambda K_S \pi^+ \pi^+ \pi^- \pi^-$ Events above 5 GeV/c²**
 Phys. Lett. 206B:4,1988;
- Argan 88 **The Threshold Photoproduction of π^0 on Nucleons and on Few-nucleon Systems**
 Yad. Phys. 43:893,1986; Sov. J. Nucl. Phys. 43:569,1986; JINR-P1-85-228;
- Arkhipov 85 **Differential Cross Section of the Reaction $\pi^- p \rightarrow \eta \Delta(1232 P_{33})^0$ for a Momentum of 3.3 GeV/c**
 JINR-P1-87-271;
- Arkhipov 87 **Differential Cross Section of the $\pi^- p \rightarrow \eta \Delta(1232 P_{33})^0$ Reaction at a Momentum of 3.3 GeV/c and 4.75 GeV/c**
 Yad. Phys. 47:1649,1988; Sov. J. Nucl. Phys. 47:1044,1988;
- Arkhipov 88 **$\pi^- p \rightarrow \eta \Delta(1232 P_{33})^0$ Differential Cross Section at 3.3 and 4.75 GeV/c**
 Nucl. Phys. B262:356,1985; CERN-EP-85-83;
- Armstrong 85 **A Polarization in K^- Fragmentation Region**
 Nucl. Phys. B262:356,1985; CERN-EP-85-83;
- Armstrong 86 **Observation of Double ϕ Meson Production in the Central Region for the Reactions $\pi^+ p \rightarrow \pi^+ 2K^+ 2K^-$ and $p p \rightarrow 2K^+ 2K^- p$ at 85 GeV**
 Phys. Lett. 167B:133,1986; CERN-EP-85-179;
- Armstrong 86B **Evidence for Structure in the 1.7 GeV Mass Region of the $K^+ K^-$ Final State Centrally Produced in the Reactions $\pi^+ p \rightarrow \pi^+ K^+ K^- p$ and $p p \rightarrow p K^+ K^- p$ at 85 GeV**
 Phys. Lett. 175B:383,1986;
- Armstrong 86C **A Search for Narrow States in Antineutron Proton Total and Annihilation Cross Sections near $\bar{n} n$ Threshold**
 Z. Phys. C34:33,1987; CERN-EP-86-138;
- Armstrong 86D **Study of the $K^+ K^- \pi^+ \pi^-$ System Centrally Produced in the Reactions $\pi^+ p \rightarrow \pi^+ (K^+ K^- \pi^+ \pi^-) p$ and $p p \rightarrow p (K^+ K^- \pi^+ \pi^-) p$ at 85 GeV/c**
 Z. Phys. C34:23,1987; CERN-EP-86-139;
- Armstrong 86E **Study of the Centrally Produced $F_1, K^\pm \pi^\pm$ System at 85 GeV/c**
 CERN-EP-86-83;
- Armstrong 86F **Backward Scattering in $\pi^- p \rightarrow p \pi^-$, $\bar{p} p \rightarrow \pi^+ \pi^-$, $K^- p \rightarrow p K^-$ and $\bar{p} p \rightarrow p \bar{p}$ at 8 GeV/c and 12 GeV/c**
 Z. Phys. C35:167,1987; CERN-EP-87-32;
- Armstrong 87 **Baryon Antibaryon Production in the Central Region at 85 GeV/c**
 Phys. Rev. D36:659,1987;
- Armstrong 87B **Measurement of Antineutron Proton Total and Annihilation Cross Sections from 100 to 500 MeV/c**
 Nucl. Phys. B284:643,1987;
- Armstrong 87C **Backward Scattering in $\pi^- p \rightarrow p \pi^-$, $\bar{p} p \rightarrow \pi^+ \pi^-$, $K^- p \rightarrow p K^-$ and $\bar{p} p \rightarrow p \bar{p}$ at 8 and 12 GeV/c**
 CERN-EP-88-124;
- Armstrong 88 **A Search for Glueballs in the Central Region in the Reaction $p p \rightarrow p(f) X p(s)$ at 300 GeV/c Using the CERN OMEGA Spectrometer**
 Phys. Lett. 221B:216,1989;
- Armstrong 89 **A Spin-Parity Analysis of the $f_1(1285)$ and $f_1(1420)$ Mesons Centrally Produced in the Reaction $p p \rightarrow (K_S K^\pm \pi^\pm) p$ at 300 GeV/c**
 Z. Phys. C43:55,1989; CERN-EP-89-24;
- Armstrong 89D **Study of the $\pi^+ \pi^+ \pi^- \pi^-$ System Centrally Produced by Incident π^+ and p Beams at 85 GeV/c**
 Phys. Lett. 227B:186,1989; CERN-EP-89-70;
- Armstrong 89E **Observation of Centrally Produced $f_2(1720)$ in the Reaction $p p \rightarrow p(f) (K \bar{K}) p(s)$ at 300 GeV/c**
 Phys. Lett. 228B:536,1989; CERN-EP-89-81;
- Armstrong 89F **Evidence for New States Produced in the Central Region in the Reaction $p p \rightarrow p(f) \pi^+ \pi^- \pi^+ \pi^- p(\text{spect})$ at 300 GeV/c**
 CERN-EP-89-144;
- Armstrong 90 **Recent WA76 Results on Central Production**
 Z. Phys. C46:405,1990;
- Armstrong 89C **A Study of the Centrally Produced $K^*(892)^0 \bar{K}^*(892)^0$ Final State in the Reaction $p p \rightarrow p(f) (K^+ K^- \pi^+ \pi^-) p(s)$ at 300 GeV/c**
 Yad. Phys. 41:1235,1985; JINR-P1-84-328;
- Armutlijsky 84 **Momentum and Angular Characteristics of π^- Mesons and Protons Generated in Nucleus-Nucleus Interactions at 4.2 GeV/c per Nucleon as Functions of Minimum Mass of a Target**
 Yad. Phys. 42:200,1985; JINR-P1-84-629;
- Armutlijsky 85 **Behaviour of π^- Meson Production Invariant Differential Cross Section in Nuclear Interactions at 4.2 GeV/c per Nucleon**
 Yad. Phys. 44:1495,1986; JINR-P1-85-939;
- Armutlijsky 85B **Properties of $p C$ Interactions at 10 GeV/c with the Emission of Cumulative Pions and Protons**
 Yad. Phys. 45:1676,1987; JINR-P1-86-459;
- Armutlijsky 86 **Investigation of $p C$ Interaction at $P=10$ GeV/c with the Emission of Cumulative Neutral Pions**
 JINR-P1-86-765;
- Armutlijsky 86B **Two Proton Correlations in $p C$, deuteron C, He C and C C Interactions at 4.2 GeV/c per Nucleon**
 Yad. Phys. 45:1047,1987; JINR-P1-86-263;
- Armutlijsky 86C **Multiplicity, Momentum and Angular Distributions of Protons in the Interactions of Light Nuclei with Carbon Nuclei at 4.2 GeV/c per Nucleon**
 Yad. Phys. 48:466,1988; JINR-P1-87-471;
- Armutlijsky 87 **The Study of $p C$ Interactions at $P=10$ GeV/c with the Emission of Cumulative Deuterons**
 Yad. Phys. 48:161,1988; JINR-P1-87-123;
- Armutlijsky 87B **Inclusive Characteristics of π^- Mesons Produced in $p C$ and $p Ta$ Interactions at 10 GeV/c Proton Momentum**

- Armutlijsky 87C Kr. Soob JINR 24:5,1987.
Universality of 4-Dimensional Baryonic Cluster Properties in Hadron-Nuclear and Nucleus-Nuclear Interactions within the 4 - 40 GeV/c Energy Range
- Armutlijsky 87D Yad. Phys. 46:1712,1987; JINR-P1-87-27:
Experimental Estimation of Secondary Absorption Contribution to Proton Production into Backward Hemisphere in Nucleon Carbon Interaction at 4.2 and 10 GeV/c
- Armutlijsky 88 Yad. Phys. 47:739,1988; JINR-P1-87-97:
Production of Λ -Hyperons and K -Mesons in Cumulative p C Interactions at 10 GeV/c
- Armutlijsky 89 Yad. Phys. 49:182,1989; Yad. Phys. 49:182,1988; JINR-P1-87-90:
Angular and Momentum Characteristics of Proton from deuteron Ta and C Ta Interactions at 4.2 GeV/c per Nucleon
- Arndt 84 Phys. Rev. D31:2230,1985; VPISA-2-85; VPISA-1-84;
 K^+ Proton Partial Wave Analysis to 3 GeV/c
- Arndt 85 Phys. Rev. D32:1085,1985;
Pion-Nucleon Partial Wave Analysis to 1100 MeV
- Arndt 87 Phys. Rev. D35:128,1987;
Nucleon-Nucleon Partial-Wave Analysis to 1100 MeV.
- Arneodo 85 Nucl. Phys. B258:249,1985; CERN-EP-85-26:
Multiplicities of Charged Hadrons in 280 GeV/c Muon Proton Scattering
- Arneodo 85B Phys. Lett. 165B:222,1985; CERN-EP-85-143:
Hadron Multiplicity Variation with Q^2 and Scale Breaking of the Hadron Distributions in Deep Inelastic Muon-Proton Scattering
- Arneodo 86C Z. Phys. C32:1,1986; CERN-EP-86-42:
The Bose-Einstein Correlations in Deep Inelastic $\mu^\pm p$ Interactions at 280 GeV
- Arneodo 86D Z. Phys. C33:167,1987; CERN-EP-86-99:
 ρ^0 and ω Production in Deep Inelastic $\mu^+ p$ Interactions at 280 GeV/c
- Arneodo 86E Z. Phys. C35:417,1987; CERN-EP-86-119:
Comparison Between Hadronic Final States Produced in $\mu^+ p$ and $e^+ e^-$ Interactions
- Arneodo 86F Z. Phys. C35:1,1987; CERN-EP-86-88:
Charm Production in Deep Inelastic Muon-Iron Interactions at 200 GeV/c
- Arneodo 86H Z. Phys. C34:283,1987; CERN-EP-86-160:
Strangeness Production in Deep Inelastic Muon Nucleon Scattering at 280 GeV
- Arneodo 87 Z. Phys. C36:527,1987; CERN-EP-87-112:
Jet Production and Fragmentation Properties in Deep Inelastic Muon Scattering
- Arneodo 87C Z. Phys. C35:433,1987; CERN-EP-87-74:
Proton and Antiproton Production in Deep Inelastic Muon Nucleon Scattering at 280 GeV
- Arneodo 88 Phys. Lett. 211B:493,1988:
Shadowing in Deep-Inelastic Muon Scattering from Nuclear Targets
- Arneodo 88B Z. Phys. C40:347,1988:
Charged Structure of the Hadronic Final State in Deep-Inelastic Muon-Nucleon Scattering
- Arneodo 89 Nucl. Phys. B321:541,1989; CERN-EP-89-25:
Measurements of the u Valence Quark Distribution Function in the Proton and u Quark Fragmentation Functions
- Arneodo 89B Nucl. Phys. B333:1,1990; CERN-EP-89-121:
Measurement of the Nucleon Structure Function in the Range $0.002 < x < 0.17$ and $0.2 < Q^2 < 8$ GeV 2 in Deuterium, Carbon and Calcium
- Arnett 87 Phys. Rev. Lett. 58:1906,1987:
Neutrino Mass Limits from SN 1987A
- Arnison 85 Phys. Lett. 155B:442,1985; CERN-EP-85-19:
Intermediate Mass Dimuon Events at the CERN $p \bar{p}$ Collider at $E_{cm}=540$ GeV
- Arnison 85B Lett. Nuovo Cim. 44:1,1985; CERN-EP-85-108:
 W^\pm Production Properties at the CERN $p \bar{p}$ Collider
- Arnison 85C Phys. Lett. 158A:494,1985:
Comparison of Three-Jet and Two-Jet Cross Sections in $p \bar{p}$ Collisions at the CERN SPS $p \bar{p}$ Collider
- Arnison 85D Phys. Lett. 166B:484,1986; CERN-EP-85-185:
Intermediate Vector Boson Properties at the CERN Super Proton Synchrotron Collider
- Arnison 85E CERN-EP-85-116:
Inclusive Jet Production at $E_{cm}=546$ GeV
- Arnison 86 Phys. Lett. 172B:461,1986; CERN-EP-86-29:
Measurement of the Inclusive Jet Cross Section at the CERN $p \bar{p}$ Collider
- Arnison 86B Phys. Lett. 177B:244,1986; CERN-EP-86-92:
Angular Distributions for High Mass Jet Pairs and a Limit on the Energy Scale of Compositeness for Quarks from the CERN $p \bar{p}$ Collider
- Arnison 86C CERN-EP-86-60:
Results on W^\pm and Z^0 Physics from the UA1 Collaboration
- Arnison 86D Nucl. Phys. B276:253,1986; CERN-EP-86-55:
Analysis of the Fragmentation Properties of Quark and Gluon Jets at the CERN SPS $p \bar{p}$ Collider
- Arnold 86 Phys. Rev. Lett. 57:174,1986; SLAC-PUB-3810:
Measurement of Elastic Electron Scattering from the Proton at High Momentum Transfer
- Arnold 87 Phys. Rev. Lett. 58:1723,1987; SLAC-PUB-4145:
Deuteron Magnetic Form Factor Measurements of High Momentum Transfer
- Arnold 87B Phys. Lett. 186B:435,1987; CERN-EP-86-207:
Experimental Search for Associated Gluino Production and Decay in 350 GeV/c π^- Emulsion Interactions
- Arnold 88 Phys. Rev. Lett. 61:806,1988; SLAC-PUB-4612:
Measurements of Transverse Quasielastic Electron Scattering from the Deuteron at High Momentum Transfers
- Arnold 89 SLAC-PUB-4918:
Transverse Electrodisintegration of the Deuteron in the Threshold Region at High Q^2
- Aronson 86 Phys. Rev. Lett. D33:3180,1990:
Measurement of the Rate of Formation of $\pi^\pm \mu^\pm$ Atoms in K_L Decay
- Arpesella 88B SAC/LAY-DPH/E-88-13:
A Review of Running Underground Experiments

- Artemiev 89 ITEP-89-186.
The ^{136}Xe Double β Decay Track Experiment
 Phys. Rev. Lett. 62:2233,1989; CLNS-89-899; CLEO-89-5;
 $B^0 \bar{B}^0$ Mixing at the T(4S)
- Artuso 89 CLNS-89-26.
What Did We Learn about $V(u b)$ from B Decays?
 Yad. Phys. 43:1472,1986; Sov. J. Nucl. Phys. 43:949,1986;
- Artykov 86 γ and π^0 Multiplicities in Proton Inelastic Interactions with Neon Nuclei and Nucleons at 300 GeV
 Yad. Phys. 44:400,1986;
- Artykov 86B **Inclusive Characteristics of Gamma Quanta in π^- ^{12}C Interactions at 4 GeV/c**
 Yad. Phys. 51:744,1990; FVE-89-99;
- Artykov 90 **Transverse Momenta of γ Quanta in p ^{20}Ne and p nucleon Interactions at 300 GeV**
 ITEP-85-119;
- Arutyunyants 85 **Angular Correlations of Particles Produced in $\pi^- p \rightarrow K^0 \pi^\pm X$, $\pi^- p \rightarrow K^0 \bar{K}^0 X$, $\pi^- p \rightarrow K^0 \Lambda X$ at 4.5 GeV/c Momentum**
 Nucl. Phys. A444:579,1985; SACLAY-DPH-N-2199;
A Study of the Reaction deuteron (π^\pm, p) X
 Nucl. Phys. B255:273,1985; CERN-EP-84-144;
- Asad 85 **Elastic Scattering of Charged Mesons, Antiprotons and Protons on Protons at Incident Momenta of 20, 30 and 50 GeV/c in the Momentum Transfer Range $0.5 < -t < 8 \text{ GeV}^2/c^2$**
 Z. Phys. C27:11,1985; CERN-EP-84-81; IFVE-85-65;
- Asai 84 **Inclusive K_S , Λ and $\bar{\Lambda}$ Production in 360 GeV/c p p Interactions Using the European Hybrid Spectrometer**
 Phys. Lett. 187B:249,1987;
- Asai 87 **Measurement of the Cross Section for γ deuteron $\rightarrow \pi^0$ deuteron at $140 \leq \theta \leq 156$ Degrees**
 INS-REP-775;
- Asai 89 **Search for $\Delta(1232 P_{33}) - \Delta(1232 P_{33})$ Component in Deuteron**
 Z. Phys. C46:593,1990; CERN-EP-89-180;
- Asai 89C **Experimental Results on Proton Diffractive Dissociation – Study of the Quark-Diquark Pomeron Coupling**
 Phys. Lett. 237B:588,1990;
- Asanumia 90 **A Search for Correlated $e^+ e^-$ Pairs in the Decay of ^{241}Am**
 Izv. Akad. Nauk SSSR. Fiz. 49:1377,1985;
- Asatiani 85 **The Results of Muon Investigation at Aragats**
 Yad. Phys. 44:1006,1986;
- Asaturyan 86 **Study of Correlation Properties of Processes with Cumulative Protons in π^- C Interactions at 5 GeV/c**
 Pisma Zh. Eksp. Teor. Fiz. 44:266,1986;
- Asaturyan 86C **Polarization Parameters Σ , T , P for the $\gamma p \rightarrow p \pi^0$ in the Energies of 0.9 – 1.5 GeV at 120 Degrees**
 Phys. Rev. Lett. 55:2118,1985;
- Ash 85B **Precise Measurement of the Leptonic Branching Ratios of the Tau Lepton**
 Phys. Rev. Lett. 55:1831,1985;
- Ash 85D **Precision Measurement of Electroweak Effects in $e^+ e^- \rightarrow \mu^+ \mu^-$ at $E_{cm}=29$ GeV**
 Phys. Rev. Lett. 54:2477,1985; SLAC-PUB-3591;
- Ash 87 **Search for Monojet Production in $e^+ e^-$ Annihilation**
 Phys. Rev. Lett. 58:1080,1987; SLAC-PUB-4040;
- Ash 87B **Observation of Charge Asymmetry in Hadron Jets from $e^+ e^-$ Annihilation at $E_{cm}=29$ GeV**
 Phys. Rev. Lett. 58:640,1987; SLAC-PUB-4123;
- Ashery 88 **Determination of the Lifetime of Bottom Hadrons**
 Phys. Lett. 215B:41,1988;
- Ashford 85 **A Search for πn n Bound Systems**
 Phys. Rev. C31:663,1985;
- Ashford 85B **Low Energy \bar{p} Nuclear Absorption Cross Sections**
 Phys. Rev. Lett. 54:518,1985;
- Ashford 85B **Measurement of the Real to Imaginary Ratio of the $\bar{p} p$ Forward Scattering Amplitudes**
 Izv. Akad. Nauk SSSR. Fiz. 49:1396,1985;
- Ashikov 85 **Study of Outstripped Particles in Frame of Tachyon's Hypothesis**
 Phys. Lett. 202B:603,1988; CERN-EP-88-06;
- Ashman 88 **Measurement of the Ratios of Deep Inelastic Muon-Nucleus Cross Sections on Various Nuclei Compared to Deuterium**
 Phys. Lett. 206B:364,1988; CERN-EP-87-230;
- Ashman 88B **A Measurement of the Spin Asymmetry and Determination of the Structure Function G_1 in Deep Inelastic Muon-Proton Scattering**
 Z. Phys. C39:169,1988;
- Ashman 88C **Exclusive ρ^0 and ϕ Production in Deep Inelastic Muon Scattering**
 Nucl. Phys. B328:1,1989; CERN-EP-89-73;
- Ashman 89 **An Investigation of the Spin Structure of the Proton in Deep Inelastic Scattering of Polarized Muons on Polarized Protons**
 Z. Phys. C37:191,1988;
- Asman 88 **Charge Particles Correlation in $\bar{p} p$ at c.m. Energies of 200, 546 and 900 GeV**
 Yad. Phys. 43:598,1986; Sov. J. Nucl. Phys. 43:380,1986; ITEP-85-115;
- Asratyan 85 **The Experimental Comparison of EMC Effect in the $\bar{\nu} n$ and $\bar{\nu} p$ Interactions in Neon Nucleus**
 Yad. Phys. 41:1193,1985; Sov. J. Nucl. Phys. 41:763,1985;
- Asratyan 85B **The Distribution of Quarks and Antiquarks in the Proton from the Analysis of $\bar{\nu} n$ and $\bar{\nu} p$ Interactions in the Neon Nucleus**
 Phys. Lett. 156B:441,1986;
- Asratyan 86 **Charmed Strange Vector Meson Production in Antineutrino-Nucleon Interactions**
 ITEP-86-77;
- Asratyan 86B **Observation of the Charmed Strange Pseudovector Meson Cascade Radiative Decay**
 Pisma Zh. Eksp. Teor. Fiz. 46:413,1987; ITEP-87-189;
- Asratyan 87 **The D_S^- Meson Production in the Antineutrino Interaction**
 Pisma Zh. Eksp. Teor. Fiz. 46:54,1987; ITEP-87-94;
- Asratyan 87B **Search for Higher Strange States Produced in $\bar{\nu} n$ and νn Interactions**

- Z. Phys. C40:483,1988; ITEP-87-214:
Studying ($\bar{e} e$) Spectroscopy in $\bar{\nu} n$ Collisions
 Phys. Lett. 152B:419,1985; CERN-EP-85-07:
Measurement of Deep Inelastic Compton Scattering of High Energy Photons
 Phys. Lett. 220B:646,1989; CERN-EP-89-18:
Search for Neutrino Oscillations
 CERN-EP-89-124:
A Search for Neutrino Oscillations
 Phys. Rev. D32:2255,1985:
Analysis of Inclusive $K \bar{K} \pi$ from 11 GeV/c $K^- p$ Interactions
 Phys. Rev. D32:2270,1985:
Inclusive Production of Multistrange Hyperons from 11 GeV/c $K^- p$ Interactions
 Phys. Lett. 180B:308,1986:
Observation of the Leading \bar{K}^* (unspec) L -excitation Series from $J^P = 1^-$ through 5^- in the Reaction $K^- p \rightarrow K^- \pi^+ \pi^- n$ at 11 GeV/c
 SLAC-PUB-4054:
A Study of Strange and Strangeonium States Produced in LASS
 Phys. Lett. 194B:579,1987; SLAC-PUB-4132; DPNU-87-16:
Observation of the $\Omega^*(\text{unspec})^-$ Production in $K^- p$ Interactions at 11 GeV/c
 Nucl. Phys. B292:693,1987:
The Strange Meson Resonances Observed in the Reaction $K^- p \rightarrow \bar{K}^0 \pi^+ \pi^- n$ at 11 GeV/c
 Phys. Lett. 201B:573,1988:
Evidence for Two Strangeonium Resonances with $J^{PC} = 1^{++}$ and 1^{-+} in $K^- p$ Interactions at 11 GeV/c
 Nucl. Phys. B296:493,1988; SLAC-PUB-4260; DPNU-87-25:
A Study of $K^- \pi^+$ Scattering in the Reaction $K^- p \rightarrow K^- \pi^+ n$ at 11 GeV/c
 Nucl. Phys. B301:525,1988; SLAC-PUB-4279; DPNU-87-15:
A Study of the $K_S K_S$ System in the Reaction $K^- p \rightarrow K_S K_S \Lambda$ at 11 GeV/c
 Phys. Lett. 208B:324,1988; SLAC-PUB-4489:
Spin Parity Determination of the $\phi_8(1850)$ from $K^- p$ Interactions at 1 GeV/c
 Phys. Lett. 215B:799,1988; SLAC-PUB-4657:
Observation of a New $\Omega^*(\text{unspec})^-$ at 2.7 GeV/c² in $K^- p$ Interactions at 11 GeV/c
 Phys. Lett. 215B:199,1988; SLAC-PUB-4661; DPNU-88-24:
Evidence for a $J^{PC} = 4^{++}$ $K \bar{K}$ State at 2.2 GeV/c² from $K^- p$ Interaction at 11 GeV/c
 Phys. Lett. 201B:169,1988; SLAC-PUB-4393; DPNU-87-45:
Observation of the Selective Coupling of K^* States to the $K^- \eta$ Channel
 SLAC-PUB-4773; C88/08/15:
Recent Result in Strangeonium Spectroscopy
 SLAC-PUB-4709:
The Spectroscopy of Mesons Containing Strange Quarks
 SLAC-PUB-4768:
The Strangeonium Spectrum Seen in LASS: Implications for Glueball Spectroscopy
 SLAC-PUB-4821; DPNU-88-50:
Recent Results from $S=-3$ Baryon Spectroscopy from the LASS Spectrometer
 SLAC-PUB-5155:
Update on K^* Studies at SLAC
 Yad. Fiz. 48:1729,1988:
Deuteron-Triton Component in Energy Spectra of Slow Particles
 Phys. Lett. 158B:81,1985:
Direct Measurement of the Lifetime of the Neutral Pion
 Phys. Rev. Lett. 63:2177,1989; BNL-43212; PRINCETON-HEP-89-01; TRI-PP-89-70:
Search for a Light Higgs Boson in the Decay $K^+ \rightarrow \pi^+ higgs, higgs \rightarrow \mu^+ \mu^-$
 Phys. Rev. Lett. 64:21,1990:
Search for the Decay $K^+ \rightarrow \pi^+ \nu \bar{\nu}$
 Z. Phys. C26:499,1985; CERN-EP-84-80:
The $\rho(1700)$ in the Reaction $\gamma p \rightarrow \pi^+ \pi^- \pi^0 p$ at Photon Energies of 20 - 70 GeV
 Z. Phys. C29:333,1985; CERN-EP-85-89:
Evidence for a $\omega \rho^\pm \pi^\mp$ State in Diffractive Photoproduction
 Z. Phys. C30:521,1986; CERN-EP-85-170:
Inclusive Photoproduction of ϕ , $K^*(892)$ and $K_2^*(1430)$ in the Photon Energy Range 20 to 70 GeV
 Z. Phys. C30:531,1986; CERN-EP-85-171:
Study of $\eta \pi^+ \pi^-$ States in the $\rho(1700)$ Mass Region Photoproduced in the Reaction $\gamma p \rightarrow \eta \pi^+ \pi^- p$ at Photon Energies of 20 to 70 GeV
 Z. Phys. C27:233,1985; CERN-EP-84-106:
Photoproduction of Ξ Mesons by Linearly Polarized Photons of Energy 20 - 40 GeV and Further Evidence for a Photoproduced High Mass ($K \bar{K}$) Enhancement
 Z. Phys. C26:19,1985; CERN-EP-84-124:
Photoproduction of Multiparticle States in the Beam Fragmentation Region for Photon Energies in the Range 50 - 70 GeV
 Z. Phys. C30:541,1985; CERN-EP-85-194:
Search for a $\phi(1680)$ Vector Meson in Diffractive Photoproduction of $K^+ K^- \pi^+ \pi^-$
 Z. Phys. C34:303,1987; CERN-EP-86-199:
A Peak in the $\eta \omega$ Mass Spectrum from Diffractive Photoproduction
 Z. Phys. C34:157,1987; CERN-EP-86-185:
Diffractive Photoproduction of a $b_1(1235) \pi$ System
 Z. Phys. C38:535,1988:
Photon Diffractive Dissociation to $2\rho \pi$ and $\rho 3\pi$ States
 Phys. Lett. 220B:317,1989:
A Search for Photonless Annihilation of Orthopositronium
 MINR-90-P-0659:
A Search for a Light Pseudoscalar Particle in One Photon Orthopositronium Decay: $e^+ e^- \rightarrow \text{positronium}$

- Atoyan 90 (cont'd)
Atrashkevich 85 → γ axion
Atwater 87 Izv. Akad. Nauk SSSR, Fiz. 49:1311,1985.
Aubert 84C **The Energy Spectra and Space Distributions of Muons in Extensive Atmospheric showers**
Phys. Lett. 199B:30,1987:
Transverse Momentum Spectrum of Mesons Produced in High Energy
Phys. Lett. 152B:433,1985; CERN-EP-84-164;
A Measurement of the Difference between the Single Nucleon Cross Section for $J/\psi(1S)$ Muoproduction in Iron and in H_2 , D_2 Targets
Phys. Lett. 155B:461,1985; CERN-EP-85-24;
A Search for the Decay $D^0 \rightarrow \mu^+ \mu^-$
Z. Phys. C30:23,1986; CERN-EP-85-72;
A Search for Higher Twist Effects in the Hadronic Distributions in Deep Inelastic Muon Proton Scattering
Phys. Lett. 161B:203,1985; CERN-EP-85-109;
Exclusive ρ^0 Production in Deep Inelastic Muon Proton Scattering
Nucl. Phys. B259:189,1985; CERN-EP-85-34;
A Detailed Study of the Proton Structure Functions in Deep Inelastic Muon Proton Scattering
Phys. Lett. 160B:417,1985; CERN-EP-85-67;
A Determination of the Fragmentation Functions of u -quarks into Charged Pions
Z. Phys. C31:175,1986; CERN-EP-86-09;
A Comparison of the Energy Distributions of Hadrons Produced in Deep Inelastic Scattering of Muons on Hydrogen and Deuterium Targets
Nucl. Phys. B272:158,1986; CERN-EP-86-05;
A Detailed Study of the Nucleon Structure Functions in Deep Inelastic Muon Scattering in Iron
Phys. Lett. 167B:127,1986; CERN-EP-85-88;
 D^0 Production in Deep Inelastic Muon Scattering on Hydrogen and Deuterium
Nucl. Phys. B293:740,1987; CERN-EP-87-66;
Measurement of the Nucleon Structure Functions F_2 in Deep Inelastic Muon Scattering from Deuterium and Comparison with Those from Hydrogen and Iron
Phys. Lett. 218B:248,1989; CERN-EP-88-33;
Evidence for Anomalous Prompt Photons in Deep Inelastic Muon Scattering at 200 GeV
Audit 89 Phys. Lett. 227B:331,1989;
First Measurement of the Reaction $\gamma^* {}^3\text{He} \rightarrow p \bar{p}$
Auer 85 Phys. Rev. D32:1609,1985;
Measurement of Triple and Double Spin Parameters in Elastic Proton Proton Scattering at 6 GeV/c
Auer 86 Phys. Rev. D34:1,1986;
Measurement of Spin Spin Correlation Parameters in the $p \bar{p}$ System at 11.75 GeV/c
Auer 86B Phys. Rev. D34:2581,1986; ANL-HEP-PR-86-38;
Observation of a New Structure in the Difference between the $p \bar{p}$ Total Cross Sections for Antiparallel and Parallel Longitudinal Spin States
Auer 88 Phys. Rev. Lett. 62:2649,1989; ANL-HEP-PR-88-96;
Observation of Structures in the Mass Range of 2700 to 2900 MeV in the Difference between the $p \bar{p}$ Total Cross Sections for Pure Helicity States
Auffret 85 Phys. Rev. Lett. 55:1362,1985;
Evidence for Nonnucleonic Effects in the Threshold Electrodisintegration of the Deuteron at High Momentum Transfer
Auffret 85B Phys. Rev. Lett. 54:649,1985;
Magnetic Formfactor of the Deuteron
Auge 86 Phys. Lett. 168B:163,1986; CERN-EP-86-08;
High Energy Photoproduction of Large Transverse Momentum π^0 Meson: A Quantitative Test of QCD
Auge 86B Phys. Lett. 182B:409,1986; CERN-EP-86-176; LAL-86-32;
Topological Isolation of the Deep Inelastic QED Compton Scattering
Auge 89 LAL-89-20;
Present Status of the NA31 Experiment
Auge 89B LAL-89-26;
Study of Some K^0 Rare Decay Processes in NA31
Augustin 85 LAL-84-22;
Results on $J/\psi(1S)$ Radiative Decays from the DM2 Experiment at DCI
Augustin 85B LAL-85-17;
DM2 Results on $J/\psi(1S)$ Decays
Augustin 85C LAL-85-37;
Selected Results on $J/\psi(1S)$ Hadronic Decays from DM2 and MARK-III
Augustin 85D LAL-85-27;
DM2 Results on Hadronic and Radiative $J/\psi(1S)$ Decays
Augustin 85E LAL-85-53;
Quark Spectroscopy
Augustin 87 Z. Phys. C36:369,1987; LAL-87-10;
Radiative Decay of $J/\psi(1S)$ into $\gamma \pi^+ \pi^-$
Augustin 88 Phys. Rev. Lett. 60:2238,1988;
Measurement of Radiative $J/\psi(1S)$ Decays in $K \bar{K}$ States
Augustin 88B Nucl. Phys. B320:1,1989; LAL-88-05;
Study of the $J/\psi(1S)$ Decay into Five Pions
Augustin 88C LAL-88-31;
Spectroscopy Related to Two Photon Physics
NOVO-86-173;
The $e^+ e^- \rightarrow \gamma \gamma \gamma \gamma \gamma$, $e^+ e^- \gamma \gamma$, $e^+ e^- e^+ e^-$ Processes in VEPP-2M
NOVO-86-105;
Study of Decays of ρ and ω -Mesons with the Neutral Detector at the VEPP-2M Collider
NOVO-86-106;
Experiments with the Neutral Detector at the VEPP-2M in the Energy Range 1.0 ~ 1.4 GeV
Aulchenko 87 Phys. Lett. 186B:132,1987;
The Width of the ω Meson

- Aulchenko 87B Pisma Zh. Eksp. Teor. Fiz. 45:118,1987.
The Search for Possible Exotic State C(1480) at VEPP-2M
 NOVO-87-90:
Search for Rare Processes with the Neutral Detector at the VEPP-2M Collider
- Avakyan 85 Vopr. At. Nauki i Techn. 4:25:77,1985.
Search for the Large Mass Particles in Cosmic Rays
- Avakyan 85B Yad. Phys. 42:667,1985; YERE-782(9)-85.
Measurement of the Polarization of Cumulative Protons in γ nucleus $\rightarrow p$ X Reaction
- Avakyan 85C Izv. Akad. Nauk SSSR. Fiz. 49:1254,1985:
The Single Protons Flux Intensity at the Height of Mountains and the Cross Sections of Protons - Air Nuclei Inelastic Interactions
- Avakyan 85D Nucl. Phys. B259:156,1985;
Determination of Inelasticity Partial Coefficients of Pions and Protons in Iron in the Energy Range 0.5 - 5.0 TeV
- Avakyan 85E Nucl. Phys. B259:163,1985;
Determination of the Cross Section of the Pion and Nucleon Interaction with Iron Nuclei in the Energy Range 0.5 - 5.0 TeV
- Avakyan 85F Yad. Phys. 41:163,1985:
Composition of the Flux of Cosmic Ray Hadrons at Mountain Altitude at Energies $E > 0.5$ TeV
- Avakyan 86 Yad. Phys. 44:1224,1986; Sov. J. Nucl. Phys. 44:795,1986:
Study of Characteristics of Albedo Particles Generated in Interactions of Cosmic Hadrons
- Avakyan 87B Yad. Phys. 46:1445,1987:
Measurement of Proton Polarization in π^0 Production at $\theta=70$ Degrees in Linearly Polarized Photon Beam
- Avakyan 88B Pisma Zh. Eksp. Teor. Fiz. 48:235,1988:
About Possible Excess of the Hadronic Groups in the Direction on Cygnus X-3, observed by the PION Detector
- Avakyan 88C Yad. Phys. 48:1716,1988; Sov. J. Nucl. Phys. 48:1030,1988:
Measurement of Polarization of Protons in the Reaction $\gamma p \rightarrow p \pi^0$ at $\theta(\pi^0)=80$ Degrees in a Photon Linearly Polarized Beam
- Avakyan 89 Yad. Phys. 49:468,1989:
Polarization of Cumulative Protons in γ nucleus $\rightarrow p$ X Reaction
- Avakyan 89B Yad. Phys. 50:134,1989:
Differential Energy Spectrum and Angular Distribution of Hadrons at Mountain Altitude at Energies $E > 10^3$ GeV
- Avakyan 89C Yad. Phys. 50:1348,1989:
The Study of the Dependence of Hadron Inelastic Interaction Cross Section on Energy and Atomic Number of Target in the Range 0.5 - 10 TeV
- Avakyan 90 Yad. Phys. 51:1585,1990:
Polarization of Cumulative Protons in γ nucleus $\rightarrow p$ X Reaction
- Avdejchikov 85 Yad. Phys. 44:440,1986; JINR-P1-85-640:
Search for Nuclei with Anomalous and Fractionally Charged Fragments of ^{16}O at 4.5 GeV/c per Nucleon
- Avdejchikov 86 JINR-P1-86-664:
Emission of ^6He and ^8Li , ^7Li , ^8Li Fragments in ^4He Collisions with ^{108}Ag and ^{187}Au at 3.33 GeV/Nucleon
- Avdejchikov 87 JINR-P1-87-509:
Formation of 5 - 12 Charge Fragments in the p Au Reaction at 2.6 - 7.5 GeV Proton Energy
- Avdejchikov 87B Yad. Phys. 48:1736,1988; JINR-P1-87-872:
Experimental Study of Intermediate Mass Fragment Formation Mechanism in p Au and ^4He Au Interactions
- Avdejchikov 87C JINR-P1-87-42:
Inclusive Differential Cross Sections for the Formation of the Middle Mass Fragments ($Z=5 - 12$) Produced by the Protons (2.6 - 7.5 GeV) Interacting with Au Nuclei
- Avdejchikov 87E Pisma Zh. Eksp. Teor. Fiz. 46:141,1987:
Production of Intermediate Mass Fragments in p Au Reaction at 2.6 - 7.5 GeV Protons Energy Interval
- Avdejchikov 87F JINR-P1-87-609:
Inclusive Differential Cross Sections for the Formation of the Fragments with Charges 5 - 12 Produced by the ^4He Nuclei at 1.3 - 13.5 GeV Energy with Au Nuclei
- Avdejchikov 87G JINR-P1-87-709:
Inclusive Differential Cross Sections for the Formation of the Intermediate Mass Fragments ($Z=5 - 12$) Produced by the ^4He Nuclei (13.5 GeV) Interacting with Au Nuclei
- Avdejchikov 87H Pisma Zh. Eksp. Teor. Fiz. 47:131,1988; JETP Lett. 47:157,1988; JINR-P1-87-830:
Observation of Minimum in Energy Dependence of Tau Parameter of Charge Fragment Yield in Interaction of ^4He Relativistic Nuclei with Cold Nuclei
- Avdejchikov 87I JINR-P1-87-369:
Inclusive Differential Cross Sections for the Formation of the Intermediate Mass Fragments ($Z=5 - 10$) Produced by the Protons with Momentum of 2.55 GeV/c Interacting with Nuclei
- Avdejchikov 88 Yad. Phys. 50:409,1989; JINR-P1-88-796:
Analyzing Power Measurement of deuteron (polarized) p Elastic Scattering at 2 - 12 GeV/c and in deuteron (polarized) $C \rightarrow p$ X Reaction at 2.38 GeV/c
- Avenier 85 Nucl. Phys. A436:83,1985:
Parity Nonconservation in the Radiative Capture of Polarized Neutrons by ^{36}Cl
- Averchikov 87 Kr. Soob. JINR 25:4,1987.
Cumulative Antiproton Observation
- Averichev 89 Kr. Soob. JINR 37:5,1989:
Experimental Data on the Investigation of Two-Particle Pion-Proton, Proton-Proton and Deuteron-Proton Correlations in the Cumulative Particle Production in Proton, Deuteron and ^4He -Nuclei Interactions with Nuclei
- Averill 89 Phys. Rev. D39:123,1989.
Measurement of the D^0 , D^+ , and D_S^+ Meson Lifetime
- Avery 85 Phys. Rev. D32:2294,1985:
Bose-Einstein Correlations in $e^+ e^-$ Annihilations in the $\Upsilon(1S)$ Region
- Avery 87 Phys. Lett. 183B:429,1987.
Limits on Rare Exclusive Decays of B Mesons

- Avery 88 Phys. Rev. Lett. 62:863,1989; CLNS-88-872; CLEO-88-2;
Observation of the Charmed Strange Baryon $\Xi_c(2460)^0$
 Avery 89 LBL-26593;
Bose-Einstein Correlations of Pions in $e^+ e^-$ Annihilation at 29 GeV Center-of-Mass Energy
 Avery 89B Phys. Lett. 223B:470,1989; CLNS-89-886; CLEO-89-2;
A Search for Exclusive Penguin Decays of B Mesons
 Avery 90 Phys. Rev. D41:774,1990; CLNS-89-939; CLEO-89-11;
P-wave Charmed Mesons in $e^+ e^-$ Annihilation
 Avignone 85 Phys. Rev. Lett. 54:2309,1985;
Ultralow Background Study of Neutrinoless Double β Decay of ^{76}Ge . New Limit on the Majorana Mass of ν_e
 Avignone 86 Phys. Rev. D34:97,1986;
New Experimental Limit on the Stability of the Electron
 Avignone 86B Phys. Rev. C34:666,1986;
Search for the Double- β Decay of ^{76}Ge
 Avignone 87 Phys. Rev. D35:1713,1987;
Analysis and Interpretation of a Large Body of ^{76}Ge Zero Neutrino Double β Decay Data
 Avignone 87B Phys. Rev. D35:2752,1987;
Laboratory Limits on Solar Axions at Ultralow-Background Germanium Spectrometer
 Avignone 88 Phys. Rev. D37:618,1988;
Search for Axions from 1115 KeV Transition of ^{65}Cu
 Avramenko 87 JINR-EI-87-337;
The Observation of $^4\text{He}_5$ Relativistic Hypernuclei Produced in ^4He Collisions with Light Nuclei at 18 GeV/c
 Avramenko 88 Pis'ma Zh. Eksp. Teor. Fiz. 48:414,1988; JINR-D1-88-691;
Production and Decay of Relativistic Hydrogen Hypernuclei
 Avvakumov 84 Nucl. Phys. B255:253,1985; IFVE-84-187;
Polarization in the $\pi^- p \rightarrow \pi^0 n$ Reaction at 40 GeV/c
 Avvakumov 86 Yad. Phys. 42:1152,1985;
Measurement of Asymmetry in $\pi^- p \rightarrow K^0$ A Reaction at 40 GeV/c
 Avvakumov 86B Yad. Phys. 42:1146,1985; Sov. J. Nucl. Phys. 42:725,1985;
Observation of Asymmetry in $\pi^- p$ (polarized) $\rightarrow \omega n$ Reaction at 40 GeV/c
 Azhgirej 85 JINR-D1-85-618;
Scattering of Relativistic Protons and Deuterons from Atomic Nuclei
 Azhgirej 86 JINR-P1-86-728;
Investigation of a deuteron $p \rightarrow p$ X Reactions at 9 GeV/c in the Region of Large Transversal Momenta of Protons
 Azhgirej 87 Yad. Phys. 46:1134,1987;
Study of deuteron nucleus $\rightarrow p$ X Reactions at 9 GeV/c at Proton Large Transverse Momenta
 Azhgirej 88B Yad. Phys. 48:1758,1988; JINR-P1-88-23;
Spectra of Deuterons Emitted with Large Transversal Momenta in Collisions of 9 GeV/c Deuterons with Hydrogen, Deuterium and Carbon Nuclei
 Azimov 84B Yad. Phys. 42:913,1985; Sov. J. Nucl. Phys. 42:579,1985; PTIU-84-27-FVE;
Search of Dibaryon Resonances in Hadron Hadron Interaction
 Azimov 84C Pis'ma Zh. Eksp. Teor. Fiz. 40:316,1984; JETP Lett. 40:1109,1988;
The Possible Observation of Narrow Diproton Resonances in Hadrons-Nuclei Interactions
 Azimov 85 Yad. Phys. 41:149,1985;
Angular Correlations between Charged Particles in Hadron-Nucleus Interactions in the Energy Range 20 - 400 GeV
 Azimov 85B Izv. Akad. Nauk SSSR, Fiz. 49:1275,1985;
Study of Space Characteristics of γ Families, Produced at the Super High Energy $E = 10^{16}$ eV
 Azimov 85D Czech. J. Phys. B35:832,1985; PTIU-20-84-FVE;
Multiplicity of Charged Particles in Interactions of Neutrons with Protons, Carbon and Neon Nuclei in the Momentum Range 1 - 200 GeV/c
 Azimov 85E PTIU-29-85-FVE;
Production of γ Quanta at Inelastic p ^{20}Ne and p n Interactions at 300 GeV
 Azimov 85F Czech. J. Phys. B35:920,1985;
A Study of Fast Neutron Production in p Ne and p p Interactions at 300 GeV/c
 Azimov 85G Z. Phys. A322:677,1985; LUIP-8513;
Evidence for Azimuthal Correlations in Inelastic Interactions of ^{66}Fe Nuclei in Emulsion at 2.5 GeV/c A
 Azimov 86 PTIU-86-36-FVE;
Search for Resonances with $B=3$ and $B=4$
 Aziz 85 Z. Phys. C27:325,1985; TIFR-BC-84-7;
Charged Charm Production in Proton Emulsion Interactions at 400 GeV/c
 Aziz 85B Z. Phys. C29:339,1985; Pis'ma Zh. Eksp. Teor. Fiz. 44:407,1986; IFVE-86-174; CERN-PRE-85-059; TIFR-85-4;
Study of A Production in Target Fragmentation Region from p p Interactions at 300 GeV/c in the Triple Regge Framework
 Aziz 85C Yad. Phys. 46:136,1987; Z. Phys. C30:381,1986; IFVE-86-158; CERN-EP-85-120;
Inclusive $K^*(892)$ and $\Sigma(1385)_{13}$ Production in 300 GeV/c p p Interactions Using the European Hybrid Spectrometer
 Aziz 88 Yad. Phys. 47:1035,1988; Z. Phys. C34:429,1987; IFVE-87-62; CERN-EP-86-166;
Neutral Strange Particles Correlation in 380 GeV/c p p Interactions
 Azuelos 86 Phys. Rev. Lett. 56:2241,1986; TRI-PP-86-8.
Constraints on Massive Neutrinos in $\pi^+ \rightarrow e^+ \nu_e$ Decay
 Baatar 85 JINR-P1-85-698;
Mean Characteristics of Secondary Particles in Cumulative π^- C Interactions at 40 GeV/c
 Baatar 87 Yad. Phys. 46:1464,1987; JINR-P1-86-721;
Characteristics of Secondaries Produced in π^- C Interactions at 40 GeV/c as a Function of the Target Mass
 Baatar 87B JINR-P1-87-807;
Analysis of Hadron-Nuclear Interactions at 4 - 40 GeV/c as a Function of Target Mass

- Baatar 88 Yad. Phys. 48:764.1988;
Analysis of Cumulative Hadron Nuclear Interactions at 4 – 40 GeV/c as a Function of Target Mass
- Baatar 88B JINR-P1-88-469;
The Dependence of Characteristics of π^\pm Mesons Produced in π^- C Interactions at 40 GeV/c on Total Energy in the c.m.s. and QCD of Semihard Process
- Baatar 89 JINR-P1-89-46;
Dependence of Characteristics of Hadron-Carbon Interactions at 4 – 40 GeV/c with Cumulative π^- Meson and Proton Emission on Target Mass and their Connection with Generation of Particles with Large Transverse Momentum
- Baatar 89B JINR-P1-89-424;
Inclusive Cross Section of Cumulative π^- Meson Production in π^- C Interactions of 40 GeV/c as Function of Kinetic and Transverse Energies
- Baatar 90 JINR-P1-90-26;
Inclusive π^- Meson Spectra with Cumulative Number $N(K) > 0.35$ Produced in deuteron C, He C and C C – Interactions at 4.2 GeV per Nucleon
- Baatar 90B JINR-P1-90-202;
Cumulative Production of π^- Mesons in π^- C Interaction at 40 GeV/c
- Baba 86 Phys. Lett. 180B:406.1986;
Search for a Light Neutral Particle in the Decay of the 3.68 MeV State in ^{13}C
- Babaev 90 Yad. Phys. 51:524.1990;
Azimuthal Correlations between Secondary Charged Particles from Inelastic Interactions of Relativistics Nuclei
- Babecki 85 Acta Phys. Polon. B16:323.1985;
Pion-Nucleus Interactions in Emulsion at 300 GeV/c
- Babintsev 85 Yad. Phys. 42:1157.1985; Sov. J. Nucl. Phys. 42:733.1985; IFVE-85-64;
Inclusive Production of $\Delta(1232 P_{33})^{++}$ and $\Delta(1232 P_{33})^0$ Isobars in $\bar{p} p$ Interactions at 32 GeV/c
- Babintsev 86 Yad. Phys. 44:637.1986; Sov. J. Nucl. Phys. 44:412.1986;
Inclusive Production of $\Sigma(1385 P_{13})$ Hyperons in $\bar{p} p$ Interactions at 32 GeV/c
- Babintsev 86B Yad. Phys. 45:102.1986;
Investigation of Jet Structures in $K^- p$ and $\bar{p} p$ Interactions at Incident Momentum of 32 GeV/c
- Babintsev 88 Yad. Phys. 50:1013.1989; IFVE-89-4;
Study of Strange Boson Resonance Production in $\bar{p} p$ Interactions at 32 GeV/c
- Bacala 88 KEK-88-44; AMY 88-07;
Measurement of Cross Sections and Charge Asymmetry for $e^+ e^- \rightarrow \tau^+ \tau^-$ and $e^+ e^- \rightarrow \mu^+ \mu^-$ for $\sqrt{s}=52$, 55 and 58 GeV
- Bacala 88B Phys. Lett. 218B:112.1989; AMY-88-15; KEK-88-81;
Measurement of Cross Sections and Charge Asymmetry for $e^+ e^- \rightarrow \tau^+ \tau^-$ and $e^+ e^- \rightarrow \mu^+ \mu^-$ for \sqrt{s} from 52 to 57 GeV
- Bachman 86 Nucl. Phys. B263:458.1986;
Large Angle A Production in Exclusive Reactions between 3 and 12 GeV/c
- Backenstoss 85 Nucl. Phys. A448:567.1986; SIN-PR-85-01;
Measurement of the Ratio $(\pi^- {}^3\text{He} \rightarrow \pi^0 {}^3\text{H}) / (\pi^- {}^3\text{He} \rightarrow \text{deuteron } n)$ and of the Respective Partial K X-ray Yields
- Backenstoss 85B Phys. Rev. Lett. 55:2782.1985;
Evidence for a Direct Three Nucleon Pion Absorption Process
- Baden 86 LBL-22046;
A Production in Electron – Positron Annihilation at 29 GeV
- Badier 85 CERN-EP-85-107;
Search for Longlived and Penetrating New Particles in 300 GeV/c π^- Interactions
- Badier 85B Z. Phys. C26:489.1985; CERN-EP-84-16;
Drell-Yan Events from 400 GeV/c Protons Determination of the K-factor in a Large Kinematical Domain
- Badier 85C Phys. Lett. 164B:184.1985; CERN-EP-85-145;
Direct Photon Pair Production from Pions and Protons at 200 GeV/c
- Badier 85D Phys. Lett. 158B:85.1985; CERN-EP-85-59;
 $Z/\psi(1S)$ Production and Limits on Beauty Meson Production from 400 GeV/c Protons
- Badier 85E Z. Phys. C30:45.1986; CERN-EP-85-112;
Inclusive High p_T π^0 Production from π^\pm and Protons at 200 GeV/c
- Badier 85F Z. Phys. C31:341.1986; CERN-EP-85-200;
Direct Photon Production from Pions and Protons at 200 GeV/c
- Badier 86 Z. Phys. C31:21.1986; CERN-EP-86-22;
Mass and Lifetime Limits on New Longlived Particles in 300 GeV/c π^- Interactions
- Bagdasaryan 85 YERE-822(49)-85;
Interactions of Electrons with ${}^6\text{Li}$, ${}^9\text{Be}$, ${}^{12}\text{C}$, ${}^{28}\text{Si}$ Nuclei in the Region of Quasi-Elastic Peak and $\Delta(1232 P_{33})$ Resonance
- Bagdasaryan 85B YERE-838(65)-85;
Quasielastic Electron Scattering (e^- , $e^- p$) on ${}^9\text{Be}$ and ${}^{28}\text{Si}$ Nuclei
- Bagdasaryan 88 YERE-1077(40)-88;
Measurement of the Spectra of (e^- , e^-) Scattering from ${}^9\text{Be}$ and ${}^{12}\text{C}$ Nuclei in the Inelastic Region at $Q^2 < 0.4$ GeV/c
- Bagdasaryan 90 YERE-1216(2)-90;
Phenomenological Analysis of Experimental Data on Photoproduction of π^0 Mesons
- Bagheri 87 TRI-PP-87-90;
The Reaction $\pi^- p \rightarrow \pi^0 n$ below the $\Delta(1232 P_{33})$ Resonance
- Bagheri 87B TRI-PP-87-89;
The Reaction $\pi^- p \rightarrow \gamma n$ below the $\Delta(1232 P_{33})^0$ Resonance
- Baglin 85 Phys. Lett. 163B:400.1985; CERN-EP-85-146;
Upper Limits of the Proton Magnetic Formfactor in the Timelike Region from $\bar{p} p \rightarrow e^+ e^-$ at the CERN ISR
- Baglin 86 Phys. Lett. 172B:455.1986; CERN-EP-86-51;
Formation of the $\chi_{c1}(1P)$ and $\chi_{c2}(1P)$ Charmonium Resonances in Antiproton-Proton Annihilation and Measurement of their Masses and Total Width

Baglin 86B	Phys. Lett. 171B:135,1986; CERN-EP-86-17; Search for the $1p$ Charmonium State in $\bar{p} p$ Annihilations at the CERN Intersecting Storage Rings
Baglin 87	Phys. Lett. 187B:191,1987 CERN-EP-87-02; Direct Observation and Partial Width Measurement of $\gamma \gamma$ Decay of Charmonium States
Baglin 87B	Phys. Lett. 195B:85,1987; CERN-EP-87-94; Angular Distribution in the Reactions $\bar{p} p \rightarrow \chi_{c1}(1P), (\chi_{c2}(1P)) \rightarrow \gamma J/\psi(1S) \rightarrow \gamma e^+ e^-$
Baglin 87C	Nucl. Phys. B280:592,1987 CERN-EP-87-30; $J/\psi(1S)$ Resonance Formation Masses and Total Width
Baglin 89	Phys. Lett. 220B:471,1989; The Production of $J/\psi(1S)$ in 200 GeV/Nucleon Oxygen-Uranium Interactions
Baglin 89B	Phys. Lett. 225B:296,1989; CERN-EP-89-60; Precision Measurements of $\bar{p} p$ Elastic Scattering Cross Section at 90 Degrees in Incident Momentum Range between 3.5 GeV/c and 5.7 GeV/c
Baglin 89C	Phys. Lett. 231B:557,1989; Measurement of the $\phi \phi$ Cross Section in $\bar{p} p$ Annihilation at $E_{cm}=3$ GeV
Bagnaia 84E	Phys. Lett. 154B:338,1985; CERN-EP-84-166; Study of Electron Pairs below the Z^0 Mass Produced in $\bar{p} p$ Collisions at 540 GeV
Bai 90	SLAC-PUB-5191; Measurement of the Absolute Inclusive Leptonic Decay Branching Fraction of the D_s^+ Meson
Bailey 85	Z. Phys. C28:357,1985; Measurement of the Lifetime of Charged and Neutral D Mesons with High Resolution Silicon Strip Detectors
Bailey 85B	Z. Phys. C29:1,1985; Leading Proton and Antiproton Distributions in Proton Nucleus and Antiproton Nucleus Interactions
Bailey 85C	Z. Phys. C30:51,1986; MPI-PAE-EXP-EL-154; Measurement of D Meson Production in 200 GeV π^- Be Interactions
Bailly 86	Jetp Lett. 44:530,1986; Z. Phys. C31:367,1986; Pis'ma Zh. Eksp. Teor. Fiz. 44:411,1986; IFVE-86-167; CERN-EP-86-32; Test of Quark-Diquark Fragmentation Mechanism in Proton-Proton Interactions at 360 GeV/c
Bailly 86B	Z. Phys. C35:295,1987; CE-N-EP-87-42; Analysis of Transversal Momentum Distributions for $p p$ Interactions at 360 GeV/c in the Framework of a Quark-Diquark Fragmentation Model
Bailly 86D	Z. Phys. C35:309,1987; CE-N-EP-87-59; Inclusive Pion Production in 360 GeV/c $p p$ Interactions
Bailly 87B	Phys. Lett. 195B:609,1987; CERN-EP-87-99; Strangeness and Diquark Suppression Factors in 360 GeV/c $c p$ Interactions
Bailly 87C	Z. Phys. C36:545,1987; Ya. Yu. Phys. 49:1014,1989; Sov. J. Nucl. Phys. 49:631,1989; IFVE-88-64; CERN-EP-87-108; Inclusive Production of f_0^0 and $f_2(1270)$ Mesons in $\pi^- p$ Interactions at 360 GeV/c
Bailly 87D	Z. Phys. C35:301,1987; CERN-EP-87-53; Multiparticle Production in Proton Nucleus Collisions at 360 GeV/c Using the European Hybrid Spectrometer
Bailly 87F	Z. Phys. C40:13,1988; CERN-EP-87-113-Rev.; Two Particle Correlations in 360 GeV/c $p p$ Interactions
Bailly 87G	Eur. Lett. 4:1261,1987; CE-N-EP-87-133; Longitudinal Distribution of π^\pm, K^\pm, p and \bar{p} Produced in 360 GeV/c $\pi^- p$ Interactions
Bailly 87H	Yad. Phys. 48:1333,1988; Sov. J. Nucl. Phys. 48:848,1988; IFVE-87-188; Longitudinal Distribution of Charged Particles Produced in 360 GeV/c $\pi^- p$ Interactions on EHS
Bailly 88	Z. Phys. C40:215,1988; CE-N-EP-88-10; Rapidity Dependence of Multiplicity Distributions in Proton-Nucleus Collisions at 360 GeV/c
Bailly 88B	Phys. Lett. 206B:371,1988; Event Shape in Momentum Space of Proton-Proton Interaction at 360 GeV/c and Comparison to $e^+ e^-$ Data
Bailly 88C	Z. Phys. C37:7,1988; IFVE-87-80; CERN-EP-87-118; The Impact Parameter Analysis of Proton-Proton Elastic and Inelastic Interactions at 360 GeV/c
Bailly 88E	Z. Phys. C43:341,1989; CERN-EP-88-177; Bose-Einstein Correlation for Pions Produced in $p p$ Collisions at 360 GeV/c
Bajramov 86	Yad. Phys. 44:1219,1986; Sov. J. Nucl. Phys. 44:792,1986; On Scaling of the Average for Charged Pions in Pion-Carbon Interactions at 5 GeV/c
Bajramov 89	Yad. Phys. 49:1337,1989; Study of Partial Inelasticity Coefficients of Charged Secondary Pions in Hadron-Nucleus Interactions at High Energies
Bakatanov 85	Pis'ma Zh. Eksp. Teor. Fiz. 37:307,1985; Cascades in Muon Underground Groups. New Methods of Determination of Primary Cosmic Rays Composition
Bakatanov 88	Pis'ma Zh. Eksp. Teor. Fiz. 48:121,1988; Cross Section of the Photoproduction at the Photon Energy from 0.9 to 10 TeV
Baker 85	BNL-36658; Limits on Like-Sign Dileptons Production in ν_μ Interactions
Baker 85B	Phys. Rev. D32:531,1985; Opposite-Sign Dilepton Production in ν_μ Interaction
Baker 85C	BNL-36996; CONF-8506194-5; Limits on Like-Sign Dilepton Production in ν_μ Interactions
Baker 86	Phys. Rev. D34:1251,1986; Strange Particle Production in Neutrino-Neon Charged Current Interactions
Baker 87	Phys. Rev. Lett. 59:2832,1987; Search for Short-lived Neutral Particles Emitted in K^+ Decay
Baker 89	Phys. Rev. D40:2753,1989; Phys. Rev. D41:1715,1990; Measurement of Muon-Neutrino-Electron Elastic Scattering in the FERMILAB 15 Foot Bubble Chamber
Balandin 85	JINR-P1-85-388; Helicity Polar Angular Distributions in the Reaction $\pi^- p \rightarrow \pi^+ \pi^- n$ at 338 MeV Kinetic Energy of Primary π^- Mesons
Balats 87	Yad. Phys. 49:1332,1989; Sov. J. Nucl. Phys. 49:828,1989; IITEP-87-186; Search for $K_S \rightarrow 2\gamma$ Decay

Baldin 85

Baltrusaitis 85F

- Baldin 85 JINR-E1-85-675; JINR-P1-85-820;
Four-dimensional Jets as Universal Characteristics of Multiple Particle Production
 Baldin 85B Z. Phys. C33:363,1987; JINR-E1-85-415;
Universality of Hadron Jets in Soft and Hard Particle Interactions at High Energies
 Baldin 86 Kr. Soob. JINR 16:24,1986;
Four-Dimensional Jets as Universal Characteristics of Multiple Particle Production
 Baldin 86B Yad. Phys. 44:1209,1986; Sov. J. Nucl. Phys. 44:785,1986;
Four-Dimensional Jets of Hadrons: Universal Characteristics of Multiple Production of Particles
 Baldin 87 JINR-E1-87-142;
Universal Four-dimensional Hadron Jets and the Observability of Colour Charges
 Baldin 87B Kr. Soob. JINR 21:17,1987;
Hadron Jets in Deep Inelastic $\bar{\nu} n$ Interactions and Universality of the Jet Properties in Relative Four Velocity Space
 Baldin 88 Pis'ma Zh. Eksp. Teor. Fiz. 48:127,1988;
Measurement of the Antiproton Yield in the Collisions of C with Cu at the Energy 3.65 GeV/N
 Baldin 88B Yad. Phys. 48:995,1988;
Clustering in Four-dimensional Relative Velocity Space and Invariant Distribution of Hadron Jets
 Baldin 88C Yad. Phys. 49:1304,1989; JINR-P1-88-331;
Automodel Properties of Baryon Clusters in Interactions of p , deuteron, He, C and π^- Particles with Carbon Nuclei within 4 - 40 GeV/c per Nucleon Momentum Interval
 Balea 85 JINR-P1-85-132;
Methodical Analysis of Inelastic deuteron $^3\text{C}^6\text{H}$ Interactions at $P=8.2$ GeV/c with Maximum Momenta of Secondary Particles
 Balea 86 Yad. Phys. 44:334,1986;
Two Proton Correlations in He C Interactions at 4.2 GeV/c per Nucleon
 Balestra 84 Kr. Soob. JINR 6:11,1985; CERN-EP-84-108;
Restriction on Amount of Antimatter in Early Universe from \bar{p} ^4He Reaction Data
 Balestra 85 Phys. Lett. 165B:265,1985; CERN-EP-85-92;
Inelastic Interaction of Antiprotons with ^4He Nuclei between 200 and 600 MeV/c
 Balestra 85B Eur. Lett. 2:115,1986; CERN-EP-85-122;
Antiproton Annihilation on Ag/Br Nuclei
 Balestra 86 Nuovo Cim. 92A:139,1986;
Inelastic Reactions Induced by Pions on ^4He at 68 MeV, 120 MeV, 135 MeV, 56 MeV, 174 MeV and 208 MeV
 Balestra 86B Czech. J. Phys. B36:340,1986; CERN-EP-85-79; C85/03/18;
Low Energy Antiproton Annihilation on Nuclei
 Balestra 87 Phys. Lett. 194B:343,1987; CERN-EP-87-43;
 \bar{p} - ^4He Breakup Cross Section at 180 MeV
 Balestra 87B CERN-EP-87-65;
Annihilation of Antiprotons at Rest in ^3He and ^4He
 Balestra 87C Phys. Lett. 194B:192,1987;
Neutral Strange Particle Production in \bar{p} ^{20}Ne Reactions at 607 MeV/c
 Balestra 88 Phys. Lett. 215B:247,1988;
 \bar{p} ^3He Reaction Cross Section at 200 MeV/c
 Balestra 89 Phys. Lett. 217B:43,1989;
An Observation of a Leading Meson in \bar{p} Ne Reaction at 600 MeV/c Incident Momentum
 Balestra 89B Phys. Lett. 230B:36,1989; CERN-EP-89-03;
Antiproton - Helium Annihilation around 45 MeV/c
 Balgansuren 88 JINR-P1-88-503;
The Study of Dibaryon States in deuteron p Interactions
 Balke 88 Phys. Rev. D37:587,1988;
Precise Measurement of the Asymmetry Parameter Δ in Muon Decay
 Ball 87 Nucl. Phys. B286:635,1987;
Measurement of n p Analyzing Power A_{000} Using the Deuteron Polarized Beam of SATURNE-II
 Ball 88 Z. Phys. C40:193,1988;
Measurement of the Spin Correlation A_{00kk} in n p Elastic Scattering between 0.63 and 1.08 GeV
 Ballagh 86 Phys. Rev. D37:1744,1988; UCPCG-86-7-17;
Observation of Coherent ρ^+ Production in Neutrino-Neon Interactions
 Ballagh 89 Phys. Rev. D40:2764,1989;
Left-Right Asymmetry in Neutrino Produced Hadron Jets
 Baller 88 Phys. Rev. Lett. 60:1118,1988;
Comparison of Exclusive Reactions at Large T
 Baloshin 84 Yad. Phys. 43:1487,1986; Sov. J. Nucl. Phys. 43:959,1986; ITEP-84-136;
The Amplitude Analysis of $K_S K_S$ System from the Reaction of $\pi^- p \rightarrow K_S K_S$ nucleon at 40 GeV/c
 Baloshin 87 Sov. J. Nucl. Phys. 48:770,1988; Yad. Phys. 48:1213,1988; ITEP-87-137;
Evidence of Resonance with Mass of 3075 MeV/ c^2 and Spin 4 in $\pi^- p \rightarrow K_S K_S n$ at 40 GeV/c
 Baltay 85 Phys. Rev. Lett. 55:2543,1985;
Limits on Like-Sign Dilepton Production in ν_μ Interactions
 Baltay 86 Phys. Rev. Lett. 57:2629,1986;
Evidence for Coherent Neutral Pion Production by High Energy Neutrinos
 Baltrusaitis 85 Phys. Rev. D31:2192,1985;
Limits on Deeply Penetrating Particles in the $> 10^{17}$ eV Cosmic Ray Flux
 Baltrusaitis 85B Phys. Rev. Lett. 55:150,1985;
Measurements of Cabibbo-Suppressed Decays of Charmed D^+ and D^0 Mesons
 Baltrusaitis 85C Phys. Rev. Lett. 54:1875,1985;
Evidence for a High Energy Cosmic Ray Spectrum Cutoff
 Baltrusaitis 85D Phys. Rev. Lett. 54:1976,1985; Phys. Rev. Lett. 55:638,1985;
Direct Measurement of Charmed D^+ and D^0 Semileptonic Branching Ratios
 Baltrusaitis 85E Phys. Rev. D32:566,1985;
Decays of the $J/\psi(1S)$ into Two Pseudoscalar Mesons
 Baltrusaitis 85F Phys. Rev. D32:2883,1985;
 $J/\psi(1S)$ Decays into a Vector and Pseudoscalar Meson and the Quark Content of the η and η'

- Baltrusaitis 85G Phys. Rev. Lett. 55:1723.1985.
Observation of $J/\psi(1S)$ Radiative Decay to Pseudoscalar $\omega\omega$
 Baltrusaitis 85J Phys. Rev. Lett. 55:1842.1985. SLAC-PUB-3732;
Tau Leptonic Branching Ratios and a Search for Goldstone Decay
 Baltrusaitis 86 Phys. Rev. D33:629.1986;
Hadronic Decay of the $\eta_c(1S)$
 Baltrusaitis 86B Phys. Rev. D33:1222.1986;
Study of the Radiative Decay $J/\psi(1S) \rightarrow \gamma \rho \rho$
 Baltrusaitis 86C Phys. Rev. Lett. 56:107.1986
Observation of a Narrow $K\bar{K}$ State in $J/\psi(1S)$ Radiative Decays
 Baltrusaitis 86D Phys. Rev. Lett. 56:2136.1986;
Search for Nonspectator Decays of the D^0
 Baltrusaitis 86E Phys. Rev. Lett. 56:2140.1986;
Direct Measurement of Charmed D Meson Hadronic Branching Fractions
 Baltrusaitis 87 Phys. Rev. D35:2077.1987; SLAC-PUB-3720;
Radiative Decays of the $J/\psi(1S)$ into $\gamma \pi^+ \pi^-$ and $\gamma K^+ K^-$
 Bamberger 86 Phys. Lett. 184B:271.1987; CERN-EP-86-194;
Multiplicity and Transverse Energy Flux in $^{16}\text{O} + \text{Pb}$ at 200 GeV per Nucleon
 Bamberger 88 Phys. Lett. 203B:320.1988;
Probing the Space-Time Geometry of Ultrarelativistic Heavy-Ion Collision
 Bamberger 88B Phys. Lett. 205B:583.1988;
Charge Particles Multiplicities and Inelastic Cross Sections in High Energy Nuclear Collisions
 Bamberger 89 Z. Phys. C43:25.1989; MPI-PAE-EXP-EL-198;
A Study of K^0, \bar{K}^0, A and \bar{A} Production in 60 GeV and 200 GeV per Nucleon O Au and p Au Collisions with a Streamer Chamber Detector at the CERN SPS
 Banaigs 86 Nucl. Phys. A445:737.1985;
Diffractive One Pion Production in the $\text{He } p \rightarrow \text{He } X$ Process at $p(\text{He})=7.0$ GeV/c
 Banaigs 86B Phys. Rev. C32:1448.1985;
First Observation of the deuteron deuteron $\rightarrow {}^4\text{He } \eta$ Reaction
 Banaigs 87 Phys. Rev. Lett. 58:1922.1987;
Search for the Charge Symmetry Breaking Reaction deuteron deuteron $\rightarrow {}^4\text{He } \pi^0$ at 0.8 GeV
 Band 87 Phys. Rev. Lett. 59:415.1987; SLAC-PUB-4294; COLO-HEP-147;
Precise Measurement of the Lifetime of the Tau Lepton
 Band 88 Phys. Lett. 200B:221.1988;
Additional Evidence for $B^0-\bar{B}^0$ Mixing
 Band 89 Phys. Lett. 218B:369.1989; SLAC-PUB-4871;
A Measurement of the $e^+ e^- \rightarrow B \bar{B}$ Forward - Backward Charge Asymmetry at $\sqrt{s}=20$ GeV
 Banerjee 85 Z. Phys. C28:163.1985;
Studies of $\bar{p} p \rightarrow \bar{n} n$ and $\bar{n} p$ Annihilation at Incident Momenta of 700 and 760 MeV/c
 Banerjee 85B Jour. of Phys. G 11:807.1985; FINT-85-0237-TATA-INST;
Test of the Hypothesis of Scaling in the Mean in Inclusive Photon Production in Antiproton Proton Interactions
 Banerjee 86 Z. Phys. C31:401.1986; CERN PRE-85-058; TIFR-BC-85-5;
Inclusive ϕ Production in $K^+ p$ Interactions at 110 GeV/c and Search for Structure in $\phi \pi^+$
 Banerjee 86B Z. Phys. C31:409.1986; CERN-PRE-86-048; TIFR-BC-85-7;
Inclusive $\Sigma(1385 P_1)$ Production in $K^+ p$ Interactions at 110 GeV/c
 Banerjee 86C Z. Phys. C32:163.1986;
A Study of $\bar{n} p$ Annihilations between 0.5 and 0.8 GeV/c
 Banerjee 89 Phys. Rev. Lett. 62:12.1989;
 Λ and $\bar{\Lambda}$ Production from Proton-Antiproton Collisions at $\sqrt{s}=1.8$ TeV
 Banner 85 Phys. Lett. 156B:129.1985; CERN-EP-85-42;
A New Search for Relativistic Particles with Fractional Electric Charge at the CERN $\bar{p} p$ Collider
 Banner 85B Z. Phys. C27:329.1985; CERN-PRE-84-091;
Inclusive Particle Production in the Transverse Momentum Range between 0.25 and 40 GeV/c at the CERN $\bar{p} p$ Collider
 Bannik 87 JINR-P1-87-546;
Observation of Particle Collective Flux in the Collisions of 4.1 A GeV/c ${}^{22}\text{Ne}$ with Ag, Br Emulsion Nuclei
 Bannik 87B Yad. Phys. 45:431.1987; Sov. J. N. & Phys. 45:272.1987; JINR-P1-86-117;
Emission of Fast Deuterons at the Proton Interaction with Emulsion Heavy Nuclei
 Bannikov 88 JINR-EI-88-476;
Evidence for High Twist Mechanisms in High $p_T \pi^- p$ Events with Prompt ρ^0 Production at 38 GeV/c
 Bannikov 89 Yad. Phys. 51:749.1990; JINR-P1-88-308;
Production of Backward Protons with Momenta 0.2 - 0.5 GeV/c in Lab. System which are Generated in π^- nucleus Interactions at 40 GeV/c
 Bannikov 89B JINR-EI-89-486;
Resonance Pattern of Low Muon Pairs Produced in 38 GeV/c π^- C Interactions
 Bano 86 Phys. Lett. 166B:453.1986;
Evidence for the Anomalous Behaviour of $Z=2$ Secondary Nuclei in Hydrogen
 Bano 87 Phys. Lett. 196B:255.1987;
Further Evidence for the Anomalous Interaction of ${}^3\text{He}$ Secondary Nuclei with Protons
 Barabanov 86 Pis'ma Zh. Eksp. Teor. Fiz. 43:166.1986;
Study of the Double β -Decay of ${}^{136}\text{Xe}$
 Barabash 87 Pis'ma Zh. Eksp. Teor. Fiz. 45:171.1987;
Study of the Double β -Decay of ${}^{136}\text{Xe}$
 Barabash 87B ITEP-87-165;
Limit on the $\beta\beta$ Decay with Majoron Emission of ${}^{48}\text{Ca}$
 Barabash 88 ITEP-88-104;
Search for 2 β (2ν) Decay of ${}^{90}\text{Zr}$ by Nuclear Emulsion
 Barabash 89 Phys. Lett. 223B:273.1989;
Result of the Experiment on Search for Double β Decay of ${}^{136}\text{Xe}$, ${}^{134}\text{Xe}$ and ${}^{124}\text{Xe}$

- Barabash 89B .TEP-89-130.
Status Report on Double β Decay Experiment in the USSR
 Barabash 89C ITEL-89-125.
Search for Double β Decay of ^{116}Cd to First Exited State of ^{116}Sn
 Barabash 89D ITEL-89-184.
Search for Double β Decay of ^{100}Mo to the Exited States of ^{100}Ru
 Barabash 90 Yad. Phys. 51:3,1990;
Results of ^{136}Xe Double β Decay Experiment
 Baran 88B Phys. Rev. Lett. 61:400,1988;
 $\Delta(1232\text{ Pss})$ Electroproduction and Inelastic Charge Scattering from Carbon and Iron
 Baranov 85 Yad. Phys. 41:1520,1985; Sov. J. Nucl. Phys. 41:963,1985. PHE-84-07:
 γ Quanta and π^0 Mesons Inclusive Production in ν Nuclei and $\bar{\nu}$ Nuclei Interaction at Energy up to 30 GeV
 Barasch 85 Phys. Lett. 161B:265,1985; LBL-17065;
Energy Spectrum of Subthreshold K^- Produced in Relativistic Nuclear Collisions. (Revised Version)
 Barate 86 Phys. Lett. 174B:458,1986;
Photoproduction of Charged Hadrons at Large Transverse Momenta
 Barate 86B Z. Phys. C33:505,1986. CERN-EP-86-180;
Measurement of $J/\psi(1S)$ and $\psi(2S)$ Real Photoproduction on ^6Li at a Mean Energy of 90 GeV
 Barate 86C CERN-EP-86-27.
Heavy Flavor Photoproduction and Decay
 Barbaro-galti 89 LBL-26917; C88:10,19;
The Search for the Top Quark
 Barbaro-galti 90 LBL-28673; FERMILAB-CONF-90-42-E;
Search for the Top Quark in Electron-Muon Events with CDF
 Barbier 88 Phys. Rev. D37:1113,1988;
Correlation among the Particles Produced in Proton Interactions with Emulsion Nuclei at 800 GeV/c
 Barbier 88B Phys. Rev. Lett. 60:405,1988;
Central Collisions of 14.6, 60, and 200 GeV/Nucleon ^{16}O Nuclei in Nuclear Emulsion
 Barbieri 88B Phys. Rev. Lett. 61:27,1988; UM-PP-88-143;
Limit on the Magnetic Moment of the Neutrino from Supernova SN1987A Observations
 Bardadinotwi 85 CERN-EP-85-168;
Direct Photon Production from Pions and Protons at 200 GeV/c
 Bardin 87 Phys. Lett. 195B:292,1987. CERN-EP-87-21;
Search for a Narrow Resonance about the $f_0(2220)$ in the Formation Channel $\bar{p} p \rightarrow K^+ K^-$
 Bardin 87B Phys. Lett. 192B:471,1987; CERN-EP-87-90;
A Measurement of the $\bar{p} p \rightarrow \pi^+ \pi^-$ Reaction for $158 \leq p(\bar{p}) \leq 275$ MeV/c
 Bareyre 86 Nuovo Cim. 9C:159,1986;
Status of the FREJUS Experiment and Preliminary Results on Contained Events.
 Bari 85 Phys. Lett. 163B:282,1985. CERN-EP-85-132; JINR-E1-85-747;
A Measurement of Nuclear Effects in Deep Inelastic Muon Scattering on Deuterium, Nitrogen and Iron Targets
 Baringer 86 Phys. Rev. Lett. 56:1346,1986;
 $e^+ e^-$ Annihilations at 29 GeV: A Comparison with Lund Model Predictions
 Baringer 87 Phys. Rev. Lett. 59:1993,1987;
Production of η and ω Mesons in τ^\pm Decay and a Search for Second-Class Currents
 Baringer 88 Phys. Lett. 206B:551,1988; CLEO-87-8; CLNS-87-105;
Production Cross Section and Electroweak Asymmetry of $D^*(2010)$ and D Mesons Produced in $e^+ e^-$ Annihilation at 29 GeV
 Barish 87 Phys. Rev. D36:2641,1987;
Search for Grand Unification Monopoles and Other Ionizing Heavy Particles Using a Scintillation at the Earth's Surface
 Barish 88 Phys. Rept. 157:1,1988;
The Physics of the Tau Lepton
 Barkalov 87 Kr. Soob. Fiz. 87:12,25,1987;
About Rise with Energy the Hadron-Air Nucleus Cross Section on the Basis of Data on Spread Increase of WAS with Height at the Energies of $> 10^{18}$ eV
 Barklow 90 SLAC-PUB-5196; LBL-28581;
Searches for Supersymmetric Particles Produced in Z^0 Boson Decay
 Barkov 85 Nucl. Phys. B256:365,1985;
Electromagnetic Pion Form Factor in the Timelike Region
 Barkov 85B Pis'ma Zh. Eksp. Teor. Fiz. 42:113,1985; Jett. Lett. 42:138,1988;
Measurement of the Neutral Kaon Mass
 Barkov 85C NOVO-85-129;
Production of Light Nuclei at Small Momenta in Proton Nuclei Interactions at 70 GeV
 Barkov 87 Pis'ma Zh. Eksp. Teor. Fiz. 46:132,1987;
Measurement of ω Meson Parameter by Cryogenic Magnetic Detector
 Barkov 87B Yad. Phys. 46:1088,1987;
The Precision Neutral Kaon Mass Measurement
 Barkov 87C NOVO-87-9;
Measurement of ω Meson Parameters by Means of Cryogenic Detector
 Barkov 88 Yad. Phys. 48:393,1988;
The Investigation of Multipion Creation with the Cryogenic Magnetic Detector at the VEPP-2M Storage Ring
 Barkov 89 NOVO-89-15.
Investigation of the Process $e^+ e^- \rightarrow \pi^+ \pi^- \pi^0$ at the Energy Range 2.420 - 2.510 MeV on VEPP-2M with the Help of Cryogenic Magnetic Detector
 Barlag 86 Phys. Lett. 184F:283,1987. CERN-EP-86-173;
Measurement of the Lifetime of the Charmed Baryon Λ_c^+
 Barlag 87 Z. Phys. C37:17, 1987; CERN-EP-87-72;
Lifetimes of Charged and Neutral D Mesons

- Barlag 88 Z. Phys. C39:451,1988; MPI-PAE-EXP-EL-192;
Production of D , D^* (2010) and D_S^+ Mesons in 200 GeV/c π^+ , K^+ and p Si Interactions
 Barlag 88B Phys. Lett. 218B:374,1989; CERN-EP-88-105;
Precise Determination of the Lifetime of the Charmed Baryon Λ_c^+
 Barlag 88C CERN-EP-88-103;
Results on Λ_c^+ , D_S^+ , D^0 and D^+ Decay Properties from the NA32 Experiment
 Barlag 88D CERN-EP-88-104;
Results on Λ_c^+ , D_S^+ , D^0 and D^+ Production Properties in 230 GeV π^- Cu Interactions from the NA32 Experiment
 Barlag 89 CERN-EP-89-43;
Measurement of the Mass and Lifetime of the Charmed Strange Baryons $\Xi_c(2460)^+$ in Two New Decay Modes
 Barlag 89B Phys. Lett. 232B:561,1989;
Measurement of Branching Ratios and Branching Fractions of the Charmed Meson D^0
 Barlag 89C Phys. Lett. 233B:522,1989; CERN-EP-89-145;
Measurement of the Mass and Lifetime of the Charmed Strange Baryon
 Barlag 90 Phys. Lett. 236B:495,1990; CERN-EP-90-08;
First Measurement of the Lifetime of the Charmed Strange Baryon
 Barlag 90B Z. Phys. C46:563,1990; MPI-PAE-EXP-EL-220;
Measurement of the Masses and Lifetimes of the Charmed Mesons D^0 , D^+ and D_S^-
 Barlag 90C CERN-EP-90-47;
Measurement of frequencies of various decay modes of charmed particles D^0 , D^+ , D_S^+ and Λ_c^+ including the observation of new channels
 Barlag 90D CERN-EP-90-77;
Production of the Charmed Baryon Λ_c^+ in π^- Cu and K^- Cu Interactions at 230 GeV
 Barlett 85 Phys. Rev. C32:239,1985;
Proton Nucleon Spin Rotation and Depolarization Parameters at 800 MeV
 Barloutaud 87 DPHPE-87-04;
Results from Nucleon Decay Experiments
 Barloutaud 88 DPHPE-88-15;
Review of Nucleon Decay Experiments
 Barlow 87 DESY-87-009;
Results from PETRA (a Review of Results from the Five PETRA Experiment During the Past Year)
 Barlow 88 Nucl. Instr. and Meth. A271:471,1988;
Production of High Momentum Negative Pions by 800 MeV Protons at 0 to 20 Degrees
 Barlow 89 Phys. Rev. Lett. 62:1009,1989;
Measurement of the Spin-Rotation Parameters A and R for $\pi^+ p \rightarrow \pi^+ p$ and $\pi^- p \rightarrow \pi^- p$ Scattering from 471 to 625 MeV/c
 Barmin 85 Nuovo Cim. 85A:67,1985; Yad. Phys. 41:1187,1985; Sov. J. Nucl. Phys. 41:759,1985;
Search for CP Violation in the $K^0 \rightarrow \pi^+ \pi^- \pi^0$ Decay
 Barmin 86 Yad. Phys. 45:97,1986;
Measurement of the Ratio of Decay Probabilities for $K^+ \rightarrow e^+ \pi^0 \nu$ and $K^+ \rightarrow \pi^+ \pi^+ \pi^-$
 Barmin 86B Yad. Phys. 44:965,1986; Sov. J. Nucl. Phys. 44:622,1986;
Search for Decay $K_S \rightarrow e^+ e^-$
 Barmin 86C Nuovo Cim. 96A:159,1986; ITEP-87-74;
Search for $K_S \rightarrow 2\gamma$ Decay
 Barmin 87 Yad. Phys. 47:1011,1988; ITEP-87-108;
Measurement of the Probabilities of $K^+ \rightarrow \mu^+ \nu \gamma$ Decay
 Barmin 88B Yad. Phys. 48:1719,1988; Sov. J. Nucl. Phys. 48:1032,1988; ITEP-88-71.
The Measurement of the Probability of $K^+ \rightarrow \pi^0 \pi^0 e^+ \nu$ Decay
 Barmin 89 Yad. Phys. 50:3,1989;
Radiative Capture of Stopped π^- Mesons by Xenon Nuclei
 Barmin 89B Yad. Phys. 50:679,1989;
The Measurement of the $K^+ \rightarrow \pi^+ \pi^+ \pi^- \gamma$ Decay Probability
 Barnabei 86 Phys. Rev. Lett. 57:1542,1986;
Total Cross Section for Deuteron Photodisintegration between 15 and 75 MeV
 Barnes 85 CERN-EP-85-65;
Status and Future of Experiment PS-185 ($\bar{p} p \rightarrow$ hyperon hyperon) at CERN
 Barnes 87 Phys. Lett. 189B:249,1987; CERN-EP-87-22;
Study of the Reaction $\bar{p} p \rightarrow \bar{\Lambda} \Lambda$ near Threshold
 Barnes 87B Phys. Lett. 199B:147,1987; CERN-EP-87-153;
CP Invariance in the Reaction $\bar{p} p \rightarrow \bar{\Lambda} \Lambda \rightarrow \bar{p} \pi^+ p \pi^-$ at 1.546 GeV/c
 Barnes 88 Phys. Lett. 206B:146,1988; CERN-EP-87-209;
A Measurement of Cross Sections for ^{16}O Al and ^{16}O Pb Interactions at 60 and 200 GeV/c per Nucleon
 Barnes 89 Nuovo Cim. 102A:541,1989;
Study of the Reaction $\bar{p} p \rightarrow \bar{\Lambda} \Lambda$ Close to Threshold at LEAR
 Barnes 89B Phys. Lett. 229B:432,1989; CERN-EP-89-78;
Threshold Measurement of the Reaction $\bar{p} p \rightarrow \bar{\Lambda} \Lambda$ at Lear
 Barnes 90 CERN-EP-90-40;
Measurement of the Reaction $\bar{p} p \rightarrow \bar{\Lambda} \Sigma^0 + cc$ at 1.695 GeV/c
 Baron 90 CERN-EP-90-05;
Electromagnetic Dissociation of 200 GeV/Nucleon ^{16}O and ^{32}S Ions in Nuclear Emulsions
 Barr 88 Phys. Lett. 214B:303,1988; MZ-ETAP-88-18;
Search for the Decay $K_L \rightarrow \pi^0 e^+ e^-$
 Barr 90 CERN-EP-90-01;
NA31 Results on CP Violation in K Decays, and a Test of CPT
 Barr 90B Phys. Lett. 235B:356,1990; CERN-EP-89-156;
Search for a Neutral Higgs Particle in the Decay Sequence $K_L \rightarrow \pi^0$ higgs and higgs $\rightarrow e^+ e^-$

- Barr 90C CERN-EP-90-69:
Observation of the Decay $K_L \rightarrow \pi^0 2\gamma$
 Czech. J. Phys. B36:296,1986.
- Barreau 86 **Deep Inelastic Electron Scattering on Light Nuclei**
 DESY-85-086; FTU AM-85-3.
- Barreiro 85B **A Study of Energy-Energy Correlations with TASSO and PLUTO**
 Z. Phys. C26:507,1985; DESY-84-078.
- Bartel 84G **New Results on $e^+ e^- \rightarrow \mu^+ \mu^-$ from the JADE Detector at PETRA**
 Z. Phys. C28:343,1985; DESY-85-029.
- Bartel 85 **A Study of Photon Production in Hadronic $e^+ e^-$ Annihilation**
 Phys. Lett. 160B:421,1985; Phys. Lett. 158B:511,1985; DESY-85-033.
A Measurement of the η Radiative Width $\eta \rightarrow \gamma \gamma$
 Phys. Lett. 152B:385,1985.
- Bartel 85C **A Search for the Supersymmetric Partner of Electrons**
 Phys. Lett. 152B:392,1985.
- Bartel 85D **A Search for Scalar Muons**
 Phys. Lett. 155B:288,1985; DESY-85-022.
- Bartel 85E **A Search for Monojet Events Produced by Virtual Z^0 Bosons in $e^+ e^-$ Annihilation at PETRA**
 Z. Phys. C29:505,1985; DESY-85-060.
- Bartel 85F **A Search for the Supersymmetric Chargino in $e^+ e^-$ Annihilation at PETRA**
 Phys. Lett. 161B:197,1985; DESY-85-069.
- Bartel 85G **Inclusive Neutral $D^*(2010)$ Production and Limits on D_s^* Production in $e^+ e^-$ Annihilation at PETRA**
 Phys. Lett. 157B:340,1985; DESY-85-036.
Comparison of Three-Jet Events with QCD Shower Models
 DESY-85-081.
- Bartel 85H **Evidence for $\eta(1440)$ Production in High Energy $e^+ e^-$ Annihilation**
 Z. Phys. C30:371,1986; DESY-85-131.
- Bartel 85L **Tests of the Standard Model in Leptonic Reactions at PETRA Energies**
 Phys. Lett. 161B:188,1985; DESY-85-065.
Tau Lepton Production and Decay at PETRA Energies
 Phys. Lett. 160B:337,1985; DESY-85-057.
- Bartel 85M **A Measurement of the Total Cross Section and a Study of Inclusive Muon Production for the Process $e^+ e^- \rightarrow$ hadrons in the Energy Range between 39.79 GeV and 46.78 GeV**
 Z. Phys. C31:349,1986; DESY-86-001.
Determination of the B Lifetime
 DESY-86-043.
- Bartel 86B **Exclusive Production of Proton-Antiproton Pairs in Photon-Photon Collisions**
 Z. Phys. C30:545,1986; DESY-86-005.
- Bartel 86C **Lepton Pair Production in Double Tagged Two-Photon Interactions**
 Z. Phys. C31:359,1986; DESY-86-023.
- Bartel 86D **Radiative Tau Pair Production and Search for New Particles Decaying into Tau**
 Phys. Lett. 174B:350,1986; DESY-86-045.
- Bartel 86E **Exclusive Production of Proton-Antiproton Pairs in Photon-Photon Collisions**
 Phys. Lett. 182B:216,1986; DESY-86-091.
- Bartel 86F **Measurement of the Branching Fractions for $\tau^\pm \rightarrow e^\pm \nu_e \nu_\tau$, $\tau^\pm \rightarrow \mu^\pm \nu_\mu \nu_\tau$ and $\tau^\pm \rightarrow \pi^\pm \nu_\tau$**
 Phys. Lett. 163B:277,1986; DESY-85-071.
- Bartel 86G **A Measurement of Mean Semi-Muonic Branching Ratio of Beauty Hadrons Produced at PETRA**
 Z. Phys. C33:23,1986; DESY-86-086.
- Bartel 86H **Experimental Studies on Multijet Production in $e^+ e^-$ Annihilation at PETRA Energies**
 Z. Phys. C36:15,1987; DESY-87-031.
- Bartel 87 **Search for Leptoquarks and Other New Particles with Lepton-Hadron Signature in $e^+ e^-$ Interactions**
 Phys. Lett. 184B:288,1987; DESY-86-125.
Observation of Charmed Mesons in Photon-Photon Collisions
 Z. Phys. C33:339,1987; DESY-86-129.
- Bartel 87C **Determination of Semi-muonic Branching Ratios and Fragmentations Functions of Heavy Quarks in $e^+ e^-$ Annihilation at $E_{cm}=34.6$ GeV**
 Z. Phys. C38:85,1988.
- Bartels 88 **Spectra of Negative Particles and Photons in Collisions of $p - Wt$ and $^{16}O - Wt$ at 200 GeV/N**
 Phys. Rev. D32:1630,1985.
- Bartelt 85 **Evidence for Time and Directional Enhancements of Multimuon Cosmic-Ray Events**
 Phys. Rev. D36:1990,1987; Phys. Rev. D40:1701,1989.
- Bartelt 87 **Monopole-Flux and Proton-Decay Limits from the SOUDAN-I Detector**
 Phys. Rev. Lett. 56:685,1986.
- Bartha 86 **Search for Anomalous Single Photon Production in $e^+ e^-$ Annihilation at $E_{cm}=29$ GeV**
 Z. Phys. C29:9,1985.
- Bartke 85 **Asymmetry of π^- Meson Emission in Nucleus-Nucleus Collisions as a Measure of the Target-to-Projectile Ratio of the Numbers of Interacting Nucleons**
 JINR-E1-86-332.
- Bartke 86 **Size of the Proton Emission Region in Pion-Xenon Interactions at 3.5 GeV/c from Two-Particle Correlations**
 Int. Jour. Mod. Phys. A4:1319,1989.
Relativistic Heavy Ion Reactions
- Bartoletto 86 **Inclusive ϕ Production in Beauty Meson Decay**
 Phys. Rev. Lett. 56:800,1986.
- Bartoletto 87 **Inclusive B -meson Decays into Charm**
 Phys. Rev. D35:19,1987.
- Baru 85 **New Measurement of the $T(1S)$ Meson Mass**
 NOVO-86-100.
- Baru 86 **Measurement of the Total Cross Section of Two-Photon Production of Hadrons**
 NOVO-86-108.

- Baru 86B NOVO-86-109;
A Search for $f_4(2220)$ in Radiative Decays of the $\Upsilon(1S)$ Meson
- Baru 87 NOVO-87-91;
Results of MD-1 Detector on the Search of $X(2200)$ in the Decays $\Upsilon(1S) \rightarrow \gamma K^+ K^-$ and $\Upsilon(1S) \rightarrow \gamma \phi \phi$
- Baru 89 Z. Phys. C42:505,1989;
A Search for $f_4(2220)$ and $X(2200)$ in Radiative Decays of the $\Upsilon(1S)$ Meson
- Barwolff 85 Z. Phys. C31:65,1986; PHE-85-02;
Multiplicities in High P -transverse Hadron Nucleus Interactions
- Barwolff 88 Z. Phys. C37:337,1988;
Neutral Strange Particle Production in High Transverse Momentum π^- nucleus Interactions at 40 GeV/c
- Basdevant 90 Phys. Lett. 234B:395,1990;
Is there Room for Charged Dark Matter?
- Baskov 88 LEBD-88-143;
Electron-Positron Pair Production by γ Quanta with Energies from 13 to 25 GeV in Oriented Tungsten Crystals
- Bastid 89 PCCF-R1-89-02;
Exclusive Measurements of Light Fragment Production at Forward Angles in Ne - Pb and Ne - NaF Collisions at $E/A = 400$ MeV and 800 MeV
- Baton 85 Z. Phys. C29:15,1985;
Dilepton and Trilepton Production by Antineutrinos and Neutrinos in Neon
- Batskovich 88 Yad. Phys. 50:1613,1989; JINR-P1-88-858;
Correlation over Multiplicity between Negative Pions and Protons-Participants in C Ta Interactions at 4.2 GeV/c per Nucleon Momentum
- Battistoni 85 Phys. Lett. 155B:465,1985; CERN-PRE-85-055;
Observation of a Time Modulated Muon Flux in the Direction of Cygnus X-3
- Battistoni 86 Nuovo Cim. 9C:182,1986;
Contained Events in the Mont Blanc Nucleon Stability Experiment
- Battistoni 86B Nuovo Cim. 9C:196,1986;
Cosmic Muon Results from the NUSEX Experiment
- Battistoni 86C Nuovo Cim. 9C:551,1986;
Limit on Monopole Flux in the Mont Blanc NUSEX Experiment
- Baturin 85 LENI-85-1093;
 A -dependence of Cumulative Neutron and Proton Yields at 140 Degrees from Proton Nucleon Interactions at 1 GeV
- Baturin 86 LENI-86-1167;
Study of Two-Particle Energy Correlations in Proton-Nuclei Interactions with the Cumulative Protons Production
- Baturin 87 LENI-87-1322;
Experimental Data on Charge-Exchange (p, n) Reaction at Proton Energy 1 GeV
- Baturin 87B LENI-87-1302;
Measurement of Neutron and Proton Spectra at 94 Degrees and 120 Degrees Produced by 1 GeV Protons on C and Pb
- Baturin 88 Yad. Phys. 47:708,1988; JINR-P1-87-71;
Determination of Nucleon Form Factor on the Basis of Data from $\pi^+ {}^7\text{Li} \rightarrow e^+ e^- X$ Reaction at 380 MeV Kinetic Pion Energy
- Batusov 85 Yad. Phys. 42:1165,1985; Sov. J. Nucl. Phys. 42:738,1985; JINR-P1-85-11;
Production of Hypernuclei in Interactions of Protons with Photoemulsion Nuclei at 250 and 70 GeV
- Batusov 85B JINR-P1-85-495;
Search for Supernuclei in Interactions of Protons with Photoemulsion Nuclei at 250 and 70 GeV
- Batusov 85C Kr. Soob. JINR 12:6,1985;
Suppression of the Annihilationless Break-up Processes at \bar{p} He Interaction
- Batusov 87 Yad. Phys. 47:1004,1988; JINR-P1-87-308;
Observation of the Decays of Charmed D -mesons and $\Sigma_c(2455)^{++}$ Baryon Produced in Neutrino Emulsion Interactions
- Batusov 87B Pis'ma Zh. Eksp. Teor. Fiz. 46:213,1987; JINR-P1-87-511;
Resonance Production of Λ_c^+ in Neutrino Interactions with Nucleus in Photoemulsion
- Batusov 87C Kr. Soob. JINR 21:5,1987;
Annihilation of Stopping Antiprotons in ${}^4\text{He}$ and ${}^3\text{He}$
- Batusov 88 Kr. Soob. JINR 33:15,1988;
Antiproton - ${}^4\text{He}$ Elastic Scattering at 800 MeV/c
- Batusov 88B Kr. Soob. JINR 33:23,1988;
Production of Neutral Strange Particles in \bar{p} ${}^4\text{He}$ Annihilation at 600 MeV/c
- Batusov 88C Pis'ma Zh. Eksp. Teor. Fiz. 47:485,1988; JINR-P1-88-120;
Observation of Production and Decay of Excited ($c \bar{s}$) State with Approximately 2790 MeV/c² Mass in Nuclear Photoemulsion
- Batusov 89B JINR-P1-89-875;
Estimation of $\nu_\mu \rightarrow \nu_\tau$ Oscillation Parameters in Hybrid Experiment E-564
- Batusov 89C Yad. Phys. 50:1524,1989; JINR-E1-89-222;
Production of Λ -Hyperons and K_S -Mesons in Annihilation of Antiproton in ${}^4\text{He}$ Nuclei at 600 MeV/c
- Batyunya 84 Sov. J. Nucl. Phys. 42:573,1985; Yad. Phys. 42:903,1985; JINR-E1-84-790;
Study of the Reaction deuteron $p \rightarrow \bar{p} p \bar{n}$ at 12 GeV/c and $\bar{n} p$ Elastic Scattering at 8 GeV/c
- Batyunya 85 Z. Phys. C25:213,1985;
Inclusive K_S , Λ and $\bar{\Lambda}$ Production in $\bar{p} p$ Interactions at 22.4 GeV/c
- Batyunya 85B Phys. Rev. Lett. 55:562,1985;
Polarization Effects in p^0 Meson Production in Antiproton Proton Interactions at 22.4, 12 and 5.7 GeV/c
- Batyunya 85C Yad. Phys. 44:1489,1986; JINR-P1-85-854;
Study of $\bar{p} p$ Elastic Scattering at 22.4 GeV/c
- Batyunya 85D Czech. J. Phys. B36:1273,1986; JINR-P1-85-864;
Characteristics of Charged Particle Multiplicity in $\bar{n} n$ and $n n$ Interactions and $\bar{n} n$ Annihilation Processes at 6.1 GeV/c
- Batyunya 86 Czech. J. Phys. B38:257,1988; JINR-P1-86-793;
Cross Section of Two Prong Exclusive Reactions in $\bar{p} p$ Interactions at 22.4 GeV/c

Batyunya 86B

- Yad. Phys. 47:127,1988; JINR-P1-86-839;
Multiplicity Distribution of Charged Particles in \bar{n} p and n p Interactions and \bar{n} p Annihilation at 6.1 GeV/c
- Batyunya 86C JINR-P1-86-771.
The Main Properties of the \bar{p} p $\rightarrow \bar{p}$ p $\pi^+ \pi^-$ Reaction at 22.4 GeV/c
- Batyunya 86D JINR-P1-86-838.
Resonance Production Cross Sections in the \bar{p} p $\rightarrow \bar{p}$ p $\pi^+ \pi^- \pi^0$ Reaction at 22.4 GeV/c
- Batyunya 87 Yad. Phys. 47:1278,1988; JINR-P1-87-523;
Determination of the Topological Cross Sections of Inelastic deuteron deuteron Interaction at 12 GeV/c
- Batyunya 87B Yad. Phys. 46:1449,1987; JINR-P1-87-22;
General Features of Multiparticle Production in Inelastic \bar{n} p Interactions at 6.1 GeV/c
- Batyunya 87D JINR-P1-87-340.
Determination of the Topological Cross Sections of deuteron deuteron Interactions at 12 GeV/c
- Batyunya 87E Yad. Phys. 47:413,1988; JINR-P1-87-83;
The Study of the Diffraction Processes in the \bar{p} p $\rightarrow \bar{p}$ p $\pi^+ \pi^- \pi^0$ Reaction at 22.4 GeV/c
- Batyunya 87F Yad. Phys. 46:1117,1987;
General Properties of the Reaction \bar{p} p $\rightarrow \bar{p}$ p $\pi^+ \pi^-$ at 22.4 GeV/c
- Batyunya 87G Sov. J. Nucl. Phys. 48:475,1988; Yad. Phys. 48:746,1988; JINR-P1-87-792;
The Study of \bar{n} n Interactions at 6.1 GeV/c
- Batyunya 87H JINR-P1-87-849;
The Study of Inclusive Characteristics of deuteron deuteron Interactions at 12 GeV/c
- Batyunya 87I JINR-P1-87-802.
The Study of Neutral Strange Particle and Gamma-Quantum Production in deuteron deuteron Interaction at 12 GeV/c
- Batyunya 87J Nucl. Phys. B294:1037,1987;
Study of p^0 Meson Spin Alignment in \bar{p} p and p p Interactions
- Batyunya 88 Yad. Phys. 48:1746,1988; JINR-P1-88-45;
The Multiscattering Process Part in deuteron deuteron Interactions at 12 GeV/c Determination
- Batyunya 88B Yad. Phys. 47:731,1988; JINR-P1-87-67;
Study of the Resonance Production in \bar{n} p Interactions at 6.1 GeV/c
- Batyunya 89 JINR-I-89-28.
Difference of Nonannihilation \bar{p} p Interactions at 22.4 GeV/c from p p Interactions at Close Energy
- Batyunya 90 Yad. Phys. 51:1573,1990; JINR-P1-89-556;
Peculiarities of Nonannihilation of \bar{p} p Interactions at 22.4 GeV/c
- Bauer 85 Phys. Rev. Lett. 54:753,1985;
Differences between Proton and π^- Induced Production of the Charmonium χ States
- Baumann 88 Phys. Rev. D37:3107,1988;
Experimental Limit for Charge of the Free Neutron
- Bay 86 Phys. Lett. 174B:445,1986;
Measurement of the Pion Axial Form Factor from Radiative Decay
- Bayman 87 Phys. Rept. 147:155,1987;
Anomalies in Relativistic Heavy Ion Collisions
- Bayukov 85 Yad. Phys. 44:412,1986; ITEP-85-53;
Correlations of Cumulative Hadrons in Hadron-Nuclei Interactions
- Bayukov 85B Phys. Lett. 189B:291,1987; ITEP-85-118;
Correlations between Neutrons with Small Relative Momenta Produced in p Pb Interactions at 7.5 GeV/c
- Bayukov 85C Yad. Phys. 42:185,1985; Sov. J. Nucl. Phys. 42:238,1985; Sov. J. Nucl. Phys. 42:116,1985; Yad. Phys. 42:377,1985;
Angular Dependences of Inclusive Nucleon Production in Nuclear Reactions at High Energies and Separation of Contributions from Quasi-free and Deep-inelastic Nuclear Processes
- Bayukov 85D ITEP-85-5;
Protons, Neutrons and Deuterons Leaking out from Different Nuclei
- Bayukov 85E Yad. Phys. 42:114,1985; Sov. J. Nucl. Phys. 42:895,1985; ITEP-84-98;
Production of Pions in Hadron-Nucleus Interactions at the Initial Momenta from 1.0 up to 9.0 GeV/c
- Bayukov 85F Yad. Phys. 41:158,1985; Sov. J. Nucl. Phys. 41:101,1985; ITEP-83-192;
Neutron to Proton Ratios in p Nuclei and π^\pm Nuclei Interactions
- Bayukov 86 ITEP-86-99;
Correlation of Cumulative Protons at Hadron Nuclei Interactions
- Bayukov 88 ITEP-88-2;
The Size and Form of the Region of Hadron-Nucleus Reactions
- Bayukov 89 Yad. Phys. 50:719,1989;
Measurement of the Correlation Function of the Cumulative Protons in Proton-Nuclear Interactions at 7.5 GeV/c
- Bayukov 89B Yad. Phys. 50:1023,1989;
The Size and Shape of the Region of Emission of Secondaries in Hadron-Nucleus Reactions
- Bayukov 89C Yad. Phys. 52:380,1990; ITEP-89-137;
Correlation Functions of Cumulative Baryons in p nucleus and π nucleus Interactions at 3 GeV/c Initial Momentum
- Bazarov 85B Vopr. At. Nauki i Techn. 4:25-44,1985;
Study of Muon Pairs of Direct Generation in Extensive Air Showers
- Bazhanov 88 Pis'ma Zh. Eksp. Teor. Fiz. 47:435,1988;
Measurement of Polarization Parameter M_{spin} in p p Scattering at 950 MeV
- Bazhanov 88B LENI-88-1367;
Polarization in the Scattering of Polarized Protons on the Polarized Proton Target at 950 MeV
- Bean 86 Phys. Rev. D34:905,1986; CERN-86-714; CLEO-86-1.
Exclusive Radiative T(1S) Decays
- Bean 87 Phys. Rev. D35:3533,1987;
Improved Upper Limit on Flavor-Changing Neutral Current Decays of the b Quark
- Bean 87B Phys. Rev. Lett. 58:183,1987;
Limits on $B^0 \bar{B}^0$ Mixing and $\tau(B^0)/\tau(B^+)$
- Beard 85B Phys. Rev. C32:1111,1985;
Observation of High Energy γ Rays in Intermediate Energy nucleus nucleus Collisions

- Bebek 86 Phys. Rev. Lett. 56:1893,1986.
Decay $D^0 \rightarrow \phi K^0$
 Bebek 87 Phys. Rev. D36:690,1987.
Measurement of the τ^\pm Lifetime
 Bebek 87B Phys. Rev. D36:1289,1987; CLNS-86-742;
Exclusive Decays and Masses of the B -mesons
 Bebek 89 Phys. Rev. Lett. 62:8,1989;
Search for the Charmless Decays $B \rightarrow p \bar{p} \pi$ and $p \bar{p} \pi \pi$
 Beck 87 Phys. Rev. Lett. 59:1537,1987;
Isoscalar and Isovector Form Factors of ${}^3\text{H}$ and ${}^3\text{He}$ for Q below 2.9 1/fm from Electron-Scattering Measurements
 Becker 87 Phys. Lett. 184B:277,1987; CERN-EP-86-172;
Lifetime Measurement of D_S^\pm Mesons
 Becker 87B Phys. Lett. 193B:147,1987; SLAC-PUB-4194;
A Search for the Lepton Family Number Violating Decay $D \rightarrow \mu^\pm e^\pm$
 Becker 87C Phys. Rev. Lett. 59:186,1987; SLAC-PUB-4149;
Study of the $K \bar{K}$ Final State in $J/\psi(1S)$ Hadronic Decays
 Beer 86 Phys. Rev. Lett. 57:671,1986;
Emission of Muonium into Vacuum from a Silica-Powder Layer
 Behrend 85 Phys. Lett. 161B:182,1985;
Experimental Limit on Monojet Production in $e^+ e^-$ Annihilation
 Behrend 85B Phys. Lett. 158B:536,1985;
An Investigation of the Processes $e^+ e^- \rightarrow \mu^+ \mu^- \gamma$ and $e^+ e^- \rightarrow e^+ e^- \gamma$
 Behrend 86 Phys. Lett. 168B:420,1986; LAL-85-50;
Excited Lepton Search
 Behrend 86B Phys. Lett. 178B:452,1986; SACLAY-DPHPE-86-16; DESY-86-063;
Search for Light Leptoquark Bosons
 Behrend 86C Phys. Lett. 181B:178,1986; DESY-86-100;
Search for Excited Quarks in $e^+ e^-$ Interactions with CELLO Detector
 Behrend 86D Phys. Lett. 176B:247,1986; LAL-86-11; DESY-86-050;
A Search for Single Photons at PETRA
 Behrend 87 Z. Phys. C35:181,1987; DESY-87-013;
Searches for Supersymmetric Particles with the CELLO Detector at PETRA
 Behrend 87B Phys. Lett. 193B:157,1987; DESY-87-016;
A Search for Hadronic Events with Low Thrust and an Isolated Lepton
 Behrend 87C Phys. Lett. 193B:376,1987; DESY-87-030;
Search for Production of Charged Higgs Particles
 Behrend 87D Phys. Lett. 183B:400,1987; DESY-86-133;
Determination of α_S and $\sin^2\theta_W$ from Measurements of the Total Hadronic Cross Sections in $e^+ e^-$ Annihilation
 Behrend 87E Phys. Lett. 191B:209,1987; DPHPE-87-02; DESY-87-005;
A Measurement of the Muon Pair Production in $e^+ e^-$ Annihilation at $38.3 \leq E_{cm} \leq 46.8$ GeV
 Behrend 88 Phys. Lett. 200B:226,1988; DESY-87-127;
Upper Limit for the Decay $\tau^- \rightarrow \eta \pi^- \nu$
 Behrend 88B Phys. Lett. 202B:154,1988; DESY-87-150;
A Study of the Three- and Four-Photon Final States Produced in $e^+ e^-$ Annihilation at $35 \leq \sqrt{s} \leq 46.8$ GeV
 Behrend 88C Z. Phys. C41:7,1988; DESY-88-060;
A Search for New Leptons
 Behrend 88D Phys. Lett. 215B:186,1988; DESY-88-052;
Neutrino Counting with the CELLO Detector and Search for Supersymmetric Particle
 Behrend 88E Z. Phys. C43:91,1989; DESY-88-193;
The K_S Final State in $\gamma \gamma$ Interactions
 Behrend 88F Phys. Lett. 212B:515,1988; DESY-88-086;
An Analysis of Multihadronic Events Produced with Two Energetic Leptons in $e^+ e^-$ Annihilation
 Behrend 88G Z. Phys. C43:1,1989; DESY-88-192; LAL-88-61;
An Experimental Study of $e^+ e^-$ Annihilation into Four Leptons at $\sqrt{s} \geq 35$ GeV
 Behrend 89 Phys. Lett. 218B:493,1989; DESY-88-185;
Measurement of the Reaction $\gamma \gamma \rightarrow \rho^+ \rho^-$ with the CELLO Detector
 Behrend 89B Z. Phys. C47:1,1990; DESY-89-008;
Measurement of Inclusive γ_1 , η^0 and η Production in $e^+ e^-$ Annihilation at $\sqrt{s}=35$ GeV
 Behrend 89C Z. Phys. C44:63,1989; DESY-89-019;
Model Dependent Limits on Λ_S from $e^+ e^-$ Annihilation in the Energy Range from 14 to 48 GeV
 Behrend 89D Phys. Lett. 222B:163,1989; DESY-89-016;
 τ^\pm Production and Decay with the CELLO Detector at PETRA
 Behrend 89E Z. Phys. C42:367,1989; DESY-88-149;
 $K_S K \pi$ Production in Tagged and Untagged $\gamma \gamma$ Interactions
 Behrend 89F Z. Phys. C46:397,1990; DESY-89-140;
Inclusive Strange Particle Production in $e^+ e^-$ Annihilation
 Behrend 89G Z. Phys. C46:583,1990; DESY-89-177;
 $a_2(1320)$ and $a_2(1870)$ Formation in the Reaction $\gamma \gamma \rightarrow \pi^+ \pi^- \pi^0$
 Behrend 89H Z. Phys. C46:537,1990; DESY-89-126;
Exclusive τ^\pm Decay with the CELLO Detector at PETRA
 Behrend 89I DESY-89-176;
Limits on Electron Compositeness from Bhabha Scattering
 Behrend 89J Z. Phys. C47:333,1990; DESY-89-125;
Heavy Quark Charge Asymmetries with the CELLO Detector
 Behrends 85 Phys. Rev. D31:2161,1985;
Inclusive Hadron Production in Υ Decays and in Nonresonant Electron-Positron Annihilation at 10.49 GeV

- Behrends 85B Phys. Rev. D32:2468,1985;
New Determination of the Michel Parameter in τ^\pm Decay
- Behrends 87 Phys. Rev. Lett. 59:407,1987;
 $(b \rightarrow u \ell \bar{\nu})/\Gamma(b \rightarrow c \ell \bar{\nu})$ from the End Point of the Lepton Momentum Spectrum in Semileptonic B Decays
- Beise 89 Phys. Rev. Lett. 62:2593,1989;
Measurement of $\gamma^{16}\text{O} \rightarrow {}^{16}\text{O}$ n at Medium Energies
- Bekmirzaev 85 JINR-P1-85-680;
Investigation of Multiplicity of π^- Mesons, Produced in n C and n Ta Interactions at $P=4.2$ GeV/c
- Bekmirzaev 86 Yad. Phys. 44:406,1986;
Investigation of Multiplicity of π^- Mesons Produced in n C and n Ta Interactions at 4.2 GeV/c
- Bekmirzaev 87 JINR-P1-87-443;
Characteristics of Fast Secondary Neutrons in p p, and p ${}^{12}\text{C}$ Interactions at 10 GeV/c Momentum
- Bekmirzaev 87B JINR-P1-87-632;
The Study of Fast Neutron Production ($p>1$ Gev/c) in p \bar{p} and ${}^{12}\text{C}$ Interactions at 4.2 GeV/c
- Bekmirzaev 87C Yad. Phys. 47:1284,1988; JINR-P1-87-311;
Momentum and Angular Characteristics of π^- Mesons Produced in n p, p p, n C and n Ta Interactions at 4.2 GeV/c Momentum
- Bekmirzaev 88 Yad. Phys. 49:188,1989; JINR-E1-88-196;
Investigation of Momentum and Angular Characteristics of Protons Produced in n C and n Ta Interaction at 4.2 GeV/c Momentum
- Bekmirzaev 88B JINR-P1-88-617;
The Study of Neutron Interactions with Protons and Carbon Nuclei at 4.2 GeV/c
- Bekmirzaev 88C JINR-E1-88-192;
The Study of Fast Neutron Production ($p(n)>1$ GeV/c) in ${}^{12}\text{C}$ p and ${}^{12}\text{C}$ ${}^{12}\text{C}$ Interactions at $P=4.2$ GeV/c per Nucleon
- Bekmirzaev 89 Yad. Phys. 49:1030,1989; Sov. J. Nucl. Phys. 49:637,1989;
Fast Neutron Production ($p(n)>1$ GeV/c) in p p and p ${}^{12}\text{C}$ Interactions at $P=4.2$ and 10 GeV/c
- Bekrenev 86 LENI-86-1215;
Measurement of the Spin Rotation Parameters R and A in π^- p Elastic Scattering at Energy 450 MeV
- Bekrenev 86B Pis'ma Zh. Eksp. Teor. Fiz. 44:263,1986;
First Measurement of the Spin and a Revolving Parameter in Elastic π p Scattering at the Low Energies of π nucleon Resonances
- Belenky 85 Yad. Phys. 42:894,1985; Sov. J. Nucl. Phys. 42:567,1985;
Measurement of the Total Cross Section of $\bar{\nu}_e$ p \rightarrow n e⁺ Reaction by Means of Detection of Neutrons at the Reactor of Rovno Atomic Power Plants
- Belikov 83B Z. Phys. A320:625,1985; IFVE-83-156;
Quasielastic Neutrino and Antineutrino Scattering: Total Cross Sections, Axial Vector Formfactor
- Belikov 85 Yad. Phys. 41:919,1985; Sov. J. Nucl. Phys. 41:589,1985;
Restrictions on Parameters of Oscillations of Muon Neutrinos from Quasielastic Scattering Data
- Belikov 89 IFVE-89-167;
Preliminary Results of the 1989 Experiment on Prompt Muon Production in 70 GeV/c p nucleus Interactions
- Belkacem 85 Phys. Rev. Lett. 54:2667,1985; CERN-EP-85-18;
Measurement of the Total Energy Radiated by 150 GeV Electrons in a Ge Crystal
- Bell 85 Nucl. Phys. B254:475,1985; CERN-EP-84-131;
Momentum Distributions of Nuclear Fragments in He He Collisions at $E_{cm}=125$ GeV
- Bell 85B Z. Phys. C27:191,1985; CERN-EP-84-133;
Charged Particle Spectra in He He and He p Collisions at CERN ISR
- Bell 85C Z. Phys. C32:335,1986; CERN-EP-85-188;
Many-Particle Rapidity Correlations in Light Ion Interactions at the CERN ISR
- Bell 85D Z. Phys. A324:67,1985; CERN-EP-85-199;
Evidence for Direct p p Interactions in the Fragmentation Channel p He \rightarrow p p X at $E_{cm}=88$ GeV
- Bell 86 Nucl. Phys. A325:7,1986; CERN-EP-86-15; CERN-EP-86-15-rev;
Nuclear Stopping Power in He He and deuteron deuteron Collisions
- Bell 86B Z. Phys. C30:513,1986; CERN-EP-85-186;
High pT He He and He p Interactions
- Bellgardt 88 Nucl. Phys. B299:1,1988; SIN-PR-87-09; PR-87-09;
Search for the Decay $\mu^+ \rightarrow e^+ e^+ e^-$
- Bellini 84 Sov. J. Nucl. Phys. 41:781,1985; Yad. Phys. 41:1223,1985; JINR-E1-84-280;
2 Resonances in the $\pi^+ \pi^- \pi^-$ Systems
- Bellotti 86 Nuovo Cim. 95A:1,1986;
The Milano Experiment on Lepton Number Nonconservation in Double β Decay of ${}^{76}\text{Ge}$
- Bellotti 89 Phys. Lett. 221B:209,1989;
A Search for Lepton Number Nonconservation in Double β Decay of ${}^{130}\text{Xe}$
- Bellotti 89C BUHEP-89-29g;
Search for Stellar Collapse with the MACRO Detector at Gran Sasso
- Bellotti 89E BUHEP-89-29e;
Study of the Primary Cosmic Rays at $E=10^{13}$ eV to 10^{16} eV by Simultaneous Observation of Extensive Air Showers and Underground Muons at the Gran Sasso Laboratory
- Bellotti 89F BUHEP-89-29d;
Multiple Muon Physics with the MACRO Detector at Gran Sasso
- Bellotti 89G BUHEP-89-29c;
Single Muon Physics with the MACRO Detector
- Bellotti 89H BUHEP-89-29b;
A Search for Magnetic Monopoles with the MACRO Detector at Gran Sasso
- Belomytsev 88 LENI-88-1391;
On Measurement of the Correlation Coefficients in Neutron β Decay with Ultracold Neutrons
- Belostotsky 84 Yad. Phys. 42:1427,1985; Sov. J. Nucl. Phys. 42:904,1985; LENI-84-1023;
Polarization in Inclusive Proton-Nucleus Reaction p nucleus \rightarrow p X at 1 GeV
- Belousov 88 Kr. Soob. Fiz. 88:7-21,1988;
Estimation of Resonance Parameters of $\Delta(1232 P_{33})$ from the Data on Photoproduction of π^0 Mesons on

- Belousov 88 (cont'd) the ^{12}C Nuclei
 Beltrami 85 Phys. Rev. Lett. 54:1775,1985;
 Observation of Tau Leptons Decay to Five Charged Particles
 Beltrami 85B Nucl. Phys. A451:679,1986; ETHEZ-IMP-PN5-3;
 New Precision Measurements of the Muonic $3D$ ($5/2$) $\rightarrow 2P$ ($3/2$) X-Ray Transition in ^{24}Mg and ^{28}Si : Vacuum Polarization Test and Search for Muon-Hadron Interactions Beyond QED
 Beltrami 87 Phys. Lett. 194B:326,1987;
 Muon Decay: Measurement of the Integral Asymmetry Parameter
 Beltrami 87B Helv. Phys. Acta 60:611,1987;
 Measurement of the Integral Asymmetry in μ^- Decay and Implication for the wino Mass
 Beltramin 85 Nucl. Phys. A442:266,1985; DFPD-24-84;
 Proton ^3He Elastic Scattering: A Phase Shift Analysis by a Separable Potential Model
 Belyaev 85 Kr. Soob. JINR 8:29,1985;
 Ratio of Cumulative Pion Yields of Different Sign in Proton Nuclear Interactions at 17.5 up to 83 GeV Proton Energy
 Belyaev 86 Yad. Phys. 43:1469,1986; Sov. J. Nucl. Phys. 43:947,1986;
 Measurement of the Polarization H Parameter in Reaction $\gamma p \rightarrow \pi^\pm n$ with 320 MeV Photons
 Belyaev 86B Yad. Phys. 44:289,1986;
 Cross Section Asymmetry in the ^3He Two Particle Disintegration by Linearly Polarized Photons
 Belyaev 88 Yad. Phys. 49:473,1989; JINR-P1-88-33;
 Energy Dependence of Pions Yield in Reaction $p C \rightarrow \pi^\pm X$ for Proton with Energy from 15 to 67 GeV
 Belyaev 88B JINR-P1-88-34;
 The Cross Section of Pions Production at an Angle of 150 Degrees for Interactions of Protons Having Energy from 15 to 61 GeV with Carbon Nuclei
 Belyaev 88C Kr. Soob. JINR 28:5,1988;
 Cumulative Proton Polarization in $p^{12}\text{C} \rightarrow p X$ Reaction for Incident Protons in 17 to 62 GeV Energy Region
 Belyaev 88D Kr. Soob. JINR 33:38,1988;
 A -dependence of Cumulative Pion Production Cross Sections in Proton Nucleus Interactions at High Energies
 Belyaev 89 Kr. Soob. JINR 34:5,1989;
 Measurement of Scattering Asymmetry of Cumulative Protons and Deuterons Emitted at Angle of 95 Degrees l.s. in $p C$ Interactions at Energies of Incident Protons from 17 to 62 GeV. Cumulative Proton Polarization
 Belyaev 89B JINR-P1-89-112;
 The Cross Section of π^+ and π^- Production at an Angle of 150 Degrees l.s. in Proton-Nuclear Interactions at the Energy of the Incident Proton from 15 to 65 GeV
 Belyaev 89C JINR-P1-89-463;
 Spin Effects in Cumulative Production of Protons and Deuterons in Proton-Nucleus Interactions at 16 – 64 GeV
 Benayoun 86 Phys. Lett. 183B:412,1987; CERN-EP-86-164;
 Evidence for Higher Twist Mechanisms in Prompt ρ^0 Meson Production at $p_T > 2$ GeV/c in 300 GeV/c $\pi^- n$ Interactions
 Benayoun 87 DESY-87-025; CDF-LPC-87-09;
 Evidence for Prompt High $p_T \eta$ Mesons at ISR
 Benayoun 87B Phys. Lett. 198B:281,1987; CERN-EP-87-156;
 Search for Glueballs at High p_T in 300 GeV/c $\pi^- n$ Interactions
 Bender 84C Phys. Rev. D31:1,1985; PU-84-510; IUHEE-53; UM-HE-84-03; ANL-HEP-PR-84-08;
 Study of Quark Fragmentation at 29 GeV: Global Jet Parameters and Single Particle Distributions
 Bensinger 85 Nucl. Phys. B252:561,1985;
 Measurement of Decay Parameters and Polarization in Inclusive Ξ^- Production from $K^- p$ Interactions
 Bensinger 88 Phys. Lett. 215B:195,1988;
 Upper Limit for the $\Xi^0 \rightarrow \Sigma^0 \gamma$ Radiative Decay
 Benvenuti 85 Phys. Lett. 158B:531,1985; CERN-EP-85-93;
 Upper Limits on $D^0 \bar{D}^0$ Mixing and bottom bottom Production from Muon-Nucleon Scattering
 Benvenuti 86 JINR-E1-86-591;
 New Results on Nuclear Effects in Deep Inelastic Muon Scattering on Deuterium and Iron Targets
 Benvenuti 87 Phys. Lett. 195B:97,1987; CERN-EP-87-101; JINR-E1-87-699;
 Test of QCD and a Measurement of Lambda from Scaling Violations in the Nucleon Structure Function F_2 at High Q^2
 Benvenuti 87B Phys. Lett. 189B:483,1987; JINR-E1-87-99; CERN-EP-87-13;
 Nuclear Effects in Deep Inelastic Muon Scattering on Deuterium and Iron Targets
 Benvenuti 87C Phys. Lett. 195B:91,1987; CERN-EP-87-100; JINR-E1-87-549;
 A High Statistics Measurement of the Nucleon Structure Function from Deep Inelastic Muon Carbon Scattering at High Q^2
 Benvenuti 87D JINR-E1-87-689;
 A High Statistics Measurement of the Proton Structure Function and Tests of QCD from Deep Inelastic Muon Scattering at High Q^2
 Benvenuti 89 Phys. Lett. 223B:485,1989; JINR-E1-89-540; CERN-EP-89-06;
 A High Statistics Measurement of the Proton Structure Function $F_2(x, Q^2)$ and R from Deep Inelastic Muon Scattering at High Q^2
 Benvenuti 89B Phys. Lett. 237B:592,1990; CERN-EP-89-170; JINR-E1-90-284;
 A High Statistics Measurement of the Deuteron Structure Functions $F_2(x, Q^2)$ and R from Deep Inelastic Muon Scattering at High Q^2
 Benvenuti 89C Phys. Lett. 223B:490,1989; CERN-EP-89-07; JINR-E1-89-541;
 Test of QCD and a Measurement of A_S from Scaling Violations in the Proton Structure Function $F_2(x, Q^2)$ at High Q^2
 Berdnikov 85 Yad. Phys. 42:564,1985;
 Inelastic Scattering of 130 MeV K^+ Mesons on Light Nuclei with Emission of Proton
 Berdnikov 86 Yad. Phys. 44:872,1986;
 The $(K^+, K^- p)$ Small Recoil Momentum Transfer Reaction on Light Photoemulsion Nuclei at K^+ Momenta of 0.6 GeV/c

- Berdzenishvili 85 Izv. Akad. Nauk SSSR, Fiz. 49:1256,1985.
Study of Hadron Nuclei Interactions at Energy $E>1$ TeV
 Beretvas 86 Phys. Rev. D34:53,1986.
- Production of the Ξ^0 and $\bar{\Xi}^0$ Hyperons by 400 GeV Protons**
 Berezhnoj 85 Yad. Fiz. 41:1420,1985.
- Spin Rotation Function of 500 MeV Protons Scattered by ^{40}Ca Nuclei**
 Berezin 86 Yad. Fiz. 43:358,1986.
- Measurement of K^0 Total Cross Sections on Nuclei**
 Berge 87 Z. Phys. C35:443,1987; CERN-EP-87-09;
Total Neutrino and Antineutrino Charged Current Cross Section Measurement in 100, 160 and 200 GeV Narrow Band Beams
- Berge 89 CERN-EP-89-103:
A Measurement of Differential Cross Sections and Nucleon Structure Functions in Charged-Current Neutrino Interactions on Iron
- Berger 85 Z. Phys. C27:167,1985;
Sterman-Weinberg Jets and Energy Flow in $e^+ e^-$ Annihilation at c.m. Energies between 9.4 and 35 GeV
- Berger 85B Z. Phys. C27:249,1985; DESY-84-098;
- Berger 85C Z. Phys. C26:199,1985; DESY-84-074;
Tagged Two Photon Production of Muon Pairs
- Berger 85D Z. Phys. C29:183,1985;
Study of the Reaction $\gamma \gamma \rightarrow 2\pi^+ 2\pi^- \pi^0$ and Upper Limits on the Production of $\gamma \gamma \rightarrow 2\omega$ and $\gamma \gamma \rightarrow \rho^0 \omega$
- Berger 85E Z. Phys. C27:341,1985;
Tests of the Standard Model with Lepton Pair Production in $e^+ e^-$ Reactions
- Berger 85F Z. Phys. C28:1,1985;
Measurement of τ^\pm -Lepton Production and Decay
- Berger 85G Z. Phys. C28:365,1985;
A Study of Energy Energy Correlations in $e^+ e^-$ Annihilations at $E=34.6$ GeV
- Berger 85H Z. Phys. C29:499,1985;
Jet Production at High Transverse Momenta by Interactions of Two Quasi-Real Photons
- Berger 86 Phys. Lett. 167B:120,1986;
Evidence for Exclusive $\eta_c(1S)$ Production in $\gamma \gamma$ Interactions
- Berger 86B ANL-HEP-PR-86-17;
Deep Inelastic Lepton Scattering from Nucleons and Nuclei
- Berger 86C Phys. Lett. 174B:118,1986;
Search for Muons from the Direction of Cygnus X-3
- Berger 86D Nuovo Cim. 9C:350,1986;
Preliminary Results on Underground Muon Bundles Observed in the FREJUS Proton Decay Detector
- Berger 87 Z. Phys. C33:351,1987; DESY-86-102;
Jet Production in Photon Photon Interactions
- Berger 87B Phys. Rept. 146:1,1987;
Photon Photon Reactions
- Berger 87C Nucl. Phys. B281:365,1987; DESY-86-068;
Measurement and QCD Analysis of the Photon Structure Function $F_2(x, Q^2)$
- Berger 88 Z. Phys. C37:329,1988; DESY-87-104;
Tensor Meson Excitation in the Reaction $\gamma \gamma \rightarrow K_S K_S$
- Berger 88B Z. Phys. C38:521,1988; DESY-87-173;
Measurement and Analysis of the Reaction $\gamma \gamma \rightarrow 2\pi^+ 2\pi^-$
- Berger 88C Phys. Rev. Lett. 61:919,1988;
Identification of deuteron $p \rightarrow {}^3\text{He} \eta$ Reaction very near Threshold: Cross Section and Deuteron Tensor Analyzing Power
- Berger 89 Nucl. Phys. B313:509,1989; LAL-88-28;
Result from the FREJUS Experiment for Nucleon Decay Modes into $\bar{\nu} +$ meson
- Berger 89B Phys. Lett. 227B:489,1989; LAL-89-23;
Study of Atmospheric Neutrino Interactions with the FREJUS Detector
- Berger 89C DPHPE-89-21;
Search for Neutron-Antineutron Oscillations in the FREJUS Detector
- Bergsma 84C Phys. Lett. 153B:111,1985; CERN-EP-84-143;
Evolution of Nucleon Structure Functions in the Q^2 Range between 20 and 10000 GeV^2 from a New QCD Analysis of Neutrino Data
- Bergsma 85 Phys. Lett. 157B:458,1985; CERN-EP-85-38;
Search for Axion-Like Particle Production in 400 GeV Proton Copper Interactions
- Bergsma 85B Phys. Lett. 157B:469,1985; CERN-EP-85-37;
Measurement of the Cross Section of Coherent π^0 Production by Muon Neutrino and Antineutrino Neutral-Current Interactions on Nuclei
- Bergsma 85C CERN-EP-85-113;
A Precision Measurement of the Ratio of Neutrino Induced Neutral-Current and Charged Current Total Cross Sections
- Bergsma 88 Z. Phys. C40:171,1988; CERN-EP-88-51;
A Search for Neutrino Oscillations
- Bermon 86 Phys. Rev. Lett. 55:1850,1986;
Flux Limit of Cosmic-Ray Magnetic Monopoles from a Fully Coincident Superconducting Induction Detector
- Bermon 90 Phys. Rev. Lett. 64:839,1990;
New Limit Set on Cosmic-Ray Monopole Flux by a Large-Area Superconducting Magnetic-Induction Detector
- Bernard 85 Phys. Lett. 163B:459,1986; CERN-EP-85-155;
Pseudorapidity Distribution of Charged Particles in Diffraction Dissociation Events at the CERN SPS Collider
- Bernard 86 Phys. Lett. 171B:142,1986; CERN-EP-86-21;
Large-t Elastic Scattering at the CERN SPS Collider at $E_{cm}=630$ GeV

- Bernard 86B Phys. Lett. 186B:227.1987; CERN-EP-86-205.
The Cross Section of Diffraction Dissociation at the CERN SPS Collider
- Bernard 87 Phys. Lett. 198B:583.1987; CERN-EP-87-147.
The Real Part of $\bar{p} p$ Elastic Scattering Amplitude at Centre of Mass Energy of 548 GeV
- Bernardi 85 Phys. Lett. 166B:479.1986; CERN-EP-85-177.
Search for Neutrino Decay
- Bernardi 86 Phys. Lett. 181B:173.1986; CERN-EP-86-58.
Anomalous Electron Production Observed in the CERN PS Neutrino Beam
- Bernardi 88 Phys. Lett. 203B:332.1988;
Further Limit on Heavy Neutrino Coupling
- Bernasconi 87 CERN-EP-87-120;
Preliminary Results on Inclusive γ Cross Section in $\bar{p} p$ Collisions at $E_{cm}=24.3$ GeV from UA6 Experiment
- Bernasconi 88 Phys. Lett. 206B:163.1988;
Direct Photon Production in Proton-Antiproton Interactions at $\sqrt{s}=24.3$ GeV
- Bernstein 85 Phys. Rev. Lett. 54:1631.1985;
Measurement of e'/e in the Neutral Kaon System
- Bernstein 88 Phys. Rev. D37:3103.1988;
Search for New, Long-Lived, Neutral Particles
- Berrada 85 CERN-EP-85-47;
A Search for Hypernuclei Formation in \bar{p} Annihilation on Heavy Nuclei
- Berthet 85 Nucl. Phys. A443:589.1985;
Very Backward π^0 and η Production by Proton Projectiles on a Deuterium Target at Intermediate Energies
- Bertin 86 CERN-EP-86-196;
Very Low Energy Pion Production at a 300 GeV Proton Beam
- Bertin 88 Nuovo Cim. 100A:305.1988;
Low Energy Pion Yield at High Energy Accelerators as a Function of the Primary Proton Beam Momentum
- Bertini 84 Phys. Lett. 154B:19.1985; CERN-EP-84-159;
The (K^-, π^+) Strangeness Exchange Reaction on ^{16}O
- Bertini 85 Phys. Lett. 162B:77.1985;
A Strong Energy Dependence of the Analyzing Power in the $p p \rightarrow$ deuteron π^+ Reactions and the Question of an Isovector Dibaryon Resonance
- Bertini 88 Phys. Lett. 203B:18.1988;
Strong Energy Dependence of the Analysing Power in the $p p \rightarrow$ deuteron π^+ Reaction and the Question of an Isovector Dibaryon Resonance. II.
- Bertini 88B DPH-N-SACLAY-253IB;
Spin Observables in $\bar{p} p$ Elastic and $p p$ Inelastic Scattering
- Bertini 88C DPH-N-SACLAY-2537T;
Spin Observables in $\bar{p} n$ Elastic Scattering
- Bertini 89 Phys. Lett. 228B:531.1989; CERN-EP-89-83;
Full Angular Distribution of the Analyzing Power in $\bar{p} p$ Elastic Scattering at 697 MeV/c
- Bertl 85 Nucl. Phys. B260:1.1985;
Search for the Decay $\mu^+ \rightarrow e^+ e^+ e^-$
- Beshliu 85 JINR-D1-85-433;
About the Nature of Narrow Structures in Effective Masses of Two Protons
- Beshliu 86 Yad. Phys. 43:888.1986; Sov. J. Nucl. Phys. 43:565.1986;
Cross Sections of Neutron-Proton Interactions Channels at Momenta of 1 - 5 GeV/c
- Besson 85 Phys. Rev. Lett. 54:381.1985;
Observation of New Structure in the $e^+ e^-$ Cross Section above the $\Upsilon(4S)$
- Besson 86 Phys. Rev. D33:300.1986;
Search for Monoenergetic Photons from $\Upsilon(1S) \rightarrow \gamma X$
- Betev 85 Z. Phys. C28:9.1985; CERN-EP-85-03;
Differential Cross Section of High Mass Muon Pairs Produced by a 194 GeV/c π^- Beam on a Tungsten Target
- Betev 85B Z. Phys. C28:15.1985; CERN-EP-85-04;
Observation of Anomalous Scaling Violation in Muon Pairs Production by 194 GeV/c π^- Tungsten Interactions
- Bethke 88 Phys. Lett. 213B:235.1988; DESY-88-105;
Experimental Investigation of the Energy Dependence of the Strong Coupling Strength
- Bethke 88B LBL-25247;
Jet Physics in $e^+ e^-$ Annihilation: Evidence for the Running of α_S
- Bethke 89 Z. Phys. C43:325.1989; SLAC-PUB-4944; LBL-26957;
Studies of Jet Production Rates in $e^+ e^-$ Annihilation at $E_{cm}=28$ GeV
- Bethke 89B Z. Phys. C43:331.1989;
An Experimental Approach to Optimize and Test Perturbative QCD to $Q(\alpha_S^2)$
- Beusch 86 CERN-EP-86-68;
Proton-Antiproton Pair Production in π^\pm Hydrogen and Nucleus Interactions at 30 GeV/c and the Formation Zone of Hadrons
- Beznogikh 88 JINR-E2-88-609;
Measurement of Vector Analyzing Power of Reactions deuteron (polarized) $C \rightarrow p X$ and deuteron (polarized) $C \rightarrow$ deuteron X at 800 MeV/Nucleon
- Bhadra 85 Phys. Rev. Lett. 55:2749.1985;
Study of Inclusive K_S , Λ and $\bar{\Lambda}$ Production in Diffractive γp Interactions
- Bhanja 85 Phys. Rev. Lett. 54:771.1985;
Search for Anomalous Fragments in 1.8A GeV ^{40}Ar Reactions in Nuclear Emulsions
- Bhattacharje 89 Czech. J. Phys. B39:12.1989;
The Study of Cluster Phenomenon at Accelerator Energies
- Bhattacharje 89B Phys. Lett. 225B:459.1989;
Empirical Regularity for Multiplicity Distribution in $p n$ Interactions
- Bhattacharje 89C Acta Phys. Polon. B20:941.1989;
Scaling of Multiplicity Distribution in $p n$ Interactions at High Energy

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Bitsadze 85B

- Bhattacharjee 90 Phys. Rev. D41:9,1990:
Multiplicity Distribution in $p\bar{n}$ Interaction at 400 GeV/c and Its Empirical Regularity
- Biagi 84 Phys. Lett. 150B:230,1985; CERN-EP-84-76:
Measurements of the Lifetime of the Charmed Strange Baryon $\Xi_c(2460)^+$
- Biagi 85 Z. Phys. C28:175,1985; CERN-EP-84-154:
Properties of the Charmed Strange Baryon $\Xi_c(2460)^+$ and Evidence for the Charmed Doubly Strange Baryon Ω_c at 2.74 GeV/c²
- Biagi 85B Z. Phys. C28:495,1985; RAL-85-048:
A Measurement of the Branching Ratio $\Sigma^+ \rightarrow p\gamma$, $\Sigma^+ \rightarrow p\pi^0$
- Biagi 86 Z. Phys. C30:201,1986; CERN-PRE-85-073:
First Measurement of the $\Lambda \rightarrow n\gamma$ Branching Ratio
- Biagi 86B Z. Phys. C31:33,1986; UGVA-DPNC-85-12-113; CERN-PRE-85-085:
First Observation of $\Omega^*(unspec)$ Resonances
- Biagi 87 Z. Phys. C34:15,1987; CERN-PRE-86-095:
 Ξ^* Resonances in Ξ^- Be Interactions. 1. Diffractive Production in the ΛK^- and $\Xi^- \pi^+ \pi^-$ Channels
- Biagi 87B Z. Phys. C34:175,1987:
 Ξ^* Resonances in Ξ^- Be Interactions. 2. Properties of $\Xi(1820 D_{13})$ and $\Xi(1950)$ in the $\Lambda \bar{K}^0$ and $\Sigma^0 \bar{K}^0$ Channels
- Biagi 87C Z. Phys. C34:187,1987:
 Ξ^- and Ω^- Inclusive Production in Ξ^- Be Interactions at 116 GeV/c
- Biagi 87D Z. Phys. C35:143,1987; CERN-PRE-86-112:
First Measurement of the $(\Xi^- \rightarrow \Sigma^- \gamma) / (\Xi^- \rightarrow \Lambda \pi^-)$ Branching Ratio
- Bialkowska 86 Phys. Lett. 173B:349,1986:
Transverse Momentum Correlations in C C and C Ta Interactions at Momentum 4.2 GeV/c A
- Bienlein 88 DESY-88-165; C88/08/29.2:
Observed and Unobserved States - Crystal Ball Results on Two-Photon Physics
- Bigi 84 Z. Phys. C27:303,1985; PITHA-84-19:
Possible Implications of a Very Small Value of ϵ'/ϵ
- Biino 87 Phys. Rev. Lett. 58:2523,1987:
 $J/\psi(1S)$ Longitudinal Polarization from π nucleon Interactions
- Bimbot 85 Nucl. Phys. A440:636,1985:
Inclusive (p, π^\pm) Reactions at 201 MeV and 180 MeV
- Bini 89B Phys. Lett. 221B:99,1989:
A Sensitive Search for the Emission of a Neutral Particle in the Decay of the First Excited State in ^{16}O
- Binkley 90 FERMILAB-CONF-90-28-E:
Log(s) Physics Results from CDF
- Bintinger 85 Phys. Rev. Lett. 54:763,1985:
Measurement of the Total Hadronic Cross Section in Virtual Photon Photon Interactions
- Binz 89 Phys. Lett. 231B:323,1989; FREI-MEP-89-02:
Measurement of the ($p(\text{pol}), n(\text{pol})$) Inclusive Spin Transfer Parameters K_{0nn0} and K_{0kk0} on Carbon with 590 MeV Protons
- Binz 89B FREI-MEP-89-03:
Measurement of the Total Cross Section Differences $\sigma_L(n\bar{p})$ and $\sigma_T(n\bar{p})$ in the Energy Range from 140 to 590 MeV
- Bionta 87B Phys. Rev. D36:30,1987:
Underground Search for Muons Correlated with Cygnus X-3
- Bionta 87C Phys. Rev. Lett. 58:1494,1987:
Observation of a Neutrino Burst in Coincidence with Supernova 1987A in the Large Magellanic Cloud
- Bionta 88 Phys. Rev. D38:768,1988:
Contained Neutrino Interactions in an Underground Water Detector
- Bird 88 SLAC-332:
Cerenkov Ring Imaging and Spectroscopy of Charged $K^*(unspec)$ Interactions at 11 GeV/c
- Birman 88 Phys. Rev. Lett. 61:1557,1988; BNL-41406; IUHEE-88-5:
Partial Wave Analysis of the $K^+ \bar{K}^0 \pi^-$ System
- Birsra 85 Phys. Lett. 155B:437,1985; CERN-EP-85-28:
Polarization at Small Angles in Elastic $\bar{p}p$ and $\bar{p}C$ Scattering at 550 MeV/c
- Bisello 86 Phys. Lett. 179B:289,1986; LAL-86-18:
A Measurement of $\eta_c(1S) \rightarrow \phi \phi$ in the Radiative Decay of the $J/\psi(1S)$
- Bisello 86B Phys. Lett. 179B:294,1986; LAL-86-20:
Search of Glueballs in the $J/\psi(1S) \rightarrow \gamma \phi \phi$ Decay
- Bisello 87 Phys. Lett. 192B:239,1987; LAL-87-01:
Pseudoscalar $\omega \omega$ Production at Threshold in $J/\psi(1S) \rightarrow \gamma \omega \omega$ Decay
- Bisello 88 Phys. Lett. 200B:215,1988; LAL-87-34:
First Observation of the $\eta_c(1S) \rightarrow 2\rho^0$ Decay
- Bisello 88B Z. Phys. C39:13,1988:
Study of Reaction $e^+ e^- \rightarrow K^+ K^-$ in the Energy Range $1350 < \sqrt{s} < 2400$ MeV
- Bisello 89 Phys. Rev. D39:701,1989; LAL-88-12:
First Observation of Three Pseudoscalar States in the $J/\psi(1S) \rightarrow \gamma 2\rho$ Decay
- Bisello 89B Phys. Lett. 220B:321,1989; LAL-88-47:
The Pion Electromagnetic Formfactor in the Time-Like Energy Range $1.35 < \sqrt{s} < 2.4$ GeV
- Bisello 90 Phys. Lett. 241B:617,1990; LAL-90-12:
Study of the $J/\psi(1S) \rightarrow \gamma \phi \phi$ Decay
- Biswas 86 Phys. Rev. D33:3167,1986:
Observation of A -dependence in Koba-Nielsen-Olesen Scaling Distributions for High Energy hadron nucleus Interactions
- Bitsadze 85 Phys. Lett. 167B:138,1986; JINR-E1-85-610:
New Upper Limit for the Branching Ratio of the $K_S \rightarrow e^+ e^-$ Decay
- Bitsadze 85B Nucl. Phys. B260:497,1985:
Study of the Hypercharge Exchange Reactions $\pi^+ p \rightarrow K^+ \Sigma^+$ and $\pi^+ p \rightarrow K^+ \Sigma(1385 P_{13})^+$ Reaction at 12 GeV/c

- Bisadze 86 Nucl. Phys. B279:779,1987; JINR-E1-86-129;
A-dependence of η Meson Inclusive Production at 10.5 GeV/c
 Bitsadze 86B JINR-E1-86-780;
Differential Cross Sections for Reactions $\pi^+ n \rightarrow K^+ \Sigma^0$ and $\pi^+ n \rightarrow K^+ \Lambda$ and Ratio of Differential Cross Sections for Quasi-Binary Processes π^+ nucleus $\rightarrow K^+$ hyperon nucleus on Carbon and Deuterium Nuclei at 10.3 GeV/c
- Bitter 89 Phys. Lett. 236B:95,1990; PD-1989-97;
A New Experimental Limit on Neutron-Antineutron Transitions
- Bityukov 85 Pis'ma Zh. Eksp. Teor. Fiz. 42:310,1985; Jetp Lett. 42:384,1985;
Study of Possible Exotic State of $\phi \pi^0$ with Mass near 1.5 GeV
- Bityukov 85C IFVE-85-19;
Study of $f_1(1285) \rightarrow K^+ K^- \pi^0$ Decay and $f_1(1285)$ and $f_1(1420)$ Mesons Production in Exclusive Reactions Induced by π^- and K^- Mesons at 32.5 GeV/c
- Bityukov 86 Phys. Lett. 188B:383,1987; IFVE-86-110;
Study of Possible Exotic $\phi \pi^0$ State with a Mass of about 1.5 GeV/c²
- Bityukov 86B Yad. Phys. 46:506,1986; IFVE-86-242;
Observation and Study of Vector C(1480) Meson Decaying into $\phi \pi^0$
- Bityukov 87 Yad. Phys. 47:1258,1988; IFVE-87-155;
Study of Light Mesons Radiative Decays
- Bityukov 88 Phys. Lett. 203B:327,1988; Pis'ma Zh. Eksp. Teor. Fiz. 45:368,1987; IFVE-87-35;
Observation of $f_1(1285) \rightarrow \phi \gamma$ Radiative Decay
- Bityukov 89 IFVE-89-192;
Search for Rare Radiative Decay $f_1(1285) \rightarrow \rho \gamma$
 Bityukov 90 IFVE-90-22;
Study of the Radiative Decay $\eta' \rightarrow \pi^+ \pi^-$
- Bizzeti 89 Phys. Rev. Lett. 62:2901,1989;
Search for a Composition-Dependent Fifth Force
- Bjorken 88 Phys. Rev. D38:3375,1988; FERMILAB-PUB-88-44;
Search for Neutral Metastable Penetrating Particles Produced in the SLAC Beam Dump
- Blair 89 ANL-HEP-CP-89-07;
The CDF Direct Photon Analysis
- Blankleider 84 Phys. Rev. C31:1380,1985; FIAS-R-145; PRINT-84-0969-INDIANA;
The Relationship between Partial Wave Amplitudes and Polarization Observables in $p p \rightarrow$ deuteron π^+ and deuteron $\rightarrow \pi$ deuteron
- Blatt 85 Phys. Rev. Lett. 54:1628,1985;
Measurement of the CP Nonconservation Parameter
- Blaylock 87 Phys. Rev. Lett. 58:2171,1987; SLAC-PUB-4158;
Observation of $e^+ e^- \rightarrow D_S^\pm X, D_S^* X$ at $E_{cm}=4.14$ GeV
- Blazey 85 Phys. Rev. Lett. 55:1820,1985;
Hard Scattering with Exclusive Reactions: $\pi^- p$ Elastic Scattering and ρ Meson Production
- Blecher 87 TRI-PP-87-23;
Search for Muon Positron Conversion
- Blewitt 85 Phys. Rev. Lett. 55:2114,1985;
Experimental Limits of the Free Proton Lifetime for Two- and Three-body Decay Modes
- Blewitt 85D CALT-68-1327;
A Search for Free Proton Decay, and Nucleon Decay in ^{16}O , Using the Invariant Mass and Momentum of Exclusive Final States
- Blinov 84B Jour. of Phys. G 11:623,1985; ITEP-84-40;
Study of Nuclear Vertex Function and Nuclear Vertex Constant of Decay ${}^3\text{He} \rightarrow p$ deuteron from Data on ${}^3\text{He} p \rightarrow p$ deuteron Reaction at the 2.5 and 5 GeV/c ${}^3\text{He}$ Nucleus Momentum
- Blinov 85 Yad. Phys. 41:719,1985; Sov. J. Nucl. Phys. 41:457,1985; ITEP-84-93;
Main Characteristics of the Reaction ${}^3\text{He} p \rightarrow 3p n$ at the Incident ${}^3\text{He}$ Momentum of 2.5 GeV/c
- Blinov 85B NOVO-85-99;
Search for Narrow Resonances in $e^+ e^-$ Collisions in the Mass Region 7.2 – 10 GeV
 Yad. Phys. 44:626,1986; Sov. J. Nucl. Phys. 44:405,1986; NOVO-85-96;
- Blinov 85C Two Photon Production of $e^+ e^-$ Pairs with Small Invariant Masses
 Yad. Phys. 41:1440,1985; Sov. J. Nucl. Phys. 41:913,1985; ITEP-85-60;
- Blinov 85D Study of Mechanism of the ${}^3\text{He} p \rightarrow 2p$ deuteron Reaction at ${}^3\text{He}$ Momentum of 5 GeV/c
 NOVO-85-95;
- Blinov 85E Preliminary Results of the Experiment with MD-1 Detector on Two-Photon Production of Muon Pairs and Hadrons
 Yad. Phys. 45:619,1987; ITEP-86-65;
- Blinov 86 Measurement of Nuclear Vertex Function of ${}^3\text{He} \rightarrow p p n$ from the Reaction ${}^3\text{He} p \rightarrow 3p n$ at the Incident ${}^3\text{He}$ Momentum of 2.5 and 5 GeV
 NOVO-86-110;
- Blinov 86B Upper Limit for the Two Photon Width of a Neutral Particle with the Mass of 1.8 MeV
 NOVO-86-107;
- Blinov 86C Upper Limit for a Two-Photon Width of $\eta_c(1S)$
 Yad. Phys. 45:1008,1987;
- Blinov 87 $e^+ e^-$ Pairs Production by a Synchrotron Radiation Photon on a Counter Beam Electron
 ITEP-87-76;
- Blinov 87B Charged Exchange Quasielastic Reaction $p {}^3\text{He} \rightarrow n p p p$ at the Medium Energies
 NOVO-87-92;
- Blinov 87C An Experiment on Measurement of Two Photon Width of the η' and $a_2(1320)$
 Yad. Phys. 47:933,1988;
- Blinov 88 Quasielastic Charge-Exchange Reaction $p {}^3\text{He} \rightarrow n p p p$ at Intermediate Energies
 Yad. Phys. 47:889,1988;
- Blinov 88B Limit on the Two Photon Width of the Particles with the Mass of 1.8 MeV/c²
 Rev. of Mod. Phys. 57:563,1985; LBL-17522;
- Block 84 High Energy $p \bar{p}$ and $p p$ Forward Elastic Scattering and Total Cross Sections
 Z. Phys. C45:361,1990;
- Blondel 90 Electroweak Parameters from a High Statistics Neutrino Nucleon Scattering Experiment

Bloom 85C

Bogolyubsky 88F

- Bloom 85C SLAC-PUB-3864; C85:07/29;
Recent results from DORIS-II
- Blumenfeld 89 Phys. Rev. Lett. 62:2237,1989;
Search for $\nu_\mu \rightarrow \nu_e$ Oscillations
- Blumer 85 Phys. Lett. 161B:407,1985.
Experimental Constraints on Lepton Mixing Angles and Neutrino Mass Differences for Three Simultaneously Oscillating Neutrino Flavors
- Bock 85B BONN-IR-85-14:
Untersuchung der Reaktion γ deuteron $\rightarrow p p \pi^-$ auf Mogliche Dibaryon-Zwischenzustände
- Bock 89 GSI-89-12:
Source Parameters Deduced from Bose-Einstein Correlations of Two and Three Soft Pions in Symmetric Heavy Ion Interactions at 650 A MeV
- Bock 89B Mod. Phys. Lett. A3:1745,1989;
Bose-Einstein Correlations of Positive Pions in Collisions of Nb + Nb and Au + Au at 650 A MeV
- Bocquet 86 Phys. Lett. 182B:146,1986; CERN-EP-86-95;
Observation of the Decay of Heavy Hypernuclei
- Bocquet 87 Phys. Lett. 192B:312,1987; CERN-EP-87-11;
Delayed Fission from the Antiproton Annihilation in ^{209}Bi , Evidence for Hypernuclear Decay
- Bodek 89 UR-1120: ER-1306S-587:
A Comparison of Quark and Gluon Jets Produced in 3 Jet $e^+ e^-$ Annihilation Events
- Bodenkamp 85 Nucl. Phys. B255:717,1985;
Measurement of the Reaction $\gamma p \rightarrow p \bar{p} p$ at $4.7 \leq E \leq 8.6$ GeV
- Boehm 86 Nucl. Phys. A434:451C,1985;
Introduction to Neutrino Mass
- Bofill 87 Phys. Rev. D36:3309,1987; FERMILAB-PUB-87-33-E;
Limits on $\nu_\mu \rightarrow \nu_\tau$ and $\nu_\mu \rightarrow \nu_e$ Oscillations
- Bogdanov 88 Yad. Phys. 47:316,1988;
Topological Characteristics of ^{12}C and ^{22}Ne Fragmentation on Nucleons
- Bogert 85 Phys. Rev. Lett. 55:574,1985;
Determination of the Nucleus Structure by Means of the Weak Neutral Current
- Bogert 85B Phys. Rev. Lett. 55:1969,1985;
Determination of $\sin^2\theta_W$ and ρ in Deep Inelastic Neutrino Nucleon Scattering
- Bogert 86 FERMILAB-CONF-85-108-E;
Determination of the Nucleon Structure Using the Weak Neutral Current
- Bogolyubsky 84B Yad. Phys. 41:1210,1985; Sov. J. Nucl. Phys. 41:773,1985; IFVE-84-140;
Study of Elastic $\bar{p} p$ Scattering at 32 GeV/c
- Bogolyubsky 84D Yad. Phys. 41:105,1985; Sov. J. Nucl. Phys. 41:66,1985; IFVE-84-52;
Separation of Clusters in Multidimensional Phase Space for the Reaction $K^- p \rightarrow K^- p \pi^+ \pi^-$ at 32 GeV/c
- Bogolyubsky 86 Yad. Phys. 44:979,1986; Sov. J. Nucl. Phys. 44:631,1986; IFVE-86-53;
Study of Correlation Between the Transverse Momenta of Secondary Hadrons in $\bar{p} p$ Interactions at 32 GeV/c
- Bogolyubsky 86B Yad. Phys. 43:1199,1986; Sov. J. Nucl. Phys. 43:768,1986;
One-particle Inclusive and Semi-inclusive Spectra of Λ Hyperons in $\bar{p} p$ Interactions at 32 GeV/c
- Bogolyubsky 86C Yad. Phys. 43:350,1986;
Cross Sections of Exclusive Reactions in $\bar{p} p$ Interaction, at 32 GeV/c
- Bogolyubsky 86D Yad. Phys. 45:1667,1987; IFVE-86-156;
Charge Properties of Annihilation Exclusive Reactions in $\bar{p} p$ Interactions at 32 GeV/c
- Bogolyubsky 86E Yad. Phys. 47:1027,1988; IFVE-86-219;
Study of Diffractive Processes in Exclusive Channel $\bar{p} p \rightarrow \bar{p} p 2\pi^+ 2\pi^-$ at 32 GeV/c
- Bogolyubsky 86F Yad. Phys. 43:907,1986;
Analysis of Elastic $\bar{p} p$ Scattering in the Impact Parameter Representation for the Energy Interval of 10 GeV - 100 GeV and the Comparison with the $p p$ Data
- Bogolyubsky 86G Yad. Phys. 44:1201,1986; Sov. J. Nucl. Phys. 44:780,1986;
Study of Leading Properties of Protons and Antiprotons from $\bar{p} p$ Exclusive Reactions at 32 GeV/c
- Bogolyubsky 86H IFVE-86-220;
Study of Inclusive and Semi-inclusive Transverse Momentum Distributions of the Charged Hadrons in $\bar{p} p$ Interactions at 32 GeV/c
- Bogolyubsky 87 Yad. Phys. 46:522,1987;
Cross Sections of Particle Diffractive Production in $\bar{p} p$ Interactions at 32 GeV/c
- Bogolyubsky 87B Yad. Phys. 48:448,1988; Sov. J. Nucl. Phys. 48:282,1988; IFVE-87-154;
A Study of the Proton Diffractive Structure in Reaction $\bar{p} p \rightarrow \bar{p} (p 2\pi^+ 2\pi^-)$ at 32 GeV/c
- Bogolyubsky 87C Sov. J. Nucl. Phys. 48:467,1988; Yad. Phys. 48:733,1988; IFVE-87-167;
Study of K_S -mesons Inclusive Production in $\bar{p} p$ Interactions at 32 GeV/c
- Bogolyubsky 87D Yad. Phys. 46:811,1987;
Analysis of Multiparticle Correlations in $\bar{p} p$ Interactions at 32 GeV/c by Filled Rapidity-interval Method
- Bogolyubsky 87E Yad. Phys. 46:1680,1987;
Study of Multiplicity of Charged Particles in $p p$ and $\bar{p} p$ Interactions at 32 GeV/c
- Bogolyubsky 88 Yad. Phys. 47:142,1988;
Dependence of Characteristics of $\bar{p} p$ Interactions at 32 GeV/c upon Nature and Energy of the Leading Particles
- Bogolyubsky 88B Yad. Phys. 47:401,1988;
Baryon Number, Strangeness and Electric Charge Distribution in $\bar{p} p$ Interactions at 32 GeV/c in Event with Leading Baryons
- Bogolyubsky 88C Yad. Phys. 47:712,1988;
Study of Inclusive and Semi-inclusive Transverse Momentum Distributions of the Charged Hadrons in $\bar{p} p$ Interactions at 32 GeV/c
- Bogolyubsky 88E Yad. Phys. 49:732,1989; Sov. J. Nucl. Phys. 49:454,1989; IFVE-88-119;
Inclusive Production of γ Quanta and π^0 Mesons in $\bar{p} p$ Interactions at 32 GeV/c
- Bogolyubsky 88F Yad. Phys. 50:683,1989; IFVE-89-5;
Study of Neutral Strange Particle Production in $p p$ Interactions at 32 GeV/c and Comparison with $\bar{p} p$

- Bogolyubsky 88G Yad. Phys. 48:1322,1988; Sov. J. Nucl. Phys. 48:841,1988; IFVE-88-29
Study of Enlarged p_T Event Structure in $\bar{p}p$ Interactions at 32 GeV/c
- Bogolyubsky 89B Yad. Phys. 49:436,1989; Sov. J. Nucl. Phys. 49:272,1989
Mean Multiplicities and Mean Energies of Particles in Diffraction Clusters in 32 GeV $\bar{p}p$ Interactions
- Bogolyubsky 89D Yad. Phys. 50:115,1989; Sov. J. Nucl. Phys. 50:73,1989
Angular Distributions of Secondaries in Diffractively Produced Systems in 32 GeV/c $\bar{p}p$ Interactions
- Bohm 84E Phys. Rev. D31:3005,1985; DOE-ER-03992-572.
The New Value for the Electron Asymmetry in $\Sigma^- \rightarrow n e^- \bar{\nu}_e$ and Hyperon Semileptonic Decays
- Bokemeyer 88 GSI-88-68A:
Narrow Positron Line Emission in Collisions of Very Heavy Ions
- Bokemeyer 89 GSI-89-49:
Correlated Electron-Positron Emission in Heavy-Ion Collisions
- Boldea 85 Sov. J. Nucl. Phys. 44:94,1987; Yad. Phys. 44:149,1986; JINR-P1-85-607.
Analysis of Central Collisions in Relativistic Nuclear Interactions
- Bologna 85 Nuovo Cim. 8C:76,1985.
Primary Cosmic Ray Spectrum at Energies Approximately 10^{13} eV - 10^{16} eV from Multiple Muon Events in NUSEX Experiment
- Bolonkin 86 Yad. Phys. 43:1211,1986; Sov. J. Nucl. Phys. 43:776,1986.
Study of the Reaction $K^- p \rightarrow K_S K_S$ strange at 40 GeV/c
- Bolonkin 87 ITEP-87-52:
Study of the $f_2(1720)$ and $f_2(2300)$ in the Reaction $\pi^- p \rightarrow K_S K_S n$ at the 40 GeV/c
- Bolonkin 88 Nucl. Phys. B309:426,1988; Yad. Phys. 46:799,1987.
 $f_2(1720)$ and $f_2(2300)$ Resonances in the $\pi^- p \rightarrow K_S K_S n$ Reaction at Momentum 40 GeV/c
- Bolonkin 89 ITEP-89-149:
The Study of the Reaction $K^- p \rightarrow \Lambda \bar{\Lambda} Y^*(unspec)$ at the 40 GeV/c Momentum
- Bolotov 85 Yad. Phys. 44:117,1986; MINR-85-P-0441.
Investigation of $K^- \rightarrow \pi^- \pi^0 \pi^0$ Decay
- Bolotov 85B Yad. Phys. 44:108,1986; Sov. J. Nucl. Phys. 44:68,1986; MINR-85-P-0425;
Experimental Investigation of Rare Mode $K^- \rightarrow \pi^0 \gamma e^- \bar{\nu}_e$, and $K^- \rightarrow \pi^0 \pi^0 e^- \bar{\nu}_e$
- Bolotov 85C Pis'ma Zh. Eksp. Teor. Fiz. 42:390,1985; JETP Lett. 42:481,1985.
Observation of $K^- \rightarrow \pi^- \pi^0 \pi^0 \gamma$ Decay
- Bolotov 86 Pis'ma Zh. Eksp. Teor. Fiz. 43:405,1986.
Experimental Limitation of the Probability of $\pi^0 \rightarrow 4\gamma$ Decay
- Bolotov 86B Yad. Phys. 45:1652,1987; MINR-86-P-0486;
Experimental Investigation of Structure Radiation in $K^- \rightarrow \pi^- \pi^0 \gamma$ Decay
- Bolotov 87 MINR-87-P-0510:
About Improvement of Experimental Limitation on the Probability of $K^- \rightarrow \pi^- 3\gamma$
- Bolotov 88 Pis'ma Zh. Eksp. Teor. Fiz. 47:8,1988.
Measurement of Decay's Formfactor for $K^- \rightarrow \pi^0 e^- \bar{\nu}$
- Bolton 86 Phys. Rev. Lett. 56:2461,1986; LA-UR-86-446;
Search for the Decay $\mu^+ \rightarrow e^+ \gamma$
- Bolton 88 Phys. Rev. D38:2077,1988;
Search for Rare Muon Decays with the Crystal Box Detector
- Bond 88B Phys. Rev. Lett. 60:1110,1988; KEK-87-14; ICR-REPORT-154-87-8.
Search for Gamma Rays from Supernova 1987A at Energies Greater than 100 TeV
- Bond 89 Phys. Rev. Lett. 61:2292,1989; ICR-REPORT-161-88-7; KEK-88-7.
Search for TeV Gamma Rays from SN 1987A December 1987 and January 1988
- Bondar 84 Pis'ma Zh. Eksp. Teor. Fiz. 40:440,1984; JETP Lett. 40:1265,1984;
Search of Light Particles with Charge=2/3 in $e^+ e^-$ Annihilation
- Bondarenko 87 Pis'ma Zh. Eksp. Teor. Fiz. 45:515,1987; JETP Lett. 45:657,1987.
Search for Parity Violation Effects in the Total Neutron Cross Section ϵ^f ^{233}U Nuclei
- Bondarenko 87B JETP Lett. 46:279,1987; Pis'ma Zh. Eksp. Teor. Fiz. 46:222,1987.
Violation of Spatial Parity in the Total Cross Section for Interaction of Thermal Neutrons with ^{233}Pu Nuclei
- Bonesini 87 Z. Phys. C37:39,1987; CERN-EP-87-164.
High Transverse Momentum π^0 -production by π^- and π^+ on Protons at 280 GeV/c
- Bonesini 88 Z. Phys. C37:535,1988; CERN-EP-87-185.
High Transverse Momentum Prompt Photon Production by π^- and π^+ on Protons at 280 GeV/c
- Bonesini 88B Z. Phys. C38:371,1988.
Production of High Transverse Momentum Prompt Photons and Neutral Pions in Proton-Proton Interactions at 280 GeV/c
- Bonesini 89 Z. Phys. C42:527,1989; CERN-EP-88-178.
High Transverse Momentum η Production in $\pi^- p$, $\pi^+ p$ and $p p$ Interactions at 280 GeV/c
- Bonesini 89B Z. Phys. C44:71,1989.
The Structure of Events Triggered by Direct Photons in $\pi^- p$, $\pi^+ p$ and $p p$ Collisions at 280 GeV/c
- Bonin 86 Nucl. Phys. A445:381,1985.
He Nucleus Elastic Scattering at Intermediate Energies
- Bonino 88 Phys. Lett. 211B:239,1988.
Evidence for Transverse Jets in High-Mass Diffraction
- Bonneaud 86 Phys. Lett. 177B:109,1986; SLAC-PUB-3748; LAL-86-14.
Quasi-real Compton Scattering Measurement and e^{\pm} Search with DELCO at PEP
- Bonner 87 Phys. Rev. Lett. 58:447,1987.
Spin Transfer in Hyperon Production
- Bonner 88 Phys. Rev. D38:729,1988.
Spin Parameter Measurement in Λ and K_S Production
- Bonner 88B Phys. Rev. Lett. 61:1918,1988; ANL-HEP-PR-89-41.
Analyzing Power Measurement in Inclusive π^0 Production at High x_F
- Bonner 89 Phys. Rev. Lett. 62:1591,1989.
Spin-Parameter Measurement in Inclusive Σ^0 Production
- Bonnetbidaud 88 Phys. Rept. 170:325,1988.
Cygnus X-3, a Critical Review

- Bonvin 89 Z. Phys. C41:591,1989;
Double Prompt Photon Production at High Transverse Momentum by π^- on Protons at 280 GeV/c
- Bonvin 90 Phys. Lett. 236B:523,1990; CERN-EP-90-07;
Intrinsic Transverse Momenta in the $\pi^- p \rightarrow \gamma \gamma X$ Reaction at 280 GeV/c
- Boos 85 ALMA-85-04:
Angular and Energy Characteristics of Secondary Charge Particles from $p p$ Interactions at 22.4 GeV/c
- Boos 86 Yad. Phys. 43:105,1986;
Compatible Analysis of Antiproton and Proton-Nucleon Interactions
- Boos 86B Yad. Phys. 43:116,1986; Sov. J. Nucl. Phys. 43:74,1986;
Hadron Deuteron Double Scattering Effects and Their Dependence on Incident Energy
- Boos 86C ALMA-86-11:
Specifics of Angular Distributions of Secondary Particles in Proton Interactions, Accompanied by Total Breakdown of Nuclear Targets
- Boos 87 Yad. Phys. 46:540,1987; JINR-P1-86-520;
Production of Backward Protons with Momenta 0.2 - 0.5 GeV/c in Lab System Which Are Generated in \bar{p} Nucleus Interactions at 40 GeV/c
- Boos 87B JINR-E1-87-398:
Charged Particle Spectra in $\pi^- p$, π^- deuteron and π^- C Interactions at 38 GeV/c with Single-Particle High p_T Trigger
- Boos 88 ALMA-88-04:
Investigation of Total Destruction of the Atomic Nuclei in the Inelastic Hadron Nucleus Interactions at the 40 GeV/c
- Boos 88B ALMA-88-16:
Investigation of Multiparticle Correlations in the Range 200 - 400 GeV
- Boos 88C Yad. Phys. 48:1005,1988;
Study of Diffractive Production of Hadron Systems in $p p$ Interactions at 89 GeV/c
- Boos 89 ALMA-89-01:
Investigation of Exclusive Reaction with Six Charged Particles in $\bar{p} p$ Interactions at 22.4 GeV/c Momentum
- Booth 85 Nucl. Phys. B273:677,1986; CERN-EP-85-138;
A High Statistics Study of the $\phi \phi$ Mass Spectrum
- Booth 86 Nucl. Phys. B273:689,1986;
- Bor, 86 **Angular Correlations in the $\phi \phi$ System and Evidence for Hadronic $\eta_c(1S)$ Production**
 Phys. Rev. Lett. 56:919,1986; Phys. Rev. Lett. 57:1192,1986; HD-PY-86-04;
The β Decay Asymmetry of the Neutron and G_N/G_V
- Bordalo 87 Phys. Lett. 193B:368,1987; CERN-EP-87-67;
Nuclear Effects on the Nucleon Structure Functions in Hadronic High-Mass Dimuon Production
- Bordalo 87B Phys. Lett. 193B:373,1987; CERN-EP-87-68;
Observation of a Nuclear Dependence of the Transverse Momentum Distribution of Massive Muon Pairs Produced in Hadronic Collisions
- Bordalo 88 Z. Phys. C39:7,1988;
Open Beauty Production in High Energy π^- Tungsten Interactions
- Boris 85 Pis'ma Zh. Eksp. Teor. Fiz. 42:107,1985; Jett Lett. 42:130,1985; Phys. Lett. 159B:217,1985;
The Neutrino Mass from the Tritium β Spectrum in Valine (ITEP-84)
- Boris 87 Pis'ma Zh. Eksp. Teor. Fiz. 45:267,1987;
The Neutrino Mass from the Tritium β Spectrum (ITEP-86)
- Boris 87B Phys. Rev. Lett. 58:2019,1987; Phys. Rev. Lett. 61:245,1988;
Neutrino Mass from the β Spectrum in the Decay of Tritium
- Borisov 84 Sov. J. Nucl. Phys. 41:74,1985; Yad. Phys. 41:116,1985; JINR-P1-84-317;
Measurement of Polarization in the $\pi^- p \rightarrow \pi^0 n$, $\pi^0 \rightarrow 2\gamma$ Reaction at 40 GeV/c with the Registration of All Reaction Products
- Borisov 85 Izv. Akad. Nauk SSSR, Fiz. 49:1278,1985;
Jet Phenomenon in Giant Superfamily
- Borisov 85B Izv. Akad. Nauk SSSR, Fiz. 49:1282,1985;
General Properties of Hadronic Families
- Borisov 85C Izv. Akad. Nauk SSSR, Fiz. 49:1285,1985;
On Halo's Structure of Great Gamma-Families
- Borisov 85D Bull. Ac. Sci. USSR Phys. Ser. 49:42,1985; Izv. Akad. Nauk SSSR, Fiz. 49:1288,1985;
Interaction Range of Hadrons with Energies Above 20 TeV in Lead. Pamir Collaboration
- Borisov 86 Pis'ma Zh. Eksp. Teor. Fiz. 43:559,1986;
The Measurements of the Transmission's Polarization Parameter K_{non} in $p p$ Scattering for Energies of 800 - 970 MeV
- Borisov 87 Kr. Soobl. JINR 21:40,1987;
Investigation of the Possibility of Neutron Electric Charge Measurement by Means of Ultracold Neutrons
- Borisov 87B Phys. Lett. 190B:226,1987;
Observation of a High Energy Cosmic Ray Family Caused by a Centauro Type Nuclear Interaction in the Joint Emulsion Chamber Experiment at the Pamir
- Borkovsky 84 Jour. of Phys. G 11:69,1985; LENI-84-918;
Measurement of the Differential Cross Sections of the π^+ deuteron $\rightarrow p p$ Reaction at 280, 300, 330, 357, 390, 420 and 450 MeV Pion Energies
- Bortoletto 88 Phys. Rev. D37:1719,1988; Phys. Rev. D39:1471,1989;
Charm Production Nonresonant $e^+ e^-$ Annihilation at $\sqrt{s}=10.55$ GeV
- Bortoletto 89 Phys. Rev. Lett. 62:2436,1989; CLNS-89-687; CLEO-89-3;
A Search for $b \rightarrow u$ Transitions in Exclusive Hadronic B Meson Decays
- Bortoletto 89B Phys. Rev. Lett. 63:1667,1989;
Study of the Decays $\bar{B}^0 \rightarrow D^*(2010)^+ \ell^- \bar{\nu}$
- Bortoletto 90 CLEO-90-1;
Exclusive and Inclusive Decays of B Mesons into D_S^\pm Mesons
- Borzakov 87 Yad. Phys. 46:1601,1987;
Measurement of $e^+ e^-$ Pair Emission Probability in Thermal Neutron Capture
- Borzakov 90 JINR-P15-90-60;
A Search for 180 Degrees Correlated Pairs of Gamma-Quanta in ${}^4\text{He}$ -Decay of ${}^{230}\text{Pu}$

Boschitz 86

Bratashevsky 85B

- Boschitz 86 Czech J. Phys. B36:215,1986.
The Interaction of Pions with Deuterons
- Bosetti 90 Z. Phys. C46:377,1990.
Analysis of Transverse Momentum and Event Shape in νn Scattering
- Bossingham 89 LBL-27340:
Measurement of the η Parameter in μ^+ decay
SLAC-PUB-5131:
Measurement of the Deuteron and Proton Magnetic Form Factors at Large Momentum Transfers
- Boswell 86 Phys. Rev. C32:1289,1985.
Inelastic Scattering of π^+ and π^- Mesons from ${}^3\text{He}$ and ${}^4\text{He}$ at Energies of 350 MeV, 400 MeV, and 475 MeV
- Botner 89 Phys. Lett. 236B:488,1990; CERN-EP-89-80.
Production of Prompt Electrons in the Charm p_T Region at $\sqrt{s}=630$ GeV
- Boucher 88 Phys. Lett. 207B:217,1988:
New Experimental Limits on Radiative Neutrino Decay
- Bouchez 88 DPHPE-88-14:
Neutrino Oscillations at Reactors
- Boudard 88 Phys. Lett. 214B:6,1988:
The T_{20} of the deuteron $p \rightarrow {}^3\text{He} \pi^0$ Reaction at Threshold and π Absorbtion on a Pair of Nucleus
- Bougault 90 LPCC-90-02:
Sideways Flow Effect in Kr + Au Central Collisions at 43 MeV/u
- Bourdarios 88 LAL-88-34:
Results of the FREJUS Experiment on Nucleon Decay
- Bourquin 86 Phys. Lett. 172B:113,1986; CERN-PRE-86-016 HD-PY-86-05.
Evidence for Narrow States Decaying into $\Lambda \bar{p}$ π 's at 3.1 GeV/c² with Charges +1, 0 and -1
- Boutemeur 88 LAPP-EXP-88-20:
Analysis of the Reaction $\pi^- p \rightarrow \pi^0 \eta \pi^-$ at 100 GeV
- Boutemeur 89 LAPP-EXP-89-17:
A New Scalar Meson Decaying into $\eta \pi^0$ and Results of $\eta' \pi^0$ Analysis at 100 GeV/c
- Bovet 84 Phys. Lett. 153B:231,1985; SIN-PR-84-17.
A New Determination of the $\pi^- p$ and π^- deuteron 2P-1s Strong Interaction Shifts Using Crystal Diffraction
- Bowcock 85 Phys. Rev. Lett. 55:923,1985; CLEO-85-6; CLNS-85-659.
 A_π^+ Production from $e^+ e^-$ Annihilation in the Υ Energy Region
- Bowcock 86 Phys. Rev. Lett. 56:2676,1986.
Upper Limits for the Production of Light Short Lived Neutral Particles in Radiative $\Upsilon(1S)$ Decay
- Bowcock 87 Phys. Rev. Lett. 58:307,1987.
Study of $\pi^+ \pi^-$ Transitions from the $\Upsilon(3S)$
- Bowcock 88 Phys. Rev. D38:2679,1988; Phys. Rev. D40:1701,1989;
Investigation of the Total Charm-Pair Cross Section in Nonresonant $e^+ e^-$ Annihilation at $\sqrt{s}=10.5$ GeV
- Bowcock 89 Phys. Rev. Lett. 62:1240,1989; CLNS-88-876; CLEO-88-3;
 $\Sigma_c(2455)^+$ and $\Sigma_c(2455)^0$ Production from $e^+ e^-$ Annihilation in the Υ Energy Region
- Bowcock 89B Phys. Rev. D40:263,1989; CLNS-89-895; CLEO-89-6;
Search for the Production of Fractionally Charged Particles in $e^+ e^-$ Annihilations at $\sqrt{s}=10.5$ GeV
- Bowcock 90 Phys. Rev. D41:805,1990; CLNS-89-950; CLEO-89-13;
Search for Neutrinoless Decays of the τ^{\pm} Lepton
- Boyarinov 86 ITEP-86-130:
Production of Cumulative Protons with the Momentum of 0.6 - 1.83 GeV/c
- Boyarinov 87 ITEP-87-5:
Production of Cumulative Pions with the Momentum of 0.6 - 1.62 GeV/c in the p nucleus $\rightarrow \pi^\pm X$ by Protons of 10.14 GeV
- Boyarinov 87B Yad. Phys. 46:1472,1987.
Production of Cumulative Protons and Pions with the Momentum of 0.6 - 1.83 GeV/c by Protons of 10.14 GeV
- Boyarinov 88 Yad. Phys. 47:942,1988; ITEP-86-165.
Production of Deuterons and Tritium Nuclei with the Momentum of 0.6 - 1.83 GeV/c on the Be, Al, Cu, Ta at 119 Degrees by Protons of 10 GeV
- Boyarinov 88B ITEP-88-13:
The Cumulative K^+ Mesons Production by Proton with Energy 10 GeV
- Boyarinov 88C ITEP-88-138:
The Cumulative K^- Mesons Production by Proton with Energy 10 GeV
- Boyarinov 89 Yad. Phys. 50:1605,1989.
The Cumulative Kaon Production by 10 GeV Protons
- Boyer 86 Phys. Rev. Lett. 56:207,1986.
Charged Meson Pair Production in $\gamma \gamma$ Interactions
- Boynton 87 Phys. Rev. Lett. 59:1385,1987; PHINT-87-0585-WASH-U-SEATTLE.
Search for an Intermediate Range Composition Dependent Force
- Bozzo 85 Phys. Lett. 155B:197,1985; CERN-EP-85-31;
Elastic Scattering at the CERN SPS Collider up to a Four Momentum Transfer of 1.65 GeV²
- Brack 88 TRI-PP-88-24.
Large Angle $\pi^+ p$ Elastic Scattering at 86.8 MeV
- Brack 89 TRI-PP-89-102:
Absolute Differential Cross Section for $\pi^\pm p$ Elastic Scattering at 30 MeV < $T(\pi^\pm)$ < 67 MeV
- Brady 88 Phys. Rev. Lett. 60:1699,1988.
Large p_T from the Fragmentation of 1.2 GeV/Nucleon ${}^{130}\text{La}$ Nuclei
- Bratashevsky 85 Yad. Phys. 41:1515,1985; Sov. J. Nucl. Phys. 41:960,1985.
Measurement of Polarization of Protons from Reaction $\gamma p \rightarrow p \pi^0$ in the Third Resonance
- Bratashevsky 85B Yad. Phys. 42:658,1985; Sov. J. Nucl. Phys. 42:417,1985.
Measurement of Polarization of Protons from Reaction $\gamma p \rightarrow p \pi^0$ at 110 Degrees in the Range of the Second and Third Resonances

Bratashevsky 86

Breakstone 85B

- Bratashevsky 86 Yad. Phys. 44:960,1986; Sov. J. Nucl. Phys. 44:619,1986.
Polarization of Protons in Reaction γ deuteron $\rightarrow p$ at $E(\gamma)=0.7$ - 1 GeV for $\theta(p)=90$ Degrees
 Bratashevsky 86**b** Yad. Phys. 43:785,1986; Sov. J. Nucl. Phys. 43:499,1986.
Investigation of Polarization Parameters in Deuteron Photofusion Induced by Linearly Polarized Photons
 Bratashevsky 86**c** Ukr. Fiz. Zhurn. 31:1306,1986.
Measurements of Polarization of Secondary Protons in the γ p \rightarrow p π^0 Reaction at $\theta(\pi) = 150$ Degrees CMS within the Range of $E(\gamma) = 0.450$ GeV - 0.700 GeV.
 Bratashevsky 87 Yad. Phys. 46:1095,1987.
Polarization of Proton in the Reaction γ p \rightarrow p π^0 under an Angle of $\theta(\pi^0)=120$ Degrees in CMS at the Third Maximum of the Total Cross Section
 Bratashevsky 87D Yad. Phys. 45:1672,1987.
Polarization of Cumulative Protons from the Reaction γ nucleus \rightarrow p X at a Maximum Energy of 1.6 GeV for the Bremsstrahlung Photon Spectrum
 Brau 88 Phys. Rev. D37:2379,1988; SLAC-PUB-4424; SLAC-PUB-4431; UTHEP-87-0901; RAL-87-078.
Production and Decay Properties of ω π^0 State at 1250 MeV/c² Produced by 20 GeV Polarized Photons on Hydrogen
 Braun 89 Czech. J. Phys. B39:1267,1989.
Cross Section of the Interactions of ⁴He Nuclei with Protons at 8.6 and 13.4 GeV/c
 Braunnunzinger 88 Z. Phys. C38:45,1988; BNL-40838.
Transverse Energy Distributions in Si-Nucleus Collisions at 10 GeV/Nucleon
 Braunschweig 86 Z. Phys. C33:13,1986; DESY-86-078.
Inclusive π^0 Production by $e^+ e^-$ Annihilation at 34 GeV Center of Mass Energy
 Braunschweig 87 Z. Phys. C36:349,1987; FTUAM-EP-87-04; DESY-87-081.
A Study of Energy-Energy Correlations between 12 and 46.8 GeV c.m. Energies
 Braunschweig 87**B** Z. Phys. C35:317,1987; RAL-86-109; DESY-86-159; RAL-86-109; WIS-86-66-PP.
Measurement of the D_s^\pm Lifetime
 Braunschweig 88 Z. Phys. C38:543,1988; DESY-88-005.
A Search for Particles with Magnetic Charge Produced in $e^+ e^-$ Annihilations at $\sqrt{s}=35$ GeV
 Braunschweig 88**B** Z. Phys. C37:171,1988; FTUAM-87-07; PITHA-87-18; DESY-87-115.
A Study of Bhabha Scattering at PETRA Energies
 Braunschweig 88**C** Z. Phys. C41:359,1988; DESY-88-107.
Jet Fragmentation and QCD Models in $e^+ e^-$ Annihilation at c.m. Energies between 12.0 and 41.5 GeV
 Braunschweig 88**D** Z. Phys. C39:331,1988; DESY-88-034.
A Measurement of the τ^\pm Lifetime
 Braunschweig 88**E** Z. Phys. C40:163,1988; Z. Phys. C42:348,1988; DESY-88-059.
A Measurement of Muon Pair Production in $e^+ e^-$ Annihilations at Centre of Mass Energies $35.0 < \sqrt{s} < 46.8$ GeV
 Braunschweig 88**F** Z. Phys. C41:353,1988; DESY-88-091.
Measurement of the Two-Photon Reaction $\gamma \gamma \rightarrow \pi^+ \pi^+ \pi^- \pi^-$ at Large Values of Q^2
 Braunschweig 88**G** Z. Phys. C41:365,1988; DESY-88-100.
Evidence for Direct Photons from Quarks in Electron-Positron Annihilation
 Braunschweig 89 Z. Phys. C41:533,1989; DESY-88-050; WIS-88-15-PP.
Study of $\eta_c(1S)$ Production in Two-Photon Collisions
 Braunschweig 89**B** Z. Phys. C42:189,1989; DESY-88-164.
Pion, Kaon and Proton Cross Sections in $e^+ e^-$ Annihilation at 34 and 44 GeV c.m. Energy
 Braunschweig 89**C** Z. Phys. C42:17,1989; DESY-88-112.
A Study of Jets from b Quarks Produced in $e^+ e^-$ Annihilations at $\sqrt{s}=35 \sim 46$ GeV
 Braunschweig 89**D** Z. Phys. C45:193,1989; DESY-89-038.
Charged Multiplicity Distributions and Correlations in $e^+ e^-$ Annihilation at PETRA Energies
 Braunschweig 89**E** Z. Phys. C45:1,1989; DESY-89-032; WIS-89-7-PP.
Comparison of Inclusive Fractional Momentum Distributions of Quark and Gluon Jets Produced in $e^+ e^-$ Annihilation
 Braunschweig 89**F** Z. Phys. C43:549,1989; DESY-89-035.
A Measurement of Electroweak Effects in the Reaction $e^+ e^- \rightarrow \tau^+ \tau^-$ at 35 GeV and 42.4 GeV
 Braunschweig 89**G** Z. Phys. C44:365,1989; DESY-89-053.
Production and Decay of Charmed Mesons in $e^+ e^-$ Annihilation at $\sqrt{s} > 28$ GeV
 Braunschweig 89**H** Z. Phys. C45:11,1989; DESY-89-069; FTUAM-EP-89-03.
Experimental Study of Jet Masses in $e^+ e^-$ Annihilation at c.m. Energies Between 12 and 43.5 GeV
 Braunschweig 89**I** Z. Phys. C45:209,1989; DESY-89-173; OU-NP-89-3.
Strange Baryon Production in $e^+ e^-$ Annihilation
 Braunschweig 89**J** Phys. Lett. 231B:548,1989; DESY-89-092.
Study of Intermittency in Electron-Positron Annihilation into Hadrons
 Braunschweig 89**K** Z. Phys. C47:181,1990; DESY-89-132. FTUAM-EP-89-06.
Experimental Study of the Orientation of Three-Jet Events in $e^+ e^-$ Annihilation at Petra
 Braunschweig 89**L** Z. Phys. C44:1,1989; DESY-88-159.
Measurement of the Average Lifetime of B Hadrons
 Braunschweig 90 Z. Phys. C47:187,1990; DESY-90-013.
Global Jet Properties at 14 - 44 GeV Center of Mass Energy in $e^+ e^-$ Annihilation
 Braunschweig 90**B** DESY-90-012.
Production of Charmed Mesons in $\gamma \gamma$ Interactions
 Bravina 86 Yad. Phys. 43:899,1986; Sov. J. Nucl. Phys. 43:574,1986.
Reconstructed Inclusive and Semi-inclusive π^+ Meson Rapidity Differential Cross Sections in the \bar{p} p Annihilation at 32 GeV/c
 Bravina 89 Yad. Phys. 50:392,1989.
Multiplicity Correlations in Forward and Backward Hemispheres in CMS in \bar{p} p and p p Interactions at 32 GeV/c
 Breakstone 85 Phys. Rev. Lett. 54:2180,1985; CERN-EP-85-09.
A Measurement of p p and p p Elastic Scattering in the Dip Region at $E_{cm}=53$ GeV
 Breakstone 85**B** Z. Phys. C28:335,1985; CERN-EP-85-30.
A Diquark Scattering Model for High Proton Production in p p Collisions at the ISR

Breakstone 85C

- Breakstone 85C Nucl. Phys. B248:253,1985; CERN-EP-84-105.
A Measurement of $\bar{p} p$ and $p \bar{p}$ Elastic Scattering at ISR Energies
- Breakstone 85D Z. Phys. C30:507,1986; CERN-EP-85-175.
Composition of Particles Emitted at Large p_T and Medium Angles in $p p$, deuteron deuteron, and He He Collisions at the CERN Intersecting Storage Rings
- Breakstone 85E Z. Phys. C27:205,1985; CERN-EP-84-132;
Gluon Tagging in Hard Proton Proton Interactions at the ISR
- Breakstone 86 Z. Phys. C31:185,1986; CERN-EP-86-11.
Production of the $f_2(1270)$ Meson in the Double Pomeron Exchange Reaction $p p \rightarrow p p \pi^+ \pi^-$ at $E_{cm}=62$ GeV
- Breakstone 86B Phys. Lett. 162B:400,1986; CERN-EP-85-110.
Bose-Einstein Correlations in $p p$ and $\bar{p} p$ Interactions at $\sqrt{s}=63$ GeV
- Breakstone 86C CERN-EP-86-124;
Pomeron-Pomeron Collisions at the CERN ISR
- Breakstone 86D Z. Phys. C35:159,1987; CERN-EP-87-23;
Inclusive Cross Section Ratios in High p_T Proton Proton Scattering at ISR Energies
- Breakstone 86E Z. Phys. C33:475,1987; CERN-EP-86-184;
A Study of Gluon Scattering and Gluon Fragmentation in High p_T Interactions at the ISR
- Breakstone 86F Phys. Lett. 183B:227,1987; CERN-EP-86-123;
Multiplicity Dependence of Transverse Momentum Spectra in $p p$, $\bar{p} p$, deuteron deuteron and He He Collisions at ISR Energies
- Breakstone 86G Z. Phys. C33:333,1987; CERN-EP-86-132;
Multiplicity Dependence of the Average Transverse Momentum and of the Particle Source Size in $p p$ Interactions at E_{cm} 62, 44 and 31 GeV
- Breakstone 87 Z. Phys. C36:567,1987; CERN-EP-87-8.
Tagging Diquarks by Protons of High Transverse Momentum in $p p$ Collisions at the ISR
- Breakstone 88 Z. Phys. C40:207,1988; CERN-EP-88-21;
Contribution of Single Diffraction Dissociation to High p_T Production in Proton Proton Collisions at $\sqrt{s}=80$ GeV at the CERN ISR
- Breakstone 88B Nuovo Cim. 102A:1199,1989; CERN-EP-88-133;
Charged Multiplicity Distributions in Rapidity Bins for $p p$ Collisions at $\sqrt{s}=31$, 44 and 62 GeV
- Breakstone 88C Z. Phys. C40:41,1988; CERN-EP-88-13;
Transverse Momentum Distribution in Pomeron-Pomeron Collisions at CERN ISR
- Breakstone 89 Z. Phys. C43:185,1989; CERN-EP-89-21;
Production of Meson Resonances as Leading Particles in Jets in Proton-Proton Collisions at $\sqrt{s}=62$ GeV at the CERN ISR
- Breakstone 89B Z. Phys. C42:387,1989; IS-J-3226;
Inclusive Pomeron-Pomeron Interactions at the CERN ISR
- Breakstone 90 CERN-EP-90-74;
A Sensitive Test of QCD from Parton-Parton Scattering of the ISR
SI-88-16.
Fragmentation Cross Sections of ^{32}S at 0.7, 1.2 and 200 GeV/Nucleon
- Brechtmann 88B SI-88-08.
Fragmentation Cross Sections of ^{16}O at 80 and 200 GeV/Nucleon
- Breedon 89 Phys. Lett. 216B:459,1989.
Precise Comparison of Antiproton-Proton and Proton-Proton Forward Elastic Scattering at $\sqrt{s}=24.3$ GeV
- Brefeld 84 Nucl. Instr. and Meth. A228:228,1985; BONN-84-23.
Measurement of the Polarization Degrees of Accelerated Polarized Electrons at the 2.5 GeV Synchrotron in Bonn for Energies between 0.85 GeV and 2 GeV
- Bressi 89 Z. Phys. C43:175,1989;
Search for Free Neutron-Antineutron Oscillations
- Breuker 85 Nucl. Phys. A455:641,1986; BONN-HE-85-31;
Deuteron Electrodisintegration in the $\Delta(1232 P_{33})$ Resonance Region at a Four Momentum Transfer $Q^2=0.23$ (GeV) 2
- Brick 86 Z. Phys. C31:59,1990;
Scaling in Soft Hadroproduction by Positive Projectiles in the Range of 32 GeV/c - 147 GeV/c
- Brick 89 Phys. Rev. D39:2481,1989.
Multiparticle Production by 200 GeV/c Hadrons on Gold, Silver and Magnesium Targets
- Brick 90 Phys. Rev. D41:765,1990;
Rapidities of Produced Particles in 200 GeV/c $\pi^+/p/K^+$ Interactions on Au, Ag, and Mg
- Bridges 86 Phys. Rev. Lett. 56:211,1986;
Evidence for a New State Produced in Antiprotons at Rest in Liquid Deuterium
- Bridges 86B Phys. Lett. 180B:313,1986;
Antiproton Annihilations in Deuterium at Rest into Two Pions. Evidence for a $\bar{p} n$ Bound States near Threshold
- Bridges 86C Phys. Rev. Lett. 56:215,1986;
Difference Spectra: Dominance of Two-Body Cascades in Antiproton-Neutron Annihilation at Rest
- Bridges 86D Phys. Rev. Lett. 57:1534,1986.
Properties of the $\zeta(1480)$
- Brient 87 SLAC-PUB-4505;
Recent Results for MARK-III
- Britton 88 TRI-PP-88-52.
A Study of the Decay $\pi^+ \rightarrow e^+ \nu_e$
- Brom 87 Phys. Lett. 195B:301,1987.
Measurement of the Lifetime of Hadrons Containing the b-Quark
- Bross 89 FERMILAB-PUB-89-138-E.
Search for Short-lived Particles Produced in an Electron Beam Dump
- Brovkin 89 ITEP-89-131
About Possible Existence of Strange Exotic Baryon Resonance in $p 3\pi^+ \pi^-$ System
- Browder 89 SLAC-PUB-5118.
Recent Results on Weak Decays of Charmed Mesons from the MARK-III Experiment

Brown 86

Burkhardt 85C

- Brown 86 FERMILAB-CONF-86-97-E:
Production of Hadrons and Leptons at High p_T and Pairs at High Mass
 Phys. Rev. Lett. 57:2101,1986; FERMILAB-PUB-86-103-E.
A New Limit on axion Production in 800 GeV Hadronic Showers
 Phys. Rev. Lett. 63:2637,1989.
- Brown 89 **Dimuon Production in 800 GeV Proton-Nucleus Collisions**
 Phys. Rev. D32:1605,1985.
- Brucker 85 **Intranuclear Cascade in ν_μ Ne Interactions**
 Phys. Rev. D34:2183,1986; BNL-38467;
- Brucker 86 **Limits on Neutrino Oscillations in the Fermilab Narrow-Band Beam**
 Phys. Lett. 166B:113,1986; CERN-EP-85-141;
- Bruckner 85 **Antiproton-Proton Elastic Cross Sections in the Momentum Range between 180 and 600 MeV/c**
 Phys. Lett. 158A:180,1985; CERN-EP-85-74;
- Bruckner 85B **Real-to-Imaginary Ratio of the $\bar{p} p$ Forward Elastic Scattering Amplitude in the Momentum Range between 180 and 590 MeV/c**
 Phys. Lett. 160B:302,1986; CERN-EP-85-202;
- Bruckner 86 **Measurement of the $\bar{p} p \rightarrow \bar{n} n$ Cross Section at Low \bar{p} Momenta**
 Phys. Lett. 197B:463,1987; CERN-EP-87-150;
- Bruckner 87 **Search for a Narrow Resonance and Antiproton-Proton Annihilation Cross Sections in the Beam Momentum Range between 400 and 600 MeV/c**
 Z. Phys. A352:217,1990; CERN-EP-89-105;
- Bruerkner 90 **Measurement of the Antiproton-Proton Annihilation Cross Section in the Beam Momentum Range between 180 and 600 MeV**
 Z. Phys. A352:217,1990; CERN-EP-89-105;
- Brunner 89 **Neutron to Proton Cross Section Ratios in Neutrino and Antineutrino Charged Current Reactions for $E < 30$ GeV**
 Phys. Rev. Lett. 55:465,1985;
- Bryman 85 **Search for $\mu^+ e^-$ Conversion in Ti**
 Phys. Rev. D33:1211,1986;
- Bryman 86 **Measurement of the $\pi^+ \rightarrow e^+ \nu$ Branching Ratio**
 Phys. Rev. Lett. 57:2787,1986; TRI-PP-86-73;
- Bryman 86B **Exotic Muon Decay $\mu^+ \rightarrow e^+ X$**
 Phys. Rev. Lett. 57:2787,1986; TRI-PP-86-73;
- Buchle 88 **Pion Production on Carbon by Medium Energy Neutrons**
 FREI-MEP-89-01;
- Buchle 89 **Neutron Induced Pion Production on Carbon, Copper and Bismuth at Intermediate Energies**
 Phys. Rev. D31:1132,1985;
- Budd 85 **Charge Distributions of Hadrons Associated with Hadronic $J/\psi(1S)$ Production**
 Phys. Lett. 243B:341,1990;
- Budilov 90 **Small Angle Proton-Proton Correlations in Collisions of High Energy Light Ions with Carbon and Gold Nuclei**
 Izv. Akad. Nauk SSSR. Fiz. 49:1373,1985;
- Budko 85B **Clusters of High Energy Muons and Chemical Composition of the Primary Cosmic Rays**
 ITEP-85-40;
- Bugg 87 **Measurement of Pion Proton Scattering Asymmetry at 1.4 – 2.1 GeV/c**
 Phys. Lett. 194B:563,1987;
- Bujak 85 **$\bar{p} p$ Total Cross Sections below 420 MeV/c**
 Phys. Rev. C32:620,1985;
- Bukin 89 **Mass Yield Distribution for the Interaction of Silver with 300 GeV Protons**
 Yad. Phys. 50:999,1989;
- Bukin 89 **The Process $e^+ e^- \rightarrow \pi^+ \pi^- \pi^0$ in Nonresonance Energy Region $2E$ up to 1.4 GeV**
 Yad. Phys. 44:671,1986;
- Buklej 86 **Laboratory Backward Emission of Pions in Reactions π^\pm nucleus $\rightarrow \pi^\pm X$ at 1.5 GeV/c**
 Yad. Phys. 46:531,1986; IFVE-86-159;
- Bumazhnov 86 **Study of Correlations between Rapidity of Two Charged π Mesons in $\bar{p} p$ Interactions at 32 GeV/c**
 Phys. Rev. Lett. 54:2489,1985; SLAC-PUB-3602; LBL-19387;
- Burchat 85 **Measurement of the Branching Fraction for $\tau^- \rightarrow 5\pi^\pm (\pi^0) \nu_\tau$ and an Upper Limit on the Tau-Neutrino Mass**
 SLAC-292;
- Burchat 86 **Decays of the τ^\pm Lepton**
 Phys. Rev. D35:27,1987; SLAC-PUB-4006; LBL-21915;
- Burchat 88 **Measurement of the Branching Fractions of the τ^\pm Lepton Using a Tagged Sample of τ^\pm Decays**
 SCIPP-89-26;
- Burchat 89 **First Results from the SLAC Linear Collider and MARK-II Detector**
 Phys. Rev. D41:3542,1990; SLAC-PUB-5172; LBL-28396;
- Burchat 90 **A Search for Decays of the Z^0 to Unstable Neutral Leptons with Mass between 2.6 and 22 GeV**
 ITEP-85-24;
- Burgov 85 **Study of Singularities in Momentum Spectrum of $\pi^- C \rightarrow \pi^- X$ Reaction at the 1.5 GeV/c**
 ITEP-86-8;
- Burgov 86 **Protons and Deuterons Production at 135 ± 8 Degrees in the Inclusive Reaction on the C Nuclei under π^- Mesons at $0.85 - 2.5$ GeV/c Momentum**
 Yad. Phys. 45:743,1987;
- Burgov 87 **Production of Protons and Deuterons under Angles near 100 and 130 Degrees in Inclusive Reactions on Nuclei Exposed to π^+ and π^- Mesons with Incident Momenta of 1.5 GeV/c**
 Z. Phys. C31:39,1986; CERN-EP-85-191;
- Burkhardt 85 **Are There "Prompt" Like-Sign Dimuons?**
 Phys. Lett. 150B:242,1985;
- Burkhardt 85B **Muon Decay: Measurement of the Positron Polarization and Implications for the Spectrum Shape Parameter η , V -A and T Invariance**
 Phys. Lett. 160B:343,1985;
- Burkhardt 85C **Muon Decay: Measurement of the Transverse Positron Polarization at General Analysis**

Burkhardt 87

Carboni 85

- Burkhardt 87 Phys. Lett. 199B:139,1987; CERN-EP-87-146.
Observation of the Decay $K_S \rightarrow 2\gamma$ and Measurement of the Decay Rate $K_L \rightarrow 2\gamma$ and $K_S \rightarrow 2\gamma$
- Burkhardt 88 Phys. Lett. 206B:169,1988; LAL-88-36; CERN-EP-88-47;
First Evidence for Direct CP Violation
- Burnett 85 ICR-121-k2-2;
Composition and Energy Spectra of Cosmic Ray Nuclei Above 500 GeV/Nucleon from the JACEE Emulsion Chamber Experiments
- Burnett 85D ICR-121-k5-2;
Cosmic Ray Results on Ultra-relativistic Nucleus Nucleus Interaction by Balloon Emulsion Experiments
- Burnett 86 Phys. Rev. Lett. 57:3249,1986.
Average Transverse Momentum and Energy Density in High Energy Nucleus Nucleus Collisions
- Burnett 87 Phys. Rev. D35:824,1987.
Nucleus Nucleus Interactions Between 20 and 65 GeV per Nucleon
- Burnham 87 TRI-PP-87-22;
Search for $\mu^- e^-$ Conversion on Ti
- Burow 87 BONN-IR-87-25;
Study of Baryon Production in $p - p$ Interactions at Center-of-Mass Energies from 200 GeV to 900 GeV
- Buschbeck 89 Mod. Phys. Lett. A4:1871,1989.
Intermittency in Multiparticle Production - a Brief Experimental Survey
- Busennitz 89 Phys. Rev. D40:1,1989.
High Energy Photoproduction of $\pi^+ \pi^- \pi^0$, $K^+ K^-$, and $p \bar{p}$ States
- Bussiere 88 Z. Phys. C38:117,1988; CERN-EP-88-25;
The Production of $J/\psi(1S)$ in 200 GeV/A Oxygen-Uranium Interactions
- Butler 86 SLAC-290;
Measurement of the Charged and Neutral D Meson Lifetimes
- Butsev 85 Yad. Phys. 44:425,1986; JINR-P1-85-590;
The Study of 7.3 GeV Deuteron Interaction with ^{93}Nb , ^{169}Tb , ^{207}Pb and ^{209}Bi
- Bylsma 87 Phys. Rev. D35:2269,1987;
Limit on Tau Decay to Seven Charged Particles
- Bystricky 85 Nucl. Phys. A444:597,1985;
Measurement of p and $p p$ Asymmetry with an Accelerated Polarized deuteron Beam from 725 MeV to 1000 MeV per Nucleon
- Bystricky 85B Nucl. Phys. B258:483,1985;
Measurement of the Spin Correlation Parameter A_{00kk} for $p p$ Elastic Scattering in the Energy Range 0.72 to 1.1 GeV
- Bystricky 85C Nucl. Phys. B262:715,1985;
Measurement of the Spin Correlation Parameter A_{00nn} for $p p$ Elastic Scattering in the Energy Range from 0.83 to 1.1 GeV
- Bystricky 85D Nucl. Phys. B262:727,1985;
Measurement of the Spin Correlation Parameter A_{00nn} and of the Analyzing Power for $p p$ Elastic Scattering in the Energy Range from 0.5 to 0.8 GeV
- Bystricky 86D SACLA-Y-DPHPE-86-13;
Nucleon-Nucleon Phase Shift Analysis
- Bystricky 87 DPHPE-87-03;
Energy Dependence Nucleon-Nucleon Inelastic Total Cross Sections
- Cai 87 HZPP-87-10;
Interaction Free Path and Projectile Alpha-Fragment in Kr-Emulsion Collisions at 1.4 A GeV
- Cai 87B HZPP-87-2;
A High Multiplicity Cosmic Ray Event Observed in Chinese Satellite Emulsion
- Caldwell 85 Phys. Rev. Lett. 54:281,1985.
Limit on Lepton Nonconservation and Neutrino Mass from Double β Decay
- Caldwell 86 Phys. Rev. D33:2737,1986;
Half-life Limits on the Zero Neutrino and Two Neutrino Double β Decay of ^{76}Ge
- Caldwell 87 Phys. Rev. Lett. 59:419,1987;
Limits on Neutrinoless $\beta\beta$ Decay Including that with Majoron Emission
- Caldwell 88 Int. Jour. Mod. Phys. A4:1851,1989; UCSB-HEP-88-8;
Review of Double β Decay Experiments
- Caldwell 88B UCSB-HEP-88-10;
Experimental Search for Dark Matter - an Update
- Calicchio 87 Phys. Lett. 193B:131,1987;
A Direct Measurement of the Energy Spectrum of Cosmic Ray Muons in the Mont Blanc Underground Laboratory
- Calloway 89 Phys. Lett. 232B:549,1989;
A Search for Free Quarks in Heavy-Ions Collisions at 60 and 200 GeV/Nucleon
- Cameron 85B Phys. Rev. D32:3070,1985;
Measurement of the Analyzing Power for $p p \rightarrow p p$ at $p_T^2 = 6.5 (\text{GeV}/c)^2$
- Camilleri 87 Phys. Rept. 144:51,1987;
Proton-Antiproton Physics at the CERN Intersecting Storage Rings
- Campagnari 88 Phys. Rev. Lett. 61:2062,1988;
Search for the Decay $K^+ \rightarrow \pi^+ \mu^+ e^-$
- Campagnolle 89 Nuovo Cim. 102A:653,1989; CERN-EP-89-13;
Production of Heavy Hypernuclei with Antiproton
- Camporesi 87 SLAC-PLB-4332;
Recent Measurement of the Average Lifetime of Hadrons Containing b-Quarks from PEP Experiments at SLAC
- Canlin 88 Nucl. Phys. B311:613,1988; RAL-88-056;
Measurement of the Spin-Rotation Parameter β , in the Reaction $\pi^+ p \rightarrow K^+ \Sigma^+$ at 1.69 and 1.88 GeV/c
- Capraro 87 Nucl. Phys. B288:659,1987; CERN-EP-87-37;
The ρ Radiative Decay Width: A Measurement at 200 GeV
- Carboni 85 Nucl. Phys. B254:697,1985; CERN-EP-84-163;
Precise Measurements of Proton-Antiproton and Proton-Proton Total Cross Sections at the CERN Intersecting Storage Rings

- Cardello 84 Phys. Rev. D32:1.1985; FERMILAB-PUB-84-122-E;
Charged Hyperon Production by 400 GeV Protons
- Carlsmith 86 Phys. Rev. Lett. 56:18.1986;
Measurement of the $K^*(892)^0$ Radiative Width
- Carlsmith 87 Phys. Rev. D36:3502.1987;
Limit on the Radiative Width of the $K_s^*(1430)^0$
- Carosi 90 Phys. Lett. 237B:303.1990; CERN-EP-90-06;
A Measurement of the Phases of the CP-Violating Amplitudes in $K^0 \rightarrow 2\pi$ Decays and a Test of CPT Invariance
- Carroll 88 Phys. Rev. Lett. 61:1698.1988;
Nuclear Transparency to Large Angle $p p$ Elastic Scattering
- Carroll 89 Phys. Rev. Lett. 62:1829.1989;
Subthreshold Antiproton Production in ^{28}Si ^{28}Si Collisions at 2.1 GeV/Nucleon
- Cason 89 PRINT-89-0374-NOTRE-DAME;
Search for Exotic Mesons in the $K \bar{K} \pi$ Final State
- Cassata 88 IFVE-88-178;
On Measuring $\pi_2(1670) \rightarrow \rho^0 \pi^-$ Decay Probability in $\pi^- n \rightarrow \pi^+ \pi^- \pi^- n$ at 40 GeV/c
- Cassel 85 CLNS-85-644;
B Meson Results from the T Region
- Cassiday 89 Phys. Rev. Lett. 62:383.1989;
Evidence for 10^{18} eV Neutral Particles from the Direction of Cygnus X-3
- Cassiday 89B Phys. Rev. Lett. 63:2329.1989;
Search for γ Rays above 10^{14} eV from Cygnus X-3 during the June and July 1989 Radio Outbursts
- Castellina 85 Nuovo Cim. 8C:93.1985;
Charm Hadroproduction Cross Section up to 100 TeV from Measurements of the Cosmic Ray Muon Angular Distribution. Results of the Mont Blanc Experiment
- Castro 88 LAL-88-58;
The π , K , Proton Electromagnetic Form Factors and New Related DM2 Results
- Catanesi 86 Phys. Lett. 187B:431.1987; CERN-EP-86-177;
The Production of Beauty Particles in π^- U Interactions at 320 GeV Energy
- Catanesi 88 Phys. Lett. 202B:453.1988; CERN-EP-87-216;
Experimental Study of $B \bar{B}$ Production in π^- U Interaction at 320 GeV Energy
- Catanesi 89 Phys. Lett. 231B:328.1989; CERN-EP-89-118;
 $B \bar{B}$ Inclusive Cross Section in 320 GeV π^- U Interactions
- Cavasinni 85 Z. Phys. C28:487.1985; CERN-EP-85-44;
Observation of Double Pomeron Exchange in He He Collisions at the CERN Intersecting Storage Ring
- Cebra 89 Phys. Lett. 227B:336.1989;
Two-Particle Correlations from 500 MeV p Ag and p Be
- Cenci 87 DFUPG-5-87;
Latest Result on Experimental Tests of the Electroweak Theory at the CERN $\bar{p} p$ Collider
- Cerradini 85 CERN-EP-85-196;
Study of Minimum Bias Trigger Events at $E_{cm}=0.2 - 0.9$ TeV with Magnetic and Calorimetric Analysis at the CERN Proton-Antiproton Collider
- Chacon 88 Phys. Rev. Lett. 60:780.1988;
Observation of a Nonspherical Pion Source in Relativistic Heavy-Ion Collisions
- Chakrabarti 85 Z. Phys. C27:1.1985;
Inclusive γ Production in $\bar{p} p$ Interactions at 12 GeV/c
- Chalmers 85 Phys. Lett. 153B:235.1985;
Measurement of $K(l,l)$ and $K(n,n)$ in p deuteron $\rightarrow n$ p at 500, 650 and 800 MeV
- Chan 88 BNL-42233;
Production and Phenomenology of Glueballs
- Chang 85 Phys. Lett. 157B:357.1985;
 γ Ray Energy Spectrum from Orthopositronium Three-Gamma Decay
- Chapin 85 Phys. Rev. D31:17.1985;
Diffraction Dissociation of Photons on Hydrogen
- Chauvat 85 Phys. Lett. 163B:273.1986; CERN-EP-85-128;
Test of CP Invariance in A Decay
- Chauvat 87 Phys. Lett. 199L:304.1987; CERN-EP-87-184;
Production of Λ_c^+ with Large x_F at the ISR
- Chekulaev 88B Sov. J. Nucl. Phys. 49:282.1989; Yad. Phys. 49:452.1989; IFVE-88-31;
Study of Meson System Structure in Events with Two Leading Particles in $\bar{p} p$ Interactions at 32 GeV/c
- Chen 85 Phys. Rev. D31:2399.1985;
Observation of the Decay $\bar{B} \rightarrow D^*(2010)^+ \rho^-$
- Chen 89 Phys. Rev. D39:3528.1989; CLNS-89-885; CLEO-89-1;
Measurement of the Muonic Branching Fractions of the $\Upsilon(1S)$ and $\Upsilon(3S)$
- Chen 89B Phys. Lett. 226B:192.1989; CLNS-89-920; CLEO-89-8;
Measuring of D_S^+ Decay Modes
- Chen 89C Phys. Lett. 243B:169.1990; CLEO-89-15;
Measurement of $\gamma \gamma$ Widths of Charmonium States
- Cheplakov 85 JINR-E1-85-861;
 γ Production in Peripheral Interactions of Relativistic Carbon Nuclei in Propane and Anomalon Problem
- Chernavskaya 87 LEBD-87-345;
Unique Event of Central Interaction of Calcium Nucleus ($E = 1.2 \cdot 10^{13}$ eV) with Heavy Nucleus of Photoemulsion
- Chestnov 87 Yad. Phys. 45:19.1987;
Nucleon Emission Effect on Kinematical Characteristics of Fragments from 1 GeV Proton Induced Nuclear Fission
- Chiang 86 Phys. Rev. D34:1619.1986; BNL-38347;
Search for Exclusive $J/\psi(1S)$ Production
- Chiba 87 Phys. Rev. D36:3321.1987; Phys. Lett. 177B:217.1986; KEK-87-117; KEK-86-10;
Search for Narrow States by Detection of Monochromatic γ Rays in $\bar{p} p$ Annihilation at Rest

- Chiba 87B Phys. Lett. 202B:447,1988; KEK-87-141;
Search for Narrow Peaks in Inclusive π^0 Spectra from $\bar{p} p$ Annihilation at Rest
- Chiba 88 Phys. Rev. D38:2021,1988; KEK-88-25;
Antiproton-Proton Annihilation at Rest into π^0 Meson and γ Meson with Meson = ϕ , η' , ρ^0 , η and π^0
- Chiba 89 Phys. Rev. D39:3227,1989; KEK-89-6;
 η and η' Production in $\bar{p} p$ Annihilation at Rest
- Childers 85 Phys. Rev. Lett. 55:1962,1985;
Production Dynamics of the Υ in Proton - Nucleon Interactions
- Chilingarian 88 LEBD-88-75;
Upper Boundary of Iron Nuclei Fraction in Primary Cosmic Rays at $E > 10^{18}$ eV
- Chiapiakov 90 Phys. Lett. 240B:519,1990;
Production Ratio of Pseudoscalar to Vector Mesons
- Chrien 86 Czech. J. Phys. B36:410,1986;
Recent Hypernuclear Research at the Brookhaven AGS
- Chrien 88 Phys. Rev. Lett. 60:2595,1988;
Search for Bound States of the η Meson in Light Nuclei
- Christenson 85 Phys. Rev. Lett. 55:154,1985;
Limits on Charm Production in Hadronic Interactions near Threshold
- Chung 85 Phys. Rev. Lett. 55:779,1985;
Spin and Parity Analysis of $K \bar{K} \pi$ System in the $f_1(1285)$ and $f_1(1420)$ / $\eta(1440)$ Regions
- Chupp 89 Phys. Rev. Lett. 62:505,1989;
Experimental Limits on the Radiative Decay of SN1987A Neutrinos
- Chuvilov 86 ITEP-86-164;
Dibaryon Resonance 2.9 GeV in Elastic Backward π^- deuteron Scattering
- Claesson 85 Phys. Rev. D33:2729,1986; LUP-85-14;
Alpha Particle Interactions with Nuclei at 12A GeV/c
- Clark 85 Phys. Rev. D32:1061,1985;
Triggered Bubble Chamber Study of the Reaction $\pi^+ p \rightarrow \Delta(1232)_{33}^{++} \pi^0 \pi^0$ at 16 GeV/c
- Clarke 86 Phys. Rev. D33:19,1986;
New Limits on the Production of Anomalous Nuclear Fragments in Deuteron-Deuteron Collisions
- Cobbaert 87 Z. Phys. C36:577,1987; CERN-EP-87-77;
The Holographic Bubble Chamber Experiment and the Determination of the Effective Charmed Quark Mass and the K -Factor for Hadronic Charm Production
- Cobbaert 87B Phys. Lett. 191B:456,1987; CERN-EP-86-212;
 A -dependence of the Charm Production Cross Section in 320 GeV/c π^- Interactions
- Cobbaert 88 Phys. Lett. 206B:546,1988; CERN-EP-88-34;
 A -dependence of the Charm Production Cross Section in 300 GeV/c Proton Interaction
- Cobbaert 88B Phys. Lett. 213B:395,1988;
 A -dependence of Low Mass Muon Pair Production in 300 GeV/c p and 320 GeV/c π^- Interactions
- Coffman 87 Phys. Rev. D36:2185,1987; SLAC-PUB-4314;
Upper Limit on $\text{Br}(\pi^\pm \rightarrow \eta \pi^\pm \nu)$
- Coffman 88 Phys. Rev. D38:2695,1988; Phys. Rev. D40:3788,1989;
Measurement of $J/\psi(1S)$ Decays into a Vector and a Pseudoscalar Meson
- Coffman 89 Phys. Rev. D41:1410,1990; SLAC-PUB-5104;
Study of the Doubly Radiative Decay $J/\psi(1S) \rightarrow \gamma \gamma \rho^0$
- Cole 88 Phys. Rev. D37:1105,1988;
Nonsinglet Valence-Quark Distribution from Neutrino-Deuterium Deep-inelastic Scattering
- Collins 85E ANL-HEP-PR-85-92;
The Two Particle Inclusive Cross Section in $e^+ e^-$ Annihilation at PETRA, PEP and LEP Energies
- Connell 88 Phys. Rev. Lett. 60:2242,1988;
Search for Low-Energy Resonances in the Electron-Positron Annihilation-in-Flight Photon Spectrum
- Conway 89 Phys. Rev. D39:92,1989;
Experimental Study of Muon Pairs Produced by 252 GeV Pions on Tungsten
- Coopersarkar 85 Phys. Lett. 160B:207,1985; CERN-EP-85-104;
Search for Heavy Neutrino Decays in the BEBC Beam Dump Experiment
- Coopersarkar 85B Phys. Lett. 160B:212,1985; CERN-EP-85-97;
Bounds on Light Gluinos from the BEBC Beam Dump Experiment
- Corriveau 88 Z. Phys. C38:15,1988;
Transverse Energy Distribution in ${}^{18}\text{O}$ -Nucleus Collisions
- Cotens 87 FERMILAB-CONF-87-147-E;
Charmed Hadroproduction Results from Fermilab E-400
- Coteus 87B Phys. Rev. Lett. 59:1530,1987; FERMILAB-PUB-87-146-E;
Production of the Charmed Strange Baryon $\Xi_c(2460)^+$ by Neutrons
- Couchot 87 LAL-KT-40;
Experimental Search for Gluonic Mesons
- Courau 86 Nucl. Phys. B271:1,1986;
Lepton and Pion Pair Production in $\gamma \gamma$ Collisions Measured near the Threshold at DCI
- Court 86 Phys. Rev. Lett. 57:507,1986;
Energy Dependence of Spin Effects in $p p \rightarrow p p$
- Cousins 88 Phys. Rev. D34:2914,1988;
Search for $t\bar{t}$ Decay $K_L \rightarrow \mu^+ e^-$, $K_L \rightarrow \mu^- e^+$ and $K_L \rightarrow e^+ e^-$
- Cowan 86 Phys. Rev. Lett. 56:444,1986;
Observation of Correlated Narrow Peak Structures in Positron and Electron Spectra from Superheavy Collision Systems
- Cowan 88 LBL-24715;
Inclusive π^\pm , K^\pm and $p \bar{p}$ Production in $e^+ e^-$ Annihilation at $\sqrt{s}=29$ GeV
- Coward 85 SLAC-PUB-3818; C85/08/12 1.
Recent Results on D Meson Decays from the MARK-III
- Cowley 88 Phys. Lett. 201B:196,1988;
Coincident Proton Emission from the Continuum Induced by 200 MeV Proton on ${}^{12}\text{C}$
- Cowsik 88 Phys. Rev. Lett. 61:2179,1988;
Limit on the Strength of Intermediate-Range Forces Coupling to Isospin

- Cowsik 90 Phys. Rev. Lett. 64:336.1990:
Strength of Intermediate-Range Forces Coupling to Isospin
- Crabb 88 Phys. Rev. Lett. 60:2351.1988; CERN-HE-88-4:
Measurement of Spin Effects in $p p \rightarrow p p$ at 18.5 GeV/c
- Cramer 85 Z. Phys. C29:513.1985:
Measurement of the Magnetic Formfactor of the Deuteron for $Q^2=0.5$ to 1.3 (GeV/c) 2 by a Coincidence Experiment
- Crawford 86 Phys. Rev. Lett. 56:1043.1986:
Precision Measurement of the Mass Difference Mass(π^-)-Mass(π^0)
- Crawford 88 Phys. Lett. 213B:391.1988; SIN-PR-88-05:
Precision Measurement of the Mass Difference Mass(π^-)-Mass(π^0)
- Cresti 86 Phys. Lett. 177B:206.1986:
Measurement of the Antineutron Mass
- Cribier 87 Phys. Lett. 188B:168.1987:
Limits on Neutrino Oscillation Parameters from the Chlorine Solar-Neutrino Experiment
- Crittenden 86 Phys. Rev. D34:2584.1986; CERN-PRE-86-049; FERMILAB-PUB-86-31-E:
Inclusive*Hadronic Production Cross Sections Measured in Proton Nucleus Collisions at $E_{cm} = 27.4$ GeV
- Cromar 86 Phys. Rev. Lett. 56:2561.1986:
Flux Limit of Cosmic Ray Magnetic Monopoles from a Multiply Discriminating Superconducting Detector
- Csorna 85 Phys. Rev. Lett. 54:1894.1985:
Inclusive Decay of Beauty Mesons into Charged D^* (2010)
- Csorna 86 Phys. Rev. Lett. 56:1222.1986:
Measurement of the Direct Photon Spectrum from the $\Upsilon(1S)$
- Csorna 87 Phys. Rev. D35:2747.1987:
Limit on the Mass of the Tau Neutrino
- Csorna 87B Phys. Lett. 191B:318.1987:
Measurement of the D^0 , D^+ and D_s^+ Meson Lifetimes at $\sqrt{s}=10.68$ GeV
- Cumalat 87 Phys. Lett. 210B:253.1988; FERMILAB-PUB-87-192-E:
Observation of $D^0 \rightarrow K^0 \bar{K}^0$
- Cumalat 87B FERMILAB-CONF-87-197-E:
Neutron Production of Charm Particles in Fermilab E-400
- Cupal 85 Phys. Rev. Lett. 55:566.1985:
Measurement of the Ratio $\Gamma(K_L \rightarrow \pi^+ \pi^-)/\Gamma(K_L \rightarrow \pi \ell \nu)$ for K_L with 65 GeV/c Laboratory Momentum
- Dabrowski 86 Nucl. Phys. A434:373C.1985:
Sigma Hypernuclei and Their Lifetimes
- Dadykin 87 Pisma Zh. Eksp. Teor. Fiz. 45:464.1987:
About Registration of Rare Event by Neutrino Detector at Mont Blanc on 23 Feb 1987
- Daftari 87 Phys. Rev. Lett. 58:859.1987:
Evidence for a New Meson: A Quasinuclear $n \bar{n}$ Bound State?
- Dainton 85 RAL-85-025:
Hadron Photoproduction at Medium Energy
- Dalitz 90 Phys. Lett. 236B:76.1990:
Is There a Bound 4H_S
- Damdisuren 87 JINR-P1-87-93Z:
Total Cross Section Measurement of the Reaction ${}^{27}\text{Al} {}^{12}\text{C} \rightarrow {}^{24}\text{Na} X$ at 3.6 GeV/Nucleon
- Damdisuren 88 JINR-P1-88-135:
Yield Determination of Radionuclides Formed in Interactions of Relativistic Nuclei with Complex Nuclei
- Damdisuren 88B JINR-P1-88-31Z:
Application of Robust Fitting to Determination of Isobaric Cross Sections of Residual Nuclei in Relativistic Interactions
- Damdisuren 89 JINR-E1-89-48I:
Yield of Radionuclides Formed in the Interaction of 3.65 a GeV ${}^{12}\text{C}$ -Ions and Protons with Pb
- Damdisuren 89B Yad. Phys. 52:330.1990; JINR-P1-89-757:
Target Residues from the Reactions of 3.65 A GeV Deuterons with ${}^{93}\text{Nb}$, ${}^{109}\text{Ag}$, ${}^{159}\text{Tb}$, ${}^{197}\text{Au}$, and ${}^{207}\text{Pb}$
- Danovich 89 Pisma Zh. Eksp. Teor. Fiz. 49:417.1989:
Search of Double β Decay of ${}^{116}\text{Cd}$ with the Help of Scintillator ${}^{116}\text{Cd WO}_4$
- Danilov 87 ITEP-87-213:
B Mesons
- Danilov 88 ITEP-88-180:
Recent Argus Result on B -Meson Decays
- Danilov 89 DESY-89-147:
Recent ARGUS Results on B Meson Decays
- Danzmann 89 Phys. Rev. Lett. 62:2353.1989:
Correlated Two-Photon Lines from 6 MeV/Nucleon U Th, U U, and Th Th Collisions
- Dasu 87 Phys. Rev. Lett. 61:1061.1988; ROCH-UR-991-87:
Precision Measurement of $R=\sigma_L/\sigma_T$ in Deep Inelastic Electron Scattering
- Dasu 87B ROCH-UR-998-87:
A Study of the Kinematic and Nuclear Dependence of $R=\sigma_L/\sigma_T$ in Deep Inelastic Electron Scattering
- Dasu 88 Phys. Rev. Lett. 60:2591.1988:
Measurement of the Difference in $R=\sigma_L/\sigma_T$ and σ_A/σ_P in Deep-Inelastic e^- -deuteron, e^- -Fe and e^- -Au Scattering
- Daum 87 Phys. Rev. D36:2624.1987:
Search for Admixture of Massive Neutrinos in the Decay $\pi^+ \rightarrow \mu^+ \nu$
- Davenport 86 Phys. Rev. D33:2519.1986:
Observation of Double ϕ Meson Production in 400 GeV/c Proton Nucleon Interactions
- Davier 86 Phys. Lett. 180B:295.1986; LAL-86-25:
Search for Axion Like Particles in Electron Bremsstrahlung.
- Davier 87 LAL-87-27:
Axions: A Review
- Davier 89 Phys. Lett. 229B:150.1989; LAL-89-24:
An Unambiguous Search for a Light Higgs Boson

- Davis 85 TRI-PP-85-75;
A Test of Time Reversal Invariance in $p p$ Elastic Scattering at 200 MeV
- Davis 88 TRI-PP-88-72;
Measurements of the $n p$ Observables at TRIUMF
- Dawson 86 Nuovo Cim. 9C:1125,1986;
The Proton - Air Cross-Section at 10^{16} eV
- Day 87 Phys. Rev. Lett. 59:427,1987;
 \bar{Y} Scaling in Electron Nucleus Scattering
- De 89 FERMILAB-CONF-89-151-E;
The Production of $J/\psi(1S)$ and Associated Particles in the Collision of 530 GeV/c Protons and Pions with Nuclear Targets
- Debebe 85 Phys. Rev. C31:1841,1985;
Reaction deuteron (p , deuteron π^+) n at 508 MeV
- Deboer 85 Nucl. Phys. A444:589,1985;
Precision Measurement of the $2P-1s$ Transition Wavelength in Muonic ^{13}C
- Decamp 89 Phys. Lett. 231B:519,1989; CERN-EP-89-132;
Determination of the Number of Light Neutrino Species
- Decamp 89B Phys. Lett. 235B:399,1990; CERN-EP-89-169;
A Precise Determination of the Number of Families with Light Neutrinos and of the Z^0 Boson Partial Widths
- Decamp 89C Phys. Lett. 236B:233,1990; CERN-EP-89-157;
Search for the Neutral Higgs Boson from Z^0 Decay
- Decamp 89D Phys. Lett. 236B:86,1990; CERN-EP-89-158;
Search for Supersymmetric Particles Using Acoplanar Charged-Particle Pairs from Z^0 Decays
- Decamp 89E Phys. Lett. 236B:511,1990; CERN-EP-89-165;
A Search for New Quarks and Leptons from Z^0 Decay
- Decamp 89G Phys. Lett. 234B:399,1990; CERN-EP-89-141;
Determination of the Leptonic Branching Ratios of the Z^0
- Decamp 89H Phys. Lett. 237B:291,1990; CERN-EP-89-168;
Search for Neutral Higgs Bosons from Supersymmetry in Z^0 Decays
- Decamp 90 Phys. Lett. 241B:623,1990; CERN-EP-90-34;
A Search for Pair-Produced Charged Higgs Boson in Z^0 Decays
- Decamp 90B Phys. Lett. 241B:635,1990; CERN-EP-90-23;
Search for Decays of the Z^0 into a Photon and a Pseudoscalar Meson
- Decamp 90C Phys. Lett. 244B:551,1990; CERN-EP-90-54;
Heavy Flavour Production in Z^0 Decays
- Decamp 90D Phys. Lett. 244B:541,1990; CERN-EP-90-63;
Search for Neutralino Production in Z^0 Decays
- Decamp 90E Phys. Lett. 241B:141,1990; CERN-EP-90-16;
Search for the Neutral Higgs Boson from Z^0 Decays in the Higgs Mass Range between 11 and 24 GeV
- Decamp 90F Phys. Lett. 234B:209,1990; CERN-EP-89-139;
Properties of Hadronic Events in $e^+ e^-$ Annihilation at $\sqrt{s}=91$ GeV
- Decamp 90G Phys. Lett. 236B:501,1990; CERN-EP-89-167;
Search for Exited Leptons in Z^0 Decay
- Decamp 90H CERN-EP-90-70;
Search for a Very Light Higgs Boson in Z^0 Decays
- Decamp 90I CERN-PPE-90-107;
Search for Excited Neutrinos in Z^0 Decay
- Degtyarenko 89 ITEP-89-62;
Inelastic Electron-Nucleus Interactions at 5 GeV Detected by ARGUS
- Degtyarenko 90 ITEP-90-12;
Production of Cumulative $\Delta(1232 P_{33})$ in e^\pm nucleus Interactions at 5 GeV
- Deagh 89 CALT-68-1578;
Resonant Substructure in $K^- \pi^+ \pi^+ \pi^-$ and $\bar{K}^0 \pi^+ \pi^+ \pi^-$ Decays of Charmed D Mesons
- Delata 85 Phys. Lett. 162B:81,1985;
Strong Interaction Effects in Pionic ^{208}Pb
- Delavaissier 85 Phys. Rev. Lett. 54:2071,1985;
A Production in $e^+ e^-$ Annihilation at 29 GeV
- Deleenerosi 86 Phys. Lett. 177B:228,1986;
New Limits on Generation Mixing for Massive Neutrinos from $\pi^+ \rightarrow e^+ \nu_e$ Decay
- Delesquen 85 Phys. Rev. D32:21,1985;
Measurement of the Reaction $\pi^+ n \rightarrow \pi^+ \pi^- p$ at 5.98 and 11.85 GeV/c Using a Transversely Polarized Deuteron Target
- Delesquen 88 Nucl. Phys. B304:673,1988;
Measurement of Analyzing Power and Spin Correlations in $n p$ Elastic Scattering at .744 and .794 GeV Using a Deuteron Polarized Beam
- Delesquen 89 Phys. Rev. D39:21,1989;
Measurement of the Reaction $K^+ n \rightarrow K^+ \pi^- p$ at 5.98 and 11.85 GeV/c Using a Transversely Polarized Deuteron Target
- Delina 89 Nuovo Cim. 101A:975,1989;
Cross Section of Ternary Fission of Al, Ti, Co and Zr Nuclei Induced by (0.8 - 1.8) GeV Photons
- Delina 90B Nuovo Cim. 103A:701,1990;
Fission of Al, Ti, Co, Zr, Nb, Ag, In, Nd, Sm and Ta Nuclei Induced by (0.8 - 1.8) GeV Photons
- Demarzo 87 Phys. Rev. D36:8,1987;
Measurement of Direct Photon Production at Large Transverse Momentum in $\pi^- p$, $\pi^+ p$, and $p p$ Collisions at 300 GeV/c
- Demarzo 87B Phys. Rev. D36:16,1987; MPI-PAE-EXP-EL-169;
Measurement of π^0 Production at Large Transverse Momentum in $\pi^- p$, $\pi^+ p$ and $p p$ Collisions at 300 GeV/c
- Dementy 88 Yad. Phys. 48:609,1988;
Experimental Study of Inclusive Quasielastic Electron Scattering on ${}^4\text{He}$

Demidov 89

Ditzler 87

- Demidov 89 ITEL-89-103:
Measurement of the $K^+ \rightarrow \mu^+ \nu \gamma$ Decay Probability
 Dengler 86C Z. Phys. C33:187,1986; MPI-PAE-EXP-EL-165;
Multiplicity Distributions in Rapidity Intervals for $p p$ and p nucleus Interactions at 200 GeV
 Depanfilis 87 Phys. Rev. Lett. 59:839,1987;
Limits on the Abundance and Coupling of Cosmic Axions at $4.5 < m < 5.0$ MeV
 Derado 88 Z. Phys. C40:25,1988;
Long Range Correlations in Hadron Nucleus Interactions
 Derado 90 Z. Phys. C47:23,1990; MPI-PAE-EXP-EL-221;
Investigation of Intermittency in Muon-Proton Scattering at 280 GeV
 Derbin 86 Pis'ma Zh. Eksp. Teor. Fiz. 43:164,1986;
New Experiment on Study of Reactor's Neutrino Elastic Scattering on Electron
 Derrick 85 Phys. Rev. D31:2352,1985;
New Results on the Reaction $e^+ e^- \rightarrow \mu^+ \mu^-$ at $E_{cm}=29$ GeV
 Derrick 85B Phys. Rev. Lett. 53:1971,1985; ANL-HEP-PR-84-46; HRS-PR-84-1; PU-84-517; JUHEE-57; UM-HE-84-13;
Inclusive D^0 and D^+ Production in $e^+ e^-$ Annihilation at 29 GeV
 Derrick 85C Phys. Rev. Lett. 54:2568,1985;
Production of ϕ and $D_S^\pm \rightarrow \phi \pi^\pm$ in $e^+ e^-$ Annihilation at 29 GeV
 Derrick 85D Phys. Lett. 164B:199,1985;
Inclusive Charged Particle Production near the Kinematic Limit in $e^+ e^-$ Annihilation at 29 GeV
 Derrick 85E Phys. Lett. 166B:468,1986; ANL-HEP-PR-85-113; JUHEE-72; UM-HE-85-21; PU-85-543;
Precision Test of QED by Direct Comparison of $e^+ e^- \rightarrow \gamma \gamma$ and $e^+ e^- \rightarrow e^+ e^-$ at 29 GeV
 Derrick 85F Phys. Lett. 158B:519,1985;
Neutral $K^*(892)$ and ρ^0 Meson Production in $e^+ e^-$ Annihilation at 29 GeV
 Derrick 85G Phys. Lett. 165B:449,1985;
Comparison of Charged Particle Multiplicities in Quark and Gluon Jets Produced in $e^+ e^-$ Annihilation at 29 GeV
 Derrick 86 Phys. Lett. 168B:299,1986;
Rapidity Dependence of the Charged Particle Multiplicities Distributions in $e^+ e^-$ Annihilation at 29 GeV
 Derrick 86B Phys. Lett. 166B:463,1986;
New Results from Bhabha Scattering at 29 GeV
 Derrick 86C Phys. Rev. D34:3304,1986;
Study of Quark Fragmentation in $e^+ e^-$ Annihilation at 29 Gev: Charged Particle Multiplicity and Single Particle Rapidity Distributions
 Derrick 86D Phys. Rev. D34:3286,1986; ANL-HEP-PR-86-33; JUHEE-84; UM-HE-86-7; PU-86-563; C86/07/16;
Experimental Study of the Reactions $e^+ e^- \rightarrow e^+ e^-$ and $e^+ e^- \rightarrow \gamma \gamma$ at 29 GeV
 Derrick 87 Phys. Rev. D35:2639,1987;
Hadron Production in $e^+ e^-$ Annihilation at $E_{cm}=29$ GeV
 Derrick 87B Phys. Lett. 189B:260,1987;
Evidence for the Decay $\tau^+ \rightarrow \pi^+ \eta \nu_\tau$
 Derrick 87C Z. Phys. C35:323,1987;
Charged Particle Multiplicity Distributions in $e^+ e^-$ Annihilations at 29 GeV: A Comparison with Hadronic Data
 Dersch 85 Phys. Rev. Lett. 55:1176,1985;
Unusual Behavior of Projectile Fragments from the Interaction of Copper with Relativistic Ar Ions
 Desantics 86 Czech. J. Phys. B36:290,1986;
Deuteron Photodisintegration between 100 MeV and 225 MeV
 Desantics 88 LNF-88-54;
A Critical Review of Deuteron Photodisintegration Data
 Deuzet 85 LAL-85-20;
Search for Proton Decay in the FREJUS Experiment
 Dewolf 86 Z. Phys. C31:13,1986;
 K^+ Fragmentation and Prompt Kaon Production in $K^+ p$ Collisions at 70 GeV/c
 Dick 86 Phys. Rev. D33:32,1986;
Search for Possible Superheavy Particles in Sodium Nuclei
 Dickey 85 Nucl. Phys. A441:189,1985;
The ^{54}Fe (p (polarized), deuteron) ^{53}Fe and ^{140}Ce (p (polarized), deuteron) ^{139}Ce Reactions at 122 MeV
 Diekmann 88 Phys. Rept. 159:99,1988;
Spectroscopy of Mesons Containing Light Quarks (u, d, s) or Gluons
 Diemoz 86 Phys. Rept. 130:293,1986;
Nucleon Structure Functions from Neutrino Scattering
 Diesburg 87 Phys. Rev. Lett. 59:2711,1987;
Measurement of the $\Sigma_c(2455)^0 - \Lambda_c^+$ and $\Sigma_c(2455)^{++} - \Lambda_c^+$ Mass Differences
 Dieter 89 BON^{*}-IR-89-07;
Comparison between Photoproduction and Hadroproduction of ρ^0 Mesons Using the CERN Omega Spectrometer
 Digiacomo 85 Phys. Rev. C31:292,1985;
Inclusive Pion Production in 330 MeV, 400 MeV, and 500 MeV Proton Nucleus Collisions
 Dijkstra 86 Z. Phys. C31:375,1986; NIKHEF-II-86-1;
High Statistics Inclusive ϕ Meson Production at SPS Energy
 Dijkstra 86C Z. Phys. C32:353,1986;
Joint Production of ϕ Mesons and $\pi^\pm, \pi^0, p, \bar{p}, K_S$ and K^\pm in Hadronic Interactions
 Dijkstra 86D Z. Phys. C32:349,1986;
Hadronic ϕ Production and the Lund Model for Low p_T Interactions
 Dingus 88 Phys. Rev. Lett. 60:1785,1988;
Search for Signal from Cygnus X-3 at Energies above 50 TeV
 Dingus 88B Phys. Rev. Lett. 61:1906,1988;
Ultrahigh-Energy Pulsed Emission from Hercules X-1 with Anomalous Air-Shower Muon Production
 Ditzler 87 Phys. Rev. Lett. 59:1645,1987;
Measurement of CII and CIII in $n p$ Elastic Scattering at 484 and 634 MeV

- Dmitriev 85 Phys. Lett. 157B:143,1985.
First Measurement of the Asymmetry in Electron Scattering by a Jet Target of Polarized Deuterium Atoms
- Dobrotin 85 Izv. Akad. Nauk SSSR. Fiz. 49:1266,1985.
On Possible Interpretation of Special Type Events
- Dobrovolsky 88 LENI-88-1454.
Experimental Data on Elastic p, n , p deuteron, and p He Forward Scattering at Intermediate Energies
- Dodge 85 Phys. Rev. C32:781,1985.
 (e^-, p) and (e^-, He) Reactions in ^{80}Zr and ^{92}Zr
- Doerr 86 Nucl. Phys. A445:557,1985;
Composite Particle Emission Following π^- Absorption in ^6Li : Test of Reaction Mechanisms
- Dolidze 86 JINR-E1-86-58:
Enhancements Observed in the Two Proton Invariant Mass Distribution in the Pionless Deuteron Breakup at 3.3 GeV/c
- Dolinsky 85 NOVO-85-98.
Results of the Experiments from the Neutral Detector at VEPP-2M in the Energy Region $\sqrt{s}=1.05 - 1.40$ GeV
- Dolinsky 86 Phys. Lett. 174B:453,1986; NOVO-86-69;
Reaction $e^+ e^- \rightarrow \omega^0$ in the c.m. Energy Range from 1.0 to 1.4 GeV
- Dolinsky 88 Yad. Phys. 48:442,1988; Sov. J. Nucl. Phys. 48:277,1988;
Observation of the Decay $\omega \rightarrow \pi^0 e^+ e^-$
- Dolinsky 88B Z. Phys. C42:511,1989; NOVO-88-89;
Radiative Decays of ρ and ω Mesons
- Dolinsky 89 NOVO-89-68;
Review of $e^+ e^-$ Experiments with Neutral Detector on VEPP-2M. Part 1
- Dolinsky 89B NOVO- 5 104;
Review of $e^+ e^-$ Experiments with Neutral Detector on VEPP-2M. Part 2
- Dombeck 87 Phys. Lett. 194B:591,1987;
Search for Neutrino Oscillations in the Appearance Mode $\nu_\mu \rightarrow \nu_e$ for Neutrino Energies near the Muon Threshold
- Dombsky 85 TRI-PP-85-1;
Inclusive Measurement of $(p, \pi^- X n)$ Double Charge Exchange Reactions on Bisinuth from Threshold to 800 MeV
- Domogatsky 89 Acta Phys. Hung. 65:323,1989;
Searching for Monopoles in Lake Baikal
- Donoghue 84D Phys. Rev. D31:70,1985; CMINHEP-201;
Measurement of the Weak Neutral Current via Nuclear Parity Violation
- Dorenbosch 86 Phys. Lett. 180B:303,1986; CERN-EP-86-93;
Experimental Verification of the Universality of Electron Neutrino and Muon Neutrino Coupling to the Neutral Weak Current
- Dorenbosch 86B Phys. Lett. 166B:473,1986; CERN-EP-85-190;
A Search for Decays of Heavy Neutrinos in the Mass Range of 0.5 - 2.8 GeV
- Dorenbosch 87 Z. Phys. C40:497,1988; CERN-EP-87-167;
Prompt Neutrino Production in 400 GeV Proton-Copper Interactions
- Dorenbosch 89 Z. Phys. C41:567,1989; CERN-EP-88-136;
Experimental Results on Neutrino - Electron Scattering
- Doser 88 Phys. Lett. 215B:792,1988;
 $\bar{p} p$ Annihilation into $K^0 \bar{K}^0$ in Hydrogen Gas
- Doss 86 Phys. Rev. Lett. 57:302,1986;
Nuclear Collective Flow as a Function of Projectile Energy and Mass
- Doss 87 Phys. Rev. Lett. 59:2720,1987.
Fragment Flow in Nuclear Collisions
- Doss 88 Phys. Rev. C37:163,1988.
Multiplicity and Bombarding Energy Dependence of the Entropy in Relativistic Heavy-Ion Reactions
- Dougherty 88 LBL-26303;
An Experimental Investigation of Double β Decay of ^{100}Mo
- Dowell 88 CERN-EP-88-154;
Recent Results from the UA1 Experiment
- Drechsel 85 Phys. Rev. Lett. 54:30,1985;
Search for Anomalous Fragments of ^{50}Fe Using Plastic Nuclear Track Detectors
- Drell 89 CLNS-89-932;
 $B^0 \bar{B}^0$ Mixing and Charmless B^* Decays: Recent CLEO Results
- Dropesky 86 Phys. Rev. C32:1305,1985;
Excitation Functions for the Production of ^{18}F and ^{24}Na from Al and Si with Fast Pions
- Drutskoy 87 ITEP-87-112;
Cross Sections of the Strange Particles Production Channels in $\pi^+ p$ Interactions at 4.23 GeV/c
- Drutskoy 87B ITEP-87-113;
Observation of Strange Exotic Baryons at $\Lambda \pi^+ \pi^+$ System
- Drutskoy 88 ITEP-88-11;
Exotic Baryons with Isotop Spin $J=5/2$ in $\pi^+ p$ Interactions
- Drutskoy 89 ITEP-89-142;
Search for Strange Exotic Baryon Resonances at the 4.23 GeV/c Momentum
- Druzhinin 84 Sov. J. Nucl. Phys. 41:752,1985; Yad. Phys. 41:1176,1985; NOVO-84-62;
Test of Quantum Electrodynamics in the Compton Scattering of Quasireal Photons by Electrons and Positrons at the VEPP-2M Storage Ring
- Druzhinin 85 NOVO-85-97.
Study of ϕ Meson Decays with the Neutral Detector at the VEPP-2M Collider
- Druzhinin 86 Phys. Lett. 174B:115,1986.
Investigation of the Reaction $e^+ e^- \rightarrow \eta \pi^+ \pi^-$ in the Energy Range up to 1.4 GeV
- Druzhinin 88 Z. Phys. C37:1,1988; NOVO-87-52;
Search for Rare Radiative Decays of ϕ Meson at VEPP-2M

- Dubar 89
 Yad. Phys. 49:1239.1989;
Parametrization of Total Cross Sections at Intermediate Energies
 Pisma Zh. Eksp. Teor. Fiz. 48:233.1988;
- Dulinina 86
Observation of the Slow Pion Production in the Nucleus Nucleus Interactions
 Yad. Phys. 47:1663.1988; Sov. J. Nucl. Phys. 47:1054.1988;
- Dubov 88
Nuclear Composition of 300 - 500 TeV Cosmic Rays from EAS Hadronic Component
 Z. Phys. C45:223.1989; MZ-ETAP-89-5;
- Duch 89
Observation and Analysis of E Mesons in $\bar{p} p$ Annihilation at Rest in H₂ Gas
 Phys. Rev. Lett. 55:1816.1985;
- Duffy 85
 A -dependence of Charm Production
 Phys. Rev. Lett. 57:1522.1986;
- Duffy 86
Characteristics of Charm Production by 400 GeV Protons
 Phys. Rev. D38:2032.1988;
- Duffy 88
Neutrino Production by 400 GeV/c Protons in Beam-Dump Experiment
 Phys. Rev. Lett. 55:170.1985; HUTP-85-A033;
- Dugan 85B
New Neutrino Constraints on Majorana Mass Matrices
 Phys. Lett. 193B:135.1987;
- Dukes 87
Polarization of Σ^0 Hyperons in Inclusive Production from 28.5 GeV/c Protons on Beryllium
 Yad. Phys. 47:1816.1988; ITEP-87-198;
- Dukhovskoy 87
Measurement of the Total Cross Sections of the Proton Interactions with Nuclei ${}^6\text{Li}$, ${}^7\text{Li}$, and ${}^9\text{Be}$ at 2 GeV/c
 Yad. Phys. 47:1816.1988; ITEP-87-198;
- Durkin 88
 Phys. Rev. Lett. 61:1811.1988;
Limit on $\bar{\nu}_e \rightarrow \bar{\nu}_e$ Oscillations
 Phys. Rev. D41:780.1990;
- Dworkin 90
High Statistics Measurement of Ga/Gv in $\Lambda \rightarrow \ell^- \bar{\nu}$
 Pisma Zh. Eksp. Teor. Fiz. 50:408.1989;
- Dyakonov 89
On Change of Nuclear Composition of Primary Cosmic Radiation in the Energy Range $10^{17} - 10^{18}$ eV
 Pisma Zh. Eksp. Teor. Fiz. 45:264.1987;
- Dyck 85
 Phys. Lett. 157B:139.1985;
Atomic Mass Differences in Gadolinium and Terbium and the K Capture of ${}^{168}\text{Tb}$ as an Indicator of Neutrino Mass
- Dzaoshvili 87
 Pisma Zh. Eksp. Teor. Fiz. 45:264.1987;
Evidence of Narrow Jets in Hadron-Carbon Interactions at Average Energy of 0.4 TeV
- Dzaoshvili 88
 Yad. Phys. 48:299.1988;
Particle Distribution at the Target Fragmentation Region in Hadron-Carbon Interactions at the Average Energy .4 TeV
- Dzaoshvili 88B
 Yad. Phys. 48:1853.1988;
About Fluctuations of Transverse Energy and Multiplicity Distributions on Pseudorapidity in the Interactions of Hadrons with Carbon Nuclei at Average Energy of .4 TeV
- Dzaoshvili 90
 Nucl. Phys. B336:86.1990;
Dependence of Inelasticity Coefficients of Charged Particles on the Atomic Number of a Target Nucleus in the Energy Range 0.2 - 2.0 TeV
- Dzhincharadz 86
 Yad. Phys. 44:991.1986; Sov. J. Nucl. Phys. 44:639.1986;
Correlations of Identical π^\pm Mesons and Characteristics of their Emission Region in $\pi^- p$ Interactions at 5 GeV/c
- Ebisu 84B
 Jour. of Phys. G 11:883.1985; KOBE-84-08;
New Limit on the Magnetic Monopole Density in Old Iron Ore
- Ebisu 87
 Phys. Rev. D36:3359.1987;
Search for Magnetic Monopoles Trapped in Old Iron Ores Using a Superconducting Detector
- Eckart 88
 BONN-IR-88-21;
Two-Particle Correlations and Density Fluctuations in Proton-Antiproton Interactions at c.m. Energies from 200 to 900 GeV
- Eckhardt 88
 Phys. Rev. Lett. 60:2567.1988;
Tower Gravity Experiment: Evidence for Nonnewtonian Gravity
- Edberg 88
 LBL-25652;
Inclusive Production of Vector Mesons in $e^+ e^-$ Annihilation at $\sqrt{s}=29$ GeV
- Edwards 89
 SLAC-PUB-5160;
Hadron Production in $e^+ e^-$ Annihilation from $\sqrt{s}=5.0$ to 7.4 GeV
- Efendiev 89
 Kr. Soob. JINR 36:9.1989;
The Partial Wave Analysis of $K^- \pi^- \pi^+$ System Coherently Produced on Nuclei at 40 GeV
- Efniov 89
 Yad. Phys. 49:900.1989;
About Cross Section of the Interaction of Protons with Air Nuclei at the Energies $2 \cdot 10^{16}$ eV
- Eggert 89
 CERN-EP-89-42;
Experimental Situation of Beauty Oscillations
- Egli 86
 Phys. Lett. 175B:97.1986;
First Observation of the Decay $\pi^+ \rightarrow e^+ \nu_e e^+ e^-$ and a Determination of the Formfactors F_ν , F_a , R
- Egli 89
 Phys. Lett. 222B:533.1989; PSI-PR-89-02;
Measurement of the Decay $\pi^+ \rightarrow e^+ \nu_e e^+ e^-$ and Search for a Light Higgs Boson
- Eichler 86
 Phys. Lett. 175B:101.1986;
Limits for Short Lived Neutral Particle Emitted in μ^+ or π^+ Decay
- Ejiri 89
 Phys. Lett. 224B:24.1989;
Search for the Dihyperon by Double Weak Decay of Nuclei
- Ellegaard 85
 Phys. Lett. 154B:110.1985;
The p (${}^3\text{He}$, ${}^3\text{H}$) $\Delta(1232 P_{33})^{++}$ Reaction
- Ellegaard 89
 Phys. Lett. 231B:365.1989;
Spin Structure of the $\Delta(1232 P_{33})$ Excitation
- Elliott 86
 Phys. Rev. Lett. 56:2582.1986;
Experimental Investigation of Double β Decay in ${}^{82}\text{Se}$
- Elliott 87
 Phys. Rev. Lett. 59:1649.1987;
Limit on Neutrinoless Double- β Decay with Majoron Emission in ${}^{82}\text{Se}$
- Elliott 87B
 Phys. Rev. Lett. 59:2020.1987;
Direct Evidence for Two-Neutrino Double- β Decay in ${}^{82}\text{Se}$

- Elnadi 88 Phys. Rev. Lett. 61:1271,1988;
Production of a New Light Neutral Boson in High Energy Collisions
 Elnaghay 87 JINR-E1-87-472;
Particularities of ^{22}Ne Nuclei Inelastic Interactions with Emulsion at 4.1 A GeV/c
 Elnaghay 87B JINR-E1-87-547;
Fragmentation of ^{22}Ne in Emulsion at 4.1 A GeV/c
 Elsen 90 Z. Phys. C46:349,1990; DESY-89-127;
A Measurement of the Weak Axial Couplings of the b and c Quarks
 Endo 88 INS-724;
Reaction Mechanism of $^4\text{He} (\gamma, p n) X$ at $E(\gamma)=0.17$ GeV to 0.27 GeV
 Enghardt 87 Z. Phys. C35:511,1987; ZFK-617;
Limits on Heavy axion Production from the Reaction $n p \rightarrow$ deuteron axion
 Eno 88 KEK-88-47; AMY-88-10;
A Search for New Heavy Quarks Using Hadronic Events Containing Leptons
 Eno 89 KEK-89-4; AMY-89-01;
Recent Results from AMY Experiment
 Eno 89B Phys. Rev. Lett. 63:1910,1989; KEK-89-46; AMY-89-08;
Search for a Fourth-Generation Charge -1/3 quark
 Eno 89C UR-1132;
A Search for a Fourth Generation Charge -1/3 Quark
 Enyo 85 Phys. Lett. 150B:1,1985; KEK-85-23;
Analyses of Particle Production in Hadron Nucleus Reactions at Several GeV with Two Moving Source Model
 Epstein 85 Phys. Rev. C32:967,1985; TRI-PP-85-20;
Study of the $^3\text{He} (p, 2p)$ deuteron and $^3\text{He} (p, p$ deuteron) p Reactions at Large Recoil Momenta
 Ereditati 85 Phys. Lett. 157B:463,1985; CERN-EP-85-11;
Upper Limits for bottom/bottom Production in π^- Tungsten Interactions at 194 GeV/c
 Ergakow 86 Czech. J. Phys. B36:985,1986;
Investigation of High Energy Lightest Nuclei Produced in the Interaction of Protons with Incident Momenta from 2 to 10 GeV/c with Be, Al, Cu, Ta
 Erhan 85 Phys. Lett. 152B:131,1985; CERN-EP-84-147;
Comparison of $\bar{p} p$ and $p p$ Elastic Scattering with $0.6 < t < 2.1$ GeV 2 at the CERN ISR
 Ermakov 86 Yad. Phys. 44:143,1986;
Observation of Low Lying Dibaryon Resonances in the p ^{40}Ar Reaction at 1 GeV
 Ermakov 86B LENI-86-1158;
Investigation of Final States of the $p p \pi^\pm$ System in the Reaction p ^{40}Ar
 Ermakov 86C Yad. Phys. 43:1359,1986;
Investigation of the Parity Nonconservation in the Reaction ^{10}Bor (n , $^4\text{He} \gamma$)
 Ernwein 85 SACLAY-DPHPE-85-06;
Early Results from the FREJUS Experiment
 Ero 87 Nucl. Phys. A472:733,1987; KFKI-1987-23-A;
Production of Protons, Deuterons and Tritons on Carbon by Intermediate Energy Neutrons
 Erriquez 85 Phys. Scr. 33:202,1986; CERN-EP-86-165;
A Measurement of the Total Charma Cross Section in 200 GeV/c and 360 GeV/c $p n$ Interactions Using a Holographic Bubble Chamber
 Esaulov 86 Yad. Phys. 44:1187,1986; Sov. J. Nucl. Phys. 44:770,1986;
Scaling of Inclusive e^- deuteron Spectra and of Structure Functions in the Quasielastic Region
 Esaulov 87 Yad. Phys. 45:410,1987;
Measurement of the Neutron Magnetic Form Factor in the deuteron (e^-, e^-) $n p$ Reaction for Momentum Transfer $0.48 \leq Q^2 \leq 0.83$ GeV 2
 Etkin 85 Phys. Lett. 165B:217,1985;
Observation of Three 2^{++} Resonances in the Glueball-Enhanced Channel $\pi^- p \rightarrow \phi \phi n$
 Etkin 88 Phys. Lett. 201B:568,1988; BNL-40200; BNL-40716;
Increased Statistics and Observation of g_T , g'_T and g''_T 2^{++} Resonances in Glueball Enhanced Channel $\pi^- p \rightarrow \phi \phi n$
 Fabbri 88 DFUB-88-20;
Maximum Charged Particle Densities in Small Intervals of Rapidity at ISR Energies
 Fairfield 88 SLAC-PUB-4667;
Search for axion Production in $\Upsilon(1S)$ Decays
 Faissner 88 Z. Phys. C37:231,1988;
Search for Two-Photon Decay of a Light Penetrating Particle from 500 MeV Proton Beam Dump
 Faissner 89 Z. Phys. C44:557,1989;
Search for the Electron-Positron Decay of an Axionlike Particle from a 500 MeV Proton Beam Dump
 Falciiano 85 Phys. Lett. 158B:92,1985; CERN-EP-85-22;
Production of Υ by 194 GeV/c Negative Pions on Tungsten
 Falciiano 86 Z. Phys. C31:513,1986; CERN-EP-86-35;
Angular Distributions of Muon Pairs Produced by 194 GeV/c Negative Pions
 Falk 83 Phys. Rev. C33:988,1986; TRI-PP-83-127;
Pion Production Cross Sections and Analyzing Powers in the Inclusive ^{12}C (p, π^\pm) X Reaction at 400 MeV and 450 MeV
 Falvard 88 Phys. Rev. D38:2706,1988; LAL-88-04;
Study of Hadronic $J/\psi(1S)$ Decays Involving ϕ and ω Production
 Fayard 89 LAL-89-40;
Status in CP Violation
 Fayet 89 Phys. Lett. 219B:521,1989; LPTENS-88-33;
Flux Limit for High Energy Cosmic Photinos from Underground Experiments
 Fearing 86 Czech. J. Phys. B36:263,1986;
Radiative Reactions in Two and Three Nucleon Systems
 Feindt 89 DESY-89-142;
Light Hadrons as Seen via Two Photons by CELLO
 Felcini 89 CERN-EP-89-173;
Search for t-Quark Decay into Charged Higgs with the UA1 Experiment

- Feldman 85 Phys. Rev. Lett. 54:2289,1985.
Search for Monojet Production in $e^+ e^-$ Annihilation
 Feldman 85B SLAC-PUB-3684. C85 03 10.
Search for Heavy Neutrinos Produced in $e^+ e^-$ Annihilation
 Feldman 89 SLAC-PUB-5143.
Measurement of the Z^0 Boson Resonance Parameters
 Feldman 89B SLAC-PUB-5152.
Production and Decay of Z^0 Bosons at the SLC
 Felicpic 89 CERN-EP-89-115.
 $\pi^+ p$ Elastic Scattering from 295 to 450 MeV/c
 Ferbel 86 Acta Phys. Polon. B17:435,1986.
Direct Photon Production
 Ferguson 87 Phys. Rev. D36:1961,1987.
 ρ and ω Production in $\pi^+ p$ Interactions at 15.7 GeV/c
 Fernandez 84C Phys. Rev. Lett. 54:1118,1985; SLAC-PUB-3520.
Search for Single Photons from Supersymmetric Particle Production
 Fernandez 85 Phys. Rev. D31:2724,1985.
Measurement of Energy Energy Correlations in $e^+ e^- \rightarrow$ hadrons at a Center of Mass Energy of 29 GeV
 Fernandez 85B Phys. Rev. D31:1537,1985; SLAC-PUB-3479.
Precision Measurement of Total Cross Section for $e^+ e^- \rightarrow$ hadrons at a Center of Mass Energy of 29 GeV
 Fernandez 85C Phys. Rev. Lett. 54:1620,1985.
Electroweak Effects in $e^+ e^- \rightarrow \tau^+ \tau^-$ at 29 GeV
 Fernandez 85D Phys. Rev. Lett. 54:1624,1985.
Measurement of Tau Lifetime and Branching Ratios
 Fernandez 87 Phys. Rev. D35:10,1987; SLAC-PUB-4005.
Electroweak Effects in $e^+ e^- \rightarrow e^+ e^-$ at E_{cm} 29 GeV
 Fernandez 87B Phys. Rev. D35:1,1987; SLAC-PUB-4004:
Tests of Quantum Electrodynamics with Two, Three, and Four-Photon Final States from $e^+ e^-$ Annihilation at E_{cm} =29 GeV
 Fernandez 87C Phys. Rev. D35:374,1987; SLAC-PUB-4027.
Search for Single Electrons from Supersymmetric Particle Production
 Ferrarotto 88 Z. Phys. C44:841,1989; INFN-88-923; ROME-923-1988.
Search for the Inclusive Production of $J/\psi(1S)$ in $e^+ e^-$ Collisions Using PLUTO Data
 Fickinger 86B Phys. Rev. D34:3332,1986.
Search for the $X(1935)$ Meson in Antiproton Proton Interactions
 Fidecaro 85 Phys. Lett. 156B:122,1985; CERN-PRE-85-035.
Experimental Search for Neutron-Antineutron Transitions with Free Neutrons
 Filaseta 87B RX-1220-ILLINOIS:
Hadroproduction of $\Lambda_c^+ \rightarrow p K \pi$
 Filatov 88 LENI-88-1404.
Ternary Nuclear Fission and Fission with a Large Multiplicity of Charged Particles in ^{238}U Nuclei by 1 GeV Protons
 Finley 85 Phys. Rev. D33:2528,1986; ANL-HEP-PR-85-74.
Study of Polarized Proton Diffraction Dissociation in the Reaction $p p \rightarrow p \pi^+ \pi^- p$ at 11.75 GeV/c
 Fischer 88 Z. Phys. C38:105,1988.
Transverse Momentum Systematics in Proton Proton and Light Ion Collisions at the ISR
 Fisher 87 Phys. Lett. 192B:460,1987.
Limit on Double β Decay with Majoron Emission
 Fisher 89 Phys. Lett. 218B:257,1989.
A Search for Double β Decay in ^{76}Ge
 Fitch 85 Z. Phys. C31:51,1986; CERN-EP-85-195;
Evidence for Higher Twist Effects in Fast π^- Production by Antineutrinos in Neon
 Fitch 86 Phys. Rev. D33:1486,1986.
Search for $D^*(2010)$ Production in π nucleon Interaction
 Fitch 88 Phys. Rev. Lett. 60:1801,1988.
Limits on the Existence of a Material-Dependent Intermediate-Range Force
 Fitzgerald 86 Phys. Rev. C34:619,1986.
Forward-Angle Cross Sections for Pion-Nucleon Charge Exchange between 100 and 150 MeV/c
 Fontaine 89 Nucl. Phys. B321:299,1989.
Measurement of the Spin Correlation Parameters A_{00kk} and A_{00sk} in $p p$ Elastic Scattering from .88 to 2.4 GeV
 Ford 86 Phys. Rev. D33:3472,1986; SLAC-PUB-4003.
Search for Single Photons from Radiative Neutrino or Supersymmetric Particle Production
 Ford 87 Phys. Lett. 198B:297,1987; SLAC-PUB-4333; COLO-HEP-148;
Measurements of Tau Decays to Three Pions
 Ford 87B Phys. Rev. D36:1971,1987; SLAC-PUB-4066; COLO-HEP-132;
Measurement of the Polarization of Tau Leptons Produced in $e^+ e^-$ Annihilation at $\sqrt{s}=29$ GeV
 Ford 87C Phys. Rev. D35:408,1987; SLAC-PUB-4036; COLO-HEP-123; SLAC-PUB-4036; COLO-HEP-123;
Precise Measurement of the Branching Fraction for the Decay $\tau^\pm \rightarrow \nu_\tau \pi$
 Ford 89 Phys. Rev. D40:1385,1989; SLAC-PUB-4348.
Measurement of a_S from Hadron Jets in $e^+ e^-$ Annihilation at \sqrt{s} of 29 GeV
 Forden 85B RAL-85-076.
Lifetime Measurements of Hadrons Containing Heavy Quarks at PETRA and PEP
 Forino 87 Yad. Phys. 46:791,1987.
Associative Photoproduction of Charmed Λ_c^+ Baryons and \bar{D} -Mesons and Λ_c^+ Weak Decays
 Foudas 88 UR-1057.
Neutrino Production of Opposite-Sign Dimuons at the Tevatron
 Foudas 88B FERMILAB-CONF-88-160-E.
Neutrino Production of Charm at FNAL E744

- Frame 86 Nucl. Phys. B276:667,1986; CERN-PHE-85-051.
 A Spin-Parity Analysis of the ϕK^+ System Produced in the Reaction $K^+ p \rightarrow \phi K^+ p$, $\phi \rightarrow K^+ K^-$ at 13 GeV/c
- Franklin 87 Phys. Lett. 184B:111,1987.
 Evidence for a Narrow S Resonance in $\bar{p} p$ Annihilation at 1937 MeV
- Franklin 88 TUHE-88-102.
 Experimental and Theoretical Status of Baryon Magnetic Moments
- Fransson 90 THESIS:
 A Search for Prompt Electrons with Low Transverse Momentum in 630 GeV Proton-Antiproton Collisions
- Franz 85 Phys. Lett. 153B:382,1985.
 Charged Particle Production on ^{12}C by Intermediate Energy Neutrons
- Franz 88 Nucl. Phys. A490:667,1988.
 Total Neutron-Nucleus Cross Sections at Intermediate Energies
- Franz 88B LBL-25705.
 Study of High Energy Nucleus Nucleus Collisions
- Franz 89 FREI-MEP-89-04:
 Neutron Induced Production of Protons, Deuterons and Tritons on Copper and Bismuth
- Franzini 87 Phys. Rev. D35:2883,1987.
 Limits on Higgs Bosons, Scalar-Quarkonia, and η_b from Radiative $\Upsilon(1S)$ Decays
- Franzini 89 Phys. Rept. 173:1,1989; CERN-TH-5083:
 $B\bar{B}$ Mixing: A Review of Recent Progress
- Frascaria 87 INPO-DRE-87-31:
 Search for Strange Sixquark States in $p p \rightarrow K^+ X$ Missing Mass Spectra
- Frascaria 89 Nuovo Cim. 102A:561,1989:
 Hyperon-Nucleon Final-State Interaction in $p p \rightarrow K^+ X$ Experiment and the $\Delta N(2130^3S_1)^+ S=-1$ Strange Dibaryon
- Fredriksson 87 Phys. Rept. 144:189,1987; THITA-TFY-84-06:
 High-Energy Collisions with Atomic Nuclei: The Experimental Results
- Freeman 89 FERMILAB-CONF-89-148-E:
 A Missing Transverse Energy Analysis of 1.8 TeV $\bar{p} p$ Collisions Observed at CDF
- Friedman 89 Phys. Lett. 231B:39,1989; TRI-PP-89-49:
 Integral Cross Sections for $\pi^+ p$ Scattering between 52 and 126 MeV
- Friedman 90 TRI-PP-90-9:
 Integral Cross Sections for $\pi^+ p$ Interactions at Low Energies
- Fritschl 86 Phys. Lett. 173B:485,1986:
 An Upper Limit for the Mass of $\bar{\nu}_e$ from Tritium β Decay
- Fry 89 KEK-89-30; AMY-89-02:
 Tests of QCD at the TRISTAN $e^+ e^-$ Collider
- Fuess 87 Phys. Rev. D35:3297,1987:
 Search for Anomalous Particles in High Energy Hadron Proton Interactions
- Fujisaki 88 Nuovo Cim. 99A:395,1988:
 Polarization Measurement in Pion-Nucleon Charge Exchange $\pi^+ n \rightarrow \pi^0 p$ at 6 GeV/c
- Fukui 88 Phys. Lett. 202B:441,1988; KEK-87-152:
 Vector Resonances Around 1.6 GeV of the $\eta \pi^+ \pi^-$ System in the $\pi^- p$ Charge Exchange Reaction at 8.95 GeV/c
- Fulton 89 Phys. Lett. 224B:445,1989; CLNS-88-877; CLEO-88-4:
 First Observation of Inclusive $J/\psi(1S)$ Production in UPSILON Decays
- Fulton 89B Phys. Rev. D41:1401,1990; CLNS-89-913; CLEO-89-7:
 Radiative $\Upsilon(1S)$ Decays
- Gabrielse 90 CERN-PPE-90-98:
 A 1000-Fold Improvement in the Measured Antiproton Mass
- Gabunia 89 Yad. Phys. 50:1035,1989:
 Yields of Neutral Strange Particles in Pion-Nuclear Interactions at 40 GeV/c
- Gabunia 90 Yad. Phys. 51:1607,1990:
 Associative Multiplicity in $\pi^- A$ Interactions with Strange Particle Production
- Gachurin 85 ITEP-85-59:
 Measurement of Total Cross Sections of Protons and π^+ Mesons with Nuclei at 1.35 - 3.75 GeV/c
- Gagarin 89 Pis'ma Zh. Eksp. Teor. Fiz. 49:424,1989:
 Nuclear Scaling Destruction in the Heavy Nucleus Interactions
- Gaisser 85 Phys. Rev. D34:711,1986; SLAC-PUB-2899:
 Charmonium Spectroscopy from Inclusive $\psi(3770)$ and $J/\psi(1S)$ Radiative Decays
- Gaisser 89 Phys. Rev. Lett. 62:1425,1989:
 Search for Photon of Energy > 50 TeV from SN 1987A in Early 1988
- Gajewski 89 Phys. Rev. Lett. 62:2069,1989:
 Experimental Upper Limit to the Galactic Stellar-Collapse Rate
- Gal 86B TRI-PP-86-43:
 Hypernuclear Interactions
- Gall 88 Phys. Rev. Lett. 60:186,1988:
 Precision Measurement of K^- and Σ^- Masses
- Galumyan 88 YERE-1084(47)-88:
 Polarization Investigations of Photoproduction on Deuteron in the Dibaryon Resonance Excitation Region
- Gan 85 Phys. Lett. 53B:116,1985; PU-84-522; ANL-HEP-PR-84-89; IUHEE-60; U'M-HE-84-23.
 Measurement of the Reaction $e^+ e^- \rightarrow \tau^+ \tau^-$ at 29 GeV
- Gan 85B PU-85-539:
 New Results on Tau Lepton from PEP
- Gan 87 Phys. Rev. Lett. 59:411,1987; LBL-22362; SLAC-PUB-4110.
 Study of Tau Decay Modes with Multiple Neutral Mesons in the Final States
- Gan 87B Phys. Lett. 197B:561,1987; SLAC-PUB-4365:
 Upper Limit on the Branching Ratio for the Decay $\tau^- \rightarrow \pi^- \eta \nu_\tau$
- Gan 88 Int. Jour. Mod. Phys. A3:531,1988; SLAC-PUB-4331.
 New Leptons: An Experimental Review

- Gan 88B SLAC-PUB-4609:
Review of Recent Results on the τ^\pm Lepton
 Ganenko 88 Pisma Zh. Eksp. Teor. Fiz. 47:438,1988;
Asymmetry in Cross Section of Inclusive Reaction (γ, p) and (γ, π) on the ${}^3\text{He}$ and ${}^4\text{He}$ Nuclei
 Ganenko 89 Pisma Zh. Eksp. Teor. Fiz. 50:220,1989;
The Measurement of Deuteron Splitting Cross Section by Photons Polarized Parallel and Transversed with Respect to Reaction Plane
 Garcon 86 Nucl. Phys. A445:669,1985:
The Continuous Energy Dependence of $p p$ Differential Elastic Cross Sections between 500 MeV and 1200 MeV
 Garcon 86B Czech. J. Phys. B36:955,1986.
The Experimental Search for Narrow Dibaryons at SATURNE
 Garcon 87B Phys. Lett. 183B:273,1987;
Search for Narrow Structures in the Analyzing Power for $p p$ Elastic Scattering (655 - 1017 MeV)
 Garcon 89 SACLAY-DPhN-2569:
Polarization Measurements in Elastic Electron - Deuteron Scattering
 Garnett 89 Phys. Rev. D40:1708,1989; ANL-HEP-PR-89-21:
Measurement of a Mixed Spin-Spin Correlation Parameter for $n p$ Elastic Scattering
 Garreta 84 Phys. Lett. 150B:95,1985; CERN-EP-84-92:
Search for Antiproton Nucleus States with $\bar{p} p$ Reactions
 Garreta 85 CERN-EP-85-69:
Search for Antiproton Nucleus States
 Garutchava 87 Pisma Zh. Eksp. Teor. Fiz. 47:121,1988; IFVE-87-184:
An Estimate of the Central $\bar{\Lambda}$ Production in Cross Section of the Reaction $K^+ p \rightarrow \bar{\Lambda} X$ at 32 GeV/c
 Garutchava 87B Yad. Phys. 48:1142,1988; IFVE-87-110:
The Triple Regge Analysis of Inclusive Production of Λ and $\bar{\Lambda}$ Interactions at 32 GeV/c
 Gasparian 84B Yad. Phys. 41:1229,1985; JINR-PI-84-327:
Proton Characteristics as a Function of Cumulative Variable in C Ta Collisions at 4.2 GeV/c per Nucleon
 Gasparian 85 JINR-PI-85-14:
Some Characteristics of Protons Emitted in Backward Hemisphere in deuteron Ta and C Ta Interactions at $P=4.2$ GeV/c A
 Gavrilov 85 Yad. Phys. 41:843,1985;
Analysis of the Deuterons Production in hadron nucleus \rightarrow deuteron X Interactions
 Gavrilov 85B ITEP-85-121:
Isotope and Isotone Effects in the Inclusive Formation of Nucleons at High Energy
 Gavrin 89 Yad. Phys. 49:321,1989:
Pion Charge-Exchange Reaction $\pi^+ {}^{37}\text{Cl} \rightarrow {}^{37}\text{Ar} \pi^0$. Total Cross Section Measurement at 380, 335, and 390 MeV
 Gazdzicki 85 Z. Phys. C31:549,1986; JINR-EI-85-949:
Peculiarities of A Hyperon and π^- Meson Production in Nucleus-Nucleus Collisions at High Energies
 Gazzaly 87 Phys. Rev. Lett. 58:1084,1987; KEK-87-13:
First Measurement of the Real Part of $p p$ Double Spin Flip Amplitude
 Geer 89 FERMILAB-CONF-89-207-E:
Recent Results from the CDF Experiment at the Tevatron Proton-Antiproton Collider
 Geesaman 89 Phys. Rev. Lett. 63:734,1989:
Proton Propagation in Nuclear Studied in the A-dependence of the ($e^-, e^- p$) Reaction in the Quasifree Region
 Geichgimbel 85 BONN-HE-85-36; C85/09/26:
New Results from the UA5/2 Experiment
 Geiregat 89 Phys. Lett. 232B:539,1989:
A New Determination of the Electroweak Mixing Angle from $\nu_\mu - e^-$ Scattering
 Geiregat 90 CERN-EP-90-75:
First Observation of Neutrino Trident Production
 Geist 89 CERN-EP-89-166:
Non-Trivial Dynamical Features of Parton-Parton Scattering at the ISR
 Gelphman 85 Phys. Rev. D32:2893,1985; SLAC-286:
Measurement of the Decay $\Upsilon(2S) \rightarrow \pi^+ \pi^- \Upsilon(1S)$
 Genser 89 DESY-F1-89-01:
Jet Properties in $e^+ e^-$ Annihilation at the Center-of-Mass Energies between 14 GeV and 44 GeV
 Gentile 87 Phys. Rev. D35:1081,1987:
Search for Magnetically Charged Particles Produced in $e^+ e^-$ Annihilations at $E_{cm}=10.6$ GeV
 Georgiopoulos 84 Phys. Lett. 152B:428,1985; FERMILAB-PUB-84-113-E:
Observation of the Cabibbo Suppressed Decay $D^\pm \rightarrow \phi \pi^\pm$
 Gerbier 87 Phys. Rev. Lett. 59:2535,1987:
Charges and Angular Distributions of Fast Fragments Produced in 3.2 TeV ${}^{16}\text{O}$ Collisions with Pb
 Gerdyukov 86 Yad. Phys. 46:144,1987; If VE-86-162:
Study of Three-body Reactions $K^+ p \rightarrow K^+ K^+ \Lambda$ and $K^+ p \rightarrow p \bar{\nu} \bar{\Lambda}$ at 32 GeV/c
 Gerdyukov 86B Yad. Phys. 45:1350,1987; IFVE-86-116:
Study of Quasi-Two-Body Channels of the Reaction $K^+ p \rightarrow K^0 p \pi^+$ at 32 GeV/c
 Gerdyukov 87 IFVE-87-60:
Study of Reactions $K^+ p \rightarrow K^0 2\pi^- p$, $K^+ p \rightarrow K^0 3\pi^+ 2\pi^- p$ and their Diffractive Dissociation Channels at 32 GeV/c
 Germond 85C Phys. Rev. C32:1087,1985:
Diffraction Analysis of Pion Elastic Scattering from ${}^{40}\text{Ar}$
 Ghosh 85 Phys. Rev. Lett. 54:396,1985:
Evidence of Anomalous Behavior of Relativistic Alpha Particles Emitted in ${}^{12}\text{C}$ Emulsion Interaction at 4.5 GeV/c per Nucleon
 Ghosh 86 Czech. J. Phys. B36:1358,1986;
A Comparative Study of p (em) and ${}^{12}\text{C}$ (em) Interactions at 4 GeV/c - 5 GeV/c per Nucleon
 Ghosh 87 Nuovo Cim. 97A:24,1987;
Directional Coherence of Medium Energy Protons Emitted in ${}^{12}\text{C}$ Emulsion Interaction at 4.5 GeV/c/N

Ghosh 89

- Phys. Lett. 218B 431,1989.
The Validity of the Negative Binomial Multiplicity Distribution in the Case of the Relativistic Nucleus Nucleus Interaction
- Ghosh 89B Nuovo Cim. 101A 129,1989;
Many Pion Correlation in ^{16}O Ag/Br Interaction at 2.1 GeV/c/Nucleon
- Ghosh 89C Nuovo Cim. 101A 467,1989;
Strong Pion Correlation in Target Fragmentation Region Observed in "Cold" Events Produced in ^{12}C -Emulsion Interactions at 4.5 GeV/c
- Ghosh 89D Mod. Phys. Lett. A4 1197,1989;
- Ghosh 90 Nuovo Cim. 103A:423,1990;
Zonal Poissonian Pion Multiplicity in Central ^{24}Mg Ag Br Collisions at Dubna Energies
- Ghosh 90 Nuovo Cim. 103A:423,1990;
Study of Transverse Momentum Spectrum of Proton Projectile Fragments in 4.5A GeV/c ^{12}C Emulsion Interactions. Evidence of a Single Temperature
- Ghosh 90B Eur. Lett. 11,535,1990;
Multiplicity Characteristics of Symmetric and Asymmetric Heavy-Ion Interactions at 4.5 GeV/c
- Ghosh 90C Eur. Lett. 12,25,1990;
Supermassive Magnetic Monopoles Flux from the Oldest Mica Samples
- Gibbons 88 Phys. Rev. Lett. 61 2661,1988; PRINT-88-0734-CHICAGO
New Limits on $K_L, K_S \rightarrow \pi^0 e^+ e^-$
- Gibson 89 CERN-EP-89-94;
An Experimental Test of CPT Invariance in the Neutral Kaon System
- Gidal 85 LBL-19992, C85/06/09;
Two Photon Physics with the MARK-II at PEP
- Gidal 88 Phys. Rev. Lett. 59:2016,1988; SLAC-PUB-4275; LBL-22691.
Evidence for a Spin-1 Resonance in the Reaction $\gamma \gamma \rightarrow K^0 K^\pm \pi^\mp$
- Gidal 88B Phys. Rev. Lett. 59:2012,1988; SLAC-PUB-4274; LBL-22690.
Observation of Spin-1 $f_1(1285)$ in the Reaction $\gamma \gamma \rightarrow \eta \pi^+ \pi^-$
- Gidal 88C LBL-26172;
Resonance Formation in $\gamma \gamma$ Collisions
- Gilbert 85 Phys. Rev. Lett. 55:2680,1985;
Measurement of Parity Nonconservation in Atomic Cesium
- Gilbert 86B Phys. Rev. A34:792,1986;
Atomic-beam Measurement of Parity Nonconservation in Cesium
- Gill 90 Int. Jour. Mod. Phys. A5:755,1990;
Study of the Characteristics of ^{139}La Emulsion Interactions at 1.2 GeV
- Gilman 89 SLAC-PUB-494;
Rare Decays
- Gilman 90 Phys. Rev. Lett. 64:622,1990;
Forward-Angle Charged-Pion Electroproduction in the Deuteron
- Ginther 87 Phys. Rev. D35:1541,1987;
Search for Charmed Mesons Produced in Hadronic Interactions
- Gittelman 87 CLNS-87-81.
B Meson Decay
- Gladney 85 SLAC-279; UMI-85-11313.
Measurement of the Lifetimes of the Neutral and Charged D Mesons
- Gladney 86B Phys. Rev. D34:2601,1986; SLAC-PUB-3947; LBL-21503;
Measurement of the D^0 and D^+ Lifetimes
- Gladney 90 FERMILAB-CONF-90-15-E;
A Study of τ^\pm Decays of the W^\pm Boson at CDF
- Gladyszdzia 88 INP-1432-PH;
Intermittency in Super-High Energy Cosmic Ray Events
- Glagolev 85 Yad. Phys. 42:181,1985; JINR-P1-84-98;
Evaluation of the Motion Effect on Space Dimensions of the Interaction Region for $\pi^- p$ Multiple Production Reactions
- Glagolev 86 Nucl. Phys. A445:572,1985;
Alpha Particle Breakup in the Interaction with Protons at 8.6 GeV/c ^4He Momentum
- Glagolev 86B JINR-E1-86-78;
Peculiarities of Deuteron Production in ^4He Proton Interactions
- Glagolev 87 JINR-P1-87-61.
Azimuthal Correlations and Deuteron Production in Proton Interactions with Light Nuclei
- Glagolev 88 JINR-P1-88-6.
Break up of the Polarized Deuteron deuteron $p \rightarrow p p n$
- Glagolev 88B JINR-P1-88-592;
Total Disintegration of Helium Nuclei in ^3He p-Interaction at 13.5 GeV/c
- Glagolev 89 JINR-P1-89-218;
Multiplicity of Charged Particles in Interactions of Oxygen Nuclei with Hydrogen at 3.1 GeV/c Momentum
- Glagolev 89B JINR-E1-89-246;
Further Evidence for Narrow Dibaryon States in deuteron p Interactions
- Glagolev 89C JINR-P1-89-584;
Characteristics of deuteron $\rightarrow p p p \pi^-$ and $n p \rightarrow p p \pi^-$ Reactions and deuteron Wave Function
- Glagolev 90 Yad. Phys. 51:736,1990;
Narrow Dibaryon States in deuteron p Interactions
- Glass 85B Phys. Rev. C31:288,1985;
Measurements of Spin Correlation Parameters $A(\text{ll})$ and $A(\text{sl})$ for p (polarized) p (polarized) $\rightarrow \pi$ deuteron between 500 MeV and 800 MeV
- Glavanakov 86 Phys. Lett. 178B:155,1986;
Photoproduction of Neutral Pion on ^{12}C and ^6Li Nuclei at Threshold
- Glavanakov 87 Yad. Phys. 45:3,1987;
Measurement of Total π^0 Meson Photoproduction Cross Sections on ^6Li and ^{12}C Nuclei near the Threshold
- Glavanakov 89 Yad. Phys. 50:1516,1989;
Photoproduction of Neutral Pions on Light Nuclei near Threshold

Glover 85B

Gray 87

- Glover 85B Phys. Rev. C31 1.1985;
Optical Model Analysis of 200 MeV p (polarized) ^{16}O Elastic Scattering Data Measured to Large Momentum Transfers
- Gninenko 89 Phys. Lett. 237B:287.1989;
A Search for a KeV Pseudoscalar in the Two Body Decay of Orthopositronium
- Goetz 85 Phys. Rev. C31:1563.1985;
Measurement of Pion Induced Deuteron Breakup at 150 MeV
- Gold 86 LBL-22433:
Hard Photon Processes in Electron Positron Annihilation at 29 GeV
- Goldhaber 85C LBL-20445:
Lifetime Measurements at PEP and PETRA
- Goldman 87 Phys. Rev. D36:1543.1987;
Light-Boson Emission in the Decay of μ^+
- Goldman 87C Phys. Rev. Lett. 60:1789.1988; TAUP-1543-87;
Implications of the Supernova SN1987A Neutrino Signals
- Golovin 88 JINR-E1-88-175;
Fragmentation Cross Section of ^{19}F at 4 A GeV
- Golubev 85 Yad. Phys. 41:1183.1985;
Observation of $\phi \rightarrow \eta e^+ e^-$ decay
- Golubev 86 Yad. Phys. 44:633.1986; Sov. J. Nucl. Phys. 44:409.1986.
The $\phi \rightarrow \pi^+ \pi^-$ Decay
- Golubev 87 Yad. Phys. 45:1004.1987;
Upper Limit on Neutral Pion Polarizability
- Golubeva 89 Phys. Lett. 221B:238.1989;
Inclusive Proton Spectra from 0.6 - 1 GeV/c Pions Interactions with Nuclei
- Golubeva 90 Pisma Zh. Eksp. Teor. Fiz. 51:298.1990;
Excitation of Δ -Isobars in Nuclei in the Single Charge-Exchange Pion Reaction at the Energy of 1 GeV
- Gomez 85 SLAC-PUB-3552;
Possible Indication of an A-dependence of R in Deep Inelastic Electron Scattering from Nuclei
- Gomez 86 Phys. Rev. D35:2736.1987; FERMILAB-PUB-86-160-E;
A Measurement of the Nuclear Enhancement in High E_T and Jet Event Production
- Gomez 86B FERMILAB-CONF-86-65-E;
Hadron-Nucleus Interactions at High Energy
- Goodman 85 Phys. Rev. Lett. 54:877.1985;
Measurement of Gamow-Teller Strength Distributions in Masses 13 and 15
- Horbenko 85 Pisma Zh. Eksp. Teor. Fiz. 42:348.1985;
Polarization of Proton at ^3He Fission by Linearly Polarized Photons
- Gornov 86B LENI-86-1185;
A-dependence of Charged Particles Yields followed by Stopped Pion Absorption in Nuclei
- Gornov 87 Pisma Zh. Eksp. Teor. Fiz. 45:205.1987;
Evidence of Superheavy Isotopes of H₂ in the Absorption Reaction of π^- Mesons by ^9Be Nuclei
- Gornov 87B Atom. Nucl. Elem. Particles, P. 18;
A-dependence of the Yield of the Charged Particles in the Capture Reaction of the Stopping π^- Mesons with Nuclei
- Gornov 88 Yad. Phys. 47:959.1988;
Emission of Protons in Absorption of Stopped Negative Pions by Be, C, Si, Cu and Ge Nuclei
- Gorringe 85 Phys. Lett. 162B:71.1985;
X-Rays from Antiprotonic Hydrogen and Deuterium
- Gorshkova 85 Z. Phys. A320:301.1985;
 ^4He Fragmentation Induced by 46 GeV - 400 GeV Protons
- Gosset 89 Phys. Rev. Lett. 62:1251.1989;
Nuclear Collective Flow and Charged Pion Emission in Ne-Nucleus Collisions at $E/A=800$ MeV
- Gourlay 86 Phys. Rev. Lett. 56:2244.1986;
Polarization of Λ 's and $\bar{\Lambda}$'s in $p p$, $\bar{p} p$, and $K^- p$ Interaction at 176 GeV/c
- Grab 87 SLAC-PUB-4372;
Limits on Rare $D \rightarrow$ Meson Decays
- Grab 88 SLAC-PUB-4809;
Rare Decays of Charmed D Mesons
- Grabez 88 Phys. Lett. 207B:27.1988;
Mechanisms of Light Fragment Production in the Interactions of 8.8 GeV ^4He with ^{208}Pb
- Grabosch 86 Z. Phys. C31:203.1986; IFVE-86-117; PHE-85-12;
Coherent π Meson Production in Neutrino and Antineutrino Interactions on Freon Nuclei
- Grabosch 86B Yad. Phys. 46:1673.1987; IFVE-86-224;
Observation of Internal Muon Bremsstrahlung in ν_μ nucleus $\rightarrow \mu^- X$
- Grabosch 86D Yad. Phys. 47:1630.1986; IFVE-86-221;
Study of Quasielastic Reactions in $\nu_\mu n \rightarrow \mu^- p$ and $\bar{\nu}_\mu p \rightarrow \mu^+ n$ in Bubble Chamber SCAT at 3 - 20 GeV
- Grabosch 89 Z. Phys. C41:527.1989;
Cross Section Measurement of Single Pion Production in Charged Current Neutrino and Antineutrino Interactions
- Grace 85 Phys. Rev. Lett. 55:1055.1985;
Weak Decay of ^{12}C and ^{11}B Hypernuclei
- Gram 89 Phys. Rev. C1:1.1989;
Dependence of the Cross Section for Inclusive Pion Double Charge Exchange on Nuclear Mass and Charge
- Grassler 85 Nucl. Phys. B272:253.1986; CERN-EP-85-41;
Inclusive ρ^0 Production in $\bar{\nu}_\mu p$ Charged Current Interactions
- Grassler 86 Nucl. Phys. B273:253.1986;
Prompt Neutrino Production in 400 GeV Proton Copper Interactions
- Grassler 88 Yad. Phys. 47:722.1988;
Study of $\pi^+ p$, $K^+ p$ and $p p$ Elastic Scattering at 250 GeV/c
- Gray 87 CLNS-87-107;
Topics and Results from CESR

- Green 86 Phys. Rev. Lett. 56:1639,1986;
Observation of a Narrow Enhancement in ϕ $K^- K^+$ and $\phi \pi^+ \pi^-$ Final States Produced in 400 GeV $p\bar{n}$ Interactions
 TRI-PP-86-74:
Light Fragment Spectra to Upper Kinematic Limits for 300 MeV Proton Reactions with Be and Ag
- Greene 86 Phys. Rev. Lett. 56:819,1986.
New Determination of the Deuteron Binding Energy and the Neutron Mass
- Greenlee 85 Phys. Rev. Lett. 55:1555,1985; EPL-85-44-CHICAGO:
Production of Massive Muon Pairs in π^- nucleus Collisions
- Greenlee 88 Phys. Rev. Lett. 60:893,1988; BNL-40452:
Search for $K_L \rightarrow \mu^+ e^-$, $K_L \rightarrow \mu^- e^+$ and $K_L \rightarrow e^- e^+$
- Greenshaw 89 Z. Phys. C42(1),1989; DESY-88-154:
A Measurement of the Charge Asymmetry of Hadronic Events in Electron Positron Annihilation
- Grifols 85B Phys. Lett. 168B:264,1986; UAB-FT-137:
Limits on Masses of Excited Electrons and Muons from Neutrino Scattering off Electrons
- Grigalashvili 88 Yad. Phys. 48:476,1988;
Inelastic Cross Sections and Multiplicities of Secondaries Produced in Collisions of Relativistic Nuclei with Carbon and Tantalum at 2.3 A and 4.2 A GeV/c
- Grigorov 89B Doklady Akad. Nauk SSSR 308:850,1989:
Part of Protons in the Cosmic Ray Flux at the Energies > 25 TeV
- Grigorov 89C Pis'ma Zh. Eksp. Teor. Fiz. 49:246,1989:
Charge Distribution of Cosmic Rays at the Energy > 1 TeV
- Grigorov 90 Yad. Phys. 51:157,1990;
Satellite Studies of High and Superhigh Energy Cosmic Rays
- Grishin 85 Yad. Phys. 41:684,1985; Sov. J. Nucl. Phys. 41:434,1985; JINR-P1-84-79:
Fragmentation of Quarks and Diquarks into Strange Particles in $\pi^- p$ Interactions at $P=40$ GeV/c
- Grishin 85B Yad. Phys. 41:371,1985;
Hadron Jets with Strange Particle Production in Cumulative $\pi^- C$ Interactions at $P=40$ GeV/c
- Grishin 85C Yad. Phys. 43:609,1986; Sov. J. Nucl. Phys. 43:388,1986; JINR-P1-85-259:
Multiplicity Correlations between Charged Particles in the Forward and Backward Hemispheres in c.m.s. of $\pi^- p$ Interactions at 40 GeV/c
- Grishin 86B Yad. Phys. 47:439,1988; JINR-P1-86-585,
Observation of $\pi^0 \pi^0$ Interference Effect and Size of Neutral Pion Emission Volume in π^- Xe Interactions at 3.5 GeV/c
- Grishin 87 Yad. Phys. 46:832,1987; Sov. J. Nucl. Phys. 46:473,1987; JINR-P1-86-639:
Temperature and Density of Nuclear Matter in C C Interactions at $P=4.2$ GeV/c per Nucleon
- Grishin 88 JINR-P1-88-520:
Neutral Star Characteristics in (π^- Xe)-Interactions at 3.5 GeV/c Momentum
- Grishin 88B JINR-P1-88-821:
Investigation of $\Delta(1232 P_{33})^{++}$ Isobar Generation in Light Nucleus (p , deuteron, ${}^4\text{He}$, ${}^{12}\text{C}$) Interactions with Carbon and Hydrogen Nuclei at 4.2 GeV/c Momentum
- Gritsaenko 84 Yad. Phys. 41:191,1985; Sov. J. Nucl. Phys. 41:63,1985; IFVE-84-54:
Charged Particle Multiplicity in $K^+ p$ Interactions at 70 GeV/c
- Grivaz 88 LAL-88-14:
Neutrino Counting in Single Photon Experiments
- Groom 85 Phys. Rept. 140:323,1986; UU-HEP-85-8-REV:
In Search of the Supermassive Magnetic monopole
- Grosnick 86 Phys. Rev. Lett. 57:3241,1986;
Search for the Rare Decay $\mu^+ \rightarrow e^+ \gamma \gamma$
- Grossman 87 Phys. Rev. Lett. 59:18,1987;
Measurement of the Lifetime of K_S Mesons in the Momentum Range 100 to 350 GeV/c
- Grossmanhand 86 Phys. Lett. 179B:170,1986; CERN-EP-86-73:
A High Statistics Study of Υ Mesons Production in π^- Wt Reactions at 286 GeV/c
- Grotz 85 Phys. Lett. 153B:1,1985;
The Neutrino Mass from Double β Decay
- Grundies 85 Phys. Lett. 158B:15,1985;
Neutron-Proton Total Cross Section between 120 and 580 MeV
- Guanziroli 88 Z. Phys. C37:545,1988; CERN-EP-87-199:
Angular Distributions of Muon Pairs Produced by Negative Pions on Deuterium and Tungsten
- Guaraldo 89 Nuovo Cim. 102A:1137,1989; CERN-EP-89-87:
Antiproton - Nucleus Interaction at Intermediate Energies
- Guaraldo 89B TORINO-89:
Antiproton - Nucleus Physics: Experimental Overview
- Gulkanyan 87 Yad. Phys. 45:1059,1987; Sov. J. Nucl. Phys. 45:657,1987; YERE-962(12)-87:
Experimental Estimate of Secondary Absorption Contribution to Cumulative Proton Production
- Gulkanyan 87B Yad. Phys. 45:1065,1987:
Multiplicity Correlations between π^0 Mesons and Nonrelativistic Protons in deuteron and ${}^{12}\text{C}$ Interactions with Tantalum Nuclei at 4.2 GeV/c per Nucleon
- Gulkanyan 87C Yad. Phys. 46:826,1987; Sov. J. Nucl. Phys. 46:469,1987; JINR-P1-86-640:
 π^0 Meson Multiplicity Distributions in Multinucleon C C Interactions at 4.2 GeV/c per Nucleon
- Gulkanyan 87D YERE-973(23)-87:
Pion Multiplicity Distribution Moments in Nucleus-Nucleus Collisions and Experimental Verification of the Independent Interactions Model
- Gulkanyan 88 JINR-P1-88-143:
Investigation of Correlations between Protons in Nuclear-Nuclear Interactions at 4.2 GeV/c per Nucleon
- Gulkanyan 88B Yad. Phys. 50:123,1989; JINR-P1-88-226:
 π^0 -Meson Spectra in C Ta and Multinucleon C C-Interactions at 4.2 GeV/c per Nucleon
- Gulkanyan 88C Yad. Phys. 50:128,1989; JINR-P1-88-645:
Summary Characteristics of Pions in Nucleus-Nucleus Interactions at 4.2 GeV/c per Nucleon
- Gulkanyan 88D Yad. Phys. 50:415,1989; JINR-P1-88-685:
Inclusive and Multiple Characteristics of Cumulative Protons in Nucleus-Nucleus Interactions at 4.2 GeV/c per Nucleon

- Gulkanyan 89 VERE-1150(27)-89:
 The Measurement of Inelastic and Topological Cross Section of Deuteron Carbon Interactions at the Energy 1 GeV/Nucleon
- Guo 89 FERMILAB-PUB-89-234-E:
 Improved Limit on axion Production in 800 GeV Hadronic Showers
- Gustafsson 88 Mod. Phys. Lett. A3:1323.1988:
 Energy and Multiplicity Dependence of Fragment Flow in High Energy Nuclear Collisions
- Gutbrod 89 Phys. Lett. 216B:267.1989:
 A New Component of the Collective Flow in Relativistic Heavy-Ion Collisions
- Guy 87 Z. Phys. C36:337.1987; CERN-EP-86-217:
 A Study of the EMC Effect Using Neutrino and Antineutrino Interactions in Neon and Deuterium
- Guy 89 Phys. Lett. 229B:421.1989; CERN-EP-89-76:
 Neutrino Interactions, Proton Production and a Nuclear Effect
- Haas 85 Phys. Rev. Lett. 55:1248.1985:
 Decay $B \rightarrow J/\psi(1S) X$
- Haas 86 Phys. Rev. Lett. 56:2781.1986:
 Observation of the Decay $B \rightarrow D_S^\pm X$
- Haas 88 Phys. Rev. Lett. 60:1614.1988:
 Upper Limits on Charm-Changing Neutral Current Interactions
- Haba 88 Nucl. Phys. B299:627.1988:
 A Precision Measurement of Polarization Parameters for the $\pi^+ p \rightarrow K^+ \Sigma^+$ Reaction at 13 Laboratory Momenta 1490 and 2069 MeV/c
- Haines 86 Phys. Rev. Lett. 57:1986.1986:
 Calculation of Atmospheric Neutrino Induced Backgrounds in a Nucleon Decay Search
- Haines 90 Phys. Rev. D41:692.1990; LA-UR-89-1405:
 A Limit on Possible Energy Dependent Velocities for Massless Particles
- Haissinski 85 LAL-85-32:
 New Particle Searches at $e^+ e^-$ Machines
- Hallin 86 Phys. Rev. Lett. 57:2105.1986:
 Restrictions on a 1.7 MeV Axion from Nuclear Pair Transitions
- Halling 89 CLNS-89-910:
 Recent Results from CLEO with Fully Reconstructed B Mesons
- Hallman 85 Nucl. Phys. A440:697.1985:
 Neutral Pion Production in Central Collisions of Relativistic ^{12}C and ^{40}Ar on ^{208}Pb
- Hamagaki 85 Phys. Lett. 150B:416.1985:
 Measurement of High p_T Light Fragments at c.m. 90 Degrees in 800 MeV/A C C Collision
- Hamann 90 CERN-PPE-90-108:
 In-Flight Annihilation $\bar{p} p \rightarrow \phi \phi$ and $\bar{p} p \rightarrow K \bar{K}$ with JETSET at LEAR
- Han 85 Phys. Rev. Lett. 55:36.1985:
 Observation of B^* Production in $e^+ e^-$ Interactions above the b Flavor Threshold
- Hanlon 85 Phys. Rev. D32:2441.1985; FERMILAB-PUB-85-101-E:
 A Comparison of Cross Sections from Deep Inelastic Neutrino Scattering on Neon and Deuterium
- Hanni 85 Acta Phys. Polon. B17:795.1986; CERN-EP-85-87:
 Search for Monojet and Multi-Jet Events with Large Missing p_T in the UA2 Experiment
- Hara 86 Phys. Rev. Lett. 56:553.1986:
 Slow-monopole Search with Large Area Helium Gas Proportional Counter Array
- Harder 89 DESY-F15-89-01:
 Measurement of Inclusive Production of D Mesons in B Decays with the ARGUS Detector
- Hardy 89 TASCC-P-89-4:
 Superallowed $0^+ \rightarrow 0^+$ Nuclear β Decays: A Critical Survey with Tests of CVC and the Standard Model
- Harper 85 Phys. Rev. D31:1151.1985:
 Parity Nonconservation in Proton Water Scattering at 1.5 GeV/c
- Harris 87 Phys. Rev. Lett. 58:463.1987:
 Pion Production in High Energy Nucleus-Nucleus Collisions
- Harris 90 FERMILAB-CONF-90-118-E:
 Recent Results on Direct Photons from CDF
- Hartouni 85 Phys. Rev. Lett. 54:628.1985:
 Inclusive Production of Ω^- and $\bar{\Omega}^+$ by K_L Carbon Interactions in the Energy Range 80 - 280 GeV/c
- Hasell 85 TRI-PP-85-50:
 Elastic Scattering of Polarized Protons from ^3He at Intermediate Energies
- Hasinoff 88 TRI-PP-88-82:
 Radiative Muon Capture with the TRIUMF TPC
- Hasinoff 89 TRI-PP-89-54:
 Radiative Muon Capture in Light Nuclei
- Haupt 85 Z. Phys. C28:57.1985; CERN-PRE-85-057:
 Polarization of Λ Hyperons in $K^- p$ Interactions
- Hausammann 89 Phys. Rev. D40:22.1989:
 Direct Experimental Reconstruction of the $p p$ Elastic Scattering Amplitude between 447 and 579 MeV
- Hawkins 89 SLAC-337:
 Tests of QED to Fourth Order in α_S in Electron - Positron Collisions at 29 GeV
- Hawkins 89B SLAC-PUB-4949:
 Search for a Charged Lepton Specific Force in Electron - Positron Collisions
- Hayes 89 Phys. Rev. D38:3351.1989:
 Statistical Study of Tau-Decay Data
- Hayes 89B SLAC-PUB-5061:
 Status of the Tau One Prong Problem
- Haysak 85 Kr. Soob. IJN 8:39.1985.
 On a Resonant Structure in the $p \text{ Cu} \rightarrow \pi^+ X$ at 350 MeV
- Hearty 87 Phys. Rev. Lett. 58:1711.1987; SLAC-PUB-4114:
 New Results on Single-Photon Production at $E_{cm}=29$ GeV

Hearty 88

- Phys. Rev. D39:3207,1989; SLAC-PUB-4684; UWSEA-PUB-88-2;
Search for the Anomalous Production of Single Photons in $e^+ e^-$ Annihilation at $\sqrt{s}=29$ GeV
 Hearty 89 LBL-28547.
Measurement of the Z^0 Boson Resonance Parameters at SLC
 Heck 88 Z. Phys. C38:19,1988:
Study of the Energy Flow in ^{16}O -Nucleus Collisions at 60 and 200 GeV/Nucleon
 Hegner 89 Z. Phys. C46:547,1990; DESY-89-178;
Final Results on μ^\pm and τ^\pm Pair Production by the JADE Collaboration at PETRA
 Heinrich 89 Phys. Rev. Lett. 63:356,1989;
Measurement of the Ratio of Sea to Valence Quarks in the Nucleon
 Heltsley 86 CLNS-86-728.
Measurement of the τ^\pm and D^0 Lifetimes
 Hemingway 84 Nucl. Phys. B253:742,1985; CERN-EP-84-113;
Production of $\Lambda(1405 S_0)$ in $K^- p$ Reactions at 4.2 GeV/c
 Henrard 87 Nucl. Phys. B292:670,1987; LAL-87-04;
Study of SU(2) and SU(3) Violations in $J/\psi(1S)$ Baryonic Decays
 Heppermann 85 Phys. Rev. Lett. 55:1824,1985;
Decay Distribution of High Transverse Momentum ρ Mesons
 Heppermann 89 Phys. Lett. 232B:167,1989;
Momentum Dependence of Nuclear Spectral Functions as observed in ($p, 2p$) Quasielastic Scattering at Large Q^2
 Hertzog 88 Phys. Rev. D37:1142,1988;
Exotic-Atom Measurement of the Magnetic Dipole Moment of the Σ^- Hyperon
 Hessey 89 Z. Phys. C42:175,1989;
A Measurement of the Branching Ratio for $\Sigma^+ \rightarrow p \gamma$ Decay
 Hessing 90 FERMILAB-CONF-90-91-E;
Inclusive Jet Cross Section at $\sqrt{s}=1.8$ TeV
 Hewett 85 Phys. Rev. D33:1519,1986; Phys. Rev. D34:298,1986; IS-J-1905;
Neutrino Mass Limits from the Fritzsch Mass Matrix
 Hicks 85 Phys. Rev. C31:1323,1985;
Fission of Heavy Nuclei Induced by Energetic Pions
 Hicks 86 Nucl. Phys. A434:97C,1985;
Studies of p Shell Nuclei by Large Momentum Transfer Electron Scattering
 Hiel 89 Nucl. Phys. B327:1,1989;
Improved Limits on the Weak, Neutral, Hadronic Axial Vector Coupling Constant from Quasielastic Scattering of Polarized Electron
 Hill 88 Phys. Rev. Lett. 60:999,1988;
Electromagnetic Dissociation for High-Z Projectiles and at Ultrarelativistic Energies
 Hill 89 Z. Phys. C42:355,1989; DESY-88-166;
Observation of Spin-1 Resonance Formation in the Final State $K K \pi$ Produced in Tagged Two-Photon Collisions
 Hirata 87B UT-ICEPP-87-04; UPR-0144E;
Search for B8 Solar Neutrinos at KAMIOKANDE-II
 Hirata 87C Phys. Rev. Lett. 58:1490,1987;
Observation of a Neutrino Burst from the Supernova SN1987A
 Hirata 88B Phys. Lett. 205B:416,1988;
Experimental Study of the Atmospheric Neutrino Flux
 Hirata 88C Phys. Rev. Lett. 61:2653,1988; Phys. Rev. Lett. 62:694,1989; ICR-177-88-23; KEK-88-37;
Search for Correlation of Neutrino Events with Solar Fluxes in Kamiokande
 Hirata 88D Phys. Lett. 220B:308,1989; KEK-88-116;
Experimental Limits on Nucleon Lifetime for Lepton + Meson Decay Modes
 Hirata 88E KEK-88-131;
Search for "Solar-flare Neutrino" Events in KAMIOKANDE
 Hirata 88F Phys. Rev. D38:348,1988;
Observation in the KAMIOKANDE-II Detector of the Neutrino Burst from Supernova SN1987A
 Hirata 89 Phys. Rev. Lett. 63:16,1989; ICR-REPORT-188-89-5; KEK-89-2;
Observation of Solar Neutrinos in the KAMIOKANDE-II Detector
 Hirata 89B KEK-89-45.
Recent Results and Status of the KAMIOKANDE Project
 Hirata 89C ICR-Report-195-89-12;
Recent Solar Neutrino Data from KAMIOKANDE-II Detector
 Hirata 89D ICR-201-89-18; KEK-89-151; KOBE-AP-89-06; OULNS-89-11; UPR-178E;
Search for Neutrino Events in the KAMIOKANDE-II Detector in Correlation with the Solar-flare Activity in March 1989
 Hirata 90 ICR-213-90-6; KEK-90-43; KOBE-AP-90-02; NUG-DP-90-02; OULNS-90-03; TIT-HPE-90-2; UPR-0189E;
Results from One Thousand Days of Real-time Directional Solar Neutrino Data
 Hirata 90F ICR-214-90-7; KEK-90-57; TOKAI-U-KAM-90-02; KOBE-AP-90-03; NIG-DF-90-3; OULNS-90-04; TIT-HPE-90-3; UPR-0192E.
Constraints on Neutrino Oscillation Parameters from the KAMIOKANDE-II Solar Neutrino Data
 Hiroshige 84C Progr. of Theor. Phys. 74:1287,1984; Progr. of Theor. Phys. 74:193,1985; PRINT-84-0799-OSAKA-CITY;
Analysis of the Dibaryon Resonances with $J^P = 2^+$ and 3^- by a Three Channel ($p p, n \Delta(1232) P_{33}, \pi$ deuteron) K Matrix Method
 Hithn 88 CALT-68-1533;
Status of the $\theta/f_2(1720)$
 Ho 89 Phys. Lett. 244B:573,1990; KEK-89-195; AMY-89-22;
Observation of Anomalous Production of Muon Pairs in $e^+ e^-$ Annihilation into Four-lepton Final States
 Hoffman 88 Phys. Lett. 208B:149,1988; LA-UR-88-426.
The New Limit for the Branching Ratio for the Decay $\pi^0 \rightarrow \nu \bar{\nu}$ from Beam Dump Experiments
 Hoffmann 88 Phys. Lett. 200B:583,1988;
Search for Projectile Fragments with Fractional Charge in Relativistic Heavy Ion Collisions
 Hofmann 85 LBL-20117; C85/06709;
The Investigation of Parton Fragmentation with the TPC Detector at PEP: Recent Results

- Hofmann 87 LBL-23922:
 The Physics of Jets
- Hofmann 87B LBL-23921:
 Production of Strange Particles in Hadronization Processes
- Hogan 86 Nucl. Phys. A434:475C,1985:
 A Progress Report on Recent Rare Muon Decay Experiments at the Los Alamos Meson Physics Facility
- Hohler 89 TKP-89-3:
 Methods and Results of Pion Nucleon Partial Wave Analysis
- Hoistad 86 Phys. Lett. 177B:299,1986:
 The (p (polarized), π^\pm) Reactions on Be at 650 MeV
- Holder 89 SI-89-11:
 Experimental Status of CP Violation
- Holl 86 BONN-IR-86-15:
 Charged Hadron Production in Proton Antiproton Interactions at 200 GeV to 900 GeV Center-of-Mass Energy in Comparison with Predictions of the Dual Parton Model
- Hollas 85 Phys. Rev. Lett. 55:29,1985:
 Wolfenstein Polarization Observables for the Reaction p $p \rightarrow p \pi^+ n$ at 800 MeV
- Hollebeek 85 SLAC-PUB-3846; C85/07/29:
 Single Photon Searches at PEP
- Hollebeek 86 SLAC-PUB-3904:
 ASP: A Search for Single Photon Events at PEP
- Holtkamp 85 Phys. Rev. C31:1957,1985:
 Pion Scattering to 4 $^-$ States in ^{14}C
- Holynski 86 Acta Phys. Polon. B17:201,1986:
 Analysis of Angular Distributions of Charged Particles Produced by Negative Pions on Nuclei at 300 GeV
- Holynski 86B Z. Phys. C31:467,1986:
 Pseudorapidity Distribution from Pion-Emulsion Interactions in the Energy Range 60 GeV to 300 GeV
- Holynski 89 INS-1456-PH:
 One- and Two-Dimensional Analysis of the Factorial Moments in 200 GeV/Nucleon p ^{16}O and ^{32}S Interactions with Ag/Br Nuclei
- Holynski 89B Phys. Rev. Lett. 62:733,1989:
 Evidence for Intermittent Patterns of Fluctuations in Particle Production in High-Energy Interactions in Nuclear Emulsion
- Holzkamp 88 BONN-IR-88-40:
 Inclusive Photoproduction of Kaons and Pions in the Momentum Range 100 GeV/c – 170 GeV/c
- Hsiung 85 Phys. Rev. Lett. 55:457,1985; FERMILAB-PUB-85-103-E:
 A -dependence of the Inclusive Production of Hadrons with High Transverse Momenta
- Hsiung 88 FERMILAB-CONF-88-164-E:
 Measurement of ϵ'/ϵ at Fermilab
- Hsueh 85 Phys. Rev. Lett. 54:2399,1985; FERMILAB-PUB-85-21-E:
 Measurement of the Electron Asymmetry in the β Decay of Polarized Σ^- Hyperons
- Hsueh 88 Phys. Rev. D38:2056,1988:
 High-Precision Measurement of Polarized Σ^- β Decay
- Hubbard 89B LBL-27687:
 Fragmentation Properties of Jets Production in Proton-Antiproton Collisions at $\sqrt{s}=1.8$ TeV
- Huber 88 Phys. Rev. Lett. 61:2189,1988; TRI-PP-88-30:
 Search for Mixing of (μ^+ e^-) and (μ^- e^+) with Fermi Coupling Strength
- Huber 89 TRI-PP-89-64:
 Search for Mixing of Muonium (μ^+ e^-) and Antimuonium (μ^- e^+)
- Huber 90 Phys. Rev. Lett. 64:835,1990:
 Limit on the Flux of Cosmic-Ray Magnetic Monopoles from Operation of an Eight-Loop Superconducting Detector
- Hufner 85 Phys. Rept. 125:129,1985:
 Heavy Fragments Produced in p nucleus and nucleus nucleus Collisions at Relativistic Energies
- Hughes 89 LA-UR-89-1011:
 Non-Newtonian Gravitational Forces and the Greenland Ice-Sheet Experiment
- Humanic 88 Z. Phys. C38:79,1988:
 Pion Interferometry with Ultrarelativistic Heavy-Ion Collisions from the NA35 Experiment
- Hurst 89 Eur. Lett. 10:213,1989:
 Single PEP Upper Limit on B^0 \bar{B}^0 Mixing
- Huston 86 Phys. Rev. D33:3199,1986:
 Measurement of the Resonance Parameters and Radiative Width of the ρ^+
- Hutcheon 89 TRI-PP-89-55:
 Measurement of n $p \rightarrow$ deuteron π^0 Cross Sections very near Threshold
- Iddir 88 Phys. Lett. 205B:564,1988; LPTHE-ORSAY-88-03:
 (q , \bar{q} , gluon) Hybrid and ($2q$, $2\bar{q}$) Diquonium Interpretation of GAMS 1^-+ Resonance
- Igarashi 87 Phys. Rev. Lett. 60:2359,1988; KEK-87-112; AMY-87-06:
 Search for Isolated Leptons in Low Thrust e^+ e^- Annihilation Events at $\sqrt{s}=50$ and 52 GeV
- Imanishi 85 Phys. Rev. Lett. 54:2497,1985:
 Neutral Pion Photoproduction on the Deuteron
- Imanishi 88 Nuovo Cim. 100A:735,1988:
 Measurement of Large Angle Cross Sections of Coherent Pion Photoproduction on Deuteron
- Inagaki 88 KEK-88-26:
 Search for Rare Decays $K_L \rightarrow \mu^+ e^-$, $K_L \rightarrow \mu^- e^+$ and $K_L \rightarrow e^+ e^-$
- Inagaki 89 Phys. Rev. D40:1712,1989; KEK-89-25; UT-HE-89-03:
 Search for $K_L \rightarrow \mu^+ e^-$, $K_L \rightarrow \mu^- e^+$ and $K_L \rightarrow e^+ e^-$ Decays
- Inagaki 89B KEK-89-3:
 A Series of Experiments at KEK for Light Quark Meson Spectroscopy, E64/121/135
- Inagaki 89C KEK-89-12:
 The Experimental Status of E137 at KEK (Search for Rare Decay $K_L \rightarrow \mu^+ e^-$ and $K_L \rightarrow \mu^- e^+$)

- Incandela 86 Phys. Rev. D34:2637.1986;
First Result from a 1.1 m Diameter Superconducting Monopole Detector
- Inoue 85 Jour. of Phys. G 11:657.1985;
Longitudinal Development of Air Shower Electrons Studied from the Arrival Time Distributions of Atmospheric Cerenkov Light Measured at 900 m Above Sea Level
- Inoue 85B Jour. of Phys. G 11:669.1985;
Longitudinal Development of Air Shower Electrons Studied from the Arrival Time Distributions of Atmospheric Cerenkov Light Measured at 5200 m Above Sea Level
- Inzhechik 90 Yad. Phys. 51:14.1990;
Spatial Parity Violation on E1 Transition of ^{237}Np Nucleus
- Iovchev 87 Yad. Phys. 47:451.1988; JINR-E1-87-166;
Study of the Polarization for A Hyperon Produced in C ^{12}C and C Ta Interactions at 4.2 GeV/c per Nucleon
- Irion 85 SLAC-PUB-3643: C85/04/20;
Spectroscopy of the $\Upsilon(2S)$ with the Crystal Ball
- Irom 85 Phys. Rev. C31:1464.1985;
Pion Single Charge Exchange on ^7Li at Low Energies
- Ishii 85 Nucl. Phys. B254:458.1985;
Differential Cross Sections for Proton Compton Scattering at Incident Photon Energies between 900 MeV and 1150 MeV
- Istmatova 85 Yad. Phys. 41:935.1985;
Characteristics of Cumulative γ Quanta in π^- ^{12}C Interactions at 4 GeV/c
- Istmatova 85B Yad. Phys. 43:924.1986; PTIU-28-85-FVE;
Multiplicity of Charged and Neutral Particles in π^- ^{12}C Interactions at 4 GeV/c
- Itep 89 Usp. Fiz. Nauk 157:369.1989;
Oscillation of B Mesons
- Ivanenko 86 Pis'ma Zh. Eksp. Teor. Fiz. 44:200.1986;
Multicharged Primary Cosmic Ray Particles with the Energy of more then 2 TeV
- Ivanenko 87 Yad. Phys. 45:1069.1987;
Energy Spectrum of Helium Nuclei in Primary Cosmic Rays in the Energy Range from 1 up to 10 TeV/Nucleon
- Ivanenko 88B Pis'ma Zh. Eksp. Teor. Fiz. 48:468.1988;
Energy Spectrum and Charge Component of the Primary Cosmic Reys with the Energy Greater 2 TeV
- Ivanenko 89 Pis'ma Zh. Eksp. Teor. Fiz. 49:192.1989;
Energy Spectrum of the Primary Cosmic Rays at the Energy 1 - 100 TeV from the SOKOL Data
- Ivanov 87 Kr. Soob. JINR 26:4.1987;
Measurement of Electron Mass by Means of Narrow Component of Annihilation Radiation Peak
- Iwasaki 85B Nucl. Phys. A433:580.1985;
Small Angle \bar{p} Elastic Scattering and the Real to Imaginary Ratio of the Forward Amplitude between 413 MeV/c and 715 MeV/c
- Iwasaki 89 KEK-89-163;
Recent Results on QCD from TRISTAN
- Izen 88 SLAC-PUB-4753;
Semileptonic Charm Decay
- Jaffe 88 Phys. Rev. D38:1016.1988;
High Transverse-Momentum Hadron-Hadron Correlations in $\sqrt{s}=38.8$ GeV Proton Proton Interactions
- Jaffe 89 Phys. Rev. D40:2777.1989; TERMILAB-PUB-89-69-E;
High Transverse Momentum Single Hadron Production in p p and p deuteron Collisions at $\sqrt{s} = 27.4$ GeV and $\sqrt{s} = 38.8$ GeV
- Jain 85 Phys. Lett. 154B:252.1985;
Investigation of Anomalons in He Fragments
- Jain 86 Phys. Rev. D34:2886.1986;
Short- and Long-Range Correlations of Produced Particles at Very High Energies
- Jain 87 Phys. Rev. Lett. 59:2531.1987;
Search for Quark-Gluon Plasma in Nucleus-Nucleus Collisions at 3.2 TeV
- Jain 87B Phys. Lett. 187B:175.1987;
Multiparticle Production in Proton-Nucleus Collisions at Tevatron Energy
- Jain 87C Z. Phys. C36:45.1987;
High Energy Muon Nucleon Inelastic Scattering at Low Q^2
- Jain 88 Nucl. Phys. B301:517.1988;
Hadron Production by 150 GeV Muons in Nuclear Emulsion
- Jain 88B Nuovo Cim. 99A:9.1988;
Multiplicity Dependence of the Number of Projectile Collisions in Hadron-Nucleus Interactions
- Jain 90 Phys. Lett. 235B:351.1990;
Observation of Scaling in Nucleus-Nucleus Interactions at Ultra-Relativistic Energies
- Jain 90B Phys. Lett. 241B:273.1990;
Multifractality of Inelastic Nuclear Interactions at 1 - 8 TeV
- Jakubowski 88 Z. Phys. C40:49.1988; DESY-88-032; SLAC-PUB-4567;
Determination of $\Gamma(\epsilon\epsilon)$ of the $\Upsilon(1S)$ and $\Upsilon(2S)$ Resonances, and Measurement of R at $W=9.39$ GeV
- Jammes 89 Phys. Lett. 227B:21.1989; SACLAY-DPH-N-2550;
Total Cross Section Measurement of π^0 Photoproduction near Threshold on Complex Nuclei
- Jani 87 JINR-E1-87-397;
Hadrons and γ 's Associated to Dimuons and $J/\psi(1S)$ Particles in π^- C Interactions at 38 GeV/c
- Janissen 89 TRI-PP-89-89;
Muonium Production fro Fine Silica Powder
- Janssen 89 Phys. Lett. 228B:273.1989; DESY-89-054; SLAC-PUB-4958; HEN-317;
The Michel Parameter for the Decay $\tau^\pm \rightarrow e^\pm \nu \bar{\nu}$
- Janssen 90 THES:
Leptonic Decay Modes of the τ^\pm Lepton
- Jastrzembski 88 Phys. Rev. Lett. 61:2300.1988; BNL-41507;
Limit on $K_L \rightarrow \pi^0 e^+ e^-$ and $K_L \rightarrow e^+ e^-$

- Jawahery 85 Phys. Rev. D31:961,1985;
Production of the $\bar{K}^*(892)^0$ Resonance in $\pi^- p$ Interactions at 16 GeV/c
 Jeanmarie 85 LAL-85-34;
DM2 Results on $J/\psi(1S)$ Decays
 Jeckelmann 86B Phys. Rev. Lett. 56:1444,1986; Nucl. Phys. A457:7-9,1986; ETHZ-IMP-P86-2;
New Precision Determination of the π^- Mass from Pionic X-Rays
 Jenni 89 CERN-EP-89-51;
Collider Experiments
 Jensen 89 DOE-ER-01545-429;
Two-Photon Production of the $\eta_c(1S)$
 Jodidio 86 Phys. Rev. D34:1967,1986; Phys. Rev. D37:237,1988; LBL-21616;
Search for Right Handed Currents in Muon Decay
 Johns 89 ANL-HEP-CP-89-99;
Underground Muons from Direction of Cygnus X-3
 Johnson 86 SLAC-294;
Measurements of Charged Two Particle Exclusive States in Photon-Photon Interactions
 Johnson 87 BUHEP-87-12;
Recent Results on Single Photon Production from ASP and MAC
 Jones 85 Z. Phys. C27:43,1985; MPI-PAE-EXP-EL-141;
The K^0 / π^- Ratio and Strangeness Suppression in νp and $\bar{\nu} p$ Charged Current Interactions
 Jones 85B Z. Phys. C28:23,1985; PRE-85-009; MPI-PAE-EXP-EL-146;
Polarization of A Hyperon Produced Inclusively in νp and $\bar{\nu} p$ Charged Current Interactions
 Jones 86 Phys. Lett. 178B:329,1986;
Measurement of the Neutral to Charged Current Cross Sections Ratios for Neutrino and Antineutrino Interactions on Protons
 Jones 87 Z. Phys. C37:25,1987; MPI-PAE-EXP-EL-182;
Experimental Test of the PCAC-Hypothesis in Charged Current Neutrino and Antineutrino Interactions on Protons
 Jones 87B Z. Phys. C36:593,1987; MPI-PAE-EXP-EL-183;
Production of Charmed Hadrons in Neutrino Proton and Antineutrino Proton Charged Current Interactions
 Jones 89 Z. Phys. C43:349,1989;
Search for Fractional Electric Charge in Meteorite Samples
 Jones 89B Z. Phys. C43:527,1989; MPI-PAE-EXP-EL-199;
Experimental Test of the PCAC Hypothesis in the Reactions $\nu_\mu p \rightarrow \mu^- p \pi^+$ and $\bar{\nu}_\mu p \rightarrow \mu^+ p \pi^-$ in the $\Delta(1232 F_3)$ Region
 Jones 89C Z. Phys. C44:379,1989.
A Measurement of the Proton Structure Functions from Neutrino Hydrogen and Antineutrino Hydrogen Charged Current Interactions
 Jones 90 Z. Phys. C46:25,1990;
 W^2 and Q^2 Dependence of Charged Hadron and Pion Multiplicities in νp and $\bar{\nu} p$ Charged Current Interactions
 Jongejans 89 Nuovo Cim. 101A:435,1989;
Multiplicity Distributions of Charged Hadrons Produced in (Anti)Neutrino - Deuterium Charged- and Neutral-Current Interactions
 Jousset 88 Phys. Rev. D41:1389,1990; LAL-88-25;
The $J/\psi(1S) \rightarrow$ Vector + Pseudoscalar Decays and the η, η' Quark Content
 Jovchey 85 Yad. Phys. 42:194,1985; JINR-PI-84-279;
Characteristics of C Ts Interactions with A and K^0 Production at 4.2 GeV/c per Nucleon
 Joyner 89 Phys. Rev. D39:1865,1989;
Diffractive Production of $\pi^- \pi^- \pi^+$ in 200 GeV/c $\pi^- n$ Interactions
 Judek 86 Phys. Rev. C34:890,1986;
Anomalous Behavior of Singly Charged Relativistic Secondary Particles Produced in Collisions of ^{16}O Ions with Emulsion Nuclei at 2 A GeV
 Jung 86 Phys. Rev. Lett. 56:1775,1986;
Measurement of D_s^\pm Meson Lifetime
 Jung 89 Phys. Rev. Lett. 64:1091,1990; SLAC-PUB-5136; LBL-27998;
Search for Long-Lived Massive Neutrinos in Z^0 decays
 Juric 86 Nuovo Cim. 92A:181,1986;
Angular Distributions of Secondary Relativistic Charged Particles Produced in Interactions of Negative Pions in Emulsion at 300 GeV/c
 Juricic 88 Phys. Rev. D39:1,1989; LBL-25018;
Bose-Einstein Correlations in $e^+ e^-$ Collisions
 Juster 85 Phys. Rev. Lett. 55:2261,1985;
Tritium Electromagnetic Formfactors
 Kaarsberg 87 Phys. Rev. D35:2265,1987;
Measurement of the Branching Ratio for $\Upsilon(3S) \rightarrow \mu^- \mu^+$
 Kaarsberg 89 Phys. Rev. Lett. 62:2077,1989;
Measurement of the Branching Ratio for Decay of Υ States to $\mu^- \mu^+$
 Kageyama 87 Phys. Rev. D35:2655,1987;
Measurement of $\bar{p} p$ Elastic Scattering at Beam Momenta between 390 and 780 MeV/c
 Kalantarnaya 89 Phys. Rev. Lett. 63:2032,1989;
Energy Dependence of Dispersive Effects in ^{12}C
 Kamae 88 UT-HE-88-05;
New Results from $e^+ e^-$ Collisions
 Kamon 89 FERMILAP-CONF-89-246-E.
A Study of Weak Boson Production with $W^\pm \rightarrow e^\pm \nu$ and $Z^0 \rightarrow e^+ e^-$ at CDF
 Kanarek 88 Yad. Phys. 48:1752,1988; JINR-PI-88-30;
Proton and π^- Meson Spectra in C C - Interaction at 4.2 GeV/c per Nucleon
 Kanazirski 87 JINR-PI-87-750;
Determination of Double Pomeron Exchange Contribution to the Cross Section of $\bar{p} p \rightarrow \bar{p} p \pi^+ \pi^-$ Reaction

- Kanazirski 87 (cont'd) at **22.4 GeV/c**
 Czech. J. Phys. B39:623,1989.
- Kanazirski 89 **The Interactions $\bar{p} p \rightarrow \bar{n} \pi^- p$ at 22.4 GeV/c**
 Vestn. of Moscow Univ. Fiz., Ast. 26:27,1985;
- Kanevsky 85 **The Application of Multilayer X-Ray Film Chambers for Determination of Hadron Interaction Length in Lead**
 Phys. Rev. D41:2334,1990; FERMILAB-PUB-89-263-E:
- Karev 88 **Test of Scaling of the Massive-Dihadron Cross Section**
 Yad. Phys. 50:727,1989; JINR-EI-88-110;
- Karlen 88B **Anomalous Component of Absorption Function of Relativistic Fragments Produced in Mg Nuclear Interactions with Plexiglas at 4.5 A GeV/c**
 Phys. Rev. D39:1861,1989; SLAC-PUB-4560; LBL-24942;
- Karlen 88C **Measurement of Single and Double Radiative Low Q^2 Bhabha Scattering at $E_{cm}=29$ GeV**
 SLAC-325;
- Karnauchov 86 **A Study of Low Q^2 Radiative Bhabha Scattering**
 JINR-P1-86-373;
- Karnauchov 87 **$\Sigma(1385 P_{13})^\pm, K^*(892)^0$ Resonances in $\pi^- p$ Interactions at 16 GeV/c**
 JINR-P1-87-539;
- Kartik 90 **Observations of $K(1628)$ Mesons**
 Phys. Rev. D41:1,1990;
- Kass 89 **A -dependence of $J/\psi(1S)$ Production in π^- Nucleus Collisions at 530 GeV/c**
 DOE-ER-01545-430;
- Katayama 85 **Precision Measurement of the τ^\pm Lifetime**
 Nucl. Phys. A438:685,1985;
- Katsanevas 87 **Measurement of deuteron p Cross Sections in the Momentum Range 2 GeV/c - 3.7 GeV/c**
 Phys. Rev. Lett. 60:2121,1987; FERMILAB-PUB-87-57-E;
- Kawakami 87 **Nuclear Target Effects in $J/\psi(1S)$ Production in 125 GeV/c \bar{p} and π^- Interactions**
 Phys. Lett. 187B:198,1987;
- Kawakami 89 **An Upper Limit for the Mass of the Electron Antineutrino from the INS Experiment**
 INS-758: KEK-89-60;
- Kawamura 89 **Third Measurement of Anti-Electron-Neutrino Mass at INS**
 Phys. Rev. D40:729,1989; ICRC-172-88-18;
- Kazarinov 85 **"Quasidirect" Observations of Cosmic-Ray Primaries in the Energy Region $10^{12} - 10^{14}$ eV**
 JINR-P1-85-426;
- Kechechyan 89 **Amplitude Analysis of πn Scattering at 40 GeV/c**
 Kr. Soob. JINR 35:5,1989;
- Keh 88B **Scaling of Proton Cluster Distributions in the Range of the First Intermediate Asymptotics**
 Phys. Lett. 212B:123,1988; DESY-88-065; SLAC-PUB-4634; HEN-295;
- Keizer 85 **Search for Exotic τ^\pm Decays**
 Phys. Lett. 157B:255,1985;
- Kennett 87 **Deuteron Knockout from ${}^3\text{He}$ with the (e^-, e^- deuteron) Reaction**
 Nucl. Phys. B284:653,1987; CALT-68-1367;
- Kennett 87B **The Production of Neutral Pions from 200 GeV $\pi^- p$ Collisions in the High x Region**
 Nucl. Phys. B282:626,1987;
- Kernel 89 **A Comparison of Diffractive $\bar{\Lambda}$ and $\bar{\Xi}$ Photoproduction**
 Phys. Lett. 225B:198,1989;
- Kernel 89B **Measurement of $\pi^- p \rightarrow \pi^- p \pi^0$ Reaction near Threshold and Breaking of Chiral Symmetry**
 CERN-EP-89-104;
- Kesten 85 **Measurement of $\pi^- p \rightarrow \pi^- p \pi^0$ and $\pi^- p \rightarrow \pi^+ \pi^- n$ near Threshold and Breaking of Chiral Symmetry**
 Phys. Lett. 161B:412,1985; ANL-HEP-PR-85-47; IUHHE-67; PU-85-533; UNI-HE-85-12;
- Ketov 86 **Comparison of Light Quark and Charm Quark Fragmentation**
 Pisma Zh. Eksp. Teor. Fiz. 44:114,1986;
- Ketov 86B **Strange Phenomena Searching in Reactor Antineutrino Flux**
 KIAE-86-4266-2;
- Ketov 88 **Limitations on the Electromagnetic Characteristics of Antineutrino at Reactor Experiment**
 Pisma Zh. Eksp. Teor. Fiz. 47:177,1988;
- Khan 88 **The Spectra of $\bar{\nu}_e$ from the Atomic Reactor and the Test of the Electroweak Theory**
 Nuovo Cim. 99A:417,1988;
- Khan 89 **Interactions of Relativistic Carbon Nuclei in Nuclear Emulsion**
 Nuovo Cim. 101A:93,1989;
- Khaiari 89 **Interaction Mean Free Path of Projectile Fragments from ${}^{12}\text{C}$ Emulsion Collisions at 4.5 GeV/c**
 Phys. Rev. D39:45,1989; UNI-HE-87-36;
- Kim 85 **Acceleration of Polarized Protons to 22 GeV/c and the Measurement of Spin-Spin Effects in p (polarized) p (polarized) $\rightarrow p p$**
 KEK-88-96;
- Kichimi 88 **Search for New Particles at TRISTAN**
 MPI-PAE-EXP-EL-155;
- Kiesling 85 **Results from PETRA on Electroweak Effects and Tests of QED**
 Phys. Rev. D31:513,1985;
- Kim 86 **Angular Distribution of $\text{Sh}^- \pi^+$ Particles Produced in the Collisions of 30 GeV - 400 GeV Protons with Emulsion Nuclei**
 Phys. Rev. Lett. 56:1779,1986.
- Kim 86C **Left-Right Asymmetry in Inverse π^- Photoproduction from a Transversely Polarized Proton Target**
 Phys. Rev. C32:454,1985;
- Kim 88 **Inclusive Angular Distribution of He and Li Fragments Produced in Fe C and Fe Pb Collisions at 1.88 GeV/Nucleon**
 KEK-88-42; ANI-88-05.
- Kim 88B **A Search for Charged and Neutral Heavy Leptons in $e^+ e^-$ Annihilations at $\sqrt{s}=56$ GeV**
 KEK-88-61.
- Asymmetry in Lepton Pair Production from $e^+ e^-$ at KEK

- KEK-88-49; AMY-88-12;
A Study of QED Processes in the Electron-Positron Interactions and Search for $E \rightarrow 56$ GeV
 Phys. Rev. Lett. 61:911,1988; KEK-88-8; AMY-88-01; KNUHEP-88-01.
Experimental Mass Limit for a Forth Generation Sequential Lepton from $e^- e^-$ Annihilations at $\sqrt{s}=56$ GeV
- Kim 89
 Phys. Lett. 219B:62,1989;
Test on n Partial Wave Analysis at Onset of the Roper Resonance
- Kim 89B
 Phys. Lett. 223B:476,1989; KEK-88-125; AMY-88-18;
Search for the Substructure of Leptons in High Energy QED Processes at TRISTAN
- Kim 89C
 Phys. Rev. Lett. 63:1772,1989; Phys. Rev. Lett. 63:1772,1990; KEK-89-44; AMY-89-07.
A Comparison of Quark and Gluon Jets Produced in High Energy $e^+ e^-$ Annihilations
- Kim 89D
 Phys. Rev. D40:244,1989;
Differential Cross Section for $\pi^- p \rightarrow \gamma n$ from 427 to 825 MeV/c
- Kim 89E
 KEK-89-54; AMY-89-13;
Recent Results from AMY
- Kim 89F
 KEK-89-52; AMY-89-11;
Measurement of the Cross Section for $e^+ e^- \rightarrow \gamma \gamma$ at TRISTAN
- Kim 89G
 KEK-89-177; AMY-89-20;
A Search for Leptoquark and Colored Lepton Pair Production in $e^+ e^-$ Annihilations at TRISTAN
- Kim 90
 Phys. Rev. D41:733,1990;
Analyzing Power for $\pi^- p$ Charge Exchange in the Backward Hemisphere from 301 to 825 MeV/c and a Test of Pion Nucleon Partial-Wave Analyses
- Kinney 86
 Phys. Rev. Lett. 57:3152,1986;
Inclusive Pion Double Charge Exchange in ${}^4\text{He}$
- Kinoshita 88B
 Phys. Rev. Lett. 60:1610,1988; KEK-87-149;
Search for Highly Ionizing Particles in $e^+ e^-$ Annihilations at $\sqrt{s}=50 - 52$ GeV
- Kinoshita 88C
 KFK-88-32;
Recent Results from NIKKO at TRISTAN
- Kinoshita 89B
 Phys. Lett. 228B:543,1989; KEK-89-50;
Search for Highly Ionizing Particles in $e^+ e^-$ Annihilation at $\sqrt{s}=50 - 60.8$ GeV
- Kirov 85
 Izv. Akad. Nauk SSSR, Fiz. 49:1352,1985;
Search of Shower Excess from Crab Nebula and Swan X-3
- Kirpichnikov 89
 ITEP-89-177;
Double β Decay Experiment
- Kishida 89
 UT-HE-89-05;
Measurement of Deuteron-Deuteron Total Cross Sections in the Incident Momentum Range 1.5 - 4.0 GeV/c
- Kistryn 87
 Phys. Rev. Lett. 58:1616,1987;
Precision Measurement of Parity Nonconservation in Proton Proton Scattering at 45 MeV
- Kistryn 89
 Phys. Lett. 219B:58,1989;
Measurement of Parity Nonconservation in Proton-Deuteron Scattering at 43 MeV
- Kitagaki 86
 Phys. Rev. D34:2554,1986;
Charged Current Exclusive Pion Production in Neutrino-Deuterium Interactions
- Kitagaki 88
 Phys. Lett. 214B:281,1988; FERMILAB-PUB-88-59-E;
A New Method to Investigate the Nuclear Effect in Leptonic Interactions
- Kitching 86
 Phys. Rev. Lett. 57:2363,1986;
Polarized Proton Proton Bremsstrahlung
- Klar 84
 Phys. Rev. D31:491,1985; PRINT-84-0530-HEIDELBERG;
Multiparticle Production in Proton - Nucleus Collisions at 200 GeV
- Klein 84B
 Forts. d. Phys. 33:375,1985; PHE-84-01;
Interference of Electromagnetic and Weak Interactions at High Energies and Neutral Current Muon Electron Universality
- Klein 87
 Phys. Rev. Lett. 58:644,1987; SLAC-PUB-4082; LBL-22408;
Observation of Ξ^- Production in $e^+ e^-$ Annihilation at 29 GeV
- Klein 87B
 Phys. Rev. Lett. 59:2412,1987; SLAC-PUB-4338; LBL-23539;
Observation of Ω^- Production in $e^+ e^-$ Annihilation at 29 GeV
- Klein 88
 SLAC-330;
Charmed and Strange Baryon Production in 29 GeV Electron - Positron Annihilation
- Klein 89
 Phys. Rev. Lett. 62:2444,1989; SLAC-PUB-4696; LBL-25827;
 Λ_c^+ Production and Semileptonic Decay in 29 GeV $e^+ e^-$ Annihilation
- Klein 89B
 BUHEP-89-30;
First Results from MACRO
- Klein 89C
 Int. Jour. Mod. Phys. A5:1457,1990; BUHEP-89-16.
Charmed Baryons: A New Laboratory for Charm Studies
- Kleinwort 89
 Z. Phys. C42:7,1989; DESY-88-155;
A Measurement of the τ^\pm Lepton Lifetime
- Klem 86
 Phys. Rev. D37:41,1988; SLAC-PUB-4025; SLAC-300;
Measurement of the Average Lifetime of Hadrons Containing Bottom Quarks
- Klemt 88
 Z. Phys. C37:179,1988;
The β -Decay Asymmetry of the Neutron
- Klimenko 89
 MINR-89-11;
Baksan Experiment on the Search of $\beta\beta$ Decay of ${}^{100}\text{Mo}$
- Klinken 88
 Phys. Lett. 205:1,1988;
Search for Γ Invariant Bhabha Scattering around an Invariant Mass of 1.8 MeV
- Knyazev 85
 Sov. J. Nucl. Phys. 43:61,1986; Yad. Phys. 43:95,1986; IFVE-85-90;
Associated Production of the $K^*(892)^\pm$ with Other Particles and of the ρ^0 with Other Particles in Inclusive $K^+ p$ Reactions at 32 GeV/c
- Ko 88
 KEK-88-30; AMY-88-03;
 $e^+ e^-$ Physics at TRISTAN - the First Year and a Half of AMY

- Kobayashi 87 Phys. Rev. Lett. 59:868,1987;
New Measurement of the Asymmetry Parameter for the $\Sigma^+ \rightarrow p \gamma$ Decay
- Kobayashi 88 Phys. Rev. Lett. 60:2599,1988; KEK-87-78;
Projectile Fragmentation of the Extremely Neutron-rich Nucleus ^{11}Li at 0.79 GeV/Nucleon
- Kobayashi 88B KEK-88-134;
 π^+ Induced Quasifree Double-Charge-Exchange Reaction on ^{6}Li
- Kobayashi 89 Phys. Lett. 232B:51,1989; KEK-89-27;
Electromagnetic Dissociation and Soft Giant Dipole Resonance of the Neutron-Dripline Nucleus ^{11}Li
- Kobayashi 89B KEK-89-169;
Projectile Fragmentation of a Weakly-bound ^{11}Be Nucleus at 0.8 GeV/nucleon
- Kobayashi 89C KEK-89-157;
Electromagnetic Dissociation of Exotic Projectiles at 0.8 GeV/Nucleon
- Koch 86 Nuovo Cim. 96A:182,1986;
- Koch 89 Phys. Rev. Lett. 63:498,1989;
Differential Cross Sections for Coherent and Incoherent Neutral-Pion Photoproduction from Calcium
- Kochacki 89 ANL-HEP-CP-89-93; PDK-403;
Studies of μ 's Underground with the SOUDAN-2 Tracker
- Koenig 89 Phys. Lett. 218B:12,1989;
On the Momentum Correlation of ($e^+ e^-$) Pairs Observed in U U and U Pb Collisions
- Koenigsmann 85 DESY-85-089; C85/07/03;
 Υ Spectroscopy
- Koiso 84 Nucl. Phys. A433:619,1985; UT-HE-84-10;
Search for the $P_1 \Sigma(1660)$ Resonance in the Reactions $K^- p \rightarrow \Sigma^- \pi^+$ and $K^- p \rightarrow \Sigma^+ \pi^-$ in the Momentum Range 597 MeV/c to 888 MeV/c
- Kolanoski 85 BONN-HE-85-34; C85/08/19;
Two Photon Processes
- Kolanoski 86 BONN-HE-86-08; C86/03/16;
Recent Results on Two Photon Processes from DESY
- Kolanoski 87 DESY-87-175;
Two-Photon Physics
- Kolb 89 Phys. Rev. Lett. 62:509,1989;
Limits on the Radiative Decays of Neutrinos and Axions from Gamma-Ray Observations of SN1987A
- Koltick 85B PRINT-86-0057; PU-85-532;
Limits on the Tau Neutrino Mass
- Komamiya 85 HD-PY-86-01;
Search for New Particles in $e^+ e^-$ Annihilation
- Komamiya 89 Phys. Rev. D40:721,1989; SLAC-PUB-4771; LBL-26186;
Searches for Nonminimal Higgs Bosons from a Virtual Z^0 Decaying into a Muon Pair at PEP
- Komamiya 89B Phys. Rev. Lett. 64:987,1989; SLAC-PUB-5137; LBL-27999;
Determination of α_S from a Differential Jet Multiplicity Distribution at SLC and PEP
- Komamiya 89C SLAC-PUB-5154;
Study of Hadronic Final States of Z^0 Boson Decays
- Komamiya 90 SLAC-PUB-5175; LBL-28457;
Search for Non-minimal Higgs Bosons from Z^0 Boson Decay
- Konaka 86 Phys. Rev. Lett. 57:659,1986; KEK-86-9; KEK-86-9;
Search for Neutral Particles in Electron Beam Dump Experiment
- Konigsmann 86 Phys. Rept. 139:243,1986; DESY-86-009;
Radiative Decays in the ϕ Family
- Kopeikin 90 Pis'ma Zh. Eksp. Teor. Fiz. 51:75,1990;
A Search for Massive Neutrino on the Reactor of Rovno AES
- Kopke 89 Phys. Rept. 174:67,1989; CERN-EP-88-93;
 $J/\psi(1S)$ Decays
- Kopp 85 Z. Phys. C28:171,1985; CERN-EP-85-08;
A Measurement of Energy Loss Distributions of Energetic Muons in Iron
- Koptyev 88 Zh. Eksp. Teor. Fiz. 94(1):1,1988;
Subthreshold Production of K^+ Mesons in Proton-Nuclear Interactions
- Kopylova 86 JINR-P1-86-141;
Investigation of a Possibility of Cumulative Hadron Production as a Result of Isobar State Decay
- Kopylova 86B JINR-P1-86-109;
Angular Dependence of Slope Parameters of Invariant Inclusive Cumulative Hadron Production Cross Sections in $p C$ Interactions at $p(p)=10$ GeV/c and π^- Interactions at 40 GeV/c
- Kopylova 86E JINR-P1-86-251;
Azimuthal Correlations of Cumulative Hadrons with Secondary Particles in $p C$ Interactions at 10 GeV/c
- Kopylova 87 JINR-P1-87-94;
Observation of Nucleon-Carbon Interactions at $P=4.2$ and 10 GeV/c with the Summary Kinetic Energy of Secondaries Higher than Incident One
- Korenchenko 87 Yad. Phys. 46:313,1987; Sov. J. Nucl. Phys. 46:192,1987; JINR-P1-86-720;
On Decays $\pi^+ - e^+ \nu$ axion $\langle e^+ e^- \rangle$, $\pi^+ \rightarrow \mu^- e^+ e^+ \nu$
- Korolev 85 Phys. Lett. 165B:262,1985;
Analysing Powers in Free $n p$ Forward Elastic Scattering at Energies at 630 to 1000 MeV
- Korsgen 88 BONN-IR-88-47;
Research on the Charge Asymmetry in Inclusive Photoproduction of Mesons in the Forward Direction in the Momentum Range of 80 GeV/c - 170 GeV/c in the CERN OMEGA Spectrometer (WA-69)
- Koshiba 85B UT-ICEPP-85-02;
Kamioka Nucleon Decay Experiment
- Kosvintsev 86 Pis'ma Zh. Eksp. Teor. Fiz. 44:444,1986;
The Measurement of the Neutron's Life Time by Ultracold Neutron Save Method
- Kozuharov 88 GSI-88-68B;
Experiments on Low Energy Bhabha Scattering. Search for Neutral Resonances in the MeV/c² Mass Region

- Kozlovsky 86 Yad. Phys. 44:968,1986; Sov. J. Nucl. Phys. 44:624,1986; IFVE-86-52;
Boson Resonances Production in $\bar{p} p$ Interactions at 32 GeV/c
- Kozma 86 Czech. J. Phys. B38:1317,1988; JINR-E1-86-606;
Spallation of Copper by 9 GeV/c Protons and Deuterons
- Kozma 86B JINR-E1-86-607;
Spallation of Nickel by 9 GeV/c Protons and Deuterons
- Kozma 87 JINR-E1-87-350;
Target Residues from the Reactions of 9 GeV/c Protons at deuteron with ^{181}Ta
- Kozma 88 JINR-E1-88-245;
Nuclear Reaction of Medium and Heavy Target Nuclei with High Energy Projectiles. Fragmentation of ^{197}Au by 3.65 A GeV ^{12}C -Ions and 3.65 GeV Protons
- Kozma 88B Czech. J. Phys. B40:29,1989; JINR-E1-88-244;
Nuclear Reactions of Medium and Heavy Target Nuclei with High-Energy Projectiles. Spallation of ^{56}Mn , ^{59}Co , Ni and Cu by 3.65 A GeV ^{12}C -Ions and 3.65 GeV Protons
- Kozma 89 JINR-E1-89-252;
Nuclear Reactions of Tantalum with 3.65 A GeV ^{12}C -Ions and 3.65 GeV Protons
- Kozma 89B Nucl. Instr. and Meth. A291:662,1990; JINR-E1-89-745;
Cross Sections for the Production of ^{11}C in C Targets by 3.65 A GeV Projectiles
- Kozma 89C JINR-E1-89-482;
Target Residues from Reaction of 3.65 A GeV ^{12}C with ^{232}Th and ^{238}U
- Kozma 90 Czech. J. Phys. B40:38,1990;
Nuclear Reaction of Medium and Heavy Target Nuclei with High Energy Projectiles. Fragmentation of Ag and ^{197}Au by 3.65 A GeV ^{12}C -Ions and 3.65 GeV Protons
- Kozma 90B JINR-E1-90-185;
Systematics of Target Recoil Properties of Intermediate Fragments Produced in the Interaction of 3.65 A GeV ^{12}C -Ions and Protons with Complex Nuclei
- Kral 89 Phys. Rev. Lett. 64:1211,1990; SLAC-PUB-5147; LBL-28099;
Measurement of the $b \bar{b}$ Fraction in Hadronic Z^0 Decays
- Krasilnikov 85 Izv. Akad. Nauk SSSR, Fiz. 49:1321,1985;
The Spectra and Non-regularity of Super High Energy Extensive Atmospheric Showers at $E > 10^{19}$ eV
- Krasilnikov 85B Izv. Akad. Nauk SSSR, Fiz. 49:1325,1985;
Anisotropy of Intensity and Energy Spectra of High Energy Cosmic Ray
- Krasnov 86 Kr. Soob. JINR. 16:11,1986;
On Some Peculiarities of 4.1 A GeV/c Momentum ^{22}Ne Nucleus Collisions with Nuclei in Photoemulsion
- Krasnov 87 Yad. Phys. 47:1309,1988; JINR-P1-87-348;
The Study of Two-Particle Correlations in Inelastic Interactions of ^{22}Ne Nucleus with Emulsion at 4.1 GeV/c per Nucleon
- Krasnov 88 JINR-P1-88-389;
The Study of Total Disintegration of Lead Nuclei with ^{24}Mg Nuclei at 4.5 a GeV/c
- Krasnov 88B JINR-P1-88-252;
The Topological Characteristics of Silicon Nuclei Fragmentation at 4.5 GeV/c
- Krastev 88 JINR-P1-88-31;
 $\Lambda(1520\text{D}_{0s})$ Production in Neutron-Nucleon Interactions at 40 GeV Neutron Energy
- Krauss 89 Phys. Rev. Lett. 64:999,1989; YCTP-P14-89;
 Z^0 Decay and the Search for Dark Matter
- Krebs 86 Phys. Lett. 171B:37,1986;
Subthreshold Negative Pions and Energetic Protons Produced at $\theta(\text{c.m.}) = 90$ Degrees in 246 MeV/Nucleon ^{139}La - ^{139}La Collisions
- Kreinick 89 CLNS-89-956;
B Physics from CLEO
- Kreissl 87 Z. Phys. C37:557,1987; CERN-EP-87-183;
Remeasurement of the Magnetic Moment of the Antiproton
- Krishnaswamy 86 Nuovo Cim. 9C:167,1986;
Results from the KGF Proton Decay Experiment
- Kristiansson 85 LUIP-8505;
Large Angle Correlations Observed in Intermediate Energy Heavy Ion Collisions
- Krivich 88 LBL-25233;
A New Limit on the Neutrinoless Double β Decay of ^{100}Mo
- Krivoruchenko 87 ITEP-87-155;
Neutrino Masses from the Data on Second Neutrino Burst Observed from Supernova SN987A
- Krizmanic 89 THESIS;
A Search for the Oscillation of Muon Antineutrinos to Electron Antineutrinos using the AGS Wide Band Beam
- Kroscheck 85 Phys. Rev. Lett. 55:1051,1985;
Gamow-Teller Strength Function in ^{71}Ge via the (p, n) Reaction at Medium Energies
- Kroscheck 87 Phys. Lett. 189B:299,1987;
Gamow-Teller Strength Distribution in ^{81}Kr and the Consequences for a ^{31}Br Solar Neutrino Detector
- Kroha 89B MPI-PAE-EXP-EL-215-89;
Measurement of Heavy Quark Charge Asymmetries at 35 GeV and 43 GeV and Heavy Flavor Physics with CELLO
- Kubic 85 Yad. Phys. 43:89,1986; Sov. J. Nucl. Phys. 43:57,1986; IFVE-85-63;
Charged Multiplicities in Forward and Backward Hemispheres in CMS in $K^+ p$ Interactions at 70 GeV/c
- Kuhlen 86B DESY-86-052;
Hadronic Events with Low Thrust Containing Isolated Leptons
- Kuhlen 90 CALT-68-1619;
 Z^0 Decays into Lepton Pairs
- Kulikov 87 Pis'ma Zh. Eksp. Teor. Fiz. 46:249,1987;
Registration of Super High Energy Cosmic Rays from Binary Systems Cygnus X-1 and Cygnus X-3
- Kumar 89 Mod. Phys. Lett. A4:115,1989;
Multiparticle Production in Hadron Nucleus Collision and the Negative Binomial Distribution
- Kumita 89 KEK-89-48; AMY-89-10;
Measurement of R for $e^+ e^-$ Annihilation at TRISTAN

Kumita 89B	KEK-89-188; AMY-89-21; Measurement of R for $e^+ e^-$ Annihilation at TRISTAN
Kunne 88	Phys. Lett. 206B:557,1988; CERN-EP-88-22; Asymmetry in $\bar{p} p$ Elastic Scattering
Kunne 88B	Nucl. Phys. B323:1,1989; CERN-EP-88-17; Measurement of $d\sigma/dv$ and $A_{0\pi}$ in $\bar{p} p$ Elastic Scattering between 497 and 1550 MeV/c
Kunne 88C	THESIS; Measurement of Asymmetries and Differential Cross Sections in Antiproton-Proton Elastic Scattering at Momenta between 497 and 1550 MeV/c
Kuplennikov 90	Yad. Phys. 51:1210,1990; Study of the Quasifree Peak Shift in the $e^- {}^4\text{He} \rightarrow e^- X$ Reaction
Kurdadze 86	Pisma Zh. Eksp. Teor. Fiz. 43:497,1986; Study of the Reaction $e^+ e^- \rightarrow \pi^+ \pi^- 2\pi^0$ up to 1.4 GeV E_{cm}
Kurdadze 88	Pisma Zh. Eksp. Teor. Fiz. 47:432,1988; Investigation of the Reaction $e^+ e^- \rightarrow \pi^+ \pi^- \pi^+ \pi^-$ for $2E$ up to 1.4 GeV
Kurepin 88	Pisma Zh. Eksp. Teor. Fiz. 47:16,1988; Yield of Pions and Kaons in the Collisions of Relativistic Nucleus with Energy 3.65 GeV/N
Kurihara 89	KEK-89-64; AMY-89-16; Study of $e^+ e^-$ Annihilation into Four-Lepton Final State
Kutsidi 86	Yad. Phys. 43:931,1986; Some Correlation Features of Multiplicity Distributions for Charged Secondaries Produced in Collisions of Relativistic Nuclei
Kuzichev 88	ITEP-88-112; Detector for the Antiproton Annihilation
Kuzichev 89	ITEP-89-6C; Antiproton-Nuclei Annihilation Cross Section on Be, C, Al, Fe, Cu, Cd and Pb at the Momenta 1.26, 1.53, 1.78, and 2.5 GeV/c
Kvataladze 88	Z. Phys. C38:551,1988; On the Directional Dependence of Bose-Einstein Correlations
Lac 88	Nucl. Phys. B297:653,1988; Measurement of the Spin Correlation Parameters A_{00kk} and A_{00kk} in $p p$ Elastic Scattering at .84 and 1.0 GeV
Lac 89	Nucl. Phys. B315:269,1989; Measurement of the Parameters N_{00kk} , D_{00kk} and K_{00kk} in $p p$ Elastic Scattering between 0.84 and 2.7 GeV
Lac 89B	Nucl. Phys. B315:284,1989; Measurement of the Parameters D_{000k} and K_{000k} in $p p$ Elastic Scattering between 0.84 and 2.7 GeV
Lac 89C	Nucl. Phys. B321:269,1989; Measurement of the Parameters N_{00k0} , D_{000k} and K_{000k} in $p p$ Elastic Scattering between .84 and 2.1 GeV
Lac 89D	Nucl. Phys. B321:284,1989; Measurement of the Parameters N_{00kk} , K_{000k} , K_{0000} and D_{000k} in $p p$ Elastic Scattering between .84 and 2.7 GeV
Lach 89	FERMILAB-CONF-89-19-E; Magnetic Moments of the Hyperons: A Short Experimental Review
Lamm 87	Phys. Rev. D36:3341,1987; High-Energy Diffraction Dissociation of K_L into Exclusive Final State
Lancon 86B	SACLAY-DPHPE-86-12; Recent Results on Direct Photon Production at CERN
Landsberg 85	Usp. Fiz. Nauk 146:185,1985; Electromagnetic Leptonic Decays and the Structure of Light Mesons
Landsberg 86	Phys. Rept. 128:301,1986; Electromagnetic Decays of Light Mesons
Landsberg 87	IFVE-87-83; Search for Exotic Mesons and Study of Rare Mesonic Radiative Decays at "LEPTON" Spectrometer
Landsberg 88	IFVE-88-143; Study of Meson Spectroscopy on "LEPTON" Apparatus
Landsberg 89	IFVE-89-54; Exotic Hadrons
Lang 85B	Phys. Rev. Lett. 54:170,1985; Parity Nonconservation in Elastic p He Scattering and the Determination of the Weak Meson - Nucleon Coupling Constants
Lang 87	Z. Phys. C33:483,1987; Neutrino Production of Dimuons
Last 88	Phys. Rev. Lett. 60:995,1988; Pulsed-Beam Neutron-Lifetime Measurement
Lattimer 88	Phys. Rev. Lett. 61:23,1988; Limits on the Neutrino Magnetic Moment From SN1987A
Lawrence 89	Phys. Rev. Lett. 63:1121,1989; OG-4-1-22; Upper Limit to the Flux of Neutral Particles from Cygnus X-3 above $5 \cdot 10^{17}$ eV
Lebedev 88	Vopr. At. Nauki i Techn. ser. Obsch. 2-42:12,1988; The Analysis of the Two-Particles Inclusive Cross Section of Protons Production in the Interaction of 3.6 GeV/Nucleon ${}^{12}\text{C}$ with Pb in the $B(i\bar{k})$ Variables
Lechanoine 86	DPHPE-86-18; Critical Review of the Present Status of Neutron - Proton Scattering up to 1 GeV
Leclaire 87	SLAC-321; A Search for Supersymmetric Electrons with the MARK-II Detector at PEP
Lee 85B	SLAC-282; SLAC-PUB-3676: C65/03/10; Radiative Decays of the $\psi(2S)$ to All Photon Final States
Lee 88	Phys. Lett. 205B:219,1988; Intermediate Energy Proton Scattering from ${}^{40}\text{Ca}$, ${}^{80}\text{Zr}$ and ${}^{208}\text{Pb}$
Leffler 86	SLAC-293; A Search for Primarily Noninteracting Decay Modes of the Υ

- Lehar 86 DPHPE-86-28;
An Energy Dependent Phase Shift Analysis of Proton-Proton Scattering between 700 and 1300 MeV
- Lehar 87 Phys. Lett. 189B:241,1987;
Measurement of the Spin Dependent Neutron-Proton Total Cross Section Difference σ_T and σ_L between 0.65 and 1.08 GeV
- Lehar 87B Nucl. Phys. B294:1013,1987;
Measurement of the Spin Correlation Parameter A_{00mm} of $p\ p$ in a Large Angular Region between 0.88 GeV and 2.7 GeV
- Lehar 88 Nucl. Phys. B296:535,1988;
Measurement of the Spin Correlation Parameter A_{00kk} in $p\ p$ Elastic Scattering from 0.88 to 2.7 GeV
- Leitch 85 Phys. Rev. Lett. 54:1482,1985;
Double Analog Transition $^{14}\text{C}(\pi^+, \pi^-) ^{14}\text{O}$ at 50 MeV
- Lepekhin 89 LENI-89-1557;
The Search for Correlated Groups of Particles Produced in the Interactions of ^{22}Ne Nucleus with Nuclei of Photoemulsion
- Lepikhin 87 JETP Lett. 46:275,1987; Pisma Zh. Eksp. Teor. Fiz. 46:219,1987;
Below Threshold and near Threshold Production of Antiprotons in Collisions with Nuclei
- Leskin 86 Kr. Soob. JINR 17:5,1986;
Momentum Spectra of Pions and Protons in p , ^{12}C and ^{22}Ne Collisions with Emulsion Nuclei at 4.5 GeV/c/Nucleon
- Letessier sel 89 LBL-26802;
Mass and Transverse Momentum Dependence of the Dielectron Yield in p Be Collisions at 4.9 GeV
- Letessier sel 89B LBL-27080;
Mass and Transverse Momentum Dependence of the Dielectron Yield in p Be Collisions at 4.9 GeV
- Levi 85 CERN-EP-85-172; C65/07/18;
UA1 Results on W^\pm and Z^0 Production
- Levy 88 DESY-88-115;
Two Photon Production of Exclusive Final States
- Lhote 87 Phys. Lett. 198B:139,1987;
Exclusive Measurements of Mean Pion Multiplicities in ^4He nucleus Reactions from 200 to 800 MeV/Nucleon
- Lhote 89 SACLAY-DPH-N-2553B;
Inclusive Experiments, Correlation and Pion Photoproduction Data
- Li 89 KEK-89-34; AMY-89-03;
Multihadronic Event Properties in $e^+ e^-$ Annihilation at $\sqrt{s}=52$ to 57 GeV
- Li 89B KEK-89-149; AMY-89-19;
Multi-hadron Event Properties in $e^+ e^-$ Annihilation at $\sqrt{s}=52$ GeV to 57 GeV
- Lichtenstadt 85 Phys. Rev. C32:1096,1985;
Blackbody Description of Antiproton Nucleus Scattering
- Lile 89 THESIS;
Neutrino Oscillations: A Search for Electron Neutrino Appearance in a Wide Band Muon Neutrino Beam
- Lim 90 KEK-90-9; CERN-TH-5680-90;
Correlation between Solar Neutrino Flux and Solar Magnetic Activity for Majorana Neutrinos
- Linsley 84 Lett. Nuovo Cim. 42:403,1985; UNMEL-5-4-84-2;
 $p\ p$ Total Cross Section at $E_{cm}=15$ TeV to 150 TeV from Cosmic Ray Data
- Linssen 87 CERN-EP-87-36;
Measurement of Antiproton Small Angle Elastic Scattering at Low Momentum
- Lippman 85 Phys. Rev. Lett. 54:285,1985;
Precise $^3\text{H} - ^3\text{He}$ Mass Difference for Neutrino Mass Determination
- Liss 90 FERMILAB-CONF-90-17-E;
 $J/\psi(1S)$ and $T(1S)$ Production at CDF
- Littenberg 89 BNL-43660;
Rare Kaon Decays
- Liu 88 Phys. Rev. Lett. 58:2288,1988;
Evidence of $2q\ 2\bar{q}$ Mesons in $\bar{p}\ n$ Annihilations and $\gamma\ \gamma$ Reactions
- Liu 88B Phys. Rev. Lett. 61:271,1988;
Nuclearite Flux Limit from Gravitational-Wave Detectors
- Lloydowen 86 Nucl. Phys. B274:685,1986; CERN-EP-86-03;
Total, Elastic and Inclusive Single Diffractive Cross Sections in He He Collisions at the CERN Intersecting Storage Rings
- Lockman 89 SLAC-PUB-5139;
Production of the $f_0(975)$ Meson in $J/\psi(1S)$ Decays
- Lohner 88 Z. Phys. C38:97,1988;
Neutral Transverse Momentum Spectra in 60 and 200 A GeV $^{16}\text{O} +$ Nucleus and Proton + Nucleus Reactions
- London 89 SACLAY-DPHPE-89-03;
Results from the CERN Pilot Study of Ultrarelativistic Nucleus-Nucleus Interactions
- Longacre 86 Phys. Lett. 177B:223,1986; BNL-38257;
A Measurement of $\pi^- p \rightarrow K_S K_S n$ at 22 GeV/c and a Systematic Study of the 2^{++} Meson Spectrum
- Longacre 86B BNL-38729;
The Results of Two Scattering Processes: $\pi\ \pi \rightarrow \phi\ \phi$ and $\pi\ \pi \rightarrow K\ \bar{K}$
- Longacre 87 BNL-39954;
The Argand Amplitudes for $\phi\ \phi$ Events from $\pi^- p \rightarrow \phi\ \phi\ n$ at 22 GeV/c
- Longuemare 88 LAL-88-33;
Study of Atmospheric Neutrino Interactions with the FREJUS Detector
- Longuemare 89 LAL-89-35;
Study of Neutrino Oscillations in the FREJUS Experiment
- Lorenz 88 Phys. Lett. 214B:10,1988; MPI-PAE-EXP-EL-190;
Search for Narrow Resonance Production in Bhabha Scattering at Centre-of-Mass Energies near 1.8 MeV
- Losecco 85 Phys. Lett. 184B:305,1985;
Investigation of Matter Enhanced Neutrino Oscillations Relevant to the Solar Neutrino Problem

- Losecco 85B Phys. Rev. Lett. 54:2299,1985;
Test of Neutrino Oscillations Using Atmospheric Neutrinos
- Losecco 87 Phys. Lett. 188B:388,1987;
Limits on the Flux of Energetic Neutrinos from the Sun
- Losecco 87B Phys. Rev. D35:2073,1987;
Limits on the Neutrino Lifetime
- Losecco 89 UND-PDK-89-4;
Search for Dark Matter with IMB-1
- Louis 86 Phys. Rev. Lett. 56:1027,1986;
Upper Limits on the Decay $D^0 \rightarrow \mu^+ \mu^-$ and on $D^0 \bar{D}^0$ Mixing
- Lovelock 85 Phys. Rev. Lett. 54:377,1985;
Masses, Widths and Leptonic Widths of the Higher Υ Resonances
- Low 87 Phys. Lett. 183B:232,1987;
Production and Fragmentation of the $D^*(2010)^0$ Meson in $e^+ e^-$ Annihilations at 29 GeV
- Low 89 Phys. Lett. 229B:548,1989; KEK-89-47; ANY-89-09;
Search for Non-Minimal Higgs Production in $e^+ e^-$ Annihilations at $\sqrt{s}=56$ GeV
- Lowe 85 SLAC-PUB-3683; C85/03/10;
The Status of the $\zeta(8.3)$
- Lowe 86 SLAC-307;
Search for Narrow States in Radiative Υ Decays
- Lowe 86B SLAC-PUB-4151;
Recent Results from the Crystal Ball Experiment
- Lowe 86C SLAC-PUB-4449;
Crystal Ball Results on τ^\pm Decays
- Lubatti 89 UWSEA-PUB-89-12;
Search for $K^+ \rightarrow \pi^+ \mu^+ e^-$ and Study of $K^+ \rightarrow \pi^+ e^+ e^-$ at BNL
- Luca 85 LAL-85-15;
The Pion Formfactor in the Time-Like Region $1.38 \text{ GeV} < E_{cm} < 2.28 \text{ GeV}$
- Luk 88 Phys. Rev. D38:19,1988;
New Measurement of Properties of Ω^- Hyperon
- Lund 88 Z. Phys. C38:51,1988;
Charged Particle Spectra in ^{16}O -Induced Nuclear Collisions at the CERN SPS
- Lund 89 GSI-89-04;
Fluctuation in Multi-Particle Production and γ/π^0 Ratios in 200 GeV A ^{16}O + Au Collisions
- Lundberg 89 Phys. Rev. D40:3557,1989;
Polarization in Inclusive Λ and $\bar{\Lambda}$ Production at Large p_T
- Lurz 87 Z. Phys. C36:383,1987; SLAC-PUB-4302; DESY-87-038;
Experimental Upper Limits for the Hadronic Transitions $\Upsilon(2S) \rightarrow \eta \Upsilon(1S)$ and $\Upsilon(2S) \rightarrow \pi^0 \Upsilon(1S)$
- Luth 87 SLAC-PUB-4222;
Lifetimes of Heavy Leptons and Hadrons
- Lyons 87 Z. Phys. C36:363,1987;
Search for Free Quark Production at the CERN SPS Collider
- Lyubimov 88 Kr. Soob. JINR 33:5,1988;
Properties of Four-dimensional Baryon Clusters in Cumulative Nucleus-Nucleus Interactions
- Lyukov 89 Nuovo Cim. 102A:583,1989;
Study of Hypernuclear Production and Search for Supernuclei in Proton-Nuclear Interactions in Photomulsion at 70 and 250 GeV
- Ma 86 Z. Phys. C30:191,1986;
Some Tests of Fragmentation Models in Exclusive Channels in $K^- p$ Reactions at 32 GeV/c
- Machner 85 Phys. Rept. 127:309,1985;
Fast Particle Emission from Nuclear Reactions
- Madaras 86 LBL-21537;
Studies of Parton Fragmentation and Baryon Production with the TPC at PEP
- Madey 85 Phys. Rev. Lett. 55:1453,1985;
Inclusive Neutron Spectra at 0 Degrees from the Reactions Pb (Ne, n) X and Na (Ne, n) X at 390 MeV/Nucleon and 790 MeV/Nucleon
- Madigan 85 Phys. Rev. D31:966,1985;
Transverse Spin Dependence of the $p p$ Total Cross Section from 0.8 to 2.5 GeV/c
- Mageras 86 Phys. Rev. Lett. 56:2672,1986;
Search for Light Short Lived Particles in Radiative Υ Decays
- Mahi 88 Phys. Rev. Lett. 60:1936,1988;
Energy Dependence of Proton-Induced Xenon Fragmentation and the Approach to Liquid Gas Criticality in Nuclear Matter
- Maki 88 KEK-88-112;
Recent Results from TRISTAN
- Maki 88B KEK-88-52;
Recent Results from TRISTAN
- Maki 89 KEK-89-145;
Results from TRISTAN
- Mallik 89B SLAC-PUB-4828;
Results from MARK-III on the $J/\psi(1S)$ Decays
- Mampe 89 Phys. Rev. Lett. 63:593,1989;
Neutron Lifetime Measured with Stored Ultracold Neutrons
- Manabe 89 Phys. Rev. Lett. 63:490,1989;
Polarizations and Cross Sections of Λ Hyperons Produced at Backward Angles in the Reaction $\pi^+ {}^{12}\text{C} \rightarrow \Lambda X$ at 4 GeV/c
- Mandelli 88 CERN-EP-88-182;
UA2 Results from the 1987 Run
- Mangotra 85 Nuovo Cim. 87A:279,1985;
Characteristics of ${}^{68}\text{Fe}$ Emulsion Interactions at 1.7 GeV/A
- Mann 86 Phys. Rev. D34:2545,1986;
 K -Meson Production by ν_μ Deuterium Reactions near Threshold: Implications for Nucleon-Decay Searches

- Marage 86 Z. Phys. C31:191,1986; CERN-PRE-86-042;
Coherent Single Pion Production by Antineutrino Charged Current Interactions and Test of PCAC
- Marage 87 Z. Phys. C35:275,1987; CERN-PRE-87-058;
Coherent Pion Production of ρ^+ Mesons in Charged Current Antineutrino Neon Interactions in BEBC
- Marage 89 Z. Phys. C43:523,1989;
Coherent Production of π^+ Mesons in ν Ne Interactions
- Marchand 85 Phys. Lett. 153B:29,1985;
Transverse and Longitudinal Response Function in Deep Inelastic Electron Scattering from ${}^3\text{He}$
- Markytan 89 Z. Phys. C43:557,1989;
Studies in $\bar{p} p$ Annihilation
- Marshak 85 Phys. Rev. Lett. 54:2079,1985;
Evidence for Muon Production by Particles from Cygnus X-3
- Marshak 85B Phys. Rev. Lett. 55:1965,1985;
Time Distributions for Underground Muons from the Direction of Cygnus X-3
- Marshall 85 RAL-85-078;
Electroweak Effects in $e^+ e^-$ Annihilation
- Marshall 88 TRI-PP-88-53;
An Improved Limit for Conversion of $(\mu^+ e^-)$ to $(\mu^- e^+)$
- Marshall 89 RAL-89-021;
 $e^+ e^-$ Annihilation at High Energies
- Marsiske 90 Phys. Rev. D41:3324,1990; SLAC-PUB-5163; DESY-90-002;
A Measurement of $\pi^+ \pi^0$ Production in Two-Photon Collisions
- Marti 85 Phys. Lett. 163B:71,1985;
Double β Decay Half Life of ${}^{82}\text{Se}$
- Maruyama 89 INS-REP-761;
Exclusive Photoreactions on Light Nuclei
- Marx 86 Fitz. Elem. Chastits At. Yadra 17:1231,1986;
Interaction of Pions with ${}^3\text{He}$ and ${}^4\text{He}$ Nuclei
- Maschmann 89 Z. Phys. C46:555,1990; DESY-89-141; SLAC-PUB-5133;
Inclusive $J/\psi(1S)$ Production in Decays of B Mesons
- Masek 87 Phys. Rev. D35:2758,1987;
Results from a Magnetic Monopole Search Utilizing He Proportional Tubes
- Masuda 88 DPNU-88-52;
A Study of Multihadron Production at TRISTAN
- Mathiazagan 89 Phys. Rev. Lett. 63:2181,1989; UCI-89-40;
New Experimental Limits on $K_L \rightarrow \mu^- e^+$, $K_L \rightarrow \mu^+ e^-$ and $K_L \rightarrow e^+ e^-$ Branching Ratios
- Mathiazagan 89B Phys. Rev. Lett. 63:2185,1989; UCI-89-41; KL-245;
Measurement of the Branching Ratio for the Decay $K_L \rightarrow \mu^+ \mu^-$
- Mathie 85 Phys. Lett. 154B:28,1985;
First Measurements of $tT(\Pi)$ in the Pion Deuteron Breakup Reaction
- Mathis 88 LBL-25261;
A Search for New Leptons with Heavy Neutrinos in $e^+ e^-$ Annihilation at $\sqrt{s}=29$ GeV
- Matis 86 LBL-21670;
A Search for Stable Quarks Produced by the Tevatron
- Matis 88 Phys. Rev. D39:1851,1989; LBL-25680;
Search for Free Quarks Produced at 800 GeV/c Using a New Concentration Technique
- Matsinos 89 Z. Phys. C44:79,1989; CERN-EP-89-57;
Backward Particle Production in Neutrino Neon Interactions
- Matsuda 86 Phys. Rev. D33:2563,1986;
Elastic $p p$ Scattering Amplitudes at 6 GeV/c
- Matteuzzi 85 Phys. Rev. D32:800,1985;
Improved Upper Limit on ν_τ Mass
- Mattig 89 Phys. Rept. 177:141,1989;
The Structure of Jets in $e^+ e^-$ Collisions
- May 89 Phys. Lett. 225B:450,1989;
Observation of an Isovector Meson AX(1565) in Annihilation of the $\bar{p} p$ -Atom from P State
- May 89B Nuovo Cim. 102A:401,1989;
Strangeness-2 Hypernuclei
- Mayer 86 Phys. Lett. 181B:25,1986;
Large Variation in the Backward Angles Analyzing Power of the p (polarized) deuteron $\rightarrow {}^3\text{H} \pi^+$ Reaction around 1 GeV
- Mayer 89 SACLAY-DPhN-2565;
 η (and π) Production and Decay at SATURNE
- Mayle 87 Phys. Lett. 203B:188,1988; EFJ-87-104-CHICAGO; UMN-TH-87-837; CERN-TH-4887; FERMILAB-PUB-87-225-A;
Constraints on Axtons from SN1987A
- Mazzucato 86 Phys. Rev. Lett. 57:3144,1986;
Precise Measurement of Neutral Pion Photoproduction on the Proton near Threshold
- Mcdonough 88 Phys. Rev. D38:2121,1988;
New Search for the C-Noninvariant Decay $\pi^0 \rightarrow 3\gamma$ and the Rare Decay $\pi^0 \rightarrow 4\gamma$
- Mcfarlane 85 Phys. Rev. D32:547,1985;
Measurement of the Rate for Pion β Decay
- Mcgaughy 86 Phys. Rev. Lett. 56:2156,1986;
Dynamics of Low-Energy Antiproton Annihilation in Nuclei as Inferred from Inclusive Proton and Pion Measurements
- Mcnaughton 86 Nucl. Instr. and Meth. A241:435,1985;
The $p C$ Analyzing Power between 100 MeV and 750 MeV
- Mcneil 88 KEK-88-128; C88/11/18;
Recent Results from TRISTAN
- Mcparland 85 Phys. Lett. 156B:47,1985; TRI-PP-85-6;
Angular Dependence of the ${}^6\text{Li}$ ($\pi^+, {}^3\text{He}$) ${}^3\text{He}$ Reaction at 60 MeV and 80 MeV

- Mcparland 85B Nucl. Phys. A-456:629,1986; TRI-PP-85-105;
 A Study of the ${}^6\text{Li}$ (π^+ , ${}^3\text{He}$) ${}^3\text{He}$ Reaction at 60 MeV, 80 MeV, 100 MeV and 140 MeV Incident Pion Beam Energies
- Meier 89 CERN-EP-89-178;
 Physics with Jets - Recent Results from UA2
- Mekhtiev 88 JINR-P1-88-760;
 Analysis of Transverse Energy Spectra in Collisions of Light Relativistic Nuclei
- Melnikov 89 Vopr. At. Nauki i Techn. ser. Yad. 2:11,1989;
 Spatial Parity Nonconservation in γ -Decay of ${}^{237}\text{Np}$
- Mermaz 86 SACLAY-DPH-N-2366;
 Phase Shift Analysis of ${}^{12}\text{C}$ Ion Elastic Scattering Measured at Very High Energy
- Merritt 87 UR-999;
 ν Production of Same-Sign Dimuons at the Tevatron
- Merritt 87B FERMILAB-CONF-87-150-E;
 Measurement of Same-Sign Dimuon Production in High Energy Neutrino Interactions
- Mestayer 85 CLNS-85-705;
 Baryon Production at the CLEO Detector
- Metcalf 89 KEK-89-21;
 Recent Results from TRISTAN
- Meyer 85D Phys. Rev. C31:309,1985;
 Neutron Proton Radiative Capture Cross Section at $T(n)=185$ MeV
- Meyer 85F Nucl. Phys. B252:277,1985;
 Search for Nucleon Decay with Iron Calorimeters
- Meyer 88 Phys. Rev. D38:754,1988;
 Measurement of Pion-Proton Bremsstrahlung for Pions at 299 MeV
- Meyer 88B BONN-IR-88-60;
 Polarized Target Physics at the Bonn Electron Accelerators
- Meyers 86 Phys. Rev. D34:1265,1986; LBL-20047;
 Measurement of the Nucleon Structure Function in Iron Using 215 and 93 GeV Muons
- Meziani 85 Phys. Rev. Lett. 54:1233,1985; CEA-CONF-7571;
 Transverse Response Functions in Deep Inelastic Electron Scattering for ${}^{40}\text{Ca}$, ${}^{48}\text{Ca}$, and ${}^{56}\text{Fe}$
- Miake 84 Phys. Rev. C31:2168,1985;
 Production Mechanism of Backward Energetic Protons Studied from Two Particle Correlations in 800 MeV p nucleus Collisions
- Miake 88 Z. Phys. C38:135,1988;
 Preliminary Spectrometer Results from E802
- Michel 85 Nucl. Phys. A441:617,1985;
 Measurement and Hybrid Model Analysis of Integral Excitation Functions for Proton Induced Reactions on Vanadium, Manganese and Cobalt up to 200 MeV
- Miettinen 88 Phys. Lett. 207B:222,1988;
 Jet Production from Nuclei at 400 GeV/c
- Mikaelyan 88 Pis'ma Zh. Eksp. Teor. Fiz. 47:124,1988;
 Cross Section of the Reaction $\bar{\nu}_e p \rightarrow n e^+$ and Fundamental Characteristics of the Weak Interaction
- Mikhailov 85 ALMA-85-05;
 Observed Effects of Magnetic Charge in Experiments with Ferromagnetic Aerosols
- Mikhajlichen 87 ITEP-87-114;
 Search for the $p \pi^+ \pi^-$ Exotic Baryon State in $\pi^+ p \rightarrow p \pi^+ \pi^+ \pi^-$ Reaction
- Mikocki 86 Phys. Rev. D34:42,1986;
 Inclusive Strange Particle Production in Single-Vee Events in 200 GeV/c $\pi^- n$ Interactions
- Miller 87 Phys. Rev. Lett. 58:2408,1987;
 Subthreshold Pion Production with Associated Multiplicity Selection in the Reaction ${}^{139}\text{La}$ ${}^{139}\text{La} \rightarrow \pi^\pm X$
- Miller 87B JINR-E1-87-362;
 Losses and Dissipation of Pion Energy in π^- Xenon Collisions at 3.5 GeV/c
- Miller 87C JINR-P1-87-179;
 Multiplicity Characteristics of Particles Emitted in π^\pm Xe Collisions at (2.34 GeV/c - 9 GeV/c)
- Miller 89 PU-89-643;
 Recent Results from CLEO on \mathcal{B} Physics at the T(4S)
- Mills 85 Phys. Rev. Lett. 54:624,1985;
 Upper Bound on the Tau Neutrino Mass from the Previously Unobserved Decay Mode $\tau^\pm \rightarrow K K \pi \nu_\tau$
- Mills 87 Phys. Rev. D36:707,1987;
 Search for a Bhabha Scattering Resonance near 1.8 MeV/ c^2
- Milner 85 Phys. Rev. Lett. 54:1472,1985;
 Search for Fractional Charges in Niobium and Tungsten
- Milner 85B Phys. Rev. Lett. 54:1237,1985;
 Observation of A Hypernuclei in the Reaction ${}^{12}\text{C}$ (π^+ , K^+) (Λ) ${}^{12}\text{C}$
- Milner 87 Phys. Rev. D36:37,1987;
 Search for Fractionally Charged Particles
- Mincer 85 Phys. Rev. D32:541,1985;
 Search for Heavy Longlived Particles in High Energy Cosmic Rays
- Minowa 87 Nucl. Phys. B294:979,1987;
 Measurement of Polarization Parameters for the $\pi^- p \rightarrow \pi^0 n$ Charge Exchange Scattering from 1965 MeV/c to 4220 MeV/c
- Minowa 89 Phys. Rev. Lett. 62:1091,1989; UT-JCEPP-88-05;
 Search for Resonances in the $e^+ e^- \rightarrow \gamma \gamma$ Process in the Mass Region around 1.062 MeV/c²
- Mir 88 SLAC-PUB-4651; UWSEA-88-01;
 $J/\psi(1S)$ Results from MARK-III
- Mir 89 SLAC-PUB-5114;
 Recent $\psi(2S)$ Results from MARK-III
- Mishra 85 Phys. Rev. C32:995,1985;
 Isospin Effect in π^\pm ${}^{14}\text{C}$ Elastic Scattering at 50 MeV

- Mishra 87 Phys. Rev. Lett. 59:1397,1987;
Search for Neutral Heavy Leptons from ν nucleus Scattering
- Mishra 89 Z. Phys. C44:187,1989;
A Study of Wrong-Sign Muon Production in ν_μ Nucleon Interaction
- Mishra 89B Phys. Rev. Lett. 63:132,1989;
Measurement of Inverse Muon Decay $\nu_\mu e^- \rightarrow \mu^- \nu_e$ at Fermilab Tevatron Energies 15 – 800 GeV
- Mishra 90 FERMILAB-CONF-90-100-E;
Dilepton and Dihadron Production in Proton-Nucleus Collisions at 800 GeV
- Mitropolskii 87 LENI-87-1250;
Monopole Excitation of Nuclei in the Bound Muon Decay
- Miyamoto 87 KEK-87-118;
New Results from TOPAZ at TRISTAN
- Miyano 88 Z. Phys. C38:2789,1988; KEK-87-160;
Neutral Strange Particle Productions and Inelastic Cross Section in \bar{p} Ta Reaction at 4 GeV/c
- Mokhtari 85 Phys. Rev. Lett. 53:359,1985;
Analyzing Powers in $\pi^+ p$ Elastic Scattering at Intermediate Energies
- Mokhtari 86 Phys. Rev. D35:810,1986;
Analyzing Powers and Transversity Cross Sections for $\pi^+ p$ and $\pi^- p$ Elastic Scattering from 471 to 687 MeV/c
- Mokhtari 86B Phys. Rev. D33:296,1986;
Analyzing Powers for $\pi^- p$ Elastic Scattering in the Energy Region of the Roper Resonance
- Mooney 89 Phys. Rev. D39:2494,1989;
Inclusive Charged-D*(2010) Production in 205 GeV/c π^- Be Interactions
- Moore 90 Phys. Lett. 244B:347,1990;
Longitudinal Energy Flow in Hard Proton-Nucleus Collisions
- Morales 88 Nuovo Cim. 100A:525,1988;
Result of a Search on the Neutrinoless Double β Decay of ^{76}Ge to the Excited States of ^{76}Se
- Mordechai 85 Phys. Rev. C32:999,1985;
Systematics of Continuum Pion Double Charge Exchange on T=0 Nuclei
- Mori 88 KEK-88-43; AMY-88-06;
Measurements of R and a Search for Heavy Quark Production in $e^+ e^-$ Annihilation for \sqrt{s} from 50 to 56 GeV
- Mori 89 Phys. Lett. 218B:499,1989; AMY-88-16; KEK-88-109;
Measurement of the $e^+ e^-$ Total Hadronic Cross Section and Determination of $m(Z^0)$ and Λ_{MS}
- Mori 89B UR-1104; ER-13065-51;
Total Hadronic Cross Section in Electron – Positron Annihilation at Center-of-Mass Energies from 50 GeV to 57 GeV
- Morsch 85 Phys. Rev. C31:1715,1985;
Analysis of Giant Resonances in Proton, ^3He , and Alpha Scattering and the Spin Flip Strength in ^{208}Pb
- Mostovoj 87 Phys. Lett. 188B:181,1987;
The Measurement of the Asymmetry of Tensor-polarized Deuteron Electrodisintegration at 180 MeV Electron Energy
- Mukherjee 86 Phys. Rev. Lett. 60:991,1988; FERMILAB-CONF-86-102-E; FERMILAB-PUB-87-200-E;
Azimuthal Energy Flow in Deep Inelastic Neutrino Scattering
- Mukhopadhyay 86 Phys. Rev. Lett. 56:206,1986; SIN-PR-86-01;
Are there "Visible" Axions?
- Muller 89 Phys. Rev. Lett. 63:2621,1989;
Determination of the Gravitational Constant by an Experiment at a Pumped-Storage Reservoir
- Muraki 84 Nucl. Instr. and Meth. A236:47,1985; ICR-117-84-6;
Radial and Longitudinal Behavior of Nuclear Electromagnetic Cascade Showers Induced by 300 GeV Protons in Lead and Iron Absorbers
- Murtagh 85B BNL-37294; CONF-850869-13;
Same Sign Dilepton Production by Neutrinos
- Murtagh 89 BNL-39661;
Review of the Brookhaven Neutrino Workshop
- Musset 86 Nuovo Cim. 9C:559,1986;
Magnetic Monopoles
- Mutchler 88 Phys. Rev. D38:742,1988;
Measurement of Imaginary Part of the $I=1$ \bar{n} n S-Wave Scattering Length
- Myung 88 KEK-88-46; AMY-88-09;
A Search for MARK-J Events at TRISTAN
- Myung 89 KEK-89-62; AMY-89-15;
A Study of Multihadron Events with Isolated Leptons Produced in $e^+ e^-$ Annihilation at $\sqrt{s}=50$ to 61.4 GeV
- Nachtmann 85 Nucl. Phys. B254:19,1985;
Deep Inelastic Scattering and Asymptotic Freedom
- Nagae 87 Phys. Lett. 191B:31,1987; KEK-86-74;
Quasifree Production of $\Delta(1232 P_3)$ Isobars in Proton-Nucleus Reactions at 3.88 GeV/c
- Nagy 89 Acta Phys. Hung. 64:177,1989;
Recent Results of the European Muon Collaboration
- Nakai 89 KEK-88-21;
Quasifree Hadron Productions in 3.9 GeV/c Nuclear Reactions
- Nakamura 85 Phys. Lett. 161B:417,1985;
Search for Cosmic Nuclearites at Sea Level
- Nakamura 85B Phys. Rev. C31:1853,1985;
Reaction $\bar{p}^{12}\text{C} \rightarrow \bar{n} X$ at 590 MeV/c
- Nakamura 87 Phys. Lett. 183B:395,1987;
Search for Supermassive Relics
- Nakamura 88 ICR-182-88-28;
Results in Nonaccelerator Particle Physics
- Nakamura 89 Phys. Rev. D39:1261,1989;
Search for Long Lived Exotic Particles in 12 GeV Proton-Nucleus Interactions

- Napolitano 88 Phys. Rev. Lett. 61:2530,1988;
Measurement of the Differential Cross Section for the Reaction γ deuteron $\rightarrow n p$ at High Energies and $\theta(c.m.)=90^\circ$ Degrees
- Naroska 85 DESY-85-090; C85/07/03: C85/06/10.1;
Electroweak Interference Effects in $e^+ e^-$ Interactions and Selected Results on τ^\pm Decays
- Naroska 87 Phys. Rept. 148:67,1987; DESY-86-113;
 $e^+ e^-$ Physics with the JADE Detector at PETRA
- Nash 89 SLAC-PUB-5141;
A Measurement of the Z^0 Boson Resonance Parameters at the SLC
- Nash 90 SLAC-356;
A Measurement of the Resonance Parameters of the Neutral Intermediate Vector Boson
- Nath 89 Phys. Rev. D39:3520,1989; ANL-HEP-PR-89-20;
Spin Correlation Parameter Λ_{nn} for $n p$ Elastic Scattering at 790 MeV
- Naudet 86 Phys. Rev. Lett. 56:808,1986;
Evidence for Higher Twist Effects in Hard πp Collisions at 200 GeV/c
- Naudet 88 LBL-25353;
Threshold Behavior of Direct Electron Production in Proton Beryllium Collisions
- Naudet 88B Phys. Rev. Lett. 62:2652,1989; LBL-26461;
Threshold Behavior of Electron Pair Production in p -Be Collisions
- Naudet 88C LBL-25660;
Electron Pair Production in p Be and Ca Ca Collisions at the BEVALAC
- Naumenko 89 Pisma Zh. Eksp. Teor. Fiz. 50:226,1989;
Direct Measurement of π^0 Meson Photoproduction on the Light Nuclei
- Navia 88 Nuovo Cim. 99A:619,1988;
Hadron Produced in Atmospheric Interactions
- Nelson 87 Nucl. Phys. B294:1022,1987; FERMILAB-PUB-87-73-A; ANL-HEP-PR-87-91;
Invariant Cross Section at $\sqrt{s}=28$ GeV for Coplanar High p_T Clusters Selected by a Hardware Trigger
- Nernst 85 Phys. Rev. Lett. 54:2195,1985;
Observation of Three P States in the Radiative Decay of $\Upsilon(2S)$
- Ni 87 Phys. Rev. Lett. 59:2716,1987;
Search for Spontaneous Conversion of Muonium to Antimuonium
- Niebuhr 89 Phys. Rev. D40:2796,1989; PSI-PR-89-04:
Search for the Decay $\pi^0 \rightarrow e^+ e^-$
- Nieminen 85 Jour. of Phys. G 11:421,1985;
Composition and Spectra of Cosmic Ray Hadrons at Sea Level
- Nieto 89 LA-UR-89-239;
Analysis of the Greenland Ice Sheet Experiment in Terms of New Gravitational Forces
- Nikolsky 85 Izv. Akad. Nauk SSSR, Fiz. 49:1260,1985;
Hadrons at $E>5$ TeV and Photon-Electronic Shower at the Atmospheric Depth
- Norman 87 Phys. Lett. 195B:126,1987; LBL-21834;
New Limits on the Double Decay Half-Lives of ^{94}Zr , ^{98}Zr , ^{116}Cd , ^{124}Sn
- Norman 87B Phys. Rev. Lett. 58:1403,1987; Phys. Rev. Lett. 58:2609,1987; LBL-22165;
Searches for Supermassive X-Particles in Iron
- Norman 89 Phys. Rev. D39:2499,1989; LBL-22884;
Search for Supermassive Chan-Glashow Particles in Lead
- Novikov 90 Pisma Zh. Eksp. Teor. Fiz. 51:3,1990;
Test of the Pauli Principle
- Nozaki 89 KEK-89-19;
Tests of the Standard Model of Electroweak Interactions at the $e^+ e^-$ Collider TRISTAN
- Numao 86 TRI-PP-86-34;
Rare Decays
- Numao 86B Phys. Rev. D34:2900,1986; TRI-PP-86-38;
Bounds for Massive Neutrinos in the Region 1 GeV to 50 GeV from the $\mu^- e^-$ Conversion Experiment
- Numao 89 TRI-PP-89-52;
Lepton Flavor Conserving Rare Pion and Kaon Decay.
- Oberauer 87 Phys. Lett. 198B:113,1987;
Experimental Limits on the Decay of Reactor Neutrinos
- Odaka 89 KEK-89-49;
New Limits on Neutral Scalar Bosons
- Odell 86 Phys. Rev. D36:1,1987; SLAC-PUB-3923;
Forward Charge Asymmetry in 20 GeV γp Reactions
- Odian 85 SLAC-PUB-3589; C84/10/31;
Selected Topics from $J/\psi(15)$ Decays
- Odyniec 89 LBL-27926;
Ultradiscretistic Nucleus-Nucleus Collisions at CERN: The NA35 Experiment
- Ogawa 89 KEK-89-51;
Results from VENUS
- Ohashi 86 Phys. Rev. C34:764,1986;
Behavior of Projectile Fragments of 1.88 GeV/Nucleon ^{56}Fe
- Ohi 85 Phys. Lett. 160B:322,1985; KEK-85-17;
Search for Heavy Neutrinos in the β Decay of ^{36}S an Evidence Against the 17 KeV Heavy Neutrino
- Ohkubo 85 Phys. Rev. C31:510,1985;
 $(\pi, \pi n)$ Reactions in ^{48}Ca
- Ohl 90 YAUG-A-90-2;
Improved Experimental Limit on $K_L \rightarrow \pi^0 e^+ e^-$
- Ohmori 88 Phys. Lett. 230B:27,1989; KEK-88-117; DPNU-89-1;
Measurement of Analyzing Power in Forward Angle for Elastic p deuteron Scattering at 3.5 GeV
- Ohmori 89 KEK-89-104; DPNU-89-43;
Analyzing Powers of Quasi-Elastic $C(p,2p)$ and $Cu(p,2p)$ Scattering at 3.5 GeV and Relativistic Effects
- Ohshima 86 INS-598;
Review on Neutrino Mass Measurement

- Okhrimenko 87 Kr. Soob. JINR 22:12,1987;
 Relative Four-Velocity Distributions of π^0 and η Mesons Produced in the Reaction π^- Xe at 3.5 GeV/c
- Okonov 88 JINR-P1-88-546;
 The Pion Production Multiplicity as a Measure of Excitation Degrees in Nucleus-Nucleus Collisions at 3.66 GeV/A
- Okusawa 88 KEK-87-146;
 Study of Baryon Production and Its Features in 405 GeV/c Proton-Proton Interactions
- Olsen 88 ROCH-UR-1089-88;
 Test of the Standard Model in High Energy $e^+ e^-$ Reactions at TRISTAN
- Omori 89 KEK-89-1;
 A Search for a Baryonium in $\bar{p} p$ Annihilation at Rest
- Onel 89 Phys. Rev. D40:35,1989;
 Elastic p (polarized) p (polarized) Scattering between 240 and 470 MeV
- Ong 87 SLAC-320;
 Measurement of the B Hadron Lifetime
- Ong 88 Phys. Rev. Lett. 60:2587,1988; SLAC-PUB-4550; LBL-24908; CALT-68-1487;
 Inclusive Lepton Production in $e^+ e^-$ Annihilation at 29 GeV
- Ong 88B SLAC-PUB-4511;
 Measurement of the B Hadron Lifetime from MARK-II at PEP
- Ong 89 Phys. Rev. Lett. 62:1236,1989; SLAC-PUB-4559; LBL-24937;
 A Refined Measurement of the B Hadron Lifetime
- Orito 89 Phys. Rev. Lett. 63:597,1989; UT-ICEPP-89-01;
 New Limits on Exotic Two-Body Decay of Orthopositronium
- Osterheld 86 SLAC-PUB-4160;
 Measurements of the Total Hadronic and Inclusive $D^*(2010)$ Cross Sections in $e^+ e^-$ Annihilations between 3.87 and 4.5 GeV
- Otterlund 88 Z. Phys. C38:65,1988;
 Review of High Energy Heavy Ion Reactions in Emulsion
- Otterlund 88B LUIP-8806;
 Multiplicities and Rapidity Densities in Nucleus-Nucleus Collisions at Ultrarelativistic Energies
- Ottermann 85 Nucl. Phys. A436:688,1985;
 Elastic Electron Scattering from ${}^3\text{He}$ and ${}^4\text{He}$
- Ottermann 85B Phys. Rev. C32:928,1985;
 Large Angle π deuteron Scattering in the Region of the (3, 3) Resonance
- Ouldsaada 88 Z. Phys. C39:1,1988; DESY-88-015;
 Comparison of the Particle Flow in $q \bar{q} \gamma$ and $q \bar{q}$ gluon Events from $e^+ e^-$ Annihilation at PETRA
- Ouldsaada 88B DESY-88-177;
 Recent Results from PETRA
- Ouldsaada 89 Z. Phys. C44:567,1989; DESY-89-063;
 A Measurement of the Charmed Quark Asymmetry in $e^+ e^-$ Annihilation
- Oyama 86 Phys. Rev. Lett. 56:991,1986;
 Search for High Energy Muons from Cygnus X-3
- Oyama 87 Phys. Rev. D36:3537,1987;
 Search for High Energy Muons from Cygnus X-3 During the Radio Outburst in 1983 and 1985
- Oyama 87B Phys. Rev. Lett. 59:2604,1987;
 Search for High-Energy Neutrinos from SN1987A: First Six Months
- Oyama 88 Phys. Rev. D39:1481,1989; KEK-88-51;
 Experimental Study of Upward-Going Muons in KAMIOKANDE
- Oyama 88B KEK-88-16;
 Search for High-Energy Neutrinos from SN1987A
- Pal 86 Phys. Rev. D33:2708,1986;
 Prompt Electron Production from the DELCO Detector at the SLAC Storage Ring PEP
- Palestini 85 Phys. Rev. Lett. 55:2649,1985;
 Pion Structure as Observed in the Reaction π^- nucleon $\rightarrow \mu^+ \mu^-$ X at 80 GeV/c
- Palka 87 Phys. Lett. 189B:238,1987; CERN-EP-87-10;
 Experimental Limit on the Decay $D^0 \rightarrow e^+ \mu^-$ and $D^0 \rightarrow e^- \mu^+$
- Palka 87B Z. Phys. C35:151,1987; Z. Phys. C35:151,1987; MPI-PAE-EXP-EL-172;
 Semileptonic Decays of Charmed D^\pm Meson: Measurement of the Lifetime and the Cross Section
- Pallin 87 Nucl. Phys. B292:653,1987; LAL-87-03;
 Baryon Pair Production in $J/\psi(1S)$ Decays
- Panagiotou 89 Int. Jour. Mod. Phys. A5:1197,1990; CERN-EP-89-131;
 A Polarization in Hadron-Nucleon, Hadron-Nucleus and Nucleus-Nucleus Interactions
- Paoletti 89 FERMILAB-CONF-89-264-E;
 Small Angle Physics at CDF: A Progress Report
- Papadimitriou 89 Phys. Rev. Lett. 63:28,1989; EPL-89-24;
 A Search for $K_L \rightarrow \pi^0 \gamma \gamma$
- Pare 90 Phys. Lett. 242B:512,1990; CERN-EP-89-181;
 Inclusive Production of π^0 's and Feynman Scaling Test in the Fragmentation Region at the SpS Collider
- Park 85 Phys. Rev. Lett. 54:22,1985;
 Experimental Limits on the Nucleon Lifetime for Two- and Three-Body Decay Modes
- Park 85B Nucl. Phys. B252:261,1985;
 Experimental Limits on Monopole Catalysis, $n \bar{n}$ Oscillations, and Nucleon Lifetime
- Park 88 KEK-88-45; AMY-88-08;
 The Physics of Jets Produced in Electron-Positron Collisions at Center of Mass Energies from 50 to 56 GeV
- Park 89 Phys. Rev. Lett. 62:1713,1989; KEK-88-113; AMY-88-17;
 Experimental Evidence for the Non-Abelian Nature of QCD from a Study of Multijet Events Produced in $e^+ e^-$ Annihilation
- Park 89B KEK-89-53; AMY-89-12;
 Determination of the QCD Renormalization Scale and Λ_{MS} from Multi-Jet Events Produced in Electron-Positron Collisions

- Parker 89 Phys. Rev. Lett. 63:1570,1989;
Search for a $T=2$ Dibaryon
- Parkin 86 Nucl. Phys. B227:634,1986;
Antiproton-Deuteron Annihilation into Neutral Strange Particles at Incident Momenta below 1 GeV/c
- Patalakha 85 Yad. Phys. 42:1403,1985; Sov. J. Nucl. Phys. 42:887,1985; IFVE-85-20;
On Study of Pion Multiple Production in Nondiffractive Exclusive Reactions in $K^- p$ Interactions at 32.1 GeV/c
- Patterson 90 Phys. Rev. Lett. 64:1491,1990;
Determination of $Re(\epsilon/\epsilon')$ by the Simultaneous Detection of the Four $K_L, K_S \rightarrow 2\pi$ Decay Modes
- Paub 85 Z. Phys. C27:211,1985; CERN-EP-84-98;
Forward Particle Production in $\pi^- p$ and $K^- p$ Collisions at 58 GeV and Comparison with Quark Models
- Paul 89 Z. Phys. C45:25,1989; BONN-HE-89-07;
Measurement of the Neutron Lifetime in a Magnetic Storage Ring
- Pauletta 87 Phys. Lett. 211B:19,1988; KEK-87-138;
All at Small Momentum Transfers for the First Complete Determination of the Forward $p p$ Scattering Amplitude
- Pavlyak 86 JINR-P1-86-238;
Secondary Particle Correlations in π^- Xe Interaction: Secondary Particle Multiplicities
- Pavlyak 86B JINR-P1-86-239;
Secondary Particle Correlations in π^- Xe Interaction: Multiplicity Distributions
- Pelzer 89 BONN-IR-89-05;
Production of Rare Particles in Proton - Antiproton Interactions at Center-of-Mass Energies from 200 GeV to 900 GeV
- Peng 87 Phys. Rev. Lett. 58:2027,1987;
Observation of η Meson Production in the Reaction π^- ${}^3\text{He} \rightarrow \eta$ ${}^3\text{H}$
- Peng 89 Phys. Rev. Lett. 63:2353,1989;
Coherent η Meson Production in the Reaction π^- ${}^3\text{He} \rightarrow \eta$ ${}^3\text{H}$
- Perdereau 89 LAL-89-06;
New Results from Atmospheric Neutrino Studies in the FREJUS Experiment
- Perdereau 89B LAL-89-11;
Recherche D'Oscillations des Neutrinos Atmosphériques dans L'Experience du FREJUS
- Perdrisat 84 Phys. Lett. 156B:38,1985; TRI-PP-84-114;
Large Angle deuteron ($p, 2p$) n at 507 MeV
- Perdrisat 87 Phys. Rev. Lett. 59:2840,1987;
Cross Section and T_{20} in 0 Degrees Deuteron Breakup at 2.1 GeV/c
- Perelegin 85 Kr. Soob. JINR 7:5,1985;
Search for the Tracks of Heavy and Superheavy Cosmic Ray Nuclei in Olivine from Meteorites
- Perepelitsa 87 ITEP-87-161;
Experiment on Search for Tachyons Production in $\pi^- p$ Interactions at 4.5 GeV/c
- Perepelitsa 88 Phys. Lett. 203B:335,1988;
Events with Apparent Electrical Charge Nonconservation
- Perl 85 Phys. Rev. D32:2859,1985;
Searches for Unstable Neutral Leptons in Low Multiplicity Events from Electron-Positron Annihilation
- Perl 86 Phys. Rev. D34:3321,1986; SLAC-PUB-3847; LBL-20697;
Study of Noncollinear Two Charged Particle Events Produced in 29 GeV Electron Positron Annihilation
- Perrot 86 Nucl. Phys. B278:881,1986; SACLAY-DPHPE-86-09;
Measurement of the Total Cross Section Difference in the Energy Range from 0.43 to 2.4 GeV
- Perrot 87 Nucl. Phys. B294:1001,1987;
Measurement of the $p p$ Analysing Power A_{000} in a Large Angular Region between 0.88 GeV and 2.7 GeV
- Perrot 88 Nucl. Phys. B296:527,1988;
Measurement of the Spin Correlation Parameter A_{00st} in $p p$ Elastic Scattering from 0.88 to 2.7 GeV
- Petersen 85 Phys. Rev. Lett. 55:1954,1985;
Inclusive Charged Particle Distribution in Nearly Threefold-Symmetric Three-Jet Events at $E_{cm}=29$ GeV
- Petersen 86 Phys. Rev. Lett. 57:949,1986;
Measurement of the $\Sigma^0 \Lambda$ Transition Magnetic Moment
- Petersen 86C SLAC-PUB-3933;
Inclusive Charged Particle Distribution in Nearly 3 Fold Symmetric 3 Jet Events at $E_{cm}=29$ GeV
- Petersen 88 Phys. Rev. D37:1,1988; SLAC-PUB-4290; LBL-23243;
Multihadronic Evens at $E_{cm}=29$ GeV and Prediction of QCD Models from $E_{cm}=29$ GeV to $E_{cm}=93$ GeV
- Petradza 89 SLAC-347;
Study of Four-Lepton Final States in Electron-Positron Interactions at 29 GeV
- Petradza 90 LBL-27192;
Study of Four-Lepton Final States in $e^+ e^-$ Interactions at $E_{cm}=29$ GeV
- Peyaud 89 DPHPE-89-22;
Recent Results on CP and CPT Studies from $K_L, K_S \rightarrow 2\pi$ Decays
- Phan 85 Phys. Rev. C32:609,1985;
Nuclear Polarization in Muonic ${}^{90}\text{Zr}$
- Phillips 89 Phys. Lett. 224B:348,1989;
A Search for Nucleon Decay with Multiple Muon Decays
- Picciotto 88 Phys. Rev. D37:1131,1988; TRI-PP-87-58;
Search for Majoron Production and Other Process Associated with $\pi^+ \rightarrow e^+ \nu$ Decay
- Piccolo 89 LNF-89-019-P;
 B Meson Lifetime Measurement
- Pigot 85 Nucl. Phys. B249:172,1985;
Study of the Production of Strange $S=-1$ Dibaryon in the Interactions of K^- and π^+ on Deuterium below 1.5 GeV/c
- Piilonen 86 Phys. Rev. Lett. 57:1402,1986;
Unique Determination of the Formfactor Ratio in Radiative Pion Decay
- Pillai 88 Phys. Lett. 207B:389,1988;
A Study of Charge Symmetry Violation in π^+ and π^- Elastic Scattering from ${}^3\text{H}$ and ${}^3\text{He}$

Piragino 86B	CERN-EP-86-75; Antiproton-Nucleus Interaction: Review of the Experimental Situation
Pitman 89	SLAC-PUB-4826; C88/07/27; Evidence for $D_s^+ \rightarrow e^+ X$
Pitzl 89	Z. Phys. C46:1,1990; DESY-89-129; A Study of Photon Production in Hadronic Events from $e^+ e^-$ Annihilation
Platchkov 89	SACLAY-DPHN-2572B; Deuteron $A(Q^2)$ Structure Function and the Neutron Electric Formfactor
Plotnowbesch 88	IHEP-HD-88-5; Recent Results and Future Prospects of the UA2 Experiment at the CERN $\bar{p} p$ Collider
Pluta 88	JINR-EI-88-450; Nuclear Matter Excitation in Pion-Xenon Collisions at 3.5 GeV/c Inclusive Spectra of Neutral Pions
Pluta 88B	JINR-EI-88-754; Space-Time Characteristics of Secondary Proton Sources in Relativistic Nuclear Collisions from Two-Particle Correlations
Pniewski 85	Nucl. Phys. A443:685,1985; Final State Interactions in the Decay of the Hypernucleus ${}^9\text{Li}$ and a Reappraisal of the Binding Energies of $A=9$ Hypernuclei
Ponting 88	Phys. Rev. Lett. 63:1792,1990; TRI-PP-88-89; Analyzing Power Measurement in p (polarized) $n \rightarrow \pi^- p p$ (singlet S wave): Pion Absorption by Quark Clusters?
Porter 89	SLAC-PUB-5148; Measurement of $B^0 - \bar{B}^0$ Mixing using the MARK-II at PEP
Poth 85	CERN-EP-85-75; Antiprotonic Atoms at LEAR: Achievements and Perspectives
Price 85	ANL-HEP-CP-85-117; Underground Muons from Cygnus X-3
Price 86	Phys. Rev. Lett. 56:1226,1986; Search for Supermassive Magnetic Monopoles Using MICA Crystals
Price 87	Phys. Rev. Lett. 59:2523,1987; Search for Highly Ionizing Particles at the Fermilab Proton-Antiproton Collider
Price 88	Phys. Rev. Lett. 61:2193,1988; Electromagnetic Spallation of 6.4 TeV ${}^{32}\text{S}$ Nuclei
Prokoshkin 85	Fiz. Elem. Chastits At. Yadra 16:584,1985; Exclusive Production and Decay of Glueballs
Prokoshkin 87	IFVE-87-99; Study of Mesons with Enhanced Gluon Component (Glueballs Included) and Mesons with High Spins with the Help of Multiphoton 4π Spectrometer
Prokoshkin 87B	IFVE-87-86; Meson Spectroscopy at Serpukhov Accelerator
Prokoshkin 87C	Fiz. Elem. Chastits At. Yadra 18:503,1987; Experimental Studies at the IHEP 70 GeV Accelerator (1983 - 1983, Electronics Setups)
Pugh 88	Acta Phys. Polon. B19:307,1988; Search for the Quark-Gluon Plasma - the NA35 Experiment at the CERN SPS
Pugh 89	LBL-27833; Search for the Quark-Gluon Plasma (1989): The NA35 Experiment at the CERN SPS
Punjabi 88	TRI-PP-88-85; The deuteron ($p, 2p$) n Reaction at 508 Mev. Part I.
Purohit 88	FERMILAB-CONF-88-200-E; Charm Physics
Raab 87	Phys. Rev. D37:2391,1988; FERMILAB-PUB-87-144-E; Measurement of the D^0 , D^+ , and D_s^+ Lifetime
Rabin 85	ITEP-85-117; Splitting of Photoemulsion Nuclei at Inelastic Scattering of 32 GeV Muons at Small Angle. Emission of Fast Protons
Rabin 86	ITEP-86-114; Splitting of Photoemulsion Nuclei at Inelastic Scattering of 32 GeV Muons on the Small Angles. Collective Effects
Rabin 88	ITEP-88-34; The Photoemulsion Nucleus Splitting in Inelastic Muon Scattering at Small Angle with 32 GeV/c Momentum. Slow Particles Productions
Raffelt 90	MPI-PAE-PTH8-90; What Have We Learned from SN 1987A
Rahbar 87	Phys. Lett. 194B:338,1987; Some Proton Spin Observables Obtained in p deuteron Elastic Scattering at 500 and 800 MeV
Ramello 88	Z. Phys. C38:73,1988; First Result from Hybrid Emulsion Experiment on ${}^{16}\text{O}$ -Nucleus Collisions at 200 GeV/N
Ramm 85	Phys. Rev. D32:123,1985; Another Mode of Decay of $m(\mu^\pm \pi^\pm)$ (0.429)
Ransome 90	Phys. Rev. Lett. 64:372,1990; Charged-Particle Multiplicities Following Pion Absorbtion on ${}^6\text{Li}$
Rapaport 85	Phys. Rev. Lett. 54:2325,1985; Solar Neutrino Detection: Experimental Determination of Gamow-Teller Strengths via the ${}^{98}\text{Mo}$ and ${}^{115}\text{In}$ (p, n) Reactions
Rath 89	Phys. Rev. D40:693,1989; PRINT-89-0158-NOTRE-DAME; The $K_S K_S \pi^0$ System Produced in $\pi^- p$ Interactions at 21.4 GeV/c
Raymond 85	PRINT-85-0056; Analyzing Power Measurements for $p p$ Elastic Scattering at High p_T^2
Redwine 86	Nucl. Phys. A434:239C,1985; π nucleus Interactions
Rees 86	Phys. Rev. C34:627,1986; Continuum Polarization Transfer in 500 MeV Proton Scattering and Pionic Collectivity in Nuclei

- Reesager 90 Phys. Lett. 235B:30,1990;
First Observation of β -Delayed Deuteron Emission
- Reeves 86 Phys. Rev. D34:1960,1986;
Spin Parity Analysis of $\bar{p} p \rightarrow f_1(1420)$ X
- Reiner 86 Phys. Lett. 176B:233,1986;
Search for Long Range Interactions at Highly Relativistic Velocities
- Remsberg 88 Z. Phys. C38:35,1988; BNL-40536;
Measurement of Energy and Charged Particle Emission in the Central Rapidity Region from ^{16}O nucleus and p nucleus Collisions at 14.5 GeV/c per Nucleon and Preliminary Results from Si nucleus Collisions
- Ren 88 Phys. Rev. D38:1404,1988; ICR-153-87-7;
Hadronic Interactions and Primary Cosmic Ray Composition at Energies around 10^{18} eV to 10^{16} eV Derived from the Analysis of High-Energy γ Families
- Ren 88B Phys. Rev. D38:1417,1988;
Properties of Hadron Families Observed with Thick-Type Emulsion Chambers at Mts. Kanbara and Fuji and Search for Centauro Events
- Ren 88C Phys. Rev. D38:1426,1988;
Primary Cosmic Ray Protons above 10^{18} eV Derived from the Observation of Superhigh Energy Halo Events
- Repellin 87 LAL-87-53;
Recent Results from the UA2 Experiment
- Reutens 85 Phys. Lett. 152B:404,1985;
Measurement of $\sin^2\theta_W$ and ρ in Deep Inelastic Neutrino Nucleon Scattering
- Reutens 90 Z. Phys. C45:539,1990;
A Measurement of the Neutral Current Electroweak Parameters using the Fermilab Narrow Band Neutrino Beam
- Reya 85B Phys. Lett. 166B:223,1986; TIFR-TH-85-18; DO-TH-85-23;
Constraints on gluino and \tilde{q} Masses from the New Missing p_T Data at the $p \bar{p}$ Collider
- Rich 87 Phys. Lett. 194B:173,1987; DPHFPE-87-07;
A Search for Strongly Interacting Dark Matter
- Rich 87B Phys. Rept. 151:239,1987;
Experimental Particle Physics without Accelerators
- Richard 87 LAL-87-48;
Hard Electromagnetic Processes
- Richman 85 CALT-68-1260; C85/03/10;
Results on the $\eta(1440)$ from MARK-III
- Riles 87 Phys. Rev. D35:2914,1987; SLAC-PUB-4156; LBL-22651;
Limit on the Decay $D^0 \rightarrow e^+ \mu^-$ and $D^0 \rightarrow e^- \mu^+$
- Riles 88 SLAC-PUB-4742;
Application of New Technique for Identifying Exotic Events with Low Visible Energy in $e^+ e^-$ Annihilation at 29 GeV
- Riles 89 SLAC-342;
A Search for a Close Mass Lepton Doublet
- Riles 89B SLAC-PUB-5043; LBL-27555;
Search for a Nearly Degenerate Lepton Doublet (ℓ^-, ℓ^0)
- Riley 87 Phys. Lett. 197B:23,1987;
Polarization Observables for the Reaction $p p \rightarrow p p \pi^0$ at 800 MeV
- Riordan 87 Phys. Rev. Lett. 59:755,1987; SLAC-PUB-4280; UR-993;
Search for Short Lived Axions in an Electron Beam Dump Experiment
- Ritter 88 LBL-25574;
Transverse Energy and Multiplicity Distributions in Collisions at 60 GeV per Nucleon and 200 GeV per Nucleon
- Roberts 86 RAL-86-058;
Compilation of Data on $\gamma \gamma \rightarrow$ hadrons
- Roche 84 Nucl. Phys. A439:721,1985; LBL-18064;
Particle- γ Coincidence Measurements in $^{12}\text{C} + ^{12}\text{C}$ and $^{12}\text{C} + \text{Pb}$ Collisions at 2.1 GeV/Nucleon Incident Energy
- Roche 87 LBL-24449;
First Results on Dilepton Production at the BEVALAC
- Roche 88 LBL-25475; LBL-26460;
Dielectron Production in p Be and Ca Ca Collisions at the BEVALAC
- Roche 88B LBL-25325;
First Observation of Dielectron Production at the BEVALAC
- Roche 88C Phys. Rev. Lett. 61:1069,1988;
First Observation of Dielectron Production in Proton-Nucleus Collisions below 10 GeV
- Roche 89 Phys. Lett. 226B:228,1989; LBL-27050;
Dielectron Production in Ca Ca Collisions at 1 A/GeV and 2 A/GeV
- Roe 89 SLAC-338;
Resonance Production in Two Photon Interactions
- Roe 89B SLAC-PUB-4931;
A Measurement of the Radiative Width of the η and η' Mesons with the ASP Detector
- Roehrich 85 Phys. Lett. 153B:203,1985;
Pion Photoproduction on ^{14}N at 173 MeV Photon Energy
- Roepke 85 Phys. Rev. C31:1566,1985;
Depletion of Light Cluster Production in 1 GeV Proton Nucleus Collisions
- Rokni 88 Phys. Lett. 202B:35,1988;
Isoobar-Analog-State Transitions in Pion Charge-Exchange Reactions above the $\Delta(1232 P_3)$ Resonance
- Romano 89 CERN-EP-89-30;
Summary of Emulsion Data on High Energy Nucleus-Nucleus Interactions
- Romanowski 85 Acta Phys. Polon. B16:179,1985;
Prompt Neutrino Production in a 400 GeV/c Proton Beam Dump Experiment
- Ronjin 86 Yad. Phys. 46:1693,1987; IFVE-86-157;
Study of Two Particle Inclusive $K^+ p$ Reactions at 70 GeV

- Rose 90 Phys. Lett. 234B:460,1990;
Polarizability of the Neutron
- Rosen 88 Comm. on Nuc. and Part. Phys. 18:31,1988; LA-UR-87-3423;
On Seeing the First Double β Decay
- Rosenberg 85B SLAC-289; UMI-86-08218;
A Study of Hadronization Using Energy Flow from $e^+ e^-$ Annihilation into Quarks and Gluons at E_{cm} of 29 GeV
- Rosenfeld 88 KEK-88-41; AMY-88-04;
Results from the First Year at AMY
- Rosner 85E EPL-85-63-CHICAGO;
Heavy Quark Spectroscopy
- Rotscheidt 88 BONN-IR-88-55;
Investigation of Inelastic Scattering in $\gamma - p$ Reactions in the Energy Range 65 GeV to 175 GeV Using the CERN OMEGA Spectrometer
- Roudeau 88 LAL-88-37; C88/03/13;
Charm Photoproduction Mechanisms and a Few Preliminary Results from the NA14 Experiment
- Rouse 87 LBL-24729;
The Inclusive Cross Section of Charged Hadrons in 3 Jet Events at $\sqrt{s}=29$ GeV
- Rowson 85 Phys. Rev. Lett. 54:2530,1985;
Charged Multiplicity of Hadronic Event Containing Heavy-Quark Jets
- Rowson 85B LBL-20463;
Properties of Heavy Quark Jets Produced by $e^+ e^-$ Annihilation at 29 GeV
- Roy 85B Nucl. Phys. A442:686,1985;
Deformation and Target Spin Dependent Effects in ${}^9\text{Be}$ p (polarized) at 220 MeV
- Rubbia 86 Usp. Fiz. Nauk 147:371,1986;
Experimental Observation of the Intermediate Vector Bosons W^+ , W^- and Z^0
- Ruckstuhl 85B Nucl. Phys. A433:634,1985;
Measurement of the Hyperfine Splitting of the 1s State in Muonic ${}^7\text{Li}$ as a Search for Axial Vector Muon Nucleon Interactions
- Ruckstuhl 86 Phys. Rev. Lett. 56:2132,1986;
Study of Three-Prong τ^\pm Decays and Determination of the $a_1(1260)$ Parameters
- Ruhmann 88 SACLAY-DPHPE-88-18;
Measurement of the Strong Coupling Constant α_S from a Study of W^\pm Bosons Produced in Association with Jets
- Rutherford 85 PRINT-86-0061;
Hadronic Production of Real and Virtual Photons
- Ryan 85 Phys. Rev. D32:802,1985;
Cryogenic Photon Mass Experiment
- Rybicki 85 Z. Phys. C28:65,1985; CRAC-IMP-85-1280;
Indication for a Broad $J^{PC} = 2^{++}$ Meson at 840 MeV Produced in the Reaction $\pi^- p \rightarrow \pi^+ \pi^- n$ at High [4]
- Rybicki 86 Acta Phys. Polon. B17:317,1986; INP-1259-PH;
Possible Observation of the Scalar Meson at 1280 MeV in the Reaction $\pi^- p \rightarrow \pi^+ \pi^- n$ at 17.2 GeV/c
- Sadler 87 Phys. Rev. D35:2718,1987;
Differential Cross Sections for $\pi^+ p$ and $\pi^- p$ Elastic Scattering from 378 to 687 MeV/c
- Safronov 88 Yad. Phys. 47:1523,1988;
Fast Deuterons from Proton-Nucleus Collisions at 2.5 – 9.2 GeV
- Safronov 88B ITEP-88-144;
Production of High Energy Nuclei ${}^4\text{He}$, ${}^3\text{He}$, deuteron, ${}^3\text{H}$ in Interaction 10.1 GeV/c Protons with Be, Al, Cu, Ta
- Sagawa 88 Phys. Rev. Lett. 60:93,1988; KEK-87-84;
Measurements of R and a Search for Heavy-Quark Production in $e^+ e^-$ Annihilation at $\sqrt{s}=50$ and 52 GeV
- Sagawa 89 Phys. Rev. Lett. 63:2341,1989; KEK-89-38; AMY-89-04;
Measurement of $e^+ e^- \rightarrow b \bar{b}$ Forward-Backward Charge Asymmetry between $\sqrt{s}=52$ and 57 GeV
- Sai 86 Phys. Rev. Lett. 55:2268,1985;
Interpretation of the Breakup Reaction deuteron $p \rightarrow p p n$ at the Incident Deuteron Momentum Range 2 GeV/c – 3.7 GeV/c in Terms of Free $n p$ Scattering
- Saidkhanov 86 Yad. Phys. 44:137,1986;
Analysis of Five-Prong $p n$ Interactions Generated in Nuclear Emulsion at 21 – 25 GeV/c
- Sakai 87 KEK-87-119; AMY-87-05;
New Results from AMY at TRISTAN
- Sakai 89 KEK-89-42; AMY-89-06;
A Search for Heavy Leptons and New Particles Beyond the Standard Model in $e^+ e^-$ Annihilation at $\sqrt{s}=50 - 60.8$ GeV
- Sakai 90 Phys. Lett. 234B:534,1990; KEK-89-134; AMY-89-18;
A Search for SUSY Particles in $e^+ e^-$ Annihilations at $\sqrt{s}=50 - 60.8$ GeV
- Sakuda 85 Phys. Lett. 152B:399,1985;
Properties of Bottom Quark Jets in $e^+ e^-$ Annihilation at 29 GeV/c
- Sakuda 88 KEK-88-88;
Tests of the Standard Model at TRISTAN
- Salvini 88 Phys. Rept. 171:231,1988;
Physics with Matter-Antimatter Colliders
- Sangster 87 Phys. Lett. 188B:29,1987;
Light Fragment Production in Proton Xenon Interactions between 1 GeV and 19 GeV
- Sapozhnikov 86 JINR-P4-86-695;
Investigations with Antiprotons at LEAR Facility
- Saroff 90 Phys. Rev. Lett. 64:995,1990; AZPH-EX-89-01;
Single-Spin Asymmetry in Inclusive Reaction $p(\text{pol}) p \rightarrow \pi^+ X$, $p(\text{pol}) p \rightarrow \pi^- X$, $p(\text{pol}) p \rightarrow \pi X$, at 13.3 and 18.5 GeV/c

- Sasaki 88 KEK-88-48; AMY-88-11;
Hadron Production in $\gamma\gamma$ Collisions at Large Q^2 at AMY
- Sasaki 89 KEK-89-56; AMY-89-14;
A Measurement of the Photon Structure Function F_2 at an Average Q^2 of 67 (GeV/c) 2
- Sato 87 Phys. Rev. Lett. 58:2722,1987;
Analysis of the Neutrino Burst from Supernova 1987 in the Large Magellanic Cloud
- Savage 86 Phys. Lett. 167B:481,1986;
A Search for Fractional Charges in Native Mercury
- Savage 86B Phys. Rev. Lett. 57:178,1986;
A Search for a Short Lived Neutral Particle Produced in Nuclear Decay
- Savage 88C Phys. Rev. D37:1134,1988;
New Limit on Light Scalar and Pseudoscalar Particles Produced in Nuclear Decay
- Savoyanavarro 85 CERN-EP-85-64;
Experimental Evidence for the Decay $W^\pm \rightarrow \tau^\pm \nu_\tau$ of the Charged Intermediate Vector Boson at the CERN $p\bar{p}$ Collider
- Saxon 86 RAL-86-073;
Measurement of Electroweak Effects in $e^+ e^-$ Annihilation
- Schaad 85 Phys. Lett. 160B:188,1985; SLAC-PUB-3696; LBL-19725;
Upper Limit on $B^0 \bar{B}^0$ Mixing in $e^+ e^-$ Annihilation at 29 GeV
- Schablitzky 89 BONN-IR-89-32;
Separation der Elektrischen Formfaktoren G_c und G_q des Deuterons bei $Q^2=0.495$ (GeV/c) 2
- Schaeffer 90 Acta Phys. Polon. B21:357,1990;
SIN1987A. A Review
- Schaffner 89 Phys. Rev. D39:990,1989;
Limit on the Decays $K_L \rightarrow \mu^+ e^-$ and $K_L \rightarrow \mu^- e^+$
- Schaller 85 Phys. Rev. C31:1007,1985;
Nuclear Charge Radii of the Even Sulfur Isotopes ^{32}S , ^{34}S , and ^{36}S and of ^{31}P Using Muonic Atoms
- Schellman 85 Phys. Rev. D31:3013,1985; SLAC-PUB-3521; LBL-18761;
Measurement of K^\pm and K^0 Inclusive Rates in $e^+ e^-$ Annihilation at 29 GeV
- Schiavon 89 Nucl. Phys. A505:595,1990; CERN-EP-89-38;
Real to Imaginary Ratio of the $\bar{p} p$ Forward Elastic Scattering Amplitude at 550 MeV/c, 757 MeV/c and 1077 MeV/c
- Schindler 85 SLAC-PUB-3799; CALT-68-1307; C85/07/15;
New Results on Charmed D Meson Decay
- Schindler 86 SLAC-PUB-4055;
New Results on Charmed D , D_S^\pm and D_s^\pm Production and Decay from the MARK-III
- Schindler 87 SLAC-PUB-4248;
Heavy Quark Spectroscopy and Decay
- Schindler 88 SLAC-PUB-4694;
Results on Semileptonic D^0 and D_S^\pm Decays and Evidence for Non- D \bar{D} Decays of the $\psi(3770)$
- Schindler 89 SLAC-PUB-4997;
An Experimental Review of the Decays of the D_S^\pm Meson
- Schmidke 86 BONN-IR-86-34;
Diffractive Particle Production in Proton-Antiproton Interactions at Center-of-Mass Energies of 900 GeV and 200 GeV
- Schmidke 86 Phys. Rev. Lett. 57:527,1986; SLAC-PUB-4031; LBL-21417;
Study of the Decay $\tau^- \rightarrow \pi^- \pi^+ \pi^+ \nu_\tau$
- Schmidt 87 Acta Phys. Polon. B19:399,1988; GSI-87-64;
Oxygen Induced Reaction at 200 and 60 GeV/Nucleon
- Schmidt 88 Z. Phys. C38:109,1988; GSI-88-10;
Target Fragmentation in Proton-Nucleus and ^{16}O -Nucleus Reactions at 60 and 200 GeV/Nucleon
- Schmiedmayer 88 Phys. Rev. Lett. 61:1065,1988;
Measurement of the Electric Polarizability of the Neutron
- Schmitt 88 Z. Phys. C40:199,1988; DESY-88-031; SLAC-PUB-4568;
Search for Radiative $\Upsilon(1S)$ Decays into Light Mesons
- Schmitz 88 MPI-PAE-EXP-EL-193;
Hadron Production in High Energy Neutrino and Antineutrino Collisions
- Schneider 90 Z. Phys. C46:341,1990; IPNL-89-8;
Inclusive Ξ^0 , $\Xi(1530 P_{13})^0$ and $\Xi(1530 P_{13})^0$ Production in Ξ^- Be Interactions at 116 GeV/c
- Schnetzer 89 LBL-26761;
Inclusive Production of K^+ Mesons in 2.1 GeV/Nucleon Nuclear Collisions
- Schubert 89 IEKP-KA-89-6;
Review of B -Meson Decay Results
- Schukraft 88 Z. Phys. C38:59,1988;
Measurement of Multiplicity Distributions in Oxygen-Tungsten Collisions at 200 GeV per Nucleon
- Schukraft 88B CERN-EP-88-176;
Recent Result from HELIOS (NA34) on Proton-Nucleus and Nucleus-Nucleus Reaction
- Schumm 88 Phys. Rev. Lett. 60:1618,1988;
Neutrino Production of Same-Sign Dimuons
- Schurman 87 Phys. Rept. 147:1,1987;
Analytical Treatment of High Energy Nucleus-Nucleus Collisions
- Schutt 88 Phys. Lett. 203B:22,1988;
Nucleon Scattering from ^{208}Pb at Low and Intermediate Energies
- Schutte 89 DESY-89-007; C88/08/29.2;
Measurement of the Direct Photon Spectrum from the $\Upsilon(1S)$
- Schwartz 88 Phys. Rev. D37:1758,1988;
Photino Flux Limits from the Harvard-Purdue-Wisconsin Underground Detector
- Sculli 87 Phys. Rev. Lett. 58:1715,1987;
Limits on $X(2200)$ Formation in $\bar{p} p \rightarrow K^+ K^-$

- Sealock 89 Phys. Rev. Lett. 62:1350,1989;
Electroproduction of the $\Delta(1232 P_{33})$ in Nuclei
 Sedlak 88 Fiz. Elem. Chastits At. Yadra 19:445,1988;
Antinucleon-Nucleon Annihilation at Rest and Flight
 Seestrommorr 85 Phys. Rev. C31:923,1985;
M4 Transitions Observed in Pion Inelastic Scattering on ^{15}N
 Seftor 89 Phys. Rev. D39:2457,1989;
Recoil Proton Polarization in πp Elastic Scattering at 547 and 625 MeV/c
 Segel 85 Phys. Rev. C32:721,1985;
Inclusive 150 MeV Proton Induced Spectra at Forward Angles
 Seidel 88 Phys. Rev. Lett. 61:2522,1988;
Search for Multitrack Nucleon Decay
 Selen 89 DOE-ER-3072-49;
Hunting for the Rare Decay $K^+ \rightarrow \pi^+ \mu^+ \mu^-$
 Sengupta 88 Phys. Lett. 213B:548,1988;
Multiplicity Distribution and their Fluctuations in Pseudo-rapidity Windows at Relativistic Heavy-Ion Collisions
 Sengupta 89 Eur. Lett. 8:15,1989;
Mean Free Paths of He Fragments Produced in Collisions of ^{16}O at 60 GeV/N
 Sengupta 89B Phys. Lett. 222B:301,1989;
On the Production of Helium Fragments in Ultrarelativistic Heavy-Ion Collisions
 Seth 85 Phys. Lett. 158B:23,1985;
Polarized Proton Inelastic Scattering from ^{40}Ca and ^{43}Ca at 500 MeV
 Shabratova 86 JINR-P1-86-303;
Spectra of Relativistic π^\pm Mesons and p in Inelastic ^{22}Ne Interactions with Photoemulsion Nuclei at 4.1 GeV/c per Nucleon
 Shahbazyan 88 Z. Phys. C39:151,1988;
An Evidence for a Possible Stable Dibaryon
 Shahbazyan 90 Phys. Lett. 235B:208,1990; Phys. Lett. 244B:580,1990; Kr. Soob. JINR 38:5,1989;
The Observation of a Stable Dibaryon
 Shaw 87 Phys. Rev. D36:3533,1987;
Search for Free Quarks Produced by 14.5 GeV/ ν Nucleon Oxygen Ions
 Shaw 89 Phys. Rev. Lett. 63:1342,1989; KEK-89-41; AMY-89-05;
A Search for Unstable Heavy Neutral Leptons in $e^+ e^-$ Annihilation at \sqrt{s} from 50 and 60.8 GeV
 Sheldon 86 Phys. Rev. Lett. 57:1398,1986; SLAC-PUB-4030; LBL-21872;
Comparison of the Particle Flows in Three Jet and Radiative Two Jet Events from $e^+ e^-$ Annihilation at $E_{cm}=29$ GeV
 Shephko 87 Phys. Rev. D35:2917,1987;
Search for Superheavy Grand Unified Magnetic Monopoles in Cosmic Rays
 Shibata 86 Phys. Lett. 172B:283,1986; NUP-A-85-18;
Fragmentation of Nucleus at High Energy
 Shimansky 88 JINR-P1-88-443;
Spectra of Protons Flying out at Big Angles in deuteron $p \rightarrow p X$ Reaction at 3.3 GeV/c
 Shimizu 89 KEK-89-146;
Observation of Narrow Structure in the $p p$ Elastic Analyzing Power
 Shin 86 Phys. Rev. Lett. 55:2672,1985; TRI-PP-85-58;
 T_{20} in π^\pm deuteron Elastic Scattering between 118 and 148 MeV
 Shipbaugh 87 Phys. Rev. Lett. 60:2117,1987; FERMILAB-PUB-87-220-E;
Production of the D_S^\pm by High Energy Neutrons
 Shipbaugh 88B RX-1221-ILLINOIS;
Production of Charm Mesons by High Energy Neutrons
 Shirai 88 KEK-88-56;
Recent Result from TRISTAN
 Shivpuri 86 Nuovo Cim. 91A:376,1986;
Interactions of 5 GeV/c \bar{p} with Light Emulsion Nuclei
 Shivpuri 87 Phys. Rev. D36:3353,1987;
Four-Momentum Transfer between Fireballs in Proton-Nucleus Interactions at 400 GeV
 Shivpuri 87B Phys. Rev. D35:3508,1987;
Multiplicity, Rapidity, and Rapidity Correlations in 800 GeV Proton Nucleus Interactions
 Shivpuri 88 Nuovo Cim. 97A:773,1988;
Fireball Parameters in Proton Nucleus Interactions at 400 GeV
 Shivpuri 88B Nuovo Cim. 99A:385,1988;
Multiplicity Correlations among the Charged Secondaries in Proton-Nucleus Interactions at 400 GeV
 Shklyarevsky 86 Yad. Phys. 47:117,1988; LENI-86-1176;
Phase Shift Analysis of the $p p$ Amplitudes in the Energy Range 380 – 1000 MeV
 Shoemaker 88 Phys. Rev. D37:1120,1988;
Search for Strange Baryonium States in \bar{p} deuteron Interactions at 8.9 GeV/c
 Shor 89 Phys. Rev. Lett. 63:2192,1989;
Subthreshold \bar{p} , K^- , K^+ , and Energetic Pion Production in Relativistic Nucleus-Nucleus Collisions
 Shypit 88 Phys. Rev. Lett. 60:901,1988;
Evidence Against Broad Dibaryon
 Sibirtsev 88 Yad. Phys. 47:1040,1988;
 Λ -dependence of Proton, π^\pm and K^\pm Meson Production in 10.1 GeV/c Proton Interaction with Nuclei
 Sibirtsev 90 Yad. Phys. 51:1587,1990;
Study of A Universality in Proton and Pion Production at Intermediate Energies
 Siksin 87 IFVE-87-64;
Amplitude Analysis of Pion-Nucleon Scattering at 40 GeV/c
 Silverman 85 Nucl. Phys. A444:621,1985;
Cross Section Measurements of p deuteron \rightarrow ^3He π^0 and p deuteron \rightarrow ^3H π^\pm at Intermediate Energies
 Silvestrov 86 Kr. Soob. JINR 14:9,1986;
Analysis of $e^+ e^-$ Pair Production in Experiments with Neutral Kaons

- Silvestrov 87 JINR-P1-87-3;
Analysis of $\mu^+ \mu^-$ Pair Production in Experiments with Neutral Kaons
 Simich 86 Phys. Rev. D34:692,1986;
Dependence of Average Characteristics of π^- Mesons on Number of Interacting Protons in Nucleus-Nucleus Collisions at 4.2 GeV/c per Nucleon
 Simpson 85 Phys. Rev. Lett. 54:1891,1985;
Evidence of Heavy-neutrino Emission in β Decay
 Simpson 89 Phys. Rev. D39:1825,1989;
Evidence of the 17 KeV Neutrino in the β Spectrum of ^{38}S
 Simon 89B Phys. Rev. D39:1837,1989;
Evidence of the 17 KeV Neutrino in the β Spectrum of ^3H
 Sinervo 86 SLAC-299;
A Study of the Strange Meson Spectrum as Observed in the Reaction $K^- p \rightarrow \bar{K}^0 \pi^+ \pi^- n$ at 11 GeV/c UPR-0171E;
New Particle Searches at CDF
 Singh 88 Phys. Rev. Lett. 61:1073,1988;
Multiplicity Distribution in Pseudorapidity Intervals with ^{32}S at 200 GeV/Nucleon and ^{16}O at 200 and 60 GeV/Nucleon
 Singh 88B Phys. Lett. 214B:480,1988;
Interaction Mean Free Paths of He Fragments from Ultrahigh-Energy Nucleus-Nucleus Collisions in Emulsion
 Singh 89 Phys. Rev. C39:1835,1989;
Long-Range Correlations in Nucleus-Nucleus Interactions at Ultrahigh Energies
 Sirunyan 88 YERE-1083(46)-88;
Polarization Investigation of the Photoproduction of π and η Mesons on Nucleons in the Resonance Energy Range 1 - 2 GeV
 Skarha 89 THESIS;
Forward Muon Production in Proton-Antiproton Collisions at $E_{cm}=1.8$ TeV
 Skwarnicki 85B DESY-85-042; C85/03/10;
Spin Analysis of the x_b States
 Skwarnicki 87 Phys. Rev. Lett. 58:972,1987; SLAC-PUB-4045; DESY-86-087; SLAC-PUB-4045; DESY-86-087;
Spin Analysis of the x_b (unspec) States
 Skwarnicki 87B SLAC-PUB-4506; DESY-87-166;
Search for τ^\pm Decays to the η Meson
 Sliwa 83 Phys. Rev. D32:1053,1985; FERMILAB-PUB-83-96-EXP;
A Study of $D^*(2010)$ Production in High Energy γp Interactions
 Smart 86 Acta Phys. Polon. B17:41,1986;
Neutrino Interactions in Emulsion Stacks inside the Fermilab 15 Foot Bubble Chamber
 Smirnov 85 ITEP-85-30;
 K^+ Meson Inelastic Scattering on the Light Nuclei at 130 MeV
 Smirnova 88 Yad. Phys. 47:419,1988;
Dynamical Characteristics of High-Energy $\bar{p} p$ Annihilation
 Smith 85 Phys. Lett. 153B:188,1985;
A Search for Fractional Electric Charge on Levitated Niobium Spheres
 Smith 85B Phys. Lett. 167B:248,1986; CERN-EP-85-157;
Observation of Longitudinal Event Structure in Proton Diffractive Dissociation at ISR
 Smith 85D Phys. Lett. 163B:267,1985; CERN-EP-85-129;
Evidence for Pomeron Single-Quark Interactions in Proton Diffraction at the ISR
 Smith 86 Phys. Lett. 171B:129,1986;
A Search for Fractional Charge Changes on Levitated Niobium Spheres
 Smith 86B Phys. Lett. 184B:293,1987; CERN-EP-86-158;
Observation of Correlations Between Forward Protons and 90 Degrees Trigger Protons at $E_{cm}=82$ GeV
 Smith 86C Phys. Rev. Lett. 57:803,1986; TRI-PP-86-13;
Tensor Analyzing Power in π deuteron Elastic Scattering
 Smith 86D TRI-PP-86-33; C86/05/26;
Tensor Analyzing Power in π deuteron Elastic Scattering
 Smith 86E TRI-PP-86-110;
First Measurement of the Tensor Analyzing Power $T(2,1)$ in π deuteron Elastic Scattering
 Smith 86F TRI-PP-86-80;
Direct Measurement of the Tensor Polarization of a Polarized Deuteron Target
 Smith 86G Phys. Lett. 181B:407,1986;
Searches for Fractional Electric Charge on Niobium Samples Exposed to Liquid Helium
 Smith 87 Phys. Lett. 185B:209,1987; CERN-EP-86-182;
A Polarization in Proton-Proton Interactions from E_{cm} 31 to 62 GeV
 Smith 87B Phys. Lett. 197B:447,1987;
Searches for Fractional Electric Charge in Tungsten
 Smith 87C TRI-PP-87-69;
Energy Dependence of the Charge Asymmetry $A(T,\theta)$ in π deuteron Elastic Scattering
 Smith 89 FERMILAB-CONF-89-275-E;
Intermediate Vector Bosons in the Muon Channel
 Smith 90 Phys. Lett. 234B:191,1990;
A Search for the Electric Dipole Moment of the Neutron
 Snow 85 Phys. Rev. D32:11,1985;
Negative Kaon and Antiproton Production near 700 MeV/c by 28.4 GeV/c Protons
 Snyder 89 Phys. Lett. 229B:169,1989; SLAC-PUB-4986; IUHEE-89-2;
Search for B Decay to Higgs Bosons for Higgs Boson Masses between 50 MeV/c² and 210 MeV/c²
 Sobchak 88 JINR-P1-88-393;
Momentum Distributions of Nucleons Flying at Large Angles in $^4\text{He} p$ Collisions
 Soderstrom 90 SLAC-PUB-5192; LBL-28860; CALT-68-1616;
A Search for Pair Production of Heavy Stable Charged Particles in Z^0 Decays
 Soffer 85 CPT-85-P-1809;
nucleon-nucleon Elastic Polarizations at High Energies

Sokoloff 86

Strugalski 88B

- Sokoloff 86 Phys. Rev. Lett. 57:3003,1986; FERMILAB-PUB-86-120-E;
Experimental Study of the A -dependence of $J/\psi(1S)$ Photoproduction
- Soldnerrembo 87 BONN-IR-87-31;
Investigation of the Reaction $\gamma p \rightarrow \pi^+ \pi^- p$ from Experiment WA69 in the Energy Range from 60 GeV to 170 GeV
- Son 88 KEK-88-76; AMY-88-14;
Search for New Heavy Flavors with AMY at TRISTAN
- Sonderegger 88 Z. Phys. C38:129,1988; CERN-EP-88-26;
The Study of π and K Production in Proton-Uranium and Oxygen-Uranium Interactions at 200 GeV/Nucleon Using Decay Muon
- Sonderegger 89 CERN-EP-89-19;
Dimuon and $J/\psi(1S)$ Production in Ultrarelativistic Ion Collisions
- Sorensen 88 Z. Phys. C38:3,1988;
Oxygen-Induced Reactions at 60 a GeV and 200 a GeV Studied by Calorimetry
- Sowinski 87 Phys. Lett. 199B:341,1987;
A Measurement of the Spin Correlation Parameter $c_{nn}(\theta)$ in $n-p$ Scattering at 181 MeV
- Spahn 89 Phys. Rev. Lett. 63:1574,1989;
Study of Charge Symmetry in ${}^4\text{He}$ by Simultaneous $e^- {}^4\text{He} \rightarrow e^- p {}^3\text{H}$ and $e^- {}^4\text{He} \rightarrow e^- n {}^3\text{He}$ Measurements
- Sphicas 88 CERN-EP-88-184;
High E_t Jets in UA1
- Spivak 88 Zh. Eksp. Teor. Fiz. 94(9):1,1988;
Neutron Lifetime in KIAE Experiment
- Sromicki 86 Phys. Rev. Lett. 57:2359,1986;
Spin Dependence in Low Energy $n - p$ Scattering
- Stanco 88 LAL-88-51;
New DM2 Results on $f_1(1285)$ and $\eta(1440)$
- Stanislaus 89 Phys. Lett. 219B:237,1989; TRI-PP-88-70;
Search for $T=2$ Dibaryons via π^- deuteron $\rightarrow \gamma X$
- Steele 89 SLAC-350;
A Search for Single Electron Production in Electron Positron Annihilation at $E=29$ GeV
- Stenlund 88 LUIP-8807;
Search for Non-statistical Particle Density Fluctuations in ${}^{16}\text{O} + \text{Ag Br}$ and ${}^{52}\text{S} + \text{Au}$ Interactions at 200 A GeV
- Stenz 86 BONN-IR-86-18;
Investigation of Charged Pion and Nuclear Photoproduction in the $\Delta(1232 P_3)$ Resonance Region
- Stewart 90 FERMILAB-PUB-90-22-E;
Production of High p_T Jets in Hadron-Nucleus Collisions
- Stirling 87 RAL-87-107;
A Compilation of Data on the Energy Energy Correlation and its Asymmetry in $e^+ e^-$ Annihilation
- Stock 87 Phys. Rept. 135:259,1987;
Particle Production in High Energy Nucleus-Nucleus Collisions
- Stockdale 85 Z. Phys. C27:53,1985;
Search for Muon neutrino Oscillations and Antineutrino Oscillations in the Mass Range $15 < m^2 < 1000$ eV^2/c^4
- Stockdale 87 SLAC-PUB-4467;
Observation of $D_s^+ \rightarrow \eta \pi^+$, and a New Limit on $D^+ \rightarrow \mu^+ \nu_\mu$ and F/D
- Stockhausen 86 SLAC-PUB-4026;
 $J/\psi(1S)$ Results from MARK-III
- Stockhausen 87 SLAC-PUB-4312;
An Upper Limit on the Decays $D^0 \rightarrow \mu^- e^+$ and $D^0 \rightarrow \mu^+ e^-$
- Stockhausen 87B SLAC-PUB-4313;
The Decay $\tau^\pm \rightarrow \rho \nu$ (and $\tau^\pm \rightarrow \pi \eta \nu?$)
- Stoker 85 Phys. Rev. Lett. 54:1687,1985;
Search for Right-handed Currents by Means of Muon Spin Rotation
- Stoker 89 Phys. Rev. D39:1811,1989; SLAC-PUB-4590; JHU-HEP-88-0301;
Limits on New Lepton Pairs (ℓ^-, ℓ^0) with Arbitrary Neutrino Mass
- Stopa 87 Acta Phys. Polon. B18:429,1987;
- Strakovsky 86 Czech. J. Phys. B36:225,1986;
Neutral Strange Particle Production in π^- deuteron Interactions at 21 GeV/c
- Streets 89 FERMILAB-PUB-89-42-E;
Atomic Weight Dependence of the Production of Hadron Pairs from 800 GeV/c Protons on Nuclear Targets
- Strobel 88 Z. Phys. C38:89,1988;
Negative Particles Productions in Nuclear Collisions at 60 and 200 GeV/Nucleon
- Strugalski 85 JINR-EI-85-888;
Experimental Study of the Pion - Xenon Nucleus Collisions without Particle Production at 3.5 GeV/c Momentum: Physical Meaning of the Proton Multiplicity Distribution
- Strugalski 85B JINR-EI-85-231;
Experimental Investigations of the Particle Production Process at the Stage before the Decay of Resonances
- Strugalski 86 JINR-EI-86-642;
The Determination of Matter Densities in ${}^{131}\text{Xe}$ ($Z=54$) Nucleus Using Negatively Charged Pions
- Strugalski 86B JINR-EI-86-579;
Nucleon Emission from Target Nuclei which Occurs when Hadrons Traverse Them
- Strugalski 88 JINR-EI-88-211;
Experimental Study of Hadron Passage through Intrnuclear Matter
- Strugalski 88B JINR-EI-88-669;
Energy Dependence of the Total Cross Section for Electron-Positron Pair Creation by γ Quanta in Liquid Xenon, Measured in Bubble Chamber

- Strugalski 88C JINR-E1-88-639;
Retardation of Hadrons in Passing through Intranuclear Matter
 Phys. Rev. Lett. 64:983,1990; KEK-89-127; AMY-89-17;
- Stuart 90 **Forward-Backward Charge Asymmetry in $e^+ e^- \rightarrow$ hadron jets**
 Phys. Rev. Lett. 58:1070,1987;
- Stubbs 87 **Search for an Intermediate Range Interaction**
 Phys. Rev. Lett. 62:609,1989;
- Stubbs 89 **Limits on Composition-Dependent Interactions Using a Laboratory Source: Is There a Fifth Force Coupled to Isospin?**
 SACLAY-DPHPE-86-14;
 W^\pm and Z^0 Production Properties
 Czech. J. Phys. B39:266,1989; SACLAY-DPHPE-87-20; C87/09/14.3;
Test of the Standard Model with Weak Bosons in UA1
 KEK-88-10;
- Sugahara 88 **New Results from TOPAZ at TRISTAN on Hadron Physics**
 KEK-88-94; C88/10/17.2;
- Sugahara 88B **Present and Future of B Physics**
 ANL-HEP-CP-86-36; C86/03/16;
- Sugano 86 **Charged Particle Multiplicities in $e^+ e^-$ Annihilation at 29 GeV: Measurements in the Central Rapidity Regions and in the Gluon Jet**
 Phys. Rev. D37:583,1988; KEK-87-132;
- Sugimoto 88 **Search for Structures in the $\bar{p} p \rightarrow \pi^+ \pi^-$ and $\bar{p} p \rightarrow K^+ K^-$ Cross Sections between 360 and 760 MeV/c**
 Phys. Rev. D36:674,1987;
- Sullivan 87 **Measurement of the Ratio of Σ^0 to Λ Inclusive Production from 28.5 GeV/c Protons on Beryllium**
 IFVE-88-100;
- Sulyaev 88 **High p_T Hadron Production in Hadron-Nuclei Collisions**
 KEK-88-28;
- Sumiyoshi 88 **Recent Results from VENUS at TRISTAN**
 CERN-EP-87-86;
- Summers 87 **Beauty Physics at UA1**
 Phys. Rev. C31:515,1985;
- Sun 85 **Measurements of the Spin Rotation Parameters for p (polarized) deuteron $\rightarrow p$ (polarized) deuteron Elastic Scattering at 496 MeV, 647 MeV, and 800 MeV**
 Nucl. Phys. B294:961,1987;
- Suzuki 87 **Measurement of Differential Cross Sections for the $\pi^- p \rightarrow \pi^0 n$ Charge Exchange Scattering from 1969 MeV/c to 2985 MeV/c**
 KEK-88-38;
- Suzuki 88 **Review of Atmospheric Neutrino Phenomena in Underground Nucleon Decay Detectors**
 KEK-89-40;
- Svec 84 **Solar Neutrino Observation at KAMIOKANDE-II**
 Jour. de Phys. 46:C2-281,1985; PRINT-85-0096;
- Sviridov 88 **Observation of a 0^{++} (750) Gluonium Candidate in Measurements of $\pi^- p$ (polarized) $\rightarrow \pi^+ \pi^- n$ on Polarized Target at 6 GeV/c, 12 GeV/c and 17.2 GeV/c**
 Yad. Phys. 49:172,1989; IFVE-88-101;
- Szabelski 86 **Analysis of Inclusive Prompt Muon Production in p Fe Interaction at 70 GeV**
 Nuovo Cim. 9C:377,1986;
- Szklarz 89 **Relevance of Multiple Muons Detected Underground to the Mass Composition of Primary Cosmic Rays**
 LAL-89-61;
- Tacik 86 **Partial Wave Analysis of $\eta(1440)$ from DM2**
 Phys. Rev. C32:1335,1985;
- Takahashi 88 **Measurement of Three Protons in Coincidence Following Absorption of 228 MeV π^+ in Carbon**
 DPNU-89-14;
- Takamatsu 89 **Search for Supersymmetric Particles in $e^+ e^-$ Annihilation at TRISTAN**
 KEK-89-154;
- Takibaev 88 **Experimental Studies on Meson Spectroscopy at KEK**
 Yad. Phys. 47:446,1988;
- Takibaev 90 **Azimuthal Asymmetry and Fluctuations in Slow-Particle Emission in High Energy Proton-Nuclear Interactions**
 Yad. Phys. 51:925,1990;
- Takita 86 **Energy Characteristics of Double Charged Particles from High Energy Hadron-Nucleus Interactions**
 Phys. Rev. D34:902,1986;
- Takita 89B **Search for Neutron-Antineutron Oscillation in ${}^{16}\text{O}$ Nuclei**
 ICR-186-89-3;
- Talebzadeh 87 **An Experimental Study of Atmospheric Neutrino Flux with the KAMIOKANDE Detector**
 Nucl. Phys. B291:503,1987; CERN-EP-87-47;
- Tanaka 87 **Search for Tau Neutrino Interactions in the BEBC Beam Dump Experiment**
 KEK-87-139;
- Tanihata 85 **On $p p$ Inelasticities at Intermediate Energies**
 Phys. Lett. 160B:380,1985;
- Tanihata 86 **Measurements of Interaction Cross Sections and Radii of the He Isotopes**
 Phys. Rev. Lett. 55:2676,1985; INS-550;
- Tanihata 88 **Measurements of Interaction Cross Sections and Nuclear Radii in the Light P Shell Region**
 Phys. Lett. 206B:592,1988;
- Tanimori 85 **Measurement of Interaction Cross Sections Using Isotope Beams of Be and Bor and Isospin Dependence of the Nuclear Radii**
 Phys. Rev. Lett. 55:1835,1985;
- Tanimori 89 **Observation of an Enhancement in $\bar{p} p \rightarrow \pi^+ \pi^-$ and $\bar{p} p \rightarrow K^+ K^-$ Cross Sections at \bar{p} Momentum of 500 MeV/c**
 KEK-89-35;
JANZOS Results on PeV and TeV Gamma Rays from SN1987A and the Future Plan for a TeV Collaboration with Adelaide

Tanimori 89B

- Tanimori 89B Phys. Rev. D41:744,1990; KEK-89-140;
Experimental Study of the Reactions $\bar{p} p \rightarrow \pi^+ \pi^-$ and $K^+ K^-$ between 360 and 760 MeV/c
 Tannenbaum 87 BNL-40066;
Relativistic Heavy Ion Collisions
 Tannenbaum 88 BNL-41354;
Measurement of Energy Flow from Oxygen, Silicon and Proton Interactions with Nuclei at the BNL TANDEM-AGS
 Tannenbaum 89 Int. Jour. Mod. Phys. A4:3377,1989; BNL-42802;
Transverse Energy Production in Light and Heavy Ion Interactions
 Tao 88 Int. Jour. Mod. Phys. A1:749,1988;
The UA1 Experiment
 Tariq 90 Acta Phys. Polon. B21:215,1990;
Some Angle Dependent Characteristics of Charged Shower Particles Produced at High Energies
 Tauchi 88 KEK-88-39;
Test of the Standard Model of Electroweak Interactions at TRISTAN
 Tenner 88 NIKHEF-H-88-6;
An Estimate of the Rescattering Fraction in Neutrino and Antineutrino Deuteron Interactions
 Terrier 87 Phys. Rev. Lett. 59:1534,1987;
Measurement with a Free Neutron Beam of Absolute Neutron-Proton Forward Elastic-Scattering Differential Cross Section at Intermediate Energies
 Thomas 89 Phys. Rev. Lett. 63:1902,1989;
Testing the Inverse-Square Law of Gravity on a 465 m Tower
 Thorndike 88 Phys. Rept. 157:183,1988;
Decays of the b Quark
 Thron 84 Phys. Rev. D31:451,1985; FERMILAB-PUB-84-53-E;
Search for Heavy Charged Particles and Light Nuclei and Antinuclei Produced by 400 GeV Protons
 Timmers 84 Phys. Rev. D31:99,1985; THEF-NYM-84-05;
The S(1934)
 Tixier 88 Phys. Lett. 212B:523,1988; LAL-88-13;
Looking at CP Invariance and Quantum Mechanics in $J/\psi(1S) \rightarrow \Lambda \bar{\Lambda}$ Decay
 Tkaczyk 86 Z. Phys. C33:33,1986;
Fast Proton Production in π^\pm Ne at 30 GeV/c
 Toki 85B SLAC-PUB-3832; C85/07/29;
Recent MARK-III Results in Radiative $J/\psi(1S)$ Decays
 Toki 86 SLAC-PUB-4153;
 D_S^\pm Production Data From MARK-III
 Toki 87 SLAC-PUB-4410;
Experimental Review of $J/\psi(1S)$ Decays
 Toki 88 SLAC-PUB-4784;
Review of $J/\psi(1S)$ Decays
 Toki 88B SLAC-PUB-4824;
BNL Glueball Review
 Toki 89 SLAC-PUB-5093;
Study of $\psi(2S)$ Decays
 Toki 89B SLAC-PUB-5087;
Study of D_S^\pm Decays
 Tokushuku 90 Phys. Lett. 235B:245,1990; KEK-89-160;
Analysis of Deuteron Spectra from Hadron-Nucleus Reactions at Several GeV/c with the Coalescence Model
 Tolstov 87 Kr. Soob. JINR 21:26,1987;
About Anomalous Interpretation of ^{40}Ar Cu Collisions at 0.8 and 1.8 GeV per Nucleon Energies
 Tomaradze 86 Yad. Phys. 45:110,1987; IFVE-86-54;
Systematics in the Transverse Momentum Distributions and Azimuthal Correlations in the Inclusive K^+ p Reactions at 32 GeV/c
 Tonapetyan 85B Ukr. Fiz. Zhurn. 30:679,1985;
Photoproduction of Charged Pions on the Atomic Nuclei and its Absorbtion at the Centre of Nuclei
 Tonelli 88 INFN-PI-AE-88-8;
CDF Results and Prospects for Elastic Scattering
 Tonelli 89 INFN-PI-AE-89-7;
Proton-Antiproton Collisions at $\sqrt{s}=1.8$ TeV: Recent Results from the CDF
 Toothacker 87 Phys. Lett. 197B:295,1987;
Measurement of the Stopping Power of Nuclei for 100 GeV/c Protons and Antiprotons
 Torres 85 Phys. Rev. D34:707,1986; FERMILAB-PUB-85-117-E;
Observation of the $\phi K \pi$ Decay of the $K_3^*(2045)$
 Tosello 89 Nuovo Cim. 102A:663,1989;
Strangeness Production by Antiproton
 Tototsuka 88 ICR-REPORT-180-89-26;
Non-Accelerator Particle Physics
 Tototsuka 89 ICR-Report-132-89-9;
Search for WIMPS
 Tototsuka 89B ICR-Report-194-89-11;
Kamiokande, 1983 - 1990's
 Tretyakova 88 LEBD-88-244;
Central Interactions of ^{16}O Nuclei with Heavy Nuclei of Photoemulsion at 200 GeV/Nucleon
 Trost 89 Phys. Rev. D40:1703,1989; FERMILAB-PUB-89-145-E;
New Measurement of the Production Polarization and Magnetic Moment of the Cascade Minus Hyperon
 Trower 85 Nucl. Phys. B252:285,1985;
Detection of Free Fractional Electric and Magnetic Charge
 Troyan 86 Kr. Soob. JINR 13:12,1985;
Narrow Diproton Resonances in the $n p \rightarrow p p \pi^-$ Reaction at $p(n)=1.257$ GeV/c

- Troyan 88 JINR-D1-88-329;
Narrow Diproton Resonances in the Reaction of $n + p \rightarrow p + \pi^-$
 Tsagova 85 Izv. Akad. Nauk SSSR, Fiz. 49:1318,1985;
Study of Charge Component of Hadrons in Extensive Atmospheric Showers with $N(\text{particles}) > 10^5$
 Tschirhart 88 Phys. Lett. 205B:407,1988;
Measurement of the Inclusive K_S Branching Fraction in τ^\pm Decay
 Tsertos 88 Phys. Lett. 207B:273,1988;
Sensitive Search for Neutral Resonances in Bhaba Scattering around $1.8 \text{ MeV}/c^2$
 Tsertos 88B Z. Phys. A331:103,1988;
New Limits for Resonant Bhaba Scattering around the Invariant Mass of $1.8 \text{ MeV}/c^2$
 Tsertos 89 GSI-89-33;
Search for Resonant Bhaba Scattering at MeV Energies
 Tsertos 89B Phys. Rev. D40:1397,1989; GSI-89-21;
High Sensitivity Measurements of the Excitation Function for Bhabha Scattering at MeV Energies
 Tsuchiaki 90 Phys. Lett. 236B:81,1990;
Search for Neutral Boson in Orthopositronium Decay
 Tsukerman 85 ITEP-85-112;
Strong Interaction: Experiments of 1982 - 1984. Hadrons
 Tsukerman 85B ITEP-85-113;
Strong Interaction: Experiments of 1982 - 1984. Glueball
 Tsukerman 85C ITEP-85-136;
Strong Interaction: Experiments of 1982 - 1984. Heavy Quarks
 Turkot 88 FERMILAB-CONF-88-199-E;
Quark Gluon Plasma - Overview and Experimental Results from E-735
 Turley 85 Phys. Lett. 157B:19,1985;
The $^{18}\text{O} (\gamma, p (\text{O})) ^{18}\text{Ne}$ Reaction at $E(\gamma)=196 \text{ MeV}$
 Turner 88 Phys. Rev. Lett. 60:1797,1988;
Axions from SN1987A
 Tuts 87 Phys. Lett. 186B:233,1987;
Search for Light Gluinos
 Tzeng 85 Phys. Rev. Lett. 55:1172,1985;
Charm Production in Neutron-Nucleon Interactions
 Ukhakov 86 Yad. Phys. 45:1032,1987; IFVE-86-93;
Aximuthal Correlations between Secondary Charged Hadrons in $K^- + p$ Interactions at $32 \text{ GeV}/c$
 Ukhakov 86B IFVE-86-195;
Inclusive γ Quanta and π^0 Mesons Productions at $70 \text{ GeV}/c$
 Ullmann 85 Phys. Rev. C31:177,1985;
Pion Inelastic Scattering to Giant Resonances and Low Lying Collective States in ^{118}Sn and ^{40}Ca
 Underwood 89 IFVE-89-55;
The First Results of FNAL Polarized Program (Experiment E-581/E-704)
 Ungrich 85 Phys. Rev. C31:934,1985;
Tensor Polarization in Pion Deuteron Elastic Scattering
 Unno 88 KEK-88-64;
Recent Result from VENUS at TRISTAN
 Ushida 86 Phys. Rev. Lett. 56:1767,1986;
Lifetimes of the Charmed Particles D^\pm , D_S^- and Λ_c^+ Produced by Neutrinos
 Ushida 86B Phys. Rev. Lett. 56:1771,1986;
Lifetime of D^0 Charmed Mesons Produced in Neutrino Interactions
 Ushida 86C Phys. Rev. Lett. 57:2897,1986;
Limits to $\nu_\mu, \nu_e \rightarrow \nu_\tau$ Oscillations and $\nu_\mu, \nu_e \rightarrow \tau^-$ Direct Coupling
 Ushida 88 Phys. Lett. 206B:380,1988;
Production Characteristics of Charmed Particles in Neutrino Interactions
 Ushida 88B Phys. Lett. 206B:375,1988;
Cross Section for Neutrino Production of Charmed Particles
 Valenti 85 CERN-EP-85-66;
The UA-06 Experiment
 Vandervelde 89 Phys. Rev. D39:1492,1989;
Possible Evidence for a New Particle from SN1987A
 Vandyck 86 Phys. Rev. D34:722,1986;
Electron Magnetic Moment from Geonium Spectra: Early Experiments and Background Concepts
 Vandyck 87 Phys. Rev. Lett. 59:26,1987;
New High Precision Comparison of Electron and Positron g Factors
 Vancoers 85 TRI-PP-85-71
Two and Few Nucleon Systems
 Vanpolen 87 Phys. Rev. D36:1983,1987;
Search for Fractional Charges Using Droplet-Jet Techniques
 Vapenikova 88 Z. Phys. C37:251,1988;
Electroproduction of Single Charged Pions from Deuterium at $Q^2=1 \text{ GeV}^2$ in the Resonance Region
 Vartapetyan 89 YERE-1151(28)-89;
The Longitudinal and Transverse Response Functions of the ^{12}C Nucleus at $Q=600$ and $660 \text{ MeV}/c$
 Varvell 87 Z. Phys. C36:1,1987; CERN-EP-87-46;
Measurement of the Structure Functions F_2 and F_3 , Comparison with QCD Predictions Including Kinematical and Dynamical Higher Twist Effects
 Vasenko 88 ITEP-88-75;
Double- β Experiment with Enriched Germanium Detector
 Vasenko 89 Mod. Phys. Lett. A5:1299,1990; ITEP-89-178;
New Results in the ITEP/YEPI Double β Decay Experiment with Enriched Germanium Detector
 Vashkevich 88 Yad. Phys. 47:1054,1988;
Experimental Study of High-Energy EAS Muons
 Vasserman 86 Pisma Zh. Eksp. Teor. Fiz. 43:457,1986;
Search for $K_S \rightarrow 2\gamma$ Decay

- Vasserman 86B Pisma Zh. Eksp. Teor. Fiz. 44:493,1986;
 Observation of $e^+ e^- \rightarrow \gamma \gamma \gamma \gamma$
- Vasserman 87 Phys. Lett. 198B:302,1987; NOVO-87-117;
 Comparison of the Anomalous Magnetic Momentum of Electron and Positron, Experiment 1987
- Vasserman 87B Yad. Phys. 47:1635,1988; Sov. J. Nucl. Phys. 47:1035,1988. NOVO-87-120;
 Observation of $\rho^0 \rightarrow \pi^+ \pi^- \gamma$ Decay
- Vasserman 87C Phys. Lett. 187B:172,1987;
 New Experiment on the Precise Comparison of the Anomalous Magnetic Moments of Relativistic Electrons and Positrons
- Vasserman 88 Yad. Phys. 48:753,1988;
 Search for $\rho^0 \rightarrow \pi^+ \pi^- \pi^0$ Decay
- Vassiliadis 85 CERN-EP-85-96;
 Contribution to Meson Spectroscopy from Central Production
- Vecko 89 Czech. J. Phys. B39:297,1989; FZU-8-88;
 Production of the Charmed Baryon A_c^+ in Neutron-Proton Interactions
- Vegni 86 Yad. Phys. 43:1480,1986; Sov. J. Nucl. Phys. 43:954,1986; JINR-E1-85-498;
 A Study of Inelastic Diffraction of π^- Meson in $\pi^+ \pi^- \pi^-$ System Using a "Live" Target of Silicon
- Velichko 85 Yad. Phys. 42:1325,1985;
 Elastic Scattering of Protons on Helium Nuclei in the Energy Range of 700 – 1000 MeV
- Velichko 88 Yad. Phys. 47:1185,1988;
 Elastic p deuteron Scattering at Small Angles in the Energy Range of 700 – 1000 MeV
- Venkataraman 85B DESY-85-115; WIS-85-40-PH; C86/07/16;
 B Lifetime Measurements from PETRA
- Verbeure 87 IFVE-87-185;
 Minimum Bias Events from EHS (How to Extract Physics)
- Veres 85 Kr. Soob. JINR-94:3,1985;
 Search for Anomalous Interaction of Projectile Fragments of ^{24}Mg Nucleus by Using of Cerenkov Spectrometer
- Vershinsky 90 Pisma Zh. Eksp. Teor. Fiz. 51:82,1990;
 Observation of the Reactor Antineutrino Interaction with Deuteron in the Neutral and Charged Current Channels on the Rovno AES
- Vesna 89 LENI-89-1560;
 The Observation and Analysis of P -violating Effects such as $\Sigma(n)*p(\gamma)$ in the Integral γ -Spectra from the Reactions $n^{118}\text{Cd} \rightarrow \gamma^{114}\text{Cd}$, and $n^{56}\text{Fe} \rightarrow \gamma^{57}\text{Fe}$
- Vesztergombi 88 Z. Phys. C38:125,1988;
 First Results on Strangeness Production in 60 and 200 GeV/Nucleon Heavy Ion Reactions from the NA35 Streamer Chamber
- Vidyakin 87 Zh. Eksp. Teor. Fiz. 93:424,1987;
 Detecting of Antineutrinos in Beam from Two Reactors
- Vidyakin 89 Pisma Zh. Eksp. Teor. Fiz. 49:130,1989;
 Observation of the Weak Charge Current in the Interaction of the Reactor Antineutrino with Deuteron
- Vidyakin 89B Pisma Zh. Eksp. Teor. Fiz. 49:646,1989;
 Investigation of the Antineutrino-Electron Scattering with the Help of Fluororganic Scintillator Detector
- Vidyakin 90 Pisma Zh. Eksp. Teor. Fiz. 51:245,1990;
 Observation of the Weak Neutral Current in the Interaction of the Reactor Antineutrino with Deuteron
- Virodov 89 Vopr. At. Nauki i Techn. ser. Yad. 2:9,1989;
 Experiment on the Dirac Monopole Search at the CERN Accelerator
- Viryasov 89 JINR-P1-89-511;
 Momentum and Angular Distributions of π^- Mesons Produced in deuteron C Interactions at 1 GeV/c
- Vishnyakov 85 JINR-P1-85-221;
 About Angular Dependence of the π^- nucleus $\rightarrow p X$ Reaction Invariant Cross Sections at 40 GeV/c Pion Momentum
- Vlasov 86 ITEP-86-174;
 Correlations of Protons and Deuterons with Deuterons at Proton Nuclei Interactions
- Vlasov 88 Yad. Phys. 52:489,1990; ITEP-88-101;
 Measurement of the Correlation Function of the Three Cumulative Baryons
- Vlasov 89 ITEP-89-11;
 Measurement of the Correlation Function of the Cumulative Protons and Neutrons
- Vlasov 89B Yad. Phys. 50:712,1989;
 Study of deuteron, $p^3\text{H}$ and deuteron deuteron Correlation Functions
- Vlasov 90 ITEP-90-63;
 Investigation of Pion Correlations with Pions and Cumulative Baryons in Proton Nucleus Interactions at 7.5 GeV/c
- Voitsekhovsk 86 Pisma Zh. Eksp. Teor. Fiz. 43:567,1986;
 Asymmetry in the Reaction deuteron (e^-, e^- deuteron) at 1 – 1.5 GeV
- Vokal 88 Yad. Fiz. 50:1046,1989; JINR-P1-88-215;
 Spectra of π^\pm Mesons and Protons in Central and Peripheral Collision of p , ^{12}C , ^{22}Ne with Photoemulsion at 4.5 GeV/c
- Vokalova 85 Kr. Soob. JINR-12:15,1985;
 Inelastic Collisions of ^{22}Ne Nuclei with Nuclei in Photoemulsion at 90 GeV/c
- Voloshin 87 Usp. Fiz. Nauk 152:361,1987; Sov. Phys. Usp. 30:553,1987
 Physics of Υ Resonances: Ten Years Later
- Vonseilitzsc 88 Phys. Lett. 200B:580,1988;
 Limits on Neutrino Stability from the Gamma Ray Flux Measured in Coincidence with Neutrinos from SN1987A
- Vonfrankenbe 89 CERN-EP-89-155;
 Progress in Hyperon Production at LEAR
- Vorobiev 84C Yad. Phys. 43:111,1986; ITEP-84-60;
 Measurement of Maximum in the π^\pm Mesons Distributions from the Reactions π^+ nucleus $\rightarrow \pi^\pm$ mult[p] nucleus

- Vorobiev 85 ITEP-85-130:
 Same Topological Characteristics of π^- Mesons Interactions with Nuclei
 Vorobiev 85B Yad. Phys. 41:1541,1985; Sov. J. Nucl. Phys. 41:976,1985;
 Measurement of Polarization of Cumulative Protons
- Vorobiev 86 ITEP-86-98;
 Lambdaometer
- Vorobiev 86B Yad. Phys. 44:1396,1986;
 Irregularities in Angular Distribution of Cumulative Particles near 180 Degrees in I.s.
- Vorobiev 87 NOVO-87-138:
 Limit on the Constant of arion Interaction
- Vorobiev 87B ITEP-87-126;
 Energy and A-Dependence of the Yields of Cumulative A Particles at 9 Degrees in I.s.
- Vorobiev 87C ITEP-87-125;
 Search for Diproton Resonances in Proton - Nucleus Interactions at 7.5 GeV/c
- Vorobiev 88B Phys. Lett. 208B:146,1988;
 New Limit on the arion Interaction Constant
- Vorobiev 88C Yad. Phys. 48:436,1988; Sov. J. Nucl. Phys. 48:273,1988;
 Upper Limit on the Electron Widths of C-even Mesons: η' , $f_0(975)$, $f_0(1270)$, $f_0(1400)$, $a_0(980)$, $a_2(1320)$
- Vorobiev 88D ITEP-88-72;
 Soft π^+ Mesons in p nucleus and π^- nucleus Interactions
- Vorobiev 88E ITEP-88-113;
 The Polarization of Cumulative A's Flying from C, Al, Cu, Cd, Pb Nucleus at 90 Degrees in I.s.
- Vorobiev 89 NOVO-89-31;
 Preliminary results of the Search for Exotic Long Range Interaction with Violation of T Invariance
- Vorobiev 89B Pisma Zh. Eksp. Teor. Fiz. 49:584,1989;
 Soft Pion Production in p nucleus Interactions
- Vorobiev 89C ITEP-89-27;
 The Results of Electronic Experiment on the Investigation of the Reaction $(\pi^\pm, p) A(C, Al, Cu, Cd, Pb) \rightarrow A X$
- Vorobiev 90 ITEP-90-5;
 Cumulative $\Delta(1232 P_{3/2})$ Production in p A Interactions at 7.5 GeV/c
- Vorobiev 90B Yad. Phys. 51:135,1990;
 Search for Narrow Diproton Resonance
- Voronin 88 ITEP-88-117;
 The Creation of Antiprotons with Momentum from 1.25 to 5 GeV/c in Interactions of Protons with Be, Al, Cu and Ta Nucleus at 10.1 GeV/c
- Voronko 88 JINR-P-88-294;
 Generation of Neutrons in a Lead Target by Protons, Deuterons, Alpha Particles with 4.5 GeV/c per Nucleon Momentum
- Volontsov 88B ITEP-88-11;
 A-dependence of Proton's Fragmentation with Energy 9.2 GeV on Nucleus
- Vovchenko 85 LENI-85-1110;
 Study of Phase Shift Analysis of p p Scattering at the Energy of 970 MeV
- Vovchenko 86 Yad. Phys. 44:456,1986;
 Search for Solutions of Phase Shift Analysis of p p Interactions at 970 MeV
- Vovchenko 86B Pisma Zh. Eksp. Teor. Fiz. 44:119,1986;
 Angular Dependence of Correlation Parameters A_{00nn} and Asymmetry A_{000n} in Elastic p p Scattering in the Energy Interval 690 - 950 MeV
- Vovchenko 89 Yad. Phys. 49:720,1989;
 Polarization Parameters A_{000n} and A_{00nn} in Proton Proton Elastic Scattering at 690 - 890 MeV
- Vovchenko 89B Yad. Phys. 50:1005,1989;
 Energy Dependence of Polarization Transfer Parameter in p p Scattering
- Voyvodic 85 Yad. Phys. 44:649,1986; Sov. J. Nucl. Phys. 44:421,1986; ITEP-85-97;
 Search for Charmed Particles Produced in Neutrino Interactions in Emulsion Placed inside the Fermilab 15 Foot Bubble Chamber
- Voyvodic 86 ITEP-86-91;
 Mean Multiplicities of Secondary Particles Produced in Neutrino Interactions with Emulsion and Neon
- Voyvodic 86B Pisma Zh. Eksp. Teor. Fiz. 43:401,1986; ITEP-86-51;
 Observation in Nuclear Emulsion of a Charmed $\Sigma_c(2455)^0$ Baryon Decay to $\Lambda_c^+ \pi^-$ with a Subsequent Λ_c^+ Decay to $\Sigma^+ \pi^- \pi^+$
- Vuillemin 85 CERN-EP-85-29; C85/01/07.2;
 W^\pm and Z^0 Production in the UA1 Experiment at the CERN Proton-Antiproton Collider
- Wachs 89 Z. Phys. C42:33,1989; DESY-88-111; SLAC-PUB-4691;
 The Electron Spectrum from B Meson Decays
- Waddington 85 Phys. Rev. C31:888,1985;
 Interactions of Energetic Gold Nuclei in Nuclear Emulsions
- Wagner 85 Phys. Rev. C31:1934,1985;
 Radiochemical Measurements of 200 MeV Proton Induced Fission of ^{133}Cs
- Wagner 87 Phys. Rev. D36:2850,1987; SLAC-PUB-4304; LBL-23321;
 Measurement of the D^0 Lifetime from the Upgraded MARK-II Detector at PEP
- Wagner 89 CDF-PUB-CDFR-1033;
 Search for Supersymmetric Particles at CDF
- Wagner 89B Phys. Rev. Lett. 64:1095,1990; SLAC-PUB-5107; LBL-27839; COLO-HEP-198;
 Measurement of the B^0 Meson Lifetime
- Wah 85 Phys. Rev. Lett. 55:2551,1985;
 Measurement of Σ^- Production Polarization and Magnetic Moment
- Walk 85 Phys. Rev. D34:2611,1986; DESY-85-019; SLAC-PUB-3820;
 The χ_1 States in Exclusive Radiative Decay of the $\Upsilon(2S)$
- Walker 89 Phys. Lett. 224B:353,1989; Phys. Lett. 240B:522,1990;
 Measurement of the Proton Elastic Form Factors for $Q^2=1 - 3$ (GeV/c) 2

- Waltham 83 Nucl. Phys. A433:649,1985; TRI-PP-83-68; C83/08/21;
Spin-Spin Correlations and Spin Asymmetries for the Reaction $p p \rightarrow p n \pi^+$ at Intermediate Energies
- Wang 85D Phys. Rev. C31:1662,1985;
 ${}^4\text{Be}$ (p, p He) ${}^4\text{He}$ Cluster Knockout Reaction with 150 MeV Polarized Protons
- Ward 86B CERN-EP-86-80;
Low p_T Physics at the $p \bar{p}$ Collider
- Warner 85 Nucl. Phys. A443:64,1985;
Comparison of the Noncomplanar ${}^6\text{Li}$ (p, p deuteron) ${}^4\text{He}$ Reactions at 120 MeV and 200 MeV
- Wasiliev 90 Pisma Zh. Eksp. Teor. Fiz. 51:550,1990;
Observation of the Events Excesses in the Experiment on the Search for Double β Decay of ${}^{100}\text{Mo}$
- Wasserbaech 87 SLAC-PUB-4289;
Results on Charmed Meson Decays from MARK-II
- Wasserbaech 89 SLAC-PUB-5012;
Results on D and D_S^+ Decays from MARK-III
- Watts 90 FERMILAB-CONF-90-112-E;
Properties of Inclusive W^\pm, Z^0 Events in $\bar{p} p$ Collisions at 1.8 TeV
- Weber 89 Phys. Lett. 230B:31,1989; TRI-PP-89-58;
Multi-Nucleon Pion Absorption in the ${}^4\text{He}(\pi^+, p p) n$ Reaction
- Weinstein 89 CALT-68-1591;
Results from the MARK-II at SLC on Decays of the Z^0
- Weir 89 Phys. Rev. D41:1384,1990; SLAC-PUB-4999; CALT-68-1559;
Upper Limits on D^\pm and B^\pm Decays to Two Leptons Plus π^\pm or K^\pm
- Weir 90 CALT-68-1603;
A Measurement of $B^0 \bar{B}^0$ Mixing in $e^+ e^-$ Annihilation at 29 GeV
- Weller 88 Phys. Lett. 213B:413,1988;
The Energy Dependence of Polarization Observables in the deuteron deuteron $\rightarrow {}^4\text{He} \gamma$ Reaction
- Wendt 87 Phys. Rev. Lett. 58:1810,1987; SLAC-PUB-4177; LBL-22797;
Search for Heavy Neutrino Production in $e^+ e^-$ Annihilation at 29 GeV
- Westbrook 87 Phys. Rev. Lett. 58:1328,1987;
New Precision Measurement of the Orthopositronium Decay Rate: A Discrepancy with Theory
- Wharton 85 Phys. Rev. C31:526,1985;
Triple Differential Cross Section to Discrete States in the ${}^{16}\text{O} (\pi^+, 2p) {}^{14}\text{N}$ Reaction
- Whitaker 86 BUHEP-86-10;
Singlet Photon Production in $e^+ e^-$ Annihilation
- Whitehouse 89 Phys. Rev. Lett. 63:1352,1989;
Radiative Kaon Capture at Rest in Hydrogen
- Whitlow 90 SLAC-357;
Deep Inelastic Structure Functions from Electron Scattering on Hydrogen, Deuterium, and Iron at 0.6 $\text{GeV}^2 < Q^2 < 30.0 \text{ GeV}^2$
- Wichées 87 Phys. Rev. Lett. 58:1821,1987;
Bounds on Right-handed Currents from Nuclear β Decay
- Wicklund 85 Phys. Rev. D34:19,1986; ANL-HEP-PR-85-81;
Study of the Reaction $p p \rightarrow p \pi^+ n$ with Polarized Beam from 3 to 12 GeV/c
- Wicklund 87 Phys. Rev. D35:2670,1987;
Study of the Reaction $p p \rightarrow p \pi^+ n$ with Polarized Beam from 1.18 to 1.98 GeV/c
- Wiedner 87 Phys. Rev. Lett. 58:648,1987;
Determination of the Real Part of the Isospin Forward Scattering Amplitude of Pion Nucleon Scattering at 55 MeV as a Test of Low Energy Quantum Chromodynamics
- Wiedner 89 Phys. Rev. D40:3568,1989;
Hidden Strangeness in the Proton? Determination of the Real Part at the Isospin-Even Forward-Scattering Amplitude of Pion-Nucleon Scattering at 5.43 MeV
- Wightman 87 Phys. Rev. D36:3529,1987;
Analyzing Power for $\pi^- p$ Charge Exchange and a Test of Isospin Invariance up to η Threshold
- Wightman 88 Phys. Rev. D38:3365,1988;
 $\pi^- p$ Charge-Exchange Analyzing Power from 547 to 687 MeV/c
- Wilkerson 87 Phys. Rev. Lett. 58:2023,1987;
Limit on $\bar{\nu}_e$ Mass from Free Molecular Tritium β Decay
- Wilkinson 86 Nucl. Phys. A434:573C,1985;
Anomalies?
- Wilkinson 87 Phys. Rev. Lett. 58:855,1987;
Polarization and Magnetic Moment of the Σ^+ Hyperon
- Williams 88 Phys. Rev. D38:1365,1988; SLAC-PUB-4573; DESY-88-033;
Formation of Pseudoscalars π^0, η and η' in the Reaction $\gamma \gamma \rightarrow \gamma \gamma$
- Williams 89B Phys. Lett. 216B:11,1989;
Pion Double Charge Exchange above the $\Delta(1232\text{P}_{33})$ Resonance
- Willis 89 Phys. Lett. 229B:33,1989;
Experimental Search for $B=2, T=2$ Bound States around the π nucleon nucleon Threshold
- Wimmersperg 87 Phys. Rev. Lett. 59:266,1987;
Observation of Bhabha Scattering in the Centre of Mass Kinetic Energy Range 342 to 845 KeV
- Winstein 89 EFI-89-60;
A Measurement of ϵ'/ϵ by E731
- Wise 85 Phys. Rev. C31:1609,1985;
Inelastic Electron Scattering from ${}^{48}\text{Ca}$
- Wittek 87 Phys. Lett. 187B:179,1987;
Spin Alignment of ρ^0 Mesons Produced in Antineutrino and Neutrino Neon Charged Current Interactions
- Wittek 88 Z. Phys. C40:231,1988; MPI-PAE-EXP-EL-188;
Production of ρ^0 Mesons and Charged Hadrons in $\bar{\nu}$ Neon Charged Current Interactions
- Wittek 89 Z. Phys. C44:175,1989; MPI-PAE-EXP-EL-201;
Production of $\rho^+, \rho^-, \rho^0, \eta, \omega$ and $f_2(1270)$ Mesons in Antinucleon Neon and Neutrino Neon Charged Current Interactions

- Wood 85 Phys. Rev. Lett. 54:635,1985;
Inclusive Pion Double Charge Exchange in ^{16}O and ^{40}Ca
 Wood 88 Phys. Rev. D37:3091,1988; SLAC-PUB-4374; LBL-23812;
Determination of α_S from Energy-Energy Correlation in $e^+ e^-$ Annihilation at 29 GeV
 Woods 88 Phys. Rev. Lett. 60:1695,1988;
First Result on a New Measurement of ϵ'/ϵ in the Neutral-Kaon System
 Wormser 87 SLAC-PUB-4466;
Indications for the Decays $D_S^\pm \rightarrow \eta \pi^\pm$ and $D_S^\pm \rightarrow \eta' \pi^\pm$
 Wormser 88 Phys. Rev. D38:1001,1988; LBL-24793; SLAC-PUB-4536;
Observation of $J/\psi(1S)$ Production in $e^+ e^-$ Annihilation at 29 GeV
 Wormser 88B Phys. Rev. Lett. 61:1057,1988; LBL-25072; SLAC-PUB-4554;
 η and η' Production in $e^+ e^-$ Annihilation at 29 GeV: Indications for the D_S^\pm Decays into $\eta \pi^\pm$ and $\eta' \pi^\pm$
 Wormser 89 LAL-89-10;
Selected Topics from NA14': Charm Production and New Results on D_S^\pm Decays
 Wormser 89B LAL-89-27;
NA14' Results on D_S^\pm Decays
 Wu 85 Phys. Lett. 162B:227,1985; Print-85-0829;
Majorana Neutrino and Lepton Number Nonconservation in ^{48}Ca Nuclear Double β Decay
 Wu 86 DESY-86-007;
Search for Supersymmetric Particles at PEP and PETRA
 Wu 87 DESY-87-164;
 $e^+ e^-$ Interaction at High Energies
 Wu 89 Phys. Rev. D41:2339,1990; SLAC-PUB-5128; LBL-27924;
Radiative τ^\pm Production and Decay
 Wuensch 89 UR-1107; ER-13065-574;
Laboratory Limits on Axions and Other Weakly Coupled Nearly Massless Particles
 Wuensch 89B Phys. Rev. D40:3153,1990; FERMILAB-PUB-89-185-E;
Results of a Laboratory Search for Cosmic Axions and Other Weakly-Coupled Light Particles
 Yamamoto 85 Phys. Rev. Lett. 54:522,1985;
Charged D^* (2010) Production in $e^+ e^-$ Annihilation at 29 GeV and a Limit on $D^0 \bar{D}^0$ Mixing
 Yamamoto 85B Phys. Rev. D32:2901,1985;
Measurement of D^0 Lifetime in $e^+ e^-$ Annihilation at High Energy
 Yamamoto 85C CALT-68-1318;
A Study of Charged $D^*(2010)$ Mesons Produced in $e^+ e^-$ Annihilation at $E_{cm} = 29$ GeV
 Yamamoto 85E LBL-20749;
Hadron Production at PEP and PETRA
 Yamanaka 85 Phys. Rev. D34:85,1986; KEK-85-72;
Search for Right-handed Currents in the Decay $K^+ \rightarrow \mu^+ \nu_\mu$
 Yamanaka 89 FERMILAB-CONF-89-35-E;
A CP Violation and Rare Kaon Decay Experiment at Fermilab
 Yamanaka 90 FERMILAB-CONF-90-14-E;
A New Measurement of CP Violation Parameter ϵ'/ϵ
 Yamauchi 85 KEK-85-63;
Measurement of the Vector Asymmetry in π^+ deuteron Elastic Scattering at 0.74 GeV/c
 Yamauchi 88 KEK-88-63;
Recent Result from TOPAZ at TRISTAN
 Yamazaki 85 Phys. Rev. Lett. 54:102,1985; KEK-84-10;
Formation of $A=12 \Sigma^-$ Hypernucleus from K^- Absorption at Rest, Observation of a Σ^- Spin Orbit Doublet of Narrow Width
 Yamazaki 86 Nucl. Phys. A434:363C,1985;
Formation and Structure of Σ Hypernuclei
 Yasumi 85 KEK-85-45;
Measurement of the Mass of the Electron Neutrino Using Electron Capture in ^{163}Ho
 Yasumi 86 Phys. Lett. 181B:169,1986; KEK-86-70;
The Mass of the Electron Neutrino Using Electron Capture in ^{163}Ho
 Yelton 86 Phys. Rev. Lett. 56:812,1986;
Measurement of the Branching Fractions $\tau^- \rightarrow \rho^- \nu_\tau$ and $K^*(892)^- \nu_\tau$
 Yock 86 Phys. Rev. D34:698,1986;
Heavy Cosmic Rays at Sea Level
 Yokosawa 85 ANL-HEP-CP-85-18;
Summary of $S=0$ Dibaryon Resonances and Candidates
 Yokosawa 85C ANL-HEP-CP-85-93; C85/08/26;
Polarization Phenomena in Nucleon-Nucleon Scattering at Intermediate and High Energies Including the Present Status of Dibaryons
 Yoshida 87 Phys. Rev. Lett. 59:2915,1987; KEK-87-82; KOBE-HEP-87-04; KUNS-894; OULNS-87-6; TMUP-HEL-87-23;
A Search for Sequential Heavy Leptons at the Energy $\sqrt{s}=52$ GeV at TRISTAN
 Yoshida 87B Phys. Lett. 198B:570,1987; KEK-87-81; KOBE-HEP-87-03; KUNS-893; OULNS-87-05; TMUL-HEL-87-22;
Measurement of R and Search for New Heavy Quarks in $e^+ e^-$ Annihilation at 50 and 52 GeV Centre-of-Mass Energies
 Yoshida 89 Phys. Rev. D39:3516,1989;
High Resolution Measurement of Massive Dielectron Production in 800 GeV Proton Beryllium Collisions
 You 89 BIHEP-EP-89-1;
A Search for Neutrinoless Double β Decay of ^{48}Ca
 Yuan 86 Phys. Rev. Lett. 57:1680,1986;
Measurement of Parity Nonconservation in the Proton Proton Total Cross Section at 800 MeV
 Zacek 85 Phys. Lett. 164B:193,1985;
Improved Limits on Oscillation Parameters from $\bar{\nu}_e$ Disappearance Measurements at the Goesgen Power Reactor
 Zacek 86 Phys. Rev. D34:2621,1986;
Neutrino Oscillation Experiments at the Goesgen Nuclear Power Reactor

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- Zacek 86B Nuovo Cim. 9C:516,1986;
 Search for Neutrino Oscillations at the Nuclear Power Reactor in Goesgen
- Zajmidoroga 85 JINR-P1-85-616;
 The $\alpha_1(1260)$ Meson Production in Nuclear Coulomb Field and $\alpha_1(1260) \rightarrow \pi^+ \pi^-$ Radiative Decay Width Estimation
- Zapalac 86 Phys. Rev. Lett. 57:1526,1986; FERMILAB-PUB-86-96-E;
 A Measurement of the Σ^- Magnetic Moment Using the $\Sigma^- \rightarrow n e^- \bar{\nu}_e$ and $\Sigma^- \rightarrow n \pi^-$ Decay Modes
- Zatsepin 89 Yad. Phys. 49:426,1989;
 Study of Muon Inelastic Scattering with 100-ton Scintillation Detector of the INR Artyomovsk Scientific Station
- Zdesenko 85 Yad. Phys. 43:1065,1986; INRU-85-31;
 Results of Underground Experiment on Neutrinoless Double β -Decay of ^{76}Ge
- Zdesenko 86 Pisma Zh. Eksp. Teor. Fiz. 43:459,1986;
 Experimental Limitations of Double Electron Capture Probability at ^{196}Hg
- Zelinski 86 Yad. Phys. 43:791,1986;
 Momentum Characteristics of Spectators in ^4He -Nucleus Fragmentation Processes
- Zelinski 88 Yad. Phys. 47:744,1988;
 Azimuthal Correlations and Deuteron Production in Proton Interactions with Light Nuclei
- Zhang 88 Phys. Rev. Lett. 61:385,1988;
 Experimental Limit on the Flux of Relic Antineutrinos from Past Supernovae
- Zheng 90 KEK-90-5; AMY-90-02;
 Charged Hadron Multiplicities in $e^+ e^-$ Annihilation at $\sqrt{s}=50$ to 61.4 GeV
- Zhokin 89 ITEP-89-80;
 Binary Reaction of Baryon Exchange
- Ziegler 85 Phys. Rev. C32:301,1985; TRI-PP-85-9;
 Polarized Proton Induced Pion Production on ^{10}Bor at 200 MeV, 225 MeV, 250 MeV and 280 MeV Incident Energies
- Ziegler 88 Phys. Lett. 206B:151,1988;
 Measurement of the Strong-Interaction Shift and Broadening of the Ground State of the (\bar{p}, p) Atom
- Zielinsky 86 Z. Phys. C31:545,1986;
 Experimental Constraints on $J^{PC} = 1^{-+}$, $I=1$ Hybrid Mesons
- Zielinsky 88 UUPP-TSL-ISV-88-16;
 Enhancements in Two-Nucleon Invariant Masses: A Survey of Experimental Data
- Zlatanov 89 JINR-PJ-89-64;
 An Impact Parameter Analysis of Antiproton-Proton Elastic and Inelastic Scattering at 22.4 GeV/c
- Zybalov 88 Yad. Phys. 47:1505,1988;
 Proton Polarization in γ ^3He (^4He) $\rightarrow p$ (polarized) X Reactions and Quasideuteron Model
- Zybalov 90 Yad. Phys. 51:32,1990;
 Proton Polarization in Deuterium Photodisintegration at $E=200 - 350$ MeV
- Zybalov 90B Yad. Phys. 51:609,1990;
 A Measurement of Inclusive Proton Polarization in Reaction γ nucleu $\rightarrow p$ X on Nuclei ^6Li , ^9Be , ^{12}C , ^{27}Al

This index lists papers by beam, target, and beam momentum. The ordering is by beam mass, then target mass, then beam momentum. For a given beam momentum, ID's are ordered by year (most recent to oldest), then author name. For the full reference, see the ID/Reference>Title Index.

In most cases, we give both the equivalent lab momentum for scattering on a fixed target and the c.m. energy E_{cm} , the latter in parentheses. However, for colliding beam experiments, we usually only give E_{cm} ; we also give only E_{cm} for reactions above 2 TeV/c equivalent lab momentum. When a range of momenta are studied, we list the lower and upper ends of the range, e.g. "50 - 70," ordered by the lower end of the range. For some experiments, such as neutrino experiments, the listed range is only approximate.

A question mark means that the indicated information is missing from the database, usually because it was not given in the paper.

Illustrative Key

Beam and Target: see the *Particle Vocabulary* for nomenclature.

p p	
(63)	Akesson 88D Akesson 87 Akesson 87B Akesson 87C Akesson 87D Akesson 87E Chauvat 87 Smith 85D
(> 433.2)	Linsley 84
p n	
0.1374 - 1.464 (1.883 - 2.243)	Bystricky 86D
0.6103 (1.966)	Sowinski 87
0.9543 (2.068)	Ponting 88
1.463 (2.243)	Barlett 85
6 - 8 (3.63 - 4.111)	Soffer 85
21 - 25 (6.424 - 6.984)	Saidkhanov 86

Lab Momentum: in GeV/c
(not listed for colliding beam experiments).

Document ID: see the *ID/Reference>Title Index* for the full reference.

CM Energy E_{cm} : in GeV, in parentheses.

$\gamma \pi^-$	γp	γ nucleon	$\gamma^3\text{He}$
(< 0.1732) Ajaltouni 87 (0.3 - 0.7) Courau 86 Ajaltouni 85B (0.3 - 1) Berger 87B (0.3 - 1.75) Berger 85C (0.5 - 2) Aihara 86D (0.5 - 4.5) Baru 86 (0.6 - 2.2) Antreasyan 86 (0.7 - 3.4) Albrecht 89F (1 - 2.5) Albrecht 89K (1 - 3) Berger 88 (1 - 3.2) Berger 88B (1 - 3.3) Albrecht 87J (1 - 3.5) Levy 88 (1 - 4) Blinov 85E (1 - 20) Roberts 86 (1.2 - 3.6) Aihara 88 (1.25 - 2.5) Aihara 86C (1.3 - 3.4) Berger 86 (1.35 - 2.85) Bohrend 89 (1.4 - 3.5) Albrecht 87K (1.5 - 2) Liu 88 (1.5 - 2.7) Albrecht 88N (1.5 - 3.5) Boyer 86 (1.6 - 2.5) Berger 85D (1.6 - 3.6) Albrecht 87S (1.9 - 3.4) Albrecht 88L (2 - 2.6) Bartel 86E Colanowski 86 (2 - 2.8) Aihara 87E (2 - 2.9) Albrecht 88R (2 - 20) Bintziger 85 (2.25 - 2.6) Bartel 86D (2.5 - 5) Althoff 86D (2.5 - 5.5) Aihara 89 (3 - 9) Aihara 89C (5) Juricic 88 Adachi 90 Braunschweig 90B Marsiske 90 Behrend 89E Behrend 89G Braunschweig 89 Chen 89C Feindt 89 Jensen 89 Altinow 88 Behrend 88E Bleiden 88 Albrecht 87M Antreasyan 87 Barlow 87 Blinov 87C Colanowski 87 Althoff 86 Blinov 86B Lowe 86B Aihara 85D Landsberg 85	0.58 - 1.26 (1.403 - 1.801) 0.7 - 0.85 (1.481 - 1.573) 0.7 - 1.6 (1.481 - 1.97) 0.73 - 1.066 (1.5 - 1.697) 0.768 - 1.192 (1.524 - 1.766) 0.9 - 1.15 (1.603 - 1.743) Ishii 85 0.9 - 1.35 (1.603 - 1.848) 0.9 - 1.5 (1.603 - 1.922) 0.9 - 1.65 (1.603 - 1.994) 1 - 10 (1.66 - 4.432) 1.125 - 1.3 (1.73 - 1.822) Bratashevsky 85 4.9 - 6.6 (3.171 - 3.642) Bodenkamp 85 6 - 200 (3.484 - 19.4) Prokoshkin 87C 15 - 20 (5.388 - 6.198) 20 (6.198) Ackleh 89 Brau 88 Abe 86 Butler 86 Odel 86 Abe 85B 20 - 70 (6.198 - 11.5) Atkinson 88 Adamovich 86B Atkinson 86 Atkinson 86B Atkinson 85 Atkinson 85B Atkinson 85C Atkinson 85D Atkinson 85F Atkinson 84F 35 - 185 (8.158 - 18.66) Barate 86C 40 - 160 (8.714 - 17.35) Kennett 87B Silva 83 Bhadra 85 50 - 70 (9.732 - 11.5) Atkinson 85E 50 - 150 (9.732 - 16.8) Auge 86B 60 - 170 (10.65 - 17.89) Korsgen 88 Soldnerrembo 87 60 - 200 (10.65 - 19.4) Aubert 84C 60 - 225 (10.65 - 20.57) Busemann 89 65 - 175 (11.08 - 18.15) Apsimon 90 Apsimon 89 Dieter 89 Rotscheidt 88 75 - 148 (11.9 - 16.69) Chapin 85 80 - 190 (12.29 - 18.91) Sokoloff 86 80 - 230 (12.29 - 20.8) Anjos 89B Anjos 87C 100 - 170 (13.73 - 17.89) Holzkamp 88 145 (16.52) Anjos 90C	20 - 70 (6.204 - 11.51) Bratashevsky 85B Klein 89C Adamovich 86E 40 - 240 (8.723 - 21.26) Aubert 86C 45 - 85 (9.246 - 12.68) Busemann 89 50 - 150 (9.741 - 16.82) Alvarez 90 Alvarez 90B Alvarez 90C Wormser 89 Roudeau 88 Auge 86 Barate 86 Barate 86B 80 - 170 (12.3 - 17.9) Armedo 86F 80 - 230 (12.3 - 20.82) Anjos 89C 100 (13.74) Wormser 89B 145 (16.54) Purohit 88	0.137 - 0.155 (2.928 - 2.945) Argan 88 0.2 (2.988 - Gorlunko 85 0.275 - 0.474 (3.057 - 3.234) Audit 89 0.35 (3.125) Zybalov 88
γp	γn	$\gamma^4\text{He}$	$\gamma^3\text{He}$
0.137 - 0.155 (3.786 - 4.061) Ganenko 88 0.137 - 0.155 (3.861 - 3.878) Argan 88 0.17 - 0.45 (3.892 - 4.152) Maruyama 89 Endo 88 0.35 (4.061) Zybalov 88 0.45 - 0.55 (4.152 - 4.24) Adamyan 88 2.3 - 3.3 (5.57 - 6.203) Aleksanyan 86	0.06 - 0.35 (3.864 - 3.895) James 89 0.187 - 0.427 (3.911 - 4.133) Maruyama 89 0.19 - 0.43 (3.914 - 4.136) Ananin 85 0.29 (4.008) Redwine 86		
γ He	γ deuterion	$\gamma^6\text{Li}$	$\gamma^8\text{Li}$
0.1379 - 0.1699 (3.864 - 3.895) James 89 0.187 - 0.427 (3.911 - 4.133) Maruyama 89 0.19 - 0.43 (3.914 - 4.136) Ananin 85 0.29 (4.008) Redwine 86	0.01 - 1 (1.886 - 2.696) Desautels 88 0.0147 - 0.074 (1.89 - 1.948) Barnaboi 86 Ganenko 89 0.08 - 0.13 (1.954 - 2.061) Rose 90 0.1 - 0.255 (1.973 - 2.115) Desautels 86 0.137 - 0.155 (2.008 - 2.025) Adamyan 88 0.187 - 0.427 (2.054 - 2.263) Maruyama 89 0.28 - 0.52 (2.137 - 2.338) Zielinski 88 0.3 - 0.34 (2.155 - 2.189) Fearing 86 0.3 - 0.5 (2.155 - 2.322) Bratashevsky 86B 0.35 - 0.475 (2.198 - 2.302) Yokosawa 85C 0.4 - 0.8 (2.24 - 2.553) Galumyan 88 Adamyan 86 Agababyan 85C 0.45 - 0.65 (2.282 - 2.441) Althoff 89 Meyer 88B 0.5 - 0.9 (2.322 - 2.626) Adamyan 89 Adamyan 88 0.5 - 1 (2.322 - 2.696) Imanishi 88 Asai 87 Imanishi 85 0.55 (2.362) Yokosawa 85 0.566 - 0.846 (2.375 - 2.587) Asai 89 0.7 - 1 (2.479 - 2.696) Bratashevsky 86 0.8 - 1.6 (2.553 - 3.085) Napolitano 88 1.5 - 4.5 (3.024 - 4.516) Avakyan 90 Bratashevsky 87D 1.6 (3.085) Bratashevsky 87D 2.5 (3.591) Bock 85B 45 - 85 (3.13 - 17.95) Busemann 89 60 - 200 (15.12 - 27.45) Aubert 84C 200 - 350 (27.45 - 36.28) Zybalov 90	0.137 - 0.147 (5.724 - 5.734) Glavanakov 89 0.3 - 1 (5.881 - 6.513) Adamyan 88 0.5 (6.068) Naumenko 89 < 0.6 (< 6.16) Zybalov 90B 50 - 150 (24.29 - 41.33) Barate 86B Astbury 85	
γ Li	γ Li	γ Be	γ Be
0.137 - 0.147 (6.6 - 6.61) Glavanakov 87 Glavanakov 86 1.6 (7.904) Bratashevsky 87D	0.137 - 0.147 (8.519 - 8.529) Glavanakov 89 < 0.5 (< 8.869) Stenz 86 < 0.6 (< 8.963) Zybalov 90B	0.187 - 0.427 (8.58 - 8.812) Maruyama 89 0.2 - 0.9 (8.593 - 9.251) Ananikyan 87 Arakelyan 85 0.22 - 0.45 (8.612 - 8.833) Arends 85 80 - 190 (37.6 - 57.1) Sokoloff 86 80 - 230 (37.6 - 62.71)	0.187 - 0.427 (8.58 - 8.812) Maruyama 89 0.2 - 0.9 (8.593 - 9.251) Ananikyan 87 Arakelyan 85 0.22 - 0.45 (8.612 - 8.833) Arends 85 80 - 190 (37.6 - 57.1) Sokoloff 86 80 - 230 (37.6 - 62.71)
γ n	γ p	γ He	γ Be
0.137 - 0.155 (1.067 - 1.082) Argan 88 0.147 - 0.152 (1.075 - 1.081) Mazzucato 86 0.3 - 30 (1.201 - 7.562) Dantow 85 0.32 (1.217) Belyaev 86 0.38 - 0.7 (1.262 - 1.481) Aubergenov 86 0.45 - 0.7 (1.313 - 1.481) Bratashevsky 86C	0.7 - 0.85 (1.483 - 1.575) Meyer 88B 0.9 - 1.65 (1.604 - 1.996) Adamyan 84C	0.06 - 0.35 (2.854 - 3.125) Ganenko 88 0.09 - 0.35 (2.883 - 3.125) Belyaev 86B	0.137 - 0.155 (2.928 - 2.945) Argan 88 0.2 (2.988 - Gorlunko 85 0.275 - 0.474 (3.057 - 3.234) Audit 89 0.35 (3.125) Zybalov 88

γ Be

γ Be
145 (50.05) Anjou 90C

γ ¹¹ Bor
1.5 – 4.5 (11.65 – 14.04) Arakelyan 90

γ ¹² C
0.137 – 0.147 (11.32 – 11.33) Glavanakov 89
0.4 (11.57) Tonapetyan 85B
< 0.5 (< 11.67) Stenz 86
0.5 (11.67) Naumenko 89
< 0.6 (< 11.76) Zybalov 90B

γ C
0.137 – 0.147 (11.32 – 11.33) Glavanakov 87
Glavanakov 86
0.1379 – 0.1699 (11.33 – 11.36) Jammes 89
0.2 – 0.9 (11.39 – 12.05) Ananikyan 87
Arakelyan 85

γ Cr
1.5 – 4.5 (49.91 – 52.74) Alankayan 87

γ Fe
60 – 200 (94.6 – 153.3) Aubert 84C
80 – 190 (105 – 149.9) Sokoloff 86
(197.8 – 614.2) Aglamazov 85

γ Fe
0.137 – 0.147 (15.04 – 15.05) Glavanakov 89
0.15 – 0.25 (15.05 – 15.15) Beise 89
0.196 (15.09) Turley 85
< 0.5 (< 15.39) Stenz 86

γ O
0.2 – 0.9 (15.1 – 15.78) Arakelyan 85

γ Mg
0.4 (22.75) Tonapetyan 85B

γ Al
0.2 – 0.9 (25.33 – 26.02) Arakelyan 85
0.22 – 0.45 (25.35 – 25.58) Arends 85
0.5 – 3.3 (25.63 – 28.24) Arakelyan 89D
0.8 – 1.8 (25.92 – 26.87) Delima 90B

γ Al
1.5 – 4.5 (26.61 – 29.31) Arakelyan 90
1.5 – 4.5 (26.59 – 29.29) Avakyan 90
1.5 – 4.5 (26.61 – 29.31) Arakelyan 87

γ Al
0.4 (25.55) Tonapetyan 85B
< 0.6 (< 25.74) Zybalov 90B
0.8 – 1.8 (25.94 – 26.89) Delima 89
1.5 – 4.5 (26.61 – 29.31) Arakelyan 90

γ Si
0.4 (26.48) Tonapetyan 85B

γ Si
70 – 225 (65.93 – 111.6) Klein 89C

γ S
1.5 – 4.5 (31.33 – 34.07) Alankayan 87

γ Ca
0.168 (37.43) Koch 89

γ Ca
0.168 (37.66) Tonapetyan 85B

γ Ti
0.8 – 1.8 (45.41 – 46.39) Delima 90B

γ Ti
< 0.5 (< 45.21) Stenz 86

γ Cr
1.5 – 4.5 (49.91 – 52.74) Alankayan 87

γ Fe
0.4 (50.7) Tonapetyan 85B

γ Fe
60 – 200 (94.6 – 153.3) Aubert 84C

γ Co
0.4 (52.56) Tonapetyan 85B

γ Co
0.8 – 1.8 (55.75 – 56.73) Delima 89

γ Ni
1.5 – 4.5 (57.37 – 60.22) Arakelyan 90

γ Ni
1.5 – 4.5 (58.3 – 61.16) Arakelyan 90

γ Ni
1.5 – 4.5 (59.23 – 62.39) Arakelyan 90

γ Cu
0.22 – 0.45 (59.42 – 59.65) Arends 85

γ Cu
0.5 – 3.3 (59.69 – 62.41) Arakelyan 89D

γ Cu
1.5 – 4.5 (60.68 – 63.54) Avakyan 85B

γ Cu
1.6 (60.78) Bratashevsky 87D

γ Cu
4 (63.07) Amroyan 89

γ Ge
70 – 225 (118.5 – 187.1) Klein 89C

γ Ge
Amendolia 87

γ Zr
0.8 – 1.8 (85.77 – 86.75) Delina 90B

γ Nb
0.8 – 1.8 (87.34 – 88.32) Delina 90B

γ Nb
4.5 (90.93) Amroyan 89

γ Pb
0.22 – 0.45 (193.2 – 193.5) Arends 85

γ Pb
0.5 – 3.3 (193.5 – 196.3) Arakelyan 89D

γ Pb
1.5 – 4.5 (194.5 – 197.5) Avakyan 90

γ Pb
2.9 – 4.5 (198.0 – 204.9) Amroyan 89

γ Pb
3.9 – 4.5 (205.0 – 209.5) Amroyan 89

γ Pb
4.0 (210.3) Amroyan 89

γ Pb
4.5 (214.2) Amroyan 89

γ Pb
5.0 (218.0) Amroyan 89

γ Pb
5.5 – 6.0 (222.0) Amroyan 89

γ Pb
6.0 – 6.5 (226.0) Amroyan 89

γ Pb
7.0 – 7.5 (230.0) Amroyan 89

γ Pb
8.0 – 8.5 (234.0) Amroyan 89

γ Pb
9.0 – 9.5 (238.0) Amroyan 89

γ Pb
10.0 – 10.5 (242.0) Amroyan 89

γ Pb
11.0 – 11.5 (246.0) Amroyan 89

γ Pb
12.0 – 12.5 (250.0) Amroyan 89

γ Pb
13.0 – 13.5 (254.0) Amroyan 89

γ Pb
14.0 – 14.5 (258.0) Amroyan 89

ν_e Fe

ν_e Fe	ν_e nucleus	$\bar{\nu}_e$ nucleus	ν_μ n
10 - 260 (61.21 - 172.5) Berge 89	0.02 - 0.06 0.1 - 1.1 0.2 - 20	Gajewski 89 Suzuki 88 Berger 89B Perderuean 89 Longuemare 88 Nakamura 88 Angelini 86 Bergsma 88 Ushida 86C	0.1 - 1.1 0.2 - 20 Berger 89B Perderuean 89 Longuemare 88 Nakamura 88 Bergsma 88 Ushida 86C
< 200 (< 153.3) Nachtmann 85			> 0.15 (> 1.079) Allison 89B
ν_e nucleus			0.2 - 5 (1.122 - 3.206) Kitagaki 86
10 - 200 Grassler 86	0.4 - 2	Nakamura 88	1.5 (1.924) Lile 89
50 Annar 89B	0.5 - 19	Angelin 86	3 - 30 (2.553 - 7.567) Brunner 89
ν_e		Bergsma 88	Grabosch 89
0.007 - 0.011 Dadykin 87	1 - 13	Ushida 86C	Grabosch 8D
0.012 - 0.02 Alekseev 87	10 - 100		Belikov 85
0.2 - 2.6 Aglietta 89			Belikov 83B
(19.4) Klein 89B			< 4 (< 2.898) Ahrens 87
? Losocco 89			Jongejans 89
$\bar{\nu}_p$			Allasia 88C
5 - 150 (3.204 - 16.8) Allen 85	> 0.0002	Hirata 89B Hirata 89C Hirata 87B	Allasia 85B
	0.0002 - 0.007	Hirata 89	Allasia 85C
	0.005 - 0.05 Alekseev 88C	Hirata 88F	Allasia 85D
	0.005 - 0.05 Hirata 87C	Hirata 88F	
	> 0.007 Hirata 90	Hirata 87C	
	> 0.0075 Hirata 90B	Takita 89B	< 12 (< 4.841) Ahrens 86
	> 0.0076 Hirata 89B	0.01 Bellotti 89C	Ahrens 85B
	0.02 - 0.05 Bionta 87C	Sato 87	Schnitz 88
	< 0.05 Arpesella 88B	Zhang 88	
	0.05 - 0.1 Hirata 89D	Bionta 87C	
	Hirata 88B	< 0.05 Arpesella 88B	
	Hirata 88C	Hirata 88D	
	Hirata 88E	Hirata 88C	
	Oyama 87B	Hirata 88E	
	Lim 90	Hirata 88E	
	Schaeffer 90	Oyama 87B	
	Longuemare 89	Schaeffer 90	
	Suzuki 89	Longuemare 89	
	Totsuka 89B	Suzuki 89	
		(0.9423 - 0.9482) Totsuka 89B	
$\bar{\nu}_e$ deuteron			
10 - 100 (6.405 - 19.46) Matsinos 89			
200 (27.45) Berger 86B			
ν_e Ne			
10 - 100 (27 - 64.11) Matsinos 89			
10 - 200 (27 - 88.7) Fredriksson 87			
$\bar{\nu}_e$ Fe			
10 - 260 (61.21 - 172.5) Berge 89			
$\bar{\nu}_e$ nucleus			
10 - 200 Grassler 86			
ν_e e-			
0.0002 - 0.007 Hirata 89	0.002 - 0.009 (0.0015 - 0.0031) Ketov 88	Abe 89E	< 7 (< 3.747) Blumenfeld 89
< 0.004 (< 0.0021) Derbin 86	Ketov 86B	1.27 (0.036) Abe 86D	10 - 100 (4.437 - 13.74) Varvel 87
0.005 - 0.05 (0.0023 - 0.0072) Hirata 88F	0.004 - 0.01 (0.0021 - 0.0032) Vidyakin 89B	1.5 (0.0392) Abe 85	10 - 160 (4.437 - 17.37) Blondel 90
Hirata 87C Krivoruchenko 87		10 - 160 (0.1011 - 0.4044) Dorenbosch 89	Allaby 89
< 0.02 (< 0.0045) Nakamura 88		Geiregat 89	Allaby 88
0.02 - 0.053 (0.0045 - 0.0074) Allen 85B		10 - 200 (0.1011 - 0.4521) Baker 89	Allaby 88C
< 0.053 (< 0.0074) Allen 89		15 - 600 (0.1238 - 0.7831) Mishra 89B	Allaby 87
Raffelt 90		< 200 (< 0.4527) Klein 84B	Allaby 86
Suzuki 89			Allaby 86B
Totsuka 89B			Abramowicz 85
ν_e n			10 - 200 (4.437 - 19.41) Ammosov 88
> 0.2 (> 1.122) Allison 89B			Ushida 88
1.5 (1.924) Lile 89			Ushida 88B
< 4 (< 2.898) Ahrens 87			Ammosov 87B
< 12 (< 4.841) Ahrens 86			Asratyan 87C
Ahrens 85B			Ammosov 86G
ν_e nucleon			Dienoz 86
3 - 30 (2.554 - 7.569) Ammosov 88D			10 - 230 (4.437 - 20.82) Mishra 89
< 7 (< 3.747) Blumenfeld 89			10 - 260 (4.437 - 22.13) Jones 90
10 - 160 (4.437 - 17.37) Allaby 86			Jones 89B
10 - 260 (4.437 - 22.13) Dorenbosch 86			Jones 89C
ν_e C			30 - 230 (7.569 - 20.82) Jones 87
0.05 - 0.3 (11.24 - 11.48) Dombeck 87	1.5 (1.922) ?		Jones 87B
$\bar{\nu}_e$ deuteron			Jones 86
			Jones 85
			Jones 85B
			Jones 85B
			Foudas 88B
			60 - 90 (10.66 - 13.04) Aderholz 86
			Bogert 85B
			160 (17.37) Bergsma 84C
			165 - 250 (17.64 - 21.7) Reutens 90
			Lang 87
			Mishra 87
			30 - 600 (7.569 - 33.6) Foudas 88B
			60 - 90 (10.66 - 13.04) Aderholz 86
			Bogert 85B
			160 (17.37) Bergsma 85C
			165 - 250 (17.64 - 21.7) Bogert 86
			< 230 (< 20.82) Mukherjee 86
			Bogert 85
			< 300 (< 23.77) Murtagh 85B
ν_e ^{37}Cl			
> 0.0005 (> 34.47) Cribier 87			
< 0.02 (< 34.48) Nakamura 88			
ν_e deuterons			
			0.2 - 5 (2.066 - 4.72) Kitagaki 86
			1 - 5 (2.696 - 4.72) Mann 86
			10 - 100 (6.405 - 19.46) Allport 89

ν_μ deuteron $\bar{\nu}_\mu$

ν_μ deuteron	ν_μ nucleus	$\bar{\nu}_\mu$ p	$\bar{\nu}_\mu$ deuteron	
Guy 87 10 - 200 (6.405 - 27.45) Cole 88 Hanlon 85 10 - 260 (6.405 - 31.29) Allasia 88 Allasia 88B Allasia 88C Tennen 88 Allasia 86 Allasia 85 Allasia 85 Allasia 85B Allasia 85C Allasia 85D 10 - 300 (6.405 - 33.6) Guy 89 < 500 (< 43.35) Kitagaki 88	Grabsch 86B Ammosov 85C Ammosov 85D Baranov 85 Wittek 87 Ushida 86 Ushida 86B Ushida 86C 10 - 200 Ammar 89 Ammar 88 Batusov 88C Ammosov 87C Asratyan 87B Asratyan 87C Batusov 87 Smart 86 Voyvodic 86 Voyvodic 86B Baker 85E Voyvodic 85 Dorenbosch 86B Bergsma 85B Ballagh 89 Schmitz 88 < 500 Kitagaki 88	10 - 300 (4.432 - 23.75) Guy 89 < 12 (< 4.837) Ahrens 88 Ahrens 87C Abe 86B Ahrens 86 < 200 (< 19.4) Schmitz 88	Allasia 85B Allasia 85C Allasia 85D 10 - 300 (6.405 - 33.6) Guy 89	
ν_μ C		$\bar{\nu}_\mu$ n		
0.05 - 0.3 (11.24 - 11.48) Dombeck 87	10 - 260 10 - 320 < 300 < 500	3 - 30 (2.553 - 7.567) Brunner 89 Grabsch 89 10 - 200 (4.436 - 19.41) Asratyan 85 Asratyan 85B 10 - 260 (4.436 - 22.12) Jongejans 89 Allasia 88C Allasia 85B Allasia 85C Allasia 85D < 200 (< 19.41) Schmitz 88	Allport 89 Wittek 89 Guy 87 Marage 87 Wittek 87 Aderholz 86 Baton 85 Fitch 85 10 - 200 (27 - 88.7) Ammosov 88C Ammosov 86C Asratyan 85 40 - 300 (43.08 - 107.8) Guy 89 40 - 300 (< 88.7)	
ν_μ Ne		$\bar{\nu}_\mu$ nucleon		
5 - 150 (23.26 - 77.39) 10 - 100 (27 - 64.11) Bosetti 90 Allport 89 Marage 89 Wittek 89 Wittek 88 Guy 87 Wittek 87 Aderholz 86 Baton 85 10 - 200 (27 - 88.7) Ammosov 87C Baker 86 Brucker 86 Voyvodic 86 Baker 85 Brucker 85 Hanlon 85 10 - 300 (27 - 107.8) Guy 89 10 - 320 (27 - 111.3) Ballagh 86 14 - 200 (29.65 - 88.7) Baltay 85 20 (33.23) 40 - 300 (43.08 - 107.8) 50 (47.24) < 200 (< 88.7)	10 ³ - 10 ⁶ (76.34 - 163.2) Ramm 85	3 - 30 (2.554 - 7.569) Ammosov 86I Ammosov 85 Ammosov 85B 5.7 - 205 (3.406 - 19.65) Baldin 87 10 - 100 (4.437 - 13.74) Varvell 87 10 - 160 (4.437 - 17.37) Blondel 90 Allaby 89 Allaby 88 Allaby 88C Berge 87 Abramowicz 85 10 - 200 (4.437 - 19.41) Ammosov 88 Ushida 88B Ammosov 87 Ammosov 87B Asratyan 87 Asratyan 87C Baldin 87B Ammosov 86 Ammosov 86D Ammosov 86E Ammosov 86G Asratyan 86 Asratyan 86B Dienozi 86 Asratyan 85 Ammosov 84G Ammosov 84H 10 - 260 (4.437 - 22.13) Bergsma 84C 30 - 230 (7.569 - 20.82) Reutens 90 30 - 600 (7.569 - 33.6) Lang 87 60 (10.66) Bogert 85B 165 (17.64) Bogert 86 < 230 (< 20.82) Mukherjee 86 Bogert 85	10 - 160 (61.21 - 139.1) Berge 87 Abi-amowicz 85 10 - 260 (61.21 - 172.5) Burkhardt 85 30 - 230 (76.34 - 163.2) Stockdale 85 30 - 600 (76.34 - 5.2) Foudas 88 Schumun 88 Merritt 87 Merritt 87B 120 - 250 (123.3 - 169.5) Reutens 85	
ν_μ Fe		$\bar{\nu}_\mu$ e ⁻		
10 - 160 (61.21 - 139.1) Berge 87 Abramowicz 85 10 - 260 (61.21 - 172.5) Burkhardt 85 30 - 230 (76.34 - 163.2) Stockdale 85 30 - 600 (76.34 - 255.2) Foudas 88 Schumun 88 Merritt 87 Merritt 87B 120 - 250 (123.3 - 169.5) Reutens 85 160 (139.1) Abramowicz 86	1.23 (0.0355) Abe 89E 1.4 (0.0378) Ahrens 85 10 - 160 (0.1011 - 0.4044) Dorenbosch 89 Geiregat 89	0.05 - 0.1 Hirata 89D Hirata 88B Hirata 88C Hirata 88E > 0.175 0.2 - 20 > 1.7 10 ³ - 10 ⁶ ?> 1.078 0.15 (> 1.078) 0.2 - 2 (1.121 - 2.153) Loesocco 87 1.5 (1.922) Krizmanic 89 3 - 30 (2.551 - 7.562) Brunner 89 Grabsch 89 Grabsch 86D Belikov 85 Belikov 83B 5 - 150 (3.204 - 16.8) Jones 90 Jones 89B Jones 89C Jones 87 Jones 87B Jones 86 Grassler 85 Jones 85B 10 - 100 (4.432 - 13.73) Aderholz 86 10 - 200 (4.432 - 19.4) Ammosov 86B Ammosov 86F Asratyan 85 Asratyan 85B 10 - 260 (4.432 - 22.11) Jongejans 89 Allasia 88C Allasia 85B Allasia 85C Allasia 85D	0.1 - 1.1 0.2 - 20 0.4 - 2 1 - 13 3 - 30 0.4 - 2 10 - 100 10 - 160 10 - 200 30 - 230 30 - 600 60 (10.66) 165 (17.64) < 230 (< 20.82) Mukherjee 86 Bogert 85	Suzuki 88 Berger 89B Perderau 89 Longuemare 88 Bionta 88 Nakamura 88 Bergsma 88 Grabosch 86 Ammosov 85C Baranov 85 Wittek 87 Ushida 86C Geiregat 90 Ammosov 87F Asratyan 87 Asratyan 87B Asratyan 87C Asratyan 86 Asratyan 85B Bergsma 85B Oyama 88B ?> 1.075 0.2 - 2 > 1.7 10 ³ - 10 ⁶ Oyama 88B Longuemare 89 Suzuki 89 Totsuka 89B
ν_μ nucleus		$\bar{\nu}_\mu$ deuteron		
0.1 - 1.1 0.2 - 20 0.4 - 2 0.5 - 19 1 - 13 3 - 30	Suzuki 88 Berger 89B Perderau 89 Longuemare 88 Bionta 88 Nakamura 88 Angelini 86 Bergsma 88 Ammosov 88G Grabosch 86	0.05 - 0.1 Hirata 89D Hirata 88B Hirata 88C Hirata 88E Hirata 88F Allport 89 Guy 87 10 - 260 (6.405 - 31.29) Allasia 88 Allasia 88B Allasia 88C Tennen 88 Allasia 86 Allasia 85	Hirata 89D Hirata 88B Hirata 88C Hirata 88E Hirata 88F Allport 89 Guy 87 10 - 260 (6.405 - 31.29) Allasia 88 Allasia 88B Allasia 88C Tennen 88 Allasia 86 Allasia 85	

Entries in order of beam mass, then target mass, then beam momentum. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names. (See the Particle Vocabulary.) Beam momenta are equivalent p_{lab} in GeV/c; then E_{cm} in GeV follows in parentheses. For certain initial states only E_{cm} (in parentheses) is given. See the legend on page 123.

ν_τ nucleus $e^+ e^-$

ν_τ nucleus	e^- deuteron	e^- ^{13}C	e^- ^{163}Ho
< 400	1 – 400 (2.696 – 38.78) Berger 86B 1.465 – 1.57 (3.002 – 3.067) Breuer 85 2 (3.32) 2.5 (3.591) Schiblitzky 89 3.7 – 18 (4.171 – 8.428) Whitlow 90 3.75 – 19.5 (4.193 – 8.756) Dasu 88 Dasu 87 Dasu 87B 4.6 (4.558) Vapenikova 88 8 (5.79) Gomez 85 16.2 – 22.2 (8.018 – 9.316) Klein 84B 500 (43.35) Barreau 86 ? Arnold 89	? Hicks 86 0.1735 (13.21) Roehrich 85 (11.94) Hicks 86	Yasumi 85
ν_τ nucleus	e^- Al	e^- Ta	e^- Wt
< 400	1 – 400 (2.696 – 38.78) Berger 86B 1.465 – 1.57 (3.002 – 3.067) Breuer 85 2 (3.32) 2.5 (3.591) Schiblitzky 89 3.7 – 18 (4.171 – 8.428) Whitlow 90 3.75 – 19.5 (4.193 – 8.756) Dasu 88 Dasu 87 Dasu 87B 4.6 (4.558) Vapenikova 88 8 (5.79) Gomez 85 16.2 – 22.2 (8.018 – 9.316) Klein 84B 500 (43.35) Barreau 86 ? Arnold 89	0.78 (25.9) Geesaman 89 2 – 4.5 (27.06 – 29.29) Aivazyan 86 Aivazyan 86B 8 (32.15) Gomez 85	0.78 (169.3) Geesaman 89 9 – 22.4 (180 – 192.4) Riordan 87
e^- ?	e^- ^{27}Al	e^- Au	e^- Au
3 – 12	3 – 12 Hill 89 5 Blinov 87 (14 – 28) Bonneaud 86 14.5 Aihara 89C Aihara 88D Aihara 88E Gidal 88 Gidal 88B Aihara 87F Aihara 86J Boyer 86 16.5 – 17.5 Althoff 86B 17.3 Berger 87C 17.4 Berger 88B 17.5 Berger 85B 17.5 – 23.3 Braunschweig 88F 18.3 Bartel 87B 25 – 28 Sasaki 89 Sasaki 88 ? Ouldsadaa 88B Toki 88B Berger 87B Kolanoski 86 Landsberg 85	? Day 87	0.96 – 1.5 (172.2 – 172.8) Sealock 89 1.6 (172.9) Davier 89 2.5 (173.7) Konaka 86 9 – 22.4 (180 – 192.4) Riordan 87
e^- ^3H	e^- ^{28}Si	e^- ^{197}Au	e^- ^{197}Au
0.1905 – 0.6855 (2.979 – 3.412)	1.54 – 2 (27.58 – 28.01) Bagdasaryan 85 Bagdasaryan 85B	2 – 4.5 (185.5 – 187.9) Aivazyan 86 Aivazyan 86B	2 – 4.5 (185.5 – 187.9) Aivazyan 86 Aivazyan 86B
e^- ^3He	e^- Si	e^- ^{235}U	e^- ^{235}U
0.1055 – 0.3205 (2.898 – 3.098) Ottermann 85 0.1205 – 0.6675 (2.913 – 3.397) Marchand 85 0.3908 (3.161) Keizer 85 0.538 (3.289) Akhmerov 87 500 (52.94) Barreau 86 ? Beck 87	0.76 (26.91) Adeishvili 87	3.75 – 19.5 (180.2 – 223.2) Arakelyan 89 Arakelyan 89C	3.75 – 19.5 (182.7 – 202) Dasu 88 Dasu 87 Dasu 87B Gomez 85
e^- e^-	e^- ^{40}Ca	e^- ^{238}U	e^- ^{238}U
0.85 – 2 (0.0295 – 0.0452) Brefeld 84 100.2 – 1184 (0.32 – 1.1) Salvini 88	0.12 – 0.695 (37.38 – 37.95) Meziani 85	1.33 – 4.32 (220.2 – 226) Arakelyan 89 Arakelyan 89C	1.33 – 4.32 (223 – 226) Arakelyan 89 Arakelyan 89C
e^- p	e^- Fe	e^- nucleus	e^- nucleus
0.504 – 1.286 (1.351 – 1.815) Bosted 89 0.6455 (1.446) Gilman 90 0.96 – 1.5 (1.638 – 1.922) Sealock 89 1 – 400 (1.66 – 27.41) Berger 86B 4.6 (3.084) Vapenikova 88 5 – 21.5 (3.204 – 6.421) Arnold 86 120 – 280 (15.04 – 22.94) Nachtmann 85 ? Walker 89 Klein 84B	0.653 – 1.65 (52.67 – 53.65) Baran 88B 0.96 – 1.5 (52.97 – 53.5) Sealock 89 3.7 – 18 (55.6 – 67.67) Whitlow 90 3.75 – 19.5 (55.65 – 68.81) Dasu 88 Dasu 87 Dasu 87B Gomez 85	0.96 – 1.5 Sealock 89 1.501 – 16 Fredriksson 87 1.6 Davier 89 275 Bross 89 ? Davier 87	0.96 – 1.5 Sealock 89 1.501 – 16 Fredriksson 87 1.6 Davier 89 275 Bross 89 ? Davier 87
e^- e^-	e^- $^{4\text{He}}$	e^- γ	e^- γ
0.1055 – 0.3205 (3.832 – 4.036) Ottermann 85 8 (8.576) Gomez 85	0.183 (3.905) Spahn 89 0.8 – 1.2 (4.455 – 4.778) Dementy 88 0.96 – 1.5 (4.587 – 5.006) Sealock 89 1.174 (4.757) Kupplennikov 90 ? Day 87	5 (14 – 28) Blinov 87 14.5 Bonneaud 86 Aihara 88D Aihara 88E Gidal 88B Aihara 86J Boyer 86 Berger 88B Berger 85B Bartel 87B Kolanoski 86 Landsberg 85	5 (14 – 28) Blinov 87 14.5 Bonneaud 86 Aihara 88D Aihara 88E Gidal 88B Aihara 86J Boyer 86 Berger 88B Berger 85B Bartel 87B Kolanoski 86 Landsberg 85
e^- He	e^- ^{56}Fe	e^- Fe	e^- Fe
0.1055 – 0.3205 (3.832 – 4.036) Ottermann 85 8 (8.576) Gomez 85	0.12 – 0.695 (52.28 – 52.85) Meziani 85 ? Day 87	0.12 – 0.695 (52.28 – 52.85) Meziani 85 ? Day 87	0.12 – 0.695 (52.28 – 52.85) Meziani 85 ? Day 87
e^- ^6Li	e^- Ni	e^- Be	e^- Be
1.54 – 2 (6.961 – 7.321) Bagdasaryan 85	0.78 (55.46) Geesaman 89 2 – 4.5 (56.65 – 59.02) Aivazyan 86 Aivazyan 86B	0.3 (8.678) Hiel 89 1.45 – 2.13 (9.726 – 10.29) Bagdasaryan 88 1.54 – 2 (9.803 – 10.19) Bagdasaryan 85B	0.3 (8.678) Hiel 89 1.45 – 2.13 (9.726 – 10.29) Bagdasaryan 88 1.54 – 2 (9.803 – 10.19) Bagdasaryan 85B
e^- n	e^- ^{56}Fe	e^- Cu	e^- e^-
4.6 (3.087) Vapenikova 88	0.12 – 0.695 (52.28 – 52.85) Meziani 85 ? Day 87	2 – 4.5 (61.16 – 63.54) Aivazyan 86 Aivazyan 86B 9 – 22.4 (67.6 – 78.46) Riordan 87	0 (0.001) Atoyan 90 Gninenko 89 Ivanov 87 Chang 85 0.0002 – 0.0007 (0.0011 – 0.0012) Minowa 89
e^- nucleon	e^- Ni	e^- Be	e^- e^-
1 – 400 (1.662 – 27.44) Berger 86B 1.5 (1.924) Davier 86 20 (6.204) Bjorken 88	0.78 (55.46) Geesaman 89 2 – 4.5 (56.65 – 59.02) Aivazyan 86 Aivazyan 86B	2 – 4.5 (61.16 – 63.54) Aivazyan 86 Aivazyan 86B 9 – 22.4 (67.6 – 78.46) Riordan 87	0 (0.001) Atoyan 90 Gninenko 89 Ivanov 87 Chang 85 0.0002 – 0.0007 (0.0011 – 0.0012) Minowa 89
e^- deuteron	e^- Ge	e^- Be	e^- Be
0.18 (2.048) Mostovoj 87 0.2005 – 0.6505 (2.066 – 2.441) Platchkov 89 0.3 (2.155) Dmitriev 85 0.3 – 0.7 (2.155 – 2.479) Auffret 85 Auffret 85B 0.4 (2.24) Voitsekhovsk 86 0.5 – 1.2 (2.322 – 2.832) Cramer 85 0.538 – 0.779 (2.353 – 2.538) Esanov 87 Esanov 86 0.6455 (2.437) Gilman 90 0.65 – 0.85 (2.441 – 2.59) Garcon 89 0.7 – 1.3 (2.479 – 2.897) Bosted 89 Arnold 87 0.843 – 1.189 (2.585 – 2.825) Arnold 88	150 (157.7) Belkacem 85	150 (157.7) Belkacem 85	< 0.0004 (< 0.0011) Kozhuharov 88 0.001 – 0.0017 (0.0013 – 0.0015) Tsertos 89B 0.0012 – 0.0013 (0.0013 – 0.0014) Tsertos 88 Tsertos 88B 0.0011 – 0.0029 (0.0013 – 0.0019) Wimmersperg 87 0.0015 – 0.002 (0.0015 – 0.0016) Mills 87 0.0019 – 0.0027 (0.0016 – 0.0018) Cornell 88 0.002 – 0.0029 (0.0016 – 0.0019) Lorenz 88 0.0022 – 0.0024 (0.0017 – 0.0017) Tsertos 89
e^- deuteron	e^- Ge	e^- Ge	e^- Ge
0.69 (11.85) Kalantarnaya 89 1.45 – 2.13 (12.55 – 13.14) Bagdasaryan 88 1.54 – 2 (12.63 – 13.03) Bagdasaryan 85 1.67 – 2.13 (12.74 – 13.14) Vartapetyan 89 ? Day 87 Hicks 86	0.0205 – 0.1305 (83.86 – 83.97) Dodge 85	0.0205 – 0.1005 (85.72 – 85.8) Dodge 85	0.0002 – 0.0007 (0.0011 – 0.0012) Minowa 89
e^- deuteron	e^- Ag	e^- Ag	e^- Ag
0.653 – 1.65 (11.82 – 12.73) Baran 88B 0.78 (11.94) Geesaman 89 0.96 – 1.5 (12.11 – 12.6) Sealock 89	2 – 4.5 (102.5 – 104.9) Aivazyan 86 Aivazyan 86B	2 – 4.5 (102.5 – 104.9) Aivazyan 86 Aivazyan 86B	0.0002 – 0.0007 (0.0011 – 0.0012) Minowa 89
e^- deuteron	e^- ^{163}Ho	e^- ^{163}Ho	e^- ^{163}Ho
0 (151.8) Yasumi 86	0 (151.8) Yasumi 86	0 (151.8) Yasumi 86	0 (151.8) Yasumi 86

$e^+ e^-$ $e^+ e^-$

$e^+ e^-$	$e^+ e^-$	$e^+ e^-$	$e^+ e^-$	
< 0.0056 (< 0.0025)	(4.14)	Bai 90 Adler 89B Alder 89 Pitman 89 Tok 89B Adler 88C Blaylock 87 Stockdale 87 Wasserbaech 87 Schindler 86 Toki 86 Klein 89C Albrecht 89F Albrecht 88N Albrecht 88R Albrecht 87J Edwards 89 Hill 89 Bigi 84 Blinov 85B Barn 86 Blinov 87C Blinov 86C Stirling 87 Gidal 88C Albrecht 87L Jakubowski 88 Albrecht 89W Kaarsberg 89 Janssen 90 Marsiske 90 Albrecht 89 Albrecht 89K Albrecht 88C Albrecht 88J Albrecht 88L Albrecht 88O Albrecht 88P Albrecht 88Q Williams 88 Albrecht 87C Albrecht 87E Albrecht 87I Albrecht 87K Albrecht 87N Albrecht 87R Albrecht 87S Albrecht 87T Skwarnicki 87B Albrecht 85 Albrecht 85B Albrecht 85D Albrecht 85E Albrecht 85G Berger 85 Gray 87 Cassel 85 Blinov 85E Wu 87 Albrecht 89R Maschmann 89 Janssen 89 Lowe 86C Albrecht 89H Albrecht 90 Albrecht 90B Albrecht 89B Albrecht 89G Albrecht 89I Albrecht 89O Albrecht 89P Albrecht 89T Albrecht 89V Behrend 89F Albrecht 88F Albrecht 88H Albrecht 88I Albrecht 88S Blenieiu 88 Albrecht 87M Antreasyan 87 Grab 87 Albrecht 86B Albrecht 86E	Albrecht 86F Albrecht 86G Albrecht 85F Albrecht 85J Saxon 86 (10 - 44.8) (10 - 45) Wasserbaech 87 Schindler 86 Toki 86 Klein 89C Albrecht 89F Albrecht 88N Albrecht 88R Albrecht 87J Hofmann 87 (10 - 60) (10.02) Albrecht 86 Albrecht 87F Keh 88B Lurz 87 Skwarnicki 87 Albrecht 89N (10.1 - 10.4) (10.2) Bowcock 88 (10.3 - 10.6) (10.34 - 11.18) Csorna 87 Behrends 85B Bowcock 90 Csorna 85 Alexander 89 Bowcock 89 Bowcock 89B Chen 89B Avery 88 Baringer 87 Bebek 87 Haas 86 Wachs 89 (10.5 - 10.65) (10.5 - 10.7) (10.5 - 10.85) (10.5 - 11.2) (10.52 - 10.58) Bortoletto 88 Chen 89C Jensen 89 Bortoletto 86 (10.58) Bebek 86 Miller 89 Schubert 89 Bebek 87B Csorna 87B Helsley 86 Gentile 87 Haas 85 (10.62 - 11.25) Han 85 Alam 87 (12 - 41.5) (12 - 43.5) Braunschweig 88C Bartel 84G Braunschweig 89J Braunschweig 89K Braunschweig 88B Braunschweig 87 Marshall 85 (12 - 48.6) (13.9 - 43.1) (14 - 22.5) Bartel 85 Althoff 85B (14 - 33) Roberts 86 Althoff 86D Barreiro 85B Braunschweig 90 Ouldsaaude 88B Bartel 86H (14 - 44.6) Adeva 85B Hayes 89B Braunschweig 88G Adeva 88 Behrend 89C Behrend 89D Braunschweig 89D Behrend 88 Behrend 87D Adeva 86B Behrend 85B Adeva 86C	Bartel 85F (15 - 45) (17) (17 - 17.5) (17 - 34) (17.5) (22 - 38) (22 - 46.7) (22 - 46.78) (22 - 56) (27) (27 - 37) (28 - 46.8) (29) Braunschweig 90B Collins 85E Behrend 88E Althoff 85D Braunschweig 89E Petradza 90 Abachi 89 Abachi 89B Abachi 89C Abachi 89D Aihara 89 Aihara 89B Aihara 89C Averill 89 Avery 89 Band 89 Bethke 89 Bethke 89B Ford 89 Hawkins 89 Hawkins 89B Hursi 89 Klein 89 Komamiya 89 Komamiya 89B Ong 89 Petradza 89 Porter 89 Riles 89 Riles 89B Roe 89 Roe 89B Snyder 89 Steel 89 Wagner 89B Weir 89 Wu 89 Abachi 88 Abachi 88B Abachi 88C Aihara 88 Aihara 88B Aihara 88C Aihara 88E Aihara 88F Akerlof 88 Amidei 88 Band 88 Baringer 88 Cowan 88 Edberg 88 Gidal 88 Gidal 88B Hearty 88 Karlen 88B Karlen 88C Klein 88 Mathis 88 Ong 88 Ong 88B Petersen 88 Riles 88 Tschirhart 88 Wood 88 Wormser 88 Wormser 88B Abachi 87 Abachi 87C Abachi 87D Abachi 87E Abachi 87F Aihara 87 Aihara 87C Aihara 87D
0.69 - 0.94 (0.0266 - 0.031)				
Ajaltouni 85B				
9.784 - 1075 (0.1 - 1.048)				
Druzhinin 84				
10 (0.1011) Albrecht 85M				
15 - 10^3 (0.1238 - 1.011)				
Kolanoski 87				
29 (0.1722) Aihara 87B				
Leclair 87				
50 - 57 (0.2261 - 0.2414)				
Kim 89B				
126.8 - 1918 (0.36 - 1.4)				
Barkov 85				
244.6 - 978.5 (0.5 - 1)				
Dolinsky 88B				
244.6 - 1079 (0.5 - 1.05)				
Dolinsky 89				
244.6 - 1918 (0.5 - 1.4)				
Dolinsky 89B				
Vorobiev 88C				
Aulchenko 86				
Vasserman 86B				
400.8 - 1918 (0.64 - 1.4)				
Kurdadze 88				
Kurdadze 86				
426.2 - 883.1 (0.66 - 0.95)				
Vasserman 88				
426.2 - 1918 (0.66 - 1.4)				
Bukin 89				
535.8 - 648.3 (0.74 - 0.814)				
Aulchenko 87				
565.2 - C26.2 (0.76 - 0.8)				
Dolinsky 88				
Barkov 87				
690.4 - 1018 (0.84 - 1.02)				
Barkov 89				
706.9 - 988.3 (0.85 - 1.005)				
Aulchenko 87C				
(0.9 - 38) Klein 84B				
978.5 - 1079 (1 - 1.05)				
Landsberg 86				
Druzhinin 85				
Golubev 85				
978.5 - 1918 (1 - 1.4)				
Golubev 87				
Dolinsky 86				
Bondar 84				
978.5 - 1079 (1 - 1.05)				
Golubev 86				
Vasserman 86				
1016 - 1926 (1.019 - 1.403)				
Barkov 88				
1058 - 1918 (1.04 - 1.4)				
Aulchenko 86C				
1079 - 1918 (1.05 - 1.4)				
Aulchenko 86B				
(9.4 - 35)				
Cassel 85				
(9.45 - 10.57)				
(9.46)				
(9.46 - 51.7)				
(9.5 - 10.5)				
(9.5 - 10.65)				
(9.8 - 10.3)				
(9.8 - 10.6)				
(9.98)				
(10)				
(1.4 - 2)				
Courau 86				
(1.4 - 2.2)				
Luca 85				
(1.9 - 2.4) Castro 88				
(2.236 - 44.72)				
Marshall 89				
(< 2.4) Salvini 88				
(3 - 3.2) Bisello 88				
Tixier 88				
(3 - 5) Schindler 87				
(3.095 - 29) Juricic 88				
(3.1) Baltrusaitis 85E				
(3.45) Ajaltouni 87				
(3.5 - 7.2) Barish 88				
(3.u) Blinov 88B				
Blinov 86B				
Blinov 85C				
(3.77) Coffman 87				
(3.87 - 4.5) Osterheld 86				

Entries in order of beam mass, then target mass, then beam momentum. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names. (See the Particle Vocabulary.) Beam momenta are equivalent p_{lab} in GeV/c; then E_{cm} in GeV follows in parentheses. For certain initial states only E_{cm} (in parentheses) is given. See the legend on page 123.

$e^+ e^-$ $e^+ e^-$

$e^+ e^-$	$e^+ e^-$	$e^+ e^-$	$e^+ e^-$	
<p>Aihara 87E Aihara 87F Aihara 87G Ash 87 Ash 87B Band 87 Brom 87 Bylsma 87 Camporesi 87 Derrick 87 Derrick 87B Derrick 87C Fernandez 87 Fernandez 87B Fernandez 87C Ford 87 Ford 87B Ford 87C Gan 87 Gan 87B Hearty 87 Johnson 87 Klein 87 Klein 87B Low 87 Ong 87 Riles 87 Rouse 87 Wagner 87 Wendt 87 Wormser 87 Abachi 86 Abachi 86B Abachi 86C Abachi 86D Aihara 86 Aihara 86C Aihara 86D Aihara 86E Aihara 86F Aihara 86G Aihara 86H Aihara 86I Baden 86 Baringer 86 Bartha 86 Boyer 86 Burchat 86 Burchat 86B Derrick 86 Derrick 86B Derrick 86C Derrick 86D Ford 86 Gladney 86B Gold 86 Hollebeek 86 Johnson 86 Jung 86 Klem 86 Madaras 86 Pal 86 Perl 86 Petersen 86C Ruckstuhl 86 Schmidke 86 Sheldon 86 Sugano 86 Wu 86 Yelton 86 Aihara 85 Aihara 85B Aihara 85C Aihara 85D Aihara 85E Aihara 85F Aihara 85G Akerlof 85 Akerlof 85B Ash 85B Ash 85C Ash 85D Bartel 85G Beltrami 85</p>	<p>Bintinger 85 Burchat 85 Delavaissier 85 Derrick 85 Derrick 85B Derrick 85C Derrick 85E Derrick 85F Derrick 85G Feldman 85 Feldman 85B Fernandez 85 Fernandez 85B Fernandez 85C Fernandez 85D Forden 85B Gan 85 Gan 85B Gidal 85 Gladney 85 Hofmann 85 Hollebeek 85 Kesten 85 Koltich 85B Matteuzzi 85 Mills 85 Perl 85 Petersen 85 Rosenberg 85B Rowson 85 Rowson 85B Sakuda 85 Schaad 85 Schellman 85 Yamamoto 85 Yamamoto 85B Yamamoto 85C Yamamoto 85E Aihara 84F Aihara 84G Bender 84C Fernandez 84C Goldhaber 85C Buschbeck 89 Althoff 85F Piccolo 89 Grivaz 88 Naroska 85 Barlow 87 Whitaker 86 Bartel 85J Ferrarotto 88 Venkataraman 85B Kleinwort 89 Ouldasaada 88 Bartel 86D Bartel 85L Bartel 85C Althoff 86B Bartel 85C Bartel 87C Behrend 86 Hofmann 87B Althoff 85E Bartel 85H Braunschweig 89 Braunschweig 89B Bartel 85D Bartel 87C Berger 88 Berger 87 Bartel 85K Berger 87C Bartel 86F Bartel 86G Braunschweig 86 Berger 85D Berger 85E Berger 85F Berger 85G Berger 86 Berger 88B Berger 85H</p>	<p>(34.8 – 42.1) (34.8 – 43.9) (35) (35 – 36.3) (35 – 42.4) (35 – 43) (35 – 44) (36.5) (35 – 46) (35 – 46.57) (35 – 46.6) (35 – 46.8) (39.5) (39.79 – 46.72) (39.79 – 46.78) (38.3 – 46.3) (38.3 – 46.8) (38.66 – 46.3) (39 – 46.8) (39.5) (39.79 – 46.72) (40 – 46.7) (40 – 46.78) (40 – 47) (42.2) (42.5 – 46.8) (42.6) (43) (43.6) (44) (44.2) (44.2) (46.8) (50 – 52) (50 – 55) (50 – 56)</p>	<p>Braunschweig 89I Bartel 86B Bartel 86E Behrend 89B Behrend 89H Behrend 89I Braunschweig 89L Hegner 89 Ouldasaada 89 Braunschweig 88 Braunschweig 88E Bartel 86 Berger 85B Braunschweig 88D Braunschweig 89F Behrend 89J Kroha 89B Elsen 90 Greenshaw 89 Pitzl 89 Braunschweig 87B Braunschweig 89C Behrend 88D Braunschweig 88F Behrend 88B Behrend 88F Behrend 88G Bartel 87B Bartel 86C Behrend 87B Behrend 87E Kuhlen 86B Bartel 87 Adeva 87 Aihara 84F Komaniya 85 Althoff 86C Behrend 87C Behrend 86D Behrend 86B Kiesling 85 Genser 89 Behrend 88C Behrend 88C Behrend 87 Behrend 86C Kinoshita 88B Sagawa 88 Abe 87C Igarashi 87 Miyamoto 87 Sakai 87 Yoshida 87B Abe 88B Albrow 88 Masuda 88 Suganara 88 Eno 88 Kinoshita 88C Ko 88 Maki 88B Mori 88 Myung 88 Park 88 Rosenfeld 88 Shirai 88 Son 88 Eno 89 Mori 89 Mori 89B Park 89 Park 89B Sasaki 89 Kamae 88 Kichimi 88 Mcneil 88 Sakuda 88</p>	<p>(50 – 60.4) (50 – 60.8) (52) (50 – 61.4) (52 – 55) (52 – 56) (52 – 57) (52 – 58) (52 – 60.8) (52 – 61.4) (53.3 – 59.5) (54 – 61.4) (52 – 60.8) (52 – 61.4) (55 – 56) (55 – 57) (55 – 60.8) (56) (56) (56 – 60.8) (56.5 – 60.8) (58.5 – 61.4) (60.8) (89.2 – 93) (91.1) ?</p>
			<p>Yamauchi 88 Zheng 90 Sakai 90 Stuart 90 Abe 89P Bodek 89 Eno 89B Eno 89C Kim 89C Kim 89E Kim 89G Kinoshita 89B Kurihara 89 Low 89 Sakai 89 Shaw 89 Adachi 90B Ho 89 Iwasaki 89 Kim 89F Kumita 89B Maki 89 Myung 89 Adachi 88 Adachi 88B Adachi 88C Abe 87 Adachi 87 Amako 87 Yoshida 87 Adachi 88D Bacala 88 Kim 88B Kim 88C Tauchi 88 Adachi 89 Li 89 Li 89B Metcalf 89 Sagawa 89 Bacala 88B Takahashi 88 Adachi 89B Adachi 89D Ogawa 89 Abe 89K Abe 90 Abe 90C Abe 89I Olsen 88 Sumiyoshi 88 Abe 89F Unno 88 Abe 89J Odaka 89 Abe 88D Abe 88E Kim 88 Kim 88D Maki 88 Abe 88F Nozaki 89 Adachi 89E Kumita 89 Fry 89 Abrams 89D Jung 89 Abrams 89E Aarnio 90 Aarnio 90B Abreu 90 Abreu 90B Abreu 90C Abreu 90D Abreu 90E Abreu 90F Adeva 90 Adeva 90B Adeva 90C Adeva 90D Akrawy 90</br></p>	

$e^+ e^-$ $e^+ e^-$

Akrawy 90B	Fulton 89
Akrawy 90C	Fulton 89B
Akrawy 90D	Halling 89
Akrawy 90E	Harder 89
Akrawy 90F	Hearty 89
Akrawy 90G	Itep 89
Akrawy 90H	Komamiya 89C
Akrawy 90I	Kral 89
Akrawy 90J	Kreinick 89
Akrawy 90K	Lockman 89
Akrawy 90L	Mallik 89B
Akrawy 90M	Mir 89
Akrawy 90N	Nash 89
Albrecht 90D	Schindler 89
Albrecht 90E	Schutte 89
Alexander 90	Stoker 89
Barklow 90	Szklarz 89
Bisello 90	Toki 89
Bortoletto 90	Wasserbaech 89
Burchat 90	Weinstein 89
Decamp 90	Adler 88
Decamp 90B	Adler 88B
Decamp 90C	Adler 88D
Decamp 90D	Adler 88F
Decamp 90E	Ajaltouni 88
Decamp 90F	Ajaltouni 88B
Decamp 90G	Albrecht 88D
Decamp 90H	Albrecht 88E
Decamp 90I	Albrecht 88G
Kuhlen 90	Albrecht 88K
Nash 90	Albrecht 88M
Soderstrom 90	Albrecht 88T
Weir 90	Augustin 88
Aarnio 89	Augustin 88B
Abrams 89	Chan 88
Abrams 89B	Coffman 88
Abrams 89C	Druzhinin 88
Abrams 89F	Fairfield 88
Adeva 89	Falvard 88
Adeva 89B	Gan 88B
Adler 89	Grab 88
Adler 89C	Hitlin 88
Adler 89D	Izen 88
Adler 89E	Jousset 88
Akrawy 89	Mir 88
Akrawy 89B	Schindler 88
Akrawy 89C	Schmitt 88
Akrawy 89D	Sedlak 88
Akrawy 89E	Stanco 88
Alam 89	Thorndike 88
Albrecht 89C	Toki 88
Albrecht 89E	Toki 88B
Albrecht 89J	Adler 87
Albrecht 89L	Adler 87B
Albrecht 89Q	Alam 87B
Albrecht 89S	Albrecht 87B
Albrecht 89U	Albrecht 87D
Albrecht 89X	Albrecht 87G
Artuso 89	Albrecht 87H
Atoyan 89	Albrecht 87O
Avery 89B	Albrecht 87P
Baru 89	Albrecht 87Q
Bebel 89	Augustin 87
Bisello 89	Baltrusaitis 87
Bortoletto 89	Barkov 87B
Bortoletto 89B	Barkov 87C
Browder 89	Baru 87
Burchat 89	Bean 87
Chen 89	Bean 87B
Coffman 89	Becker 87B
Danilov 89	Becker 87C
Decamp 89	Behrends 87
Decamp 89B	Berger 87B
Decamp 89C	Bisello 87
Decamp 89D	Bowcock 87
Decamp 89E	Brient 87
Decamp 89G	Gittelman 87
Decamp 89H	Hennard 87
De'raugh 89	Kaarsberg 87
Drell 89	Pallin 87
Feldman 89	Stockhausen 87
Feldman 89B	Stockhausen 87B
Franzini 89	Tuts 87
	Vasserman 87B

 $e^+ e^-$

Voloshin 87	
Alam 86	
Albrecht 86C	
Albrecht 86D	
Baltrusaitis 86B	
Baltrusaitis 86C	
Baltrusaitis 86D	
Baltrusaitis 86E	
Barr 86B	
Bean 86	
Bisello 86	
Bisello 86B	
Bowcock 86	
Csorna 86	
Kolanoski 86	
Konigsmann 86	
Leffler 86	
Lowe 86	
Lowe 86B	
Mazeras 86	
Stockhausen 86	
Albrecht 85C	
Albrecht 85H	
Albrecht 85I	
Albrecht 85K	
Albrecht 85L	
Albrecht 85N	
Augustin 85	
Augustin 85B	
Augustin 85C	
Augustin 85D	
Augustin 85E	
Avery 85	
Baltrusaitis 85B	
Baltrusaitis 85D	
Baltrusaitis 85F	
Baltrusaitis 85G	
Baltrusaitis 85J	
Barkov 85B	
Baru 85	
Behrends 85	
Berger 85C	
Bloom 85C	
Chen 85	
Coward 85	
Gaiser 85	
Jeanmarie 85	
Koenigsmann 85	
Kolanoski 85	
Landsberg 85	
Lee 85B	
Lovelock 85	
Lowe 85	
Mestayer 85	
Odian 85	
Richman 85	
Rosner 85E	
Schindler 85	
Skwarnicki 85B	
Toki 85B	
Tsuberman 85B	
Walk 85	
Achasov 84F	
$e^+ \text{nucleus}$	
20.5	Fredriksson 87
$e^\pm \text{nucleus}$	
5	Degtyarenko 90
Degtyarenko 89	
$d \text{ gluon}$	
?	Breakstone 90
$u \text{ gluon}$	
?	Breakstone 90
$\mu^- p$	
1 - 400 (1.667 - 27.41)	Berger 86B
$\mu^- \text{nucleon}$	
1 - 400 (1.669 - 27.44)	Berger 86B

 $\mu^- \text{ deuteron}$

1 - 400 (2.702 - 38.78)
Berger 86B
$\mu^- {}^{12}\text{C}$
0 (11.29)
Hasinoff 89
Hasinoff 88
$\mu^- \text{ C}$
120 - 280 (53.01 - 79.94)
Benvenuti 87
Benvenuti 87C
200 (67.83)
Benvenuti 85
$\mu^- {}^{16}\text{O}$
0 (15.01)
Hasinoff 89
Hasinoff 88
$\mu^- {}^{32}\text{S}$
0 (29.91)
Schaller 85
$\mu^- {}^{34}\text{S}$
0 (31.81)
Schaller 85
$\mu^- {}^{36}\text{S}$
0 (33.61)
Schaller 85
$\mu^- {}^{40}\text{Ca}$
0 (37.37)
Hasinoff 89
Hasinoff 88
$\mu^- \text{ Ti}$
0 (44.73)
Ahmad 88
Ahmad 87
Numao 86
Numao 86B
0.073 (44.75)
Blecher 87
Burnham 87
Bryman 85
$\mu^- \text{ Fe}$
50 - 120 (88.93 - 123.3)
Kopp 85
93 - 215 (111.3 - 158.4)
Meyers 86
$\mu^- {}^{90}\text{Zr}$
0 (83.94)
Phan 85
$\mu^- {}^{152}\text{Sm}$
0 (141.7)
Mitropolskii 87
$\mu^- \text{ nucleus}$
32
150
μ^-
> 0.165
Oyama 87
$\mu^+ e^-$
0.01 (0.1062)
Ni 87
0.02 (0.1062)
Huber 88
Beer 86
0.02 - 0.029 (0.1062)
Huber 89
Janissen 89
$\mu^+ p$
1 - 400 (1.667 - 27.41)
Berger 86B
100 - 200 (13.73 - 19.4)
Ashman 89
Ashman 88B
100 - 280 (13.73 - 22.94)
Benvenuti 89
Benvenuti 89C
Benvenuti 87D
120 - 200 (15.04 - 19.4)
Ashman 88C
120 - 280 (15.04 - 22.94)
Arneodo 85B

Entries in order of beam mass, then target mass, then beam momentum. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names. (See the Particle Vocabulary.) Beam momenta are equivalent p_{lab} in GeV/c; then E_{cm} in GeV follows in parentheses. For certain initial states only E_{cm} (in parentheses) is given. See the legend on page 123.

$\mu^+ p$	$\mu^+ Fe$	$\pi^- p$	$\pi^- p$
Aubert 85B Aubert 85C Aubert 85D 200 (19.4) Aubert 89 240 - 280 (21.24 - 22.94) 280 (22.94) Aubert 86C Derado 90 Arneodo 89 Arneodo 88B Arneodo 87C Grab 87 Arneodo 86C Arneodo 86D Arneodo 86E Arneodo 86H Auber 86 Arneodo 85 Auber 85 Aubert 84C	250 (169.5) Aubert 84C 280 (178.4) Bari 85 ? Benvenuti 86 $\mu^+ Cu$ 100 - 280 (123.9 - 191.5) Ashman 88 $\mu^+ Sn$ 100 - 280 (185.3 - 272.3) Ashman 88 $\mu^+ nucleus$ 32 Rabin 86 280 Fredriksson 87 μ^+ > 0.165 Oyama 87	0.03 - 0.67 (1.081 - 1.478) Brack 89 0.0456 - 0.1219 (1.084 - 1.117) Bagheri 87 0.0773 (1.095) Stanislaus 89 0.1006 - 0.1471 (1.106 - 1.132) Fitzgerald 86 0.1217 - 0.2211 (1.117 - 1.179) Bagheri 87B 0.1356 (1.125) Wiedner 87 Wiedner 87 0.2445 - 0.4168 (1.195 - 1.313) Ottermann 85P 0.2696 (1.212) Alekseev 87B 0.29 - 0.45 (1.226 - 1.336) Kernel 89 Kernel 89B 0.295 - 0.5 (1.23 - 1.336) Felipice 89 0.301 - 0.625 (1.234 - 1.45) Kim 90 Kim 89 0.378 - 0.687 (1.287 - 1.488) Sadler 87 0.427 - 0.625 (1.32 - 1.45) Kim 89D Kim 86 0.45 (1.336) Bekrenev 86 0.45 - 0.56 (1.336 - 1.408) Abaev 88B 0.4567 (1.34) Balandin 85 0.471 - 0.625 (1.35 - 1.45) Barlow 89 0.471 - 0.687 (1.35 - 1.488) Mokhtari 86 Mokhtari 86B 0.547 - 0.625 (1.4 - 1.45) Seftor 89 0.547 - 0.687 (1.4 - 1.488) Wightman 88 Wightman 87 0.5728 (1.416) Bekrenev 86B < 1.232 (< 1.796) Arndt 85 1.43 - 2.07 (1.896 - 2.189) Alekseev 89 Alekseev 88B Budkovsky 85 1.84 - 2.63 (2.089 - 2.417) Abramov 88 2.969 - 3.965 (2.545 - 2.889) Suzuki 87 2.969 - 4.22 (2.545 - 2.97) Minowa 87 3.15 - 7.9 (2.611 - 3.966) Bachman 86 3.3 (2.664) Arkhipov 85 3.3 - 4.75 (2.664 - 3.133) Klein 89B Oyama 88 Kulikov 87 Alkofer 85 Alkofer 85B Bonnetbidaud 88 Andreev 86 Arpesella 88B Berger 86D Allison 89 Johns 89 Kochcocki 89 Losecco 89 Bionta 87B Battistoni 86B	5.7 - 205 (3.406 - 19.64) Baldin 87 Augustin 88C Birman 88 Tok 88B Chung 85 8 - 12 (3.989 - 4.839) Armstrong 87C Armstrong 86F 8 - 40 (3.989 - 8.716) Landsberg 86 Inagaki 89B Takamatsu 89 Ando 86 Fukui 88 Baller 88 Blazey 85 Heppelmann 85 Chiang 86 Christensen 85 Karnaughov 87 Karnaughov 86 Rybicki 86 Svec 84 17.2 - 63 (5.76 - 10.91) Rybicki 85 20 - 50 (6.199 - 9.733) Asad 85 Chan 88 Rath 89 Etkin 88 Longacre 87 Longacre 86 Longacre 86B Etkin 85 Tsukerman 85B Apel 85B 25 (6.915) 25 - 33 (6.915 - 7.926) Landsberg 85 Beusch 86 Abreu 85 30 - 38 (7.563 - 8.498) Alde 87B Bitukov 90 Bitukov 89 Bitukov 88 Landsberg 88 Bitukov 87 Landsberg 87 Bitukov 86 Bitukov 86B Bitukov 85 Bitukov 85C Alde 90 Alde 89 Alde 88C Alde 88D Bannikov 88 Boos 87B Alde 86B Alde 86C Alde 86D 38 - 100 (8.498 - 13.73) Toki 87 Alde 86E 39.1 (8.618) Apokin 88 Apokin 86C Gabunia 90 Amaglobeli 89 Antipov 89B Gabunia 89 Apokin 89 Apokin 88B Baldin 88B Bolonkin 88 Antipov 87B Baloshin 87 Bolonkin 87 Prokoshkin 87B Siksins 87 Apokin 86 Apokin 86B Avvakunov 86 Avvakunov 86B
$\mu^+ nucleon$	$\mu^\pm p$		
0.0786 (1.069) Hogan 86 1 - 400 (1.669 - 27.44) Berger 86B 150 (16.82) Jain 87C 200 (19.41) Arneodo 86F 280 (22.96) Arneodo 87	100 - 280 (13.73 - 22.94) Nagy 89		
$\mu^+ deuteron$	$\mu^\pm deuteron$		
1 - 400 (2.702 - 38.78) Berger 86B 100 - 280 (19.46 - 32.46) Ashman 88 120 - 280 (21.3 - 32.46) Benvenuti 89B 200 (27.45) Benvenuti 87B 280 (32.46) Arneodo 89 Arneodo 89B Arneodo 88 Arneodo 88B Arneodo 87C Aubert 87 Grab 87 Arneodo 86H Aubert 86 Aubert 86C Aubert 85 Aubert 85E Bari 85 Aubert 84C ?	100 - 280 (19.46 - 32.46) Nagy 89		
$\mu^+ C$	μ^\pm		
100 - 280 (48.61 - 79.94) Ashman 88 110 - 120 (50.86 - 53.01) Kopp 85 120 - 280 (53.01 - 79.94) Benvenuti 87 Benvenuti 87C 200 (67.83) Benvenuti 85 280 (79.94) Arneodo 89B Arneodo 88	4.999 - 150 Asatiani 85 32 Rabin 88 Rabin 85 100 - 280 Nagy 89 400 - 5 · 10 ³ Zatsepin 89		
$\mu^+ Nit$	μ^\pm		
120 - 200 (57.46 - 73.41) 280 (86.47) Ashman 88C Bari 85	1 - 10 ³ Bellotti 89F Bellotti 89G Klein 89B > 1.697 Oyama 88 > 10 Kulikov 87 10 - 7 · 10 ³ Alkofer 85 10 - 10 ⁻⁴ Alkofer 85B 100 - 5 · 10 ³ Bonnetbidaud 88 > 200 Andreev 86 > 3 · 10 ³ Arpesella 88B 10 ⁵ - 10 ⁷ Berger 86D ?		
$\mu^+ Ca$	$\pi^- e^-$		
280 (149.3) Arneodo 89B Arneodo 88	300 (0.571) Amendolia 86 Amendolia 85		
$\mu^+ Fe$	$\pi^- p$		
50 - 120 (88.93 - 123.3) Kopp 85 93 - 215 (111.3 - 158.4) Meyers 86 120 - 280 (123.3 - 178.4) Aubert 86B 200 (153.3) Benvenuti 87B Arneodo 86F	4.9 (3.178) Dzhincharadz 86 4.9i (3.181) Glagolev 85 5 (3.207) Antos 88 0 (1.078) Antos 87 Niebuhr 89 Crawford 88 Crawford 86 Bovet 84		

π^- C π^- Pb

π^- C	Baldin 85 Baldin 85B Besliu 85 Grishin 85B Vishnyakov 85 Zajmidoroga 85 Bellini 84 Badier 85C Badier 85E Badier 85F Bardadinotwi 85 530 (109.5) Kartik 90 De 89	π^- Si	Gornov 87B Gornov 86B 0.1283 – 0.6242 (26.35 – 26.79) 40 (52.7) Dropesky 86 200 (105.6) Vegini 86 Barlag 88 Barlag 87	π^- Cu	39.1 (90.19) 40 (90.77) Apokin 86D Bannikov 89 Gabunia 90 Gabunia 89 Boos 88 Ananieva 86 Albinii 85 Antipov 85 Vishnyakov 85 Zajmidoroga 85 Bellini 84 Antipov 89 Antipov 88B Antipov 86C Katsanava 87 Capraro 87 Barlag 90 Barlag 90B Barlag 90C Barlag 90D Barlag 89 Barlag 89B Barlag 89C Klein 89C Barlag 88B Barlag 88C Barlag 88D Barlag 86 Kartik 90 De 89	π^- 124 Sn	5 (120.4) Bayukov 85D Gavrilov 85B			
π^- 14 C	0.1283 (13.23) Mishra 85 0.2696 (13.34) Holtkamp 85	π^- Cl	530 (197.1) De 89	π^- Ar	125 (135.3) 200 (164.9) 230 (175.3)	π^- 40 Ca	0.2875 (37.58) Germond 85C 0.2189 – 0.3851 (37.52 – 37.67) Wood 85 0.2306 (37.53) Ullmann 85	0 (122.4) 2.34 – 9 (124.6 – 131) 3.5 (125.8)	Barmin 89 Strugalski 88 Abdurakhimov 88B Grishin 88 Pluta 88 Pluta 88B Strugalski 88C Miller 87B Okhrimenko 87 Bartke 86 Grishin 86B Strugalski 86 Strugalski 86B Strugalski 85 Strugalski 85B Fredriksson 87	
π^- 15 Nit	0.2696 (14.27) Seestrommorr 85	π^- 40 Ar	0.2875 (37.58) Germond 85C	π^- 40 Ca	0.2189 – 0.3851 (37.52 – 37.67) Wood 85 0.2306 (37.53) Ullmann 85	π^- 64 Ni	0.2875 – 0.353 (37.65 – 37.71) Gram 89	0 (122.4) 2.34 – 9 (124.6 – 131) 3.5 (125.8)	Barmin 89 Strugalski 88 Abdurakhimov 88B Grishin 88 Pluta 88 Pluta 88B Strugalski 88C Miller 87B Okhrimenko 87 Bartke 86 Grishin 86B Strugalski 86 Strugalski 86B Strugalski 85 Strugalski 85B Fredriksson 87	
π^- 16 O	0.2189 – 0.3851 (15.16 – 15.3) Wood 85 0.3583 (15.28) Redwine 86	π^- 40 Ca	0.2189 – 0.3851 (37.52 – 37.67) Wood 85 0.2306 (37.53) Ullmann 85	π^- Ca	0.2875 – 0.353 (37.65 – 37.71) Gram 89	π^- 64 Ni	0.2875 – 0.353 (37.65 – 37.71) Gram 89	0 (122.4) 2.34 – 9 (124.6 – 131) 3.5 (125.8)	Barmin 89 Strugalski 88 Abdurakhimov 88B Grishin 88 Pluta 88 Pluta 88B Strugalski 88C Miller 87B Okhrimenko 87 Bartke 86 Grishin 86B Strugalski 86 Strugalski 86B Strugalski 85 Strugalski 85B Fredriksson 87	
π^- O	0.2875 – 0.353 (15.22 – 15.28) Gram 89 1.5 (16.34) Burgov 87	π^- 48 Sc	0.1947 – 0.4168 (42.14 – 42.34) Ohkubo 85	π^- Ti	40 (74.57) Zajmidoroga 85 Bellini 84	π^- 64 Ni	5 (64.42) Bayukov 85D Gavrilov 85B	0 (122.4) 2.34 – 9 (124.6 – 131) 3.5 (125.8)	Barmin 89 Strugalski 88 Abdurakhimov 88B Grishin 88 Pluta 88 Pluta 88B Strugalski 88C Miller 87B Okhrimenko 87 Bartke 86 Grishin 86B Strugalski 86 Strugalski 86B Strugalski 85 Strugalski 85B Fredriksson 87	
π^- 18 O	0.3583 (17.15) Redwine 86	π^- 48 Ca	0.1947 – 0.4168 (42.14 – 42.34) Ohkubo 85	π^- Ti	40 (74.57) Zajmidoroga 85 Bellini 84	π^- 64 Ni	5 (64.42) Bayukov 85D Gavrilov 85B	0 (122.4) 2.34 – 9 (124.6 – 131) 3.5 (125.8)	Barmin 89 Strugalski 88 Abdurakhimov 88B Grishin 88 Pluta 88 Pluta 88B Strugalski 88C Miller 87B Okhrimenko 87 Bartke 86 Grishin 86B Strugalski 86 Strugalski 86B Strugalski 85 Strugalski 85B Fredriksson 87	
π^- F1	5 (22.14) Bayukov 85D	π^- 48 Ca	0.1947 – 0.4168 (42.14 – 42.34) Ohkubo 85	π^- Fe	1.26 – 2.5 (53.27 – 54.47) 40 (82.87) Kuzichev 89 Antipov 86 Antipov 85 Antipov 85B Antipov 85C Antipov 85B 320 (189.7) Cobbaert 88B Cobbaert 87B	π^- 64 Ni	5 (64.42) Bayukov 85D Gavrilov 85B	0 (122.4) 2.34 – 9 (124.6 – 131) 3.5 (125.8)	Barmin 89 Strugalski 88 Abdurakhimov 88B Grishin 88 Pluta 88 Pluta 88B Strugalski 88C Miller 87B Okhrimenko 87 Bartke 86 Grishin 86B Strugalski 86 Strugalski 86B Strugalski 85 Strugalski 85B Fredriksson 87	
π^- Ne	6.2 (24.21) Zielinsky 88 Amelin 87 Amelin 87B Amelin 86 10.5 – 200 (27.34 – 88.7) Fredriksson 87 30 (38.47) Tyczky 86	π^- Fe	1.26 – 2.5 (53.27 – 54.47) 40 (82.87) Kuzichev 89 Antipov 86 Antipov 85 Antipov 85B Antipov 85C Antipov 85B 320 (189.7) Cobbaert 88B Cobbaert 87B	π^- Ti	40 (74.57) Zajmidoroga 85 Bellini 84	π^- 64 Ni	5 (64.42) Bayukov 85D Gavrilov 85B	0 (122.4) 2.34 – 9 (124.6 – 131) 3.5 (125.8)	Barmin 89 Strugalski 88 Abdurakhimov 88B Grishin 88 Pluta 88 Pluta 88B Strugalski 88C Miller 87B Okhrimenko 87 Bartke 86 Grishin 86B Strugalski 86 Strugalski 86B Strugalski 85 Strugalski 85B Fredriksson 87	
π^- 24 Mg	100 (70.51) Biswas 86	π^- Fe	1.26 – 2.5 (53.27 – 54.47) 40 (82.87) Kuzichev 89 Antipov 86 Antipov 85 Antipov 85B Antipov 85C Antipov 85B 320 (189.7) Cobbaert 88B Cobbaert 87B	π^- 64 Ni	5 (64.42) Bayukov 85D Gavrilov 85B	π^- 64 Ni	5 (64.42) Bayukov 85D Gavrilov 85B	0 (122.4) 2.34 – 9 (124.6 – 131) 3.5 (125.8)	Barmin 89 Strugalski 88 Abdurakhimov 88B Grishin 88 Pluta 88 Pluta 88B Strugalski 88C Miller 87B Okhrimenko 87 Bartke 86 Grishin 86B Strugalski 86 Strugalski 86B Strugalski 85 Strugalski 85B Fredriksson 87	
π^- Al	0.2707 (25.44) Marx 86 1.1 (26.22) Golubeva 90 1.2 – 5 (26.31 – 29.72) Vorobiev 89C Vorobiev 87B 1.26 – 2.5 (26.37 – 27.52) Kuzichev 89 2.5 (27.52) Bayukov 85 3 (27.98) Vorobiev 88E Vorobiev 86 30 (46.26) Beusch 86 Abreu 85 39.1 (50.96) Apokin 86D 40 (51.4) Ananieva 86 Antipov 86 Antipov 86B Antipov 85 Antipov 85B Antipov 85C Zajmidoroga 85 Bellini 84 320 (129.3) Cobbaert 88B Cobbaert 87B 530 (165.1) Kartik 90 De 89	π^- 56 Ni	5 (58.82) Bayukov 85D Gavrilov 85B	π^- Ni	5 (59.48) Bayukov 85D	π^- Ag	40 (134.7) Zajmidoroga 85 Bellini 84	0 (122.4) 2.34 – 9 (124.6 – 131) 3.5 (125.8)	Barmin 89 Strugalski 88 Abdurakhimov 88B Grishin 88 Pluta 88 Pluta 88B Strugalski 88C Miller 87B Okhrimenko 87 Bartke 86 Grishin 86B Strugalski 86 Strugalski 86B Strugalski 85 Strugalski 85B Fredriksson 87	
π^- Cu	0 (59.34) Gornov 88 0.2707 (59.5) Marx 86 0.6 – 1 (59.81 – 60.2) Golubeva 89 1.2 – 5 (60.39 – 64) Vorobiev 89C Vorobiev 87B 1.26 – 2.5 (60.45 – 61.65) Kuzichev 89 1.4 – 5 (60.59 – 64) Bayukov 85C Bayukov 85E Bayukov 85F 1.5 (60.68) Burgov 87 Buklej 86 Bayukov 85 Bayukov 85E Bayukov 85D 30 (84) Burgov 87 Barwolff 88 Barwolff 85	π^- Cu	0 (59.34) Gornov 88 0.2707 (59.5) Marx 86 0.6 – 1 (59.81 – 60.2) Golubeva 89 1.2 – 5 (60.39 – 64) Vorobiev 89C Vorobiev 87B 1.26 – 2.5 (60.45 – 61.65) Kuzichev 89 1.4 – 5 (60.59 – 64) Bayukov 85C Bayukov 85E Bayukov 85F 1.5 (60.68) Burgov 87 Buklej 86 Bayukov 85 Bayukov 85E Bayukov 85D 30 (84) Burgov 87 Barwolff 88 Barwolff 85	π^- 108 Ag	100 (173.9) Biswas 86	π^- 108 Ag	40 (134.7) Zajmidoroga 85 Bellini 84	0 (122.4) 2.34 – 9 (124.6 – 131) 3.5 (125.8)	Barmin 89 Strugalski 88 Abdurakhimov 88B Grishin 88 Pluta 88 Pluta 88B Strugalski 88C Miller 87B Okhrimenko 87 Bartke 86 Grishin 86B Strugalski 86 Strugalski 86B Strugalski 85 Strugalski 85B Fredriksson 87	
π^- 27 Al	0.1283 – 0.6242 (25.34 – 25.78) Dropesky 86	π^- Cu	0 (59.34) Gornov 88 0.2707 (59.5) Marx 86 0.6 – 1 (59.81 – 60.2) Golubeva 89 1.2 – 5 (60.39 – 64) Vorobiev 89C Vorobiev 87B 1.26 – 2.5 (60.45 – 61.65) Kuzichev 89 1.4 – 5 (60.59 – 64) Bayukov 85C Bayukov 85E Bayukov 85F 1.5 (60.68) Burgov 87 Buklej 86 Bayukov 85 Bayukov 85E Bayukov 85D 30 (84) Burgov 87 Barwolff 88 Barwolff 85	π^- 112 Sn	5 (109.2) Bayukov 85D Gavrilov 85B	π^- Cd	1.2 – 5 (105.9 – 109.6) 1.26 – 2.5 (106.10 – 107.2) 3 (107.7) Kuzichev 89 1.4 – 5 (194.4 – 197.9)	5 (109.2) Bayukov 85D Gavrilov 85B	0 (122.4) 2.34 – 9 (124.6 – 131) 3.5 (125.8)	Barmin 89 Strugalski 88 Abdurakhimov 88B Grishin 88 Pluta 88 Pluta 88B Strugalski 88C Miller 87B Okhrimenko 87 Bartke 86 Grishin 86B Strugalski 86 Strugalski 86B Strugalski 85 Strugalski 85B Fredriksson 87
π^- Si	0 (26.3) Gornov 88	π^- 112 Sn	5 (109.2) Bayukov 85D Gavrilov 85B	π^- Cd	1.2 – 5 (105.9 – 109.6) 1.26 – 2.5 (106.10 – 107.2) 3 (107.7) Kuzichev 89 1.4 – 5 (194.4 – 197.9)	5 (109.2) Bayukov 85D Gavrilov 85B	0 (122.4) 2.34 – 9 (124.6 – 131) 3.5 (125.8)	Barmin 89 Strugalski 88 Abdurakhimov 88B Grishin 88 Pluta 88 Pluta 88B Strugalski 88C Miller 87B Okhrimenko 87 Bartke 86 Grishin 86B Strugalski 86 Strugalski 86B Strugalski 85 Strugalski 85B Fredriksson 87		
π^- Sn		π^- 112 Sn	5 (109.2) Bayukov 85D Gavrilov 85B	π^- Cd	1.2 – 5 (105.9 – 109.6) 1.26 – 2.5 (106.10 – 107.2) 3 (107.7) Kuzichev 89 1.4 – 5 (194.4 – 197.9)	5 (109.2) Bayukov 85D Gavrilov 85B	0 (122.4) 2.34 – 9 (124.6 – 131) 3.5 (125.8)	Barmin 89 Strugalski 88 Abdurakhimov 88B Grishin 88 Pluta 88 Pluta 88B Strugalski 88C Miller 87B Okhrimenko 87 Bartke 86 Grishin 86B Strugalski 86 Strugalski 86B Strugalski 85 Strugalski 85B Fredriksson 87		
π^- In		π^- 112 Sn	5 (109.2) Bayukov 85D Gavrilov 85B	π^- Cd	1.2 – 5 (105.9 – 109.6) 1.26 – 2.5 (106.10 – 107.2) 3 (107.7) Kuzichev 89 1.4 – 5 (194.4 – 197.9)	5 (109.2) Bayukov 85D Gavrilov 85B	0 (122.4) 2.34 – 9 (124.6 – 131) 3.5 (125.8)	Barmin 89 Strugalski 88 Abdurakhimov 88B Grishin 88 Pluta 88 Pluta 88B Strugalski 88C Miller 87B Okhrimenko 87 Bartke 86 Grishin 86B Strugalski 86 Strugalski 86B Strugalski 85 Strugalski 85B Fredriksson 87		
π^- 118 Sn		π^- 118 Sn	5 (111.8) Bayukov 85D	π^- Cd	1.2 – 5 (105.9 – 109.6) 1.26 – 2.5 (106.10 – 107.2) 3 (107.7) Kuzichev 89 1.4 – 5 (194.4 – 197.9)	5 (111.8) Bayukov 85D	0 (122.4) 2.34 – 9 (124.6 – 131) 3.5 (125.8)	Barmin 89 Strugalski 88 Abdurakhimov 88B Grishin 88 Pluta 88 Pluta 88B Strugalski 88C Miller 87B Okhrimenko 87 Bartke 86 Grishin 86B Strugalski 86 Strugalski 86B Strugalski 85 Strugalski 85B Fredriksson 87		
π^- Sn		π^- Sn	5 (115.5) Bayukov 85D 30 (137.3) Bayukov 85D	π^- Cd	1.2 – 5 (105.9 – 109.6) 1.26 – 2.5 (106.10 – 107.2) 3 (107.7) Kuzichev 89 1.4 – 5 (194.4 – 197.9)	5 (115.5) Bayukov 85D 30 (137.3) Bayukov 85D	0 (122.4) 2.34 – 9 (124.6 – 131) 3.5 (125.8)	Barmin 89 Strugalski 88 Abdurakhimov 88B Grishin 88 Pluta 88 Pluta 88B Strugalski 88C Miller 87B Okhrimenko 87 Bartke 86 Grishin 86B Strugalski 86 Strugalski 86B Strugalski 85 Strugalski 85B Fredriksson 87		
π^- Sn		π^- Sn	5 (115.5) Bayukov 85D 30 (137.3) Bayukov 85D	π^- Cd	1.2 – 5 (105.9 – 109.6) 1.26 – 2.5 (106.10 – 107.2) 3 (107.7) Kuzichev 89 1.4 – 5 (194.4 – 197.9)	5 (115.5) Bayukov 85D 30 (137.3) Bayukov 85D	0 (122.4) 2.34 – 9 (124.6 – 131) 3.5 (125.8)	Barmin 89 Strugalski 88 Abdurakhimov 88B Grishin 88 Pluta 88 Pluta 88B Strugalski 88C Miller 87B Okhrimenko 87 Bartke 86 Grishin 86B Strugalski 86 Strugalski 86B Strugalski 85 Strugalski 85B Fredriksson 87		
π^- Sn		π^- Sn	5 (115.5) Bayukov 85D 30 (137.3) Bayukov 85D	π^- Cd	1.2 – 5 (105.9 – 109.6) 1.26 – 2.5 (106.10 – 107.2) 3 (107.7) Kuzichev 89 1.4 – 5 (194.4 – 197.9)	5 (115.5) Bayukov 85D 30 (137.3) Bayukov 85D	0 (122.4) 2.34 – 9 (124.6 – 131) 3.5 (125.8)	Barmin 89 Strugalski 88 Abdurakhimov 88B Grishin 88 Pluta 88 Pluta 88B Strugalski 88C Miller 87B Okhrimenko 87 Bartke 86 Grishin 86B Strugalski 86 Strugalski 86B Strugalski 85 Strugalski 85B Fredriksson 87		
π^- Pb		π^- Pb	5 (197.9) Bayukov 85F 3 (196) Bayukov 85F	π^- Cd	1.2 – 5 (105.9 – 109.6) 1.26 – 2.5 (106.10 – 107.2) 3 (107.7) Kuzichev 89 1.4 – 5 (194.4 – 197.9)	5 (197.9) Bayukov 85F 3 (196) Bayukov 85F	0 (122.4) 2.34 – 9 (124.6 – 131) 3.5 (125.8)	Barmin 89 Strugalski 88 Abdurakhimov 88B Grishin 88 Pluta 88 Pluta 88B Strugalski 88C Miller 87B Okhrimenko 87 Bartke 86 Grishin 86B Strugalski 86 Strugalski 86B Strugalski 85 Strugalski 85B Fredriksson 87		
π^- Pb		π^- Pb	5 (197.9) Bayukov 85F 3 (196) Bayukov 85F	π^- Cd	1.2 – 5 (105.9 – 109.6) 1.26 – 2.5 (106.10 – 107.2) 3 (107.7) Kuzichev 89 1.4 – 5 (194.4 – 197.9)	5 (197.9) Bayukov 85F 3 (196) Bayukov 85F	0 (122.4) 2.34 – 9 (124.6 – 131) 3.5 (125.8)	Barmin 89 Strugalski 88 Abdurakhimov 88B Grishin 88 Pluta 88 Pluta 88B Strugalski 88C Miller 87B Okhrimenko 87 Bartke 86 Grishin 86B Strugalski 86 Strugalski 86B Strugalski 85 Strugalski 85B Fredriksson 87		

$\pi^- \text{ Pb}$ $\pi^+ \text{ Be}$

$\pi^- \text{ Pb}$	$\pi^+ \pi^-$	$\pi^+ p$	$\pi^+ \text{ deuteron}$	
39.1 (228.8) 40 (229.6)	Barwolff 85 Apokin 86D Gabunia 90 Bannikov 89 Gabunia 89 Boos 88 Ananichev 86 Albinis 85 Antipov 85 Vishnyakov 85 Zajmidoroga 85 Bellini 84 200 (338.3) 530 (491.8)	0.1181 - 17.2 (0.3 - 2.2) Clark 85 0.9337 - 14.19 (0.55 - 2) Apokin 89B 0.03 - 0.67 (1.081 - 1.478) Brack 89 0.0668 (1.091) Brack 88 0.1208 - 0.2259 (1.116 - 1.182) Friedman 90 0.1305 - 0.2258 (1.122 - 1.182) Friedman 89 0.1356 (1.125) Wiedner 89 Wiedner 87 0.2445 - 0.4168 (1.195 - 1.313) Ottermann 85B 0.303 - 0.7263 (1.235 - 1.513) Abaev 84 0.378 - 0.687 (1.287 - 1.488) Sadler 87 0.4158 (1.313) Meyer 88 0.471 - 0.625 (1.35 - 1.45) Barlow 89 0.471 - 0.687 (1.35 - 1.488) Mokhtari 86 Mokhtari 85 0.547 - 0.625 (1.4 - 1.45) Seftor 89 0.547 - 0.687 (1.4 - 1.488) Wigertman 88 < 1.232 (< 1.796) Arndt 85 1.49 - 2.069 (1.926 - 2.189) Hab. 88 1.69 - 1.88 (2.02 - 2.107) Candlin 88 Kobayashi 87 1.84 - 2.63 (2.089 - 2.417) Abramov 88 Arefiev 90 Arefiev 90B Zhokin 89 Arefiev 87 Arefiev 86 Arefiev 86B 4 (2.9) 4.2 (2.964) 4.23 (2.974) 3.94 (2.881) 3.94 (2.881) Gavrin 89 Gavrilov 85 Vorobiev 85 Panagiotou 89 Kechechyan 89 Shahbazyan 88 Amelin 86 Amelin 87B Zielinsky 88 Agababyan 85B Fredriksson 87 Prokoshkin 87C Barwolff 88 Boos 88 Cassata 88 Antipov 86D Bellini 84 Landsberg 86 Kumar 89 Bajramov 89 Azimov 85 Tariq 90 Holynski 86B Albrow 88 Joyner 89 Jain 88B Arenton 86 Rutherford 85 Biino 87 Alde 88B Badier 86 Holynski 86 Juric 86 Babcock 85 Ahmad 90 Ahmad 89 Ahrar 86 Ahmad 85B Aoki 88 Aoki 87 Arnold 87B Kartik 90	< 200 (< 19.4) Hohler 89 200 (19.4) Brick 90 Brick 89 Becker 87 Naudet 86 Ajinenko 90 Avazyan 89 Ajinenko 89B Ajinenko 89C Ajinenko 89D Ajinenko 89E Buschbeck 89 Adamus 88 Adamus 88B Adamus 88C Adamus 88F Adamus 88G Avazyan 88 Grassler 88 Adamus 87C Adamus 87D Ajinenko 87 Adamus 86 Adamus 86B Adamus 86C 280 (22.94) Bonesini 89 Bonesini 89B Bonesini 88 Bonesini 87 280 - 300 (22.94 - 23.75) Lancor 86B 300 (23.75) Demarzo 87 Richard 87 Ferbel 86 ?	1.06 - 1.4 (2.747 - 2.969) Pigot 85 3.9 (4.263) Nakai 89 6 - 11.85 (5.104 - 6.928) Fujisaki 88 10.3 (6.494) Bitsadze 86B 10.5 (6.552) Bitsadze 86 Akimenko 85 $\pi^+ \text{ H}$ 0.2445 - 0.3314 (3.066 - 3.137) Pillai 88 $\pi^+ \text{ He}$ 0.1461 - 0.1731 (2.993 - 3.012) Aniol 85 0.1922 - 0.2605 (3.026 - 3.079) Marx 86 0.1947 - 0.248 (3.028 - 3.069) Angelescu 90 0.2445 - 0.3314 (3.066 - 3.137) Pillai 88 < 0.2875 (< 3.101) Redwine 86 0.4693 - 0.5985 (3.25 - 3.356) Boswell 86 $\pi^+ \text{ He}$ 0.1283 - 0.4168 (3.913 - 4.145) McAx 86 0.1536 - 0.2605 (3.931 - 4.013) Balestra 86 0.2189 - 0.3851 (3.98 - 4.118) Kinney 86 0.2707 (4.021) Weber 89 $\pi^+ \text{ He}$ 0.2875 - 0.353 (4.038 - 4.093) Gram 89 0.4693 - 0.5985 (4.192 - 4.302) Boswell 86 $\pi^+ \text{ Li}$ 0.1426 - 0.1695 (5.787 - 5.80' McParland 85 0.1426 - 0.2422 (5.787 - 5.864) McParland 85B 0.2537 (5.873) Ransome 90 0.2875 - 0.353 (5.902 - 5.958) Gram 89 0.5 - 1.5 (6.08 - 6.935) Kobayashi 88B 1.35 - 3.75 (6.814 - 8.556) Gachurin 85 1.5 (6.935) Burgov 87 $\pi^+ \text{ Li}$ 0.8 (7.233) Chrien 88 1.5 (7.829) Buckley 86 3.9 (9.606) Nakai 89 10.5 (13.33) Bitsadze 86 $\pi^+ \text{ Li}$ 0.1023 - 0.141 (6.692 - 6.717) Irom 85 0.2875 - 0.353 (6.834 - 6.891) Gram 89 0.4168 - 0.6753 (6.947 - 7.178) Rokni 88 0.5005 (7.022) Baturin 88 1.35 - 3.75 (7.761 - 9.564) Gachurin 85 $\pi^+ \text{ Be}$ 0.2875 - 0.353 (8.71 - 8.767) Gram 89 1.35 - 3.75 (9.658 - 11.55) Gachurin 85 10.5 (15.71) Akimenko 89 Bitsadze 86 120 (45.66) Dijkstra 86C 120 - 200 (45.66 - 58 55) Dijkstra 86

Entries in order of beam mass, then target mass, then beam momentum. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names. (See the Particle Vocabulary.) Beam momenta are equivalent p_{lab} in GeV/c; then E_{cm} in GeV follows in parentheses. For certain initial states only E_{cm} (in parentheses) is given. See the legend on page 123.

$\pi^+ 12C$ $K^- e^-$

$\pi^+ 12C$	$\pi^+ Al$	$\pi^+ Cu$	$\pi^+ Pb$
0.2189 – 0.3205 (11.44 – 11.53) Mordchhai 85	0.8 (25.93) 1.1 (26.22) 3 (27.98) 3.9 (28.77) 4 (28.86) 10.5 (34.05) 30 (46.26)	Chrien 88 Golubeva 90 Vorobiev 89C Nakai 89 Tokushuku 90 Bitsadze 86 Beusch 86 Abreu 85 Ajinenko 90B De 89	Nakai 89 Akimenko 89 Bitsadze 86 Beusch 86 Huston 86 Zielinsky 86 De 89
$\pi^+ C$	$\pi^+ 27Al$	$\pi^+ 65Zn$	$\pi^+ 196$
0.2875 – 0.353 (11.5 – 11.56) Gram 89	0.2875 – 0.353 (11.5 – 11.56) Tack 86	1.35 – 3.75 (61.89 – 64.19) Gachurin 85	Vorobiev 89C Vorobiev 88E 3 – 7.5 (196 – 200.4) Bayukov 86
0.34 (11.55) 0.6 (11.79) 0.8 (11.97) 1 – 6 (12.16 – 16.11) Bayukov 85C Bayukov 85E 1.1 (12.25) 1.4 – 5 (12.52 – 15.4) Bayukov 85F 1.5 (12.61) Burgov 87 Buklej 86	0.1283 – 0.5212 (25.34 – 25.68) Dropesky 86	0.4168 – 0.6753 (25.59 – 25.83) Rokni 88	4 (197) 7.5 (200.4) 10.5 (203.2) 30 (221)
2.9 (13.79) 3 (13.87) 3 – 7.5 (13.87 – 17.12) 3.9 (14.58) 7.5 (17.12) 10.3 (18.86) 30 (28.22)	0.2189 – 0.3205 (26.34 – 26.43) Mordechai 85	1.35 – 3.75 (26.47 – 28.66) Gachurin 85	200 (338.3) 202.5 (339.7)
200 (67.83)	0.1283 – 0.5212 (26.35 – 26.7) Dropesky 86	0.2875 – 0.353 (96.18 – 96.24) Gram 89	200 (388) 202.5 (389.7)
$\pi^+ Si$	$\pi^+ 28Si$	$\pi^+ Ag$	$\pi^+ 208Pb$
0.2189 – 0.3205 (26.34 – 26.43) Mordechai 85	0.2189 – 0.3205 (26.34 – 26.43) Mordechai 85	0.4168 – 0.6753 (84.27 – 84.52) Rokni 88	0.4168 – 0.6753 (194.2 – 194.4) Rokni 83
$\pi^+ Si$	$\pi^+ 32S$	$\pi^+ Rh$	$\pi^+ 209Bi$
0.1283 – 0.5212 (26.35 – 26.7) Dropesky 86	0.2189 – 0.3205 (30.07 – 30.16) Mordechai 85	0.2875 – 0.353 (96.18 – 96.24) Gram 89	0.1426 – 0.1947 (194.9 – 194.9) Hicks 85
$\pi^+ Cl$	$\pi^+ 37Cl$	$\pi^+ Cd$	$\pi^+ 238U$
0.3957 – 0.5108 (34.88 – 34.99) Gavrin 89	0.3957 – 0.5108 (34.88 – 34.99) Gavrin 89	100 (173.9) 3 (107.7)	0.1426 – 0.1947 (221.9 – 221.9) Hicks 85
0.2189 – 0.3205 (37.52 – 37.61) Mordechai 85	0.2189 – 0.3205 (37.52 – 37.61) Mordechai 85	Biswas 86	1.35 – 3.75 (223.1 – 225.4) Gachurin 85
$\pi^+ Ca$	$\pi^+ 40Ca$	$\pi^+ Sn$	$\pi^+ 238$
0.2306 (37.53) Ullmann 85	0.2875 (37.58) Germond 85C	30 (137.3) Beusch 86 Abreu 85	0.1426 – 0.1947 (227.7) Bayukov 85C Bayukov 85E 1.4 – 5 (223.1 – 226.7) Bayukov 85F
$\pi^+ Nit$	$\pi^+ Ca$	$\pi^+ 118Sn$	$\pi^+ nucleus$
0.1283 – 0.4063 (14.16 – 14.4) Redwine 86	0.2875 – 0.353 (37.65 – 37.71) Gram 89	0.2306 (110.2) Ullmann 85	0.077 0.2189 – 0.3205 0.3957 – 0.5108
$\pi^+ O$	$\pi^+ 45Sc$	$\pi^+ Xe$	$\pi^+ C$
0.1421 (15.1) Wharton 85 0.2189 – 0.3851 (15.16 – 15.3) Wood 85	0.1947 – 0.4168 (42.14 – 42.34) Ohkubo 85	2.34 – 9 (124.6 – 131) Miller 87C 2.9 (125.2) Vorobiev 84C	(106.4 – 473.2) Avakyan 89C
$\pi^+ O$	$\pi^+ Ti$	$\pi^+ 18Ta$	$\pi^+ Ne$
0.2875 – 0.353 (15.22 – 15.28) Gram 89 0.8 (15.69) Chrien 88 1.5 (16.34) Burgov 87	3 – 7.5 (47.53 – 51.58) Bayukov 86 7.5 (51.58) Bayukov 89C	1.35 – 3.75 (170 – 172.3) Gachurin 85	10.5 (27.34) Fredriksson 87
$\pi^+ O$	$\pi^+ 48Ca$	$\pi^+ Au$	$\pi^+ Fe$
0.3583 (17.15) Redwine 86 0.4084 – 0.6497 (17.19 – 17.42) Williams 89B	0.1947 – 0.4168 (44.95 – 45.15) Ohkubo 85	225 (326.2) 250 (339.1) 252 (340.1)	(233.9 – 1021) Avakyan 89C
$\pi^+ Ne$	$\pi^+ 58Ni$	$\pi^+ 197Au$	$\pi^+ Pb$
10.5 – 200 (27.34 – 88.7) Fredriksson 87 30 (38.47) Tkaczky 86	0.2651 (54.33) Redwine 86	0.1426 – 0.1947 (184.5 – 184.6) Hicks 85 100 (266.2) Biswas 86	(479.9 – 1974) Avakyan 89C
$\pi^+ Ne$	$\pi^+ 60Ni$	$\pi^+ 197Pb$	$\pi^+ P$
10.5 – 200 (27.34 – 88.7) Fredriksson 87 30 (38.47) Tkaczky 86	0.4168 – 0.6753 (56.33 – 56.58) Rokni 88	1.35 – 3.75 (194.2 – 196.5) Gachurin 85	150 – 280 (16.8 – 22.94) Rutherford 85
$\pi^+ Mg$	$\pi^+ Cu$	$\pi^+ Pb$	$\pi^+ Fe$
0.2189 – 0.3205 (22.61 – 22.7) Mordchhai 85 100 (70.51) Biswas 86	0.6 – 1 (59.81 – 60.2) 1 – 6 (60.2 – 64.92) 1.4 – 5 (60.59 – 64) 1.5 (60.68)	0.2875 – 0.353 (193.3 – 193.4) Gram 89 0.6 (193.6) 1 – 6 (194 – 198.9) Bayukov 85C Bayukov 85E Bayukov 85F Burgov 87 Buklej 86 Vorobiev 89C	(233.9 – 723.1) Avakyan 85D Avakyan 85E
$\pi^+ Mg$	$\pi^+ Mg$	$\pi^+ Pb$	$\pi^+ nucleus$
200 (97.82) Brick 90 Brick 89	3 (62.13)	2 – 200 (194.4 – 197.9) 300 – 1600 (194.5 – 194.5)	2 – 200 (194.4 – 197.9) 300 – 1600 (194.5 – 194.5)
$\pi^+ e^-$	$\pi^+ e^-$	$\pi^+ e^-$	$\pi^+ e^-$
			250 (0.7065) Amendolia 86B

K_L Pb

$K^- p$	$K^- Li$	$K^+ p$	$K^+ Ti$
0 (1.432) Hessey 89 Whitehouse 89	40 (23.65) Boos 88	8.2 – 70 (4.067 – 11.51) Panagiotou 89	1.6 – 1.8 (46.27 – 46.45) Afanashev 88
0.68 (1.643) Gall 88 Hertzog 88	$K^- ^9Be$	9.9 (4.441) Baller 88 13 (5.053) Frame 86	$K^+ Cu$
0.688 – 0.833 (1.647 – 1.715) Koiso 84	?	32.1 (7.834) Ajinenko 87B Garutchava 87	$K^+ Ag$
3.93 – 176 (2.925 – 18.2) Panagiotou 89	$K^- Be$	Efendiev 89 Antipov 89C	11.2 (69.51) Akimenko 90B Akimenko 90C
4.2 (3.01) Hemingway 84	38 (26.62)	Antipov 87	$K^+ Cd$
5 (3.248) Bensinger 85	40 (27.25)	Dijkstra 86C	200 (224.3) Brick 90 Brick 89
8 – 12 (4.021 – 4.864) Armstrong 87C	100 (41.83)	Dijkstra 86D	1.6 – 1.8 (106.4 – 106.6) Afanashev 88
9.9 (4.441) Armstrong 86F	100 – 175 (41.83 – 54.85)	Dijkstra 86	$K^+ Xe$
11 (4.668) Baller 88			0.56 – 0.81 (123.1 – 123.3) Barmin 89B
Aston 89	$K^- ^9Bor$	Pniewski 85	0.85 (123.3) Barmin 86B Barmin 86C
Aston 89B	?		Barmin 85
Aston 88	$K^- ^{12}C$		$K^+ Au$
Aston 88B	0 (11.67)	Gal 86B	200 (327.2) Brick 90 Brick 89
Aston 88C		Yamazaki 85	250 (354.1) Ajimenko 90B Ajimenko 89
Aston 88D		Bertini 84	$K^+ Pb$
Aston 88E	0.45 (11.84)	Grace 85	11.2 (203.9) Akimenko 90B Akimenko 90C
Aston 88F	0.8 (12.09)		200 (338.3) Akesson 88B
Aston 88G	0.9195 (12.19)	Yamazaki 86	$K^+ nucleus$
Aston 88H	450 (100.9)	Dabrowski 86	0.3811 Smirnov 85 0.6 Berdnikov 86 Ajinenko 89B Berdnikov 85
Aston 88I			5 – 300 Fredriksson 87 10.5 Bitsadze 85
Aston 88J	$K^- C$		$K_L \gamma$
Augustin 88C	1.6 – 1.8 (12.76 – 12.93)		60 – 200 (0.4977) Carlsmith 87
Bird 88		Afanashev 88	$K_L deuteron$
Toki 88B	40 (31.95)	Boos 88	10 – 50 (6.428 – 13.83) Silvestrov 87 Silvestrov 86
Aston 87	$K^- ^{16}O$		$K_L C$
Aston 87B	0.45 (15.56)	Bertini 84	1.6 – 7.4 (12.76 – 17.07) Berezin 86
Aston 86			75 – 200 (42.47 – 67.83) Lamm 87
Aston 86B			80 – 280 (43.77 – 79.94) Hartouni 85
Sinervo 86	$K^- Al$		$K_L Al$
Aston 85	1.6 – 1.8 (26.76 – 26.94)		1.6 – 7.4 (26.76 – 31.7) Berezin 86
Aston 85B		Afanashev 88	$K_L Cu$
12 – 16 (4.864 – 5.582) Armstrong 85	38 (50.42)	Efendiev 89	1.6 – 7.4 (60.85 – 66.2) Balats 87
20 (6.218) Asad 85			Berezin 86
32.1 (7.834) Babintsev 86B	$K^- Si$	200 (105.6) Barlag 88 Barlag 87	60 – 200 (103 – 164.9) Carlsmith 87
Ma 86	200 (105.6)		100 – 200 (123.9 – 164.9) Carlsmith 86
Ukhanov 86			$K_L Sn$
Patalakha 85	$K^- S$		1.6 – 7.4 (112.2 – 117.7) Berezin 86
Bogolyubsky 84D	40 (57.28)	Boos 88	$K_L Pb$
Landsberg 88	$K^- Ti$		1.6 – 7.4 (194.7 – 200.3) Berezin 86
Bitukov 86B	1.6 – 1.8 (46.27 – 46.45)		60 – 200 (245.8 – 338.3) Carlsmith 87
Bitukov 85C		Afanashev 88	100 – 200 (275.4 – 338.3) Carlsmith 86
40 (8.729) Araglobeli 89			
Apokin 89	$K^- Cu$		
Bolokhin 89	38 (89.46)	Efendiev 89	
Apokin 88B	40 (90.78)	Antipov 89C	
Bolokhin 88	230 (175.3)	Boos 88	
Antipov 87B		Chliapnikov 90D	
Bolokhin 86			
58 (10.49) Paub 85	$K^- Ag$		
80 – 140 (12.3 – 16.24)	38 (133.2)	Efendiev 89	
	40 (134.7)	Antipov 89C	
Apsimon 90	$K^- Cd$		
Apsimon 89	1.6 – 1.8 (106.4 – 106.6)		
Apsimon 88		Afanashev 88	
110 (14.41) Tannenbaum 89	$K^- Wt$		
Banerjee 86	0 (171.8)	Gall 88	
Banerjee 86B	6 (177.2)	Bensinger 88	
Haupt 85	$K^- Pb$		
176 (18.2) Gourlay 86	0 (193.5)	Gall 88	
200 (19.4) Becker 87	38 (227.9)	Efendiev 89	
(12.67) Chliapnikov 90	40 (229.6)	Antipov 89C	
(16.64) Hitlin 88		Boos 88	
$K^- n$	$K^- nucleon$	$K^+ C$	$K_L Sn$
32.5 (7.887) Bitukov 87	32.5 (7.889) Landsberg 87	1.6 – 1.8 (12.76 – 12.93) Afanashev 88	1.6 – 7.4 (112.2 – 117.7) Berezin 86
$K^- nucleon$	$K^- deuteron$	200 (67.83) Badier 85E	$K_L Pb$
32.5 (7.889) Landsberg 87	10.5 (6.572) Akimenko 85		1.6 – 7.4 (194.7 – 200.3) Berezin 86
$K^- deuteron$	$K^+ Be$		60 – 200 (245.8 – 338.3) Carlsmith 87
0.92 – 1.4 (2.771 – 3.055) <td>11.2 (16.09) Akimenko 90B</td> <td></td> <td>100 – 200 (275.4 – 338.3) Carlsmith 86</td>	11.2 (16.09) Akimenko 90B		100 – 200 (275.4 – 338.3) Carlsmith 86
Pigot 85	38 (227.9)		
40 (12.4) Amaglobeli 89	40 (229.6)		
Apokin 89			
Apokin 88C			
$K^- ^4He$	$K^- nucleus$	$K^+ Mg$	
< 0.3 (< 4.293) Dalitz J	1.5	200 (97.82) Brick 90	
	5 – 300	Brick 89	
	13.3		
	38		
	40		
	< 3 (< 2.613) Arndt 84		

Entries in order of beam mass, then target mass, then beam momentum. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names. (See the Particle Vocabulary.) Beam momenta are equivalent p_{lab} in GeV/c ; then E_{cm} in GeV follows in parentheses. For certain initial states only E_{cm} (in parentheses) is given. See the legend on page 123.

ρ^0 nucleon \bar{p} p

ρ^0 nucleon	$\bar{p} p$	$\bar{p} p$	$\bar{p} p$
< 3.9 (< 2.992)	Barnes 85	Babintsev 86B	Arnison 86D
Nakai 89	1.546 (2.27) Barnes 87B	Bogolyubsky 86	Bernard 86B
< 5 (< 3.315) Abdinov 86	1.653 – 1.731 (2.308 – 2.336) Cresti 86	Bogolyubsky 86B	Ainer 85C
$\bar{p} p$	1.695 (2.323) Barnes 90	Bogolyubsky 86C	Arnison 85C
0 (1.877) Chiba 89	1.91 – 1.99 (2.399 – 2.427) Fickinger 86B	Bogolyubsky 86D	Arnison 85E
Duch 89	1.95 – 4 (2.413 – 3.077) Tosello 89	Bogolyubsky 86E	Bernard 85
May 89	< 2 (< 2.43) Hamana 90	Bogolyubsky 86G	Bozzo 85
Omori 89	3.15 – 7.9 (2.816 – 4.085) Bachman 86	Bogolyubsky 86H	(546 – 630) Albajar 90C
Adiels 88	3.5 – 6.5 (2.926 – 3.753) Baglin 87C	Braleva 86	Franzini 89
Chiba 88	3.5 – 7.5 (2.926 – 3.993) Baglin 87B	Bumazhnov 86	Itep 89
Doser 88	3.621 – 5.755 (2.963 – 3.564) Baglin 87B	Kozlovsky 86	Stubenrauch 89
Toki 88B	Augustin 88C	Babintsev 85	Ansari 88
Chiba 87	Baglin 87	Bogolyubsky 84B	Dowell 88
Chiba 87B	Toki 87	Apokin 88B	Ruhmann 88
Adiels 86	40 (8.766)	Ukhanov 86B	Salvini 88
Adiels 86B	70 (11.54)	Gourlay 86	Sphicas 88
Ahmad 86	176 (18.22)	Allday 88	Tao 88
Angelopoulos 86	200 (19.42)	Derado 88	Albajar 87
Angelopoulos 85	Becker 87	Antille 87	Albajar 87B
Augustin 85E	250 (21.7)	Adamus 86B	Ansari 87C
Gorrine 85	(23 – 62.5)	Camilieri 87	Ansari 87D
Tsuberman 85	313.7 (24.3)	Breedon 89	Ansari 87F
Ahmad 84	Baglin 89B	Bernasconi 88	Cenci 87
0.1 – 100 (1.879 – 13.76) Sedlak 88	Baglin 89C	Antille 87	Summers 87
Ziegler 88	3.742 (3) Baglin 89C	Bernasconi 87	Albajar 86
0.158 – 0.275 (1.883 – 1.896) Bardin 87B	4.6 – 12 (3.251 – 4.934) Markytan 89	Valenti 85	Albajar 86B
0.18 – 0.6 (1.885 – 1.962) Bruckner 86	5.51 – 29.02 (3.5 – 7.5) Baglin 86	(30.6 – 62.5) Amos 85	Appel 86
Bruckner 85	5.586 – 5.624 (3.52 – 3.53) Baglin 86B	(30.6 – 62.7) Carboni 85	Appel 86B
0.202 – 0.609 (1.887 – 1.965) Bruckner 85B	5.7 – 12 (3.55 – 4.934) Baglin 86B	504.6 (30.8) Chauvat 85	Arnison 86
0.2219 – 0.4132 (1.889 – 1.92) Brugge 87	5.7 – 22.4 (3.55 – 6.621) Baldwin 86	Panagiotti 89	Arnison 85B
0.233 – 0.272 (1.891 – 1.896) Linssen 87	5.7 – 205 (3.55 – 19.66) Baldwin 86	Breakstone 86F	Arnison 85D
0.3 – 0.58 (1.9 – 1.957) Brueckner 90	6.1 (3.653) Batyunya 85B	Breakstone 85C	Levi 85
0.308 (1.901) Ahmad 85C	6.6 (3.778) Reeves 86	1479 (52.7) Angelis 85	Jenni 89
0.359 – 0.625 (1.909 – 1.969) Ashtford 85B	8 – 12 (4.108 – 4.934) Armstrong 87C	1496 (53) Akesson 86F	(546 – 900) Akesson 90B
0.36 – 0.76 (1.91 – 2.007) Tanimori 89B	8 – 12 (4.108 – 4.934) Armstrong 86F	1496 (53) Akesson 85B	(630) Akesson 90C
Sugimoto 88	9.9 (4.519) Baller 88	1496 (53) Akesson 85G	Albajar 90
0.39 – 0.78 (1.915 – 2.013) Kageyama 87	10.1 – 100 (4.56 – 13.76) Bogolyubsky 86F	Breakstone 85	Albajar 90D
Tanimori 85	12 (4.934) Chakrabarti 85	Erhan 85	Albajar 90E
0.4 – 0.6 (1.917 – 1.962) Bruckner 87	12 – 22.4 (4.934 – 6.621) Batyunya 87J	Kvatadze 88	Alitti 90
0.4 – 0.86 (1.917 – 2.037) Timmers 84	(5 – 62) Block 84	Lancor 86B	Alitti 90B
0.413 – 0.715 (1.919 – 1.994) Iwasaki 85B	22.4 (6.621) Batyunya 90	Tannenbaum 89	Alitti 90C
0.415 (1.92) Mutchler 88	Boos 89	Breakstone 86B	Alitti 90D
0.464 (1.93) Sapozhnikov 86	Kamazirski 89	Albajar 89	Fransson 90
0.497 – 1.55 (1.937 – 2.272) Kunne 88	Zlatanov 89	Ansorge 89	Pare 90
Kunne 88B	Batyunya 87E	Ansorge 89B	Albajar 89C
Kunne 88C	Batyunya 87F	Ansorge 89C	Alitti 89
0.542 – 0.556 (1.948 – 1.951) Birsa 85	Kanazirski 87	Pelzer 89	Botner 89
0.55 – 1.077 (1.95 – 2.107) Schiavon 89	Batyunya 86	Ansorge 88	Buschbeck 89
0.586 – 0.604 (1.959 – 1.963) Franklin 87	Batyunya 86C	Asman 88	Felicini 89
0.697 (1.988) Bertini 89	Batyunya 86D	Eckart 88	Meier 89
0.7 (1.989) Bertini 88C	Boos 86	Ansorge 87	Albajar 88C
0.7 – 0.76 (1.989 – 2.007) Banerjee 85	Baldin 85	Burov 87	Albajar 88D
0.76 – 12 (2.007 – 4.934) Banerjee 85B	Batyunya 85	Alner 86	Albajar 88E
1.25 – 1.55 (2.166 – 2.272) Sculli 87	24 (6.843) Batyunya 89	Geichgimbel 85	Albajar 88F
1.3 – 1.5 (2.184 – 2.254) Bardin 87	30 – 50 (7.621 – 9.778) Asad 85	Albajar 90B	Albajar 88G
1.435 – 1.447 (2.231 – 2.235) Vonfrankenbe 89	Bogolyubsky 89B	Holi 86	Albajar 88H
1.435 – 1.45 (2.231 – 2.236) Barnes 89	Bogolyubsky 88C	Schmidkler 86	Ansari 88B
1.476 – 1.507 (2.246 – 2.257) Barnes 89B	Bogolyubsky 88E	Alner 85D	Bonino 88
Barnes 87	Bogolyubsky 88G	Cerradini 85	Gan 88
	Bogolyubsky 88B	Albajar 90B	Mandelli 88
	Bogolyubsky 88B	Albajar 88	Albajar 88E
	Bogolyubsky 88C	Paoletti 89	Ansari 87
	Bogolyubsky 88E	Albajar 89B	Ansari 87B
	Bogolyubsky 88G	Ferbel 86	Lyons 87
	Bogolyubsky 88B	Rubbia 86	Repellin 87
	Bogolyubsky 88B	Alner 85	Richard 87
	Bogolyubsky 88C	Alner 85B	Arnison 86B
	Bogolyubsky 88E	Arnison 85	Bernard 86
	Bogolyubsky 88G	Banner 85	Appel 85
	Bogolyubsky 88B	Banner 85B	Appel 85B
	Bogolyubsky 88	Hanni 85	Appel 85C
	Bogolyubsky 88B	Savoyanavar 85	Binkley 90
	Bogolyubsky 88B	Alner 84B	Liss 90
	Bogolyubsky 88C	Bagnaia 84E	Abe 89L
	Bogolyubsky 88E	Albajar 88B	Abe 89M
	Bogolyubsky 88G	Albajar 87C	Barbarogalti 89
	Chekulaev 88B	Albajar 87E	Abe 88C
	Smirnova 88	Albajar 86C	Ainer 86C
	Bogolyubsky 87	Arnison 86C	Ward 86B
	Bogolyubsky 87B	Reya 85B	Abe 90B
	Bogolyubsky 87C	Vuillemin 85	Alexopoulos 90
	Bogolyubsky 87D	Stabenrauch 86	Barbarogalti 90
	Bogolyubsky 87E	Bernard 87	Harris 90
	Babinsev 86	(900)	Hessing 90

$\bar{p} p$ $\bar{p} U$

$\bar{p} p$	$\bar{p} ^4\text{He}$	$\bar{p} ^{20}\text{Ne}$	$\bar{p} \text{ Mo}$
Watts 90 Abe 89 Abe 89B Abe 89C Abe 89H Abe 89N Abe 89O Abe 89Q Abe 89R Abe 89S Abe 89T Banerjee 89 Blair 89 Geer 89 Hubbard 89B Kamon 89 Sinervo 89 Skarha 89 Smith 89 Tonelli 89 Wagner 89 Altrow 88 Alexopoulos 88B Turkot 88 Amos 90 Amos 90B Gladney 90 Abe 89D Amos 89 Freeman 89 Amos 88 Tonelli 88 Price 87 ? (14 - 43.7) Bertini 88B Rosner 85E	0.6 (4.802) Balestra 87 0.6077 (4.806) Batusov 89C 0.6077 (4.806) Batusov 88 0.6077 (4.806) Batusov 88B $\bar{p} \text{ He}$ 0 (4.667) Tsukerman 85 0.1928 - 0.3062 (4.682 - 4.705) Balestra 85 0.1928 - 0.6077 (4.682 - 4.808) Batusov 85C 0.6084 (4.808) Balestra 84 0.6462 - 1.23 (4.825 - 5.13) Piragino 86B $\bar{p} ^6\text{Li}$ 0.6 (6.676) Garreta 85 $\bar{p} \text{ Li}$ 40 (23.66) Boos 88 Boos 87 $\bar{p} ^7\text{Li}$ 0.18 (7.473) Sedlak 88 $\bar{p} ^9\text{Be}$ 0.18 (9.337) Sedlak 88 1.76 (10.23) Kuzichev 88 $\bar{p} \text{ Be}$ 1.26 - 2.5 (9.886 - 10.78) Kuzichev 89 40 (27.26) Antipov 87 100 (41.84) Dijkstra 86 Dijkstra 86C Dijkstra 86D Bailey 85B 120 (45.67) Katsanevas 87 125 (46.58) $\bar{p} ^{12}\text{C}$ 0.046 (12.12) Sedlak 88 0.18 (12.13) Garreta 84 0.3 - 1.247 (12.16 - 12.68) Piragino 86B 0.3007 - 0.6084 (12.16 - 12.28) Lichtenstadt 85 0.6 (12.28) Guaraldo 89B Garreta 85 0.608 (12.28) Mcgaughay 86 $\bar{p} \text{ C}$ 0.56 - 0.608 (12.27 - 12.29) Bjork 85 0.59 (12.28) Nakamura 85B 1.26 - 2.5 (12.7 - 13.63) Kuzichev 89 40 (31.96) Boos 88 Boos 87 $\bar{p} ^{16}\text{O}$ 0.2 - 0.3 (15.86 - 15.88) Poth 85 0.6084 (16.01) Lichtenstadt 85 $\bar{p} ^{17}\text{O}$ 0.2 - 0.3 (16.79 - 16.82) Poth 85 $\bar{p} ^3\text{He}$ 0 (3.733) Balestra 87B Batusov 87C 0.1928 (3.747) Balestra 88 $\bar{p} ^4\text{He}$ 0 (4.664) Balestra 87B Batusov 87C 0.04 - 0.05 (4.665 - 4.665) Balestra 89B 0.2 - 0.6 (4.681 - 4.802) Sedlak 88 0.201 - 0.609 (4.681 - 4.806) Balestra 86B	Balestra 87C 0.608 (19.74) Guaraldo 89B $\bar{p} \text{ Ne}$ 0.193 - 0.608 (19.74 - 19.9) Sedlak 88 0.201 - 0.609 (19.75 - 19.9) Balestra 86B 0.607 (19.9) Tosello 89 0.6084 (19.9) Guaraldo 89 0.6462 - 1.23 (19.92 - 20.3) Piragino 86B $\bar{p} ^{23}\text{Na}$ 0.2 - 0.3 (22.38 - 22.41) Poth 85 $\bar{p} ^{24}\text{Mg}$ 100 (70.51) Biswas 86 $\bar{p} \text{ Mg}$ 100 (71) Toothacker 87 $\bar{p} \text{ Al}$ 0.5141 - 0.6331 (26.2 - 26.26) Ashford 85 1.252 (26.67) Piragino 86B 1.26 - 2.5 (26.67 - 27.69) Kuzichev 89 $\bar{p} ^{27}\text{Al}$ 0.2 - 0.6 (26.11 - 26.26) Sedlak 88 $\bar{p} \text{ S}$ 40 (57.29) Boos 88 Boos 87 $\bar{p} \text{ Ar}$ 200 (127.6) Derado 88 $\bar{p} ^{40}\text{Ca}$ 0.2 - 0.6 (38.22 - 38.37) Sedlak 88 0.3007 - 0.6084 (38.24 - 38.37) Lichtenstadt 85 0.6082 - 0.6112 (38.37 - 38.37) Piragino 86B $\bar{p} ^{44}\text{Ca}$ 0.2 - 0.3 (41.94 - 41.97) Poth 85 $\bar{p} ^{64}\text{Fe}$ 0.18 (51.26) Sedlak 88 $\bar{p} \text{ Fe}$ 1.26 - 2.5 (53.58 - 54.64) Kuzichev 89 $\bar{p} ^{63}\text{Cu}$ 0.18 (59.64) Garreta 84 0.2 - 0.6 (59.64 - 59.79) Sedlak 88 $\bar{p} \text{ Cu}$ 0.5141 - 0.6331 (60.26 - 60.33) Ashford 85 1.252 (60.75) Piragino 86B 1.26 - 2.5 (60.75 - 61.82) Kuzichev 89 40 (90.79) Boos 88 Boos 87 120 (133.1) Bailey 85B 125 (135.3) Katsanevas 87 $\bar{p} ^{70}\text{Ge}$ 0.2 - 0.3 (66.16 - 66.19) Poth 85 $\bar{p} \text{ Yt}$ 0.608 (83.93) Mcgaughay 86	0 (90.31) Guaraldo 89 $\bar{p} \text{ Ag}$ 100 (173.8) Toothacker 87 120 (185) Bailey 85B $\bar{p} ^{109}\text{Ag}$ 100 (173.9) Biswas 86 $\bar{p} ^{112}\text{Cd}$ 1.76 (106.3) Kuzichev 88 $\bar{p} \text{ Cd}$ 1.26 - 2.5 (106.3 - 107.3) Kuzichev 89 $\bar{p} ^{115}\text{In}$ 0.18 (108.1) Sedlak 88 $\bar{p} \text{ Xe}$ 1.05 (123.7) Guaraldo 89 200 (252.8) Derado 88 $\bar{p} ^{138}\text{Ba}$ 0.2 - 0.3 (129.5 - 129.5) Poth 85 $\bar{p} \text{ Ta}$ 4 (172.6) Tosello 89 6.066 (174.6) Miyano 88 12.2 (180.4) Guaraldo 89 Andreev 87 $\bar{p} \text{ Wt}$ 120 (265.4) Bailey 85B 125 (268.6) Anassontzis 87 Katsanevas 87 $\bar{p} \text{ Au}$ 100 (265.3) Toothacker 87 $\bar{p} ^{197}\text{Au}$ 0.18 (185.3) Sedlak 88 100 (266.2) Biswas 86 $\bar{p} \text{ Pb}$ 0.5141 - 0.6331 (194.1 - 194.1) Ashford 85 1.26 - 2.5 (194.6 - 195.7) Kuzichev 89 40 (229.6) Boos 88 Boos 87 $\bar{p} ^{208}\text{Pb}$ 0 (194.7) Kreissl 87 0.18 (194.7) Sedlak 88 0.2 - 0.3 (194.7 - 194.7) Poth 85 $\bar{p} \text{ Bi}$ 0.2 (195.6) Berrada 85 $\bar{p} ^{209}\text{Bi}$ 0.1 (195.6) Campagnolle 89 0.18 (195.6) Garreta 84 $\bar{p} \text{ U}$ 0.5141 - 0.6331 (222.6) Ashford 85 1.252 (222.6) Piragino 86B 1.26 - 2.5 (222.6 - 222.7) Kuzichev 89 40 (222.8) Bocquet 86 0.608 (222.8) Mcgaughay 86 $\bar{p} \text{ U}$ 0 (222.7) Guaraldo 89B 0.2 (222.7) Angelopoulos 88 Berrada 85 0.607 (222.8) Guaraldo 89 120 (320) Bailey 85B

Entries in order of beam mass, then target mass, then beam momentum. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names. (See the Particle Vocabulary.) Beam momenta are equivalent p_{lab} in GeV/c; then E_{cm} in GeV follows in parentheses. For certain initial states only E_{cm} (in parentheses) is given. See the legend on page 123.

\bar{p} nucleus p p

\bar{p} nucleus	p p	p p	p p	
0 - 0.5	Balestra 86B	Pauletta 87	24 (6.843)	Batyunuya 90
0.18	Garreta 84	Tanaka 87	28 (7.11)	Batyunuya 87J
0.3 - 0.5	Guaraldo 89	1.331 - 1.639 (2.195 - 2.303)	32.1 (7.875)	Cameron 85B
< 0.6	Balestra 85B	Vovchenko 86B		Raymond 85
< 2.142	Piragino 86B	1.366 - 1.804 (2.207 - 2.361)		Bravina 89
< 4	Tosello 89	Bystrikly 85B		Bogolyubsky 88F
4 - 400	Panagiotou 89	1.373 - 1.696 (2.21 - 2.323)		Bogolyubsky 87E
5	Shivpuri 86	Bystrikly 85	50 (9.778)	Asad 85
5 - 300	Fredriksson 87	1.373 - 3.099 (2.21 - 2.8)	(11.29 - 61.28)	
13.3	Prokoshkin 87C	Bertini 88B		Prokoshkin 87C
40	Boos 88	Willis 89	69 (11.46)	Boos 88C
	Boos 87	Barlett 85	70 (11.54)	Abramov 86
185	Akchurin 89	Vovchenko 89B	85 (12.7)	Abramov 84C
		Borisov 86		Armstrong 89C
		1.5 - 300 (2.25 - 23.76)		Augustin 88C
0.045 (1.877)	Kistryn 87	Panagiotou 89		Armstrong 87
0.1228 - 1.505 (1.881 - 2.256)	Vanoers 85	1.504 - 1.69 (2.255 - 2.321)		Armstrong 86
0.1374 - 1.464 (1.882 - 2.241)	Bystricky 86D	Lac 88		Armstrong 86D
0.2 - 1 (1.887 - 2.082)	Yokosawa 85	1.504 - 2.991 (2.255 - 2.764)		Armstrong 86E
0.2461 (1.892)	Vovchenko 86	Lac 89C		Vassiliadis 85
	Vovchenko 85	1.504 - 3.511 (2.255 - 2.929)	120 (15.06)	Dijkstra 86D
0.304 - 2.48 (1.9 - 2.595)	Madigan 85	Lac 89D	147 (16.66)	Fuess 87
< 0.3104 (< 1.901)	Donoghue 84D	1.511 - 3.515 (2.258 - 2.931)		Brick 86
0.4 - 0.579 (1.917 - 1.957)	Omel 89	Lac 89	176 (18.22)	Gourlay 86
0.447 - 0.597 (1.926 - 1.962)	Hausmann 89	Lac 89B	185 (18.68)	Akchurin 89
0.5 - 0.8 (1.938 - 2.019)	Bystricky 85D	1.522 - 1.569 (2.262 - 2.278)		Bonner 88B
0.6 - 0.9 (1.962 - 2.05)	Andreev 88B	Vovchenko 89		Rutherford 85
0.6126 (1.966) Davis 85	1.55 - 3.2 (2.272 - 2.832)	1.557 - 3.515 (2.274 - 2.931)	19 (19 - 63)	Klar 84
0.6444 - 0.7771 (1.974 - 2.012)	Fearing 86	Lehar 88	200 (19.42)	Brick 90
0.65 - 0.8 (1.976 - 2.019)	Holas 85	Perrot 88		Brick 89
0.655 - 1.017 (1.977 - 2.087)	Garcon 87B	Bazhanov 88		Abe 88
0.7 - 1.3 (1.989 - 2.184)	Letar 86	Bazhanov 88B		Allday 88
0.7771 (2.012) Kitching 86	2.75 - 3.48 (2.686 - 2.92)	1.639 (2.303)		Derado 88
0.7942 - 1.475 (2.017 - 2.245)	Hiroshige 84C	Auer 86B		Becker 87
0.83 - 1.1 (2.028 - 2.115)	Bystricky 85C	1.696 (2.323)		Dengler 86C
0.88 - 2.7 (2.043 - 2.669)	Lehar 87B	Baturin 87		Naudet 86
	Perrot 87	1.921 - 3.099 (2.403 - 2.8)	200 - 400 (19.42 - 27.43)	200 - 400 (19.42 - 27.43)
0.926 - 1.696 (2.058 - 2.323)	Skhlyarevsky 86	Bertini 88		Abduzhamilov 88
0.9303 - 1.463 (2.059 - 2.241)	Blankleider 84	Bertini 85		Boos 88B
0.9543 - 1.023 (2.067 - 2.089)	Falk 83	2 - 11.75 (2.43 - 4.887)		Arenton 85B
0.9821 - 1.103 (2.076 - 2.116)	Waltham 83	Auer 88	205 (19.66)	Baldin 88B
0.9959 - 3.204 (2.08 - 2.833)	Perrot 86	2 - 400 (2.43 - 27.43)		Baldin 86
1 - 3 (2.082 - 2.768)	Shimizu 89	Boos 86		Baldin 86B
1 - 13 (2.082 - 5.12)	Soffer 85	2.75 - 3.48 (2.686 - 2.92)		Baldin 85B
1.01 - 1.168 (2.085 - 2.138)	Garcon 86	Auer 86B	250 (21.7)	Aivazyan 89
1.08 - 1.459 (2.108 - 2.239)	Aprile 86	3.099 (2.8)		Ajinenko 89D
1.09 - 1.463 (2.112 - 2.241)	Shynit 88	Frascaria 89		Adamus 88B
1.09 - 1.463 (2.112 - 2.241)	Glass 85B	Frascaria 87		Adamus 88G
1.09 - 1.921 (2.112 - 2.403)	Garcon 86	3.88 (3.042)		Grassler 88
< 1.1 (< 2.115)	Arndt 87	Nagaie 87		Adamus 87C
1.18 - 1.98 (2.142 - 2.423)	Wicklund 87	< 4 (< 3.077) Bystricky 86		Adamus 87D
1.278 - 1.463 (2.176 - 2.241)	Riley 87	4.2 (3.136)		Ajinenko 87
1.279 - 1.687 (2.177 - 2.32)	Dobrovolsky 88	Bekmiraev 87B		Adamus 86
1.282 - 1.463 (2.177 - 2.241)	Gazzaly 87	Bekmiraev 87C		Adamus 86C
		Bekmiraev 89		Adamus 86G
		3 - 12 (2.768 - 4.934)		Aivazyan 88
		Wicklund 85		Adamus 87
		3.099 (2.8)		Adamus 87D
		Frascaria 89		Adamus 87G
		Frascaria 87		Ajinenko 87
		< 4 (< 3.077) Bystricky 86		Adamus 86
		4.2 (3.136)		Aivazyan 88
		Bekmiraev 87B		Grassler 88
		Bekmiraev 87C		Adamus 87C
		Bekmiraev 89		Adamus 87D
		3 - 12 (2.768 - 4.934)		Ajinenko 87
		Wicklund 85		Adamus 86
		3.099 (2.8)		Aivazyan 88
		Frascaria 89		Adamus 87D
		Frascaria 87		Ajinenko 87
		< 4 (< 3.077) Bystricky 86		Adamus 86
		4.2 (3.136)		Aivazyan 88
		Bekmiraev 87B		Adamus 87D
		Bekmiraev 87C		Ajinenko 87
		Bekmiraev 89		Adamus 86
		3 - 12 (2.768 - 4.934)		Aivazyan 88
		Wicklund 85		Adamus 87
		3.099 (2.8)		Ajinenko 87
		Frascaria 89		Adamus 87D
		Frascaria 87		Ajinenko 87
		< 4 (< 3.077) Bystricky 86		Adamus 86
		4.2 (3.136)		Aivazyan 88
		Bekmiraev 87B		Adamus 87D
		Bekmiraev 87C		Ajinenko 87
		Bekmiraev 89		Adamus 86
		3 - 12 (2.768 - 4.934)		Aivazyan 88
		Wicklund 85		Adamus 87
		3.099 (2.8)		Ajinenko 87
		Frascaria 89		Adamus 87D
		Frascaria 87		Ajinenko 87
		< 4 (< 3.077) Bystricky 86		Adamus 86
		4.2 (3.136)		Aivazyan 88
		Bekmiraev 87B		Adamus 87D
		Bekmiraev 87C		Ajinenko 87
		Bekmiraev 89		Adamus 86
		3 - 12 (2.768 - 4.934)		Aivazyan 88
		Wicklund 85		Adamus 87
		3.099 (2.8)		Ajinenko 87
		Frascaria 89		Adamus 87D
		Frascaria 87		Ajinenko 87
		< 4 (< 3.077) Bystricky 86		Adamus 86
		4.2 (3.136)		Aivazyan 88
		Bekmiraev 87B		Adamus 87D
		Bekmiraev 87C		Ajinenko 87
		Bekmiraev 89		Adamus 86
		3 - 12 (2.768 - 4.934)		Aivazyan 88
		Wicklund 85		Adamus 87
		3.099 (2.8)		Ajinenko 87
		Frascaria 89		Adamus 87D
		Frascaria 87		Ajinenko 87
		< 4 (< 3.077) Bystricky 86		Adamus 86
		4.2 (3.136)		Aivazyan 88
		Bekmiraev 87B		Adamus 87D
		Bekmiraev 87C		Ajinenko 87
		Bekmiraev 89		Adamus 86
		3 - 12 (2.768 - 4.934)		Aivazyan 88
		Wicklund 85		Adamus 87
		3.099 (2.8)		Ajinenko 87
		Frascaria 89		Adamus 87D
		Frascaria 87		Ajinenko 87
		< 4 (< 3.077) Bystricky 86		Adamus 86
		4.2 (3.136)		Aivazyan 88
		Bekmiraev 87B		Adamus 87D
		Bekmiraev 87C		Ajinenko 87
		Bekmiraev 89		Adamus 86
		3 - 12 (2.768 - 4.934)		Aivazyan 88
		Wicklund 85		Adamus 87
		3.099 (2.8)		Ajinenko 87
		Frascaria 89		Adamus 87D
		Frascaria 87		Ajinenko 87
		< 4 (< 3.077) Bystricky 86		Adamus 86
		4.2 (3.136)		Aivazyan 88
		Bekmiraev 87B		Adamus 87D
		Bekmiraev 87C		Ajinenko 87
		Bekmiraev 89		Adamus 86
		3 - 12 (2.768 - 4.934)		Aivazyan 88
		Wicklund 85		Adamus 87
		3.099 (2.8)		Ajinenko 87
		Frascaria 89		Adamus 87D
		Frascaria 87		Ajinenko 87
		< 4 (< 3.077) Bystricky 86		Adamus 86
		4.2 (3.136)		Aivazyan 88
		Bekmiraev 87B		Adamus 87D
		Bekmiraev 87C		Ajinenko 87
		Bekmiraev 89		Adamus 86
		3 - 12 (2.768 - 4.934)		Aivazyan 88
		Wicklund 85		Adamus 87
		3.099 (2.8)		Ajinenko 87
		Frascaria 89		Adamus 87D
		Frascaria 87		Ajinenko 87
		< 4 (< 3.077) Bystricky 86		Adamus 86
		4.2 (3.136)		Aivazyan 88
		Bekmiraev 87B		Adamus 87D
		Bekmiraev 87C		Ajinenko 87
		Bekmiraev 89		Adamus 86
		3 - 12 (2.768 - 4.934)		Aivazyan 88
		Wicklund 85		Adamus 87
		3.099 (2.8)		Ajinenko 87
		Frascaria 89		Adamus 87D
		Frascaria 87		Ajinenko 87
		< 4 (< 3.077) Bystricky 86		Adamus 86
		4.2 (3.136)		Aivazyan 88
		Bekmiraev 87B		Adamus 87D
		Bekmiraev 87C		Ajinenko 87
		Bekmiraev 89		Adamus 86
		3 - 12 (2.768 - 4.934)		Aivazyan 88
		Wicklund 85		Adamus 87
		3.099 (2.8)		Ajinenko 87
		Frascaria 89		Adamus 87D
		Frascaria 87		Ajinenko 87
		< 4 (< 3.077) Bystricky 86		Adamus 86
		4.2 (3.136)		Aivazyan 88
		Bekmiraev 87B		Adamus 87D
		Bekmiraev 87C		Ajinenko 87
		Bekmiraev 89		Adamus 86
		3 - 12 (2.768 - 4.934)		Aivazyan 88
		Wicklund 85		Adamus 87
		3.099 (2.8)		Ajinenko 87
		Frascaria 89		Adamus 87D
		Frascaria 87		Ajinenko 87
		< 4 (< 3.077) Bystricky 86		Adamus 86
		4.2 (3.136)		Aivazyan 88
		Bekmiraev 87B		Adamus 87D
		Bekmiraev 87C		Ajinenko 87
		Bekmiraev 89		Adamus 86
		3 - 12 (2.768 - 4.934)		Aivazyan 88
		Wicklund 85		Adamus 87
		3.099 (2.8)		Ajinenko 87
		Frascaria 89		Adamus 87D
		Frascaria 87		Ajinenko 87
		< 4 (< 3.077) Bystricky 86		Adamus 86
		4.2 (3.136)		Aivazyan 88
		Bekmiraev 87B		Adamus 87D
		Bekmiraev 87C		Ajinenko 87
		Bekmiraev 89		Adamus 86
		3 - 12 (2.768 - 4.934)		Aivazyan 88
		Wicklund 85		Adamus 87
		3.099 (2.8)		Ajinenko 87
		Frascaria 89		Adamus 87D
		Frascaria 87		Ajinenko 87
		< 4 (< 3.077) Bystricky 86		Adamus 86
		4.2 (3.136)		Aivazyan 88
		Bekmiraev 87B		Adamus 87D
		Bekmiraev 87C		Ajinenko 87
		Bekmiraev 89		Adamus 86
		3 - 12 (2.768 - 4.934)		Aivazyan 88
		Wicklund 85		Adamus 87
		3.099 (2.8)		Ajinenko 87
		Frascaria 89		Adamus 87D
		Frascaria 87		Ajinenko 87
		< 4 (< 3.077) Bystricky 86		Adamus 86
		4.2 (3.136)		Aivazyan 88
		Bekmiraev 87B		Adamus 87D
		Bekmiraev 87C		Ajinenko 87
		Bekmiraev 89		Adamus 86
		3 - 12 (2.768 - 4.934)		Aivazyan 88
		Wicklund 85		Adamus 87
		3.099 (2.8)		Ajinenko 87
		Frascaria 89		Adamus 87D
		Frascaria 87		Ajinenko 87
		< 4 (< 3.077) Bystricky 86		Adamus 86
		4.2 (3.136)		Aivazyan 88
		Bekmiraev 87B		Adamus 87D
		Bekmiraev 87C		Ajinenko 87
		Bekmiraev 89		Adamus 86
		3 - 12 (2.768 - 4.934)		Aivazyan 88
		Wicklund 85		Adamus 87
		3.099 (2.8)		Ajinenko 87
		Frascaria 89		Adamus 87D
		Frascaria 87		Ajinenko 87
		< 4 (< 3.077) Bystricky 86		Adamus 86
		4.2 (3.136)		Aivazyan 88
		Bekmiraev 87B		Adamus 87D
		Bekmiraev 87C		Ajinenko 87
		Bekmiraev 89		Adamus 86
		3 - 12 (2.768 - 4.934)		Aivazyan 88
		Wicklund 85		Adamus 87
		3.099 (2.8)		Ajinenko 87
		Frascaria 89		Adamus 87D
		Frascaria 87		Ajinenko 87
		< 4 (< 3.077) Bystricky 86		Adamus 86
		4.2 (3.136)		Aivazyan 88
		Bekmiraev 87B		Adamus 87D
		Bekmiraev 87C		Ajinenko 87
		Bekmiraev 89		Adamus 86
		3 - 12 (2.768 - 4.934)		Aivazyan 88
		Wicklund 85		Adamus 87
		3.099 (2.8)		Ajinenko 87
		Frascaria 89		Adamus 87D
		Fr		

*p p**p* ^{12}C

<i>p p</i>	<i>p deuteron</i>	<i>p</i> ^6Li	<i>p</i> ^6Be
Akesson 88D Akesson 87 Akesson 87B Akesson 87C Akesson 87E Chauvat 87 Akesson 86 Akesson 86B Akesson 86C Akesson 86D Akesson 86E Akesson 85 Akesson 85B Akesson 85C Akesson 85D Akesson 85E Smith 85D (433.2 – 16777) Linsley 84 ?	1.099 – 1.101 (3.134 – 3.134) Punjabi 88 1.14 – 1.669 (3.152 – 3.403) Andreev 84 1.337 – 1.686 (3.244 – 3.411) Dobrovolsky 88 Velichko 88 1.438 – 1.669 (3.292 – 3.403) Andreev 87C 1.463 (3.304) Bartlett 85 1.463 – 1.696 (3.304 – 3.416) Andreev 87B 1.5 – 1.7 (3.322 – 3.418) Zielinsky 88 1.604 – 3.722 (3.372 – 4.335) Berthet 85 1.61 (3.375) Yokosawa 85 1.696 (3.416) Aleshin 90 Aleshin 87B Aleshin 87E Baturin 87 Belostotsky 84 3.5 (4.242) Ohmori 88 3.88 (4.401) I’ngae 87 3.9 (4.41) Nakai 89 4.2 (4.532) Bartke 85 19.2 (8.747) Boos 86B 300 (33.61) Crittenden 86 400 (38.79) Jaffe 89 Brown 86 800 (54.82) Mishra 90	1.696 (8.23) Baturin 86 3.9 (9.723) Nakai 89 6 – 10 (11.01 – 13.14) Heppelmann 89 Carroll 88	17.98 – 63.99 (19.33 – 33.85) Belyaev 89C 22 (21) Bonner 89 25 – 65 (22.17 – 34.1) Belyaev 88D 28.5 (23.45) Dukes 87 70 (35.31) Sullivan 87 Abramov 86 Abramov 84D 100 – 200 (41.84 – 58.56) Dijkstra 86 120 (45.67) Dijkstra 86C 200 – 250 (58.56 – 65.34) Bailey 85B 300 (71.47) Bauer 85 Rutherford 85 Crittenden 86 350 – 400 (77.12 – 82.39) Lamm 87 400 (82.39) Lundberg 89 Bernstein 88 Duffy 88 Luk 88 Miettinen 88 Wilkinson 87 Beretvas 86 Brown 86 Duffy 85 Hsiung 85 Romanowski 85 Bar 90C Burkhardt 87 450 (87.33) Fayard 89 450 – 800 (87.33 – 116.2) Schukraft 88B 450.9 (87.42) Patterson 90 800 (116.2) Stewart 90 Yamanka 90 Streets 89 Tannenbaum 89 Winstein 89 Yamanka 89 Yoshida 89 Gibbons 88 Gomez 86 Gomez 86B
<i>p n</i>	<i>p</i> ^3He	<i>p</i> ^9Be	<i>p</i> ^{10}Bor
0.1374 – 1.464 (1.883 – 2.243) Bystricky 86D 0.6103 (1.966) Sowinski 87 0.9543 (2.068) Ponting 88 1.463 (2.243) Bartlett 85 6 – 8 (3.63 – 4.111) Soffer 85 21 – 25 (6.424 – 6.984) Saidkhonov 86 100 – 300 (13.77 – 23.78) Bhattacharje 89B 300 (23.78) Alimov 89B Artykov 86 Azimov 85E 400 (27.45) Bhattacharje 90 Bhattacharje 89C	0.0433 – 0.1374 (3.734 – 3.74) Beltramin 85 0.6444 – 1.11 (3.88 – 4.1) Hasell 85 0.8081 – 1.023 (3.951 – 4.056) Epstein 85 0.8354 – 1.671 (3.964 – 4.404) Blinov 88 1.6 – 1.9 (4.365 – 4.531) Zielinsky 88 1.61 (4.371) Yokosawa 85C 1.696 (4.418) Alkhazov 85 2.251 – 3.099 (4.724 – 5.176) Ellegaard 89 Ellegaard 85 5 (6.093) Abdullin 89H	0.5513 (9.467) Segel 85 0.5523 (9.468) Wang 85D 0.6266 – 0.8081 (9.503 – 9.599) Green 86B 0.6791 (9.529) Roy 85B 1.09 (9.773) Cebra 89 1.26 – 2.5 (9.886 – 10.78) Kuzichev 89 1.282 (9.901) Hoistad 86 1.35 – 3.75 (9.948 – 11.67) Gachurin 85 1.463 (10.03) Barlow 88 1.693 (10.19) Koptyev 88 1.696 (10.19) Abrosimov 85B 1.696 – 5.762 (10.19 – 13.01) Naudet 88B 1.742 – 5.762 (10.23 – 13.01) Naudet 88 2.03 – 10.1 (10.44 – 15.55) Ergakov 86 2.5 – 9.2 (10.78 – 15.05) Safronov 88 2.89 – 5.762 (11.06 – 13.01) Naudet 88C Roche 88 Roche 87 4.542 – 10.09 (12.22 – 15.54) Lepikhin 87 4.94 – 10.14 (12.48 – 15.57) Boyarinov 87 Boyarinov 86 5.762 (13.01) Letessier 89 Letessier 89B 6.37 – 8.08 (13.4 – 14.42) Arefiev 85 7.5 (14.08) Bayukov 85D Bayukov 85F 10.1 (15.55) Safronov 88B Sibirtev 88 Voronin 88 Voronin 88B 10.14 (15.57) Bojarinov 89 Bojarinov 88 Bojarinov 88B Bojarinov 88C Bojarinov 87B 12 (16.54) Abe 87B Abe 86C 13.3 – 18.5 (17.18 – 19.55) Bonner 88 14.97 – 64.99 (17.98 – 34.1) Belyaev 89B	0.6444 – 0.7453 (10.44 – 10.49) Ziegler 85 1.696 (11.13) Baturin 87 7.5 (15.12) Bayukov 85D Gavrilov 85B
<i>p nucleon</i>	<i>p</i> ^4He	<i>p</i> ^{11}Bor	<i>p</i> ^{12}C
1.09 (2.114) Berezhnoj 85 1.696 – 5.762 (2.325 – 3.569) Naudet 88B 2 – 400 (2.433 – 27.45) 70 (11.55) Belikov 89 Sviridov 88 200 – 360 (19.44 – 26.05) Cobbart 87 300 (23.79) Artykov 90 Alimov 89B 400 (27.45) Virodov 89 Davenport 86 Green 86 Aziz 85 Badier 85B Georgiopoulos 84 800 (38.8) Abduzhamilov 89 808.1 (39) Albrow 88	46 – 400 (18.91 – 54.73) Gorshkova 85 1196 (94.5) Fredriksson 87 (124) Fischer 88 (157.5) Akeson 89 (220) Tannenbaum 89	0.6444 – 0.7453 (10.44 – 10.49) Ziegler 85 1.696 (11.13) Baturin 87 7.5 (15.12) Bayukov 85D Gavrilov 85B	0.046 (12.12) Sedlak 88 0.6084 – 0.6462 (12.28 – 12.3) Bimbot 85 0.6444 (12.3) Cowley 88 0.8533 – 1.09 (12.42 – 12.57) Digiocomo 85 1.35 – 3.75 (12.75 – 14.57) Gachurin 85 1.696 (13.01) Baturin 87 Alkhazov 85B 4.2 (14.9) Bekmirzaev 87B 4.2 – 10 (14.9 – 18.72) Angelov 89 Bekmirzaev 89 4.3 – 9.9 (14.98 – 18.66) Bajramov 89 4.491 (15.12) Kozma 89B 10 (18.72) Shahbazyan 90 Bekmirzaev 87 15 – 61 (21.49 – 38.6) Belyaev 88 Belyaev 88B
<i>p deuteron</i>	<i>p He</i>		
0.2873 (2.842) Kistryn 89 < 0.3104 (< 2.847) Donoghue 84D 0.4446 – 1.09 (2.88 – 3.129) Fearing 86 0.5 (2.896) Rees 86 0.5 – 0.8 (2.896 – 3.004) Chalmers 85 0.5804 (2.922) Vaners 85 0.8 (3.004) Adams 89 0.8081 – 1.09 (3.007 – 3.129) Silverman 85 0.896 (3.044) Mayer 89 0.9 – 1.1 (3.046 – 3.134) Mayer 86 0.9543 (3.069) Ponting 88 1.085 – 1.463 (3.127 – 3.304) Sun 85 1.09 – 1.463 (3.129 – 3.304) Rahbar 87 1.098 (3.133) Debebe 85 1.099 (3.134) Perdrisat 84	< 0.3104 (< 4.706) Donoghue 84D 0.3126 (4.707) Lang 85B 1.337 – 1.686 (3.192 – 5.401) Dobrovolsky 88 Velichko 85 1.696 (5.407) Alkhazov 85 4.2 (6.846) Bartke 85 400 (54.75) Miettinen 88 530.3 – 1037 (63 – 88) Akeson 85F 966.9 (85) Bell 85D 1037 (88) Richard 87		
	<i>p</i> ^6Li		
	0.4895 – 0.6444 (6.629 – 6.696) Warner 85 1.35 – 3.75 (7.106 – 8.679) Gachurin 85 1.696 (7.334) Alkhazov 85B 2 (7.537) Dukhovskoy 87 7.5 (10.8) Bayukov 85D		

Entries in order of beam mass, then target mass, then beam momentum. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names. (See the Particle Vocabulary.) Beam momenta are equivalent p_{lab} in GeV/c ; then E_{cm} in GeV follows in parentheses. For certain initial states only E_{cm} (in parentheses) is given. See the legend on page 123.

p ^{12}C

16.97 – 31.99	(22.49 – 29.01)
Belyaev	89
16.97 – 61.99	(22.49 – 38.89)
Belyaev	88C

p C

0.3956 – 1.199	(12.2 – 12.65)
Mcnaughton	86
0.5513 (12.26)	Segel 85
0.9543 – 1.023	(12.49 – 12.53)
Falk 83	
1 – 9 (12.52 – 18.13)	
Bayukov 85C	
Bayukov 85E	
1.206 (12.66)	Binz 89
1.26 – 2.5 (12.7 – 13.63)	Kuzichev 89
1.463 (12.84)	Barlow 88
Mikay 84	
1.693 (13.01)	Koptyev 88
Abrusimov 85B	
1.696 (13.02)	Baturin 87B
Andronenko 86	
Baturin 85	
Belostotsky 84	
2 – 10 (13.25 – 18.73)	Kutsidi 86
3 – 7.5 (14.01 – 17.18)	Vorobiev 89C
Bayukov 86	
3.88 (14.68)	Nagae 87
3.9 (14.69)	Nakai 89
4.2 (14.91)	Agakishiev 89B
Aliev 89	
Grigalashvili 88	
Gulkanyan 88D	
Mekhtiev 88	
Pluta 88B	
Kopylova 87	
Armutlijsky 86B	
Armutlijsky 86C	
Simich 86	
Bartke 85	
Agakishiev 84B	
4.2 – 10 (14.91 – 18.73)	Baatar 89
Agakishiev 88	
Angelov 88	
Baatar 88	
Baldin 88C	
Armutlijsky 87C	
Armutlijsky 87D	
Baatar 87B	
4.338 (15.01)	Ohmori 89
4.5 (15.13)	Abraamyan 88
5.1 (15.56)	Budilov 90
6 – 10 (16.18 – 18.73)	Heppeleman 89
6 – 12 (16.18 – 19.88)	Carroll 88
7.48 (17.17)	Abashidze 85B
7.5 (17.18)	Vlasov 90
Vorobiev 90	
Vorobiev 90B	
Bayukov 89	
Bayukov 89B	
Bayukov 89C	
Vlasov 89	
Vlasov 89B	
Vorobiev 93B	
Bayukov 88	
Vlasov 88	
Vorobiev 88D	
Vorobiev 87C	
Vlasov 86	
Vorobiev 86B	
Vorobiev 85D	
Bayukov 85F	
Vorobiev 85B	
10 (18.73)	Armutlijsky 88
Lyubimov 88	
Agakishiev 87B	
Armutlijsky 87	
Armutlijsky 87B	

p C

14.5 (21.24)	Armutlijsky 86
200 (67.83)	Baldin 86B
17.98 – 63.99	Kopylova 86B
25 – 65 (26.19 – 39.76)	Armutlijsky 85B
70 (41.14)	Baldin 85
17.98 – 63.99 (23 – 39.47)	Renzberg 88
70 (41.14)	Tannenbaum 88
17.98 – 63.99 (23 – 39.47)	Belyaev 89C
70 (41.14)	Belyaev 88D
17.98 – 63.99 (23 – 39.47)	Belyaev 88D
70 (41.14)	Afanasyev 90
200 (67.83)	Afanasyev 90B
200 (67.83)	Abramov 84E
200 (67.83)	Badier 85C
200 (67.83)	Badier 85E
200 (67.83)	Badier 85F
200 (67.83)	Bardadinow 85
200.9 (67.99)	Schmidt 88
400 (95.27)	Miettinen 88
(106.4 – 47.32)	Avakyan 89C
530 (109.5)	De 89
800 (134.3)	Nishra 90
800 (134.3)	Ewart 90
800 (134.3)	Tannenbaum 89
800 (134.3)	Gomez 86
800 (134.3)	Gomez 86B

p ^{13}C

0.0573 (13.05)	Savage 88C
	Savage 86B
0.5708 (13.19)	Goodman 85

p ^{14}N

21 (26.82)	Bajramov 89
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p N

0.5708 (15.06)	Goodman 85
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p ^{16}O

0.6444 (16.03)	Glover 85B
1.696 (16.75)	Baturin 87

p F

7.5 (24.12)	Bayukov 85D
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p ^{19}F

0.0398 (18.64)	Savage 88C
0.057 (18.64)	Bini 89B
1.696 (19.56)	Baturin 87

p ^{20}Ne

300 (107.4)	Aliev 89
	Alimov 89
	Alimov 88
	Zielinsky 88

p Ne

28 (37.5)	Fredriksson 87
300 (107.8)	Artykov 90
	Artykov 89
	Artykov 86
	Azimov 86
	Azimov 85
	Azimov 85E
	Azimov 85F
	Azimov 84B
	Azimov 84C

p Na

1.463 (23.1)	Miake 84
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p ^{24}Mg

1.696 (24.23)	Baturin 87
100 (70.51)	Biswas 86

p Mg

100 (71)	Toothacker 87
200 (97.82)	Brick 90
	Brick 89

p Al

1.696 (25.18)	Baturin 87
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p A

1.696 (26.1)	Baturin 87
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p C

1.26 – 2.5 (26.67 – 27.69)	
	Kuzichev 89
1.693 (27.02)	Koptyev 88
	Abrusimov 85B

p B

1.696 (27.02)	Baturin 85
	Belostotsky 84
2.03 – 10.1 (27.29 – 33.8)	Lepikhin 87
	Tokushuku 90

p D

3.88 (28.87)	Nagae 87
3.9 (28.88)	Nakai 89
4 (28.97)	Tokushuku 90

p E

4.542 – 10.09 (29.42 – 33.8)	Enyo 85
	Lepikhin 87
4.94 – 10.14 (29.75 – 33.83)	Bojarinov 87
	Bojarinov 86

p F

5.762 (30.43)	Shibata 86
6 – 10 (30.62 – 33.73)	Heppelmann 89

p G

6 – 12 (30.62 – 35.18)	Carroll 88
	Arefiev 85
7.5 (31.82)	Bayukov 85
	Bayukov 85F

p H

8.9 (32.9)	Averchikov 87
10.1 (33.8)	Safronov 88B
	Sibirtsev 88
	Voronin 88

p I

10.14 (33.83)	Bojarinov 89
	Bojarinov 88
	Bojarinov 88B
	Bojarinov 87B

p J

14.5 (36.92)	Remsberg 88
	Tannenbaum 88
14.97 – 64.99 (37.24 – 62.45)	Belyaev 89B
	Belyaev 89

p K

25 – 65 (43.48 – 62.45)	Belyaev 88D
	Belyaev 88D
28.4 (45.4)	Snow 85
70 (64.43)	Barkov 85C

p L

220 – 1500 (108.1 – 275.7)	Abramov 84E
	Dzaoshvili 90
300 (125.3)	Cobbaert 88
	Cobbaert 88B

p M

360 (136.9)	Baily 88
	Baily 87D
400 (144)	Miettinen 88
450.9 (152.6)	Schukraft 88B

p N

530 (165.1)	De 89
800 (202.1)	Streets 89
	Tannenbaum 88
	Gomez 86

p O

> 10 ³ (> 225.6)	Berdzenishvili 85
0.2941 – 0.6444 (26.13 – 26.28)	Michel 85
0.3467 – 1.166 (26.15 – 26.62)	Machnner 85
1.35 – 3.75 (26.76 – 28.77)	Gachurin 85

p P

1.096 (27.04)	Baturin 87

<tbl_r cells="2" ix="4

p Fe

<i>p Fe</i>	
300 (184.2)	Sviridov 88 Cobbaert 88 Coojaert 88B Muraki 84 (233.9 - 1021) Avakyan 89C (233.9 - 723.1) Avakyan 85D Avakyan 85E 800 (293.2) Mishra 90 Streets 89

<i>p</i> ⁵⁸ Ni	
0.4207 (55.05) Machner 85	
0.5513 (55.11) Segel 85	
7.5 (61.13) Bayukov 85D Gavrilov 85B	

<i>p Ni</i>	
4.491 (59.11) Kozma 88B	
7.5 (61.79) Bayukov 85D	
9 (63.1) Kozma 86B	

<i>p</i> ⁵⁹ Co	
0.2941 - 0.6444 (55.94 - 56.09) Michel 85	
4.491 (59.38) Kozma 90B Kozma 88B	

<i>p</i> ⁶² Ni	
0.5513 (58.84) Segel 85	

<i>p Cu</i>	
0.8459 - 0.9189 (60.45 - 60.5) Haysak 85	
0.8474 - 0.9668 (60.46 - 60.54) Akimov 89	
1 - 9 (60.56 - 67.65) Bayukov 85C Bayukov 85E	
1.26 - 2.5 (60.75 - 61.82) Kuzichev 89	
1.693 (61.11) Koptyev 88 Abrosimov 85B	
1.696 (61.11) Baturin 87 Baturin 86 Baturin 85 Belostotsky 84	
2.03 - 10.1 (61.4 - 68.6) Ergakov 86	
2.5 - 9.2 (61.82 - 67.82) Safronov 88	
3 - 7.5 (62.27 - 66.33) Vorobiev 89C	
3.88 (63.07) Nagae 87 3.9 (63.09) Nakai 89	
4.338 (63.49) Ohmori 89 4.491 (63.63) Kozma 88B	
4.542 - 10.09 (63.67 - 68.6) Lepikhin 87	
4.94 - 10.14 (64.04 - 68.64) Boyarinov 87 Boyarinov 86	
6 - 10 (64.99 - 68.51) Heppermann 89 Carroll 88	
6.37 - 8.08 (65.33 - 66.84) Arefev 85	
7.48 (66.31) Abashidze 85B 7.5 (66.33) Vorobiev 90B Vorobiev 87C Bayukov 85 Bayukov 85D Bayukov 85F	
8.9 (67.56) Averchikov 87 9 (67.65) Kozma 86 10.1 (68.6) Safronov 88B Sibirtsev 88 Voronin 88 Vorontsov 88B 10.14 (68.64) Boyarinov 89 Boyarinov 88 Boyarinov 88B Boyarinov 88C Boyarinov 87B	

<i>p Cu</i>	
12 (70.22) Inagaki 89C	
14.5 (72.29) Abe 87B Abe 86C Renzberg 88	
24 (79.68) Tannenbaum 88	
28.4 (82.88) Ohi 90	
70 (108.6) Snow 85	
120 (133.1) Abramov 86	
200.9 (165.2) Abramov 84D	
400 (225.5) Bailey 85B	

<i>p</i> ⁵⁸ Ni	
0.4207 (55.05) Machner 85	
0.5513 (55.11) Segel 85	

<i>p</i> ⁵⁹ Co	
0.2941 - 0.6444 (55.94 - 56.09) Michel 85	

<i>p</i> ⁶² Ni	
0.5513 (58.84) Segel 85	

<i>p Cu</i>	
530 (257.4) Duffy 88	
800 (313.4) Stewart 90	
Brown 86	
Guo 89	
Tannenbaum 89	
Brown 86B	
Gomez 86	
Gomez 86B	
> 10 ³ (> 349.1) Berdzenishvili 85	

<i>p</i> ⁶⁴ Ni	
0.5513 (60.7) Segel 85	
7.5 (66.75) Bayukov 85D Gavrilov 85B	

<i>p</i> ⁶⁴ Cu	
4.491 (64.05) Kozma 90B	

<i>p</i> ⁶⁵ Zn	
1.35 - 3.75 (62.18 - 64.3) Gachurin 85	

<i>p</i> Zn	
7.5 (68.05) Bayukov 85D	

<i>p</i> ⁷¹ Ga	
0.4895 - 0.6444 (67.16 - 67.24) Krofcheck 85	

<i>p</i> ⁸¹ Br	
0.6266 - 0.6444 (76.58 - 76.59) Krofcheck 87	

<i>p</i> Kr	
80.93 - 350.9 (136.9 - 246.7) Shibata 86	

<i>p</i> ⁸⁹ Yt	
0.6084 - 0.6462 (84.02 - 84.04) Birnboim 85	

<i>p</i> ⁹⁰ Zr	
0.4207 (84.86) Machner 85	

<i>p</i> Zr	
0.6444 - 0.9543 (84.97 - 85.17) Lee 88	

<i>p</i> ¹²⁰ Sn	
0.3467 (112.8) Machner 85	

<i>p</i> ¹²⁴ Sn	
0.5513 (116.6) Segel 85	

<i>p</i> ¹²⁶ Sn	
1.696 (117.4) Baturin 87	

<i>p</i> ¹²⁸ Sn	
7.5 (122.8) Bayukov 85D Gavrilov 85B	

<i>p</i> ¹³⁰ Sn	
10.1 (178.4) Safronov 88B Sibirtsev 88 Voronin 88 Vorontsov 88B	

<i>p</i> ¹³² Sn	
10.14 (178.4) Boyarinov 89 Boyarinov 88 Boyarinov 88B	

<i>p</i> ¹³⁴ Sn	
1.693 (86.89) Koptyev 88	

<i>p</i> Zr	
14.5 (72.29) Remsberg 88	
7.5 (93.8) Bayukov 85F	
14.97 - 64.99 (103.3 - 140) Belyaev 89B	
17.5 - 63 (105.3 - 138.7) Belyaev 85	
17.98 - 63.99 (105.9 - 139.4) Belyaev 89C	
25 - 65 (111.6 - 140) Belyaev 88D	

<i>p</i> ⁹⁸ Mo	
0.4895 (92.36) Rapaport 85	

<i>p</i> Ag	
0.6266 - 1.064 (101.6 - 101.9) Green 86B	

<i>p</i> Ag	
1.09 (101.9) Cebra 89	
1.463 (102.2) Miike 84	
1.696 (102.4) Andronenko 86	
1.90 (105) Roepke 85	
2.49 (105) Kozma 90	
4.9 (105.4) Hufner 85	
5.762 (106.2) Shibata 86	
100 (173.8) Toothacker 87	
120 (185) Bailey 85B	
200 (224.3) Brick 90	
200 (224.3) Brick 89	
200.9 (224.7) Schmidt 88	
300 (265.3) Bujak 85	

<i>p</i> Ag	
4.491 (105.1) Kozma 90B	
100 (173.9) Biswas 86	

<i>p</i> Sn	
7.5 (111.6) Bayukov 85D Gavrilov 85B	

<i>p</i> Cd	
1.26 - 2.5 (106.3 - 107.3) Kuzichev 89	
3 - 7.5 (107.8 - 112) Vorobiev 89C	
7.5 (112) Bayukov 85F	

<i>p</i> In	
7.5 (114.3) Bayukov 85D	

<i>p</i> In	
7.5 (114.3) Bayukov 85D	

<i>p</i> Sn	
1.693 (112.5) Koptyev 88	

<i>p</i> Sn	
1.696 (112.5) Baturin 85	

<i>p</i> Sn	
7.5 (117.9) Bayukov 85F	

<i>p</i> Sn	
70 (166.4) Abramov 84E	

<i>p</i> Sn	
400 (317.3) Miettinen 88	

p Ta	p Au	p Pb	p nucleus
Boyarinov 88C Boyarinov 87B	360 (407.1) Bamberger 86 Baily 88 Baily 87D	530 (491.8) De 89 800 (588.3) Stewart 90 Tannenbaum 89 Gomez 86 Gomez 86B Matis 86 $> 10^3$ (> 650.6) Berdzenishvili 85	70 Absmetova 85 70 - 250 Bhattacharje 89 Prakash 87C Lyukov 89 Batusov 85B Antonchik 87 Akchurin 89 Brick 90 Abe 88 Boos 86C Errico 85 Takibaev 90
p ^{181}Ta	p ^{197}Au	p ^{208}Pb	
0.0433 - 0.1567 (169.5 - 169.6) Machner 85 1.35 - 3.75 (170.2 - 172.4) Gachurin 85 1.696 (170.5) Baturin 87 4.491 (173.1) Kozma 90B 9 (177.4) Kozma 87	0.6444 (185.5) Machner 85 1.696 (186.3) Chestnov 87 4.491 (188.9) Kozma 90 Kozma 90B Dandinsuren 88B 100 (266.2) Biswas 86	0.6444 (194.9) Morsch 85 0.6444 - 0.9543 (194.9 - 195.1) Lee 88	90.2 - 99 Batusov 85B 185 Antonchik 87 200 Akchurin 89 200 - 360 Boos 86C 200 - 400 Errico 85 Boos 88B Aggarwal 85 Andreeva 85B Buschbeck 89 Holynski 89B Holynski 89 Dzhaoshvili 90 Rutherford 85 Jain 88B Avakyan 85F Ahmad 90 Moore 90 Tariq 90 Shivpuri 88 Shivpuri 88B Shivpuri 87 Berger 86B Rosner 85E Avakyan 85C Sulyaeva 88 Mishra 90 Abduzhamilov 89 Abduzhamilov 88C Barbier 88 Abdurazakov 87 Abduzhamilov 87 Jain 87B Shivpuri 87B Jain 86 Matis 86 Reiner 86 Berdzenishvili 85 Kawamura 89 Azimov 85B Nikolsky 85 Otterlund 88 Linsley 84 Dubovsky 88 Dawson 86 Efimov 89 Cason 89
p Wt	p Hg	p Bi	
10 (181) Bertin 88 12 (182.9) Abe 87B Abe 86C 14.97 - 64.99 (185.7 - 227.1) Belyaev 89B 25 - 65 (194.7 - 227.1) Belyaev 88D 70 (230.9) Barkov 85C 120 (265.4) Bailey 85B 125 (268.6) Anassontzis 85 200.9 (313.3) Akesson 89D Akesson 89E Bartels 88 Schukrauf 88B 300 (363.4) Bertin 86 Crittenden 86 400 (407.8) Duffy 88 Brown 86 Duffy 86 Badier 85B Badier 85D Childers 85 Duffy 85 Hsiung 85 Romanowski 85 800 (550.8) Mishra 90 Kaplan 89 Streets 89	800 (577.8) Matis 88 Matis 86	0.5513 (195.8) Segel 85	200 - 800
p ^{184}Wt	p ^{207}Pb	p ^{209}Bi	
1.696 (173.3) Chestnov 87	1.35 - 3.75 (194.4 - 196.6) Gachurin 85	0.4207 (195.7) Machner 85 0.4895 - 1.463 (195.7 - 196.4) Dombitsky 85 1.35 - 3.75 (196.3 - 198.5) Gachurin 85	200.9 220 - 1500 300 - 800 300 - 1600 400
p Pt	p Pb	p Ac	
12 (193.4) Nakamura 89 28.4 (208.2) Snow 85	0.5 (194.1) Rees 86 0.6084 - 0.6462 (194.1 - 194.1) Bimbot 85 1 - 9 (194.4 - 201.9) Bayukov 85C Bayukov 85E 1.206 (194.5) Faisser 88 Faisser 88 1.26 - 2.5 (194.6 - 195.7) Kuzichev 89 1.463 (194.7) Miake 84 1.693 (194.9) Koptev 88 Abrosimov 85B 1.696 (194.9) Baturin 85 Baturin 85 Belostotsky 84 2.89 (196) Schenitzer 89 3 - 7.5 (196.1 - 200.4) Vorobiev 89C Bayukov 86 Tokushiku 90 Enyo 85 Kozma 90B Dandinsuren 89 Voronko 88 4.5 - 7.5 (197.6 - 200.4) Vorobiev 86B 6 - 10 (199 - 202.8) Heppermann 89 Carroll 88 Vlasov 90 Vorobiev 90 Bayukov 89 Bayukov 89B Bayukov 89C Vlasov 89 Vlasov 89B Vorobiev 89B Bayukov 88 Vorobiev 88D Vorobiev 87C Vlasov 86 Vorobiev 85B Bayukov 85 Bayukov 85B Bayukov 85F Vorobiev 85B Averichev 89 Abramov 86 Abramov 86B Abramov 84D Abramov 84E Underwood 89 Abe 88 200 (338.3) Akesson 89B 100 (265.3) Toothacker 87 200 (327.2) Brick 90 Brick 89 London 89 Tannenbaum 89 Abe 88 200 (327.7) Odyniec 89 Pugh 89 Albrecht 88B Schmidt 88 Stroble 88 Schmidt 87	3.9 (215.4) Nakai 89	200 - 800
p Au	p ^{232}Th	p ^{238}U	
0.3438 - 1.627 (184.5 - 185.3) Aleksandrov 89 1 - 300 (184.8 - 379.1) Hufner 85 1.696 (185.4) Aleksandrov 87B 2.55 (186.2) Avdejchikov 87I 3.308 - 8.386 (186.9 - 191.7) Avdejchikov 87B Avdejchikov 87E 3.36 - 8.396 (186.9 - 191.7) Avdejchikov 87 Avdejchikov 87C 5.1 (188.6) Budilov 90 7.48 (190.9) Abashidze 85B 14.5 (197.5) Remsberg 88 Tannenbaum 88 60.93 - 200.9 (236.7 - 327.7) Bamberger 89 Franz 88B Lohner 88 Vesztergombi 88 100 (265.3) Toothacker 87 200 (327.2) Brick 90 Brick 89 London 89 Tannenbaum 89 Abe 88 200 (338.3) Odyniec 89 Pugh 89 Albrecht 88B Schmidt 88 Stroble 88 Schmidt 87	1.693 (223.7) Koptev 88 4.9 (226.7) Hufner 85 5.762 (227.5) Shibata 86 7.5 (229.2) Bayukov 85C 120 (320) Bayukov 85F 200.9 (371.9) Sonderegger 89 300 (426.9) Cobbaert 88 320 (437.1) Cobbaert 88B Catanesi 89	0.8533 - 1.09 (223 - 223.1) Digiacomo 85 1.35 - 3.75 (223.3 - 225.5) Gachurin 85 1.696 (223.6) Filatov 88 28 (248.1) Hufner 85 200.9 (371.8) Sonderegger 88	500 - 5 - 10^3 < 800 800
p U	p ^{235}U	p ^{238}U	
	1 - 9 (223.1 - 230.6) Bayukov 86 Tokushiku 90 Enyo 85 Kozma 90B Dandinsuren 89 Voronko 88 4.5 - 7.5 (197.6 - 200.4) Vorobiev 86B 6 - 10 (199 - 202.8) Heppermann 89 Carroll 88 Vlasov 90 Vorobiev 90 Bayukov 89 Bayukov 89B Bayukov 89C Vlasov 89 Vlasov 89B Vorobiev 89B Bayukov 88 Vorobiev 88D Vorobiev 87C Vlasov 86 Vorobiev 85B Bayukov 85 Bayukov 85B Bayukov 85F Vorobiev 85B Averichev 89 Abramov 86 Abramov 86B Abramov 84D Abramov 84E Underwood 89 Abe 88 200 (338.3) Akesson 89B 100 (265.3) Toothacker 87 200 (327.2) Brick 90 Brick 89 London 89 Tannenbaum 89 Abe 88 200 (338.3) Odyniec 89 Pugh 89 Albrecht 88B Schmidt 88 Stroble 88 Schmidt 87	1 - 9 (223.1 - 230.6) Bayukov 85C Bayukov 85E 1.693 (223.7) Koptev 88 4.9 (226.7) Hufner 85 5.762 (227.5) Shibata 86 7.5 (229.2) Bayukov 85 120 (320) Bayukov 85F 200.9 (371.9) Sonderegger 89 300 (426.9) Cobbaert 88 320 (437.1) Cobbaert 88B Catanesi 89	> 10^3 $10^3 - 10^5$ $4 \cdot 10^3 - 5 \cdot 10^5$ $5 \cdot 10^3 - 10^6$ $8 \cdot 10^4$ $10^5 - 10^{10}$ $3 \cdot 10^5 - 5 \cdot 10^5$ 10^6 $2 \cdot 10^7$?
p nucleus	p supernucleus	p \bar{n}	
	1.05 - 400.9 Atageldieva 88 1.4 - 400 Gavrilov 85 1.5 Harper 85 1.921 Antonchik 90B 2.03 - 10.1 Sibirtsev 90 2.401 - 15.01 Ableev 87D 2.89 Schnetzer 89 3.2 Stock 87 4.2 Grishin 88B 4.5 Vokal 88 Bannik 87B Leskin 86 Fredriksson 87 Baldin 87 Baldin 88 Kumar 89 Guaraldo 89B 10 Shahbazyan 88 Baldin 86 Kopylova 86 Panagiotou 89 Bernardi 85 Bajramov 89 24 - 400 Azinov 85 24 - 800 Abduszhamilov 88B 30 - 400 Kim 85 67 - 400 Takibaev 88	0.1374 Norman 87B	
p Pb	P	n p	
	> 0.01 Hirata 88E 0.1 - 2 Nieminen 85 0.5742 - 0.7481 Yock 86	0 (1.878) Borzakov 87 Enghardt 87 Greene 86 0.025 (1.878) Sromicki 86 0.1228 - 1.505 (1.882 - 2.257) Vanders 85 0.1374 - 1.464 (1.883 - 2.242) Bystriky 86D 0.22 - 0.477 (1.89 - 1.934) Aberg 89B	
p nucleus	p supernucleus	n p	
	> 10^3 $10^3 - 10^5$ $4 \cdot 10^3 - 5 \cdot 10^5$ $5 \cdot 10^3 - 10^6$ $8 \cdot 10^4$ $10^5 - 10^{10}$ $3 \cdot 10^5 - 5 \cdot 10^5$ 10^6 $2 \cdot 10^7$?	< 3.106 (< 1.903) Donoghue 84D 0.4898 - 1.194 (1.937 - 2.148) Grundies 85	

n p

nucleon Pb

n p							
0.5317 – 1.207 (1.947 – 2.153) Binz 89B	Cumalat 87B Diesburg 87 Filaseta 87B Shipbaugh 87	n Si	Coteus 87 Coteus 87B Cumalat 87B Filaseta 87B Shipbaugh 87	n Bi	0.5712 – 1.188 (195.8 – 196.2) Franz 88		
0.618 (1.968) Meyer 85D					0.8085 – 1.194 (195.9 – 196.2)		
0.6448 – 1.091 (1.975 – 2.113) Davis 88					Buchle 89		
0.7411 – 0.7941 (2.002 – 2.018) Hutcheon 89	0 (10.26) Ermakov 86C		< 0.1304 (< 33.55) Avenier 85		Franz 89		
0.7618 (2.008) Fearing 86					n 233U	0.1501655 · 10 ⁻⁴ (218) Bondarenko 87	
0.9237 – 1.793 (2.058 – 2.358) Terrier 87					n 235U	0.1501655 · 10 ⁻⁴ (219.8) Bondarenko 87B	
0.9237 – 1.85 (2.058 – 2.378) Dobrovolsky 88					n Mn	0 (222.6) Daimdinsuren 88	
1 – 4.2 (2.083 – 3.363) Bekmirzaev 87B	0.8085 – 1.194 (12.39 – 12.64) Franz 89		0.5712 – 1.188 (52.27 – 52.68) Franz 88		n Fe	0.1501655 · 10 ⁻⁴ (222.6) Bondarenko 87B	
1 – 5 (2.083 – 3.363) Yokosawa 85C	1 – 4.2 (12.51 – 14.9) Bekmirzaev 87B		(233.9 – 1021) Avakyan 89C		n U	0.5712 – 1.188 (222.8 – 223.2) Franz 88	
1 – 6 (2.083 – 3.628) Yokosawa 85	1.149 (12.61) Franz 85				n 56Fe	< 0.005 (< 53.1) Vesna 89	
1 – 200 (2.083 – 19.42) Azimov 85D	3 – 10 (14.01 – 18.72) Alekseev 88				n Co	0.5712 – 1.188 (55.99 – 56.4) Franz 88	
1.06 (2.103) Abegg 89					n nucleus	< 0.2 · 10 ⁻⁴ Schmidtmayer 88	
1.069 – 1.45 (2.106 – 2.237) Garnett 89						7 Kechetian 89	
1.091 – 1.464 (2.113 – 2.242) Ditzler 87						40 Shahbazyan 88	
< 1.1 (< 2.116) Arndt 87						40 – 70 Aleev 88G	
1.25 – 2.23 (2.167 – 2.511) Troyan 88	1 – 200 (12.52 – 67.83) Azimov 85D		20 – 60 (76.65 – 103) Aleev 85B			160 – 375 Fredriksson 87	
Beshliu 85	4.2 (14.91) Bekmirzaev 88		20 – 70 (76.65 – 108.6) Aleev 89			640 Klein 89C	
1.25 – 5.1 (2.167 – 3.39) Zielinsky 88	Bekmirzaev 88B		40 (90.79) Kraster 88			n	> 10 ³ Nieminen 85
Beshliu 86	Bekmirzaev 87C		40 – 70 (90.79 – 108.6) Aleeve 87B			n p	0.1 – 0.5 (1.88 – 1.939) Armstrong 87B
1.257 (2.17) Troyan 86	Kopylova 87		Aleeve 87				0.48 – 0.72 (1.935 – 1.996) Armstrong 86C
1.257 – 1.788 (2.17 – 2.356) Ball 88	Bekmirzaev 86		40 – 70 (109.6 – 132) Aleeve 86C				0.5 – 0.8 (1.939 – 2.02) Sedlak 88
Lehar 87	Bekmirzaev 85						0.7 (1.99) Banerjee 86C
1.261 – 1.68 (2.171 – 2.318) Korolev 85	20 – 60 (23.96 – 38.32) Aleeve 85B						6.1 (3.653) Banerjee 85
1.373 – 1.696 (2.21 – 2.324) Bystricky 85	20 – 70 (23.96 – 41.14) Aleeve 89						6.1 Batyunya 88B
1.397 – 1.457 (2.219 – 2.24) Delesquen 88	Aleeve 88D						6.1 Batyunya 87B
1.452 (2.238) Nath 89	Aleeve 88F						6.1 Batyunya 86B
< 1.697 (< 2.324) Lechanoinche 86	Aleeve 88B						6.1 Batyunya 84
1.73 (2.336) Glagolev 89C	40 (31.96) Krastev 88						
3 – 200 (2.768 – 19.42) Prokoshkin 87C	Aleeve 87B						
4.2 (3.137) Bekmirzaev 88B	Aleeve 86C						
< 5 (< 3.363) Bystricky 87	Aleeve 85						
6.1 (3.653) Batyunya 86B	Aleeve 84C						
20 – 70 (6.272 – 11.54) Aleeve 89	(106.4 – 473.2) Avakyan 89C						
Aleeve 89B							
Aleeve 88D							
Aleeve 88F							
30 – 70 (7.621 – 11.54) Aleeve 89C	0.5712 – 1.188 (15.99 – 16.37) Franz 88						
40 (8.766) Aleeve 88B							
40 – 70 (8.766 – 11.54) Vecko 89	1 – 200 (19.98 – 88.32) Azimov 85D						
Aleeve 88C							
Aleeve 88E							
?							
Ananiev 83							
n n							
6.1 (3.656) Batyunya 85D							
n nucleon							
560 (32.47) Cumalat 87							
n deuteron							
< 0.3106 (< 2.848) Donoghue 84D							
n Be							
0.5712 – 1.188 (9.477 – 9.838) Franz 88	0.5712 – 1.188 (26.23 – 26.62) Franz 88						
640 (104) Klein 89C	20 – 60 (40.48 – 60.41) Aleeve 85B						
Shipbaugh 88B	20 – 70 (40.48 – 64.43) Aleeve 89						
Coteus 87	Aleeve 88D						
Coteus 87B	Aleeve 88F						
	40 (51.42) Krastev 88						
	40 – 70 (51.42 – 64.43) Aleeve 87						
	Aleeve 87B						
	Aleeve 86C						
	n Si						
	640 (184.9) Shipbaugh 88B						
Entries in order of beam mass, then target mass, then beam momentum. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names. (See the Particle Vocabulary.) Beam momenta are equivalent p_{lab} in GeV/c; then E_{cm} in GeV follows in parentheses. For certain initial states only E_{cm} (in parentheses) is given. See the legend on page 123.							

nucleon nucleus

³He Al

nucleon α	deuteron p	deuteron C	deuteron ^{208}Pb
10 – 256 ? α -water 87 Cui 87/88	2.38 – 12 (3.176 – 5.214) Avdejchikov 88 3 (3.322) Ableev 88 3.146 – 3.229 (3.357 – 3.377) Berger 88C 3.3 (3.394) Yokosawa 85C 3.33 (3.401) Glagolev 90C Glagolev 99B Glagolev 99C Balgansuren 88 Glagolev 88 Shimansky 88 Zielinsky 88 Dolidze 86 3.392 (3.416) Gulkanyan 89 4.3 – 9 (3.633 – 4.653) Azhgirej 85 9 (4.653) Azhgirej 88B Azhgirej 87 Azhgirej 86 1478 (52.7) Fredriksson 87	Kopylova 87 Agakishiev 86B Armutlijsky 86B Armutlijsky 86C Simich 86 Armutlijsky 85 Agakishiev 84B Agakishiev 84E Armutlijsky 84 9 (18.29) Azhgirej 88B Azhgirej 86	0.5172 (195.7) Machner 85 0.5745 (195.7) Morsig 85
A Be		deuteron Bi	4.3 – 9 (199.3 – 203.7) Azhgirej 85
80 – 350 (37.62 – 77.12) Petersen 86		deuteron ^{209}Bi	9 (203.7) Butsev 85
A Sn		deuteron ^{232}Th	0.5172 (218.1) Machner 85
80 – 350 (173 – 299.4) Petersen 86		deuteron nucleus	2.746 – 3.392 Bystricky 85 3.392 Gulkanyan 89 5.779 Schnetzer 89 Judek 86 Bala 85 8.2 Grishin 88B 8.4 Antonchik 87 90.2 – 99
A Pb		deuteron Al	0.5172 (218.1) Machner 85
80 – 350 (261 – 415.2) Petersen 86		deuteron ^{27}Al	4.3 – 9 (29.51 – 33.13) Azhgirej 85
A nucleus		deuteron Tl	0.5536 (27.1) Machner 85
80 – 350 Petersen 86		deuteron ^{58}Ni	2.1 (47.39) Perdrisat 87
Σ^- Be		deuteron ^{63}Cu	0.5536 (55.98) Machner 85
135 (48.36) Klein 89C Augustin 88C Bourquin 86 Biagi 85 Biagi 84		deuteron ^{65}Cu	0.4862 (60.62) Machner 85
Σ^- Wt		deuteron ^{67}Cu	9 (67.8) Kozma 86
0 (172.5) Gall 88 0.1728 (172.5) Hertzog 88		deuteron ^{90}Zr	0.5172 (85.78) Machner 85
Σ^- Pb		deuteron ^{93}Nb	0.5536 (88.88) Machner 85 8.982 (95.68) Damdinsuren 89B 9 (95.7) Butsev 85
0 (194.2) Gall 88 0.1728 (194.2) Hertzog 88		deuteron ^{109}Ag	8.982 (109.3) Damdinsuren 89B
$f_2(1270)$ nucleon		deuteron ^{159}Tb	8.982 (157) Damdinsuren 89B 9 (157) Butsev 85
< 3.9 (< 3.197) Nakai 89		deuteron ^{181}Ta	2 – 10 (171.3 – 178.4) Kutsidi 86 4.2 (173.1) Gulkanyan 88D 4.6 (173.5) Grigalashvil 88 8.4 (177) Armutlijsky 89 Bekmirzaev 88 Gulkanyan 88C Armutlijsky 87C Gulkanyan 87B Gulkanyan 87D Armutlijsky 85 Gasparyan 85 Armutlijsky 84
Ξ^- Be		deuteron ^{197}Au	4.731 (4.359) Yokosawa 85C 4.8 (4.372) Zielinsky 88 5 (4.409) Abdullin 90 Abdullin 89D Abdullin 89E Abdullin 89F Abdullin 88 Abdullin 88C
116 (44.94) Schneider 90 Biagi 87 Biagi 87B Biagi 87C Biagi 86B		deuteron ^{201}Au	1.755 – 2.27 Yock 86
Ξ^- ^{12}C		deuteron ^{201}Ta	2.401 – 15.01 (3.95 – 6.11) Ableev 87D 2.5 (3.96) Blinov 85 2.5 – 5 (3.96 – 4.409) Blinov 88 Blinov 87B Blinov 86 Blinov 84B 4.4 – 18.3 (4.298 – 6.59) Ableev 87 Ableev 87E
0 (12.5) May 89B		deuteron ^{207}Ta	4.731 (4.359) Yokosawa 85C 4.8 (4.372) Zielinsky 88 5 (4.409) Abdullin 90 Abdullin 89D Abdullin 89E Abdullin 89F Abdullin 88 Abdullin 88C Abdullin 88D Abdullin 87 Blinov 85D 13.44 – 13.56 (5.869 – 5.888) Bano 87
Ξ^- nucleus		deuteron ^{207}Pb	13.5 (5.879) Glagolev 88B
0 May 89B		deuteron ^{207}Pb	$^3\text{He Be}$
deuteron p	0.0613 – 0.2531 (4.671 – 4.68) Vanoers 85	1.794 (171.2) Machner 85 18 (185.8) Kozma 87	(199.8) Tanihata 85
12.2 (5.25) Batyunya 84		deuteron ^{207}Pb	$^3\text{He} \ ^{12}\text{C}$
deuteron deuteron		4.4 (187.8) Budilov 90	2.401 – 15.01 (14.67 – 21.77) Ableev 87D 4.4 – 18.3 (15.79 – 23.38) Ableev 87C Ableev 87E
12.2 (7.303) Batyunya 87 Batyunya 87G Batyunya 87H Batyunya 87I		deuteron ^{207}Pb	$^3\text{He C}$
deuteron Ta	8.9 (12.83) Averichev 89	5.5536 (186.3) Machner 85 8.982 (193.3) Damdinsuren 89B	10.8 (19.56) Ableev 87B Ableev 84B 14.43 (21.49) Adyasevich 87 Adyasevich 85 (230.7) Tanihata 85
12.2 (180.5) Andreev 90B Andreev 87		deuteron ^{207}Pb	$^3\text{He Al}$
deuteron nucleus	13.3 Prokoshkin 87C	9 (201.8) Butsev 85	(346.3) Tanihata 85
deuteron p			
1 (2.896) Viryasov 89 1.29 (2.944) Boudard 88 < 1.417 (< 2.968) Yokosawa 85 1.529 – 2.368 (2.99 – 3.173) Ball 87 1.829 – 1.9 (3.052 – 3.067) Delesquen 88 1.908 (3.069) Adams 87 2 – 3.7 (3.089 – 3.49) Sal 86 2.038 – 2.134 (3.098 – 3.119) Mayer 89 2.067 – 3.67 (3.104 – 3.483) Katayana 85 2.1 (3.112) Perdrisat 87			

³ He ²⁷ Al	⁴ He ²⁷ Al	^{He He}	^{He Pb}
0.7149 (28.03) Machner 85	0.4323 (28.9) Dubar 89	Akesson 85D Cavasinni 85 Akesson 84B (126 – 176) (248)	Anikina 85 1.145 (197.6) Morsch 85 1.493 – 2.388 (197.8 – 198.2) Bonin 86
³ He ⁶² Ni	⁴ He Cu	^{He Li}	^{He nucleus}
0.5919 (60.61) Machner 85	2.57 – 5.84 (63.67 – 65.87) Lhote 87 5.838 (65.86) Lhote 89 16.51 (74.31) Abashidze 85B 19.24 (76.41) Adyasevich 85B	17.74 (17.03) 18 (17.13)	17.74 48 < 60 < 803.7 $10^3 - 10^5$
³ He Cu	⁴ He Zr	^{He Be}	Stock 87 Anikina 85B Abashidze 84
14.43 (72.47) Adyasevich 87 Adyasevich 85	0.4323 (88.72) Dubar 89	^{He} ¹² C	Stock 87 Claesson 85 Sengupta 89 Singh 88B Kawamura 89
³ He Pb	⁴ He Mo	^{He C}	^{He}
14.43 (207.2) Adyasevich 87 Adyasevich 85	0.4323 (93.12) Dubar 89	16.64 (22.81)	$> 2 \cdot 10^3$ $4 \cdot 10^3 - 4 \cdot 10^4$
³ He ²⁰⁸ Pb	⁴ He Ag	^{He} ^{Ne}	Ivanenko 88B Ivanenko 87
0.8956 (196.7) Morsch 85	13.32 (113.5) Avdejchikov 86	Baatar 90 Gulkanyan 88 Agakishiev 86B Armutlijsky 86C Balea 86 Simic 86 Agakishiev 84B Agakishiev 84E Armutlijsky 84	⁶ He Be
³ He nucleus	⁴ He Ta	Ableev 86 Ableev 85	⁶ He C
2.401 – 15.01 Ableev 87D	4.2 (174.1) Gulkanyan 88D 9.2 (178.2) Grigalashvil 88	Anikina 86B Anikina 85	8.686 (19.69) Kobayashi 88 (326.1) Tanihata 85
³ He	⁴ He Au	^{He} ²⁷ Al	⁶ He Al
1.755 – 2.27 Yock 86	3.373 – 16.82 (188.5 – 200) Avdejchikov 87B Avdejchikov 87F Avdejchikov 87H Budilov 90 13.32 (196.9) Avdejchikov 86 16.51 (199.7) Abashidze 85B 16.82 (200) Avdejchikov 87G	16.64 (38.78)	8.758 Kobayashi 89C
⁴ He ⁴ He	⁴ He ¹⁸¹ Ta	^{He} ^{Al}	⁶ Li Be
(104 – 126) (248)	0.4323 (172.4) Dubar 89	17.9 (39.56) 18 (39.62)	8.686 (16.59) Tanihata 86
Zielinsky 88 Glagolev 86B Zelinski 86	⁴ He ¹⁹⁷ Au	^{He} ²⁷ Al	⁶ Li C
8.6 – 13.5 (5.688 – 6.407) Braun 89 Sobchak 88 Zelinski 88 Glagolev 87	0.4323 (188.1) Dubar 89	16.64 (38.78)	8.686 (19.69) Tanihata 88 Tanihata 86
⁴ He He	⁴ He Pb	^{He} ⁵⁴ Fe	⁶ Li Al
18 (12.84) Avramenko 87	2.57 – 5.84 (197.5 – 199.9) Lhote 87 5.838 (199.9) Lhote 89 17.8 (210.4) Averichev 89 19.24 (211.7) Adyasevich 85B	0.6659 – 0.9535 (54.08 – 54.14) Machner 85	8.686 (34.38) Tanihata 86
⁴ He Li	⁴ He ²⁰⁸ Pb	^{He} ⁵⁸ Ni	⁶ Li ⁴⁰ Ca
18 (17.13) Abdurakhimov 88 Gazdzicki 85	11.96 (205.9) Grabez 88	0.7259 – 1.031 (57.82 – 57.89) Machner 85 1.493 – 2.388 (58.02 – 58.41) Bonin 86	0.5397 (42.87) Machner 85
⁴ He Be	⁴ He ¹⁰ Bor	^{He} ⁶¹ Ni	^{Li} nucleus
(230.7) Tanihata 85	0.1309 (13.05) Baba 86	0.6828 (60.61) Machner 85	1206 Baroni 90
⁴ He ¹² C	⁴ He nucleus	^{He} ⁶¹ Ni	⁷ Be Be
0.4323 (14.92) Dubar 89 2.65 – 4.52 (15.53 – 16.43) Ableev 89 17.94 (23.42) Kozma 89B	4.5 Khan 89 16.8 Grishin 88B 18 Abdurakhimov 89C Averichev 88 90.2 – 99 Antonchik 87 803.7 Baroni 90	16.64 (38.78) 17.9 (75.39) 18 (75.46)	10.13 (17.76) Tanihata 86
⁴ He C	^{He} p	^{He} ⁶¹ Ni	⁷ Be C
2.57 – 5.84 (15.5 – 17.15) Lhote 87 4.2 (16.27) Gulkanyan 88D 4.5 (16.43) Abraamyan 89 5.838 (17.15) Lhote 89 8 (18.34) Budilov 90 16.51 (22.76) Abashidze 85B 16.8 (22.89) Agakishiev 89B Angelov 88 Baldin 88C Grigalashvil 88 Mekhtiev 88 Pluta 88B Zielinsky 88 Akhbabian 85	7 (5.446) Banaigs 86 8.6 (5.69) Glagolev 86 16.8 (6.861) Armutlijsky 86B 17.7 (6.98) Bano 86 17.9 (7.007) Ableev 85 (62) Bell 85B (88) Fredriksson 87 Bell 86B Bell 85C	16.64 (74.84) Abashidze 84	⁷ Li Be
⁴ He He	^{He} He	^{He} ⁹⁰ Zr	10.13 (17.76) Tanihata 86
18 (23.46) Abdurakhimov 88 19.24 (24.03) Adyasevich 85B (266.3) Tanihata 85	17.9 (12.81) Ableev 85 125.1 (31) Angelis 86 (124) Angelis 87 Richard 87 Breakstone 85D (125) Bell 86 Bell 86B Bell 85 Bell 85B Bell 85C	0.8515 (87.66) Machner 85	⁷ Li C
⁴ He Ne	^{He} Ta	^{He} ¹⁰⁸ Ag	10.13 (20.91) Tanihata 86
18 (32.52) Abdurakhimov 88	1.493 – 2.388 (112.1 – 112.5) Bonin 86	16.64 (116.5) Abashidze 85 Abashidze 84	⁷ Li Al
⁴ He Al	^{He} ¹⁹⁷ Au	^{He} ¹¹⁸ Sn	10.13 (35.78) Tanihata 86
(399.6) Tanihata 85	(126) Fredriksson 87 Akesson 86F Lloydowen 86 Akesson 85B	1.493 – 2.388 (112.1 – 112.5) Bonin 86	⁸ He Be
⁴ He Pb	^{He} Ta	^{He} ¹¹⁸ Sn	(326.1) Tanihata 85
	16.64 (200.7) Abashidze 85 Abashidze 84	16.8 (185) Kutsidi 86	⁸ He C
	^{He} Pb	^{He} ¹⁹⁷ Au	11.58 (22.11) Kobayashi 88 (376.5) Tanihata 85
	18 (210.6) Voronko 88 Anikina 86B	16.64 (200.7) Abashidze 85 Abashidze 84	⁸ He Al
		^{He} ¹¹⁸ Sn	11.58 (18.9) Tanihata 86
		18 (210.6) Voronko 88 Anikina 86B	⁸ Li Be

Entries in order of beam mass, then target mass, then beam momentum. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names. (See the Particle Vocabulary.) Beam momenta are equivalent p_{lab} in GeV/c; then E_{cm} in GeV follows in parentheses. For certain initial states only E_{cm} (in parentheses) is given. See the legend on page 123.

⁸ Li C	¹¹ Be Al	¹² C ⁸⁰ Yt	¹² Bor Be
11.58 (22.11) Tanihata 86	15.93 (41.09) Tanihata 88	0.8196 – 2.607 (94.11 – 94.34) Dubar 89	17.38 (23.29) Tanihata 88
⁸ Li Al	¹¹ Be nucleus	¹² C Zr	¹² Bor C
11.58 (37.14) Tanihata 86	16.06 Kobayashi 89C	54 (129.3) Anikina 86B	17.38 (26.7) Tanihata 88
⁸ Bor Be	¹² Be Be	¹² C Ag	¹² Bor Al
11.58 (18.9) Tanihata 88	17.37 (23.29) Tanihata 88	53.83 (145.8) Kozma 90	17.38 (42.37) Tanihata 88
⁸ Bor C	¹² Be C	¹² C ¹⁰⁸ Ag	C p
11.58 (22.11) Tanihata 88	17.37 (26.69) Tanihata 88	53.83 (146) Kozma 90B	50.4 (14.93) Bekmirzaev 88C Agakishiev 85
⁸ Bor Al	¹² Be Al	¹² C Sn	C C
11.58 (37.14) Tanihata 88	17.37 (42.37) Tanihata 88	41.73 (148) Adyasevich 87B Adyasevich 85C	4.2 (22.75) Gulkanyan 88D Lyubimov 88
⁹ Li Be	¹² C p	¹² C Ta	17.52 (26.75) Stock 87
13.03 (20.02) Tanihata 86	4.5 (12.19) Khan 89	50.4 (214.3) Boldea 85	17.52 – 53.22 (26.75 – 38.31) Schurman 87
⁹ Li C	51.99 (15.02) Bogdanov 88	53.83 (217) Kozma 89	27.6 (30.28) Grigalashvili 88
13.03 (23.28) Tanihata 86	54 (15.14) Khan 88 Gazdzicki 85	¹² C ¹⁶¹ Ta	41.73 (34.89) Adyasevich 85
⁹ Li Al	¹² C ¹² C	53.83 (217) Kozma 90B Damdinsuren 88	50.4 (37.49) Baatar 90
13.03 (38.48) Tanihata 86	0.8196 – 2.607 (22.37 – 22.51) Dubar 89	¹² C Au	Agakishiev 89
⁹ Li nucleus	4.883 (22.86) Kristiansson 85	25 (209.4) Hufner 85	Agakishiev 89B
13.14 Kobayashi 89C	5.874 – 7.709 (23.07 – 23.53) Mermaz 86	53.83 (233.2) Kozma 90 Kozma 90B Damdinsuren 88B Kozma 88	Agakishiev 89C
Be Be	34.62 (32.61) Roche 84	¹² C Pb	Panagiotou 89
13.04 (20.03) Tanihata 86	50.76 (37.58) Bayman 87	34.62 (226.8) Roche 84 41.73 (232.5) Adyasevich 88B Lebedev 88 Adyasevich 87B Adyasevich 85C	Angelov 88
Be C	53.83 (38.46) Kozma 89B	53.83 (242.1) Damdinsuren 89	Baldin 88C
13.04 (23.29) Tanihata 86	¹² C C	54 (242.2) Kurepin 88 Krasnov 88 Anikina 86B Anikina 85 Anikina 85C	Bekmirzaev 88C
Be Al	18 (26.91) Gazdzicki 85	¹² C Ne	Gulkanyan 88
13.04 (38.49) Tanihata 86	41.73 (34.88) Adyasevich 87B Adyasevich 85C	54 (50.5) Abdurakhimov 88 Anikina 86B Anikina 85 Gazdzicki 85	Gulkanyan 88B
Be nucleus	50.4 (37.49) Grigalashvili 88	¹² C A1	Gulkanyan 88C
1808 Baroni 90	53.83 (38.48) Kurepin 88 Anikina 89 Anikina 86B Anikina 85	5.874 – 7.709 (206.3 – 207.2) Mermaz 86	Kanarek 88
¹⁰ Be Be	54 (38.52) Anikina 85C	11.42 – 34.62 (209.4 – 227.5) Hallinan 85	Mekhtiev 88
14.48 (21.13) Tanihata 86	¹² C ²⁷ Al	¹² C ²⁸² Tb	Pluta 88B
¹⁰ Be C	14.48 (24.44) Tanihata 86	53.83 (265.7) Kozma 90B Kozma 89C	Zielinsky 88
¹⁰ Be Al	¹² C Ne	5.874 – 7.709 (206.3 – 207.2) Mermaz 86	Armutlijsky 87C
14.48 (39.8) Tanihata 86	54 (50.5) Abdurakhimov 88 Anikina 86B Anikina 85 Gazdzicki 85	11.42 – 34.62 (209.4 – 227.5) Hallinan 85	Gulkanyan 87C
Bor nucleus	¹² C A1	53.83 (242.1) Damdinsuren 89	Iovchey 87
2010 Baroni 90	54 (59.4) Anikina 85C	54 (242.2) Kurepin 88 Krasnov 88 Anikina 86B Anikina 85 Anikina 85C	Agakishiev 86B
¹¹ Be C	¹² C ²⁷ Al	¹² C ²⁰⁸ Pb	Armutlijsky 86B
16.06 (25.62) Kobayashi 89B	0.8196 – 2.607 (36.35 – 36.54) Dubar 89	5.874 – 7.709 (206.3 – 207.2) Mermaz 86	Armutlijsky 86C
¹¹ Li Be	53.83 (59.35) Damdinsuren 87	11.42 – 34.62 (209.4 – 227.5) Hallinan 85	Bialkowska 86
15.92 (22.21) Kobayashi 89 Tanihata 86	¹² C Si	53.83 (265.7) Kozma 90B Kozma 89C	Simich 86
¹¹ Li C	54 (60.79) Anikina 86B	53.83 (271.4) Kozma 89C	Agakishiev 85
15.92 (25.57) Kobayashi 89 Kobayashi 88 Tanihata 86	¹² C ⁵⁵ Mn	¹² C U	Ameev 85
¹¹ Li Al	53.83 (91.52) Kozma 90B Kozma 88B	53.83 (271.4) Kozma 90B	Armutlijsky 85
15.92 (41.09) Kobayashi 89 Tanihata 86	¹² C Ni	¹² C nucleus	Cheplakov 85
¹¹ Li Cu	53.83 (95.55) Kozma 88B	4.5	Agakishiev 84B
15.92 (76.49) Kobayashi 89	¹² C ⁶⁹ Co	Ghosh 90 Ghosh 89C Khan 89	Agakishiev 84E
¹¹ Li Pb	53.83 (95.86) Kozma 90B Kozma 88B	39.63 – 64.21 Abdurazakova 88	Armutlijsky 84
15.92 (211.3) Kobayashi 89 Kobayashi 88	¹² C Cu	49.2 Andreeva 86B 50.4 Grishin 88B 53.95 Shahbazyan 88	Anikina 85B
¹¹ Li nucleus	41.73 (93.51) Adyasevich 87B Adyasevich 85C	53.95 Bayman 87 54 Babaev 90	C Ne
16.06 Kobayashi 89C	53.83 (100.7) Baldin 88	Ghosh 90B Ghosh 89D Elnadi 88	Stock 87
¹¹ Be Be	53.95 (100.8) Kozma 88B Abdurakhimov 88	Khan 88 Vokal 88	54 (100.8) Anikina 86C
15.93 (22.21) Tanihata 88	54 (100.8) Anikina 86B Anikina 85 Anikina 85C	Ghosh 87 Anikina 86D Ghosh 86 Leskin 86	Anikina 85B
¹¹ Be C	¹² C ⁶⁴ Cu	53.83 (101.2) Kozma 90B	C Cu
15.93 (25.57) Tanihata 88	53.83 (101.2) Kozma 90B	90.2 – 99 Antonchik 87	17.74 (43.67) Stock 87
			C Ta
			4.2 (180.5) Gulkanyan 88D 27.6 (196.4) Grigalashvili 88 50.4 (214.3) Armutlijsky 89
			Panagiotou 89 Batskovich 88 Gulkanyan 88B Gulkanyan 88C
			Mekhtiev 88 Gulkanyan 87B Gulkanyan 87D

C Ta

C Ta	$^{16}\text{O C}$	$^{16}\text{O Wt}$	$^{16}\text{O nucleus}$
lovchev 87 Bialkowska 86 Kutsidi 86 Armutlijsky 85 Gasparyan 85 Jovchev 85 Gasparyan 84B	(268.9) Otterlund 88B Sorensen 88 Albrecht 87 Albrecht 89D Albrecht 88B Franz 88B Heck 88 Schmidt 88 Schmidt 87	Schukraft 88B $^{16}\text{O Au}$ 3.08 (198.7) Machner 85 14.5 (203.7) Tannenbaum 89 232 (345.2) Remsberg 88 Tannenbaum 88 Abbott 87 974.8 (625.8) Strobel 88 (625.8 - 1102) Bamberger 89 Albrecht 88 Bamberger 88B Lohner 88 Lund 88 Otterlund 88B Pugh 88 Sorensen 88 Vesztorgombi 88 Albrecht 87 Albrecht 90C Albrecht 89D Albrecht 89M Bartke 89 London 89 Lund 89 Odyniec 89 Pugh 89 Albrecht 88B Bamberger 88 Franz 88B Heck 88 Humanic 88 Schmidt 88 Schmidt 87 Tannenbaum 87 Bamberger 86	Tannenbaum 88 Abbott 87 Tannenbaum 87 248.1 - 974.8 Adamovich 88D 248.1 - 3215 Adamovich 89E 248.1 - 3216 Adamovich 88B Adamovich 88C 974.8 Sengupta 89 974.8 - 3215 Jain 90 Buschbeck 89 Holynski 89B Sengupta 89B Singh 89 Bamberger 88B Brechtmann 88B Sengupta 88 Singh 88 Ardito 87 Akesson 90 Baroni 90 Jain 90B Adamovich 89C Aoki 89 Holynski 89 Romano 89 Adamovich 88 Rarnello 88 Singh 88B Stenlund 88 Tretyakova 88 Jain 87
C Pb	$^{16}\text{O Ne}$		
17.74 (213.2) Stock 87 41.73 (232.5) Adyasevich 89 54 (242.2) Anikina 86C (> 2643) Anikina 85B Burnett 86	72 (57.77) bdurakhimov 88 (192.9 - 348.4) Pugh 88		
C nucleus	$^{16}\text{O Al}$		
11.42 - 38.39 Stock 87 23.01 Antonchik 90B 53.96 Okonov 88 2411 Baroni 90	(223.3 - 403.1) Akesson 89B Tannenbaum 89 Akesson 88 Brechtman 88B Corriveau 88 Odnyiec 89 Barnes 88 Pugh 88		
$^{18}\text{Bor Be}$	$^{16}\text{O }^{27}\text{Al}$		
18.82 (24.35) Tanihata 88	0.946 (40.07) Dubar 89		
$^{18}\text{Bor C}$	$^{16}\text{O Cu}$		
18.82 (27.8) Tanihata 88	14.5 (78.66) Tannenbaum ~9 72 (111.5) Anikina 85 232 (176.8) Remsberg 88 Tannenbaum ~8 Abbott 37 246.5 (181.5) Tannenbaum 87 974.8 (345.2) Heck 88 (345.2 - 620) Albrecht 90C Albrecht 88 Bamberger 88 Brechtman 88B Lund 88 Otterlund 88B Pugh 88 Sorensen 88 Albrecht 87 Odnyiec 89 Sonderegger 89 Franz 88B Schmidt 88 Schmidt 87		
$^{18}\text{Bor Al}$	$^{16}\text{O }^{197}\text{Au}$		
19.3 (44.39) Tanihata 88	(627.4 - 1104) Hill 88		
$^{18}\text{Be Be}$	$^{16}\text{O Hg}$		
19.3 (25.1) Tanihata 88	231.5 (349) Shaw 87 974.8 - 1935 (632 - 870.8) Calloway 89		
$^{18}\text{Be C}$	$^{16}\text{O Pb}$		
20.27 (28.89) Tanihata 88	72 (256.6) Anikina 86B Anikina 85 (364.4 - 1131) Hoffmann 88 (643.3 - 1131) Barnes 88 Brechtman 88B Odnyiec 89 Pugh 89 Tannenbaum 89 Bussiere 88 Gerbier 87 Tannenbaum 87 Bamberger 86		
$^{18}\text{Nit Cu}$	$^{16}\text{O Wt}$		
3.863 (72.7) Beard 85B			
$^{18}\text{Nit nucleus}$	$^{16}\text{O Au}$		
39.63 - 64.21 Abdurazakova 88 40.6 Babaev 90	(1063) Ritter 88		
Nit nucleus	$^{16}\text{O Ag}$		
2813 Baroni 90	(1131) Ritter 88		
$^{18}\text{Bor Be}$	$^{16}\text{O Ag}$		
20.76 (26.17) Tanihata 88	974.8 (454.1) Heck 88 (454.1 - 810.2)		
$^{18}\text{Bor C}$	$^{16}\text{O }^{238}\text{U}$		
20.76 (29.65) Tanihata 88	Albrecht 90C Akesson 89B Tannenbaum ~9 Akesson 88 Albrecht 88 Brechtman 88B Corriveau 88 Lund 88 Otterlund 88B Sorensen 88 Albrecht 87 Odnyiec 89 Sonderegger 89 Franz 88B Schmidt 88 Schmidt 87		
$^{18}\text{Bor Al}$	$^{16}\text{O U}$		
20.76 (45.64) Tanihata 88	974.8 (694) Sondergagger 88 (694 - 1214) Aleklett 87		
$^{16}\text{O p}$	$^{16}\text{O nucleus}$		
46.15 (17.72) Bartke 89 62.76 (18.55) Glagolev 89 (45.3 - 79.09) Brechtmann 88B	(810.2) Baglin 89 London 89 Sonderegger 89		
$^{16}\text{O He}$	$^{16}\text{O Wt}$		
(86.63 - 155.6) Pugh 88	(602.9 - 1063) Akesson 89B Tannenbaum 89 Akesson 88 Corriveau 88 Akesson 89D Akesson 89E Bartels 88 Schukraft 88		
$^{16}\text{O }^{12}\text{C}$	$^{16}\text{O Wt}$		
10 (27.36) Hufner 85	(1063) 7.761 - 3200 Bartke 89 14.5 Tannenbaum 89 43.94 - 3200 London 89 44.47 Judek 86 44.47 - 3215 Otterlund 88 46.15 Ghosh 89B 46.15 Bayman 87 46.15 - 3215 Adamovich 90 Adamovich 89B Adamovich 89D 72 Anikina 86D 90.2 - 99 Avdejchikov 85 232 Antonchik 87 Remsberg 88		
$^{16}\text{O C}$	$^{16}\text{O Mg}$		
72 (44.64) Anikina 85 232 (74.49) Remsberg 88 (148.9 - 268.9) Tannenbaum 89 Albrecht 88 Brechtman 88B Lohner 88 Lund 88	76 (46.74) Golovin 88 85.5 (69.13) Anikina 89		
$^{16}\text{O C}$	$^{16}\text{F1 A1}$		
	76 (69.77) Golovin 88		
$^{16}\text{F1 Cu}$	$^{16}\text{F1 In}$		
	76 (114.3) Golovin 88		
$^{16}\text{F1 In}$	$^{16}\text{F1 In}$		
	76 (168.7) Golovin 88		

Entries in order of beam mass, then target mass, then beam momentum. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names. (See the Particle Vocabulary.) Beam momenta are equivalent p_{lab} in GeV/c; then E_{cm} in GeV follows in parentheses. For certain initial states only E_{cm} (in parentheses) is given. See the legend on page 123.

¹⁹ Fl Wt	²² Ne nucleus	^{Si Pb}	³² S Pb
76 (237.4) Golovin 88	Andreeva 89 Lepekhin 89 Alekseeva 88 Andreeva 88 Andreeva 88B Andreeva 88C Bannik 87 Elnaghy 87B Krasnov 87 Andreeva 86 Andreeva 86B Krasnov 86 Shabratova 86 Vokalova 85 Antonchik 87 Bayman 87 Vokal 88 Leskin 86 Andreeva 85C	305 (395.1) (6578) Braunmuzing 88 Bennett 86 Bennett 85D	Akesson 88C Brechtmann 88 Price 88 Schukraft 88B
¹⁹ Fl Bi		^{Si nucleus}	³² S TJ
76 (261.9) Golovin 88	112 · 10 ³	Burnett 86 Burnett 85D	(1703) Sonderegger 89 Tannenbaum 89 Akesson 88C Schukraft 88B
¹⁹ Fl U		³² S p	
76 (290) Golovin 88	(31.42 – 113.8)	Breitmann 88	
²⁰ Ne Ne		³² S C	³² S nucleus
90 (64.45) Anikina 86B	90.2 – 99	(46.71 – 380.6)	42.86 – 6430 Breitmann 88 6430 Akesson 90 Baroni 90 Jain 90 Jain 90B Adamovich 89 Adamovich 89B Buschbeck 89 Holynski 89 London 89 Romano 89 Sengupta 89B Singh 89 Sengupta 88 Singh 88 Singh 88B Stenlund 88
²⁰ Ne ²⁷ Al		³² S Al	
1.058 – 3.357 (43.8 – 43.95) Dubar 89	90.81	(70.35 – 569.8)	Breitmann 88 Tannenbaum 88 Andersen 89 Tannenbaum 89 Akesson 88C Price 88 Schukraft 88B
²⁰ Ne Zr	99	³² S Mg	
90 (152.3) Anikina 86B	108 (77.5) Anikina 89	(619.1) Panagiotou 89	³² S S
²⁰ Ne Ag		³² S S	
3.357 (119.4) Dubar 89	108 Ghosh 89D Karev 88 Veres 85	(6'1.1) Odyniec 89 Pugh 89	³² S Fe
²⁰ Ne Ta		³² S Cu	
8 (188.7) Hufner 85	102 (54.55) Grigalashvil 88	(820.1) Andersen 89	³² S Ar
²⁰ Ne Au		³² S Ag	45.35 – 98.68 Lhote 89 57.41 Schurman 87 57.41 – 100.8 Stock 87 109 Jain 85
7.6 (203.4) Hufner 85	108 Krasnov 88	(146.5 – 1142) Breitmann 88 464 (243.8) Tannenbaum 88 (875) Andersen 89 Odyniec 89 Price 88	⁴⁰ Ar C
²⁰ Ne ¹⁹⁷ Au		³² S Wt	8.1 (48.65) Hufner 85
3.842 – 3.881 (203.3 – 203.3) Machner 85	108 Dubinina 88 Ghosh 89	(1494) Abatzis 90 Akesson 90 Akesson 89D Akesson 89E Tannenbaum 89 Akesson 88C Schukraft 88B	⁴⁰ Ar ⁴⁰ Ar
²⁰ Ne nucleus		³² S Pt	58.38 (89.09) Schurman 87
16.11 Aggarwal 85B 55.59 Shor 89 90 Anikina 86D	108 (283.5) Krasnov 88	(1540) Akesson 89D Akesson 89E London 89 Tannenbaum 89 Akesson 88C Schukraft 88B	⁴⁰ Ar Cu
^{Ne f2(1270)}		³² S Au	63.08 – 102.7 (116.5 – 133.5) Tolstov 87 102.7 (133.5) Dersch 85
29.28 (21.05) Gosset 89	79.82 (124.3) Tannenbaum 89	(464 (452.9) (1547) Tannenbaum 88 114.8 Ameeva 89 126 Krasnov 88B 406 London 89	⁴⁰ Ar ²⁰⁸ Pb
^{Ne Na}		³² S Si	102.7 (285.1) Hallman 85
18.81 – 29.04 (44.15 – 47.87) Madey 85 29.28 (47.96) Gosset 89	280 (21.05) Tannenbaum 89	³² S Ag	⁴⁰ Ar nucleus
^{Ne Nb}		³² S Wt	58.38 – 102.7 Stock 87 67.68 – 76.69 Antonchik 90 76.69 Antonchik 90B 102.7 Bhajan 85 102.7 – 111.2 Bayman 87
29.28 (117.7) Gosset 89	67.41 – 77.83 (71.63 – 75.12) Shor 89	(1494) Abatzis 90 Akesson 90 Akesson 89D Akesson 89E Tannenbaum 89 Akesson 88C Schukraft 88B	^{Ca Ca}
^{Ne Au}		³² S Pt	38.09 – 70 (82.98 – 93.34) Gustafsson 88 67.73 – 111.2 (92.53 – 107.5) Doss 86 109.1 (106.8) Roche 89 111.2 (107.5) Naudet 88C Roche 88
42 (225.6) Hufner 85	80.78 (76.08) Carroll 89 Abachi 85 Barasch 85	(1540) Akesson 89D Akesson 89E London 89 Tannenbaum 89 Akesson 88C Schukraft 88B	^{Ca Pb}
^{Ne Pb}		³² S Au	(2786) Burnett 85D (5276) Burnett 86
18.81 – 29.04 (218.8 – 225.7) Madey 85 19.09 – 29.28 (219 – 225.9) Bastid 89 29.28 (225.9) Gosset 89 57.81 (247.1) Schnetzer 89 Stock 87	280 (193.6) Tannenbaum 89	³² S Hg	^{Ca nucleus}
^{Ne U}		³² S Si	600 – 8 · 10 ³ Gagarin 89 12 · 10 ³ Chernavskaya 87 4 · 10 ⁶ Burnett 86 48 · 10 ⁵ Burnett 85D
19.09 (247.8) Schurman 87	406 (430.6) Abbott 90		
^{Ne nucleus}			
19.09 – 29.28 Bastid 89 19.09 – 57.81 Schurman 87 29.28 Lhote 89 38.44 Stock 87 57.81 Antonchik 90B 79.82 Schnetzer 89 90.05 Dubinina 88 Okunov 88	280 (382.7) Tannenbaum 89		
²² Ne p			
88.55 (24.32) Bogdanov 88	4.5 Ameeva 89 114.8 Ameeva 87 126 Krasnov 88B 406 London 89		
²² Ne ¹² C			
90.2 (51.12) Elnaghy 87B	305 (129.3) Braunmuzing 88 406 (147.5) Remsberg 88		
²² Ne nucleus			
4.1 Elnaghy 87 39.63 – 64.21 Abdurazakova 88 54 Elnadi 88 90.2 Babaev 90	80.83 (76.25) Schurman 87 Stock 87		
^{Si Cu}			
	305 (201.1) Braunmuzing 88		
^{Si Au}			
	406 (428.5) Remsberg 88 431.4 (439.2) Miake 88		

Ti Pb

unspec

Ti Pb	^{138}La ^{139}La	hadron⁺ Pb	nucleus
1973 (895.1) (4264)	Burnett 87 Burnett 86	73.05 – 202.9 (268.4 – 309.6) Miller 87 100.1 (275.6) Krebs 86 156.5 – 289.5 (293.5 – 340.1) Harris 87	200 Akesson 88B charged nucleus $3 \cdot 10^3$ – $5 \cdot 10^4$ Dobrotin 85
Ti nucleus			$5 \cdot 10^6$ – $2 \cdot 10^8$? Inoue 85 Pereygin 85
1315	Burnett 87	charged	shower Pb > 300 Alibekov 85
$^{48}\text{Sc Be}$	^{138}La ^{197}Au	shower nucleus	< 45 Judek 86
9.2 (53.25)	Hufner 85	$> 10^3$ Grigorov 89C 10^3 – 10^5 Ivanenko 89	shower
Va Pb	^{139}La nucleus	frag nucleus	$6 \cdot 10^5$ Kirov 85 10^6 Kulikov 87 ? Nikolsky 85
(5384)	Burnett 86	266.5 Gill 90	
Fe Pb	^{168}Ho ^{20}Ne	fragb nucleus	unspec C
(4612 – 6519)	Burnett 85D	4.366 (172.3) Machner 85	400 Dzaoshvili 88B Dzaoshvili 87
Fe nucleus	Au Au	hadron p	unspec Si
105.9	Antonchik 90B	108.2 – 251.8 (381.4 – 426.2) Doss 88	? Rich 87
153.4	Jain 85	108.2 – 287.5 (381.4 – 438.7) Gustafsson 88	
825 – $11 \cdot 10^3$	Gagarin 89	Doss 87 Doss 86	unspec nucleus
2970	Burnett 87	187.4 (401.4) Gutbrod 89 251.8 (426.2) Bock 89 Bock 89B	$5 \cdot 5 \cdot 10^3$ Asatiani 85 > 10 Vashkevich 88 > 100 Avakyan 85 100 – 500 Calicchio 87 100 – $5 \cdot 10^4$ Bonnetbaud 88 300 – 1600 Avakyan 85F 10^3 Qyama 86 10^3 Marshak 85B 10^3 Battistoni 85 10^3 Marshak 85 $2 \cdot 10^3$ Navia 88 $> 3 \cdot 10^3$ Berger 86C 10^4 Barilett 85 10^4 Bologna 85 $> 10^3$ Avakyan 88B $> 10^3$ Nikolsky 85 10^5 Castellina 85 10^5 Ren 88 10^5 Ren 88B 10^5 Ren 88C $> 10^5$ Bellotti 89E $> 642 \cdot 10^3$ Borisov 87B 10^6 Gladyszdiadz 88 10^6 Dyakonov 89 $5 \cdot 10^6$ – $2 \cdot 10^8$ Inoue 85 $6 \cdot 10^6$ – $2 \cdot 10^8$ Inoue 85B $> 2 \cdot 10^7$ Borisov 85 10^6 – 10^{11} Borisov 85 ?
$^{56}\text{Fe C}$	^{197}Au nucleus	hadron C	
148.6 (79.81)	Kim 86C	0.4 – 400 Fredriksson 87 200 Brick 89 500 – $5 \cdot 10^3$ Avakyan 86 $> 10^3$ Avakyan 89B $> 2 \cdot 10^3$ Bazarov 85B ?	
$^{56}\text{Fe Fe}$	^{232}Th ^{232}Th	hadron Pb	
137.8 (144.1)	Chacon 88	0.0058 (432.3) Cowan 86	$5 \cdot 10^3$ – 10^4 Kanevsky 85
$^{56}\text{Fe Br}$		hadron nucleus	
100.8 (158.6)	Antonchik 85	0.4 – 400 Fredriksson 87 200 Brick 89 500 – $5 \cdot 10^3$ Avakyan 86 $> 10^3$ Avakyan 89B $> 2 \cdot 10^3$ Bazarov 85B ?	
$^{56}\text{Fe}^{108}\text{Ag}$	Th Th	hadron	
100.8 (188.9)	Antonchik 85	0.0058 (432.3) Cowan 86	$> 10^3$ Avakyan 88B ?
$^{56}\text{Fe}^{197}\text{Au}$	Th Cm	hypernucleus nucleus	
79.64 (268)	Bartke 89	0.0058 (463.1) Cowan 86	< 90 Andreeva 86B
$^{56}\text{Fe Pb}$	^{238}U ^{181}Ta	longlived	
148.6 (317.4)	Kim 86C	24.93 – 25.99 (390.9 – 391) Bokemeyer 88 25.06 – 25.48 (390.9 – 390.9) Bokemeyer 89	< 90 Andreeva 86B > 4.5 Yock 86
$^{56}\text{Fe nucleus}$	^{238}U ^{232}Th	monopole nucleon	
39.63 – 64.21	Abdurazakova 88	24.89 – 25.31 (438.5 – 438.5) Danzmann 89	0 Park 85B
95.2	Drechsel 85	24.91 – 24.99 (438.5 – 438.5) Bokemeyer 88 24.91 – 24.99 (438.5 – 438.5) Bokemeyer 89	monopole
137.8	Mangotra 85		?
137.8 – 155.7	Bayman 87		Bellotti 89H Bartelt 87 Aglietta 86B Battistoni 86C Musset 86
140	Babaev 90		
148.6	Ohashi 86		
184.9	Azimov 85G		
Kr Ag	^{238}U ^{238}U	mult[μ]	
23.87 (180.5)	Bougault 90	24.99 (444.1) Bokemeyer 88 25.1 (444.1) Danzmann 89	$1 - 10^3$ Bellotti 89F
Kr Au	U Pb	nuclearite	
23.87 (264)	Bougault 90	24.99 (415.4) Koenig 89	?
Kr Th	U Th	nucleus Pb	
23.87 (296.8)	Bougault 90	0.0058 (437.9) Cowan 86	960 – 3840 Burnett 87
Kr nucleus	U U	nucleus nucleus	
188.7	Jain 85		> 1 Budko 85B 4.2 – 50.4 Angelov 88 12 – 3200 Bartke 89 48 – 64 Agakishiev 89
$^{84}\text{Kr nucleus}$	U Cm		960 – 3840 Burnett 87
179.5	Cai 87	24.99 (444.2) Koenig 89	$> 10^3$ Burnett 86
190.5	Bayman 87	(444.2) Davier 87	$> 10^5$ Kawamura 89
Nb Nb	axion nucleus		$4 \cdot 10^3$ – $5 \cdot 10^5$ Azimov 85B $> 10^5$ Burnett 85 $< 10^9$ Szabelski 86
50.78 – 118 (179.9 – 200.8)	Doss 88		
50.78 – 161.4 (179.9 – 216.1)	Gustafsson 88		
118 (200.8)	Doss 86		
Bock 89	Bock 89	photino	
Bock 89B	Bock 89B		
La La	< 100	nucleus	
155.8 – 288 (293.1 – 339.4)	Lhote 89	10^3 – 10^6 Perdereau 89B ?	> 1 Budko 85B 1.8 – 2.8 Angelova 86 4 – 126 Bakataian 85
$^{139}\text{La C}$	pomeron pomeron		10^3 – 10^5 Ivanenko 89 $> 2 \cdot 10^3$ Ivanenko 88B $> 10^3$ Burnett 85
266.5 (153.4)	Brady 88	(0.3 – 5)	Breakstone 89B Breakstone 88C

Entries in order of beam mass, then target mass, then beam momentum. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names. (See the Particle Vocabulary.) Beam momenta are equivalent p_{lab} in GeV/c; then E_{cm} in GeV follows in parentheses. For certain initial states only E_{cm} (in parentheses) is given. See the legend on page 123.

This index lists papers by entire reactions, including beam, target, final state, and beam momentum. The ordering is by beam mass, then target mass, then multiplicity of the final state. By "multiplicity" we mean the number of separate particle *names* that appear. A name like "vees," "X," or " π^- 's," which can refer to an unspecified number of real particles, only counts as one name. Names like " 0° 's" also count as one name.

The beam momentum is the equivalent lab momentum in GeV/c . For most colliding beam experiments and for reactions above 2 TeV/c equivalent lab momentum, we give instead the c.m. energy E_{cm} , in GeV . The c.m. energies are distinguished from lab momenta by being enclosed in parentheses. For a given beam momentum, ID's are ordered by year (most recent to oldest), then author name.

When a range of momenta were studied, we list the lower and upper ends of the range, e.g. "50 - 70," ordered by the lower end. For some experiments, such as neutrino experiments, the listed range is only approximate.

A question mark means that information is not available, usually because it was not given in the paper.

Illustrative Key

Initial State of the Reaction: see the *Particle Vocabulary* for nomenclature.

Final State of the Reaction: see the *Particle Vocabulary* for nomenclature.

Document ID: see the *ID/Reference>Title Index* for the full reference.

Lab Momentum: in GeV/c or, if in parentheses, the c.m. energy E_{cm} , in GeV .

Data Descriptor: brief description of the data measured; see the *Data Descriptor Vocabulary* for nomenclature.

γp			
$J/\psi X$	80 - 190	Sokoloff 86	cs
$D^\pm X$	20	Butler 86	-
$D_s^- X$	100 - 260	Anjos 89B	cs
$D_s^+ X$	100 - 260	Anjos 89B Anjos 87C	-
$D^*(2010)^0 X$	20	Abe 86	cs
$\bar{D}^*(2010)^0 X$	20	Abe 86	cs
$D^*(2010)^+ X$	20 (40 - 160)	Abe 86 Sliwa 83	cs
$D^*(2010)^- X$	20	Abe 86	angp, cs, pt [cs]

$\gamma\gamma \rightarrow X$ $\gamma\gamma \rightarrow \text{hadron (hadrons)}$

$\gamma\gamma$	$\gamma\gamma$	$\gamma\gamma$	$\gamma\gamma$	$\gamma\gamma$	$\gamma\gamma$
X		f₄(2050)		$\rho^+ \rho^-$	
(1 - 6) (2 - 20) (3 - 9)	Levy 88 Ferger 87B Aihara 89C	es es es	Althoff 85D Behrend 88E Berger 88	Feindt 89	cs
neutral	Blinov 86B			2ρ^0	
π^0	Albrow 88 Bienlein 88 Kolanoski 87 Lowe 86B	es	Braunschweig 89 Chen 89C Jensen 89 Aihara 88 Barlow 87 Kolanoski 87 Berger 86 Althoff 85D	(1 - 3.2) (1 - 3.5) (1.2 - 2) (1.2 - 2.4) (1.2 - 3.6) (1.4 - 1.6) (1.5 - 2)	Berger 88B ang. angp. cs Berger 87B amp. angp. cs Berger 87B ang. angp. cs Aihara 88 ang. angp. cs Liu 88
η	Albrow 88 Bienlein 88 Kolanoski 87 Lowe 86B	es	J/ ψ (1S)	$\omega \rho^-$	Kolanoski 87
f₀(700)	Courau 86 Berger 85C	es	x _{c0} (1P)	$\omega \rho^0$	Levy 88 Albrecht 87J angp. cs. pwa
η'	Feindt 89 Albrow 88 Bienlein 88 Albrecht 87M Antreasyan 87 Blinov 87C Kolanoski 87 Lowe 86B Landsberg 85	es	x _{c2} (1P)	mult	Berger 87B Levy 88 Albrecht 87S Berger 85D Kolanoski 87
f₀(975)	Bienlein 88 Kolanoski 87	es	charged X	$\phi \rho^0$	Levy 88 Albrecht 87K Berger 87B Levy 88 Albrecht 87S Althoff 86D
a₀(980)⁰	Bienlein 88 Kolanoski 87	es	(1.2 - 10) mult [charged] (neutrals)	mult	(1.4 - 3.5) (1.6 - 2.5)
f₁(1270)	Adachi 90 Feindt 89 Berger 88 Bienlein 88 Kolanoski 87 Aihara 86D Althoff 85D	es	charged ⁺ charged ⁻	$\phi \omega$	(1.2 - 10) (1.2 - 10)
f₁(1285)	Feindt 89	es	D [*] (2010) ⁺ X	K ⁺ K ⁻	(1 - 3.5) (1.9 - 3.4)
a₂(1320)	Berger 88	es	D [*] (2010) ⁻ X	2 ϕ	(1 - 3.5) (1.9 - 3.4)
a₂(1320)⁰	Bienlein 88 Kolanoski 87	es	D [*] (2010) [±] X	Braunschweig 90B	(1 - 3.5) (1.9 - 3.4)
f₁(1420)	Bienlein 88	es	charm X	Roberts 86	(2.5 - 5)
f₂(1525)	Feindt 89	es	hadron X	angp. cs. p. pt	(0.5 - 2) (1 - 2.5)
f₂(1670)⁰	Bienlein 88 Kolanoski 87 Aihara 86D Althoff 85D	es	jet X	Roberts 86	(1.5 - 3.5)
f₀(1400)	Bienlein 88	es	(1 - 20)	K ⁺ K ⁻ + $\pi^+ \pi^-$	Berger 87B Boyer 86 angp. mass
f₁(1440)	Feindt 89	es	$e^- e^+$	K ^{*(892)⁰ K^{*(892)⁰}}	(1 - 3.5) (1.6 - 3.6) (1.8 - 4) (2.5 - 5)
f₂(1525)	Bienlein 88 Kolanoski 87 Aihara 86D Althoff 85D	es	(0.1 - 0.9) (0.1 - 1) (0.3 - 0.7) (< 36.5)	Ajaltoni 87 Courau 86 Ajaltoni 85B Bartel 86C ang. mass. p	(1 - 3.5) (1.9 - 3.4) (1.5 - 2.7)
f₂(1670)⁰	Bienlein 88 Kolanoski 87 Aihara 86D Althoff 85D	es	$\mu^- \mu^+$	Ajaltoni 87 Ajaltoni 85B Courau 86 Berger 85C Bartel 86C ang. mass. p	(1.5 - 3.5) (1 - 3.5) (1 - 3.5) (1.5 - 2.7)
f₀(1400)	Bienlein 88	es	2 π^0	Marsiske 90 Bientine 88 Lowe 86B	(1 - 2.5) (1 - 3)
f₁(1420)	Feindt 89	es	$\pi^+ \pi^-$	2 K_S	Althoff 85D Berger 88 mass
$\eta(1440)$	Feindt 89	es	(0.1 - 0.9) (0.3 - 0.7)	Ajaltoni 87 Courau 86 Ajaltoni 85B Berger 87B Berger 85C	(2 - 2.6) (2 - 2.8) (2 - 2.9) (2.25 - 2.6)
f₂(1525)	Feindt 89 Berger 88 Kolanoski 87 Althoff 85D	es	(0.3 - 1) (0.3 - 1.75)	angp. cs. mass. pt	Bartel 86E Kolanoski 86 Aihara 87E Berger 87B Albrecht 88R Bartel 86B Barlow 87
f₂(1670)	Feindt 89 Berger 88 Bienlein 88	es	(0.5 - 2) (1.5 - 3.5)	Aihara 86D angp. cs. Berger 87B angp. cs.	$\Delta(1232 P_{33})^{++}$ $\Delta(1232 F_{33})^{--}$ Albrecht 88R Aihara 89
f₂(1720)	Feindt 89 Biellein 88 Althoff 85D	es	$\eta \pi^0$	(0.6 - 2.2)	$\Delta(1232 P_{33})^0$ $\Delta(1232 F_{33})^0$ (2.5 - 4) (2.5 - 5.5)
f₂(1720)	Behrend 89E Berger 88 Althoff 85D	es	$2\rho^-$	Antreasyan 86 Biellein 88 Kolanoski 87	(2.5 - 4) (2.5 - 5.5)
f₂(1720)	Behrend 89E Berger 88 Althoff 85D	es	$\rho^+ \rho^-$	angp. cs. Levy 88 Bartel 89	Albrecht 88R Bilow 85E Kolanoski 87 cs. mass

$\gamma \gamma \rightarrow q \bar{q}$ $\gamma p \rightarrow \Xi^+ X$

$\gamma \bar{q}$		$\gamma \gamma$		γp	
$q \bar{q}$ (< 34.7)	Berger 85H	$2\pi^+ 2\pi^-$ (1.2 - 2.4) (1.2 - 3.6)	Berger 87B Aihara 88	cs	ϕX 26 - 70 $\rho(1700)^0 X$ 75 - 148
2jet (< 34.7)	Berger 85H Kolanoski 86	cs	Albrecht 87K	cs	Chapin 85 angp. mass
$2\pi^+ X$ (5)	Juricic 88	ang, p	Berger 87B	cs	Barate 86C Aubert 84C
$2\pi^- X$ (5)	Juricic 88	ang, p	Albrecht 87S Aihara 88	cs, mass	Sokoloff 86 a-dep, angp, cs
$D^0 \bar{D}^0 X$?	Braunschweig 90B	cs	(1.6 - 3.6) (1.8 - 3.6) (1.8 - 4)	ang, angp cs, mass	Butler 86
$3\pi^0$?	Bienlein 88	mass	(2.5 - 5)	Althoff 86D	Butler 86
$\pi^+ \pi^0 \pi^-$?	Behrend 89G	mass	Aihara 85D	Barlow 87	Butler 86
$\eta 2\pi^0$?	Bienlein 88	mass	$2K^+ 2K^-$ (1.9 - 3.4)	Albrecht 88L Aihara 88	20 80 - 230
$\rho^+ \pi^0 \pi^- + \rho^- \pi^+ \pi^0$ (0.7 - 3.4)	Albrecht 89F	cs	(3 - 5)	cs, mass, pt	Abe 86 Anjos 89B angp, asym, p, pt
$\rho^0 \pi^+ \pi^-$ (1 - 3.2)	Berger 88B	ang, angp, cs	$K^+ K_S \pi^0 \pi^-$ (1.5 - 2.7)	Albrecht 88N	20
$\rho^0 \pi^+ \pi^-$ (1 - 3.5)	Levy 88	cs	$K_S K^- \pi^+ \pi^0$ (1.5 - 2.7)	Albrecht 88N	20
$\rho^0 \pi^+ \pi^-$ (1.2 - 3.6)	Aihara 88	cs	$2K_S \pi^+ \pi^-$ (1.5 - 2.7)	Albrecht 88N	20
$\phi \pi^+ \pi^-$ (1.6 - 3.6)	Albrecht 87S	cs	$p \bar{p} \pi^+ \pi^-$ (2 - 2.8)	Aihara 87E Albrecht 88R Aihara 89	Anjos 89B Anjos 87C 80 - 230
$\phi \pi^+ \pi^-$ (1.7 - 3.7)	Aihara 85D	cs	(2.5 - 4)	angp, cs, pt	-
$\phi \pi^+ \pi^-$ (1.8 - 4)	Aihara 88	cs	(2.5 - 5.5)	Albrecht 88R	20
$\phi \pi^+ \pi^-$ (2.5 - 5)	Althoff 86D	cs	(2.5 - 5.5)	cs, mass	Abe 86 Anjos 89B Anjos 87C
K[*](892)⁰ K⁻ π<sup+< sup=""></sup+<> (1.6 - 3.6)	Albrecht 87S	cs	$2\pi^+ \pi^0 2\pi^-$ (1 - 3.3)	Albrecht 87J Berger 87B Berger 85D	20
K[*](892)⁰ K⁻ π⁻ (2.5 - 5)	Althoff 86D	cs	(1.5 - 4)	cs, mass	Abe 86 Anjos 89B Anjos 87C
K[*](892)⁰ K⁻ π⁻ + K[*](892)⁰ K⁺ π⁻ (1.6 - 3.6)	Aihara 85D	cs	(1.6 - 2.5)	Albrecht 88L Aihara 89	20
K[*](892)⁰ K⁻ π⁻ + K[*](892)⁰ K⁺ π⁻ (1.8 - 4)	Aihara 88	cs	(1.9 - 3.4)	cs, mass, pt	Abe 86 Anjos 89B Anjos 87C
K⁺ K_S π⁻ (1.2 - 3.5)	Althoff 85D	cs	$p \bar{p} \pi^+ \pi^-$ (2.5 - 4)	Albrecht 88R	20
K⁺ K_S π⁻ (1.3 - 3.4)	Berger 86	mass	(1.6 - 2.5)	Berger 85D	20
K_S K⁻ π⁺ (1.2 - 3.5)	Althoff 85D	cs	$2\pi^+ 2\pi^-$ (1.4 - 3.5)	Albrecht 87K	20
K_S K⁻ π⁺ (1.3 - 3.4)	Berger 86	mass	(1 - 7)	Levy 88	20
K⁺ K_S π⁻ + K_S K⁻ π⁺ (1.25 - 2.5)	Aihara 86C	cs	$\gamma \pi^-$		
p p (2 - 2.9)	Albrecht 88R	cs	$\pi^- \gamma$ 0.11 - 0.59	Antipov 86D	20
p Δ(1232 P₃₃) -- π⁺ +			$\pi^0 \pi^-$ 0.2526 - 0.5034		
ρ Δ(1232 P₃₃) ++ π⁻ (2.5 - 3.5)	Albrecht 88R	cs		Antipov 86 Antipov 86B Antipov 85C	angp, cs, p
(jets) 2jet (1 - 20)	Roberts 86	angp, cs, p, pt			20 - 70
(jets) 2jet (< 34.5)	Berger 87 Kolanoski 87	p, pt cs, pt	X 6 - 200	Prokoshkin 87C	Atkinson 85B Abe 85B 20
2hadron (hadrons) (0.5 - 4.5)	Baru 86	cs	charged X 20	Butler 86	20
2hadron (hadrons) (1 - 20)	Roberts 86	angp, cs, p, pt	50 - 70	Atkinson 85E	20
2hadron (hadrons) (2 - 20)	Bintinger 85	cs	65 - 175	Apsimon 89	20
3π⁺ X (5)	Juricic 88	ang, p		angp, cs, pt	
3π⁻ X (5)	Juricic 88	ang, p	mult[charged] X 20	Abe 86	angp
π⁺ 2π⁰ π⁻ (0.7 - 3.4)	Albrecht 89F	cs	neutral X 20	Butler 86	20
π⁺ 2π⁰ π⁻ (1.35 - 2.85)	Behrend 89	mass	mult[charged] (neutrals) 50 - 70	Atkinson 85E	col. mult
2π⁺ 2π⁻ (1 - 3.2)	Berger 88B	ang, angp, cs	γ X 50 - 150	Auge 86B	pt
			π [±] X 100 - 170	Holzkamp 88	p

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

$$\gamma p \rightarrow p K^+ K^-$$

γp	γp	γp	
$\Omega^- X$ 20 charm X 20 20 - 70 35 - 185 axion X 20 35 - 185 hadron X 65 - 175 jet X 50 - 70 DD $< \phi > X$ 20 - 70 p γ 0.9 - 1.15 p π^0 0.137 - 0.155 Argan 88 0.147 - 0.152 Mazzucato 86 0.45 - 0.7 Bratashevsky 86C 0.58 - 1.26 Bratashevsky 85B 0.7 - 1.6 Bagdasaryan 90 0.73 - 1.066 Avakyan 88C 0.768 - 1.192 Bratashevsky 87 0.9 - 1.35 Agababyan 89B 0.9 - 1.5 Asaturyan 86C 0.9 - 1.65 Sirunyan 88 1 - 1.1 Meyer 88B 1 - 10 Avakyan 87B 1.125 - 1.3 Bratashevsky 85 n π^+ 0.32 Belyaev 86 0.7 - 0.85 Meyer 88B 0.9 - 1.65 Sirunyan 88 $\Delta(1232)P_3$ π^- 3.5 Dainton 85 p η 1.39 - 1.8 Sirunyan 88 p ρ 20 Brau 88 p ρ^0 6 - 200 Prokoshkin 87C 20 Odell 86 angp, asym 60 - 170 Soldnerreimbo 87 amp, angp, cs 65 - 175 Dieter 89 cs, p, pt p ω 3.5 - 4.7 Dainton 85 60 - 225 Busenitz 89 angp, cs p ϕ 2.8 - 4.8 Dainton 85 35 - 165 Busenitz 89 angp, cs p $b_1(1235)^0$ 20 Brau 88 p $w_3(1870)$ 20 - 70 Atkinson 86B p $\phi(1880)$ 20 - 70 Atkinson 85D angp, cs p $\rho_S(1690)^0$ 20 - 70 Atkinson 85C p $\rho(1700)^0$ 20 - 70 Atkinson 85C Atkinson 84F 60 - 170 Soldnerreimbo 87 cs p $J/\psi(1S)$ 80 - 190 Sokoloff 86 a-dep, cs p baryonium 4.9 - 6.6 Bodenkamp 85 cs	ΛK^+ 1.1 - 1.3 $\Lambda(1620)D_{0s}$ K^+ 2.9 - 4.7 p meson⁰ 4.9 - 6.6 20 - 70 DD $< \eta \pi^+ \pi^- > p$ 20 - 70 charged (charged)s (neutrals) 65 - 175 $\mu^- \mu^+ X$ 80 - 190 $\eta \pi^+ X$ 80 - 230 $\omega \pi^+ X$ 80 - 230 $\phi \pi^+ X$ 80 - 230 145 $D^0 \pi^+ X$ 20 20 - 70 $\bar{D}^0 \pi^- X$ 20 20 - 70 $D^0 \bar{D}^0 X$ 20 20 - 70 $D^+ \bar{D}^0 X$ 20 - 70 $\bar{D}^0 D^- X$ 20 - 70 $D^+ D^- X$ 20 20 - 70 $D_s^+ D^- X$ 20 - 70 $D^*(2010)^0 \bar{D}^0 X$ 20 $D^*(2010)^+ \bar{D}^0 X$ 20 $K^+ \pi^- X$ 20 - 70 $K^- \pi^+ X$ 20 - 70 $K^+ \phi X$ 20 - 70 $K^- \phi X$ 20 - 70 $K^+ K^- X$ 20 - 70 $K^*(892)^0 K^+ X$ 80 - 230 $2K_S X$ 20 p mult[charged] X 75 - 148 $\Lambda_c^+ \pi^+ X$ 20 - 70	Meyer 88B amp, asym, pwa Dainton 85 angp, cs Bodenkamp 85 Atkinson 86 Atkinson 86B Atkinson 85C Atkinson 85D Atkinson 85C Anjos 90 Apsimon 90 col, pt Atkinson 85C angp, cs, mass, pwa Atkinson 85C angp, cs, mass, p, pt Anjos 89B Anjos 89B Anjos 87C Anjos 90C Abe 86 Adamovich 86B angp, cs, mass, p, pt Abe 86 Adamovich 86B ang. cs, mass, p, pt Abe 86 Adamovich 86B ang. cs, p, pt Adamovich 86B ang. cs, p, pt Adamovich 86B ang. cs, p, pt Adamovich 86B ang. cs, p, pt Odell 86 angp, asym Abergenov 86 angp Dainton 85 Dainton 85 dime, mass Soldnerreimbo 87 mass Dieter 89 mass Abe 86 Cs, mass, pwa Atkinson 86B mass Atkinson 86B mass Atkinson 86B mass Atkinson 85C Cs, mass, pwa Atkinson 85C Cs, mass, pwa Atkinson 85C Cs, mass, pwa Atkinson 85D ang, cs, mass	$\Lambda_c^+ \bar{D}^0 X$ 20 - 70 $\Lambda^+ D^- X$ 20 - 70 $\Lambda \gamma X$ 20 $\Lambda \pi^+ X$ 20 $\Lambda \pi^- X$ 20 $\bar{\Lambda} \pi^+ X$ 20 $\Lambda K^- X$ 20 $\Lambda^+ charmed-meson X$ 20 $\Lambda K_S X$ 20 $\bar{\Lambda} K_S X$ 20 $p \Lambda X$ 40 - 160 $\bar{p} \Lambda X$ 40 - 160 $p \Lambda X + p \bar{\Lambda} X$ 40 - 160 $\Lambda \bar{\Lambda} X$ 20 $p \Xi^- X$ 40 - 160 $\bar{p} \Xi^+ X$ 40 - 160 $p \Xi^- X + p \Xi^+ X$ 40 - 160 meson mult[charged] (neutrals) 60 - 170 Korsgen 88 mult, p p charged+ charged- 20 $n \pi^+ \pi^0$ 0.38 - 0.7 $p \pi^+ \pi^-$ 1.44 - 4.7 2.8 - 4.8 60 - 170 65 - 175 $p \omega \pi^0$ 20 $p \rho^0 \eta$ 20 - 70 $p \omega \eta$ 20 - 70 $p b_1(1235)^+ \pi^-$ 20 - 70 $p b_1(1235)^- \pi^+$ 20 - 70 $p a_2(1320)^+ \pi^-$ 20 - 70 $p a_2(1320)^- \pi^+$ 20 - 70 $p K^+ K^-$ 2.8 - 4.7 2.8 - 4.8 20 - 70

$\gamma p \rightarrow p K^+ K^-$ γ nucleon $\rightarrow \Lambda 2\pi^+ \pi^- X$

γp		γp		γ nucleon	
$p K^+ K^-$		$n 2\pi^+ \pi^-$ (nevtrals)		$D_S^- X$	
35 - 165	Busennitz 89	mass	1.44 - 4.7	Dainton 85	cs
$2p \bar{p}$		$p \pi^+ \pi^- 2\gamma$	60 - 225	Busennitz 89	mass
4.7	Dainton 85	cs	20	Brau 88	mass
4.9 - 6.6	Bodenkamp 85	cs, mass	20	Atkinson 84F	mass
60 - 225	Busennitz 89	mass	20 - 70	Brau 88	mass
K_S hadron (hadrons)		$p 2\pi^+ 2\pi^-$	20 - 70	Atkinson 85	cs
40 - 170	Bhakra 85	cs, mass, p	2.8 - 4.7	Dainton 85	cs
Δ hadron (hadrons)		$p \eta \pi^+ \pi^0 \pi^-$	15 - 20	Abe 85	mass
40 - 170	Bhakra 85	cs, mass, p	20 - 70	Atkinson 86	mass, p
2π hadron (hadrons)		$p \rho^0 \pi^+ \pi^0 \pi^-$	20 - 70	Atkinson 88	mass
0.3 - 30	Dainton 85	cs	20 - 70	Atkinson 88	mass
40 - 170	Bhakra 85	cs, mass, p	20 - 70	Atkinson 88	mass
$\phi e^+ \nu_e X$		$p \rho^+ \pi^+ 2\pi^-$	20 - 70	Atkinson 88	mass
145	Anjos 90C	mass	20 - 70	Atkinson 88	mass
$\phi \pi^+ \pi^0 X$		$p \rho^- 2\pi^+ \pi^-$	20 - 70	Atkinson 88	mass
80 - 230	Anjos 89B	mass	20 - 70	Atkinson 88	mass
$K^+ K^- \pi^+ X$		$p \omega \pi^+ \pi^0 \pi^-$	20 - 70	Atkinson 85	mass
80 - 230	Anjos 87C	mass	20 - 70	Atkinson 85	mass
$K^+ 2K^- X$		$p K^+ K^- \pi^+ \pi^-$	2.8 - 4.7	Dainton 85	cs
20 - 70	Atkinson 85B	mass, p	20 - 70	Atkinson 85F	ang, cs, mass
$2K^+ K^- X$					80 - 230
20 - 70	Atkinson 85B	mass, p			
$p \pi^+ \pi^- X$		$p 2\pi^+ 2\pi^-$ (nevtrals)		$\bar{A}_c^- X$	
20	Brau 88	mass	2.8 - 4.7	Dainton 85	cs
$p \bar{p} \pi^+ X$		$p 2\pi^+ \pi^0 2\pi^-$			50 - 150
40 - 160	Kennett 87B	mass	2.8 - 4.7	Dainton 85	cs
$2p \pi^- X$		$p 2\pi^+ \pi^-$	20 - 70	Atkinson 88	mass
40 - 160	Kennett 87B	mass	20 - 70	Atkinson 86B	mass
$p \pi^+ \pi^-$ (nevtrals)		$n 3\pi^+ 2\pi^-$		$\text{nucleon } \phi$	
1.44 - 4.7	Dainton 85	cs	2.8 - 4.7	Dainton 85	cs
$p \pi^+ \pi^0 \pi^-$		$n 3\pi^+ 2\pi^-$ (nevtrals)		$\text{nucleon } \chi_{c1}(1P)$	
1.44 - 4.7	Dainton 85	cs	2.8 - 4.7	Dainton 85	cs
60 - 225	Busennitz 89	mass	20 - 70	Atkinson 86	mass, p
$n 2\pi^+ \pi^-$		$p \pi^+ \pi^- 4\gamma$	20 - 70	Atkinson 86	mass, p
1.44 - 4.7	Dainton 85	cs	2.8 - 4.7	Dainton 85	cs
$p \eta \pi^+ \pi^-$		$p 3\pi^+ 3\pi^-$	2.8 - 4.7	Dainton 85	cs
20 - 70	Atkinson 85C	angp, cs, mass, pwa	4.7	Dainton 85	cs
$p \omega \pi^+ \pi^-$		$p 3\pi^+ \pi^0 3\pi^-$	4.7	Dainton 85	cs
20 - 70	Atkinson 86B	mass	4.7	Dainton 85	cs
$p \phi \pi^+ \pi^-$		$n 4\pi^+ 3\pi^-$ (nevtrals)		$D^0 \gamma X$	
20 - 70	Atkinson 85F	mass	4.7	Dainton 85	cs
$p 2\rho^0 \pi^0$		$p 3\pi^+ \pi^-$ (nevtrals)		$D^0 \bar{D}^0 X$	
20 - 70	Atkinson 88	mass	4.7	Dainton 85	cs
$p \rho^+ \rho^0 \pi^-$		$n 4\pi^+ \pi^0 3\pi^-$		$D^+ D^- X$	
20 - 70	Atkinson 88	mass	4.7	Dainton 85	cs
$p \rho^0 \rho^- \pi^+$		$\gamma \pi^-$		$K^- \pi^+ X$	
20 - 70	Atkinson 88	mass	0.5 - 2.2	Meyer 88B	asym
$p \omega \rho^+ \pi^- + p \omega \rho^- \pi^+$		$p \pi^-$	0.7 - 0.85	Meyer 88B	asym
20 - 70	Atkinson 85	mass	0.9 - 1.65	Adamyan 84C	angp, asym
$p K^*(892)^0 K^- \pi^+$		γ nucleon		$A_c^+ \bar{D}^- X$	
20 - 70	Atkinson 85F	mass		20 - 70	Adamovich 86E
$p \bar{K}^*(892)^0 K^+ \pi^-$		$\pi^0 X$		$A_c^+ D^- X$	
20 - 70	Atkinson 85F	mass	50 - 150	Auge 86	p, pt
$DD < \rho^0 > p \pi^+ \pi^-$		$\pi^+ X$	50 - 150	Barate 86	p, pt
15 - 20	Abe 85	angp, dime	50 - 150	Barate 86	p, pt
$\bar{\Lambda}$ 2hadron (hadrons)		$\pi^- X$	50 - 150	Barate 86	p, pt
40 - 170	Bhakra 85	cs, mass, p	50 - 150	Alvarez 90	mass
$2\pi^+ \pi^0 \pi^- X$		$D^0 X$	50 - 150	Alvarez 90C	mass
80 - 230	Anjos 89B	mass	50 - 150	Wormser 89	mass
$K^+ K^- \pi^0 X$				Roudeau 88	mass
80 - 230	Anjos 89B	mass			
$p \pi^+ \pi^0 \pi^- X$				100	
20	Brau 88	mass		$K^+ K^- \pi^+ X$	
$p \bar{p} 2\pi^+ X$		$D^+ X$	50 - 150	50 - 150	Alvarez 90C
40 - 160	Kennett 87B	mass	100	Alvarez 90C	mass
$2p 2\pi^- X$				50 - 150	Alvarez 90C
40 - 160	Kennett 87B	mass	100	50 - 150	Alvarez 90C
				$\Lambda 2\pi^+ \pi^- X$	
				80 - 230	Anjos 89C

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

γ nucleon $\rightarrow p \bar{K}^0 \pi^+ \pi^- X$ γ Be $\rightarrow D^*(2010)^- X$

γ nucleon		γ ${}^3\text{He}$		γ Li	
$p \bar{K}^0 \pi^+ \pi^- X$		$2p\ n$	0.275 - 0.474 Audit 89	angp	$\pi^0 X$ 0.137 - 0.147 Glavanakov 87 Glavanakov 86
80 - 230 Anjos 89C	mass				cs cs
$K^+ K^- 2\pi^+ \pi^- X$		γ ${}^4\text{He}$			
50 - 150 Alvarez 90C	mass	X	2.3 - 3.3 Aleksanyan 86	cs	
γ deuteron		$\pi^- X$	0.35 Ganenko 88	angp, asym, p	
$J/\psi(1S) X$					$\pi^0 X$ 0.137 - 0.147 Glavanakov 89 a-dep, cs
60 - 200 Aubert 84C	cs	$p\ X$	0.06 - 0.35 Ganenko 88	angp, asym, p	$\pi^+ X$ < 0.5 Stenz 86
$p\ X$			0.17 - 0.45 Marnyava 89	angp, asym, p	$\pi^- X$ < 0.5 Stenz 86
1.5 - 4.5 Avakyan 90	p, pol				$p\ X$ < 0.6 Zybalov 90B
1.6 Bratashevsky 87D	pol	$n\ X$	0.17 - 0.45 Maruyama 89	p	a-dep, angp, pol
$p\ n$					
0.01 - 1 Desantis 88	cs	${}^4\text{He}\ \gamma$	2.3 - 3.3 Aleksanyan 86	angp	γ Be
0.0147 - 0.074 Barnabe 86	cs				$\pi^0 X$ 0.2 - 0.6 Arakelyan 85
0.03 - 0.1 Ganenko 89	angp, p	${}^4\text{He}\ \pi^0$	0.137 - 0.155 Argan 88	angp, cs	$\pi^+ X$ 0.22 - 0.45 Arends 85
0.1 - 0.21 Desantis 88	angp				$J/\psi(1S) X$ 80 - 190 Sokoloff 86
0.1 - 0.255 Desantis 86	angp				a-dep, angp, cs
0.187 - 0.427 Maruyama 89		$p\ n\ X$	0.17 - 0.45 Maruyama 89	angp, cor	$D^0 X$ 80 - 230 Anjos 88
0.3 - 0.34 Fearing 86	angp				Anjos 88B
0.3 - 0.5 Bratashevsky 86B	pol				Anjos 88C
0.3 - 1 Adamyan 88	asym	$d\ e$	0.17 - 0.45 Endo 88	angp, cor	Anjos 87
0.4 - 0.8 Galumyan 88	asym, pol				Anjos 87D
Adamyan 86	asym				mass
Agababyan 85C					
0.45 - 0.65 Althoff 89	angp, asym, pol				
Meyer 88B	asym				
0.5 Yokosawa 85C					
0.55 Yokosawa 85					
0.7 - 1 Bratashevsky 86	pol				
0.8 - 1.6 Napolitano 88	angp, p				
200 - 350 Zybalov 90	angp, pol				
γ deuteron π^0					
0.137 - 0.155 Argan 88	amp, cs				
0.4 - 0.8 Galumyan 88	asym, pol				
Adamyan 86	asym				
0.5 - 0.9 Adamyan 89	cs				
0.5 - 1 Adamyan 88	asym				
Imanishi 88	angp				
Asai 87	angp, cs				
Imanishi 85	p				
dibaryon π^-					
2.5 Bock 85B	angp				
$p\ \bar{p}\ X$					
60 - 225 Busennitz 89	mass				
$p\ n\ \gamma$					
0.08 - 0.13 Rose 90	angp				
$2p\ \pi^-$					
0.28 - 0.52 Zhielinsky 88	cs, mass				
0.35 - 0.45 Yokosawa 85					
0.35 - 0.475 Yokosawa 85C					
2.5 Bock 85B	angp, mass				
$n\ (\Delta 1232 P_{33})^{++} \pi^-$					
0.566 - 0.846 Asai 89	cs				
$p\ n\ \pi^+ \pi^-$					
0.566 - 0.846 Asai 89	angp, mass				
$p\ n\ K^+ K^-$					
45 - 85 Busennitz 89	mass				
γ ${}^3\text{He}$					
$\pi^+ X$					
0.35 Ganenko 88	angp, asym, p				
$\pi^- X$					
0.35 Ganenko 88	angp, asym, p				
$p\ X$					
0.06 - 0.35 Ganenko 88	angp, asym, p				
0.35 Zybalov 88	pol				
γ deuteron p					
0.09 - 0.35 Belyaev 86B	angp, asym, pol				
0.2 Gorbenko 85	pol				
${}^3\text{He}\ \pi^0$					
0.137 - 0.155 Argan 88	amp, cs				
γ ${}^3\text{He}$					
$2p\ n$					
0.275 - 0.474 Audit 89					
γ Li					
$\pi^0 X$					
0.137 - 0.147 Glavanakov 87					
Glavanakov 86					
$p\ X$					
1.6 Bratashevsky 87D					
γ ${}^9\text{Be}$					
$\pi^0 X$					
0.137 - 0.147 Glavanakov 89					
a-dep, cs					
$p\ X$					
1.6 Bratashevsky 87D					
γ Be					
$\pi^0 X$					
0.2 - 0.6 Arakelyan 85					
0.22 - 0.45 Arends 85					
$J/\psi(1S) X$					
80 - 190 Sokoloff 86					
a-dep, angp, cs					
$D^0 X$					
80 - 230 Anjos 88					
Anjos 88B					
Anjos 88C					
cs, p, pt					
Anjos 87					
Anjos 87D					
mass					
γ He					
$\pi^0 X$					
0.1379 - 0.1699 Janimes 89					
cs					
$p\ X$					
0.187 - 0.427 Maruyama 89					
angp, cs, p					
$He\ \pi^0$					
0.19 - 0.43 Ananin 85					
0.29 Redwine 86					
angp					
γ ${}^6\text{Li}$					
$\gamma\ X$					
50 - 150 Astbury 85					
pt					
$\pi^0 X$					
0.137 - 0.147 Glavanakov 89					
a-dep, cs					
$J/\psi(1S) X$					
50 - 150 Barate 86B					
cs, p, pt					
$X_{c1}(1P)\ X$					
50 - 150 Barate 86B					
cs					
$X_{c2}(1P)\ X$					
50 - 150 Barate 86B					
cs					
$\psi(2S)\ X$					
50 - 150 Barate 86B					
?					
$p\ X$					
< 0.6 Zybalov 90B					
a-dep, angp, pol					
${}^6\text{Li}^*\ \pi^0$					
0.5 Naumenko 89					
$\mu^-\ \mu^+\ X$					
50 - 150 Barate 86B					
mass					
$p\ n\ X$					
0.3 - 1 Adamyan 88					
asym					
${}^6\text{Li}\ \pi^0\ \gamma$					
0.5 Naumenko 89					
$J/\psi(1S)\ 0\pi^0$ fragt (neutrals)					
50 - 150 Barate 86B					
es, pt					
$\pi^-\ \pi^-\ \mu^-\ \mu^+\ X$					
50 - 150 Barate 86B					
mass					
$D^*(2010)^+ X$					
80 - 230 Anjos 88					
Anjos 88B					
Anjos 87					
Anjos 86					
$D^*(2010)^- X$					
80 - 230 Anjos 88B					
Anjos 87					

$\gamma \text{ Be} \rightarrow D_1(2420)^0 \text{ X}$ $\gamma \text{ Al} \rightarrow (\text{frags})$

$\gamma \text{ Be}$	$\gamma \text{ Be}$	$\gamma^{12}\text{C}$
$D_1(2420)^0 \text{ X}$ 80 - 230 Anjos 88F	2hadron (hadrons) $\pi^+ \mu^+ e^- \text{ X}$ 80 - 230 Arakelyan 85 Anjos 87D Grab 87	$\pi^0 \text{ X}$ 0.137 - 0.147 Glavanakov 89 a-dep, cs $\pi^\pm \text{ X}$ 0.4 Tonapetyan 85B a-dep, angp
$D_1(2420)^0 \text{ X}$ 80 - 230 Anjos 88F	$\pi^+ \mu^+ e^+ \text{ X}$ 80 - 230 Anjos 87D Grab 87	$\pi^- \text{ X}$ < 0.5 Stenz 86 p
$p \text{ X}$ 0.187 - 0.427 Maruyama 89 angp, cs, p	$2\pi^+ \pi^- \text{ X}$ 80 - 230 Anjos 88D	$\pi^- \text{ X}$ < 0.5 Stenz 86 p
$\Lambda_c^+ \text{ X}$ 80 - 230 Anjos 88C Anjos 87B Klein 89C	$\pi^+ 2\pi^- \text{ X}$ 80 - 230 Anjos 88D	$p \text{ X}$ < 0.6 Zybalov 90B a-dep, angp, pol
$\bar{\Lambda}_c^- \text{ X}$ 80 - 230 Anjos 88C	$K^+ \pi^- e^- \text{ X}$ 80 - 230 Anjos 88B	$^{12}\text{C}^* \pi^0$ 0.5 Naumenko 89 cs
$\Sigma_c(2455)^0 \text{ X}$ 80 - 230 Anjos 89	Anjos 88E	$^{12}\text{C}^* \pi^0 \gamma$ 0.5 Naumenko 89 p
$\Sigma_c(2455)^{++} \text{ X}$ 80 - 230 Anjos 89	$K^- \pi^+ e^+ \text{ X}$ 80 - 230 Anjos 88B	
$\text{Be } \pi^0$ 0.2 - 0.9 Ananikyan 87	Anjos 88E	
$\text{Be } J/\psi(1S)$ 80 - 190 Sokoloff 86	$K^+ 2\pi^- \text{ X}$ 80 - 230 Anjos 88D	0.1379 - 0.1699 Jammes 89 cs
$e^- e^+ \text{ X}$ 80 - 230 Anjos 87D Grab 87	Anjos 87	0.2 - 0.6 Arakelyan 85 cs
$\mu^+ e^- \text{ X}$ 80 - 230 Anjos 87D Grab 87	$K^- 2\pi^+ \text{ X}$ 80 - 230 Anjos 88	0.22 - 0.45 Arends 85 cs
$\mu^- e^+ \text{ X}$ 80 - 230 Anjos 87D Grab 87	Anjos 88D	0.3 - 0.44 Belousov 88 angp
$\mu^- \mu^+ \text{ X}$ 80 - 190 Sokoloff 86	$K^*(892)^0 e^+ \nu_e \text{ X}$ 145 Anjos 90C	$p \text{ X}$ 0.187 - 0.427 Maruyama 89 angp, cs, p
$\mu^- \mu^+ \text{ X}$ 80 - 230 Anjos 87D Grab 87	Anjos 88G	0.34 - 0.58 Maruyama 89 angp, cs, p
$\phi \pi^+ \text{ X}$ 80 - 230 Anjos 88G Raab 87	$K^+ K^- \pi^+ \text{ X}$ 80 - 230 Anjos 88G	1.5 - 4.5 Avakyan 89 pol
$\phi \pi^- \text{ X}$ 80 - 230 Anjos 88G Raab 87	$K^+ K^- \pi^- \text{ X}$ 80 - 230 Anjos 88G	Alanakanian 88 p
$D^0 \pi^+ \text{ X}$ 80 - 230 Anjos 88	$p K^- \pi^+ \text{ X}$ 80 - 230 Anjos 87B	Avakyan 85B a-dep. asym, p
$D^+ \pi^- \text{ X}$ 80 - 230 Anjos 86	$K^+ \pi^+ 2\pi^- \text{ X}$ 80 - 230 Anjos 88F	Alanakanian 84 p, pt
$D^- \pi^+ \text{ X}$ 80 - 230 Anjos 88F	$K^- 2\pi^+ \pi^- \text{ X}$ 80 - 230 Anjos 87	Bratashevsky 87D pol
$D^*(2010)^+ \pi^- \text{ X}$ 80 - 230 Anjos 88F	$K^- 2\pi^+ \pi^- \text{ X}$ 80 - 230 Anjos 87	$C \pi^0$ 0.2 - 0.9 Ananikyan 87 cs
$D^*(2010)^- \pi^+ \text{ X}$ 80 - 230 Anjos 88F	$p K^- 2\pi^+ \text{ X}$ 80 - 230 Anjos 89	$p \pi \text{ X}$ 1.5 - 4.5 Alanakyan 88 p
$K^+ \pi^- \text{ X}$ 80 - 230 Anjos 87	$p K^- \pi^+ \pi^- \text{ X}$ 80 - 230 Anjos 89	$2p \text{ X}$ 1.5 - 4.5 Alanakyan 88 p
$K^- \pi^+ \text{ X}$ 80 - 230 Anjos 88 Anjos 87 Anjos 86	$2\pi^+ 3\pi^- \text{ X}$ 80 - 230 Anjos 88D	$2p \text{ X} + p \pi \text{ X}$ 1.5 - 4.5 Alanakyan 87 ang
$K^0 \pi^+ \text{ X}$ 80 - 230 Anjos 87D	$3\pi^+ 2\pi^- \text{ X}$ 80 - 230 Anjos 88D	2hadron (hadrons) 0.2 - 0.9 Ananikyan 87 cs
$\bar{K}'(892)^0 \eta \text{ X}$ 80 - 230 Anjos 90	$K^- 2\pi^+ \pi^0 \pi^- \text{ X}$ 80 - 230 Anjos 90	Arakelyan 85 angp
$\bar{K}'(892)^0 \omega \text{ X}$ 80 - 230 Anjos 90	$K^- 3\pi^+ \pi^- \text{ X}$ 80 - 230 Anjos 90	$^{16}\text{O} p$ 0.196 Turley 85 angp
$\bar{K}'(892)^0 K^- \text{ X}$ 80 - 230 Anjos 88G Raab 87	$\bar{K}^0 2\pi^+ 2\pi^- \text{ X}$ 80 - 230 Anjos 90	$^{16}\text{O} n$ 0.15 - 0.25 Beise 89 angp
$\bar{K}'(892)^0 K^+ \text{ X}$ 80 - 230 Anjos 88G Raab 87	$K^+ K^- 2\pi^+ \pi^- \text{ X}$ 80 - 230 Anjos 88G	$\gamma \text{ O}$
2hadron (hadrons) 0.2 - 0.9 Ananikyan 87	$K^+ K^- \pi^+ 2\pi^- \text{ X}$ 80 - 230 Anjos 88G	$\pi^0 \text{ X}$ 0.137 - 0.147 Glavanakov 89 a-dep, cs
	$K^+ 2\pi^+ \pi^- \text{ X}$ 80 - 230 Anjos 88F	$\pi^+ \text{ X}$ < 0.5 Stenz 86 p
	$K^- 3\pi^+ 2\pi^- \text{ X}$ 80 - 230 Anjos 88F	$\pi^- \text{ X}$ < 0.5 Stenz 86 p
	$\gamma^{11}\text{Bor}$	$^{15}\text{N} \text{ Nit p}$ 0.196 Turley 85 angp
	$^{11}\text{C} \pi^-$ 1.5 - 4.5	$^{16}\text{O} n$ 0.15 - 0.25 Beise 89 angp
	Arakelyan 90	$\gamma \text{ Al}$
		(frags) 0.8 - 1.8 Delima 90B cs

Entries in order of beam mass, then target mass, then multiplicity of final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

γ Al → mult[charged] X γ $^{120}\text{Sn} \rightarrow ^{120}\text{Sb}$ π^-

γ Al	γ Cr	γ Cu
mult[charged] X 0.5 – 3.3 Arakelyan 89D	mult $2p$ X + p π X 1.5 – 4.5 Alanakyanyan 87	mult p X 1.6 Bratashevsky 87D
π^0 X 0.2 – 0.6 Arakelyan 85	es π^\pm X 0.4 Tonapetyan 85B	pol γ ^{68}Cu ^{68}Ni π^+ 1.5 – 4.5 Arakelyan 90
p X 1.5 – 4.5 Avakyan 90	es π^\pm X 0.4 Tonapetyan 85B	cs ^{69}Zn $2n$ π^- 1.5 – 4.5 Arakelyan 90
$2p$ X + p π X 1.5 – 4.5 Alanakyanyan 87	ang γ Fe X (197.8 – 614.2) Aglamazov 85	pol ^{62}Zn $3n$ π^- 1.5 – 4.5 Arakelyan 90
2hadron (hadrons) 0.2 – 0.9 Arakelyan 85	es $J/\psi(1S)$ X 60 – 200 Aubert 84C	cs γ Ge
γ ^{27}Al	es π^\pm X 0.4 Tonapetyan 85B	D^0 X 70 – 225 Amendolia 87
p X < 0.6 Zybalov 90B	a-dep, angp. a-dep, angp. pol	\bar{D}^0 X 70 – 225 Amendolia 87
^{27}Mg π^+ 1.5 – 4.5 Arakelyan 90	cs μ^- μ^+ X 80 – 190 Sokoloff 86	A_c^+ X 70 – 225 Klein 89C
2fragt X 0.8 – 1.8 Delima 89	angp. cs. p γ ^{56}Fe	A_c^- X 70 – 225 Amendolia 87B
3fragt X 0.8 – 1.8 Delima 89	angp. cs. p π^\pm X 0.4 Tonapetyan 85B	p K $^-$ π^+ π^0 X 70 – 225 Amendolia 87B
γ ^{28}Si	γ Co (frags) 0.8 – 1.8 Delima 90B	mass γ Zr
π^\pm X 0.4 Tonapetyan 85B	cs γ ^{59}Co	(frags) 0.8 – 1.8 Delima 90B
γ Si	2fragt X 0.8 – 1.8 Delima 89	2fragt X 0.8 – 1.8 Delima 89
A_c^+ X 70 – 225 Klein 89C	angp. cs. p γ ^{60}Ni	3fragt X 0.8 – 1.8 Delima 89
p K $^-$ π^+ π^0 X 70 – 225 Amendolia 87B	mass γ fragt X 1.5 – 4.5 Arakelyan 86	4fragt X 0.8 – 1.8 Delima 89
γ S	^{60}Cu π^- 1.5 – 4.5 Arakelyan 90	^{24}Na X 4.5 Amroyan 89
2p X + p π X 1.5 – 4.5 Alanakyanyan 87	ang ^{59}Fe p π^+ 1.5 – 4.5 Arakelyan 90	γ ^{93}Nb π^\pm X 0.4 Tonapetyan 85B
γ ^{40}Ca	γ ^{61}Ni fragt X 1.5 – 4.5 Arakelyan 86	a-dep, angp. γ Ag
π^0 X 0.168 Koch 89	angp. cs ^{61}Co π^+ 1.5 – 4.5 Arakelyan 90	(frags) 0.8 – 1.8 Delima 90B
π^\pm X 0.4 Tonapetyan 85B	a-dep, angp. ^{61}Cu π^- 1.5 – 4.5 Arakelyan 90	^7Be X 2.9 – 4.5 Amroyan 89
^{40}Ca π^0 0.168 Koch 89	angp. cs ^{61}Fe p π^+ 1.5 – 4.5 Arakelyan 90	^{24}Na X 0.78 – 4.5 Amroyan 89
Ca^* π^0 0.168 Koch 89	angp. cs γ ^{62}Ni	fragt X 1.5 – 4.5 Amroyan 88
γ Ca	fragt X 1.5 – 4.5 Arakelyan 86	γ In
π^0 X 0.1379 – 0.1699 Jammes 89	^{62}Co π^+ 1.5 – 4.5 Arakelyan 90	(frags) 0.8 – 1.8 Delima 90B
γ Ti	^{61}Fe p π^+ 1.5 – 4.5 Arakelyan 90	γ ^{116}Sn
(frags) 0.8 – 1.8 Delima 90B	γ Cu mult[charged] X 0.5 – 3.3 Arakelyan 89D	$^{116}\text{In}^*$ π^+ 1.5 – 4.5 Arakelyan 90
2fragt X 0.8 – 1.8 Delima 89	^7Be X 4 Amroyan 89	^{116}Sb π^- 1.5 – 4.5 Arakelyan 90
3fragt X 0.8 – 1.8 Delima 89	^{24}Na X 0.6 – 5 Amroyan 89	γ Sn
γ ^{48}Ti	π^0 X 0.22 – 0.45 Arends 85	π^0 X 0.22 – 0.45 Arends 85
π^+ X < 0.5 Stenz 86	p X 1.5 – 4.5 Avakyan 85B	p X 1.5 – 4.5 Avakyan 89
π^- X < 0.5 Stenz 86	angp. cs. p γ ^{120}Sn	angp. cs. p ^{120}Sb π^- 1.5 – 4.5 Arakelyan 90

$\gamma^{120}\text{Sn} \rightarrow^{118}\text{Sb} 2n \pi^-$ $\bar{\nu} \text{Ne} \rightarrow \text{charged-} X$

$\gamma^{120}\text{Sn}$		$\gamma^{208}\text{Bi}$		$\nu \text{ deuteron}$
$^{118}\text{Sb} 2n \pi^-$ 1.5 - 4.5	Arakelyan 90	$\pi^\pm X$ 0.4	Tonapetyan 85B a-dep. angp.	νX 200 Berger 86B angp. cs
$\gamma^{122}\text{Sn}$		$\gamma^{235}\text{U}$		$\mu^- X$ < 200 Nachtmann 85 angp. p
$^{122}\text{Sb} \pi^-$ 1.5 - 4.5	Arakelyan 90	$\text{fragt } X$ 0.15 - 4.32	Arakelyan 89 Arakelyan 89C	$\pi^+ \mu^- X$ 10 - 100 Matsinos 89 angp. p. pt
$\gamma^{124}\text{Sn}$		$\gamma^{238}\text{U}$		$\pi^- \mu^+ X$ 10 - 100 Matsinos 89 angp. p. pt
$^{124}\text{Sb} \pi^-$ 1.5 - 4.5	Arakelyan 90	X 0.15 - 3.55	Arakelyan 89E	$p \mu^- X$ 10 - 100 Matsinos 89 angp. p. pt
$^{120}\text{Sb} 4n \pi^-$ 1.5 - 4.5	Arakelyan 90	$\pi^\pm X$ 0.4	Tonapetyan 85B a-dep. angp.	$\nu \text{ Ne}$
γXe		$\text{fragt } X$ 0.15 - 4.32	Arakelyan 89 Arakelyan 89C	$\text{black } X$ 50 Ammar 89B mult
$\text{Xe } e^- e^+$ 0.025 - 2.5	Strugalski 88B			$\text{grey } X$ 50 Ammar 89B mult
$\gamma \text{Cs(atom)}$				$\text{shower } X$ 50 Ammar 89B mult
$\text{Cs(atom) } \gamma$ $0.4 \cdot 10^{-9}$	Gilbert 86B Gilbert 85	X 0.1 - 0.53 $100 - 10^3$	Arends 88 Zatsopin 89	$\pi^+ \mu^- X$ 10 - 100 Matsinos 89 angp. p. pt
γNd		$> 10^3$	Bond 89	$\pi^- \mu^+ X$ 10 - 100 Matsinos 89 angp. p. pt
(frags)	0.8 - 1.8	$75 \cdot 10^3$	Tatimori 89	$p \mu^- X$ 10 - 100 Matsinos 89 angp. p. pt
		$> 10^6$	Bond 88B	$p \text{ mult}[p] \mu^- X$ 10 - 100 Matsinos 89 angp. mult
γSm				$\nu \text{ Fe}$
(frags)	0.8 - 1.8			$\mu^- X$ 10 - 260 Berge 89 p
				< 200 Nachtmann 85 angp. p
γTa				$\nu \text{ nucleus}$
(frags)	0.8 - 1.8			$e^+ X$ 10 - 200 Grassler 86 cs
$^7\text{Be } X$ 4	Amroyan 89	$\pi^+ X$ 0.2 - 0.4	Arends 88	$\mu^+ X$ 10 - 200 Grassler 86 cs
$^{24}\text{Na } X$ 2.9 - 4.5	Amroyan 89	$\pi^- X$ 0.2 - 0.4	Arends 88	$\text{black } X$ 50 Ammar 89B mult
$\gamma^{181}\text{Ta}$		$p X$ 0.187 - 0.427	Maruyama 89	$\text{grey } X$ 50 Ammar 89B mult
$\pi^\pm X$ 0.4	Tonapetyan 85B a-dep. angp.	$0.2 - 0.4$	Arends 88	$\text{mult}[hadron] X$ 10 - 200 Grassler 86 cs
$\gamma^{207}\text{Pb}$		$\text{fragt } X$ 0.1 - 7.4	Fredriksson 87	$\text{shower } X$ 50 Ammar 89B mult
$\pi^\pm X$ 0.4	Tonapetyan 85B a-dep. angp.	$> 5 \cdot 10^4$	Haines 90 Dingus 88 Dingus 88B	νp
γPb		$A^+_1 D^0 X$ 20 - 70	Forino 87	$\Delta(1520 D_{0s}) \mu^+ X$ 5 - 150 Allen 85 p
		$A^+_1 D^- X$ 20 - 70	Forino 87	$p \pi^- \mu^+$ 5 - 150 Allen 85 p
		$\text{nucleus } e^- e^+$ 13 - 25	Baskov 88	$p K^- \mu^+$ 5 - 150 Allen 85 p
				$\nu \text{ deuteron}$
		νp		$\bar{\nu} X$ 200 Berger 86B angp. cs
		$\mu^- X$ 200	Berger 86B	$\pi^+ \mu^+ X$ 10 - 100 Matsinos 89 angp. p. pt
		$\Sigma_c(2455)^+ \mu^- X$ 30 - 300	Klein 89C	$\pi^- \mu^+ X$ 10 - 100 Matsinos 89 angp. p. pt
		$\Delta(1520 D_{0s}) \mu^- X$ 5 - 150	Allen 85	$p \mu^+ X$ 10 - 100 Matsinos 89 angp. p. pt
		$p \pi^+ \mu^-$ 5 - 150	Allen 85	$p K^+ \mu^-$ 5 - 150 Allen 85
		$p K^+ \mu^-$ 5 - 150	Jongejans 89	$\nu \text{ charged-hadron (charged-hadrons)}$ (neutrals)
		$\nu \text{ charged-hadron (charged-hadrons)}$ (neutrals)		$\nu \text{ charged-hadron (charged-hadrons)}$ (neutrals)
		$10 - 260$	Jongejans 89	$\nu \text{ Ne}$
		νn		$\text{charged } X$ 10 - 200 Fredriksson 87 angp. mult. p
				$\text{charged-} X$ 10 - 200 Fredriksson 87 angp. mult. p
$\gamma^{208}\text{Pb}$		$\nu \text{ (charged-hadrons) (neutrals)}$ 10 - 260	Jongejans 89	$\nu \text{ (charged-hadrons) (neutrals)}$ 10 - 260 Jongejans 89 mult. p

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

$$\bar{\nu} \text{Ne} \rightarrow \pi^+ X$$

$\nu_\mu p \rightarrow \mu^-$ mult[charged] (neutrals)

$\nu_\mu p \rightarrow p \pi^+ \mu^-$ $\nu_\mu \text{ deuteron} \rightarrow \rho^0 \mu^- X$

$\nu_\mu p$	$\nu_\mu n$	$\nu_\mu \text{ nucleon}$		
$p \pi^+ \mu^-$ 0.2 - 5 3 - 30 $D_s^*(2790)^+ \mu^-$ 10 - 200 $\pi^\pm \mu^- \text{ hadron(s)}$ 5 - 150 $\pi^+ \mu^- \text{ hadron(s)}$ 5 - 150 $\pi^- \mu^- \text{ hadron(s)}$ 5 - 150 $\mu^- \text{ hadron}^+ \text{ hadron(s)}$ 5 - 150 $\mu^- \text{ hadron}^- \text{ hadron(s)}$ 5 - 150 $p (\rho') \mu^- X$ 10 - 300 $p 2\pi^+ \pi^- \mu^-$ 0.2 - 5 $\mu^- \text{ charged (charged) (neutrals)}$ 5 - 150 $p 3\pi^+ 2\pi^- \mu^-$ 0.2 - 5	$p \pi^0 \mu^-$ 3 - 30 $\pi^+ \mu^-$ 0.2 - 5 $p \pi^+ \pi^- \mu^-$ 0.2 - 5 $p 2\pi^+ 2\pi^- \mu^-$ 0.2 - 5 $\nu_\mu X$ 3 - 30 $\nu_\mu X$ 10 - 160 $e^- X$ < 7 $\mu^- X$ 3 - 30	$\mu^- \mu^+ X$ 30 - 600 $2\mu^- X$ 30 - 230 $\pi^+ \mu^- X$ 3 - 30 $\pi^- \mu^- X$ 3 - 30 $\rho^0 \mu^- X$ 3 - 30 10 - 200 $\mu^+ \mu^\pm X$ 10 - 230 $\mu^- \ell^+ X$ < 300 $\mu^- \ell^- X$ < 300 $\mu^- \text{ charmed-meson } X$ 3 - 30 $\mu^- \text{ charm } X$ 10 - 200 $\mu^- \text{ hadron}^+ X$ 30 - 600 $\mu^- \text{ hadron}^- X$ < 230 $\mu^- \text{ charm charm } X$ 10 - 200 $\mu^- \pi^+ \mu^-$ 3 - 30 $\mu^- \pi^- \mu^- X$ 10 - 200 $D_s^*(2547)^+ \mu^- \gamma X$ 10 - 200 $\nu_\mu \text{ charm charm } X$ 10 - 200 $\mu^- \text{ hadron jet } X$ < 230 $D^*(2010)^+ K^0 \mu^- \gamma X$ 10 - 200 $\mu^- e^+ \text{ hadron (hadrons)}$ 3 - 30 $\nu_\mu \text{ deuteron}$		
$\nu_\mu n$				
$\nu_\mu X$ 10 - 260 $\mu^- X$ 3 - 30 10 - 260 Allasia 88C Allasia 85C $p \mu^-$ > 0.15 1.5 3 - 30 Brunner 89 Allasia 88C Allasia 85C Belikov 85 Belikov 83B < 4 < 12 Ahrens 87 Ahrens 86 Ahrens 85B $\Delta(1232 P_{33})^+ \mu^-$ 0.2 - 5 $\rho^0 \mu^- X$ 10 - 260 $K_S \mu^- X$ 10 - 260 $\Lambda \mu^- X$ 10 - 260 $\Sigma(1385 P_{13})^+ \mu^- X$ 10 - 260 $\Sigma(1386 P_{13})^- \mu^- X$ 10 - 260 $\nu_\mu \text{ hadron}^+ X$ < 200 $\nu_\mu \text{ hadron}^- X$ < 200 $\mu^- \text{ hadron}^+ X$ < 200 $\mu^- \text{ hadron}^- X$ < 200 $p \pi^0 \mu^-$ 0.2 - 5	$\nu_\mu p$ Kitagaki 86 ang. cs. mass. p. pwa Grabsch 89 ang. cs. mass Jones 89B ang. cs. mass Schnitz 88 cs Batusov 88C - Jones 90 mult. p Jones 90 mult. p Jones 90 mult. p Jones 90 mult. p Guy 89 cs. mult. p Kitagaki 86 cs. mass. p Bosetti 90 mass. pt Kitagaki 86 cs	$\nu_\mu p$ 3 - 30 < 30 0.2 - 5 3 - 30 < 30 0.2 - 5 0.2 - 5 3 - 30 10 - 200 30 - 230 60 - 90 160 165 - 250 < 230 $e^- X$ < 7 $\mu^- X$ 3 - 30	$\nu_\mu p$ Grabosch 89 ang. cs. mass Schnitz 88 cs Kitagaki 86 cs. mass. p Grabsch 89 ang. cs. mass Schnitz 88 cs Kitagaki 86 cs. mass. p Kitagaki 86 cs Ammosov 86I cs Ammosov 85 cs Blondel 90 const. cs Allaby 89 p Allaby 88C p Allaby 87 cs Allaby 86B cs Abramowicz 85 cs Ushida 88B cs Reutens 90 const. cs Bogert 85B cs Burgsma 85C cs Bogert 86 p Bogert 85 p Ammosov 88D cs Ammosov 87D ang. cs. pt Ammosov 87E cs. p Ammosov 86I cs Ammosov 85 cs Ammosov 85B p Varwell 87 p Blondel 90 const. cs Allaby 88 cs Allaby 87 cs Berge 87 cs Allaby 86 cs Allaby 86B cs Abramowicz 85 cs Ammosov 88 p Ushida 88B cs Ammosov 87B p Diemers 86 p Bergsma 84C p Reutens 90 const. cs Bogert 85B cs Bergsma 85C cs Bogert 85 p Murtagh 85B cs heavy-lepton ⁰ X 30 - 230 $\nu_\mu \text{ charm } X$ 10 - 200 $\Delta(1232 P_{33})^{++} \mu^-$ 3 - 30 $\Delta_c^+ \mu^-$ $\mu^- e^+ X$ 3 - 30 $\mu^- e^- X$ 3 - 30 $\mu^- \mu^+ X$ 30 - 230	$\nu_\mu p$ Lang 87 ang. cs. mass. p. pt Foudas 88B cs. p. pt Murtagh 85B cs Lang 87 ang. cs. mass. p. pt Murtagh 85B cs Ammosov 86H p Ammosov 86H p Ammosov 86H mass. mult. p. p. pt Ammosov 86G pol Ammosov 86D cs Ushida 88 p. pt Ushida 88L p. pt Ushida 88B ang. p Ushida 88B cs Foudas 88B - Mishra 89 cs Mukherjee 86 angp Mukherjee 86 angp Ushida 88B cs Ammosov 88B mass. p Ammosov 86G ang. mass. p Asratyan 87C - Ushida 88B cs Mukherjee 86 angp Ushida 88B cs Asratyan 87C mass. p Ammosov 87D angp. cs. pt

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

ν_μ deuteron $\rightarrow \mu^-$ heavy-lepton⁰ X ν_μ Ne \rightarrow Ne π^0 ν_μ

ν_μ deuteron	ν_μ deuteron	ν_μ Ne
μ^- heavy-lepton ⁰ X 10 - 260 Allasia 85	$p(\text{spect}) p \pi^+ \pi^- \mu^-$ 0.2 - 5 Kitagaki 86	$\rho^+ \mu^-$ X < 200 Schmitz 88 mult
$K^*(892)^- \mu^-$ X 10 - 260 Allasia 85D	$p(\text{spect}) n K^0 \pi^+ \mu^-$ 1 - 5 Mann 86	$\rho^- \mu^-$ X < 200 Schmitz 88 mult
$K^*(892)^- \mu^-$ X 10 - 260 Allasia 85D	$p(\text{spect}) \Lambda K^+ \pi^- \nu_\mu$ 1 - 5 Mann 86	$\rho^0 \mu^-$ X 10 - 100 Wittek 89 mult, p, pt
$\Lambda \mu^-$ X 10 - 260 Allasia 85D	$p(\text{spect}) \Lambda K^+ \pi^0 \mu^-$ 1 - 5 Mann 86	$\omega \mu^-$ X < 200 Wittek 89 mult, pol
mult[p] μ^- X 10 - 300 Guy 89	$p(\text{spect}) \Lambda K^0 \pi^+ \mu^-$ 1 - 5 Mann 86	$\omega \mu^-$ X 10 - 100 Wittek 89 mult, p, pt
$\nu_\mu q$ X 10 - 260 Allasia 88B	$p(\text{spect}) p K^+ K^- \mu^-$ 1 - 5 Mann 86	$f_2(1270) \mu^-$ X 10 - 100 Wittek 89 mult, p, pt
$\mu^- q$ X 10 - 260 Allasia 88B	$n(\text{spect}) p 2\pi^+ \pi^- \mu^-$ 0.2 - 5 Kitagaki 86	mult[π^+] μ^- X 10 - 100 Wittek 88 angp, mult, p
μ^- (neutrals) even-charged 10 - 260 Tanner 88	$n(\text{spect}) p K^+ K^0 \pi^0 \mu^-$ 1 - 5 Mann 86	mult[π^-] μ^- X 10 - 100 Wittek 88 angp, mult, p
μ^- (neutrals) odd-charged 10 - 260 Tanner 88	$p(\text{spect}) p 2\pi^+ 2\pi^- \mu^-$ 0.2 - 5 Kitagaki 86	mult[π^0] μ^- X 10 - 100 Wittek 88 angp, mult, p
$2\pi^+ \nu_\mu$ X 10 - 260 Allasia 88	$n(\text{spect}) p 3\pi^+ 2\pi^- \mu^-$ 0.2 - 5 Kitagaki 86	$K_S \mu^-$ X 10 - 200 Baker 86 angp, cs, mass, p, pt
$2\pi^- \nu_\mu$ X 10 - 260 Allasia 88	ν_μ C	$p \mu^-$ X 10 - 200 Brucker 85 mult
$\pi^+ \pi^- \nu_\mu$ X 10 - 260 Allasia 88	μ^- X 0.05 - 0.3 Dombeck 87	$\pi^- \mu^-$ X < 200 Schmitz 88 mult
$\pi^+ 2\mu^-$ X + $\pi^- \mu^+$ X 10 - 260 Allasia 85	ν_μ Ne	$\pi^- \mu^-$ X < 300 Schmitz 88 asym
$2\pi^+ \mu^-$ X 10 - 260 Allasia 88	e^- X 10 - 200 Brucker 86 cs, p	$\Lambda \mu^-$ X 10 - 200 Baker 86 angp, cs, mass, p, pt
$2\pi^- \mu^-$ X 10 - 260 Allasia 88	μ^- X 10 - 100 Allport 89 a-dep, p	$\bar{\Lambda} \mu^-$ X 10 - 200 Baker 86 cs
$\pi^+ \pi^- \mu^-$ X 10 - 260 Allasia 88	μ^- X 10 - 200 Guy 87 a-dep, p	$D^0 \mu^-$ X 10 - 200 Baker 86 cs
p (p's) μ^- X 10 - 300 Guy 89	μ^- X 14 - 200 Baker 86 a-dep, p	$\Xi^- \mu^-$ X 10 - 200 Baker 86 cs
mult[p] μ^- mult[hadron ⁻] X 10 - 300 Guy 89	μ^- X 50 Baker 85 a-dep, p	mult[p] μ^- X 10 - 300 Guy 89 cs, mult, p
π^+ μ^- (neutrals) odd-charged 10 - 260 Tanner 88	τ^- X 10 - 200 Brucker 86 cs, p	μ^- black X 10 - 200 Voyodic 86 mult
π^- μ^- (neutrals) odd-charged 10 - 260 Tanner 88	τ^- X < 400 Wittek 88 mult	μ^- grey X 10 - 200 Ammosov 87C angp, mult
p μ^- (neutrals) even-charged 10 - 260 Tanner 88	μ^- X < 400 Wittek 88 mult	Voyodic 86 mult
p μ^- (neutrals) odd-charged 10 - 260 Tanner 88	μ^- charged X 5 - 150 Rosetti 90 mass, pt	μ^- hadron ⁺ X 10 - 200 Brucker 85 mult
Op μ^- (neutrals) even-charged 10 - 260 Tanner 88	μ^- e ⁺ X 10 - 200 Baker 85 cs, p	μ^- hadron ⁻ X 10 - 200 Schmitz 88 mult
Op μ^- (neutrals) odd-charged 10 - 260 Tanner 88	μ^- e ⁺ X 14 - 200 Baltay 85 cs	μ^- mult[hadron ⁺] X 10 - 200 Brucker 85 mult
$\rho^0 \mu^-$ mult[charged] (neutrals) 10 - 260 Allasia 85B	μ^- e ⁺ X 50 Baker 85C cs	μ^- mult[hadron ⁻] X 10 - 200 Schmitz 88 mult
$p(\text{spect}) p \pi^0 \mu^-$ 0.2 - 5 Kitagaki 86	μ^- e ⁺ X 10 - 200 Baker 85 cs, p	μ^- mult[grey] X 10 - 200 Ammosov 87C mult
$n(\text{spect}) p \pi^+ \mu^-$ 0.2 - 5 Kitagaki 86	μ^- e ⁺ X 14 - 200 Baltay 85 cs	μ^- mult[hadron ⁺] X 10 - 100 Wittek 88 angp, mult, p
$p(\text{spect}) p \pi^+ \mu^-$ 0.2 - 5 Kitagaki 86	μ^- e ⁺ X 50 Baker 85C cs	μ^- mult[hadron ⁻] X 10 - 100 Wittek 88 angp, mult, p
$n(\text{spect}) p K^+ \mu^-$ 1 - 5 Mann 86	μ^- e ⁺ X < 200 Schmitz 88 mult	μ^- shower X 10 - 200 Aminosov 87C mult
$p(\text{spect}) p K^0 \mu^-$ 1 - 5 Mann 86	μ^- e ⁺ X 10 - 200 Baker 86 angp, p, pt	μ^- shower ⁺ X 10 - 200 Aminosov 87C mult
$n(\text{spect}) \Lambda K^+ \nu_\mu$ 1 - 5 Mann 86	μ^- e ⁺ X < 200 Schmitz 88 mult	μ^- shower ⁻ X 10 - 200 Aminosov 87C mult, p, pt
$p(\text{spect}) \Lambda K^0 \nu_\mu$ 1 - 5 Mann 86	μ^- e ⁺ X 10 - 200 Baker 86 angp, p, pt	Ne $\pi^0 \nu_\mu$ 20 Baltay 86 es
$p(\text{spect}) \Lambda K^+ \mu^-$ 1 - 5 Mann 86	μ^- e ⁺ X 10 - 100 Wittek 88 mult, p, pt	

$\nu_\mu \text{ Ne} \rightarrow \text{Ne } \pi^+ \mu^-$ $\nu_\mu \text{ nucleus} \rightarrow p \text{ grey X}$

$\nu_\mu \text{ Ne}$	$\nu_\mu \text{ Fe}$	$\nu_\mu \text{ nucleus}$
Ne $\pi^+ \mu^-$		
10 - 100	Marage 89 angp. cs. p	$\mu^- \mu^+ \text{ X}$
40 - 300	Aderholz 89 cs	10 - 260 Burkhardt 85 cs
Ne $\rho^+ \mu^-$		30 - 600 Foudas 88 cs, p, pt
10 - 320	Ballagh 86 angp. p	2 $\mu^- \text{ X}$
2 $\mu^- e^+ \text{ X}$	Baton 85 cs	10 - 260 Burkhardt 85 cs
10 - 100		30 - 600 Schumm 88 p, pt
2 $\mu^- \mu^+ \text{ X}$	Baton 85 cs	Merritt 87 ang. cs. pt
10 - 100		Merritt 87B cs, p
$\pi^+ \pi^- \mu^- \text{ X}$	Wittek 87 ang. mass. p	$\mu^- \text{ charm X}$
10 - 100		30 - 600 Foudas 88 -
$\rho^+ \pi^- \mu^- \text{ X}$	Wittek 89 mult. p, pt	$\nu_\mu \text{ nucleus}$
10 - 100		charged X
$\rho^- \pi^+ \mu^- \text{ X}$	Wittek 89 mult. p, pt	0.1 - 1.1 Suzuki 88 flux
10 - 100		0.4 - 2 Bionta 88 cs
K_S $\mu^- \mu^+ \text{ X}$	Baton 85 cs, mass. p, pt	$\nu_\mu \text{ X}$
10 - 100		0.2 - 20 Berger 89B flux
K_S K_S $\mu^- \text{ X}$	Baker 86 cs	Perdereau 89 flux
10 - 200		Longuemare 88 flux
2K_S $\mu^- \text{ X}$	Baker 86 cs	$\mu^- \text{ X}$
10 - 200		0.1 - 1.1 Suzuki 88 flux
$\Delta \Omega \mu^- \text{ X}$	Baker 86 cs	0.2 - 20 Berger 89B flux
10 - 200		Perdereau 89 flux
$\overline{\Lambda} \overline{\Omega} \mu^- \text{ X}$	Baker 86 cs	Longuemare 88 flux
10 - 200		0.4 - 2 Bionta 88 cs
$\Delta \mu^- \mu^+ \text{ X} + K_S \mu^- \mu^+ \text{ X}$	Baton 85 cs, mass. p, pt	Nakamura 88 -
10 - 100		0.5 - 19 Angelini 86 -
		1 - 13 Bergsma 88 cs
		$10^3 - 10^6$ Oyama 88B cs
$\tau^- \text{ X}$		$\tau^- \text{ X}$
10 - 100		10 - 100 Ushida 86C cs
heavy-lepton⁰ X		heavy-lepton⁰ X
		10 - 260 Dorenbosch 86B -
charmed-meson X		10 - 200 Asratyan 87B -
		p X
		10 - 200 Ammar 89 angp. cor. cs. mult
		Ammar 88 angp. cs. mult. p
p (p's) $\mu^- \text{ X}$	Guy 89 cs. mult. p	e⁻ e⁺ X
10 - 300		10 - 260 Dorenbosch 86B angp. p
mult[p] <math>\mu^- \text{ mult[hadron⁻] X}</math>	Guy 89 a-dep. mult	$\mu^- \gamma \text{ X}$
10 - 300		3 - 30 Ammosov 88G angp. cs. p
$\mu^- \text{ mult[grey] shower}^- \text{ X}$	10 - 200 Ammosov 87C mult. p	Grabosch 86B angp. cs. p
		$\mu^- \text{ hadron}^+ \text{ X}$
10 - 200	Brucker 85 mult.	10 - 260 Dorenbosch 86B angp. p
$\mu^- \text{ hadron}^+ \text{ hadron}^- \text{ X}$	Brucker 85 mult.	$\mu^- e^+ \text{ X}$
10 - 200		10 - 200 Baker 85B ang. cs. p
$\mu^- \text{ 2hadron (hadrons)}$	Brucker 85 mult.	10 - 260 Dorenbosch 86B angp. p
10 - 200		$\mu^- \mu^+ \text{ X}$
2K_S $\mu^- \mu^+ \lambda$	Baton 85 cs, mass. p, pt	10 - 200 Dorenbosch 86B angp. p
10 - 100		10 - 260 Dorenbosch 86B angp. p
3K_S $\mu^- \text{ X}$	Baker 86 cs	$\mu^- \mu^+ \text{ X}$
10 - 200		10 - 260 Dorenbosch 86B angp. p
$\Delta 2K_S \mu^- \text{ X}$	Baker 86 cs	$\pi^0 \mu^- \text{ X}$
10 - 200		3 - 30 Baranov 85 mult
2Δ K_S $\mu^- \text{ X}$	Baker 86 cs	3 - 30 Ammosov 85C p
10 - 200		? Ramin 85 mass
$\nu_\mu \text{ Fe}$		$\pi^- \mu^- \text{ X}$
		3 - 30 Ammosov 85C p
$\nu_\mu \text{ X}$	Abramowicz 85 cs	$\rho^0 \mu^- \text{ X}$
10 - 160	Abramowicz 86 cs	10 - 100 Wittek 87 dme
160		D ⁰ $\mu^- \text{ X}$
$\mu^- \text{ X}$	Berge 87 cs	10 - 100 Ushida 86B cs, p
10 - 160	Abramowicz 85 cs	10 - 200 Smart 86 cs, p
10 - 260	Burkhardt 85 cs	10 - 200 Voyodic 85 cs
30 - 230	Stockdale 85 cs	
30 - 600	Merritt 87 ang. cs. pt	
120 - 250	Reutens 85 cs	
160	Abramowicz 86 cs	D ⁰ $\mu^- \text{ X}$
		10 - 100 Ushida 86B cs, mult. p
		D⁺ $\mu^- \text{ X}$
		10 - 100 Ushida 86 cs
		10 - 200 Simart 86 cs
		Voyodic 85 cs
		D⁻ $\mu^- \text{ X}$
		10 - 100 Ushida 86 -
		D _S ⁻ $\mu^- \text{ X}$
		10 - 100 Ushida 86 -
		D_S⁺ $\mu^- \text{ X}$
		10 - 100 Ushida 86 -
		10 - 200 Smart 86 cs
		Voyodic 85 cs
		D_S⁽²⁷⁹⁰⁾⁺ $\mu^- \text{ X}$
		10 - 200 Batusov 88C -
		K⁻ $\pi^+ \text{ X}$
		10 - 200 Asratyan 87B mass
		Batusov 87 mass
		K_S $\mu^- \text{ X}$
		3 - 30 Aminov 85D cs, mass. p, pt
		K_S $\pi^+ \text{ X}$
		10 - 200 Asratyan 87B mass
		p $\mu^- \text{ X}$
		3 - 30 Ammosov 85C angp. p
		$\Delta_c^+ \mu^- \text{ X}$
		10 - 100 Ushida 86 -
		10 - 200 Smart 86 cs
		Voyodic 85 cs
		$\Delta_c^+ \pi^+ \text{ X}$
		10 - 200 Batusov 87 mass
		$\Sigma_c(2455)^0 \mu^- \text{ X}$
		10 - 200 Voyodic 86B -
		$\Delta \mu^- \text{ X}$
		3 - 30 Ammosov 85D cs, mass. p, pt
		mult[p] $\mu^- \text{ X}$
		3 - 30 Ammosov 85C mult
		$\mu^- \text{ charm X}$
		3 - 30 Ammosov 85D cs
		Schmitz 88 cs
		mult[shower] mult[charged] X
		< 500 Kitagaki 88 cor, mult
		$\mu^- \text{ black X}$
		10 - 200 Voyodic 86 mult
		$\mu^- \text{ charged-hadron X}$
		3 - 30 Ammosov 85C Ballagh 89 asym, p
		$\mu^- \text{ grey X}$
		10 - 200 Ammosov 87C asym, mult
		Voyodic 86 mult
		$\mu^- \text{ hadron}^+ \text{ X}$
		10 - 320 Ballagh 89 asym, p
		$\mu^- \text{ hadron}^- \text{ X}$
		10 - 320 Ballagh 89 asym, p
		$\mu^- \text{ mult[grey] X}$
		10 - 200 Ammosov 87C mult
		$\mu^- \text{ shower}^+ \text{ X}$
		10 - 200 Ammosov 87C mult
		$\mu^- \text{ shower}^- \text{ X}$
		10 - 200 Ammosov 87C mult
		$\mu^- \text{ show-r}^+ \text{ X}$
		10 - 200 Ammosov 87C p
		$\mu^- \text{ shower}^- \text{ X}$
		10 - 200 Ammosov 87C mult, p, pt
		p black X
		10 - 200 Ammar 88 cs, mult, p
		p grey X
		10 - 200 Ammar 88 cs, mult, p

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary). Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

ν_μ nucleus $\rightarrow p$ mult[black] X $\bar{\nu}_\mu$ nucleon $\rightarrow \bar{\nu}_\mu$ X

ν_μ nucleus	ν_μ nucleus	$\bar{\nu}_\mu$ p
p mult[black] X 10 – 200 Ammar 88	mult. p $n 2\pi^+ 2\pi^- \mu^-$ X 10 – 200 Voyvodic 86B	mass
p mult[grey] X 10 – 200 Ammar 88	mult. p $K^+ K^- 2\pi^+ \pi^- \mu^- \gamma$ X 10 – 200 Asratyan 87C	mass
p mult[shower] X 10 – 200 Ammar 88	mult. p $\bar{\nu}_\mu e^-$	
p shower X 10 – 200 Ammar 88	cs. mult. p $e^- \bar{\nu}_\mu$ 1.23 1.4	angp. cs Abe 89E Ahrens 85
mult[p] black X 10 – 200 Ammar 89	angp. cor. mult 10 – 160 Dorenbosch 89	const. cs Geiregat 89
mult[p] grey X 10 – 200 Ammar 89	angp. cor. mult	const. cs
ν_μ p	$\bar{\nu}_\mu$ p	$\bar{\nu}_\mu$ hadron ⁻ X
	$\bar{\nu}_\mu$ X 5 – 150 Jones 86 10 – 260 Allasia 88C	< 200 Schmitz 88
	$\mu^+ X$ 3 – 30 Brunner 89 5 – 150 Jones 89C	< 200 Schmitz 88
μ^- fragt (neutrals) < 500 Kitagaki 88 a-dep. cs. p	3 – 30 Jones 87 10 – 100 Grassler 85	< 200 Schmitz 88
nucleus π^0 ν_μ 3 – 30 Grabosch 86 angp. cs. p 10 – 260 Bergsma 85B	10 – 100 Aderholz 86 10 – 200 Asratyan 85 Asratyan 85B	mass Ammosov 86F
nucleus $\pi^+ \mu^-$ 3 – 30 Grabosch 86 angp. cs. p	10 – 260 Allasia 88C Allasia 85C	10 – 200 Ammosov 86F
$\pi^+ \pi^- \mu^-$ X 10 – 100 Wittek 87 ang. mass. p	10 – 260 Allasia 88C Allasia 85C	10 – 200 Ammosov 86F
$K^- \pi^+ \pi^0$ X 10 – 200 Asratyan 87B	mass	$\pi^\pm \mu^+$ hadron(s)
$K^- 2\pi^+ X$ 10 – 200 Asratyan 87B	mass	5 – 150 Jones 90
$K^0 \pi^+ \pi^-$ X 10 – 200 Batusov 87	mass	5 – 150 Jones 90
$K_S \mu^- e^+$ X 10 – 200 Baker 85B	cs. mass. p	5 – 150 Jones 90
$K_S \pi^+ \pi^0$ X 10 – 200 Asratyan 87B	mass	$p(p's) \mu^+ X$ 10 – 300 Guy 89
$K_S \pi^+ \pi^-$ X 10 – 200 Batusov 87	mass	$n \bar{K}^0 \pi^0 \mu^+ + n \bar{K}^0 2\pi^0 \mu^+$
$K_S \pi^+ \pi^-$ X 10 – 200 Baker 85B	cs. mass. p	$n \bar{K}^0 \pi^0 \mu^+ + \Lambda K^0 \pi^0 \mu^+$
$K_S \pi^+ \pi^-$ X 10 – 200 Asratyan 87B	mass	$\Lambda K^0 \pi^0 \mu^+ + \Lambda K^0 2\pi^0 \mu^+$
$p \pi^+ \mu^-$ X 3 – 30 Ammosov 85C	p	Ammosov 86F
$p \pi^- \mu^+$ X 3 – 30 Ammosov 85C	p	$\bar{\nu}_\mu n$
$\Delta_c^+ \pi^- \mu^-$ X 10 – 200 Voyvodic 86B	mass	$\bar{\nu}_\mu X$ 10 – 260 Allasia 88C
$\Delta \mu^- e^+$ X 10 – 200 Baker 85B	cs. mass. p	$\mu^+ X$ 3 – 30 Brunner 89
$\Delta K_S \mu^-$ X 3 – 30 Ammosov 85D	cs	10 – 200 Asratyan 85B Asratyan 85B
$2\Delta \mu^-$ X 3 – 30 Ammosov 85D	cs	a-dep. p
μ^- mult[grey] shower ⁻ X 10 – 200 Aminosov 87C	mult. p	angp. cs. p
μ^- charged (charged) (neutrals) < 500 Kitagaki 88 a-dep. cs. p		10 – 260 Allasia 88C Allasia 85C
$\pi^0 \mu^-$ charged (neutrals) 3 – 30 Baranov 85	mult	10 – 260 Allasia 85B
$K^- 2\pi^+ \pi^-$ X 10 – 200 Asratyan 87B	mass	mult
$K_S \pi^0 \mu^- e^+$ X 10 – 200 Baker 85B	mass	$\rho^0 \mu^+ X$ 10 – 260 Allasia 85B
$K_S \pi^- \mu^- e^+$ X ?	Baker 85B	10 – 260 Allasia 85D
$p K^- 2\pi^+ X$ 10 – 200 Batusov 87	mass	10 – 260 Allasia 85D
$K^+ K^- \pi^+ \mu^- \gamma$ X 10 – 200 Asratyan 87C	mass	$\Sigma(1385 P_{13})^+ \mu^+ X$ 10 – 260 Allasia 85D
$\Sigma^+ \pi^+ 2\pi^- \mu^-$ X 10 – 200 Voyvodic 86B	mass	$\Sigma(1385 P_{13})^- \mu^+ X$ 10 – 260 Allasia 85D

$\bar{\nu}_\mu$ nucleon $\rightarrow \bar{\nu}_\mu$ X $\bar{\nu}_\mu$ Ne $\rightarrow \rho^- \mu^+ X$

$\bar{\nu}_\mu$ nucleon	$\bar{\nu}_\mu$ nucleon	$\bar{\nu}_\mu$ deuteron	
$\bar{\nu}_\mu$ X	$\mu^+ \text{ charm } X$ 10 - 160 Ammosov 85 cs Blondel 90 const, cs Allaby 89 p Allaby 88C p Abramowicz 85 cs 30 - 230 Reutens 90 const, cs 60 Bogert 85B cs 165 Bogert 86 p < 230 Bogert 85 p	$\mu^+ \text{ hadron}^+ X$ 10 - 200 Ushida 88B cs Foudas 88B p $\mu^+ \text{ hadron}^- X$ < 230 Mukherjee 86 angp $\mu^+ \text{ hadron}^- X$ 10 - 200 Ammosov 84G cs $\pi^- \mu^+ \text{ charged}^+ X$ 10 - 200 Ammosov 86D mass $\pi^+ \pi^- \mu^+ X$ 10 - 200 Ammosov 86G ang, mass, p	$\mu^+ q X$ 10 - 260 Allasia 88B cs $\mu^+ (\text{neutrals}) \text{ even-charged}$ 10 - 260 Tanner 88 angp $\mu^+ (\text{neutrals}) \text{ odd-charged}$ 10 - 260 Tanner 88 angp $2\pi^+ \bar{\nu}_\mu X$ 10 - 260 Allasia 88 mass, pt $2\pi^- \bar{\nu}_\mu X$ 10 - 260 Allasia 88 mass, pt $\pi^+ \pi^- \bar{\nu}_\mu X$ 10 - 260 Allasia 88 mass, pt $\pi^+ \mu^- \mu^+ X + \pi^- 2\mu^+ X$ 10 - 260 Allasia 85 mass
μ^+ X	3 - 30 Ammosov 86I cs Ammosov 85 cs Ammosov 85B p 10 - 100 Varwell 87 p 10 - 160 Blondel 90 const, cs Allaby 88 cs Berge 87 cs Abramowicz 85 cs 10 - 200 Ammosov 88 p Ushida 88B cs Ammosov 87B p Asratyan 87 cs Diemoz 86 p Asratyan 85 a-dep, p 10 - 260 Bergsma 84C p 30 - 230 Reutens 90 const, cs 60 Bogert 85B cs < 230 Bogert 85 p	$D_S^- \mu^+ \gamma X$ 10 - 200 Asratyan 87C mass, p. $D_S^+ \mu^+ \gamma X$ 10 - 200 Ammosov 86 mass $D_S^- \mu^+ \gamma X$ 10 - 200 Asratyan 87C mass, p. $D_S^*(2547)^- \mu^+ \gamma X$ 10 - 200 Asratyan 87C $\mu^+ \text{ hadron jet } X$ < 230 Mukherjee 86 angp $\pi^- \mu^+ 2\gamma X$ 10 - 200 Ammosov 84G mass $\phi \pi^- \mu^+ \gamma X$ 10 - 200 Ammosov 86 mass $K_S K^- \mu^+ \gamma X$ 10 - 200 Ammosov 86 mass $\phi \pi^0 \pi^- \mu^+ \gamma X$ 10 - 200 Ammosov 86 mass $K_S K^- \pi^0 \mu^+ \gamma X$ 10 - 200 Ammosov 86 mass $\phi 2\pi^+ \pi^- \mu^+ \gamma X$ 10 - 200 Ammosov 86 mass $K^+ K_S 2\pi^- \mu^+ \gamma X$ 10 - 200 Ammosov 86 mass $K_S K^- \pi^+ \pi^- \mu^+ \gamma X$ 10 - 200 Ammosov 86 mass	$2\pi^+ \mu^+ X$ 10 - 260 Allasia 88 mass, pt $2\pi^- \mu^+ X$ 10 - 260 Allasia 88 mass, pt $\pi^+ \pi^- \mu^+ X$ 10 - 260 Allasia 88 mass, pt $p (p') \mu^+ X$ 10 - 300 Guy 89 cs, mult, p $\text{mult}[p] \mu^+ \text{ mult[hadron]}^- X$ 10 - 300 Guy 89 a-dep, mult $\pi^+ \mu^+ (\text{neutrals}) \text{ odd-charged}$ 10 - 260 Tanner 88 angp $\pi^- \mu^+ (\text{neutrals}) \text{ odd-charged}$ 10 - 260 Tanner 88 angp $p \mu^+ (\text{neutrals}) \text{ even-charged}$ 10 - 260 Tanner 88 p $p \mu^+ (\text{neutrals}) \text{ odd-charged}$ 10 - 260 Tanner 88 angp, p $Op \mu^+ (\text{neutrals}) \text{ even-charged}$ 10 - 260 Tanner 88 p $Op \mu^+ (\text{neutrals}) \text{ odd-charged}$ 10 - 260 Tanner 88 p $\rho^0 \mu^+ \text{ mult[charged]} (\text{neutrals})$ 10 - 260 Allasia 85B mult
$\mu^+ \text{ charged}^+ X$	5.7 - 205 Baldin 87 col, p	$\bar{\nu}_\mu$ Ne	
$\mu^+ \text{ charged}^- X$	10 - 200 Ammosov 87 p Ammosov 86D p	$\mu^+ X$ 10 - 100 Allport 89 a-dep, p Guy 87 a-dep, p Aderholz 86 cs $\mu^+ e^+ X$ 10 - 100 Baton 85 cs $\mu^+ e^- X$ 10 - 100 Baton 85 cs, mass, p, pt	
$\mu^+ \text{ charged}^- X$	10 - 200 Ammosov 87 p Ammosov 86D p	$\mu^+ \text{ charged}^- X$ 10 - 200 Ammosov 86D p	
$\mu^- \mu^+ X$	30 - 230 Lang 87 angp, cs, mass, p, pt 30 - 600 Foudas 88B cs, p, pt	$\mu^+ \text{ charged}^- X$ 10 - 200 Ammosov 86D p	
$2\mu^+ X$	30 - 230 Lang 87 angp, cs, mass, p, pt	$\mu^+ \text{ charged}^- X$ 10 - 200 Ammosov 86D p	
$\pi^\pm \mu^\pm X$	10 - 200 Baldin 87B p	$\mu^+ \text{ charged}^- X$ 10 - 200 Ammosov 86D p	
$\pi^+ \mu^+ X$	10 - 200 Ammosov 86E mult, pt	$\mu^+ \text{ charged}^- X$ 10 - 200 Ammosov 86D p	
$\pi^- \mu^+ X$	10 - 200 Ammosov 86E mult, pt	$\mu^+ \text{ charged}^- X$ 10 - 200 Ammosov 86D p	
$\rho^0 \mu^+ X$	10 - 200 Ammosov 87 p Ammosov 86D p Ammosov 86E mass, mult, p, pt, pt Ammosov 86G pol	$\bar{\nu}_\mu$ deuteron	
$D_S^- \mu^+ X$	10 - 200 Asratyan 87 cs	$\bar{\nu}_\mu$ X 10 - 260 Allasia 88C cs $\mu^+ X$ 10 - 100 Allport 89 a-dep, p Guy 87 a-dep, p 10 - 260 Allasia 88C cs Allasia 85C p $\Delta(1232 P_3)^{++} X$ 10 - 260 Allasia 86 p $\rho^0 \mu^+ X$ 10 - 260 Allasia 85B mass, mult, p, pt $\mu^+ \text{ heavy-lepton}^0 X$ 10 - 260 Allasia 85 cs $K^*(892)^+ \mu^+ X$ 10 - 260 Allasia 85D cs $K^*(892)^- \mu^+ X$ 10 - 260 Allasia 85D cs $K^*(892)^0 \mu^+ X$ 10 - 200 Ammosov 87 p Ammosov 86D p $\text{mult}[p] \mu^+ X$ 10 - 300 Guy 89 cs, mult, p $\bar{\nu}_\mu q X$ 10 - 260 Allasia 88B cs	
$D_S^*(2547)^+ \mu^+ X$	10 - 200 Ammosov 86	$\mu^+ q X$ 10 - 260 Allasia 88B cs $\mu^+ \mu^+ X$ < 200 Schmitz 88 mult $\pi^- \mu^+ X$ < 200 Schmitz 88 mult $\pi^+ \mu^+ X$ 10 - 100 Fitch 85 p, pt $\eta \mu^+ X$ 10 - 100 Schmitz 88 mult $\rho^+ \mu^+ X$ < 200 Schmitz 88 mult $\rho^- \mu^+ X$ < 200 Schmitz 88 mult	
$D_S^*(2547)^- \mu^+ X$	10 - 200 Ammosov 86		
$D_S^* \mu^+ X$	10 - 200 Ammosov 86		
$D_S^* \mu^+ X$	10 - 200 Ammosov 86		
$D_S^*(2547)^+ \mu^+ X$	10 - 200 Ammosov 86		
$D_S^*(2547)^- \mu^+ X$	10 - 200 Ammosov 86		
$K^*(892)^0 \mu^+ X$	10 - 200 Ammosov 87 p Ammosov 86D p		
$\mu^+ \text{ charged-hadron } X$	10 - 200 Ammosov 84H pt		

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

$\bar{\nu}_\mu \text{ Ne} \rightarrow \rho^0 \mu^+ X$ $e^- \gamma \rightarrow \eta' e^-$

$\bar{\nu}_\mu \text{ Ne}$	$\bar{\nu}_\mu \text{ Ne}$	$\bar{\nu}_\mu \text{ nucleus}$	
$\rho^0 \mu^+ X$ 10 - 100	Wittek 89 mult., p, pt dime	2Ks $\mu^+ e^- X$ 10 - 100 Baton 85 cs, mass, p, pt	$\pi^+ \pi^- \mu^+ X$ 10 - 100 Wittek 87 ang, mass, p
< 200	Schmitz 88 mult., pol	$\Delta Ks \mu^+ e^- X$ 10 - 100 Baton 85 cs, mass, p, pt	$\phi \mu^+ \gamma X$ 10 - 200 Asratyan 86 mass
$\omega \mu^+ X$ 10 - 100	Wittek 89 mult., p, pt	$\Delta Ks \mu^- \mu^+ X$ 10 - 100 Baton 85 es, mass, p, pt	$\phi \pi^- \mu^+ X$ 10 - 200 Asratyan 87C mass
$f_2(1270) \mu^+ X$ 10 - 100	Wittek 89 mult., p, pt	$\bar{\nu}_\mu \text{ Fe}$	$K^- \pi^+ \pi^0 X$ 10 - 200 Asratyan 87B mass
$\text{mult}[\pi^\pm] \mu^+ X$ 10 - 100	Wittek 88 angp., mult., p	$\bar{\nu}_\mu X$ 10 - 160 Abramowicz 85 cs	$K^- 2\pi^+ X$ 10 - 200 Asratyan 87B mass
$\text{mult}[\pi^\mp] \mu^+ X$ 10 - 100	Wittek 88 angp., mult., p	$\mu^+ X$ 10 - 160 Berge 87 cs	$Ks \pi^+ \pi^0 X$ 10 - 200 Asratyan 87B mass
$\text{mult}[\pi^0] \mu^+ X$ 10 - 100	Wittek 88 angp., mult., p	$\mu^+ X$ 10 - 260 Abramowicz 85 cs	$Ks \pi^+ \pi^- X$ 10 - 200 Asratyan 87B mass
$D_S^- \mu^+ X$ < 300	Schmitz 88 cs	$\mu^- \mu^+ X$ 30 - 600 Burkhardt 85 Foudas 88 Merritt 87 Reutens 85 es, p, pt ang, cs, pt es, p	$Ks K^- \mu^+ X$ 10 - 200 Asratyan 87C mass
$p \mu^+ X$ < 200	Schmitz 88 mult.	$2\mu^+ X$ 10 - 260 Burkhardt 85 Schum 88 Merritt 87 Merritt 87B es, p, pt ang, cs, pt es, p	$\pi^0 \mu^+ \text{ charged (neutrals)}$ 3 - 30 Baranov 85 mult
$\text{mult}[p] \mu^+ X$ 10 - 300	Guy 89 es, mult., p	$\mu^+ \text{ charm } X$ 30 - 600 Foudas 88	$\text{nucleus } \mu^- \mu^+ \bar{\nu}_\mu$ 10 - 160 Geiregat 90 cs
$\mu^+ \text{ mult}[hadron^+] X$ 10 - 100	Wittek 88 angp., mult., p	$\bar{\nu}_\mu \text{ nucleus}$	$\phi \pi^0 \pi^- \mu^+ X$ 10 - 200 Asratyan 87C mass
$\mu^+ \text{ mult}[hadron^-] X$ 10 - 100	Wittek 88 angp., mult., p	$\text{charged } X$ 0.1 - 1.1 Suzuki 88 flux	$K^+ 2\pi^- \mu^+ X$ 10 - 200 Ammosov 87F mass, p
$\text{Ne } \pi^- \mu^+$ 10 - 100	Marage 86 angp., cs, mass, p	$\bar{\nu}_\mu X$ 0.4 - 2 Bionta 88 cs	$K^+ K^- \pi^- \mu^+ X$ 10 - 200 Asratyan 87 mass
$10 - 200$	Ammosov 86C angp., cs	$\mu^+ X$ 0.2 - 20 Berger 89B Perdereau 89 Longuemare 88 flux	$Ks K^- \pi^0 \mu^+ X$ 10 - 200 Asratyan 87C mass
$40 - 300$	Aderholz 89 cs	$\mu^+ X$ 0.1 - 1.1 Suzuki 88 flux	$\phi \pi^+ 2\pi^- \mu^+ X$ 10 - 200 Asratyan 87C mass
$\text{Ne } \rho^- \mu^+$ 10 - 100	Marage 87 cs	$\mu^+ X$ 0.2 - 20 Berger 89B Perdereau 89 Longuemare 88 flux	$K^+ K^- \pi^- \mu^+ \gamma X$ 10 - 200 Asratyan 86 Ammosov 86B mass
$\text{Ne } a_1(1280)^- \mu^+$ 10 - 200	Ammosov 88C cs	$\mu^+ X$ 0.1 - 1.1 Suzuki 88 flux	$K^+ Ks 2\pi^- \mu^+ X$ 10 - 200 Asratyan 87C mass
$\pi^+ \pi^- \mu^+ X$ 10 - 100	Wittek 87 ang, mass, p	$\mu^+ X$ 0.2 - 20 Berger 89B Perdereau 89 Longuemare 88 flux	$Ks K^- \pi^+ \pi^- \mu^+ X$ 10 - 200 Asratyan 87C mass
$\rho^+ \pi^- \mu^+ X$ 10 - 100	Wittek 89 mult., p, pt	$\tau^- X$ 10 - 100 Ushida 86C es	$\tau^- X$ < 400 Talebzadeh 87 cs
$\phi \pi^- \mu^+ X$ < 300	Schmitz 88 mass	$\text{charmed-meson } X$ 10 - 200 Asratyan 87B	$\bar{\nu}_\tau \text{ nucleus}$
$Ks \mu^+ e^- X$ 10 - 100	Baton 85 es, mass, p, pt	$\pi^0 \mu^+ X$ 3 - 30 Baranov 85 mult	$\tau^+ X$ < 400 Talebzadeh 87 cs
$Ks \mu^- \mu^+ X$ 10 - 100	Baton 85 es, mass, p, pt	$\pi^- \mu^+ X$?	$e^- \gamma$
$\Delta \mu^+ e^- X$ 10 - 100	Baton 85 es, mass, p, pt	$\rho^0 \mu^+ X$ 10 - 100 Wittek 87 dime	$e^- \text{ (14 - 28)}$ Bonneaud 86 cs
$\Delta \mu^+ e^- X + Ks \mu^+ e^- X$ 10 - 100	Baton 85 es, mass, p, pt	$D^*(2010)^- \mu^+ X$ 10 - 200 Ammosov 87F cs	$e^- \text{ (2 - 13)}$ Berger 87B Aihara 89C cs
$\Delta \mu^- \mu^+ X$ 10 - 100	Baton 85 es, mass, p, pt	$K^- \pi^+ X$ 10 - 200 Asratyan 87B mass	14.5 Aihara 87F Althoff 86B Berger 87C Sasaki 89 Sasaki 88 Berger 87B col. const. p Kolanoski 86 const. p
$\Delta \mu^- \mu^+ X + Ks \mu^- \mu^+ X$ 10 - 100	Baton 85 es, mass, p, pt	$Ks \pi^+ X$ 10 - 200 Asratyan 87B mass	$16.5 - 17.5$ 17.3 25 - 28
$p (p's) \mu^+ X$ 10 - 300	Guy 89 es, mult., p	$p \mu^+ X$ 3 - 30 Ammosov 85C angp, p	ηe^- ?
$\text{mult}[p] \mu^+ \text{ mult}[hadron^+] X$ 10 - 300	Guy 89 a-dep., mult.	$\text{mult}[p] \mu^+ X$ 3 - 30 Ammosov 85C mult	$\eta' e^-$?
$\text{Ne } \pi^0 \pi^- \mu^+$ 10 - 100	Marage 87 angp, p	$\text{nucleus } \pi^0 \bar{\nu}_\mu$ 10 - 260 Bergsma 85B es	14.5 Aihara 88D Gidal 88B Landsberg 85 cs
		$\text{nucleus } \pi^- \mu^+$ 3 - 30 Grabosch 86 angp, es, p	$?$

$$e^- \gamma \rightarrow f_2(1270) e^-$$

e^- Be $\rightarrow e^-$ X

$e^- \gamma$	$e^- \gamma$	$e^- \text{ deuteron}$
$f_2(1270) e^-$	$K^- 2\pi^+ \pi^0 e^- X$	$n(\text{spect}) n \pi^+ e^-$
?	18.3 Berger 87B	4.6 Vapenikova 88
$f_1(1285) e^-$	Bartel 87B	angp. mass
14.5		
$\eta(1440) e^-$	$2e^- e^-$	$2n \pi^+ e^-$
3 - 12	cs	0.6455 Gilman 90
14.5	Aihara 88D	cs
?	Aihara 88E	
	Gidal 88	
	Gidal 88B	
?	Ouldsada 88B	
	Toki 88B	
$\eta(1440) e^-$	$2e^-$	$e^- \text{ } ^3\text{H}$
3 - 12	0.85 - 2	0.1905 - 0.6855 Juster 85
14.5	100.2 - 1184	?
?	Brefeld 84	Beck 87
	Salvini 88	angp. p
		angp. cs
$\eta(1440) e^-$	$e^- p$	$^3\text{H} e^-$
3 - 12	0.96 - 1.5	0.1905 - 0.6855 Juster 85
14.5	Sealock 89	?
?	angp. cs. mass	Beck 87
	1 - 400	angp. mass
	Berger 86B	angp. cs. p
	Nachtmann 85	
	Klein 84B	cs
$\eta(1440) e^-$	$p e^-$	$e^- \text{ } ^3\text{He}$
3 - 12	0.504 - 1.286	0.1205 - 0.6675 Marchand 85
14.5	Bested 89	0.538 Akhmerov 87
?	Berger 86B	angp.
	1 - 400	angp. cs. p
	Arnold 86	angp.
	Walker 89	angp.
$\eta_c(1S) e^-$	$\Delta(1232 P_{33}) e^- X$	$^3\text{He} e^-$
?	0.96 - 1.5	0.1055 - 0.3205 Ottermann 85
	Sealock 89	500 Barreau 86
	angp. mass	Beck 87
$\text{meson } e^-$	$n \pi^+ e^-$	$\text{deuteron } p e^-$
14.5	0.6455 Gilman 90	0.3908 Keizer 85
?	4.6 Vapenikova 88	cs. p
$D^*(2010)^+ e^- X$		$2p n e^-$
18.3	Bartel 87B	500 Barreau 86
$D^*(2010)^- e^- X$		
18.3	Bartel 87B	
$e^- \text{ jet } X$		
?	Berger 87B	
$2e^- e^+$	$p \pi^- e^-$	$e^- \text{ } ^4\text{He}$
5	4.6 Vapenikova 88	$e^- X$
$\mu^- \mu^+ e^-$		0.8 - 1.2 Dementy 88
17.5	Blinov 87	0.96 - 1.5 Sealock 89
?	cs. mass. p	angp. cs. mass
$\rho^+ \rho^- e^-$	$\Delta(1232 P_{33}) e^- X$	1.174 Kupplennikov 90
?	Berger 85B	angp. p
	ang. angp. cs. p. pt	Day 87 a-dep. p
	Berger 87B	
$\rho^+ \rho^- e^-$	$e^- \text{ nucleon}$	$^3\text{H} p e^-$
?	Toki 88B	0.96 - 1.5 Sealock 89
	mass	
$2\rho^0 e^-$	$\text{neutral } X$	$^3\text{He } e^-$
17.4	Berger 88B	0.183 Spahn 89
17.5 - 23.3	Braunschweig 88F	0.183 Spahn 89
?	Toki 88B	angp.
$2\omega e^-$	$e^- \text{ deuteron}$	$e^- \text{ He}$
?	Toki 88B	$e^- X$
$2\phi e^-$	1 - 400 Berger 86B	0.8 - 1.2 Dementy 88
?	Bjorken 88	0.96 - 1.5 Sealock 89
$K^+ K^- e^- + \pi^+ \pi^- e^-$	$e^- \text{ nucleon } e^- \text{ axion}$	1.174 Kupplennikov 90
14.5	Boyer 86	angp. cs. mass
?	1 - 400 Berger 86B	angp. p
$K^*(892)^0 K^*(892)^0 e^-$	1.5 Davier 86	Day 87 a-dep. p
?	Toki 88B	
$K^*(892)^+ K^*(892)^- e^-$	$e^- \text{ deuteron } e^-$	$\Delta(1232 P_{33}) e^- X$
?	Toki 88B	0.96 - 1.5 Sealock 89
$D^0 \pi^+ e^- X$	0.2005 - 0.6505 Berger 86B	
18.3	Bartel 87B	
$\bar{D}^0 \pi^- e^- X$	Platchkov 89	$^3\text{H} p e^-$
18.3	mass	0.96 - 1.5 Sealock 89
$e^- \text{ jet } X$	Dmitriev 85	0.183 Spahn 89
?	0.3 Auffret 85	0.183 Spahn 89
$\eta \pi^+ \pi^- e^-$	0.3 - 0.7 Voitschekhovsk 86	angp. p
14.5	Bartel 87B	
?	0.4 Cramer 85	
$\rho^0 \pi^+ \pi^- e^-$	0.65 - 0.85 Garcon 89	
17.5 - 23.3	Bartel 87B	
?	0.7 - 1.3 Basted 89	
$K^+ K_S \pi^- e^-$	Arnold 87	
?	Meyer 88B	
$K^+ K_S \pi^- e^- + K_S K^- \pi^+ e^-$	2.5 Schablitzyk 89	
14.5	Gidal 88B	
?	Toki 88B	
$\rho^0 \pi^+ \pi^- e^-$	$p n e^-$	$e^- \text{ Be}$
17.5 - 23.3	Braunschweig 88F	$Li X$
?	mass	2 - 4.5 Avazyan 86
$K^+ K_S \pi^- e^-$	0.18 Mostovoj 87	angp. p
?	0.3 - 0.7 Auffret 85	Avazyan 86B
	0.538 - 0.779 Esaulov 87	angp. p
	Esaulov 87	angp. cs
	Esaulov 86	angp. p
$K^+ K_S \pi^- e^- + K_S K^- \pi^+ e^-$	0.843 - 1.189 Arnold 88	angp. p
14.5	Gidal 88	mass
?	1.465 - 1.57 Breuker 85	
$2\pi^+ 2\pi^- e^-$	50' Barreau 86	
17.5 - 23.3	Braunschweig 88F	
?	Arnold 89	
$p(\text{spect}) p \pi^- e^-$	$p(\text{spect}) p \pi^- e^-$	$Be X$
18.3	cs. mass	2 - 4.5 Avazyan 86
$K^+ \pi^0 2\pi^- e^- X$	4.6 Vapenikova 88	angp. p
18.3	Bartel 87B	Avazyan 86B
$4\pi e^-$	$2p \pi^- e^-$	a-dep. angp. p
?	0.6455 Gilman 90	
$K^+ \pi^0 2\pi^- e^- X$		$e^- X$
18.3	Bartel 87B	1.54 - 2 Bagdasaryan 85
	mass	angp. p

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

$e^- \text{ Be} \rightarrow \text{He X}$ $e^- \text{ Au} \rightarrow \text{Li X}$

$e^- \text{ Be}$		$e^- \text{ }^{40}\text{Ca}$		$e^- \text{ }^{90}\text{Zr}$
He X	2 - 4.5	Aivazyan 86 angp. p Aivazyan 86B a-dep, angp. p	$e^- \text{ X}$ 0.12 - 0.695 Meziani 85 angp. p $e^- \text{ }^{48}\text{Ca}$	He X 0.0205 - 0.1305 Dodge 85 angp. p
$e^- \text{ }^{12}\text{C}$		$e^- \text{ X}$ 1.54 - 2 Bagdasaryan 85 angp. p 1.67 - 2.13 Vartapetyan 89 angp. ? Hicks 86 angp.	$e^- \text{ X}$ 0.12 - 0.695 Meziani 85 angp. p $\text{ }^{48}\text{Ca } e^- \gamma$ 0.2405 Wise 85 angp. p, pwa	$p \ e^- \text{ X}$ 0.0505 - 0.1005 Dodge 85 angp. p
$e^- \text{ X}$		$e^- \text{ Fe}$		He $e^- \text{ X}$ 0.0505 - 0.1005 Dodge 85 angp. p
$e^- \text{ }^{12}\text{C } e^-$	0.69	Kalantarnaye 89 cs	$e^- \text{ X}$ 0.653 - 1.65 Baran 88B angp. cs. p 0.96 - 1.5 Sealock 89 angp. cs. mass	$e^- \text{ }^{92}\text{Zr}$
$p \ e^- \text{ X}$	1.45 - 2.13	Day 87 a-dep. p Hicks 86 angp.	$e^- \text{ X}$ 0.96 - 1.5 Whitlow 90 p 3.7 - 18 Dasu 88 a-dep. angp. p 3.75 - 19.5 Dasu 87 p Dasu 87B a-dep. p Gomez 85 angp. p	$p \ X$ 0.0205 - 0.1005 Dodge 85 angp. p
$e^- \text{ C}$		$\Delta(1232 \text{ P}_{33}) \ e^- \text{ X}$	$e^- \text{ X}$ 0.96 - 1.5 Sealock 89	He $e^- \text{ X}$ 0.0205 - 0.1005 Dodge 85 angp. p
$e^- \text{ X}$	0.653 - 1.65 0.96 - 1.5	Baran 88B angp. cs. p Sealock 89 angp. cs. mass	$e^- \text{ }^{56}\text{Fe}$	He $e^- \text{ X}$ 0.0505 - 0.1005 Dodge 85 angp. p
$p \ e^- \text{ X}$	0.78	Geesaman 89 a-dep, angp. p	$e^- \text{ X}$ 0.12 - 0.695 Meziani 85 angp. p ? Day 87 a-dep. p	$e^- \text{ Ag}$
$\Delta(1232 \text{ P}_{33}) \ e^- \text{ X}$	0.96 - 1.5	Sealock 89	$e^- \text{ Ni}$	Li X 2 - 4.5 Aivazyan 86 angp. p Aivazyan 86B a-dep, angp. p
$e^- \text{ }^{13}\text{C}$		$e^- \text{ X}$		Be X 2 - 4.5 Aivazyan 86 angp. p Aivazyan 86B a-dep, angp. p
$e^- \text{ X}$?	Hicks 86 angp.	$e^- \text{ X}$	Bor X 2 - 4.5 Aivazyan 86 angp. p Aivazyan 86B a-dep, angp. p
$e^- \text{ }^{14}\text{N}$		$e^- \text{ X}$		He X 2 - 4.5 Aivazyan 86 angp. p Aivazyan 86B a-dep, angp. p
$e^- \text{ X}$?	Hicks 86 angp.	$p \ e^- \text{ X}$	$e^- \text{ }^{163}\text{Ho}$
$^{14}\text{C } \pi^+ \ e^-$	0.1735	Roehrich 85 angp. dme	0.78 Geesaman 89 a-dep, angp. p	$\gamma \text{ X}$ 0 Yasumi 85 p $^{163}\text{Dy}^* \nu_e$ 0 Yasumi 86 -
$e^- \text{ Al}$		$e^- \text{ Cu}$		$e^- \text{ Ta}$
Li X	2 - 4.5	Aivazyan 86 angp. p Aivazyan 86B a-dep, angp. p	$Li \text{ X}$	$p \ e^- \text{ X}$ 0.78 Geesaman 89 a-dep, angp. p
Be X	2 - 4.5	Aivazyan 86 angp. p Aivazyan 86B a-dep, angp. p	$Be \text{ X}$	$e^- \text{ Wt}$
Bor X	2 - 4.5	Aivazyan 86 angp. p Aivazyan 86B a-dep, angp. p	$He \text{ X}$	neutral X 2.5 Konaka 86 cs
$e^- \text{ X}$	8	Gomez 85 angp. p	$e^- \text{ X}$	$e^+ \text{ X}$ 9 - 22.4 Riordan 87 cs. p
He X	2 - 4.5	Aivazyan 86 angp. p Aivazyan 86B a-dep, angp. p	$Bor \text{ X}$	$e^- \text{ X}$ 0.96 - 1.5 Sealock 89 angp. cs. mass
$p \ e^- \text{ X}$	0.78	Geesaman 89 a-dep, angp. p	$e^- \text{ X}$ 9 - 22.4 Riordan 87 cs. p	axion X 2.5 Konaka 86 cs
$e^- \text{ }^{27}\text{Al}$		$He \text{ X}$	$Aivazyan 86 \text{ angp. p}$	$g - 22.4$ Riordan 87 cs. p
$e^- \text{ X}$?	Day 87 a-dep. p	$Aivazyan 86B \text{ angp. p}$	$e^- \text{ e}^+ \text{ X}$ 2.5 Konaka 86 cs
$e^- \text{ }^{28}\text{Si}$		$axion \text{ X}$	$Aivazyan 86B \text{ angp. p}$	$\Delta(1232 \text{ P}_{33}) \ e^- \text{ X}$ 0.96 - 1.5 Sealock 89
$e^- \text{ X}$	1.54 - 2	Bagdasaryan 85 angp. p	$Riordan 87$	$Wt \ e^- \text{ higgs}$ 1.6 Davier 89 cs
$p \ e^- \text{ X}$	1.54 - 2	Bagdasaryan 85B angp. p	$e^- \text{ Ge}$	$Wt \ 2e^- \ e^+$ 1.6 Davier 89 mass. p
$e^- \text{ Si}$		$Ge \ e^- \gamma$	$Belkacem 85$	$e^- \text{ Au}$
$Si \ e^-$	0.76	150	$p \ X$	$Li \text{ X}$
Adeishvili 87	angp.	$0.0205 - 0.1305$	Dodge 85	Aivazyan 86 angp. p

$e^- \text{ Au} \rightarrow \text{Li X}$ $e^+ e^- \rightarrow J/\psi(1S)$

$e^- \text{ Au}$	$e^+ \gamma$	$e^+ e^-$	
Li X	$D^*(2010)^- e^+ X$	ϕ	
Aivazyan 86B a-dep, angp, p	18.3 Bartel 87B cs		Dolinsky 88
Be X	$e^- 2e^+$	Blinov 87 cs, mass, p	Druzhinin 88
2 - 4.5 Aivazyan 86 angp, p	5		Aulchenko 87C
Aivazyan 86B a-dep, angp, p	$\mu^- \mu^+ e^+$	Berger 85B ang, angp, cs, p, pt	Barkov 87B
Bor X	17.5		Aulchenko 86B
2 - 4.5 Aivazyan 86 angp, p	$2p_0^0 e^+$	Berger 88B cs	Aulchenko 86C
Aivazyan 86B a-dep, angp, p	17.4	Boyer 86 cs	Golubev 86
$e^- X$	$K^+ K^- e^+ + \pi^+ \pi^- e^+$		Vasserman 86
3.75 - 19.5 Dasu 88 a-dep, angp, p	14.5	Bartel 87B mass	Barkov 85B
Dasu 87 p	18.3	Boyer 86 cs	
Dasu 87B a-dep, p	$D^0 \pi^+ e^+ X$	Bartel 87B mass	
8 Gomez 85 angp, p	18.3	Bartel 87B mass	
He X	$\eta \pi^+ \pi^- e^+$	Gidal 88B mass	
2 - 4.5 Aivazyan 86 angp, p	14.5	Bartel 87B mass	Dolinsky 89B
Aivazyan 86B a-dep, angp, p	$K^+ K_S \pi^- e^+ + K_S K^- \pi^+ e^+$	Gidal 88 mass	Vorobiev 88C
$e^- 197\text{Au}$	$K^+ \pi^0 2\pi^- e^+ X$	Bartel 87B mass	Aulchenko 87C
$e^- X$	18.3	Bartel 87B mass	
?	Day 87 a-dep, p		
$e^- 235\text{U}$	$K^- 2\pi^+ \pi^0 e^+ X$	Bartel 87B mass	
fragt X	18.3	C(1480) 1.28 - 1.4	Dolinsky 89B
1.33 - 4.32 Arakelyan 89 cs	(10.52) Kreinick 89	1603 - 1918	Aulchenko 87B
Arakelyan 89C cs	Miller 89	?	Aulchenko 86C
$e^- 238\text{U}$	neutral	$\rho(1700)^0$?	Dolinsky 89B
fragt X	(55 - 60.8) Odaka 89 cs	$\eta_c(1S)$?	
1.33 - 4.32 Arakelyan 89 cs	(29) Sugano 86 mult	J/ $\psi(1S)$?	Kolanoski 86
Arakelyan 89C cs	ρ^0 ?		
$e^- \text{nucleus}$		Dolinsky 89	Bisello 90
$e^- X$	Sealock 89 angp, cs, mass	Dolinsky 89B	Bisello 89
0.96 - 1.5	Bross 89	Dolinsky 88B	Coffman 89
?	Davier 87	Kurdadze 88	Lockman 89
axion X	Bross 89	Vasserman 88	Mallik 89B
275	Fredriksson 87 cs	Aulchenko 87C	Szklarz 89
?	Bross 89 cs, mass	Vasserman 87B	Adler 88D
fragt X	1.501 - 16 Fredriksson 87 cs	Aulchenko 86B	Ajaltouni 88
$e^- e^+ X$	275 Bross 89 cs, mass	Aulchenko 86C	Ajaltouni 88B
$\Delta(1232 P_{33}) e^- X$?	Barkov 85	Augustin 88
0.96 - 1.5 Sealock 89	ω ?	Barkov 89	Augustin 88B
nucleus $e^- \text{ higgs}$		Dolinsky 89	Coffman 88
1.6 Davier 89 cs		Dolinsky 89B	Falvard 88
nucleus $2e^- e^+$	1.6 Davier 89 mass, p	Dolinsky 88	Hitlin 88
1.6		Dolinsky 88B	Jousset 88
		Kurdadze 88	Mir 88
		Vasserman 88	Stancu 88
		Aulchenko 87	Toki 88
		Aulchenko 87C	Toki 88B
		Barkov 87	Augustin 87
		Barkov 87C	Baltrusaitis 87
		Barkov 87	Becker 87C
		Barkov 87C	Bisello 87
		Aulchenko 86B	Henrard 87
		Aulchenko 86C	Pallin 87
		Barkov 85	Schindler 87
$e^+ \gamma$		Barkov 89	Baltrusaitis 86B
e^{++}		Dolinsky 89	Baltrusaitis 86C
(14 - 28) Bonneaud 86 cs		Dolinsky 89B	Bisello 86
$e^+ X$?	Vorobiev 88C	Bisello 86B
Kolanoski 86 const, p		Aulchenko 87C	Konigsman 86
$\eta' e^+$	14.5 Aihara 88D cs	Aulchenko 86C	Stockhausen 86
?	Gidal 88B cs	Barkov 85	Augustin 85
Landsberg 85 p		Dolinsky 89B	Augustin 85B
		Vorobiev 88C	Augustin 85C
		Aulchenko 87C	Augustin 85D
$f_1(1285) e^+$	14.5 Aihara 88D cs	Dolinsky 89B	Augustin 85E
	Aihara 88E cs	Vorobiev 88C	Baltrusaitis 85E
	Gidal 88	Aulchenko 86C	Baltrusaitis 85F
		Dolinsky 89B	Gaisser 85
		Vorobiev 88C	Jeanmarie 85
		Aulchenko 87C	Lee 85B
$f_1(1420) e^+$	14.5 Aihara 86J cs	Dolinsky 89B	Odian 85
$\eta(1440) e^+$	14.5 Aihara 86J cs	Vorobiev 88C	Richman 85
meson⁰ e⁺	14.5 Aihara 88D cs	Aulchenko 87C	Rosner 85E
	Gidal 88 cs	Barkov 89	Toki 85B
$D^*(2010)^+ e^+ X$	18.3 Bartel 87B cs	Dolinsky 89B	
		Dolinsky 89B	
		Barkov 88 cs	

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_m in GeV . See the legend on page 153.

$e^+ e^- \rightarrow J/\psi(1S)$ $e^+ e^- \rightarrow Z^0$

$e^+ e^-$	$e^+ e^-$	$e^+ e^-$
$J/\psi(1S)$	$\Upsilon(1S)$	$\Upsilon(4S)$
Tsukerman 85B Achasov 84F	Albrecht 85L Avery 85 Baru 85 Behrends 85 Bloom 85C Koenigsmann 85 Lowe 85 Mestayer 85 Rosner 85E	Albrecht 88T Thorndike 88 Alam 87B Albrecht 87B Albrecht 87D Albrecht 87G Albrecht 87O Albrecht 87P Bean 87 Bean 87B Behrends 87 Gittelman 87 Gray 87 Schindler 87 Voloshin 87 Alam 86 Bartolotto 86 Lowe 86B Mageras 86 Albrecht 85K Albrecht 85N Chen 85 Haas 85 Lovelock 85
$\psi(2S)$?	Mir 89 Toki 89 Hitlin 88 Schindler 87 Konigsmann 86 Lee 85B	Albrecht 89B Albrecht 89J Kaarsberg 89 Maschmann 89 Albrecht 88D Albrecht 88I Albrecht 88K Albrecht 88Q Jakubowski 88 Albrecht 87Q Schindler 87 Skwarnicki 87 Voloshin 87 Albrecht 86C Bowcock 86 Leffler 86 Lowe 86B Albrecht 85C Albrecht 85H Albrecht 85I Albrecht 85L Augustin 85E Bloom 85C Koenigsmann 85 Skwarnicki 85B Walk 85
$\psi(3770)$?	Adler 89 A'lier 89C Adler 89D Adler 89E Browder 89 Dejongh 89 Wasserbaech 89 Adler 88 Adler 88B Adler 88F Grab 88 Izen 88 Schindler 88 Adler 87 Adler 87B Becker 87B Briant 87 Grab 87 Schindler 87 Stockdale 87 Stockhausen 87 Stockhausen 87B Wasserbaech 87 Baltrusaitis 86D Baltrusaitis 86E Schindler 86 Augustin 85E Baltrusaitis 85B Baltrusaitis 85D Baltrusaitis 85J Coward 85 Gaizer 85 Schindler 85	Albrecht 89B Albrecht 89J Kaarsberg 89 Maschmann 89 Albrecht 88D Albrecht 88I Albrecht 88K Albrecht 88Q Jakubowski 88 Albrecht 87Q Schindler 87 Skwarnicki 87 Voloshin 87 Albrecht 86C Bowcock 86 Leffler 86 Lowe 86B Albrecht 85C Albrecht 85H Albrecht 85I Albrecht 85L Augustin 85E Bloom 85C Koenigsmann 85 Skwarnicki 85B Walk 85
$\psi(4040)$?	Osterheld 86	$\Upsilon(3S)$?
$\psi(4160)$?	Schindler 87 Osterheld 86	$\Upsilon(4S)$ (10.58) Miller 89 Schubert 89 Bebek 87B Albrecht 90D Albrecht 90E Alexander 90 Bortolotto 90 Weir 90 Alam 89 Albrecht 89B Albrecht 89C Albrecht 89E Albrecht 89L Albrecht 89Q Albrecht 89S Albrecht 89U Albrecht 89X Artuso 89 Avery 89B Bebek 89 Bortolotto 89 Bortolotto 89B Danilov 89 Drell 89 Franzini 89 Fulton 89 Hallin 89 Ha: 89 Itep 89 Kreinick 89 Maschmann 89 Albrecht 88D Albrecht 88F Albrecht 88E Albrecht 88G Albrecht 88I Albrecht 88M
$\psi(4415)$?	Osterheld 86	$\Upsilon(1S)$?
$\Upsilon(1S)$?	Albrecht 89B Albrecht 89J Baru 89 Chen 89 Fulton 89 Fulton 89B Kaarsberg 89 Maschmann 89 Schutte 89 Albrecht 88D Albrecht 88I Albrecht 88K Albrecht 88Q Fairfield 88 Jakubowski 88 Schmitt 88 Albrecht 87H Baru 87 Schindler 87 Tuts 87 Voloshin 87 Albrecht 86D Baru 86B Bean 86 Csorna 86 Lowe 86 Lowe 86B Mageras 86 Albrecht 85I	$\Upsilon(4S)$?

$$e^+ e^- \rightarrow Z^0$$

$$e^+ e^- \rightarrow \eta \ X$$

$e^+ e^-$	$e^+ e^-$	$e^+ e^-$
Z^0		
Akrawy 89C	Derrick 86 col. mult. p Derrick 86C mult. p Feldman 85 cor. p Gai 85 p Buschbeck 89 mult. p Gittelman 87 p Braunschweig 89C col. const. mass. mult. p Adeva 85 (44) Zheng 90 cs. mult. Abrams 89E cs. mult.	Adeva 87 col, cs Abe 88B col, cs Ko 88 col Sumiyoshi 88 col Abe 88P ang Adachi 89E col
Akrawy 89D	(29 - 35)	
Akrawy 89E	(29 - 40)	
Burchat 89	(35 - 46)	
Decamp 89		
Decamp 89B		
Decamp 89C		
Decamp 89D		
Decamp 89E	(40 - 46.7)	Adeva 85 (14 - 46.8)
Decamp 89G	(50 - 60.4)	Zheng 90 cs. mult. Adeva 85 (29)
Decamp 89H	(91.1)	
Feldman 89		
Feldman 89B		
Hearty 89		
Komamiya 89C		
Kral 89		
Nash 89		
Weinstein 89		
positronium		
?	Atoyan 89	
toponium		
(39.79 - 46.78) Bartel 85M		
(40 - 46.7) Adeva 85		
T(unspec)		
?	Wu 87	
meson		
(7.2 - 10) Blinov 85B		
(39.79 - 46.78) Bartel 85M		
$D_s^* + X$		
(9.4 - 10.6) Albrecht 87N		
axion		
0.0012 - 0.0013		
Tsertos 88		
Tsertos 88B		
monopole		
(57) Shirai 88		
mult[jet]		
(12 - 43.5) Braunschweig 89H	mass	
(54 - 61.4) Abe 90	ang	
unspec		
0.0019 - 0.0027		
Connell 88	mass	
?	Lorenz 88	
charged X		
(1.5 - 55) Ma. Hall 89	mult	
(5 - 31.6) Marshall 89	p	
(12 - 35) Naroska 87	mult	
(14 - 43) Barreiro 85B	p	
(14 - 46.8) Braunschweig 89D	mult	
(29) Burchat 86		
Petersen 86C	col. p	
Sugano 86	mult	
Derrick 85D	p	
Yamamoto 85		
Yamamoto 85E		
(34) Hofmann 87B	cs. p, pt	
(52) Miyamoto 87	p, pt	
(52 - 57) Sakai 87	mult, p	
(91.1) Li 89B	p, pt	
Abrams 89E	p, pt	
mult[charged] X		
(14 - 43.7) Braunschweig 90	mult	
2neutral		
244.6 - 1918 Aulchenko 86	cs	
mult[charged] (neutrals)		
(9.46 - 9.98) Albrecht 86D	col	
(10) Albrecht 89B	angp, col	
(10 - 45) Mattig 89	cs. mult	
(12 - 35) Naroska 87	mult	
(12 - 46.8) Braunschweig 89J	mult, p	
(22 - 34) Marshall 89	mult	
(22 - 46.78) Adeva 85C	angp, asym	
(29) Derrick 87C	col. mult. p	
mult[charged] (neutrals)		
(10.34 - 11.18) Behrends 85B	p	
(10.57) Cassel 85	p	
(14 - 46.1) Adeva 88	angp, asym. cs	
(29) Ong 88 p, pt		(10 - 45) Mattig 89 cs. mult, p
Ong 88B p, pt		(12 - 34) Naroska 87 p, pt
Wu 86		(29) Abachi 88B p, pt
Aihara 85E p, pt		(29 - 35) Hofmann 87B mult
Naroska 85 p, pt		(29.9 - 38.7) Marshall 89 mult
Aihara 88F p, pt		(34) Bartel 85 p, pt
Cowan 88 cs. p		(52) Hofmann 87B mult, p
Derrick 87 cs. p		(Miyamoto 87 mult, p)
Braunschweig 89B mult. p		
$\mu^\pm X$		
(10.34 - 11.18) Behrends 85B	p	
(10.57 - 10.59) Wachs 89	p	
(10.57) Cassel 85	p	
(29) Ong 88B	p, pt	
Wu 86	-	
Koltick 85B		
Marshall 89	mult	
Goldhaber 85C		
Bartel 86	-	
(38.3 - 46.3) Behrend 87B	col	
(39.5) Adeva 87	pt	
(46.8) Behrend 87	-	
(50 - 55) Abe 88B	col, cs	
(50 - 56) Ko 88	col	
(55 - 56) Sumiyoshi 88	col	
$e^\pm X$		
(10.3 - 10.5) Bowcock 88	p	
(29) Brom 87	-	
Ong 87 p, pt		
(29 - 34) Goldhaber 85C	mass, pt	
(32 - 46.78) Bartel 85C	cs	
(?) Abachi 89	-	
$e^- X$		
(10.3 - 10.5) Bowcock 88	p	
(29) Brom 87	-	
Fernandez 87C p, pt		
Ong 87 p, pt		
(32 - 46.78) Bartel 85C	mass, pt	
(?) Abachi 89	cs	
$\mu^\pm X$		
(10.34 - 11.18) Behrends 85B	p	
(10.57) Cassel 85	p	
(14 - 46.1) Adeva 88	angp, asym. cs	
(29) Ong 88 p, pt		(10 - 45) Mattig 89 cs. mult, p
Ong 88B p, pt		(12 - 34) Naroska 87 p, pt
Wu 86		(29) Abachi 88B p, pt
Aihara 85E p, pt		(29 - 35) Hofmann 87B mult
Naroska 85 p, pt		(29.9 - 38.7) Marshall 89 mult
Aihara 88F p, pt		(34) Bartel 85 p, pt
Cowan 88 cs. p		(35) Hofmann 87B mult, p
Derrick 87 cs. p		(Pitzl 89 mult, p)
Braunschweig 89B mult. p		
ηX		
(10) Albrecht 89G	cs, mult, p	

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

$$e^+ e^- \rightarrow \rho X$$

$$e^+ e^- \rightarrow D_S^+ X$$

$e^+ e^-$	$e^+ e^-$	$e^+ e^-$
ρX (29) Hofmann 87B mult	$e^+ X$ (55 – 56) Sumiyoshi 88	$D^0 X$ (10.3 – 10.5) Bowcock 88
$\rho^0 X$ (9.4 – 10.49) Behrends 85 p (10 – 45) Mattig 89 cs, p (12 – 34) Naroska 87 cs, p (29) Abachi 89D mult, p	$e^{*-} X$ (50 – 57) Kamae 88 col. cs (55 – 56) Sumiyoshi 88	(10.5) Alexander 89 (10.52 – 10.58) Bortoletto 88
	heavy-lepton X (29) Edberg 88 cs, p (29 – 35) Derrick 85F mult, p (34) Marshall 89 mult	(10.55) Harder 89 (10.58) Csorna 87B
	(50 – 57) Kichimi 88 cs (52) Miyamoto 87 Sakai 87	Heltlsley 86 Averill 89 Baringer 88 Grab 87 Hofmann 87B Riles 87 Derrick 85B Yamamoto 85C Barlow 87
$\eta' X$ (29) Wormser 88B cs, mass Hofmann 87B mult	heavy-lepton⁺ X (50 – 57) Kamae 88 col. cs	(44)
$f_0(975) X$ (10 – 45) Mattig 89 cs, p (29) Abachi 86C p	heavy-lepton⁻ X (50 – 57) Kamae 88 col. cs	$\bar{D}^0 X$ (9.4 – 10.6) Albrecht 88J
ϕX 978.5 – 1079 Golubev 85 es, mass (9.4 – 10.49) Behrends 85 p (10 – 45) Mattig 89 cs, p (10.45) Albrecht 88K cs, p (10.57 – 10.58) Bartoletto 86 mult, p (29) Edberg 88 Hofmann 87B mult, p (29 – 35) Derrick 85C cs Marshall 89 mult	heavy-lepton⁰ X (50 – 57) Kamae 88 col. cs (56) Maki 88	(10) Albrecht 88F (10.3 – 10.5) Bowcock 88 (10.5) Alexander 89 (10.52 – 10.58) Bortoletto 88
	ℓX (35 – 43) Oukhsaada 88B asym	(10.55) Harder 89 (10.58) Csorna 87B
	$\mu^{\pm} X$ (50 – 57) Kichimi 88 cs	(29) Averill 89 Baringer 88 Riles 87 Derrick 85B Yamamoto 85C Barlow 87
	$\mu^+ X$ (50 – 57) Kamae 88 col. cs	(44)
	$\mu^- X$ (50 – 57) Kamae 88 col. cs	$D^0 X + \bar{D}^0 X$ (29 – 35) Marshall 89
$f_2(1270) X$ (10 – 45) Mattig 89 cs, p (29) Abachi 86C p	mult[n] X (29) Abachi 88B mult	$D^\pm X$ (29 – 35) Marshall 89
$\eta(1440) X$ (29.9 – 46.78) Bartel 85J cs (44) Barlow 87	mult[m] X (9.5 – 10.8) Avery 85 ang. cor. p	$D^\pm X$ (29 – 35) Marshall 89
$\tau^+ X$ (10) Albrecht 85J (10.34 – 11.18) Behrends 85B (29) Tschirhart 88 Derrick 87B cs	$\tau^+ X$ (50 – 57) Kichimi 88 cs	(4.14) Adler 88C (9.4 – 10.6) Albrecht 88J (10.3 – 10.5) Bowcock 88 (10.52 – 10.58) Bortoletto 88
	$\tau^+ X$ (50 – 57) Kamae 88 col. cs	(10.55) Harder 89 (10.58) Csorna 87B
	$\tau^- X$ (50 – 57) Kamae 88 col. cs	(29) Averill 89 Derrick 85B (4.14) Goldhaber 85C
	heavy-lepton⁻ X + heavy-lepton⁺ X (56) Maki 88 cs	(4.14) Adler 88C (9.4 – 10.6) Albrecht 88J (10.3 – 10.5) Bowcock 88 (10.52 – 10.58) Bortoletto 88
$D^*(2010) X$ (34) Kiesling 85	$B^+ X$?	(10.55) Harder 89 (10.58) Csorna 87B (29) Averill 89 Derrick 85B
$J/\psi(1S) X$ (10.49) Maschmann 89 cs (29) Wormser 88 cs, p (30 – 35) Ferrarotto 88 cs ?	$B^- X$ (10) Albrecht 89T ?	(4.14) Adler 88C (9.4 – 10.6) Albrecht 88J (10.3 – 10.5) Bowcock 88 (10.52 – 10.58) Bortoletto 88
	$B^0 X$ (10.2 – 10.5) Albrecht 89N (29) Averill 89 Wagner 89B Schindler 87	(10.55) Harder 89 (10.58) Csorna 87B (29) Averill 89 Derrick 85B
$T(1S) X$ (10) Albrecht 89G Albrecht 89I	$\bar{B}^0 X$ (10) Albrecht 89T ?	(4.14) Blaylock 87 (9.4 – 10.6) Albrecht 88J Albrecht 87R Albrecht 85D Albrecht 89P (10) Chen 89B Haas 86 (10.5) Albrecht 89P (10.52 – 10.58) Bortoletto 88
$T(2S) X$ (9.98) Albrecht 89H (10) Albrecht 89G	$B^{*+} X$?	(10.58) Csorna 87B (29) Averill 89 Jung 86 Braunschweig 87B
$B X$ (10.57) Cassel 85	$B^{*-} X$?	(10.52 – 10.58) Bortoletto 88 (10.58) Csorna 87B (29) Averill 89 Jung 86 Braunschweig 87B
$B(\text{unspec}) X$ (10.38 – 10.58) Csorna 85	$B^{*0} X$?	(35 – 44) Barlow 87 (44) Schindler 87
$B^* (\text{unspec}) X$ (10.62 – 11.25) Han 85	$B_S X$?	$D_S^+ X$ 10 Albrecht 85M (4.14) Blaylock 87 (9.4 – 10.6) Albrecht 88J Albrecht 87R Albrecht 85D Albrecht 90 Albrecht 86F (10.5) Chen 89B Haas 86 (10.52 – 10.58) Bortoletto 88 (10.58) Csorna 87B (29) Averill 89
$\bar{B} X$ (10.57) Cassel 85	$\bar{B}_S X$?	
$D(\text{unspec}) X$ (9.4 – 10.6) Albrecht 89 p (10) Albrecht 89V angp, mass, mass, p	$D^0 X$ (9.4 – 10.6) Albrecht 88J (10) Albrecht 87E Albrecht 85G Albrecht 88F Albrecht 88S Grab 87 Albrecht 86F	
$e^{*\pm} X$ (50 – 57) Kichimi 88 cs		
$e^{*+} X$ (50 – 57) Kamae 88 col. cs		

Faties in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

$$e^+ e^- \rightarrow p \; X$$

$e^+ e^- \rightarrow$ charged-hadron X

$e^+ e^- \rightarrow \text{charged-hadron X}$ $e^+ e^- \rightarrow \mu^- \mu^+$

$e^+ e^-$	$e^+ e^-$	$e^+ e^-$
charged-hadron X		
(52 - 57) (91.1) Li 89B Abrams 89E	p, pt p, pt	(40 - 46.7) (50 - 57) Adeva 85 Kamae 88 Kichimi 88
charm X (29)	Ong 88B Ong 87 Klem 86 Forden 85B	X q (50 - 57) Kamae 88
hadron X (10 - 45) (34 - 44) (< 60)	Mattig 89 Braunschweig 89B Salvini 88	e+ X (50 - 57) Kamae 88
	angp, cs, p, pt	γ neutral 0 Atoyan 90 Gninenko 89 Mageras 86
		monopole neutral (10.6) Gentile 87
hadron+ X (34.6)	Berger 85F	neutral jet (27 - 37) Bartel 85E (40 - 46.78) Behrend 85
hadron- X (34.6)	Berger 85F	$\nu \bar{\nu}$ (29) Akerlof 88 (89.2 - 93) Wendt 87 Jung 89
higgs X		2 γ
(30 - 46.78) (40 - 46.7)	Bartel 86D Adeva 85	0 Ivanov 87 0.0002 - 0.0007 < 0.0004 0.0019 - 0.0027
(10 - 45) (14 - 44) (29)	Mattig 89 Genser 89 Derrick 86C Ash 85D Derrick 85G Ouldasaada 88B	D Minowa 89 Kozhuharov 88
(34.8 - 43.6)	ang, angp, p Braunschweig 89C col, const, mass, mult, p Mcneil 88 (50 - 57) (50 - 60.8) (< 60)	Connell 88 Kim 89B Salvini 88 Naroska 87 Marshall 89 Fernandez 87B
	angp, cs, p, pt	Derrick 86D Gold 86 Derrick 85E Behrend 86 Kiesling 85 Miyamoto 87 Fernandez 87B
monopole X		Derrick 86D Kinoshita 88B Kinoshita 88C Kichimi 88 Kinoshita 89B
(50 - 52) (50 - 56) (50 - 57) (50 - 60.8)	angp, cs angp, cs angp, cs angp, cs	angp, p col angp mass, pt mult, p
mult[hadron] X (19 - 34)	Yamamoto 85E	(34 - 44) (39.79 - 46.72) (41.2) (50 - 52)
(29)	Yamamoto 85E	(50 - 56)
(46.8) (56)	Behrend 87 Kim 88 Kim 88D	(50 - 60.8) (50 - 61.4) (52)
	angp, col, p, pt	angp, asym, cs col angp, cs
mult[jet] X (19 - 34)	Yamamoto 85E	(50 - 56)
(19.7)	Yamamoto 85E	(52 - 56)
(29) (46.8) (52) (54 - 61.4)	Abachi 89C Behrend 87 Adachi 88B Abe 90C	mass, p, pt col, mult angp, p const, mult
(56)	Maki 88	(52 - 60.8)
		angp, const, cs
photino X		e- e+
(46.8) (50 - 57)	Behrend 87 Kamae 88	< 0.0004 0.001 - 0.0017 0.0012 - 0.0013
q X		Kozhuharov 88 Tsertos 89B Tsertos 88
(10) (10.5)	Albrecht 85F Bowcock 89B	cs cs
q̄ X		Tsertos 88 Tsertos 88B
(10.5)	Bowcock 89B	0.0011 - 0.0029
t̄ X		Wimmersperg 87 Mills 87 Lorenz 88
(40 - 46.7)	Adev. 85	0.0015 - 0.002 0.002 - 0.0029 0.0022 - 0.0024
top X		Tsertos 89 Klinken 88 50 - 57 244.6 - 1918 1654
(40 - 46.7) (50 - 57)	Adeva 85 Kichimi 88	cs cs angp, mass angp angp
top X		50 - 57 Kim 89B Vorobiev 88C Vasserman 87C (< 2.4)
(40 - 46.7)	Adeva 85	angp, cs angp, cs
(39.79 - 46.78)	Bartel 85M	(10 - 45) (12 - 46.8)
		Naroska 87 Braunschweig 88B angp

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

$e^+ e^- \rightarrow \mu^- \mu^+$ $e^+ e^- \rightarrow \mu^- \mu^{**} + \mu^+ \mu^{*-}$

$e^+ e^-$	$e^+ e^-$	$e^+ e^-$	$e^+ e^-$	
$\mu^- \mu^+$	$\phi \pi^0$	$\tau^- \tau^+$	Berger 85F angp. asym	
Braunschweig 88E angp. asym	1079 - 1918 1603 - 1918	Aulchenko 86C Aulchenko 87B	Behrend 89H -	
(35 - 56) Kamae 88 angp. asym, cs	$\eta_c(1S) \gamma$ (3 - 3.2)	Bisello 88 cs, mass	Hegner 89 angp, const	
(38.3 - 46.8) Behrend 87E angp. asym, cs	(3.5 - 7.2) (3.77)	Barish 88 Coffman 87	Bartel 86 -	
(39.79 - 46.72) Althoff 85 angp. cs	(9.3 - 10.6)	Albrecht 87L Janssen 90	Braunschweig 88D -	
(40 - 46.7) Adeva 85 Genser 89 Miyamoto 87	(9.4 - 10.6)	Albrecht 88C Albrecht 88D Albrecht 88P Albrecht 87C Albrecht 87I	Braunschweig 89F angp, cs	
(50 - 52) Miyamoto 87 angp. asym, cs		Albrecht 87T Skwarnicki 87B	Kamae 88 angp, asym, cs	
(50 - 55) Unno 88 Ko 88 Maki 88B Rosenfeld 88	angp. asym, cs	Janssen 89 Lowe 86C	Miyamoto 87 angp, asym, cs	
(50 - 56) Shirai 88 angp. asym, cs	(9.8 - 10.3)	Albrecht 86L Marshall 89	Unno 88 angp	
(50 - 57) Eno 89 Metcalfe 89 Mcneil 88	(9.8 - 10.6) (10)	angp. cs	Ko 88 angp, asym	
angp. asym, const.	(10 - 44.72)	Saxon 86	Maki 88B angp, cs	
Sakuda 88 Abe 89P Kim 89E	(10 - 44.8)	angp. asym, const, cs	Rosenfeld 88 angp, asym	
(50 - 60.8) Kumita 89B Maki 89 Asadi 87 Adachi 88D	(10 - 45) (10.2) (10.34 - 11.18) (10.36 - 10.86)	Naroska 87 Keh 88B Csorna 87 Bowcock 90	Shirai 88 angp, asym	
(50 - 61.4) Kumita 89B Maki 89 Asadi 87 Adachi 88D	(10.5)	Baringer 87 Bebek 87	Mcneil 88 angp, asym, cs	
(52) Adachi 87 Adachi 88D	(10.58)	Heitsley 86 Bartel 85K	Sakuda 88 angp, asym, const	
(52 - 56) Bacala 88 angp. asym, const, cs	(12 - 46.26)	Marshall 85	(50 - 60.8) Kim 88B angp, asym	
(52 - 57) Kim 88B Metcalfe 89 Bacala 88B	(12 - 48.6)	angp. asym, const, cs	Metcalfe 89 angp	
angp. asym, cs		Althoff 84R	Bacala 88B angp, asym, cs	
(52 - 60.8) Ogawa 89 Abe 90 Tauchi 88 Olsen 88	(13.9 - 43.1) (14 - 45) (14 - 46.8)	Hayes 89B Adeva 88	Ogawa 89 angp, cs	
(54 - 61.4) ? (54.4) (54.5)		angp. asym, cs	Tauchi 88 angp	
(55 - 56) Sumiyoshi 88 angp. asym, cs	(15 - 45) (29)	Behrend 89D Adeva 86B Gan 88	Olsen 88 angp, const	
(56 - 60.8) Nozaki 89 angp. asym, const		angp. asym, cs	Sumiyoshi 88 angp, asym, cs	
(58.5 - 61.4) Kumita 89 < 60 Salvini 88 ?	col, cs	Behrend 89D Adeva 86B Gan 88	Nozaki 89 angp, asym, const	
(55 - 56) Sakai 87 Klein 84B	angp, cs	Abachi 89 Abachi 89B	Salvini 88 angp, cs	
(56 - 60.8) Nozaki 89 angp. asym, const		Stoker 89	T(1S) π^0	
(58.5 - 61.4) Kumita 89 < 60 Salvini 88 ?	col, cs	Amidei 88	(52 - 60.8) (54.4)	
(55 - 56) Sakai 87 Klein 84B	angp, cs	Abachi 87 Abachi 87F	(55 - 56) (54.5)	
2 π^0	1058 - 1918 ?	Aihara 86C Aihara 86I Burchat 86 Burchat 86B Klem 86 Ruckstuhl 86 Schmidke 86	Lurz 87 cs, mass	
126.8 - 1918	Barkov 85 Dolinsky 89 Dolinsky 89 Druzhinin 85 Golubev 86 Bisello 89B Luca 85 Castro 88 Baltrusaitis 85E	angp, cs, mass, pwa	Lurz 87 cs, mass	
978.5 - 1919				
(1.35 - 2.4)				
(1.4 - 2.2)				
(1.5 - 2.2)				
(3.1)				
$\eta \gamma$	244.6 - 1079 978.5 - 1079	Dolinsky 89 Landsherg 86	Yelon 86	
1079 - 1918	Barkov 85 Aulchenko 86C Dolinsky 89B	angp, pol	Bylsma 87 Ford 87 Ford 87B Ford 87C Gan 87 Gan 87B Abachi 86 Aihara 86I Aihara 86I Burchat 86 Burchat 86B Klem 86 Ruckstuhl 86 Schmidke 86	Kim 88C
1079 - 1918			angp, pol	
1079 - 1918			(50 - 56)	
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1079 - 1918			(50 - 57)	
1079 - 1918			(52 - 60.	

$e^+ e^- \rightarrow \tau^+ \tau^{*-}$ $e^+ e^- \rightarrow 2\text{lepton-quark}$

$e^+ e^-$	$e^+ e^-$	$e^+ e^-$
$\tau^+ \tau^{*-}$ (30 - 46.78) Bartel 86D	$\mu^+ \mu^-$ (52 - 56) (52 - 60.8)	Kim 88C Adachi 89D Shirai 88 Yamauchi 88
$\tau^- \tau^{*+}$ (30 - 46.78) Bartel 86D	(57)	cs
$\tau^- \tau^{*+} + \tau^+ \tau^{*-}$ (33 - 46.8) Behrend 86	mass	$\tau^+ \tau^{*-}$ (33 - 46.8) (52 - 60.8) (57)
B B (9.46) Westerby 85 (29) Snyder 89		Behrend 86 Adachi 89D Yamauchi 88
B(unspec) B(unspec) (10.57 - 10.59) Wachs 89 (10.76) Alam 87 ? Wu 87 Haas 85		mass (50 - 60.8) Kim 89E
heavy-lepton⁰ heavy-lepton⁰ (29) Perl 85 (36 - 45) Gan 88 (44.2) Behrend 88C (50 - 60.8) Sakai 89 Shaw 89	cs	$B^+ B^-$ (10.58) Miller 89 Schubert 89 Bebek 87B Gittelman 87
$\ell^0 \ell^0$?		D ⁰ D ⁰ (4.14) Adler 88C Schindler 86
$q^+ q^*$ (46.8) Behrend 86C (52 - 60.8) Ogawa 89	angp, cs	D ⁺ D ⁻ (4.14) Adler 88C
2B(unspec) (35 - 44) Elsen 90	angp	D [*] (2010) ⁰ D ⁰ (4.14) Adler 88C
$e^- e^+$ 244.6 - 1918 Aulchenko 86 (33 - 46.8) Behrend 86 (50 - 56) Maki 88B (50 - 57) Kim 89B (52 - 56) Kim 88C (52 - 60.8) Aichi 89D (56) Abe 88E (57) Unno 88 Shirai 88 Yamauchi 88	cs	D [*] (2010) ⁰ D ⁰ (4.14) Adler 88C
2heavy-e ?	Dolinsky 89B	D [*] (2010) ⁰ D ⁰ (4.14) Adler 88C
2heavy-lepton (56) Kim 88		D [*] (2010) ⁰ D ⁰ (4.14) Adler 88C
heavy-lepton⁻ heavy-lepton⁺ (29) Mathis 88 (36 - 45) Gan 88 (44.2) Behrend 88C (50 - 52) Igarashi 87 (50 - 56) Ko 88 Maki 88B Shirai 88 (50 - 60.8) Kim 89E (52) Adachi 88B	cs	D [*] (2010) ⁰ D ⁰ (4.14) Adler 88C
	angp, p	D [*] (2010) ⁰ D ⁰ (4.14) Adler 88C
		D [*] (2010) ⁰ D ⁰ (4.14) Wasserbaech 89 Schindler 89
		D [*] (2010) ⁰ D ⁰ (4.14) Adler 88C
		D [*] (2010) ⁰ D ⁰ (4.14) Wasserbaech 89 Schindler 89
		D [*] (2010) ⁰ D ⁰ (4.14) Wu 87
		D _S ⁺ D _S ⁻ (4.14) Bai 90
		D _S ⁺ D _S ⁻ (4.14) Alder 89
		D _S ⁺ D _S ⁻ (4.14) Browder 89
		D _S ⁺ D _S ⁻ (4.14) Blaylock 87
		D _S ⁺ D _S ⁻ (4.14) Wasserbaech 87
		D _S ⁺ D _S ⁻ (4.14) Schindler 86
		D _S ⁺ D _S ⁻ (4.14) Toki 86
		D _S ⁺ D _S ⁻ (4.14) Bai 90
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		D _S ⁺ D _S ⁻ (4.14) Browder 89
		D _S ⁺ D _S ⁻ (4.14) Blaylock 87
		D _S ⁺ D _S ⁻ (4.14) Wasserbaech 87
		D _S ⁺ D _S ⁻ (4.14) Schindler 86
		D _S ⁺ D _S ⁻ (4.14) Toki 86
		D _S ⁺ D _S ⁻ (4.14) Bai 90
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		D _S ⁺ D _S ⁻ (4.14) Toki 86
		D _S ⁺ D _S ⁻ (4.14) Bai 90

$$e^+ e^- \rightarrow \bar{c} c$$

$$e^+ e^- \rightarrow 2\mu^+ X$$

$e^+ e^- \rightarrow 2\mu^- X$ $e^+ e^- \rightarrow K^- \mu^- X$

$e^+ e^-$		$e^+ e^-$		$e^+ e^-$	
$2\mu^- X$		$\phi \pi^- X$		$D^0 \pi^+ X$	
(29) Hurst 89	cs, p	(4.14) Blaylock 87	mass	(9.4 - 10.6) Albrecht 85	mass
Schaad 85	cs, p, pt	Wasserbaech 87	es, mass	(10) Albrecht 89V	mass
$\mu^- \mu^+ X + e^- e^+ X$		Toki 86	es, mass	(10.38 - 10.58) Csorna 85	mass
(29) Wu 86		(9.4 - 10.6) Albrecht 88J	mass	(29) Abachi 89C	cs
$\pi^+ \mu^+ X$		(10.5) Albrecht 85D	ang, mass	Abachi 88	mass
(29) Aihara 87C	mult, p, pt	Chen 89B	mass	Baringer 88	mass
$\pi^- \mu^+ X$		Averill 89	mass	Wagner 87	mass
(29) Aihara 87C	mult, p, pt	Bartel 85G	mass	Abachi 86B	mass
$\pi^+ \mu^- X$		Derrick 85C	mass	Aihara 86E	mass
(29) Aihara 87C	mult, p, pt	$a_1(1260)^+ \text{ charged } X +$		Yamamoto 85	
$\pi^- \mu^- X$		$a_1(1260)^- \text{ charged } X$		Yamamoto 85B	ang, mass
(29) Aihara 87C	mult, p, pt	(10) Albrecht 86E		Yamamoto 85C	ang, mass
$\pi^0 \pi^\pm X$		$\tau^- \tau^+ X$		Althoff 86C	mass
(29) Gan 85B		(10 - 60) Kass 89	cs	$D^0 \pi^- X$	
$2\pi^\pm X$		(30 - 46.7) Kleinwort 89		(9.4 - 10.6) Albrecht 85	mass
(3.09 ⁻ - 29) Juricic 88	ang, p	(46.8) Behrend 87		(10.38 - 10.58) Csorna 85	mass
Avery 89	cor	(50 - 55) Masuda 88	cs	Abachi 88	mass
(29 - 37) Althoff 85F	cor, mass	Maki 88	asym, p	Baringer 88	mass
(34) Althoff 85E	cor, mass	$B \bar{B} X$		Wagner 87	mass
(44) Barlow 87		(29) Band 89		Aihara 86E	mass
$2\pi^- X$		$2\ell^+ X$		Yamamoto 85B	
(3.095 - 29) Juricic 88	ang, p	(10.55) Franzini 89	cs, p	Yamamoto 85C	ang, mass
Avery 89	cor	(29 - 34.6) Itsep 89	cs, p	Althoff 86C	mass
(29 - 37) Althoff 85F	cor, mass	Franzini 89	cs, p	$D^0 \pi^+ X$	
(34) Althoff 85E	cor, mass	Itsep 89	cs, p	(9.4 - 10.6) Albrecht 85	mass
(44) Barlow 87		$2\ell^- X$		(10.38 - 10.58) Csorna 85	mass
$\pi^+ \pi^- X$		(10.55) Franzini 89	cs, p	Abachi 88	mass
(9.46 - 10.49) Behrends 85	ang	(29 - 34.6) Itsep 89	cs, p	Baringer 88	mass
Behrend 89F	mass	Franzini 89	cs, p	Wagner 87	mass
(10) Abachi 89C	mass	Itsep 89	cs, p	Aihara 86E	mass
(29) Abachi 89D	mass, p	$2\bar{\nu} X$		Yamamoto 85B	
Avery 89	cor	(46.8) Behrend 87		Yamamoto 85C	ang, mass
Edberg 88	mass	$B^0 \bar{B}^0 X$		Althoff 86C	mass
Abachi 86C	mass	(29) Porter 89		$D^+ \pi^- X$	
Baden 86	mass	Band 88		(29) Abachi 88	mass
Derrick 85F	mass, p	Schaad 85		$D^+ \pi^+ X$	
Althoff 85F	cor, mass	Franzini 89	cs, p	(29) Wagner 89B	pt
Althoff 85E	cor, mass	Itsep 89	cs, p	$D^*(2010)^- e^+ X$	
(52) Miyamoto 87	mass	$2\bar{\nu} X$		(29) Wagner 89B	pt
$\eta \pi^\pm X$		(29 - 34.6) Behrend 87		$D^*(2010)^- e^- X$	
(4.14) Adler 89E	mass	$B^0 \bar{B}_S X$		$D^*(2010)^- \mu^+ X$	
(29) Wormser 87	cs, mass	(29) Porter 89		(29) Wagner 89B	pt
$\eta \pi^+ X$		$\bar{B}^0 \bar{B}_S X$		$D^*(2010)^- \mu^- X$	
(4.14) Stockdale 87	cs, mass	(29) Porter 89		(29) Wagner 89B	pt
$\rho^0 \gamma X$		$B_S \bar{B}_S X$		$D^*(2010)^+ \pi^+ X$	
(10) Albrecht 90	cs, mass	(29) Porter 89		(29) Abachi 88C	mass
$\eta' \pi^\pm X$		$D^0 \gamma X$		$D^*(2010)^+ \pi^- X$	
(4.14) Adler 89E	mass	(29) Porter 89		(29) Albrecht 89V	mass
(29) Wormser 87	cs, mass	(29) Schaad 85		(29) Augustin 85E	-
$\eta' \pi^+ X$		(29 - 34.6) Franzini 89	cs, p	(10) Albrecht 86B	mass
(10) Albrecht 90	cs, mass	Itsep 89	cs, p	Rosner 85E	-
(29) Wormser 88B	cs, mass	$D^0 \gamma X$		$D^*(2010)^+ \pi^- X + D^*(2010)^- \pi^+ X$	
$f_0(975) \pi^\pm X$		(29) Low 87	mass	(10) Low 87	mass
(4.14) Adler 89E	mass	Bartel 85G	mass	(29) Aihara 87C	mult, p, pt
Toki 89B	cs, mass	$D_S^- \gamma X$		$K^+ e^- X$	
$\phi \pi^+ X$		(9.4 - 10.6) Albrecht 87N	mass	(29) Aihara 87C	mult, p, pt
(4.14) Blaylock 87	mass	Albrecht 85B	mass	$K^+ e^- X$	
Wasserbaech 87	cs, mass	Bartel 85G	mass	(29) Aihara 87C	mult, p, pt
(9.4 - 10.6) Toki 86	cs, mass	(9.4 - 10.6) Albrecht 87N	mass	$K^- e^+ X$	
Albrecht 88J	mass	Albrecht 85B	mass	(29) Aihara 87C	mult, p, pt
Albrecht 85D	ang, mass	Bartel 85G	mass	$K^- e^- X$	
(10) Albrecht 90	cs, mass	(29) Albrecht 87N	mass	(29) Aihara 87C	mult, p, pt
Albrecht 86F	-	Low 87	mass	$K^- e^+ X$	
(10.5) Chen 89B	mass	Bartel 85G	mass	(29) Aihara 87C	mult, p, pt
Haas 86	mass	(29) Albrecht 85B	mass	$K^+ \mu^+ X$	
(29) Averill 89	mass	Low 87	mass	(29) Aihara 87C	mult, p, pt
Bartel 85G	mass	Bartel 85G	mass	$K^+ \mu^- X$	
Derrick 85C	mass	(29) Bartel 85G	mass	(29) Aihara 87C	mult, p, pt

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

$e^+ e^- \rightarrow K^+ \pi^+ X$ $e^+ e^- \rightarrow \Xi^+ \pi^- X$

$e^+ e^-$	$e^+ e^-$	$e^+ e^-$		
$K^+ \pi^+ X$ (29)	Abachi 87C mass	$K_8^*(1780)^0 \gamma X$ (10.6)	$\bar{p} \mu^+ X$ (29)	Aihara 87C mult, p, pt
$K^+ \pi^- X$ (4.14) (9.4 - 10.6)	Adler 88C mass Albrecht 88J mass Csorna 87B mass Abachi 89D mass, p	$K^+ K^- X$ (9.46 - 10.49) (10.45) (10.57 - 10.58) (10.58)	$\bar{p} \mu^- X$ (29)	Aihara 87C mult, p, pt
(10.58) (29)	Averill 89 mass Baringer 88 mass Edberg 88 mass Low 87 mass Abachi 86C mass Derrick 85B mass Derrick 85F mass, p	$Bartolotto 86$ Csorna 87B mass Edberg 88 mass Althoff 85E mass	$p \pi^+ X$ (10)	Albrecht 89I mass
(42.2)	Althoff 86C mass	$2K^+ X$ (34)	$p \pi^- X$ (10)	Albrecht 89I mass Behrend 89F mass Albrecht 86G mass Abachi 87D mass Baden 86 mass Braunschweig 89I mass
$K^- \pi^+ X$ (4.14) (9.4 - 10.6)	Adler 88C mass Albrecht 88J mass Albrecht 88S mass Csorna 87B mass Abachi 89D mass, p	$2K^- X$ (34)	$\bar{p} \pi^+ X$ (29)	Baden 86 mass
(10) (10.58) (29)	Averill 89 mass Baringer 88 mass Abachi 87C mass Low 87 mass Derrick 85B mass Derrick 85F mass, p	$Althoff 85E$ cor. mass	$p \pi^- X + \bar{p} \pi^+ X$ (10)	Albrecht 88I mass
(42.2)	Althoff 86C mass	$K^+ K^0 X$ (4.14)	$\Lambda_c^+ \pi^+ X$ (10)	Albrecht 88H mass Bowcock 89 mass
$K^+ \pi^- X + K^- \pi^+ X$ (10.58) (29) ?	Heitsley 86 - Gladney 85 - Rosner 85E -	$K^*(892)^0 K^- X$ (4.14)	$\Lambda_c^+ \pi^- X$ (10) (10.5)	Albrecht 88H mass Bowcock 89 mass
$K^*(892)^+ \gamma X$ (10.6)	Albrecht 88E mass	$K^*(892)^0 K^+ X$ 10 (4.14)	$\bar{\Lambda}_c^- \pi^- X$ (10)	Albrecht 88H mass
$K^*(892)^- \gamma X$ (10.6)	Albrecht 88E mass	$K^*(892)^- K^0 X$ (10.5)	$\Lambda \gamma X + \bar{\Lambda} \gamma X$ (10)	Albrecht 88I mass
$K^*(892)^0 \gamma X$ (10.6)	Albrecht 88E mass	$K^*(892)^+ K^0 X$ (10.5)	$\Lambda e^+ X$ (29)	Klein 89 cs, mass
$K^*(892)^0 \gamma X$ (10.6)	Albrecht 88E mass	$K^*(892)^+ K^*(892)^0 X$ (4.14)	$\bar{\Lambda} e^- X$ (29)	Klein 89 cs, mass
$K^*(892)^- \pi^+ X$ (10)	Albrecht 86F -	$Bai 90$ Alder 89	$\Lambda \mu^+ X$ (29)	Klein 89 cs, mass
$K^+ \rho^- X + K^- \rho^+ X$?	Rosner 85E -	$Chen 89B$ Albrecht 85M mass	$\bar{\Lambda} \mu^- X$ (29)	Klein 89 cs, mass
$K_1(1400)^+ \gamma X$ (10.6)	Albrecht 88E mass	$Bai 90$ Alder 89	$\Lambda \pi^+ X$ (10) (29)	Albrecht 86G mass Abachi 87D mass
$K_1(1400)^- \gamma X$ (10.6)	Albrecht 88E mass	$K_8 \pi^+ X$ (10) (29)	$\bar{\Lambda} \pi^- X$ (10) (29)	Albrecht 86G mass Abachi 87D mass
$K_1(1400)^0 \gamma X$ (10.6)	Albrecht 88E mass	$K_8 \pi^- X$ (10) (29)	$\bar{\Lambda} \pi^+ X$ (29)	Abachi 87D mass
$K_1(1400)^0 \gamma X$ (10.6)	Albrecht 88E mass	$Albrecht 87E$ ang. mass	$\Lambda \pi^+ X + \bar{\Lambda} \pi^- X$ (10)	Albrecht 88I mass
$K_2(1430)^+ \gamma X$ (10.6)	Albrecht 88E mass	$K^+ K_S X$ (4.14)	$\Lambda \pi^- X + \bar{\Lambda} \pi^+ X$ (10)	Albrecht 88I mass
$K_2(1430)^- \gamma X$ (10.6)	Albrecht 88E mass	$K_S K^- X$ (4.14)	$p K^- X$ (9.4 - 10.6)	Albrecht 88I mass
$K_2(1430)^0 \gamma X$ (10.6)	Albrecht 88E mass	$p e^+ X$ (29)	$p \bar{K}^0 X$ (9.46 - 10.6)	Albrecht 88D mass
$K_2^*(1430)^0 \gamma X$ (10.6)	Albrecht 88E mass	$p e^- X$ (29)	$\Xi^- \pi^+ X$ (10)	Albrecht 86G mass
$K^0 \phi X + K^0 \phi X$ (10.58)	Bebek 86 mass	$\bar{p} e^+ X$ (29)	$\Xi^- \pi^+ X$ (10.5)	Avery 88 mass
$K_8^*(1780)^+ \gamma X$ (10.6)	Albrecht 88E mass	$\bar{p} e^- X$ (29)	$\Xi^- \pi^+ X$ (29)	Klein 88 mass
$K_8^*(1780)^- \gamma X$ (10.6)	Albrecht 88E mass	$p \mu^+ X$ (29)	$\Xi^+ \pi^- X$ (10.5)	Klein 87 mass
$K_8^*(1780)^0 \gamma X$ (10.6)	Albrecht 88E mass	$p \mu^- X$ (29)	$\Xi^+ \pi^- X$ (29)	Avery 88 mass

$e^+ e^- \rightarrow \Lambda K^- X$ $e^+ e^- \rightarrow \mu^- \mu^+ \gamma$

$e^+ e^-$	$e^+ e^-$	$e^+ e^-$	
$\Delta K^- X$ (10) Albrecht 86G	mass	$e^+ jet X$ (35 - 43) Kroha 89B	col. pt
$\Delta K^- X + \bar{\Lambda} K^+ X$ (10) Albrecht 88I	mass	$e^- jet X$ (35 - 43) Kroha 89B	col. pt
$\Omega^- \pi^+ X$ (29) Klein 88	mass	$\mu^\pm jet X$ (30 - 40) Venkataraman 85B	cs. pt
$\Xi^- K^+ X$ (29) Klein 88	mass	$\mu^+ jet X$ (35 - 43) Kroha 89B	col. pt
$\Lambda K_S X$ (9.46 - 10.49) Behrends 85	ang	$\mu^- jet X$ (35 - 43) Kroha 89B	col. pt
$\bar{\Lambda} K_S X$ (9.46 - 10.49) Behrends 85	ang	$\ell^\pm charged-hadron X$ (29) Rowson 85B	col.
$p \bar{p} X$ (9.46 - 10.49) Behrends 85	ang	$mult[lepton] mult[hadron] X$ (56) Kim 88	mult. p. pt
	Albrecht 89B	$D^*(2010)^+ hadron^+ X$ (29) Kesten 85	mult. p. pt
	Aihara 86F	$D^*(2010)^+ hadron^- X$ (29) Kesten 85	mult. p. pt
	Madaras 86		
	Aihara 85G		
	Hofmann 85		
$2p X$ (9.46 - 10.49) Behrends 85	ang	$D^*(2010)^- hadron^+ X$ (29) Kesten 85	mult. p. pt
$2\bar{p} X$ (9.46 - 10.49) Behrends 85	ang	$D^*(2010)^- hadron^- X$ (29) Kesten 85	mult. p. pt
$2p X + 2\bar{p} X$ (10) Albrecht 90B	ang, p	$(jets) jet X$ (14 - 44) Genser 89	col. p. pt
$p \Lambda X$ (9.46 - 10.49) Behrends 85	ang	$charged-hadron hadron^+ X$ (29) Kesten 85	mult. p. pt
$\bar{p} \Lambda X$ (9.46 - 10.49) Behrends 85	ang	$charged-hadron hadron^- X$ (29) Kesten 85	mult. p. pt
$p \bar{\Lambda} X$ (9.46 - 10.49) Behrends 85	ang	$X 2\bar{o}$ (46.8) Behrend 87	
	(29) Aihara 86F	$2charged-hadron X$ (29) Aihara 85C	cor. p.
$\bar{p} \bar{\Lambda} X$ (9.46 - 10.49) Behrends 85	ang	$2gluino X$ (46.8) Behrend 87	
	(29) Aihara 86F	$2jet X$ (14 - 34) Althoff 85B	
		(17 - 34) Collins 85E	ang. p.
		(22 - 46.7) Bethe 88	p
		(29) Abachi 89C	col. mult.
		(29) Bethe 89	cs
		(29) Ford 89	col.
		(29) Derrick 86C	mult. p.
		(29) Derrick 85G	mult. p.
		(29 - 37) Althoff 85F	cor. mult.
		(34.8 - 43.6) Ouldsaada 88B	
$2\Lambda X$ (29) Madaras 86	-		
	Delavaisier 85		
$2\bar{\Lambda} X$ (29) Madaras 86	-	$\gamma 2wino X$ (46.8) Behrend 87	
	Delavaisier 85		
$2\Lambda X + 2\bar{\Lambda} X$ 38.4 - 42.1 Braunschweig 89I	cs	$\bar{e}^- \bar{e}^+ X$ (46.8) Behrend 87	
(10) Albrecht 90B	ang, p	$\gamma neutral (neutrals)$ (978.5 - 1079) Druzhinin 88	cs
$\bar{\Lambda} \Lambda(1520 Dos) X$ (10) Albrecht 89B	angp. cor. pt	(44) Barlow 87	
$\bar{\Lambda} \Xi^- X$ (10) Albrecht 89B	angp. cor. pt	$\gamma 2neutral$ (29) Ford 86	p. pt
$\Omega^- \bar{\Xi}^+ X$ (29) Klein 87B	cs	$e^- e^+ neutral$ (3.6) Blinov 86B	
$\gamma mult[hadron] X$ (35 - 44) Pitzl 89	mult. p	$neutral (neutrals) jet$ (29) Akerlof 85	p
$e^\pm jet X$ (30 - 40) Venkataraman 85I	cs. pt	$Feldman 85$ (29) Sakuda 85	cs
$e^\pm mult[hadron] X$ (56) Kim 88D	ang, mass	$e^\pm mult[charged] (neutrals)$ (30 - 40) Venkataraman 85B	angp. cs
			col. cs. pt
		(38.66 - 46.3) Kuhlen 86B	angp. col.

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

$e^+ e^- \rightarrow \mu^- \mu^+ \gamma$ $e^+ e^- \rightarrow 2\text{hadron (hadrons)}$

$e^+ e^-$	$e^+ e^-$	$e^+ e^-$	
$\mu^- \mu^+ \gamma$ (14 - 22) (29)	Kiesling 85 Gold 86 angp, cs, mass, p	$\eta(1295) e^- e^+$ (10) $f_1(1285) e^- e^+$ (9 - 29)	Antreasyan 87 Gidal 88C cs
(33 - 46.8) (34.7 - 42.8)	Behrend 86 mass Adeva 88 ang, asym, cs, mass, p	$a_2(1320)^0 e^- e^+$ (2 - 40) (7.2 - 10.4) (9 - 29) (17)	Landsberg 86 Blinov 87C Gidal 88C Althoff 86 cs
(35) (52 - 56)	Naroska 87 angp, cs, p Kim 88C angp, asym, cs, mass	$\eta(1440) e^- e^+$ (10) $f'_1(1525) e^- e^+$ (9 - 29)	Antreasyan 87 Gidal 88C cs
(57)	Shirai 88 ang, mass	$2\rho^0 \gamma$ (3 - 3.2)	Bisello 88 cs, mass
$2\pi^0 \gamma$	Dolinsky 89B Druzhinin 85 Golubev 87 Dolinsky 85 Dolinsky 89	$\pi_2(1670)^0 e^- e^+$ (9 - 29) $\eta_c(1S) e^- e^+$ (7.6 - 10.6) (9 - 29) (10.52 - 10.86)	Gidal 88C Blinov 86C Gidal 88C Jensen 89 cs
244.6 - 1918 978.5 - 1079 978.5 - 1918 1079 - 1918 ?	Dolinsky 89 Druzhinin 85 Golubev 87 Dolinsky 85 Dolinsky 89	$\tau^- \tau^+ \gamma$ (29) (30 - 46.78)	Wu 89 Bartel 86D Bartel 85L Behrend 86 Naroska 87 Saxton 86 ang, angp, cs, p mass, p
244.6 - 978.5 1079 - 1918	Aulchenko 86B	$e^\pm \text{heavy-}e \gamma$?	Dolinsky 89B Perl 86 Ford 86
426.2 - 939.7 426.2 - 1918	Dolinsky 89 Bukin 89 Dolinsky 89B Aulchenko 87 Barkov 87 Barkov 89 Druzhinin 85 Aulchenko 86C Dolinsky 85	$\tau^- \tau^+ 0\gamma$ (29)	Bartel 86D Bartel 85C Behrend 86 Naroska 87 Saxton 86 ang, angp, cs, p mass, p
535.8 - 648.3 565.2 - 626.2 690.4 - 1018 978.5 - 1079 1058 - 1918 1079 - 1918	Bukin 89 Dolinsky 89B Aulchenko 87 Barkov 87 Barkov 89 Druzhinin 85 Aulchenko 86C Aulchenko 86B	$\gamma 2\bar{D}$ (29)	Riles 89B Riles 89 Riles 89 Riles 89 Riles 89 Riles 89
978.5 - 1079 1079 - 1918 ?	Dolinsky 85	$\gamma 2\bar{D}$ (29)	Ford 86
978.5 - 1079 1079 - 1918 ?	Druzhinin 85 Aulchenko 86C Dolinsky 89	heavy-lepton⁻ heavy-lepton⁺ γ ?	Riles 89B Riles 89
1079 - 1918	Dolinsky 89	heavy-lepton⁻ heavy-lepton⁺ mult[γ] (29)	Riles 89
$\omega e^- e^+$ (2 - 40)	Landsberg 86	$D_S^+ D_S^- \gamma$ (4.14)	Bai 90 Adler 89E Alder 89 Toki 89B
$\eta \pi^+ \pi^-$ 1079 - 1918	Aulchenko 86C Druzhinin 86 Dolinsky 85 Dolinsky 89B Antonelli 88	$K_L 2\gamma$?	Dolinsky 89B Dolinsky 89B Dolinsky 89B Dolinsky 89B Dolinsky 89B
1131 - 1850 (1.35 - 2.4)	ang, cs, mass	$K_L 2\pi^0$?	Adler 89E Alder 89 Toki 89B Dolinsky 89B Dolinsky 89B
?	Dolinsky 89B	$K_L \pi^+ \pi^-$?	Bai 90 Adler 89E Alder 89 Toki 89B Dolinsky 89B
$\eta' e^- e^+$ 29 (2 - 40) (7.2 - 10.4) (9 - 29) (9.4 - 10.6) (10) (29)	Roe 89 Landsberg 86 Blinov 87C Gidal 88C Williams 88 Antreasyan 87 Roe 89B Aihara 87 Kolanoski 85 Landsberg 85	$K^+ K_S \pi^- + K_S K^- \pi^+$ (6 - 23.39) (29) $K_S K_L \pi^0$ 1603 - 1918 $e^- e^+ \text{unspec}$ (29) ?	Hill 89 Hill 89 Koltick 85B Auichenko 87B Hawkins 89B Blinov 88B Adachi 90C Adachi 90C Adachi 90C Fernandez 87C Bartel 85C
$f_0(975) e^- e^+$ (9 - 29) (9.4 - 10.6)	Gidal 88C Marsiske 90	$\tau^+ \nu_\tau \text{jet}$ (52 - 61.4)	mass mass mass, pt mass, pt mass, pt mass mass mass mass mass mass mass
$a_0(980)^0 e^- e^+$ (9 - 29)	Gidal 88C	$\tau^- \nu_\tau \text{jet}$ (52 - 61.4)	Adachi 90C Adachi 90C Adachi 90C
$f_0(1220) e^- e^+$ (2 - 40)	Landsberg 86	$e^+ \bar{e}^+ \text{photino}$ (29) (32 - 46.78)	Steele 89 Bartel 85C
$f_2(1270) e^- e^+$ 29 (2 - 40) (9 - 29) (9.4 - 10.6)	Roe 89 Landsberg 86 Gidal 88C Marsiske 90	$e^- \bar{e}^+ \text{photino}$ (29) (32 - 46.78)	Fernandez 87C Bartel 85C
$e^- \bar{e}^+ \text{photino}$ (45)			
$e^- \bar{e}^+ \text{photino} + e^+ \bar{e}^- \text{photino}$ 29			
$e^+ \nu_e \text{wino}^-$ (29)			
$\gamma \text{ hadron (hadrons)}$ (10.6)			
$\gamma q \bar{q}$ (35)			
$\gamma 2\bar{q}$ (35)			
$\gamma 2\text{photon}$ (29)			
$\mu^\pm \text{2jet}$ (39 - 46.8)			
$\pi^+ \text{hadron (hadrons)} +$ (9.98)			
$\pi^- \text{hadron (hadrons)}$ (3.87 - 4.5)			
$D^*(2010) \text{hadron (hadrons)}$ (3.87 - 4.5)			
$B \text{2jet} + \bar{B} \text{2jet}$ (35)			
$K^+ \text{hadron (hadrons)} +$ (9.98)			
$K^- \text{hadron (hadrons)}$ (9.98)			
$K^0 \text{hadron (hadrons)} +$ (9.98)			
$\bar{K}^0 \text{hadron (hadrons)}$ (9.98)			
$q \bar{q} \text{gluon}$?			Derrick 85G
$2q \text{gluon}$ (29)			Petersen 85
$p \text{hadron (hadrons)} +$ (9.98)			angp
$\bar{p} \text{hadron (hadrons)}$ (9.98)			
$\Delta \text{hadron (hadrons)}$ (29)			
$\bar{\Delta} \text{hadron (hadrons)}$ (29)			
$b \text{(jets) jet}$ (35 - 46)			Braunschweig 89C
$\bar{b} \text{(jets) jet}$ (35 - 46)			Braunschweig 89C
$(\text{jets}) \text{2jet}$ (10 - 52)			cor
$Hofmann 87$ col, cor, mult, p, pt			
$(35 - 46) \text{ Braunschweig 89C}$ col, const, mass, mult, p			
$(50 - 60.8) \text{ Kim 89E}$ col, p			
2hadron (hadrons)			
642 - 1891 (2,236 - 44.72)			
Marshall 89			
(3 - 5) Schindler 87			
(3.87 - 4.5) Osterheld 86			
(5 - 7.4) Edwards 89			
(7.2 - 10) Blinov 85B			
(7.7 - 47) Stirling 87			
ang, asym, col			

$e^+ e^- \rightarrow 2\text{hadron (hadrons)}$

$e^+ e^-$	$e^+ e^-$	$e^+ e^-$
2hadron (hadrons)	2hadron (hadrons)	2hadron (hadrons)
(9.388 - 9.479) Jakubowski 88	Iwasaki 89	$\pi^\pm 2\gamma X$
(9.4 - 10.5) Kaarsberg 89	ang. const. cor. es	(29)
Albrecht 87H	Kumita 89B	Wormser 87
(9.44 - 10.6) Gray 87	Maki 89	es. mass
(9.45 - 10.57) Cassel 85	Adachi 88C	(29)
Wu 87 const. cor. cs	Yoshida 87	Aihara 87
(9.46 - 51.7) Albrecht 89H	Tsuchi 88	mass
(9.98) Mattig 89 col. cs. p. pt	Li 89B	(4.14)
(10 - 45) Saxon 86 const. cs	Ogawa 89	Adler 89E
(10.5 - 10.65) Wachs 89	Adachi 89C	Toki 89B
(10.5 - 11.2) Besson 85 col. cs. mult	Abé 90	Naroska 85
(12 - 41.5) Marshall 89 col	Abé 90C	Koltic 85B
Braunschweig 88C	Sumiyoshi 88	(9.4 - 10.6)
col. mult	Odaka 89	Albrecht 87R
(12 - 43.5) Braunschweig 89H	Maki 88	Albrecht 85J
col. mass	Abé 88F	Avery 89
(12 - 46) Barlow 87	const. es	Ruckstuhl 86
(12 - 46.5) Naroska 87 ang. col. cs. mass	Kumita 89	Althoff 85F
(12 - 46.8) Braunschweig 89K	Salvini 88	cor. mass
angp. col	Fry 89	(29 - 37)
Braunschweig 87	ang. const. cor. es	3 $\pi^+ X$
ang. col	Abrams 89D	(3.095 - 29)
Marshall 85 const. cs	Ouldsada 88B	Juricic 88
Barreiro 85B p	Komamiya 89	Avery 89
Braunschweig 90	ang. p	Althoff 85F
ang. col. cs. p	3jet	cor. mass
(14 - 48.6) Behrend 89C	Mattig 89	$\pi^+ 2\pi^- X$
Behrend 87D	ang. cor. et	(9.4 - 10.6)
(14 - 43) Adeva 86C	Braunschweig 89K	Albrecht 87R
angp. col	angp. col	Albrecht 85J
Naroska 85	(14 - 44) Naroska 87	Avery 89
Braunschweig 89E	Bartel 86H	Ruckstuhl 86
BarTEL 85E	Albow 88	Althoff 85F
Komamiya 89B	Bethke 88B	cor. mass
Wood 88	Aihara 86B	ang. p
Fernandez 85	Bethke 89B	978.5 - 1079
Fernandez 85B	Rouse 87	Golubev 85
Rosenberg 85B	Madaras 86	es. mass
col. const. p. pt	Petersen 86C	Wormser 88B
Rowson 85	Sugano 86	es. mass
Bender 84C	Rosenberg 85B	(9.4 - 10.6)
Bartel 85H	col. const. p. pt	Albrecht 87N
Braunschweig 89L	Yamamoto 85E	Albrecht 85B
ang. col. mass	es. p. pt	φ $\pi^- \gamma X$
(39.79 - 46.72) Althoff 85	Aihara 84G	(9.4 - 10.6)
cs	Bender 84C	Albrecht 87N
(39.79 - 46.78) Adeva 86	Ouldsada 88	Albrecht 85B
col. es	angp. col	0 or charged+ charged- X
BarTEL 85M	(30 - 46.7) Marshall 89	(29)
Haisinskii 85	angp. p	e- e+ mult[γ] X
Behrend 85	Bartel 85H	(9.46)
(40 - 47) Komamiya 85	ang. p	Blinov 85E
Genser 89	Barlow 87	mult
(44) Behrend 88C	(44) Behrend 86C	$D^0 \pi^+ e^- X$
(44.2) Sagawa 88	(46.8) Maki 88B	(29)
(50 - 52) Abe 87C	Park 88	Wagner 89B
Amako 87	const. es	$D^0 \pi^+ e^+ X$
Miyamoto 87	Park 89B	(29)
Sakai 87	Kamei 88	Wagner 89B
Yoshida 87B	Menei 88	$D^0 \pi^+ \mu^- X$
Albow 88	col. const. cor.	(29)
Masuda 88	Bodek 89	Wagner 89B
Sugahara 88	Kim 89C	$D^0 \pi^- \mu^+ X$
angp. col	Iwasaki 89	(29)
Ko 88	ang. const. cor. es	Wagner 89B
Maki 88B	Maki 89	$D^0 \pi^+ \pi^- X + \bar{D}^0 \pi^+ \pi^- X$
88	ang. const. cor. es	(10)
Mori 88	Olsen 88	Albrecht 86B
Park 88	(54.5) Salvini 88	mass
Rosenfeld 88	angp. es. p. pt	$K^+ \pi^- \gamma X$
Shirai 88	Fry 89	(29)
Son 88	ang. const. cor. es	Low 87
Eno 89	Adams 89D	Bartel 85G
col. const. es	es	$K^- \pi^+ \gamma X$
Metcalfe 89	e- ν wino+	(29)
Mori 89	Fernandez 87C	Low 87
Mori 89B	(29)	Bartel 85G
Kanac 88	3charged X	$K^- \pi^+ \text{charged } X$
Kichimi 88	(29)	(10)
McNeil 88	Burchat 86	Albrecht 86F
Uno 88	Feldman 85B	$K^+ \pi^0 \pi^- X$
Yamauchi 88	et	(29)
col. es. p. pt	(52 - 57) Li 89	Abachi 87C
Zheng 90	col. p	Low 87
Eno 89B	Aihara 88	Bartel 85G
Kim 89F	col. cs. p	Althoff 86C
Adachi 90B	π± 2γ X	(42.2)
(4.14)	Adler 89E	Abachi 87C
π± 2γ X	(29)	Low 87

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{lab} in GeV. See the legend on page 153.

$$e^+ e^- \rightarrow K^- \pi^+ \pi^0 \chi$$

$$e^+ e^- \rightarrow e^- e^+ 2\gamma$$

$e^+ e^-$	$e^+ e^-$	$e^+ e^-$	$e^- e^+$ neutral (neutrals)
$K^- \pi^+ \pi^0 X$ (42.2) Bartel 85G Althoff 86C	mass	$K^+ K^- \pi^- X$ (9.4 – 10.6) Albrecht 88J (10.2 – 10.5) Albrecht 89N (10.3 – 10.5) Bowcock 88 (10.38 – 10.58) Csorna 85 (10.58) Csorna 87B (28 – 46.8) Braunschweig 89G (29)	Toki 86 cs, cs, mass, mass Albrecht 88J Albrecht 87R Chen 89B (10.52 – 10.58) Bortoletto 88 (35 – 44) Braunschweig 87B
$K^+ \pi^0 \pi^- X + K^- \pi^+ \pi^0 X$ (29) Gladney 85	mass	$K^+ K^0 \pi^- X + K^+ \bar{K}^0 K^- X$ (10.58) Bebek 86	mass
$K^+ 2\pi^- X$ (4.14) Adler 88C (9.4 – 10.6) Albrecht 88J (10.2 – 10.5) Albrecht 89N (10.3 – 10.5) Bowcock 88 (10.38 – 10.58) Csorna 85 (10.58) Csorna 87B (28 – 46.8) Braunschweig 89G (29)	mass	$K_S \pi^+ \pi^- X$ (9.4 – 10.6) Albrecht 87E ang. Albrecht 85G	ang. mass
$K^+ \pi^+ \pi^- X$ (29) Abachi 88 Abachi 86B	mass	$K^+ K_S \pi^- X$ (29.9 – 46.78) Bartel 85J	mass
$K^- \pi^+ \pi^\pm X$ (29) Naroska 85	mass	$K_S K^- \pi^+ X$ (29.9 – 46.78) Bartel 85J	mass
$K^- 2\pi^+ X$ (4.14) Adler 88C (9.4 – 10.6) Albrecht 88J (10.3 – 10.5) Bowcock 88 (10.38 – 10.58) Csorna 85 (10.58) Csorna 87B (28 – 46.8) Braunschweig 89G (29) Abachi 89C	mass	$p 2\pi^- X$ (34.8 – 42.1) Braunschweig 89I	mass
$p \pi^+ \pi^- X$ (34.8 – 42.1) Braunschweig 89I	mass	$p \pi^+ \pi^- X$ (10.5 – 10.85) Bowcock 85	mass
$p \text{mult}[\pi^+] \text{inult}[\pi^-] X$ (10.5 – 10.85) Bowcock 85	mass	$\bar{p} \text{mult}[\pi^+] \text{mult}[\pi^-] X$ (10.5 – 10.85) Bowcock 85	mass
$\Delta \pi^+ \pi^- X$ (10.5) Avery 88	mass	$\Delta \pi^+ \pi^- X$ (10.5) Avery 88	mass
$\bar{\Delta} \pi^+ \pi^- X$ (10.5) Avery 88	mass	$p K^- \pi^+ X$ (9.46 – 10.6) Albrecht 88D (10.52 – 10.58) Bortoletto 88	mass
$\bar{p} K^+ \pi^- X$ (9.46 – 10.6) Albrecht 88D (10.52 – 10.58) Bortoletto 88	mass	$\bar{p} K^+ \pi^- X$ (9.46 – 10.6) Albrecht 88D (10.52 – 10.58) Bortoletto 88	mass
$\Xi^- 2\pi^+ X$ (10.5 – 10.7) Alam 89B	mass	$\Xi^- 2\pi^+ X$ (10.5 – 10.7) Alam 89B	mass
$\Xi^+ 2\pi^- X$ (10.5 – 10.7) Alam 89B	mass	$e^- e^+ \text{charm } X$ (17 – 17.5) Braunschweig 90B	angp., cs, mass, p
$e^- e^+ \text{charm } X$ (17 – 17.5) Braunschweig 90B	angp., cs, mass, p	$e^- e^+ \text{charged-hadron } X$ (9.46) Blinov 85E (?) Berger 87B	1058 – 1918 1079 – 1918
$e^- e^+ \text{jet } X$ (?) Barlow 87	pt	$e^- e^+ \text{jet } X$ (29) Sheldon 86	ang.
$\gamma 2\text{jet } X$ (29) Sheldon 86	ang.	$\mu^\pm \text{hadron } X$ (36 – 46) Barlow 87	angp., mass, p
$\mu^\pm \text{hadron } X$ (36 – 46) Barlow 87	angp., col., p	$\mu^\pm \text{hadron } X$ (36 – 46) Barlow 87	angp., mass, p
$(\text{jets}) 2\text{jet } X$ (?) Ouldsada 88B	angp., col., p	$e^- e^+ 2\gamma$ 50 – 57 244.6 – 1918	angp., mass
$3\text{jet } X$ (14 – 34) Althoff 85B (22 – 46.7) Bethke 88 (29) Bethke 89	cs p cs	$3\text{jet } X$ (14 – 34) Althoff 85B (22 – 46.7) Bethke 88 (29) Bethke 89	angp., cs, mass
$\gamma 2\text{neutral (neutrals)}$ (35 – 46.57) Behrend 88D (54 – 61.4) Bleien 88	p, pt cs	$\gamma 2\text{neutral (neutrals)}$ (35 – 46.57) Behrend 88D (54 – 61.4) Bleien 88	ang., p
$K^+ K^- \pi^- X$ (4.14) Alder 89 Blaylock 87 Wasserbaech 87	cs, mass	$K^+ K^- \pi^- X$ (35 – 46.57) Behrend 88D (54 – 61.4) Bleien 88	ang., p

$$e^+ e^- \rightarrow e^- e^+ 2\gamma$$

$e^+ e^- \rightarrow e^- e^+ 2\text{photino}$

$e^+ e^-$	$e^+ e^-$	$e^+ e^-$
$e^- e^+ 2\gamma$		
Roe 89 mass	Berger 85B ang, angp. cs, mass	Kolanoski 85
Roe 89B mass	(35 - 46.8) Behrend 88G ang, angp. mass, p	
Karlen 88B cs, mass	(36) Naroska 87 angp. mass, p	
Karlen 88C asym, cs, mass	(36) Bartel 86C ang, mass, p	
Aihara 86 mass	(36.5) Adeva 88 ang, cs, mass, pt	
Perl 86 ang, cs, p, pt	(39.5) Barlow 87 Miyamoto 87 mass, p	
(33 - 46.8) Behrend 86 mass	(44) Shirai 88 cs	
(34) Naroska 87 angp, p	(50 - 52) Kurihara 89 angp. mass, p	
(34.7) Berger 85H p, pt	(50 - 56) Ho 89 ang, angp. mass	
(35) Naroska 87 cs	(50 - 60.8) Berger 87B pt	
(36.5) Bartel 86C ang, mass, p	(50 - 61.4) Berger 85C angp. mass, p	
(52 - 56) Kim 88C cs	(50 - 61.4) Behrend 88F cs	
(55 - 56) Sumiyoshi 88 mass	2 π^0 e ⁻ e ⁺ (9 - 29) Gidal 88C mass, pwa	
(55 - 60.8) Adachi 90 ..	(9.4 - 10.6) Marsiske 90 angp. cs	
(56) Abe 88E mass	(9.98 - 10.02) Albrecht 87Q angp. mass	
Maki 88 cs		
Shirai 88 ang, mass		
Yamauchi 88 mass		
Dolinsky 89 ..		
Ouldsaa 88B ..		
Unno 88 ..		
Kolanoski 85 ..		
$2e^- 2e^+$		
0.69 - 0.94 Ajaltouni 85B mass		
244.6 - 1918 Dolinsky 89B cs, mass, p		
Aulchenko 86 angp, cs, mass	426.2 - 883.1 Vasserman 88 cs	
1016 - 1926 Barkov 88 cs, mass	426.2 - 939.7 Dolinsky 89 cs	
1079 - 1918 Dolinsky 85 cs	426.2 - 1918 Dolinsky 89B cs, mass	
(1.4 - 2) Courau 86 cs, mass	1058 - 1918 Aulchenko 86C mass	
(3.6) Blinov 88B cs	(1.35 - 2.4) Antonelli 88 mass	
Blinov 86B mass		
Blinov 85C mass		
angp, cs, mass, pt		
(14 - 46.8) Kiesling 85 ..	426.2 - 883.1 Vasserman 88 cs	
(29) Hawkins 89 cs	426.2 - 939.7 Dolinsky 89 cs	
Hawkins 89B mass	426.2 - 1918 Dolinsky 89B cs, mass	
Petradza 89 angp, cs, mass, p	1058 - 1918 Aulchenko 86C mass	
Perl 86 ang, cs, p, pt	(1.35 - 2.4) Antonelli 88 mass	
(35) Naroska 87 cs		
(35 - 46.8) Behrend 88G ang, angp. mass, p		
(36) Naroska 87 ..		
(36.5) Bartel 86C ang, mass, p	3 π^0 γ 244.6 - 1079 Dolinsky 89 mass, p	
(44) Barlow 87 ..		
(50 - 60.8) Kurihara 89 angp, mass, p		
(50 - 61.4) Ho 89 ang, angp. mass	2 $\mu^- 2\mu^+$ (29) Petradza 89 angp, cs, mass, p	
(52 - 56) Kim 88C cs, mass	(35 - 46.8) Behrend 88G ang, angp. mass, p	
? Berger 85C ..	(52 - 56) Kim 88C cs, mass	
$\mu^- e^- 2\gamma$	$\pi^+ \pi^- 2\gamma$ (9.98 - 10.02) Albrecht 87Q angp. mass	
(35) Naroska 87 cs, qnc	(29) Aihara 86D angp, p	
$\mu^- \mu^+ 2\gamma$	(55 - 60.8) Johnson 86 ..	
50 - 57 Kim 89B angp, mass	(55 - 60.8) Adachi 90 mass	
(10.2) Lurz 87 mass	(55 - 60.8) Berger 85C	
(33 - 46.8) Skwarnicki 87 ang, p	(55 - 60.8) Kolanoski 85 ..	
(35) Naroska 87 cs, p		
(52 - 56) Behrend 86 mass		
(56) Naroska 87 ..		
(57) Kiesling 85 ..	3 π^0 γ 244.6 - 1079 Dolinsky 89 mass, p	
Hawkins 89 ..		
Petradza 89 ..		
Perl 86 ang, cs, p, pt	2 $\mu^- 2\mu^+$ (29) Petradza 89 angp, cs, mass, p	
(35) Naroska 87 ..	(35 - 46.8) Behrend 88G ang, angp. mass, p	
(35 - 46.8) Behrend 88G ang, angp. mass, p	(52 - 56) Kim 88C cs, mass	
(36) Naroska 87 ..		
(36.5) Bartel 86C ang, mass, p	$\pi^+ \pi^- \mu^- \mu^+$ (9.98 - 10.02) Albrecht 87Q angp. mass	
(44) Barlow 87 ..	(29) Aihara 86D angp, p	
(50 - 60.8) Kurihara 89 angp, mass, p	(55 - 60.8) Johnson 86 ..	
(50 - 61.4) Ho 89 ang, angp. mass	(55 - 60.8) Adachi 90 mass	
(52 - 56) Kim 88C cs, mass	(55 - 60.8) Berger 85C	
? Berger 85C ..	(55 - 60.8) Kolanoski 85 ..	
$\mu^- e^- 2\gamma + e^- 2\gamma$	$\pi^+ 2\pi^0 \pi^-$ 400.8 - 1918 Kurdadze 86 cs	
(10.02) Itron 85 ..	706.9 - 988.3 Aulchenko 87C cs, mass	
$\mu^- \mu^+ e^- e^+$	706.9 - 1904 Dolinsky 89B cs, mass	
0.69 - 0.94 Ajaltouni 85B mass	1058 - 1918 Aulchenko 86C mass	
(1.4 - 2) Courau 86 cs, mass		
(9.46) Blinov 85E mass		
angp, cs, mass		
(14 - 46.8) Kiesling 85 ..	2 $\pi^+ 2\pi^-$ 400.8 - 1918 Kurdadze 88 cs, mass	
(29) Hawkins 89B mass	988.3 - 1904 Dolinsky 89B cs, mass	
Petradza 89 ..	1016 - 1926 Barkov 88 cs, mass	
Perl 86 ang, cs, p, pt	1058 - 1918 Aulchenko 86C mass	
Gidal 85 ..		
(35) Naroska 87 ..		
$\eta \pi^0 e^- e^+$	$\eta \pi^+ \pi^- \gamma$ (9 - 29) Gidal 88C mass, pwa	
	(?) Dolinsky 89 ..	
$\rho^0 e^- e^+ \gamma$	(7.2 - 10.4) Blinov 87C mass	
$\eta \pi^+ \pi^- \gamma$	(7.2 - 10.4) Blinov 87C mass	
$\rho^+ \pi^- e^- e^+$	(7.2 - 10.4) Blinov 87C mass	
$\rho^- \pi^+ e^- e^+$	(7.2 - 10.4) Blinov 87C mass	
$2\rho^0 e^- e^+$	(29) Kolanoski 85 ..	
$\omega \rho^0 e^- e^+$		
$2\omega e^- e^+$		
$\phi \rho^0 e^- e^+$		
$2\phi e^- e^+$		
$\tau^- \tau^+ \nu_\tau \bar{\nu}_\tau$	(42.5 - 46.8) Behrend 87C cs	
	(52 - 61.4) Adachi 90C mass	
$\tau^- \tau^+ 2\gamma$	(30 - 46.78) Bartel 86D ang, angp, cs, p	
	(33 - 46.8) Behrend 86D ang, angp, mass	
	(35) Naroska 87 angp, cs, p	
	(57) Yamauchi 88 mass	
$K^+ K^- e^- e^+$	(9.4 - 10.6) Albrecht 89K	
	(29) Aihara 86D angp, mass	
$K^+ K^- e^- e^+ + \pi^+ \pi^- e^- e^+$	(29) Johnson 86 ..	
	(29) Boyer 86 angp	
$K^0 \bar{K}^0 e^- e^+$	(29) Gidal 85 ..	
	(?) Kolanoski 85 ..	
$K^+ K^- \pi^+ \pi^-$	(9.4 - 10.6) Albrecht 87S ang	
	(14 - 36) Althoff 86D angp, mass	
$K^*(892)^0 \bar{K}^*(892)^0 e^- e^+$		
$K_L 3\pi^0$	1.28 - 1.4 Dolinsky 89B cs	
	1603 - 1918 Aulchenko 87B ..	
$2K_S e^- e^+$	(9 - 29) Gidal 88C mass, pwa	
	(17.5) Behrend 88E mass	
	(34.5) Althoff 85D mass	
$p \bar{p} e^- e^+$	(4.7 - 5.3) Berger 88 mass	
	(29) Tixier 88 mass	
$p \bar{p} \pi^+ \pi^-$	(3 - 3.2) Tixier 88 mass	
$p^0 e^- e^+ (\text{hadrons})$	(10.3 - 10.6) Haas 88	
$p^0 \mu^- \mu^+ (\text{hadrons})$	(10.3 - 10.6) Haas 88	
$2\gamma 2\text{jet}$	(46.8) Behrend 86C mass	
$e^+ \nu_e \text{ hadron } (\text{hadrons})$	(50 - 55) Sugahara 88 angp, col	
	(50 - 56) Rosenfeld 88 col	
$e^- \bar{\nu}_e \text{ hadron } (\text{hadrons})$	(50 - 55) Sugahara 88 angp, col	
	(50 - 56) Rosenfeld 88 col	
$e^- e^+ \text{ hadron } (\text{hadrons})$	(10.3 - 10.6) Haas 88	
	(29) Aihara 87D ..	
$e^- e^+ 2\text{jet}$	(33 - 35) Althoff 86B mass, p	
	(34.7) Berger 85H p, pt	
$e^- e^+ 2\text{photino}$	29 Leclaire 87 p, pt	

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

$e^+ e^- \rightarrow \mu^+ \nu_\mu$ hadron (hadrons)

$e^+ e^- \rightarrow e^- e^+$ 2neutral (neutrals)

$e^+ e^-$	$e^+ e^-$	$e^+ e^-$
$\mu^+ \nu_\mu$ hadron (hadrons) (50 - 55) Sugahara 88 (50 - 56) Rosenfeld 88	angp, col col	(50 - 61.4) Iwasaki 89 ang, const, cor, cs (52 - 61.4) Maki 89 ang, const, cor (60.8) Adachi 90C mass (89.2 - ...) Fry 89 ang, const, cor, cs Abrams 89D cs
$\mu^- \bar{\nu}_\mu$ hadron (hadrons) (50 - 55) Sugahara 88 (50 - 56) Rosenfeld 88	angp, col col	(50 - 61.4) Iwasaki 89 ang, const, cor, cs (52 - 61.4) Maki 89 ang, const, cor (60.8) Adachi 90C mass (89.2 - ...) Fry 89 ang, const, cor, cs Abrams 89D cs
$\mu^+ e^+$ hadron (hadrons) + $\mu^+ e^-$ hadron (hadrons) (10.3 - 10.6) Haas 88	-	4jet (29) Petradza 90 angp, mass, p
$\mu^- \mu^+$ hadron (hadrons) (10.3 - 10.6) Haas 88 (30 - 35) Ferrarotto 88	mass	2charged 2neutral (neutrals) (29) Aihara 86I angp, mass, p
$\mu^- \mu^+$ 2jet (39 - 46.8) Bartel 87 (52 - 57) Sagawa 89	ang col	4charged (neutrals) (29) Aramidei 88 Ruckstuhl 86 - (29) Gidal 85 - 2e- 2e+ X (29) Petradza 90 angp, cs, p $\mu^- \mu^+$ 2 γ X (29) Wu 86 $\mu^- \mu^+ e^- e^+$ X (29) Petradza 90 angp, cs, p $\pi^+ \pi^- 2\gamma$ X (10) Albrecht 88S (29) Worniser 88B mass
$\tau^+ \nu_\tau$ 2jet (42.5 - 46.8) Behrend 87C	cs	2 $\pi^+ \pi^-$ charged+ X (10) Albrecht 86E 2 $\mu^- 2\mu^+$ X (29) Petradza 90 angp, cs, p $\pi^0 3\pi^0$ X (29) Koltick 85B $\pi^+ \pi^0 \pi^- \pi^\pm$ X (4.14) Adler 89E mass
τ 2hadron (hadrons) (9.4 - 10.5) Albrecht 87H (29) Gold 86 (55 - 60.8) Abe 89J	p angp, cs, p ang, p	2 $\pi^+ 2\pi^-$ X (29) Yamamoto 85C mass 2K- 2 π^+ X (29) Yamamoto 85C mass $K^0 K^- \pi^+ \pi^-$ X (10) Albrecht 89P $K^+ K^- \text{mult}[\pi^\pm]$ mult $[\pi^\pm]$ X (9.4 - 10.6) Albrecht 85D ang, mass $p \pi^+ 2\pi^-$ X (10.5) Avery 88 mass
ν 2hadron (hadrons) (43) Behrend 86B	-	$\bar{p} 2\pi^+ \pi^-$ X (10.5) Avery 88 mass $\Delta 2\pi^+ \pi^-$ X (9.46 - 10.6) Albrecht 88D (10.5 - 10.85) Bowcock 85 mass
e^\pm 2hadron (hadrons) (29) Pal 86 (29 - 34.6) Saxon 86 (46) Bartel 87 ang, angp, col (50 - 52) Igarashi 87 col (50 - 56) Eno 88 ang, col, mass Myung 88 ang, col, cs Son 88 col, cs (50 - 57) Yamauchi 88 angp, col (50 - 61.4) Myung 89 col, cs	p, pt p, pt p, pt p, pt p, pt p, pt p, pt p, pt p, pt	$\eta \pi^+ \pi^- \pi^\pm$ X (4.14) Adler 89E mass Stockdale 87 cs, mass $\eta 2\pi^+ \pi^-$ X (10) Albrecht 90 cs, mass $\phi 2\pi^+ \pi^-$ X (9.4 - 10.6) Albrecht 85D ang, mass $\phi \pi^+ 2\pi^-$ X (9.4 - 10.6) Albrecht 85D ang, mass $K^+ 2\pi^- \gamma$ X (10.52 - 10.58) Bortoletto 88 mass $K^- 2\pi^+ \gamma$ X (10.52 - 10.58) Bortoletto 88 mass $K^+ 0\pi^0 2\pi^-$ X (10.52 - 10.58) Bortoletto 88 mass (28 - 46.8) Braunschweig 89G mass (29) Wagner 87 mass Aihara 86E mass Yamamoto 85C mass
μ^\pm 2hadron (hadrons) (34.6) Bartel 86G Saxon 86	col, pt cs, p, pt	$K^- \pi^+ \pi^0 \pi^\pm$ X (29) Naroska 85 $K^- 2\pi^+ \pi^0$ X (10.52 - 10.58) Bortoletto 88 mass $K^- 2\pi^+ \pi^-$ X (10.52 - 10.58) Bortoletto 88 mass $\Delta 2\pi^+ \pi^-$ X + $\bar{\Delta} 2\pi^+ \pi^-$ X (9.46) Nestayer 85 $\Delta \pi^+ 2\pi^-$ X + $\bar{\Delta} 2\pi^+ \pi^-$ X (9.46) Nestayer 85
μ^- 2hadron (hadrons) (29) Ong 89 Klem 86	pt p, pt	2 ℓ 2hadron X (50 - 57) Kichimi 88
μ^\pm 2hadron (hadrons) (34.6) Bartel 86G Adeva 86	col, pt col, cs	4jet X (22 - 46.7) Bethke 88 (29) Bethke 89 cs Ford 89 col ? Ouldsadaa 88B
μ^- 2hadron (hadrons) (14 - 46.8) Adeva 86B (29) Ong 89	ang pt	$e^- e^+ \gamma$ neutral (neutrals) (29) Riles 89B
π^\pm 2hadron (hadrons) (29) Aihara 89B	col, p	$e^- e^+ 2\text{neutral}$ (neutrals) (50 - 60.8) Sakai 90
ℓ 2hadron (hadrons) ?	Unno 88	angp, col, mass
4jet		
(14 - 44) Bartel 86H (29) Bethke 89B (34) Naroska 87 (42.5 - 46.8) Behrend 87C (46.8) Behrend 86C	p p cs cs mass	(14 - 44) Bartel 86H (29) Bethke 89B (34) Naroska 87 (42.5 - 46.8) Behrend 87C (46.8) Behrend 86C
(50 - 56) Maki 88B (50 - 57) Park 89	cs ang, col, cor	(50 - 56) Maki 88B (50 - 57) Park 89
Park 89B	cs	Park 89B

$e^+ e^- \rightarrow \mu^\pm e^\pm \gamma$ neutral (neutrals) $e^+ e^- \rightarrow \pi^0 \pi^\pm e^\pm \gamma$ neutral (neutrals)

$e^+ e^-$	$e^+ e^-$	$e^+ e^-$
$\mu^\pm e^\pm \gamma$ neutral (neutrals) (29) Riles 89B	$\eta \pi^+ \pi^- e^- e^+$ (29) Gidal 88B Kolanoski 85	$\mu^- \mu^+$ 2hadron (hadrons) (10.52) Fulton 89
$\pi^\pm e^\pm \gamma$ neutral (neutrals) (29) Riles 89B	$\phi \pi^+ \pi^- e^- e^+$ (14 - 36) Althoff 86D angp, mass	$\ell^+ \ell^-$ 2hadron (hadrons) (35 - 43) Behrend 89J (35 - 44) Elsen 90
$\mu^- \mu^+$ 2neutral (neutrals) (50 - 60.8) Sakai 90	$K^*(892)^0 K^- \pi^+ e^- e^+$ (14 - 36) Althoff 86D angp, col, mass	$D^0 \pi^+$ 2hadron (hadrons) (29) Kesten 85
$\pi^\pm \mu^\pm \gamma$ neutral (neutrals) (29) Riles 89B	$K^*(892)^0 K^+ \pi^- e^- e^+$ (14 - 36) Althoff 86D angp, col, mass	$D^0 \pi^-$ 2hadron (hadrons) (29) Kesten 85
$2\pi^0 \gamma$ (γ 's) (neutrals) 1603 - 1918 Aulchenko 87B	$K^+ K_S \pi^- e^- e^+$ (17.5) Althoff 85D (29) Aihara 88B	$K^+ \pi^-$ 2hadron (hadrons) (29) Kesten 85
$\rho^- \pi^0 \tau^+$ neutral (neutrals) (29) Ford 87	$Gidal 88$ Aihara 86C	$K^- \pi^+$ 2hadron (hadrons) (29) Kesten 85
$\rho^+ \pi^0 \tau^-$ neutral (neutrals) (29) Ford 87	$Berger 86$	$(jets) 4jet$ (44) Barlow 87
$\rho^0 \pi^- \tau^+$ neutral (neutrals) (29) Ford 87	$K_S K^- \pi^+ e^- e^+$ (17.5) Althoff 85D (29) Aihara 88B	$5jet$ (34) Naroska 87 (50 - 56) Maki 88B (89.2 - 93) Abrams 89D
$\rho^0 \pi^+ \tau^-$ neutral (neutrals) (29) Ford 87	$Gidal 88$ Aihara 86C	$5charged X$ (29) Naroska 85
e^- 2charged-hadron (charged-hadrons) (neutrals) (36.5) Bartel 87B	$Braunschweig 89$ cs, mass, pt	$2charged +$ 2charged- neutral (neutrals) (9.4 - 10.6) Albrecht 87C
2γ (γ 's) charged+ charged- (29) Aihara 86G	$p \bar{p} \pi^0 e^- e^+$ (4.7 - 5.3) Albrecht 88R	$4charged$ neutral (neutrals) (9.3 - 10.6) Albrecht 87L
e^+ 3charged (chargeds) (29) Akerlof 88	$\pi^+ e^- e^+$ hadron (hadrons) (10.3 - 10.6) Haas 88	$4charged$ (chargeds) (neutrals) (9.4 - 10.6) Albrecht 85B Albrecht 85D
e^- 3charged (chargeds) (29) Akerlof 88	$\pi^+ \mu^- e^+$ hadron (hadrons) + (10.3 - 10.6) Haas 88	$\pi^- \mu^+ e^-$ 2 γ X (4.14) Adler 89E (29) Wormser 87
$3e^\pm$ charged (neutrals) (44.2) Aleksan 86	$\pi^- \mu^+ e^-$ hadron (hadrons) (10.3 - 10.6) Haas 88	$2\pi^+ \pi^0 2\pi^- X$ (10) Albrecht 88S
e^\pm (ν 's) 2 γ charged (10.2) Keh 88B	$\pi^+ \mu^- \mu^+$ hadron (hadrons) (10.3 - 10.6) Haas 88	$5\pi^\pm X$ (29) Koltick 85B
4γ (γ 's) 244.6 - 978.5 Dolinsky 88B	$e^\pm \gamma$ 2hadron (hadrons) (10.6) Augustin 85E	$K^+ \pi^+ 3\pi^- X$ (10.3 - 10.5) Bowcock 88
244.6 - 1918 Dolinsky 89B	$2e^\pm$ 2hadron (hadrons) (35) Kamae 88	$(28 - 46.8) Braunschweig 89G$ (29) Aihara 86E
5 γ 978.5 - 1079 Druzhinin 85 1058 - 1918 Aulchenko 86C	$e^- e^+$ (jets) 2jet (14 - 35) Roberts 86	$K^- 2\pi^+ \pi^- \pi^\pm X$ (29) Naroska 85
1079 - 1918 Dolinsky 85 (29) Hawkins 89	$(34.5) Berger 87$	$K^- 3\pi^+ \pi^- X$ (10.3 - 10.5) Bowcock 88 (28 - 46.8) Braunschweig 89G (29) Aihara 86E
e- e+ 2 γ (γ 's) ? Lowe 86B	$e^- e^+$ 2charged-hadron (hadrons) (33 - 35) Althoff 86B	$K^+ \pi^+ 3\pi^- X + K^- 3\pi^+ \pi^- X$ (29) Gladney 85
e- e+ 3 γ (2 - 40) Landsberg 86	$e^- e^+$ 2hadron (hadrons) (7.6 - 10.6) Baru 86	$K^+ K^- \pi^+ e^- e^+ X$ (29) Weir 89
Hawkins 89	$(9.4 - 10.6) Blinov 86C$ (10.3 - 10.6) Albrecht 88L	$K^0 K^- \pi^+ \pi^0 \pi^- X$ (10) Albrecht 89P
2e- 2e+ γ (29) Hawkins 89	$(10.52) Grab 87$ (14 - 35) Roberts 86	$K^+ K^- 2\pi^+ \pi^- X$ (4.14) Bai 90
$\pi^+ \pi^- 3\gamma$? Dolinsky 89	$(29) Aihara 89C$ Aihara 87F Aihara 86H	$K^+ K^- 2\pi^+ \pi^- X$ (4.14) Alder 89
$\pi^+ \pi^- e^- e^+ \gamma$ (7.2 - 10.4) Blinov 87C	$(Johnson 86) Bintinger 85$ angp, mass	$K_S 2\pi^+ 2\pi^- X$ (10) Albrecht 89V
(10) Albrecht 87M	$(Kolanoski 85) Berger 87C$	$5jet X$ (22 - 46.7) Bethke 88
Gidal 85	$(34.6) Berger 85H$? Kolanoski 85	$(29) Bethke 89$? Ouldanda 88B
$\pi^+ \pi^0 \pi^- e^- e^+$ (7.2 - 10.4) Blinov 87C	$\mu^\pm e^\pm$ 2hadron (hadrons) (35) Kamae 88	5γ (neutrals) 1603 - 1918 Aulchenko 87B
(9 - 29) Gidal 88C	$\mu^\pm e^\pm$ 2hadron (hadrons) + (34.7) Kamae 88	$\pi^0 \pi^\pm e^\pm \gamma$ neutral (neutrals) (29) Riles 89B
$2\pi^+ 2\pi^- \gamma$ (1.35 - 2.4) Antonelli 88	$\mu^\pm e^\pm$ 2hadron (hadrons) (10.3 - 10.6) Grab 87	Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are F_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.
(3 - 3.2) Bisello 88	$2\mu^\pm$ 2hadron (hadrons) (35) Kamae 88	
$2\pi^+ \pi^0 2\pi^-$ 1016 - 1926 Barkov 88	$\mu^- \mu^+$ 2hadron (hadrons) (10.3 - 10.6) Grab 87	
(1.35 - 2.4) Antonelli 88	$(10.3 - 10.6) Grab 87$	
$\eta 2\pi^0 e^- e^+$ (10) Antreasyan 87	$\mu^- \mu^+$ 2hadron (hadrons) (10.3 - 10.6) Grab 87	

$e^+ e^- \rightarrow \pi^0 \pi^\pm \mu^\pm \gamma$ neutral (neutrals) $e^+ e^- \rightarrow e^- e^+$ 6charged (neutrals)

$e^+ e^-$	$e^+ e^-$	$e^+ e^-$
$\pi^0 \pi^\pm \mu^\pm \gamma$ neutral (neutrals) (29) Riles 89B	$2\pi^+ 2\pi^- e^- e^+$ (17.5) Althoff 85D (29) Aihara 88B (34 - 35) Braunschweig 89	$K^0 K^- 2\pi^+ 2\pi^- X$ (10) Albrecht 89P
$2\pi^+ \pi^- e^- \nu$ (neutrals) + $\pi^+ 2\pi^- e^+ \nu$ (neutrals) (10.34 - 11.18) Csorna 87	mass, p (34.5) Berger 88 (34.7) Berger 88B (35 - 46.6) Braunschweig 88F	$p 4\pi^+ 4\pi^- X$ (10.5 - 10.7) Alam 89B
$2\pi^+ \pi^- \mu^- \nu$ (neutrals) + $\pi^+ 2\pi^- \mu^+ \nu$ (neutrals) (10.34 - 11.18) Csorna 87	mass, p (34.5) Berger 88 (34.7) Berger 88B (35 - 46.6) Braunschweig 88F	$\gamma 4\text{charged} (\text{charged})$ (neutrals) (9.4 - 10.6) Albrecht 85B
$2\pi^+ 2\pi^-$ neutral (neutrals) (10.34 - 11.18) Csorna 87	mass, p (34.6) Berger 85D	$e^+ 5\text{charged}$ (neutrals) (29) Schaad 85
$\mu^+ \pi^+ 2\pi^-$ neutral (neutrals) (10.34 - 11.18) Csorna 87	mass, p (34.6) Berger 85D	$e^- 5\text{charged}$ (neutrals) (29) Schaad 85
$\mu^- 2\pi^+ \pi^-$ neutral (neutrals) (10.34 - 11.18) Csorna 87	mass, p (34.6) Berger 85D	$\mu^+ 5\text{charged}$ (neutrals) (29) Schaad 85
$2\pi^0 \pi^- \tau^+$ neutral (neutrals) (29) Ford 87	cs, mass (29) Ford 87	$\mu^- 5\text{charged}$ (neutrals) (29) Schaad 85
$\pi^+ 2\pi^0 \tau^-$ neutral (neutrals) (29) Ford 87	cs, mass (29) Ford 87	γ 244.6 - 1079 Dolinsky 89
$\pi^+ 2\pi^- \tau^+$ neutral (neutrals) (29) Ford 87	cs, mass (29) Ford 87	$\pi^- e^+ \nu_\tau \bar{\nu}_\tau \nu_e 2\gamma$ (3.77) Coffman 87
$2\pi^+ \pi^- \tau^-$ neutral (neutrals) (29) Ford 87	cs, mass (29) Ford 87	$\pi^+ e^- \nu_\tau \bar{\nu}_\tau \bar{\nu}_e 2\gamma$ (3.77) Coffman 87
$K^+ \pi^+ 2\pi^-$ neutral (neutrals) (10.34 - 11.18) Csorna 87	mass, p (34.6) Berger 85D	$\pi^- \mu^+ \nu_\tau \bar{\nu}_\tau \nu_\mu 2\gamma$ (3.77) Coffman 87
$K^- 2\pi^+ \pi^-$ neutral (neutrals) (10.34 - 11.18) Csorna 87	mass, p (34.6) Berger 85D	$\pi^+ \mu^- \nu_\tau \bar{\nu}_\tau \bar{\nu}_\mu 2\gamma$ (3.77) Coffman 87
$e^- e^+ 2\text{charged}$ (charged) (neutrals) (35 - 46.8) Behrend 86F	cs, mass, p (35 - 46.8) Behrend 86F	$2\pi^+ 2\pi^- e^- e^+ \gamma$ (29) Gidal 85
$e^- e^+ 4\text{charged}$ (10.52 - 10.86) Chen 89C	mass	$2\pi^+ \pi^0 2\pi^- e^- e^+$ (4.7 - 5.3) Albrecht 87J
$\mu^\pm e^\mp 2\text{charged}$ (charged) (neutrals) (35 - 46.8) Behrend 88F	cs, mass, p (35 - 46.8) Behrend 88F	$(29) Gidal 85$ (34.6) Berger 85D
$\mu^- \mu^+ 2\text{charged}$ (charged) (neutrals) (35 - 46.8) Behrend 88F	cs, mass, p (35 - 46.8) Behrend 88F	$2\text{kaon (kaons)} 2\pi^- (\pi^0) \gamma$ (4.14) Adler 89B
$\tau^+ 3\text{charged}$ neutral (neutrals) (29) Ford 87	cs (29) Ford 87	$p \bar{p} \pi^+ \pi^0 \pi^- e^- e^+$ (4.7 - 5.3) Albrecht 88R
$\tau^- 3\text{charged}$ neutral (neutrals) (29) Ford 87	cs (29) Ford 87	$K^- 2\pi^+ \pi^- 2\text{hadron (hadrons)}$ (29) Kesten 85
$0\gamma 4\text{charged}$ (neutrals) (29) Perl 85	-	6charged (charged) (neutrals) (29) Sakuda 85
4hadron (hadrons) charged (29) Petersen 88	ang, p, pt (29) Petersen 88	$e^\pm 5\text{charged jet } X$ (29) Porter 89
$5\gamma (\gamma's)$ 244.6 - 978.5 Dolinsky 89	p (29) Petersen 88	$\mu^\pm 5\text{charged jet } X$ (29) Porter 89
$e^- e^+ 4\gamma$ (9.98 - 10.02) Albrecht 87Q	angp, mass (10) Bienlein 88	$e^- e^+ 8\gamma$ (9 - 29) Gidal 88C
$\mu^- \mu^+ 4\gamma + e^- e^+ 4\gamma$ (10.02) Irion 85	mass (10) Bienlein 88	$(10) Bienlein 88$
$\pi^+ \pi^- 4\gamma$ 706.9 - 1904 Dolinsky 89B	cs, mass (29) Aihara 88E	$\pi^+ \pi^0 2\pi^- e^+ \nu_\tau \bar{\nu}_\tau \nu_e$ (3.77) Coffman 87
$\pi^+ \pi^- e^- e^+ 2\gamma$ (29) Aihara 88E	angp, p (29) Aihara 88E	$2\pi^+ \pi^0 \pi^- e^- \nu_\tau \bar{\nu}_\tau \bar{\nu}_e$ (3.77) Coffman 87
$\pi^+ 2\pi^0 \pi^- e^- e^+$ (4.7 - 5.3) Albrecht 89F	angp (29) Gidal 88C	$\pi^+ \pi^0 2\pi^- \mu^+ \nu_\tau \bar{\nu}_\tau \nu_\mu$ (3.77) Coffman 87
$2\pi^+ 2\pi^- e^- e^+$ (9 - 29) Gidal 88C	mass, pwa (29) Gidal 88C	$2\pi^+ \pi^0 \pi^- \mu^- \nu_\tau \bar{\nu}_\tau \bar{\nu}_\mu$ (3.77) Coffman 87

$e^+ e^- \rightarrow 3\pi^+ 2\pi^0 3\pi^- 2(\text{neutrals})$ $\mu^+ p \rightarrow \omega \mu^+ X$

$e^+ e^-$	$\mu^- \text{nucleon}$	$\mu^- {}^{162}\text{Sm}$
$3\pi^+ 2\pi^0 3\pi^- 2(\text{neutrals})$ (29) Abachi 87F	$\mu^- X$ l = 400 Berger 86B angp, cs, p	${}^{162}\text{Sm}^* e^- \nu_\mu \bar{\nu}_e$ 0 Mitropolskii 87 cs
$e^- e^+ \text{charged (neutrals)}$ (17 - 17.5) Braunschweig 90B angp, cs, mass, p	$\mu^- \text{deuteron}$	$\mu^- \text{nucleus}$
$e^+ \text{nucleus}$	$\mu^- X$ 1 - 400 Berger 86B angp, cs, p	$p X$ 32 Rabin 86 ang, angp, p, pt
$e^+ \text{hadron } X$ 20.5 Fredriksson 87 a-dep, p, pt	$\mu^- {}^{12}\text{C}$	$\text{mult}[\text{black}] X$ 150 Jain 88 mult
$e^\pm \text{nucleus}$	${}^{12}\text{Bor} \nu_\mu \gamma$ 0 Hasinoff 89 Hasinoff 88 P	$\text{mult}[\text{shower}] X$ 150 Jain 88 mult
$p X$ 5 Degtyarenko 90 P	$\mu^- C$	$\text{shower } X$ 150 Jain 88 mult, p
$\Delta(1232 P_{33})^{++} X$ 5 Degtyarenko 90 P	$\mu^- X$ 120 - 280 Benvenuti 87 Benvenuti 87C P	$\text{mult}[\text{black}] \text{ mult}[\text{shower}] X$ 150 Jain 88 cor. mult
$\Delta(1232 P_{33})^0 X$ 5 Degtyarenko 90 P	$\mu^- 2\mu^+ X$ 200 Benvenuti 85 p, pt	$\text{mult}[\text{black}] \text{ shower } X$ 150 Jain 88 cor. mult, p
$e^\pm \gamma X$ 5 Degtyarenko 89 mult	$D^0 D^0 \mu^- X$ 200 Benvenuti 85	
$\pi^0 e^\pm X$ 5 Degtyarenko 89 mult	$D^+ D^0 \mu^- X$ 200 Benvenuti 85	
$\pi^+ e^\pm X$ 5 Degtyarenko 89 angp, mult, p	$\bar{D}^0 D^- \mu^- X$ 200 Benvenuti 85	
$\pi^- e^\pm X$ 5 Degtyarenko 89 angp, mult, p	$D^0 D^- \mu^- X$ 200 Benvenuti 85	
$K^+ e^\pm X$ 5 Degtyarenko 89 mult	$\mu^- {}^{16}\text{O}$	
$K^- e^\pm X$ 5 Degtyarenko 89 mult	${}^{16}\text{Nit} \nu_\mu \gamma$ 0 Hasinoff 89 Hasinoff 88 P	
$K_S e^\pm X$ 5 Degtyarenko 89 mult	$\mu^- {}^{32}\text{S}$	
$p e^\pm X$ 5 Degtyarenko 89 angp, mult, p	${}^{32}\text{S} \mu^- \gamma$ 0 Schaller 85	
$\bar{p} e^\pm X$ 5 Degtyarenko 89 mult	$\mu^- {}^{34}\text{S}$	
$p \pi^+ X$ 5 Degtyarenko 90 mass	${}^{34}\text{S} \mu^- \gamma$ 0 Schaller 85	
$p \pi^- X$ 5 Degtyarenko 90 mass	$\mu^- {}^{36}\text{S}$	
$\Lambda e^\pm X$ 5 Degtyarenko 89 mult	$\mu^- {}^{40}\text{Ca}$	
$\text{deuteron } e^\pm X$ 5 Degtyarenko 89 mult, p	${}^{40}\text{KK} \nu_\mu \gamma$ 0 Hasinoff 89 Hasinoff 88 P	
$\text{mult}[p] e^\pm X$ 5 Degtyarenko 89 mult	$\mu^- \text{Ti}$	
$2\pi e^\pm X$ 5 Degtyarenko 89 cor	$\text{Ca } e^+$ 0 Ahmad 87 cs, p 0.073 Blecher 87 cs, p	
$2p e^\pm X$ 5 Degtyarenko 89 cor, mass	$\text{Ca}^* e^+$ 0 Ahmad 88 cs, p, qnc	
$d \text{ gluon}$	$\text{Ti } e^-$ 0 Ahmad 88 cs, p, qnc Ahmad 87 cs, p Numao 86 p, qnc	
$d \text{ gluon}$?	Breakstone 90 angp	$\mu^- \gamma X$ 200 Aubert 89 angp, p, pt
$u \text{ gluon}$		$\mu^- \text{ charged } X$ 280 Arneodo 88B p
$u \text{ gluon}$?	Breakstone 90 angp	$\mu^- \mu^+ X$ 280 Grab 87 mass 200 Aubert 85 mass
$\mu^- p$	$\mu^- \text{Fe}$	$\pi^0 \mu^+ X$ 200 Aubert 89 p, pt
$\mu^- X$ 1 - 400 Berger 86B angp, cs, p	inelastic 50 - 120 Kopp 85 P	$\pi^- \mu^+ X$ 280 Arneodo 89 p
$p \mu^-$ 1 - 400 Berger 86B angp, cs, p	$\mu^- X$ 93 - 215 Meyers 86 P	$\rho^0 \mu^+ X$ 120 - 280 Aubert 83C angp, cs, pol
	$\mu^- {}^{90}\text{Zr}$	$\omega \mu^+ X$ 280 Arneodo 85D mult, p, pt
	0 Phan 85 mass, p	$\omega \mu^+ X$ 280 Arneodo 83D p, pt

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

$\mu^+ p \rightarrow D^0 \mu^+ X$ $\mu^+ C \rightarrow \bar{D}^0 D^- \mu^+ X$

$\mu^+ p$		$\mu^+ p$		$\mu^+ deuteron$	
$D^0 \mu^+ X$ 240 - 280	Aubert 86C	p, pt	$\bar{\Lambda} K^+ \mu^+ X$ 280	Arneodo 86H	mult
$K^+ \mu^+ X$ 280	Arneodo 89	mult, p	$\bar{\Lambda} K^- \mu^+ X$ 280	Arneodo 86H	mult
$K^- \mu^+ X$ 280	Arneodo 89	mult, p	$\Lambda K_S \mu^+ X$ 280	Arneodo 86H	mult
$K_S \mu^+ X$ 120 - 280	Arneodo 85B	mult, mult	$\bar{\Lambda} K_S \mu^+ X$ 280	Arneodo 87C	mult, p
$p \mu^+ X$ 280	Arneodo 89	mult, p	$p \bar{p} \mu^+ X$ 280	Arneodo 87C	mult
$\bar{p} \mu^+ X$ 280	Arneodo 89	mult, p	$2p \mu^+ X$ 280	Arneodo 87C	mult
$\Lambda \mu^+ X$ 280	Arneodo 87C	mult, p	$2\bar{p} \mu^+ X$ 280	Arneodo 87C	mult
$\bar{\Lambda} \mu^+ X$ 280	Arneodo 89	mult, p	$\Lambda \bar{\Lambda} \mu^+ X$ 280	Arneodo 86H	mult
$\mu^+ charged-hadron X$ 120 - 280	Arneodo 86H	mult, p	$2\Lambda \mu^+ X$ 280	Arneodo 86H	mult
$\bar{\Lambda} \mu^+ X$ 280	Arneodo 86H	mult, p	$\mu^+ nucleon$		
$\mu^+ hadron X$ 280	Arneodo 85B	mult, mult	$\mu^+ X$ 1 - 400	Berger 86B	angp, cs, p
$\mu^+ hadron^+ X$ 120 - 280	Aubert 85B	angp, p, pt	$\pi^+ \mu^+ X + \pi^- \mu^+ X$ 150	Jain 87C	mult, p
$\mu^+ hadron^- X$ 120 - 280	Arneodo 85	mass, mult	$\pi^+ \mu^+ X + \pi^- \mu^+ X$ 280	Arneodo 87	mass, p
$\mu^+ mult[charged] (neutrals)$ 280	Aubert 86	mass, p	$K^+ \mu^+ X + K^- \mu^+ X$ 280	Arneodo 87	mass, p
$p p^0 \mu^+$ 120 - 200	Ashman 88C	angp, cs	$K_S \mu^+ X$ 280	Arneodo 87	mass, p
$p \phi \mu^+$ 120 - 200	Ashman 88C	angp, cs	$p \mu^+ X + \bar{p} \mu^+ X$ 280	Arneodo 87	mass, p
$2\pi^+ \mu^+ X$ 280	Arneodo 86C	mass	$\mu^+ hadron X$ 280	Arneodo 87	mass, p, pt
$2\pi^- \mu^+ X$ 280	Arneodo 86C	mass	$\mu^+ mult[hadron] X$ 280	Arneodo 87	col
$\pi^+ \pi^- \mu^+ X$ 280	Arneodo 86C	mass	$charm charm X$ 200	Arneodo 86F	-
$K^+ \pi^- \mu^+ X$ 240 - 280	Aubert 86C	mass	$\mu^+ mult[charged] (neutrals)$ 150	Jain 87C	mult, p
$K^- \pi^+ \mu^+ X$ 240 - 280	Aubert 86C	mass	$nucleon e^+ \gamma$ 0.0786	Hogan 86	-
$K^+ K^- \mu^+ X$ 280	Arneodo 86H	mult	$\mu^+ 2jet$ 280	Arneodo 87	pt
$2K^+ \mu^+ X$ 280	Arneodo 86H	mult	$nucleon e^+ 2\gamma$ 0.0786	Hogan 86	-
$2K^- \mu^+ X$ 280	Arneodo 86H	mult	$nucleon e^- 2e^+$ 0.0786	Hogan 86	-
$K^+ K_S \mu^+ X$ 280	Arneodo 86H	mult	$\mu^+ 3jet$ 280	Arneodo 87	pt
$K_S K^- \mu^+ X$ 280	Arneodo 86H	mult	$\mu^+ deutron$		
$\Lambda K^+ \mu^+ X$ 280	Arneodo 86H	mult	$\mu^+ X$ 1 - 400	Berger 86B	angp, cs, p
$2K_S \mu^+ X$ 280	Arneodo 86H	mult	$\mu^+ X$ 100 - 280	Ashman 88	a-dep, p
$\Lambda K^- \mu^+ X$ 280	Arneodo 86H	mult	$\mu^+ X$ 120 - 280	Benvenuti 89B	p
$\Delta K^+ \mu^+ X$ 280	Arneodo 86H	mult	$\mu^+ X$ 200	Benvenuti 87B	a-dep, p
$\Delta K^- \mu^+ X$ 280	Arneodo 86H	mult	$\mu^+ X$ 280	Arneodo 89B	p
$\Delta K^+ \mu^+ X$ 280	Arneodo 86H	mult	$\mu^+ X$ Aubert 87	Aubert 87	p
$\Delta K^- \mu^+ X$ 280	Arneodo 86H	mult	$\mu^+ X$ Bari 85	Bari 85	a-dep, p
			$\mu^+ X$?	Benvenuti 86	a-dep, p
			$J/\psi(1S) X$ 280	Aubert 84C	cs, p
			$D^0 X$ 280	Grab 87	cs
			$D^0 X + \bar{D}^- X$ 280	Aubert 85	cs
			$\mu^+ charge$ 280	Arneodo 88B	p
$\mu^+ deuteron$				$\mu^+ C$	
$\mu^- \mu^+ X$ 280	Grab 87		$inelastic$	110 - 120	Kopp 85
$\mu^+ \mu^+ X$ 280	Aubert 85		$\mu^+ X$	100 - 280	Ashman 88
				120 - 280	Benvenuti 87
					Benvenuti 87C
				280	Arneodo 89B
					Arneodo 88
			$\mu^+ bottom X$	200	Benvenuti 85
			$\mu^+ bottom X$	200	Benvenuti 85
			$2\mu^- \mu^+ X$	200	Benvenuti 85
			$D^0 \bar{D}^0 \mu^+ X$	200	Benvenuti 85
			$D^+ \bar{D}^0 \mu^+ X$	200	Benvenuti 85
			$\bar{D}^0 D^- \mu^+ X$	200	Benvenuti 85
			$\bar{D}^0 D^- \mu^+ X$	200	Benvenuti 85

$\mu^+ C \rightarrow D^0 D^- \mu^+ X$ $\pi^- p \rightarrow \rho^+ X$

$\mu^+ C$	$\mu^\pm p$	$\pi^- e^-$
$D^0 D^- \mu^+ X$ 200 Benvenuti 85	mult[A] X 100 - 280 Nagy 89 mult[\bar{A}] X 100 - 280 Nagy 89 mult[strange] X 100 - 280 Nagy 89 $p \rho^0 \mu^\pm$ 100 - 280 Nagy 89 μ^\pm nucleon	cs. mult. p cs. mult. p cs. mult. p p. pol
$\mu^+ Nit$	X (34.97 - 75.11) Price 85	Amendolia 86 angp
$\mu^+ X$ 280 Bari 85 a-dep. p	nucleon μ^\pm ? Klein 84B	Amendolia 85 angp
$\pi^+ \pi^- X$ 120 - 200 Ashman 88C mass		
$K^+ K^- X$ 120 - 200 Ashman 88C mass		
$\mu^+ Ca$	X	Verbeure 87
$\mu^+ X$ 280 Arneodo 89B Arneodo 88 p p	(34.97 - 75.11) Price 85 nucleon μ^\pm ? Klein 84B	Gabunia 90 a-dep. mult. p
$\mu^+ Fe$	μ^\pm deuteron	mult[charged] X 40 Baldin 86 col. 360 Aguarbenit 85F p
inelastic 50 - 120 Kopp 85 p	mult[charged] X 100 - 280 Nagy 89 cs. mult. p	mult[charged] (nevtrals) 45 Perpelitsa 88 cs. qnc 38 Boos 87B ang. mult. p. pt
$\mu^+ X$ 93 - 215 Meyers 86 p	$\rho^0 X$ 100 - 280 Nagy 89 cs. p	Grishin 85C cor. mult
120 - 280 Aubert 86B p	ωX 100 - 280 Nagy 89 cs. p	Naudet 86 cor. p
200 Benvenuti 87B a-dep. p	ϕX 100 - 280 Nagy 89 cs. p	
280 Bari 85 a-dep. p	J/ $\psi(1S)$ X 100 - 280 Nagy 89 cs. p	0.0773 Stanislaus 89 p 280 Bonesini 88 p. pt
? Benvenuti 86 a-dep. p	$\mu^\pm [K^+] X$ 100 - 280 Nagy 89 cs. mult. p	Richard 87 p. pt
J/ $\psi(1S)$ X 250 Aubert 84C cs. p	$\mu^\pm [K^-] X$ 100 - 280 Nagy 89 cs. mult. p	Lancor 86B angp. pt
$\mu^- \mu^+ X$ 200 Arneodo 86F -	$\mu^\pm [K^0] X$ 100 - 280 Nagy 89 cs. mult. p	Rutherford 85 p. pt
2 $\mu^+ X$ 200 Arneodo 86F -	$\mu^\pm [A] X$ 100 - 280 Nagy 89 cs. mult. p	Demarzo 87 p. pt
$\mu^+ Cu$	μ^\pm Li	Richard 87 p. pt
$\mu^+ X$ 100 - 280 Ashman 88 a-dep. p	$\tau Li \mu^\pm \gamma$ 0 Ruckstuhl 85B p	Ferbel 86 angp. pt
$\mu^+ Sm$		Amaglobeli 89 asym. pt
$\mu^+ X$ 100 - 280 Ashman 88 a-dep. p	mult[\bar{A}] X 100 - 280 Nagy 89 cs. mult. p	Apokin 89 asym. pt
$\mu^+ nucleus$	mult[strange] X 100 - 280 Nagy 89 cs. mult. p	Apokin 88B angp. asym. p
J/ $\psi(1S)$ X 250 - 280 Fredriksson 87 cs	2strange X 100 - 280 Nagy 89 p	Paub 85 p. pt
p X 32 Rabin 86 ang. angp. p. pt	μ^\pm ^{13}C	Kennett 87 angp. p
$\mu^+ hadron X$ 280 Fredriksson 87 a-dep. p. pt	$^{13}C \mu^\pm \gamma$ 0 Deboer 85	Bonesini 87 p. pt
mult[htrack] shower X 150 Fredriksson 87 cor. mult	μ^\pm ^{24}Mg	Richard 87 p. pt
$\mu^\pm p$	$^{24}Mg \mu^\pm \gamma$ 0 Beltrami 85B	Lancor 86B angp. pt
mult[charged] X 100 - 280 Nagy 89 cs. cs. mult. mult. p. p	μ^\pm ^{28}Si	Rutherford 85 p. pt
$\rho^0 X$ 100 - 280 Nagy 89 cs. p	$^{28}Si \mu^\pm \gamma$ 0 Beltrami 85B	Demarzo 87 p. pt
ωX 100 - 280 Nagy 89 cs. p	μ^\pm nucleus	Richard 87 p. pt
ϕX 100 - 280 Nagy 89 cs. p	$\mu^\pm X$ 400 - 5 · 10 ³ Zatsepin 89 p	Bailly 86 angp. p. pt
J/ $\psi(1S)$ X 100 - 280 Nagy 89 cs. p	$\mu^\pm X$ 32 Rabin 85 angp. p	Bajramov 89 p
mult[K ⁺] X 100 - 280 Nagy 89 cs. mult. p	hadron X 4.999 - 150 Asatiani 85 angp. cs. mult	Paub 85 p. pt
mult[K ⁻] X 100 - 280 Nagy 89 cs. mult. p	μ^\pm mult[fragt] 32 Rabin 88 angp. p	Bailly 87G cs. p. pt
mult[K ⁰] X 100 - 280 Nagy 89 cs. mult. p	nucleus $\rho^0 \mu^\pm$ 100 - 280 Nagy 89 p. pol	Bailly 87H cs. p. pt
		Verbeure 87 s. p.
		ηX 3.3 - 4.75 Arkhipov 88 angp. mass
		40 Arkhipov 87 mass
		Amaglobeli 89 asym. pt
		Apokin 89 asym. pt
		Bonesini 89 cs. p. pt
		Richard 87 p. pt
		Bailly 87G cs. p. pt
		Bailly 87H cs. p. pt
		Verbeure 87 s. p.
		$\rho^+ X$ 250 Adamus 87G cs
		360 Aguilarbenit 89 cs. p. pt

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_1 , eV. See the legend on page 153.

$\pi^- p \rightarrow \rho^- X$ $\pi^- p \rightarrow n \pi^0$

$\pi^- p$	$\pi^- p$	$\pi^- p$
$\rho^- X$	$D_s^+ X$	$A_c^+ X$
250 Adamus 87B cs	360 Aguilarbenit 89	360 Klein 89C
360 Aguilarbenit 89 cs, p, pt	360 Aguilarbenit 86D cs	Aguilarbenit 87H
$\rho^0 X$	$D^*(2010)^0 X$	Aguilarbenit 86D
5 Antos 87 pol	360 Aguilarbenit 85C cs	Klein 89C
38 Bannikov 88 angp	360 Aguilarbenit 86B cs, p, pt	Aguilarbenit 87H
250 Adamus 87B cs	$D^*(2010)^0 X$	Aguilarbenit 86D
360 Aguilarbenit 89 cs, p, pt	360 Aguilarbenit 86B cs, p, pt	cs, p, pt
ωX	$D^*(2010)^+ X$	$\bar{A}_c^- X$
250 Bailly 87C cs	360 Aguilarbenit 86B cs, p, pt	360 Aguilarbenit 87H
$\eta' X$	$D^*(2010)^- X$	Aguilarbenit 86D
360 Bailly 87G cs, p, pt	13 Christenson 85 cs	cs, p, pt
Bailly 87H cs, p, pt	360 Aguilarbenit 86B cs, p, pt	38
Aguilarbenit 86C cs	360 Aguilarbenit 86B cs, p, pt	40
ϕX	$K^+ X$	ΔX
360 Aguilarbenit 89 cs, p, pt	58 Paub 85 p, pt	4 - 205 Panagiotou 89
$a_1(1260)^0 X$	360 Paub 85 p, pt	Boos 87B p, pol, pt
100 Chapin 85 cs	Baily 87G cs, p, pt	Gabunia 89 a-dep, mult
$f_2(1270) X$	Baily 87H cs, p, pt	Baldin 85B col, p
360 Bailly 87C cs, p, pt	Verbeure 87 cs, p	Grishin 85 mult, p
$\pi_2(1670)^0 X$	$K^- X$	Grishin 85B cs, p, pt
100 Chapin 85 cs	58 Paub 85 p, pt	Baily 86 cs, p
$p_3(1690)^0 X$	360 Paub 85 p, pt	Baily 86
360 Bailly 87C cs, p, pt	Baily 87G cs, p, pt	cs, p
$\chi_{c0}(1P) X$	Baily 87H cs, p, pt	$\Sigma(1385 P_{13})^+ X$
27 Prokoshkin 87C a-dep, p, pt	Verbeure 87 cs, p	16 Karnaughov 86
$D^0 X$	$K^0 X$	$\Sigma(1385 P_{13})^- X$
360 Aguilarbenit 87B -	40 Gubunia 89 a-dep, mult	16 Karnaughov 86
Aguilarbenit 87D -	4.35 - 4.85 Aleshin 85 cs	$\text{anomalon} X$
Aguilarbenit 87E -	360 Aguilarbenit 89 cs, p, pt	360 Aguilarbenit 85F
Aguilarbenit 87F -	4.35 - 4.85 Aleshin 85 cs	-
Aguilarbenit 86 -	360 Aguilarbenit 89 cs, p, pt	$\text{bottom} X$
Aguilarbenit 86D -	40 Gubunia 89 a-dep, mult	200 Arenton 86
cs, p, pt	4.35 - 4.85 Aleshin 85 cs	$\text{hadron}^+ X$
Aguilarbenit 85E -	360 Aguilarbenit 89 cs, p, pt	360 Bailly 86
cs, p, pt	4.35 - 4.85 Aleshin 85 cs	$\text{hadron}^- X$
$\bar{D}^0 X$	$K^*(892)^- X$	360 Bailly 86
360 Aguilarbenit 87B -	4.35 - 4.85 Aleshin 85 cs	jet X
Aguilarbenit 87D -	360 Aguilarbenit 89 cs, p, pt	40 Baldin 88B ang, p
Aguilarbenit 87E -	4.35 - 4.85 Aleshin 85 cs	Baldin 85 angp, p
Aguilarbenit 87F -	360 Aguilarbenit 89 cs, p, pt	Baldin 85B col, p
Aguilarbenit 86 -	4.35 - 4.85 Aleshin 85 cs	Tannenbaum 89 angp, p, pt
Aguilarbenit 86D -	360 Aguilarbenit 89 cs, p, pt	Arenton 85B ang, col, et, pt
cs, p, pt	4.35 - 4.85 Aleshin 85 cs	$\text{mult}[hadron] X$
Aguilarbenit 85E -	360 Aguilarbenit 89 cs, p, pt	5.7 - 205 Baldin 87 col, p
cs, p, pt	4.35 - 4.85 Aleshin 85 cs	40 Baldin 86B col
$D^0 X + \bar{D}^0 X$	$K^*(892)^0 X$	$\text{mult}[jet] X$
360 Aguilarbenit 85 cs	360 Aguilarbenit 89 cs, p, pt	40 Baldin 86 col
$D^+ X$	$K^*(unspec)^+ X$	$\text{tachyon}^+ X$
360 Aguilarbenit 87B -	16 Karnaughov 87 -	4.5 Perepelitsa 87 cs
Aguilarbenit 87D -	16 Karnaughov 87 -	$\text{tachyon}^- X$
Aguilarbenit 87E -	16 Karnaughov 87 -	4.5 Perepelitsa 87 cs
Aguilarbenit 87F -	16 Karnaughov 87 -	$\pi^0 (\text{neutrals})$
Aguilarbenit 86 -	16 Karnaughov 87 -	200 Kennett 87 angp, p
Aguilarbenit 86D -	16 Karnaughov 87 -	$n \gamma$
cs, p, pt	16 Karnaughov 87 -	0.0773 Stanislaus 89 p
Aguilarbenit 85E -	16 Karnaughov 87 -	0.1217 - 0.2211 Bagheri 87B angp
cs, p, pt	16 Karnaughov 87 -	0.427 - 0.625 Kim 89D angp
$D^- X$	$K^*(unspec)^0 X$	Kim 86 asym
360 Aguilarbenit 85 cs	16 Karnaughov 87 -	0.547 - 0.687 Wightman 88 angp, asym, pol
Aguilarbenit 85E cs, p, pt	1.84 - 2.63 Abramov 88 ang, angp, p	Niebuhr 89 -
cs, p, pt	1.84 - 2.63 Abramov 88 ang, angp, p	Crawford 88 p
$D^- X$	4.9 Blazey 85 ang, angp, p	Crawford 86 p
360 Aguilarbenit 87B -	30 Abreu 85 a-dep, p, pt	0.0456 - 0.1219 Bagheri 87 angp, pwa
Aguilarbenit 87D -	100 Abreu 85 a-dep, p, pt	0.1006 - 0.1471 Fitzgerald 86 angp
Aguilarbenit 87E -	360 Chapin 85 angp, mass	0.301 - 0.625 Kim 90 angp, asym
Aguilarbenit 87F -	360 Baily 87G cs, p, pt	Kim 89 angp
Aguilarbenit 86 -	360 Baily 87H cs, p, pt	0.547 - 0.687 Wightman 88 angp, asym, pol
Aguilarbenit 86D -	360 Verbeure 87 cs, p	Arndt 85 angp, asym
cs, p, pt	30 Abreu 85 a-dep, p, pt	Suzuki 87 angp
Aguilarbenit 85E cs, p, pt	30 Abreu 85 a-dep, p, pt	2.969 - 3.965 Minowa 87 angp
cs, p, pt	30 Abreu 85 a-dep, p, pt	4.314 - 18.7 Zhokin 89 cs
$D_s^- X$	$\bar{p} X$	39.1 Apokin 86C angp, cs
360 Aguilarbenit 86D cs	$\Delta(1232 P_{33})^{++} X$	
Aguilarbenit 85C cs	5 Antos 88 angp, cs, p	

$\pi^- p \rightarrow n \pi^0$ $\pi^- p \rightarrow n f_4(2050)$

$\pi^- p$	$\pi^- p$	$\pi^- p$
$n \pi^0$	$N(1700 B)^+ \pi^-$	$n a_2(1320)^0$
40 Siksins 87 amp Apokin 86 angp, asym, pol Kazarinov 85 amp Avvakumov 84 angp, pol Borisov 84 angp, pol	4.5 Aleshin 87 cs n η' 8 - 40 Landsberg 86 ~ 30 - 38 Alde 87B ~ 32.5 Bityukov 90 ~ Landsberg 88 ang, angp, mass	Alde 88E cs, mass, pwa Augustin 88C ~ Boutemeur 88 cs
$p \pi^-$		$n f_0(1400)$
0.03 - 0.67 Brack 89 angp, cs 0.1356 Wiedner 89 amp, angp Wiedner 87 angp 0.2445 - 0.4168 Ottermann 85B angp Felipic 89 angp 0.378 - J.687 Sadler 87 angp, cs Bekrenev 86 pol 0.45 - 0.56 Abaev 88B pol 0.471 - 0.625 Barlow 89 angp, asym, pol Mokhtari 86 angp, asym, cs, pwa Mokhtari 86B pol 0.547 - 0.625 Seftor 89 pol 0.547 - 0.687 Wightman 88 angp, asym, pol Wightman 87 angp, asym, pol Bekrenev 86B angp, asym Arndt 85 amp Alekseev 89 asym Alekseev 88B angp, asym Budkovsky 85 angp, asym	38 Alde 86B ~ 100 Alde 86D angp, cs 39.1 Apokin 86C angp, cs 40 Apokin 85B angp, pol	8.06 Ando 86 ~ 32.5 Augustin 88C mass Bityukov 87 cs Bityukov 85C cs, mass Boltonkin 88 cs Chung 85 ~
	$n a_0(980)^0$	$n f_1(1420)$
	100 Boutemeur 89 cs, pwa Augustin 88C ~ Boutemeur 88 cs	?
	$\Delta(1232 P_{33})^0 \rho^0$	$n \eta(1440)$
	4.314 - 18.7 Zhokin 89 cs	8.06 Ando 86 ~ 8.95 Augustin 88C ~ Takamatsu 89 cs
	$n h_1(1170)$	$n C(1480)$
	8.01 Inagaki 89B cs 8.06 Takamatsu 89 cs	32.5 Bityukov 87 m. ss. pwa Chung 85 ~
	$p b_1(1235)^-$	
	4.5 Aleshin 87C cs, pol Aleshin 87D pol Aleshin 86B cs	?
	$n b_1(1235)^0$	$N(1680 F_{15})^0 \rho^0$
	8.95 Takamatsu 89 cs	4.314 - 18.7 Zhokin 89 cs
	$n a_1(1260)^0$	$n f'_2(1525)$
	8.01 Inagaki 89B cs 8.06 Takamatsu 89 cs	22 Longacre 86 ~ Longacre 86B mass, pwa
	$n p(1450)^0$	$Bityukov 86B angp, cs, pwa$
	8.95 Takamatsu 89 cs	
	$n f_2(1270)$	$Boltonkin 88 cs$
	4.314 - 18.7 Zhokin 89 cs 22 Longacre 86 ~ Longacre 86B	$Boltonkin 87 cs, pwa$
		$Baloshin 84 cs$
		$Alde 86 cs$
4.314 - 76.26 Zhokin 89 angp (3 - 540) Prokoshkin 87C angp 8 - 12 Armstrong 87C angp, cs	39.1 Apokin 86C angp, cs 40 Bolonkin 88 angp, cs	$\Delta(1232 P_{33})^0 f_2(1270)$
		4.314 - 18.7 Zhokin 89 cs
9.9 Armstrong 86F angp, cs Baller 88 angp, cs, pt Blazey 85 angp, mass, pt	39.1 Apokin 86C angp, cs 40 Bolonkin 88 angp, cs	$n f_0(1590)$
		38 Tsukerman 85B ~
20 - 50 Asad 85 angp 40 Antipov 87B angp, cs	8.95 Takamatsu 89 cs 100 Alde 87D cs	38 - 230 Toki 88B ~ 100 Alde 87D cs
< 200 Siksins 87 amp Kazarinov 85 amp	8.95 Augustin 88C ~	100 Alde 86 cs
Hohler 89 angp, pol, pwa	8 Augustin 88C ~	$n p_3(1690)^0$
$\Delta(1232 P_{33})^0 \pi^0$	8.06 Takamatsu 89 cs	?
4.314 - 18.7 Zhokin 89 cs	8.95 Takamatsu 89 cs	$n p(1700)^0$
$\Delta(1232 P_{33})^- \pi^+$	8.95 Augustin 88C ~	Takamatsu 89 cs
4.314 - 18.7 Zhokin 89 cs 9.9 Baller 88 angp, cs, pt	32.5 Bityukov 87 mass, pwa	$n f_2(1720)$
$n \eta$	32.5 Bityukov 87 cs	22 Longacre 86 ~ Longacre 86B
8 - 40 Landsberg 86 ~ 32.5 Landsberg 88 ang, angp, mass	8 Augustin 88C ~	$n p_3(1690)^0$
39.1 Apokin 86C angp, cs 40 Apokin 85B angp, pol	8.06 Birman 88 ang, angp Takamatsu 89 cs	40 Fukui 88 angp, mass
$p \rho^-$	8.95 Takamatsu 89 cs	$n p(1700)^0$
4.314 - 18.7 Zhokin 89 cs 9.9 Baller 88 angp, cs, pt	8.95 Augustin 88C ~	Takamatsu 89 cs
	32.5 Bityukov 87 mass, pwa	$n f_2(1720)$
		40 Bolonkin 88 cs
	$n f_1(1285)$	$n f_0(1750)$
	8 Augustin 88C ~	40 Bolonkin 88 cs
		$n f_2(1810)$
		22 Longacre 86 ~ Longacre 86B
		$n f_2(2010)$
		100 Alde 87D mass, pwa
Θn^1		$n f_2(2010)$
8 - 40 Landsberg 86 ~ 32.5 Landsberg 88 ang, angp, mass	22 Augustin 88C ~ Bityukov 89 cs, mass	22 Augustin 88C ~ Longacre 87 ~
39.1 Bityukov 87 cs 40 Apokin 86C angp, cs	22 Augustin 88C ~ Bityukov 88 ~	Longacre 86B ~ Tsukerman 85B ~
Avvakumov 86B angp, asym	?	100 Bolonkin 88 cs
$\Delta(1232 P_{33})^0 \eta$	$N(2100 B)^+ \pi^-$	$N(1680 F_{15})^0 f_2(1270)$
3.3 Arkhipov 85 angp, cs 3.3 - 4.75 Arkhipov 87 angp, cs ? Arkhipov 88 ~	4.5 Aleshin 87 cs	4.314 - 18.7 Zhokin 89 cs
	$n a_2(1320)^0$	$n f_4(2050)$
	40 Bolonkin 88 cs Bolonkin 87 cs, pwa Apel 85 cs Boutemeur 89 cs, pwa	38 Alde 90 angp, cs 40 Bolonkin 88 cs 40 Bolonkin 87 cs, pwa 100 Alde 86 cs
$N(1680 F_{15})^0 \pi^0$	100	
4.314 - 18.7 Zhokin 89 cs		

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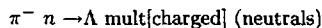
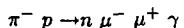
$$\pi^- p \rightarrow n f_4(2220)$$

$\pi^- p \rightarrow \pi^0$ mult[charged] (neutrals)

$\pi^- p \rightarrow \pi^+ \text{ mult[charged]} \text{ (neutrals)}$ $\pi^- p \rightarrow n 2\gamma \text{ } (\gamma's)$

$\pi^- p$	$\pi^- p$	$\pi^- p$
$\pi^+ \text{ mult[charged]} \text{ (neutrals)}$		$\Delta K^*(892)^+ \pi^-$
5 Bajramov 86	mult, p, pt	4.35 - 4.85 Aleshin 85
$\pi^- \text{ mult[charged]} \text{ (neutrals)}$		$n K^*(892)^0 K_S + n K^*(892)^- K^+$
5 Bajramov 86	mult, p, pt	8 Toki 88B mass
$n 2\gamma$		$n K^*(892)^0 K_S + n K^*(892)^0 K_S$
13 Chiang 86	mass	21.4 Toki 88B mass
$n e^- e^+$		$n 2K_S$
0 Niebuhr 89	ang, angp, mass	22 Longacre 86
13 Chiang 86	mass	Longacre 86B
$p \pi^- \gamma$		
0 Bovet 84	amp, cs	Alde 88D mass
40 Antipov 89B	angp, cs, mass	Alde 86C mass, p
$n \mu^- \mu^+$		Tsukerman 85B mass
8 - 40 Landsberg 86	-	Toki 88B mass
25 - 33 Landsberg 85	mass	Prokoshkin 87B mass
$n 2\pi^0$		Prokoshkin 87C mass, pwa
25 Apel 85B	ang, mass	Prokoshkin 85 angp, mass
38 Alde 88D	mass	Augustin 85E mass, pwa
39.1 Apokin 88	angp, asym, mass	
40 Prokoshkin 87C	mass	
Apokin 86B	mass	
$p \pi^0 \pi^-$		
0.29 - 0.45 Kernel 89	amp, cs	Toki 88B mass
Kernel 89B		Rath 89 cs
9.9 Heppelmann 85	amp, cs, mass	$n a_0(980)^0 \pi^0$
	dme, pwa	21.4 Toki 88B mass
		22 Rath 89
$n \pi^+ \pi^-$		$n a_0(980)^+ \pi^-$
0.29 - 0.45 Kernel 89B	amp, cs, mass	8 Toki 88B mass
0.4567 Balandin 85	ang	Ando 86
17.2 Rybicki 86	angp, mass, pwa	$n a_0(980)^- \pi^+$
17.2 - 63 Svec 84	-	?
32.5 Rybicki 85	mass, pwa	Ando 86
Landsberg 88		
Landsberg 87	mass, p	
$\Delta(1232 P_{33})^0 2\gamma$		
3.3 - 4.75 Arkhipov 88	-	$\Delta(1232 P_{33})^{++} \rho^- \pi^-$
$n \eta \pi^0$		4.5 Aleshin 87 mass
40 Apel 85	ang, angp, mass, pwa	Aleshin 86B cs
100 Bouteemeur 89	-	$n \eta(1440) \gamma$
Alde 88E	ang, angp, mass, pwa	21.4 Toki 88B
Augustin 88C	mass, pwa	$n a_2(1320)^0 \pi^0$
Boutemeur 88	-	22 Rath 89
Iddir 88	ang, angp, mass, pwa	$n \eta' \eta$
		38 Alde 88D mass
		38 - 100 Tsukerman 85B mass
		38 - 100 Augustin 88C mass
		38 - 100 Toki 87 mass
		38 - 100 Alde 86E mass
		38 - 100 Toki 88B mass
		38 - 100 Prokoshkin 87B mass
		38 - 100 Prokoshkin 85 mass, pwa
$p \eta \pi^-$		$n 2\omega$
4.5 Aleshin 86B	cs	38 Alde 90 mass
6 Takamatsu 89	mass, pwa	$n 2\eta'$
		40 Prokoshkin 85 mass, pwa
$n p^0 \gamma$		$n 2\phi$
32.5 Bityukov 89	cs, mass	22 Augustin 88C mass
$n \omega \pi^0$		Etkin 88 mass, pwa
8.95 Takamatsu 89	mass, pwa	Longacre 87 mass, pwa
$p \omega \pi^-$		Etkin 85 mass, pwa
4.5 Aleshin 87D	ang, angp, mass, p, pwa	Tsukerman 85B mass
Aleshin 86B	cs	Augustin 85E mass
$n \phi \gamma$		$\Delta K^0 \pi^0$
32.5 Augustin 88C	mass	4.35 - 4.85 Aleshin 85
Bitukov 88	ang, mass	$\Delta K^+ \pi^-$
Landsberg 87	mass, p	4.35 - 4.85 Aleshin 85
Prokoshkin 87B	mass, p	$\Sigma^0 K^+ \pi^-$
$n \eta' \pi^0$		4.35 - 4.85 Aleshin 85
100 Bouteemeur 89	-	$n K^+ K^-$
		32.5 Landsberg 88 ang, angp, mass
		Landsberg 87 mass, p
		$p K^0 K^-$
		4.35 - 4.85 Aleshin 85

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.



$\pi^- n \rightarrow \bar{\Lambda}$ mult[charged] (neutrals) $\pi^- {}^3\text{He} \rightarrow p$ 2n

$\pi^- n$	π^- nucleon	π^- deuteron
$\bar{\Lambda}$ mult[charged] (neutrals) 21 Stopa 87 cs, mult	$\Sigma(1385 P_{13})^-$ vee charged X 200 Mikocki 86 cs, p, pt	$\mu^- \mu^+ X$ 286 Bordalo 87B a-dep, pt
π^- nucleon	$\Sigma(1385 P_{13})^+$ vee charged X 200 Mikocki 86 cs, p, pt	$\bar{\Lambda} K_S X$ 21 Guanziroli 88 a-dep, pt
γX 4 Artykov 86B angp, cs, mult, p, pt	Ξ^- vee charged X 200 Mikocki 86 cs, p, pt	$\bar{\Lambda} K_S X$ 21 Richard 87 angp
$\pi^0 X$ 4 Artykov 86B cs, mult, p, pt	Ξ^- vee charged X 200 Mikocki 86 cs, p, pt	$2K_S X$ 21 Stopa 87 cs, mult
$\pi^+ X$ 50 Bajramov 89 p	nucleon $\pi^+ 2\pi^-$ 200 Joyner 89 cs, mass	$\Delta K_S X$ 21 Stopa 87 cs, mult
$\pi^- X$ 50 Bajramov 89 p	nucleon $2\eta \pi^-$ 300 Augustin 88C mass	$\bar{\Lambda} K_S X$ 21 Stopa 87 cs, mult
$D^*(2010)^+ X$ 250 Fitch 86 cs, p	nucleon $\pi^- 4\gamma$ 300 Augustin 88C mass	$\Delta \bar{\Lambda} X$ 21 Stopa 87 cs, mult
$D^*(2010)^- X$ 250 Fitch 86 cs, p	nucleon $\pi^- 8\gamma$ 300 Alde 87C mass	K_S mult[charged] (neutrals) 21 Stopa 87 cs, mult
nucleon $a_3(2050)^-$ 200 Joyner 89 cs	π^- deuteron	Δ mult[charged] (neutrals) 21 Stopa 87 cs, mult
$DD < K^+ \bar{K}^0 2\pi^- >$ nucleon 200 Mikocki 86 cs	dibaryon	$\bar{\Lambda}$ mult[charged] (neutrals) 21 Stopa 87 cs, mult
$DD < K^0 K^- \pi^+ \pi^- >$ nucleon 200 Mikocki 86 cs	? Stanislaus 89	$2n \gamma$ 0.0773 Stanislaus 89 p
$\mu^- \mu^+ X$ 80 Palestini 85 angp, mass, p, pt	mult[charged] (neutrals) 38 Boos 87B ang, mult, p, pt	deuteron $\pi^- \gamma$ 0 Bovet 84 amp, cs
252 Conway 89 angp, mass, p, pt	γX 0.0773 Stanislaus 89 p	$p n \pi^-$ 0.25 – 0.65 Boschitz 86 angp, dme, pol
$D^0 \pi^+ X$ 250 Fitch 86 mass	$\pi^0 X$ 40 Amaglobeli 89 asym, pt	$2K_S$ mult[charged] (neutrals) 21 Goetz 85 angp, p
$D^0 \pi^- X$ 250 Fitch 86 mass	Apokin 89 asym, pt	ΔK_S mult[charged] (neutrals) 21 Stopa 87 cs, mult
bottom bottom X 320 Catanesi 88 cs	Apokin 88C angp, asym, p	$\bar{\Lambda} K_S$ mult[charged] (neutrals) 21 Stopa 87 cs, mult
nucleon $\pi^0 \pi^-$ 300 Alde 88B p, pt	ηX 40 Amaglobeli 89 asym, pt	$\Delta \bar{\Lambda}$ mult[charged] (neutrals) 21 Stopa 87 cs, mult
nucleon $\eta \pi^-$ 300 Alde 88B p, pt	Apokin 89 asym, pt	$2n \pi^+ \pi^-$ 0.2146 Ashery 88 angp, mass
nucleon $\rho^0 \pi^-$ 200 Joyner 89 cs	$p X$ 0.1947 – 0.5212 Arvieux 84C	0.4075 Parker 89 mass
nucleon $\eta' \pi^-$ 300 Alde 88B p, pt	1.84 – 2.63 Abramov 88	$\pi^- {}^3\text{He}$
nucleon $f_0(1240) \pi^-$ 200 Joyner 89 cs	ang, angp, p	${}^3\text{H} \pi^-$ 0.2445 – 0.3314 Pillai 88 angp
nucleon $f_0(1590) \pi^-$ 300 Augustin 88C Alde 87 cs, p	ΔX 21 Stopa 87 cs, mult, p, pt	π^- π^- 0.4693 – 0.5985 Boswell 86 p
nucleon $f_2(1720) \pi^-$ 300 Augustin 88C –	deuteron π^- 0.143 – 0.256 Smith 87C angp, asym	deuteron n 0.1461 – 0.1731 Aniol 85 cs
nucleon π^- meson ⁰ 300 Alde 87C p	0.2 – 1.2 Yokosawa 85 –	${}^3\text{H} \pi^0$ 0 Backenstoss 85 cs
$K^+ 2\pi^- X$ 250 Fitch 86 mass	0.2189 – 0.4105 Yokosawa 85 –	${}^3\text{He} \pi^-$ 0.1922 – 0.3183 Marx 86 angp
$K^- 2\pi^+ X$ 250 Fitch 86 mass	0.2236 – 0.4421 Ottermann 85B angp	0.2445 – 0.3314 Pillai 88 angp
$K^*(892)^+ vee charged X$ 200 Mikocki 86 cs, p, pt	0.2248 – 0.4168 Boschitz 86 angp, dme, pol	${}^3\text{H} n$ 0.59 – 0.68 Peng 89 angp, p
$K^*(892)^- vee charged X$ 200 Mikocki 86 cs, p, pt	0.2353 – 0.3701 Ungricht 85 angp, pol, pwa	0.68 Peng 87 angp, p
K_S vee charged X 200 Mikocki 86 cs, p, pt	0.2422 Blankleider 84 –	$2\gamma X$ 0.59 – 0.68 Peng 89 mass
Δ vee charged X 200 Mikocki 86 cs, p, pt	0.3 – 1.2 Yokosawa 85C –	$p n X$ < 0.2875 Redwine 86 cs
$\bar{\Lambda}$ vee charged X 200 Mikocki 86 cs, p, pt	0.86 – 1.16 Abramov 89B angp	deuteron $n \gamma$ 0 Backenstoss 85 cs
$\Sigma(1385 P_{13})^+$ vee charged X 200 Mikocki 86 cs, p, pt	0.98 – 3.09 Abramov 87 angp	$p 2n$ 0.1461 – 0.1731 Aniol 85 cs
$\Sigma(1385 P_{13})^-$ vee charged X 200 Mikocki 86 cs, p, pt	1.75 – 3.09 Abramov 85 angp	0.22 Backenstoss 85B angp, cs
	dibaryon π^+ 0.2146 Ashery 88 angp, cs	
	$2\gamma X$ 40 Amaglobeli 89 asym, mass	
	$\mu^- \mu^+ X$ 140 – 286 Bordalo 87 a-dep, p	

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$\pi^- {}^3\text{He} \rightarrow \text{3nucleon}$ $\pi^- \text{Be} \rightarrow \text{Be } a_1(1260)^-$

$\pi^- {}^3\text{He}$		$\pi^- \text{Li}$		$\pi^- \text{Be}$
3nucleon		charged- X		$\pi^+ \text{X}$
0.22	Backenstoss 85B angp, cs	40 Boos 88	a-dep. mult	0.2875 - 0.353 Gram 89
$\pi^- {}^4\text{He}$		mult[charged+] X		$\rho^0 \text{X}$
X		40 Boos 88	a-dep. mult	300 Benayoun 87B
0.1283 - 0.4168	Marx 86	mult[charged-] X		ϕX
0.2707	Marx 86	40 Boos 88	a-dep. mult	100 Dijkstra 86D 100 - 200 Dijkstra 86
inelastic		$\pi^+ \text{X}$		300 mult. p, pt Benayoun 87B
0.2707	Marx 86	1.5 P-klej 86	angp, p	$f_2(1270) \text{X}$
${}^4\text{He } \pi^-$		grey X		300 Benayoun 87B
0.0853 - 0.2875	Marx 86	40 Boos 88	a-dep. mult	$\eta(1440) \text{X}$
0.1283 - 0.4168	Marx 86	mult[grey] X		300 Benayoun 87B
0.2707	Marx 86	40 Boos 88	a-dep. mult	$f_2(1720) \text{X}$
${}^3\text{H } \pi^-$		X star		300 Benayoun 87B
0.2189 - 0.3183	Balestra 86	40 Boos 88	a-dep. mult	$\eta_c(1S) \text{X}$
0.2605	Marx 86	charged+ X star		85 Booth 86
2p 2n π^-		40 Boos 88	a-dep. mult	$J/\psi(1S) \text{X}$
0.2189 - 0.3183	Balestra 86	charged- X star		125 Katsanevas 87
		40 Boos 88	a-dep. mult	a-dep, cs, p, pt
$\pi^- \text{He}$		mult[charged+] X star		$\chi(3455) \text{X}$
$\pi^+ \text{X}$	0.2875 - 0.353 Gram 89	40 Boos 88	a-dep. mult	190 Bauer 85
$\pi^- \text{X}$	0.4693 - 0.5985	mult[charged-] X star		$\chi_{c1}(1P) \text{X}$
	Boswell 86	40 Boos 88	a-dep. mult	190 Bauer 85
$\pi^- {}^6\text{Li}$		grey X star		$\chi_{c2}(1P) \text{X}$
$\pi^+ \text{X}$	0.2875 - 0.353 Gram 89	40 Boos 88	a-dep. mult	190 Bauer 85
$\pi^- \text{X}$	0.4693 - 0.5985	mult[grey] X star		$D^0 \text{X}$
		40 Boos 88	a-dep. mult	200 Grab 87
$\pi^- {}^7\text{Li}$		X		Palka 87
$\pi^+ \text{X}$	0.163 - 0.2537 Marx 86	0.163 - 0.2537 Marx 86	cs	Bailey 85C
p X	0.2707 Marx 86	0.2707 Marx 86	cs	
0 Amelin 90				$\bar{D}^0 \text{X}$
1.5 Burgov 87				200 Palka 87
	a-dep, angp, p			$\bar{D}^0 \text{X} + D^- \text{X}$
5 Bayukov 85D	angp, p	0.2875 - 0.353 Gram 89	a-dep, cs	200 Bailey 85C
Gavrilov 85B				$D^\pm \text{X}$
	a-dep, angp, p			200 Bailey 85C
n X		p X		$D^+ \text{X}$
5 Bayukov 85D	angp, p	0 Amelin 90	p	200 Palka 87
Gavrilov 85B		5 Bayukov 85D	angp, p	Palka 87B
	a-dep, angp, p	Gavrilov 85B	a-dep, angp, p	cs, p
deuteron X		n X		$D^- \text{X}$
0 Amelin 90		5 Bayukov 85D	angp, p	200 Palka 87
1.5 Burgov 87		Gavrilov 85B	a-dep, angp, p	Palka 87B
	a-dep, angp, p			$D^+ \text{X} + D^0 \text{X}$
5 Gavrilov 85B	angp, p	0 Amelin 90	p	200 Bailey 85C
	a-dep, angp, p	5 Gavrilov 85B	angp, p	$D^*(2010)^+ \text{X} + D^*(2010)^- \text{X}$
${}^5\text{H } p$				200 Bailey 85C
0 Amelin 90	cs, mass	${}^3\text{H } X$		$\text{meson}^0 \text{X}$
${}^4\text{H deuteron}$	0 Amelin 90	0 Amelin 90	p	85 Augustin 88C
He p n π^-	0 Doerr 86	0 Amelin 90	cs, mass	Booth 85
${}^3\text{H deuteron } p \pi^-$	0 Doerr 86	0 Amelin 90	cs, p	mass
${}^3\text{He deuteron } n \pi^-$	0 Doerr 86	0 Amelin 90	cs, p	
${}^3\text{H } 2p \pi^-$	0 Doerr 86	0 Amelin 90	cs, p	$p \text{X}$
2deuteron p n π^-	0 Doerr 86	0 Amelin 90	cs, p	0 Gornov 88
deuteron 2p 2n π^-	0 Doerr 86	0 Amelin 90	cs, p	Gornov 87B a-dep, p
3p 3n π^-	0 Doerr 86	0 Amelin 90	cs, p	Gornov 86B a-dep, p
$\pi^- \text{Li}$		${}^3\text{H } p$		Vorobiev 85B pol
charged+ X	40 Boos 88	0 Gornov 87	mass	Bayukov 85D angp, p
		0 Gornov 87	mass	Antipov 87 p
		0 Gornov 87	mass	
$\pi^- \text{Be}$		${}^5\text{H } {}^3\text{H } p$		$n \text{X}$
inelastic	1.26 - 2.5	0 Gornov 87	mass	5 Bayukov 85D angp, p
e+ X	200 Kuzichev 89	0 Gornov 87	mass	0 Gornov 87B a-dep, p
e- X	200 Palka 87B	0 Gornov 87	mass	0 Gornov 86B a-dep, p
		0 Gornov 87	mass	
		0 Gornov 87	mass	
$\pi^- \text{Be}$		${}^4\text{He } X$		${}^4\text{He } X$
inelastic	1.26 - 2.5	0 Kuzichev 89	a-dep, cs	0 Gornov 87B a-dep, p
e+ X	200 Palka 87B	0 Kuzichev 89	a-dep, cs	0 Gornov 86B a-dep, p
e- X	200 Palka 87B	0 Kuzichev 89	a-dep, cs	
		0 Kuzichev 89	a-dep, cs	
		0 Kuzichev 89	a-dep, cs	
$\text{Be } a_1(1260)^-$	40 Zajmidoroga 85			mass, pwa

$\pi^- \text{Be} \rightarrow \mu^+ e^- X$ $\pi^- {}^{12}\text{C} \rightarrow 3p X$

$\pi^- \text{Be}$	$\pi^- \text{Be}$	$\pi^- \text{Be}$
$\mu^+ e^- X$ 200	Grab 87 Palka 87	mass mass
$\mu^- e^+ X$ 200	Grab 87 Palka 87	mass mass
$\mu^- \mu^+ X$ 125	Katsanevas 87 a-dep, mass	
$\pi^+ \pi^- X$ 190	Bauer 85	mass
$\rho^0 \text{ charged } X$ 300	Benayoun 87B	mass, pt
$\phi \pi^+ X$ 100	Dijkstra 86C	mass
$\phi \pi^+ X$ 200	Dijkstra 86C	mass
$\phi \pi^- X$ 100	Dijkstra 86C	mass
$\phi \pi^- X$ 200	Dijkstra 86C	mass
$2\phi X$ 85	Augustin 88C Booth 86 Augustin 85E Booth 85	mass ang, pwa mass mass
$J/\psi(1S) \gamma X$ 190	Bauer 85	mass
$D(\text{unspec}) D(\text{unspec}) X$ 200	Bailey 85C	-
$D^0 \bar{D}^0 X$ 200	Bailey 85	mass
$D^+ \bar{D}^0 X$ 200	Bailey 85	mass
$D^0 D^- X$ 200	Bailey 85	mass
$D^+ D^- X$ 200	Bailey 85	mass
$K^*(892)^0 e^- X$ 200	Palka 87	mass
$K^*(892)^0 e^+ X$ 200	Palka 87	mass
$K^*(892)^0 e^- X + K^*(892)^0 e^+ X$ 200	Palka 87B	mass
$K^+ \phi X$ 100	Dijkstra 86C	mass
$K^+ \phi X$ 200	Dijkstra 86C	mass
$K^- \phi X$ 100	Dijkstra 86C	mass
$K^- \phi X$ 200	Dijkstra 86C	mass
$K^+ K^- X$ 100 - 200	Dijkstra 86 ang, dme, mass	
$K_S \phi X$ 300	Benayoun 87B	mass, pt
$K_S \phi X$ 100	Dijkstra 86C	mass
$K_S \phi X$ 200	Dijkstra 86C	mass
$D^0 \text{ charmed-meson } X$ 200	Ginther 87	cs
$D^0 \text{ charmed-meson } X$ 205	Mooney 89	cs
$D_s^- \text{ charmed-meson } X$ 200	Ginther 87	cs
$D_s^+ \text{ charmed-meson } X$ 200	Ginther 87	cs
$D^*(2010)^- \text{ charmed-meson } X$ 200	Ginther 87	cs
$D^*(2010)^+ \text{ charmed-meson } X$ 200	Ginther 87	cs
$D^*(2010)^+ \text{ charmed-meson } X$		
$\text{charmed-meson } X$		
205	Mooney 89	cs
$\text{charmed-meson } X$		
200	Ginther 87	cs
205	Mooney 89	cs
$p \phi X$		
100	Dijkstra 86C	mass
200	Dijkstra 86C	mass
$\bar{p} \phi X$		
100	Dijkstra 86C	mass
200	Dijkstra 86C	mass
$\text{Be } \pi^- \gamma$		
40	Antipov 85	ang, angp, p
$\mu^- \mu^+ \gamma X$		
190	Bauer 85	mass
$\pi^+ \pi^- \text{ charged } X$		
300	Benayoun 86	mass, pt
$\pi^+ 2\pi^- X$		
40	Bellini 84	mass, pwa
$\phi \pi^- \mu^+ X$		
200	Ginther 87	mass, p
$\phi \pi^+ \mu^- X$		
200	Ginther 87	mass, p
$J/\psi(1S) \text{ charged } + \text{ charged } - X$		
225	Budd 85	mult, p
$K^+ \pi^- e^+ X$		
200	Palka 87	mass
$K^- \pi^+ e^- X$		
200	Palka 87	mass
$K^+ \pi^- e^+ X + K^+ \pi^+ 2\pi^- e^+ X$		
200	Bailey 85C	-
$K^+ \pi^- e^+ X + K^- \pi^+ e^- X$		
200	Palka 87B	mass
$K^+ \pi^- e^- X + K^- \pi^+ e^+ X$		
200	Bailey 85C	-
$K^- \pi^+ e^- X + K^- 2\pi^+ \pi^- e^- X$		
200	Bailey 85C	-
$K^+ K^- \pi^+ X$		
100	Dijkstra 86C	mass
200	Dijkstra 86C	mass
$K^+ K^- \pi^- X$		
100	Dijkstra 86C	mass
200	Dijkstra 86C	mass
$K^+ 2K^- X$		
100	Dijkstra 86C	mass
200	Dijkstra 86C	mass
$2K^+ K^- X$		
85	Augustin 88C Booth 86 Augustin 85E Booth 85	mass ang, pwa mass mass
$\pi^- 10\text{Bor}$		
$p X$		
5		
$n X$		
5		
$\text{deuteron } X$		
5		
$\pi^- 11\text{Bor}$		
$p X$		
5		
$n X$		
5		
$\pi^- 12\text{C}$		
X		
0.163 - 0.2537	Marx 86	cs
0.2707	Marx 86	cs
inelastic		
0.2707	Marx 86	cs
$\pi^+ X$		
5		
$\pi^- X$		
5 - 40	Abdinov 84B Bajramov 89	mult, p
5		
$\pi^- X$		
5 - 40	Abdinov 84B Bajramov 89	mult, p
$p X$		
5		
$\text{tribaryon } X$		
?	Abdinov 86B	-
${}^{12}\text{C } \pi^-$		
0.2707	Marx 86	cs
$e^- e^+ X$		
0.2696	Alekseev 87B	angp, cs
$2p X$		
5		
$\pi^+ \text{ mult[grey] } X$		
5 - 40	Bajramov 89	mult, p
$\pi^- \text{ mult[grey] } X$		
5 - 40	Bajramov 89	mult, p
${}^{12}\text{C} * 2\pi^0$		
39.1	Apokin 89B	angp, mass
$\text{mult[charged] 2neutral (neutrals)}$		
40	Angelov 89	col, p
$3p X$		
5		
$\pi^- \text{ Be}$		
$K^- 2\pi^+ e^- X$		
Bailey 85C		-
$K^+ 2\pi^- e^+ X + K^- 2\pi^+ e^- X$		
200	Bailey 85C	-
$K^+ 2\pi^- e^- X + K^- 2\pi^+ e^+ X$		
200	Bailey 85C	-
$2K^+ 2K^- X$		
85	Augustin 88C Booth 86 Booth 85	mass mass mass
$K^+ \pi^+ 2\pi^- e^- X$		
200	Bailey 85C	-
$K^+ \pi^+ 2\pi^- e^+ X$		
200	Bailey 85C	-
$K^+ K^- 2\pi^- \mu^+ X$		
200	Ginther 87	mass, p
$K^+ K^- 2\pi^- \mu^- X$		
205	Mooney 89	mass, p

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

$\pi^- {}^{12}\text{C} \rightarrow 2p$ (p's) X $\pi^- \text{ C} \rightarrow \pi^+ \text{ mult[charged]} \text{ X}$

$\pi^- {}^{12}\text{C}$	$\pi^- \text{ C}$	$\pi^- \text{ C}$
2p (p's) X	ω X	A X
40 Allaberdin 87 angp, cor	38 Bannikov 89B	Fredriksson 87 mult
π^\pm mult[charged] 2neutral (neutrals)	40 Fredriksson 87	Baldin 85B mult
40 Angelov 89 col, p	38 Bannikov 89B	Grishin 85B col, p
p mult[charged] 2neutral (neutrals)	η' X	deuteron X
40 Angelov 89 col, p	f ₀ (975) X	0 Gornov 87B a-dep, p
	40 Fredriksson 87	0.85 - 2.5 Gornov 86B p
	J/ ψ (1S) X	1.5 Burgov 86 angp, p
	38 Jani 87 cs, p, pt	Burgov 87 a-dep, angp, p
	530 Kartik 90 a-dep, cs, p, pt	
inelastic	X_{c1}(1P) X	dibaryon X
1.26 - 2.5 Kuzichev 89 a-dep, cs	38 Jani 87	5 Abdinov 86C
charged X	X _{c2} (1P) X	${}^3\text{He}$ X
38 Barwolff 85 mult	38 Jani 87	0 Gornov 87B a-dep, p
40 Baldin 85B col, p	38 Jani 87	0 Gornov 86B p
charged+ X	$\psi(2S)$ X	${}^3\text{H}$ X
40 Boos 88 a-dep, mult	38 Jani 87 cs	0 Gornov 87B a-dep, p
charged- X	X(unspec) X	0 Gornov 86B p
38 Barwolff 85 mult	530 De 89	mult[p] X
40 Gabunia 90 a-dep, mult, p	mult[γ] X	4 Istmatova 85B
Boos 88 a-dep, mult	4 - 40 Istmatova 85 mult	Baldin 85B mult
	mult[π^\pm] X	5 Abdinov 87 col
	5 Istmatova 85B	40 Baatar 90B
mult[charged+] X	40 Gabunia 89 a-dep, mult	grey X
40 Boos 88 a-dep, mult	K ⁰ X	40 Boos 88 a-dep, mult
mult[charged-] X	K _s X	jet X
40 Boos 88 a-dep, mult	40 Baldin 85B col, p	40 Baldin 88B ang, p
mult[charged] (neutrals)	Grishin 85B cs, p, pt	40 Baldin 85 angp, p
38 Boos 87B ang, mult, p, pt	p X	40 Baldin 85B col, mult
40 Baatar 88 cor, mass, mult, p, pt	0 Gornov 88 a-dep, p	mult[grey] X
	Gornov 87B a-dep, p	40 Boos 88 a-dep, mult
γ X	Gornov 86B a-dep, p	mult[hadron] X
4 Artykov 86B angp, cs, mult, p, pt	Golubeva 89 angp	5.7 - 205 Baldin 87 col, p
40 Besliu 85 p	Burgov 86 angp, p	40 Baldin 86B col
200 Badier 85F pt	Bayukov 85C a-dep, angp, p	mult[jet] X
Bardadinotwi 85 p, pt	1.4 - 5 Bayukov 85F a-dep, p	40 Baldwin 86 col
	Burgov 87 a-dep, p	mult[shower] X
π^0 X	1.1 Golubeva 90 p	4 Istmatova 85B cs
4 Artykov 86B cs, mult, p, pt	1.5 Badier 85E cs, p, pt	C⁰ π^0
200 Badier 85E cs, p, pt	3 Badier 85F pt	39.1 Apokin 86C angp, cs
Bardadinotwi 85 p, pt	5 Bardadinotwi 85 p, pt	C⁰ η
		39.1 Apokin 86C angp, cs
π^+ X	0.2875 - 0.353 Gram 89 a-dep, cs	C⁰ ω
1.4 - 5 Bayukov 85E a-dep, angp, p	30 Bayukov 85D a-dep, p	39.1 Apokin 86C angp, cs
1.5 Buklej 86 angp, p	38 Abreu 85 a-dep, p, pt	C⁰ η'
5 Vorobiev 89B a-dep, angp	40 Barwolff 85 mult	39.1 Apokin 86C angp, cs
Vorobiev 38D a-dep, angp	Bannikov 89 a-dep, angp, cs, mult	C⁰ $a_1(1280)^-$
40 Ananieva 86 mult, p, pt	200 Bardadinotwi 85 p, pt	40 Zajmidoroga 85 mass, pwa
200 Baatar 85 angp, mult, p		
Bardadinotwi 85 p, pt		
		C⁰ f₀(1270)
π^- X	1.4 - 5 Bayukov 85E a-dep, angp, p	39.1 Apokin 86C angp, cs
1.5 Burgov 85 angp, p	30 Abreu 85 a-dep, p, pt	charged- charged X
4 Istmatova 85B mult	1.4 - 5 Bayukov 85C a-dep, angp, p	38 Barwolff 85 angp, mult
9.4 Agakishiev 87C angp	5 Bayukov 85F a-dep, p	38 Barwolff 85 angp, mult
40 Baatar 90B angp, et, p, pt	Bayukov 85D angp, p	2charged X
Baatar 89B angp, et, p, pt	Gabunia 90 a-dep, mult, p	200 Badier 85C cs, pt
Agakishiev 87C angp		Bardadinotwi 85 cs, p, pt
Kopylova 86B angp		
Baatar 85 angp, mult, p		
200 Bardadinotwi 85 p, pt		
		π^\pm mult[charged] X
η X	1.2 - 5 Vorobiev 89C angp	40 Baatar 88B mass, mult, p, pt
38 Bannikov 89B cs	Vorobiev 87B a-dep, angp	
ρ^0 X	3 Vorobiev 88E p, pol	π^+ mult[charged] X
38 Bannikov 89B cs	38 Boos 87B p, pol	5 Bajramov 86 mult, p, pt
40 Fredriksson 87 mult	40 Gabunia 89 a-dep, mult	

$\pi^- C \rightarrow \pi^+ \text{ mult[charged]} X$ $\pi^- C \rightarrow p 2\pi^- X$

$\pi^- C$	$\pi^- C$	$\pi^- C$
$\pi^+ \text{ mult[charged]} X$	$p \text{ mult}[\pi^+] X$	$p(p's) X$
40 Baatar 87 angp, mass, mult, p, pt	5 Asatryan 86 ang, mult, p	40 Angelov 88 angp, col
$\pi^- \text{ mult[charged]} X$	$p \text{ mult}[\pi^\pm] X$	$n \text{ mult}[p] X$
5 Bajramov 86 mult, p, pt	5 Asatryan 86 ang, mult, p	4 Istromatova 85B mult
40 Baatar 89B angp, p	$p \text{ mult}[\pi^-] X$	$\Delta(1232 P_{33})^{++} \text{ jet } X$
Baatar 87 angp, mass, mult, p, pt	5 Asatryan 86 ang, mult, p	40 Baldin 85 ang, p
$\mu^- \mu^+ X$	$\Delta \text{ charged } X$	$\Delta \text{ jet } X$
38 Bannikov 89B ang, mass, pt	38 Barwolff 88 a-dep, cs, mult, p, pt	40 Baldwin 85 ang, p
Jani 87 mass	$\Delta \text{ charged}^- X$	$\text{mult}[p] \text{ shower } X$
$2\pi^0 X$	40 Gabunia 90 a-dep, mult, p	4 Istromatova 85B mult
40 Agakishiev 87B cor	$\bar{\Lambda} \text{ charged } X$	$\text{grey } X \text{ star}$
$\pi^+ \pi^\pm X$	38 Barwolff 88 a-dep, cs, mult	40 Boos 88 a-dep, mult
40 Baatar 85 angp, mult, p	$\text{nucleon } K^0 X$	$\text{mult[grey] } X \text{ star}$
$\pi^- \pi^\pm X$	40 Gabunia 90 a-dep, mult, p	40 Boos 88 a-dep, mult
9.4 Agakishiev 87C angp	$p \bar{p} X$	$\text{shower mult[shower] } X$
40 Agakishiev 87C angp	30 Beusch 86 a-dep, ang, mass, p, pt	40 Aliev 89 angp, cor, mult
Baatar 85 angp, mult, p	$2p X$	$\pi \text{ mult[charged] (neutrals)}$
$2\pi^+ X$	4 - 40 Zielinsky 88 cs, mass	40 Baatar 89 angp, mass, mult, pt
5 Vorobiev 89B angp, cor, pt	Azimov 84B mass	$\text{mult}[\pi] \text{ mult[charged] (neutrals)}$
Vorobiev 88D angp, cor	Azimov 84C mass	40 Baatar 88 cor, mass, mult, p, pt
Agakishiev 87B cor	Zielinsky 88 cs, mass	$p \text{ mult[charged] (neutrals)}$
$2\pi^- X$	Arakelyan 87 angp, cs, mass, p	40 Baatar 89 angp, mass, mult, pt
40 Agakishiev 87B cor	Gulkanyan 87 angp, cs, p	$\text{mult}[p] \text{ mult[charged] (neutrals)}$
$\pi^+ \pi^- X$	5 Zielinsky 88 cs, mass	40 Baatar 88 cor, mass, mult, p, pt
38 Barwolff 88 mass	Arakelyan 87 angp, cs, mass, p	$2\pi^- \text{ fragt}$
$J/\psi(1S) \gamma X$	Gulkanyan 87 angp, cs, mass, p	4.7 Agababyan 85B angp, cs, mass, p
38 Jani 87 mass, p, pt	$\text{nucleon } \Lambda X$	$C \pi^- \gamma$
530 De 89 mass	40 Gabunia 90 a-dep, mult, p	40 Antipov 85 ang, angp, p
$\pi^0 \text{ mult}[\pi^-] X$	$\text{mult}[p] \text{ charged}^- X$	$C \pi^0 \pi^-$
4 Istromatova 85B mult	40 Bannikov 89 angp, mult	40 Antipov 86 angp, mass
$\pi^- \text{ mult}[\pi^-] X$	$\text{mult}[p] \pi^0 X$	40 Antipov 86B angp, p
40 Aliev 89 angp, cor, mult	4 Istromatova 85B mult	40 Antipov 85B cs
$K^0 \text{ charged}^- X$	$\text{hadron mult[charged] } X$	40 Antipov 85C angp, mass
40 Gabunia 90 a-dep, mult, p	40 Baatar 87B angp, cs, mult, p, pt	2hadron (hadrons)
$K_S \text{ charged } X$	$\text{charged}^+ X \text{ star}$	40 Baldwin 88B col
38 Barwolff 88 a-dep, cs, mult, p, pt	40 Boos 88 a-dep, mult	$\mu^- \mu^+ \gamma X$
$p \text{ charged } X$	40 Boos 88 a-dep, mult	38 Bannikov 89B angp, mass, pt
38 Barwolff 85 angp, mult	$\text{charged}^- X \text{ star}$	40 De 89 mass
$p \text{ charged}^+ X$	40 Boos 88 a-dep, mult	$2\pi^0 \pi^- X$
5 Arakelyan 87 angp, cs, mass, p	$\text{mult}[charged^+] X \text{ star}$	40 Agakishiev 87B cor
$p \text{ charged}^- X$	40 Boos 88 a-dep, mult	$\pi^+ 2\pi^- X$
40 Bannikov 89 angp, mult	$\text{mult}[charged^-] X \text{ star}$	40 Bellini 84 mass, pwa
$p \text{ mult[charged] } X$	40 Boos 88 a-dep, mult	$2\pi^+ \pi^- X$
40 Baatar 87 angp, mass, mult, p, pt	$\pi^0 \text{ shower } X$	40 Agakishiev 87B cor
$p \pi^\pm X$	40 Boos 88 a-dep, mult	$2\pi^- \pi^+ X$
40 Baatar 85 angp, mult, p	40 Fredriksson 87 cor, mult	$J/\psi(1S) \pi^+ \pi^- X$
$p \pi^+ X$	$\pi^- \text{ jet } X$	38 Jani 87 mass
40 Anoshin 87 angp, mass, p, pt	40 Baldwin 85 ang, p	$K^0 \bar{K}^0 \text{ charged}^- X$
Baatar 85 angp, mult, p	$\pi^+ \text{ mult}[grey] X$	40 Gabunia 90 a-dep, mult, p
$p \pi^- X$	40 Artykov 90 mult, p, pt	$p 2\pi^0 X$
3 Vorobiev 88E ang, mass, p	$\pi^- \text{ mult}[grey] X$	40 Agakishiev 87B cor
5 Arakelyan 87 angp, cs, mass, p	40 Artykov 90 mult, p, pt	$p \pi^+ \pi^\pm X$
9.4 Agakishiev 87C angp	40 Baldwin 85 ang, p	40 Baatar 85 angp, mult, p
38 Barwolff 88 mass	$K_S \text{ jet } X$	$p \pi^- \pi^\pm X$
40 Agakishiev 87C angp	40 Baldwin 85 ang, p	40 Baatar 85 angp, mult, p
Anoshin 87 angp, mass, p, pt	$p 2\pi^+ X$	$p 2\pi^- X$
Baatar 85 angp, mult, p	40 Agakishiev 87B cor	40 Agakishiev 87B cor
$\bar{p} \pi^+ X$	$K_S \text{ jet } X$	40 Agakishiev 87B cor
38 Barwolff 88 mass	40 Baldwin 85 ang, p	40 Agakishiev 87B cor

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

$\pi^- C \rightarrow \text{nucleon } K^0 \bar{K}^0 X$ $\pi^- Si \rightarrow ^3H X$

$\pi^- C$	$\pi^- Ne$	$\pi^- Al$
nucleon $K^0 \bar{K}^0 X$ 40 Gabunia 90 a-dep, mult. p	$N(1440 P_{11}) X$ 6.2 Amelin 87 $\Delta(1820 S_{31})^- X$ 6.2 Amelin 87 $\Delta(1700 D_{33})^- X$ 6.2 Amelin 87 baryon X 6.2 Amelin 87 $\Delta(1232 P_{33}) X$ 6.2 Amelin 87	$Al^* f_2(1270)$ 39.1 Apokin 86D angp, cs $\mu^- \mu^+ X$ 320 Cobbaert 88B a-dep, mass, p
$2p \gamma X$ 40 Beshliu 85 mass		$J/\psi(1S) \gamma X$ 530 De 89 a-dep, cs, mass, p
$2p \pi^\pm X$ 40 Baatar 85 angp, mult. p		$p \pi^- X$ 3 Vorobiev 88E ang, mass, p
$2p \pi^+ X$ 5 Gulkanyan 87 angp, cs, p		Vorobiev 86 ang, mass
$2p \pi^- X$ 40 Agakishiev 87B cor	$2p X$ 6.2 Zielinsky 88 cs, mass Amelin 87B ang, mass Amelin 86 mass	Beusch 86 a-dep, ang, mass, p, pt
$3p X$ 4 - 40 Azimov 86 mass	mult[p] $\pi^\pm X$ 10.5 - 200 Fredriksson 87 cor, mult	$2p X$ 2.5 Bayukov 85 cor
mult[p] $\pi^+ \pi^-$ fragt 5 Abdinov 86 mass, p	mult[p] mult[π^+] mult[π^-] X 6.2 Amelin 87 angp, mass	$Al \pi^- \gamma$ 40 Antipov 85 ang, angp, p
$4p X$ 4 - 40 Azimov 86 mass		$Al \pi^0 \pi^-$ 40 Antipov 86 angp, mass Antipov 86B angp, p Antipov 85B cs Antipov 85C angp, mass
(p's) $2\pi^- (\gamma's)$ fragt 4.7 Agababyan 85B cs, mass	$\pi^- 24Mg$ (blocks) mult[grey] mult[shower] (neutrals) 100 Biswas 86 cs 320 Biswas 86 cs	$\mu^- \mu^+ \gamma X$ 530 De 89 mass
$\pi^- 14C$	$\pi^- Al$	$\pi^+ 2\pi^- X$ 40 Bellini 84 mass, pwa
$^{14}C \pi^-$ 0.1283 Mishra 85 angp	X 0.2707 Marx 86 cs	$\pi^- 27Al$
$^{14}C \pi^- \gamma$ 0.2696 Holtkamp 85	inelastic 0.2707 Marx 86 cs 1.26 - 2.5 Kuzichev 89 a-dep, cs	^{24}Na 3nucleon 0.1283 - 0.6242 Dropesky 86 cs
$\pi^- 16O$	$\mu^+ X$ 320 Cobbaert 87B a-dep, cs, p	^{18}F 9nucleon 0.1283 - 0.6242 Dropesky 86 cs
$\pi^+ X$ 0.2189 - 0.3851 Wood 85 angp, cs, p	$\mu^- X$ 320 Cobbaert 87B a-dep, cs, p	$\pi^- Si$
$\pi^- X$ 0.3583 Redwine 86 p	$\pi^0 X$ 1.1 Golubeva 90 p	$D^0 X$ 200 Barlag 88 cs, p, pt Barlag 87
$^{15}Nit \pi^-$ 0.353 Redwine 86 angp, p	$\pi^+ X$ 40 Ananieva 86 mult, p, pt	$\bar{D}^0 X$ 200 Barlag 88 cs, p, pt Barlag 87
$^{15}Nit \pi^- \gamma$ 0.353 Redwine 86 angp, p	$J/\psi(1S) X$ 530 Kartik 90 a-dep, cs, p, pt	$D^+ X$ 200 Barlag 88 cs, p, pt Barlag 87
$\pi^- O$	$p X$ 30 Abreu 85 a-dep, p, pt	$D^- X$ 200 Barlag 88 cs, p, pt Barlag 87
$\pi^+ X$ 0.2875 - 0.353 Gram 89 a-dep, cs	$\bar{p} X$ 30 Abreu 85 a-dep, p, pt	$D_S^- X$ 200 Barlag 88 cs, p, pt Barlag 87
$p X$ 1.5 Burgov 87 a-dep, angp, p	ΛX 1.2 - 5 Vorobiev 89C angp Vorobiev 87B a-dep, angp Vorobiev 88E p, pol Vorobiev 86	$D_S^+ X$ 200 Barlag 88 cs, p, pt Barlag 87
deuteron X 1.5 Burgov 87 a-dep, angp, p	charm X 320 Cobbaert 87B a-dep	$D^*(2010)^+ X$ 200 Barlag 88 cs, p, pt
$\pi^- 18O$	charm X 320 Cobbaert 87B a-dep	$D^*(2010)^- X$ 200 Barlag 88 cs, p, pt
$\pi^- X$ 0.3583 Redwine 86 p	$Al^* \pi^0$ 39.1 Apokin 86D angp, cs	$p X$ 0 Gornov 88 a-dep, p Gornov 87B a-dep, p Gornov 86B p
$\pi^- Fl$	$Al^* \pi^-$ 0.2707 Marx 86 cs	deuteron X 0 Gornov 87B a-dep, p Gornov 86B p
$p X$ 5 Bayukov 85D angp, p	$Al^* \eta'$ 39.1 Apokin 86D angp, cs	$^3He X$ 0 Gornov 87B a-dep, p Gornov 86B p
$n X$ 5 Bayukov 85D angp, p	$Al^* \eta'$ 39.1 Apokin 86D angp, cs	$^3H X$ 0 Gornov 87B a-dep, p Gornov 86B p
$\pi^- Ne$	$K^0 X$ 10.5 Fredriksson 87 mult	
$p X$ 30 Tkaczyk 86 p, pt	$Al a_1(1260)^-$ 40 Zajmidoroga 85 mass, pwa	
$\bar{n} X$ 200 Fredriksson 87 mult		

$\pi^- \text{Si} \rightarrow {}^4\text{He X}$ $\pi^- \text{Cu} \rightarrow n \text{X}$

$\pi^- \text{Si}$	$\pi^- \text{Ti}$	$\pi^- \text{Cu}$
${}^4\text{He X}$ 0 Gornov 87B a-dep, p Gornov 86B p	$\text{Ti } a, (1260)^-$ 40 Zajmidoroga 85 mass, pwa	mult[charged+] X 40 Boos 88 a-dep, mult
$\text{DD} < \pi^+ 2\pi^- > \text{Si}$ 40 Vugni 86 angp, mass, pwa	$\pi^+ 2\pi^- \text{X}$ 40 Bellini 84 mass, pwa	mult[charged-] X 40 Boos 88 a-dep, mult
$\text{Si } a_1(1260)^-$ 40 Zajmidoroga 85 mass, pwa	$\pi^- {}^{48}\text{Ca}$	$\pi^+ \text{X}$ 1.4 - 5 Bayukov 85E
$\pi^+ 2\pi^- \text{X}$ 40 Bellini 84 mass, pwa	${}^{47}\text{KK } p \pi^-$ 0.1947 - 0.4168 Ohkubo 85 cs, p	a-dep, angp, p 1.5 Buklej 86 angp, p 40 Ananieva 86 mult, p, pt
${}^{24}\text{Na Snucleon}$ 0.1283 - 0.6242 Dropesky 86 cs	${}^{47}\text{Ca } n \pi^-$ 0.1947 - 0.4168 Ohkubo 85 cs, p	$\pi^- \text{X}$ 1.4 - 5 Bayukov 85E
$K^+ K^- 2\pi^+ 2\pi^- \text{X}$ 200 Barlag 88 mass		a-dep, angp, p
${}^{18}\text{F} \pi \text{nucleon}$ 0.1283 - 0.6242 Dropesky 86 cs		J/ $\psi(1S)$ X 125 Katsanevas 87 530 Kartik 90
$\pi^- \text{S}$	$\pi^- \text{Fe}$	$\pi^- \text{X(unspec)}$ X
charged+ X 40 Boos 88 a-dep, mult	inelastic 1.26 - 2.5 Kuzichev 89 a-dep, cs	De 89
charged- X 40 Boos 88 a-dep, mult	$\mu^+ \text{X}$ 320 Cobbaert 87B a-dep, cs, p	D ⁰ X 230 Barlag 90B
mult[charged+] X 40 Boos 88 a-dep, mult	$\mu^- \text{X}$ 320 Cobbaert 87B a-dep, cs, p	Barlag 90C
mult[charged-] X 40 Boos 88 a-dep, mult	charm X 320 Cobbaert 87B a-dep	Barlag 89B
grey X 40 Boos 88 a-dep, mult	charm X 320 Cobbaert 87B a-dep	Barlag 88C
mult[grey] X 40 Boos 88 a-dep, mult	$\mu^- \mu^+ \text{X}$ 320 Cobbaert 88B a-dep, mass, p	Barlag 88D
X star 40 Boos 88 a-dep, cs	Fe $\pi^- \gamma$ 40 Antipov 85 ang, angp, p	angp, cs, p, pt
charged+ X star 40 Boos 88 a-dep, mult	Fe $\pi^0 \pi^-$ 40 Antipov 86 angp, mass Antipov 86B angp, p Antipov 85B cs Antipov 85C angp, mass	Barlag 88C
charged- X star 40 Boos 88 a-dep, mult		Barlag 88D
mult[charged+] X star 40 Boos 88 a-dep, mult		angp, cs, p, pt
mult[charged-] X star 40 Boos 88 a-dep, mult		Barlag 88C
grey X star 40 Boos 88 a-dep, mult		Barlag 88D
mult[grey] X star 40 Boos 88 a-dep, mult		angp, cs, p, pt
$\pi^- \text{Cl}$	$\pi^- {}^{58}\text{Ni}$	$D^- \text{X}$
x(unspec) X 530 De 89	p X 5 Bayukov 85D angp, p Gavrilov 85B a-dep, angp, p	230 Barlag 88C
$\pi^- {}^{40}\text{Ar}$	n X 5 Bayukov 85D angp, p Gavrilov 85B a-dep, angp, p	Barlag 88D
${}^{40}\text{Ar } \pi^-$ 0.2875 Germont 85C angp	deuteron X 5 Gavrilov 85B a-dep, angp, p	angp, cs, p, pt
$\pi^- {}^{40}\text{Ca}$	$\pi^- \text{Ni}$	$D_S^- \text{X}$
$\pi^+ \text{X}$ 0.2189 - 0.3851 Wood 85 angp, cs, p	p X 5 Bayukov 85D angp, p	230 Barlag 88C
Ca ⁺ π^- 0.2306 Ullmann 85 angp	n X 5 Bayukov 85D angp, p	Barlag 88D
${}^{40}\text{Ca } \pi^- \gamma$ 0.2306 Ullmann 85 angp		angp, cs, p, pt
$\pi^- \text{Ca}$	$\pi^- \text{Cu}$	$K^0 \text{X}$
$\pi^+ \text{X}$ 0.2875 - 0.353 Gram 89 a-dep, cs	X 0.2707 Marx 86 cs inelastic 0.2707 Marx 86 cs 1.26 - 2.5 Kuzichev 89 a-dep, cs	40 Gabunia 89 a-dep, mult
Ca ⁺ π^- 0.2306 Ullmann 85 angp	charged X 38 Barwolff 85 mult	p X 0 Gornov 88 a-dep, p Gornov 87B a-dep, p Gornov 86B p
$\pi^- \text{Ca}$	charged+ X 40 Boos 88 a-dep, mult	Golubeva 89 angp
$\pi^+ \text{X}$ 0.2875 - 0.353 Gram 89 a-dep, cs	charged- X 38 Barwolff 85 mult 40 Gabunia 90 a-dep, mult, p	Bayukov 85C a-dep, angp, p
$\pi^- {}^{48}\text{Sc}$		Bayukov 85F a-dep, p
${}^{44}\text{Ca } p \pi^-$ 0.1947 - 0.4168 Ohkubo 85 cs, p		Burgov 87 a-dep, angp, p
		Bayukov 85D angp, p
		Abreu 85 a-dep, p, pt
		Barwolff 85 mult
		Bannikov 89 a-dep, angp, cs, mult
		Albin 85 a-dep, angp, p
		Vishnyakov 85 angp
$\bar{p} \text{X}$		Abreu 85 a-dep, p, pt
$n \text{X}$		Bayukov 85C a-dep, angp, p
		Bayukov 85D angp, p

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$\pi^- \text{ Cu} \rightarrow \text{nucleon X}$ $\pi^- \text{ Cu} \rightarrow \text{Cu } \pi^- \mu^- \mu^+$

$\pi^- \text{ Cu}$	$\pi^- \text{ Cu}$	$\pi^- \text{ Cu}$
nucleon X 40 Gabunia 90 a-dep, mult, p	charged- charged X 38 Barwolff 85 angp, mult	mult[charged+] X star 40 Boos 88 a-dep, mult
$A_c^+ X$ 230 Barlag 90B Barlag 90C Barlag 90D Klein 89C Barlag 88B Barlag 88C Barlag 88D angp, cs, p, pt Barlag 86 p	2charged X 38 Barwolff 85 angp, mult	mult[charged-] X star 40 Boos 88 a-dep, mult
$K_c^- X$ 230 Barlag 90C p Barlag 90D p Barlag 88C Barlag 88D angp, cs, p, pt Barlag 86 p	$\mu^- \mu^+ X$ 125 Katsanevas 87 a-dep, mass	grey X star 40 Boos 88 a-dep, mult
$E_c(2400) X$ 230 Klein 89C mass	$\pi^+ \pi^- X$ 38 $J/\psi(1S) \gamma X$ 530 De 89 a-dep, cs, mass, p	mult[grey] X star 40 Boos 88 a-dep, mult
$E_c(2400)^+ X$ 230 Barlag 89C cs	K^0 charged- X 230 Gabunia 90 a-dep, mult, p	$Cu \pi^- \gamma$ 40 Antipov 85 ang, angp, p
$E_c(2400)^0 X$ 230 Barlag 90	$K^+ \pi^- X$ 230 Barlag 88D mass	$Cu \rho^0 \pi^-$ 50 Antipov 88B pt
$A X$ 1.2 - 5 Vorobiev 89C angp Vorobiev 87B a-dep, angp 3 40 Vorobiev 88E p, pol Gabunia 89 a-dep, mult	$K^- \pi^+ X$ 230 Barlag 90B mass $K^0 \phi X$ 230 Barlag 88C mass	Antipov 88C ang, mass, pt, pwa Antipov 89 - Antipov 88 -
deuteron X 0 Gornov 87B a-dep, p Gornov 86B p 1.5 Burgov 87 a-dep, angp, p	$K^0 \phi X$ 230 Barlag 88C mass	$K^+ 2\pi^- X$ 230 Bellini 84 mass, pwa
$^3\text{He} X$ 0 Gornov 87B a-dep, p Gornov 86B p	K_S charged X 38 Barwolff 88 a-dep, cs, mult, p, pt	$K^+ 2\pi^- X$ 230 Barlag 88D mass
$^3\text{H} X$ 0 Gornov 87B a-dep, p Gornov 86B p	multi[kaon] multi[π] X 230 Barlag 89B mass	$K^0 2\pi^- X$ 230 Barlag 88C mass
$^4\text{He} X$ 0 Gornov 87B a-dep, p Gornov 86B p	p charged X 38 Barwolff 85 angp, mult	$K^0 K^0$ charged- X 40 Gabunia 90 a-dep, mult, p
mult[p] X 40 grey X 40 Boos 88 a-dep, mult	p charged- X 40 Bannikov 89 angp, mult	$K^+ K^- \pi^+ X$ 230 Barlag 90B mass
\bar{p} $\pi^+ X$ Boos 88 a-dep, mult	p $\pi^- X$ 3 Barovib 88E ang, mass, p	$K^+ K^- \pi^+ X$ 230 Barlag 88D mass
\bar{p} ϕX Boos 88 a-dep, mult	\bar{p} $\pi^+ X$ 38 Barwolff 88 mass	$K^+ K^0 \pi^- X$ 230 Barlag 88C mass
\bar{p} $K^- \pi^+ X$ Barlag 88C mass	\bar{p} ϕX 230 Barlag 88C mass	$K^0 K^- \pi^+ X$ 230 Barlag 88C mass
Λ charged X 38 Barwolff 88 a-dep, cs, mult, p, pt	\bar{p} $K^- \pi^+ X$ 230 Barlag 90B mass	\bar{p} $K^- \pi^+ X$ 230 Barlag 90C mass
Λ charged- X 40 Gabunia 90 a-dep, mult, p	\bar{p} $K^- \pi^+ X$ 230 Barlag 90C mass	\bar{p} $K^- \pi^+ X$ 230 Barlag 90C angp, mass, p
$\bar{\Lambda}$ charged X 38 Barwolff 88 a-dep, cs, mult	\bar{p} $K^- \pi^+ X$ 230 Barlag 88B mass	\bar{p} $K^- \pi^+ X$ 230 Barlag 88C mass
nucleon K^0 X 40 Gabunia 90 a-dep, mult, p	\bar{p} $K^- \pi^+ X$ 230 Barlag 88D mass	\bar{p} $K^- \pi^+ X$ 230 Barlag 88D angp, mass, p
$A_c^+ K^- X$ 230 Barlag 90 Barlag 90 mass	\bar{p} $K^- \pi^+ X$ 230 Barlag 86 angp, mass, p	\bar{p} $K^- \pi^+ X$ 230 Barlag 90C angp, mass, p
p \bar{p} X 30 Beusch 86 a-dep, ang, mass, p, pt	$\Xi^- 2\pi^+ X$ 230 Barlag 89 mass	\bar{p} $K^- \pi^+ X$ 230 Barlag 89C mass
$2p$ X 30 Bayukov 85 cor	$\Xi^+ K^- \pi^+ X$ 230 Barlag 89 mass	$nucleon K^0 K^0$ X 40 Gabunia 90 a-dep, mult, p
nucleon Λ X 40 Gabunia 90 a-dep, mult, p	$nucleon K^0 K^0$ X 40 Gabunia 90 a-dep, mult, p	p $K^*(892)^0 K^- X$ 230 Barlag 90 mass
mult[p] charged- X 40 Bannikov 89 angp, mult	mult[p] charged- X 40 Bannikov 89 angp, mult	$Cu \pi^- \mu^- \mu^+$ 50 Antipov 89 cs, mass, pwa
charged+ X star 40 Boos 88 a-dep, mult	charged+ X star 40 Boos 88 a-dep, mult	
charged- X star 40 Boos 88 a-dep, mult	charged- X star 40 Boos 88 a-dep, mult	

$\pi^- \text{ Cu} \rightarrow \text{Cu } \pi^- \mu^- \mu^+$ $\pi^- \text{ Xe} \rightarrow p \text{ } 0\pi \text{ X}$ $\pi^- \text{ Cu}$ $\text{Cu } \pi^- \mu^- \mu^+$

Antipov 88 cs, mass, p
Antipov 88B cs
Antipov 86C ang, mass, pt, pwa

 $\text{Cu } \pi^+ 2\pi^-$ $K^+ 2\pi^+ \pi^- \text{ X}$ $K^- 2\pi^+ \pi^- \text{ X}$ $K^- 2\pi^+ 2\pi^- \text{ X}$ $\Delta 2\pi^+ \pi^- \text{ X}$ $p K^0 \pi^+ \pi^- \text{ X}$ $\bar{p} K^0 \pi^+ \pi^- \text{ X}$ $p 2K^- \pi^+ \text{ X}$ $K^+ K^- 2\pi^+ \pi^- \text{ X}$ $K^- 64\text{Ni}$ $p \text{ X}$ $n \text{ X}$ deuteron X $\pi^- \text{ Zn}$ $p \text{ X}$ $n \text{ X}$ $\pi^- \text{ Ge}$ $p \text{ X}$ deuteron X $\pi^- \text{ Zr}$ X inelastic $\pi^- \text{ Rh}$ $\pi^+ \text{ X}$ $\pi^- \text{ Ag}$ $\text{Ag } \alpha_1(1260)^-$ $40 \text{ Zajmidoroga 85}$ mass, pwa $\pi^- \text{ Ag}$ $\pi^+ \pi^- \text{ X}$ 40 Bellini 84 mass, pwa $\pi^- 108\text{Ag}$ $(blocks) mult[grey] mult[shower]$ $(neutrals)$ 100 Biswas 86 cs 320 Biswas 86 cs $\pi^- 112\text{Sn}$ $p \text{ X}$ 5 Bayukov 85D angp, p $Gavrilov 85B$ a-dep, angp, p $n \text{ X}$ 5 Bayukov 85D angp, p $Gavrilov 85B$ a-dep, angp, p deuteron X 5 Gavrilov 85B a-dep, angp, p $\pi^- \text{ Cd}$ inelastic $1.26 - 2.5 \text{ Kuzichev 89}$ a-dep, cs $\Delta \text{ X}$ $1.2 - 5 \text{ Vorobiev 89C}$ angp $Vorobiev 87B$ a-dep, angp $n \text{ X}$ 3 Vorobiev 88E p, pol $Vorobiev 86$ ang, mass, p $\pi^- \text{ In}$ $p \text{ X}$ 5 Bayukov 85D angp, p $n \text{ X}$ 5 Bayukov 85D angp, p $\pi^- 118\text{Sn}$ $\text{Sn}^* \pi^-$ $0.2306 \text{ Ullmann 85}$ angp $118\text{Sn} \pi^- \gamma$ $0.2306 \text{ Ullmann 85}$ angp $\pi^- \text{ Sn}$ $p \text{ X}$ 5 Bayukov 85D angp, p $Abreu 85$ a-dep, p, pt $\bar{p} \text{ X}$ 30 Abreu 85 a-dep, p, pt $n \text{ X}$ 5 Bayukov 85D angp, p $\text{Sn}^* \pi^o$ 39.1 Apokin 86D angp, cs $\text{Sn}^* \eta$ 39.1 Apokin 86D angp, cs $\text{Sn}^* w$ 39.1 Apokin 86D angp, cs $\text{Sn}^* \eta'$ 39.1 Apokin 86D angp, cs $\text{Sn}^* f_0(1270)$ 39.1 Apokin 86D angp, cs $\mu^- \mu^+ \text{ X}$ 225 Greenlee 85 mass, p $p \bar{p} \text{ X}$ 30 Beusch 86 $\text{a-dep, ang, mass, p, pt}$ $\pi^- 124\text{Sn}$ $p \text{ X}$ 5 Bayukov 85D angp, p, pt $\pi^- 124\text{Sn}$ $p \text{ X}$ $Gavrilov 85B$ a-dep, angp, p $n \text{ X}$ 5 Bayukov 85D angp, p deuteron X 5 Gavrilov 85B a-dep, angp, p $\pi^- 131\text{Xe}$ $\pi^o \text{ X}$ 3.5 Pavlyak 86 mult $\pi^\pm \text{ X}$ 3.5 Pavlyak 86 mult $\pi^- \text{ X}$ 3.5 Pavlyak 86B mult $\pi^o \pi^- \text{ X}$ 3.5 Pavlyak 86B mult $\pi^- \pi^- \text{ X}$ 3.5 Pavlyak 86B mult $\pi^- \text{ Xe}$ 0 Barmin 89 cs $\gamma \text{ X}$ 0 Barmin 89 $Abdurakhimov 88B$ angp, pt $\pi^o \text{ X}$ 3.5 Pluta 88 angp $\pi^- \text{ X}$ $3.5 \text{ Strugalski 85B}$ angp $\text{mult}[\pi] \text{ X}$ $3.5 \text{ Strugalski 85B}$ $\text{angp, cor, mult, p, pt}$ $p \text{ X}$ $3.5 \text{ Strugalski 86B}$ angp, p, pt $\text{mult}[p] \text{ X}$ $2.34 - 9 \text{ Strugalski 88}$ mult Strugalski 86B mult $(p's) (n's)$ 3.5 Grishin 88 mult $\text{mult}[p] (\text{frags})$ $3.5 \text{ Strugalski 85}$ mult $\pi^0 \text{ mult[charged]} \text{ X}$ $3.5 \text{ Okhrimenko 87}$ angp, p 9 Fredriksson 87 cor, mult $2\pi^0 \text{ X}$ 3.5 Grishin 86B p, pt $\eta \text{ mult[charged]} \text{ X}$ $3.5 \text{ Okhrimenko 87}$ angp, p $\text{mult}[\gamma] \text{ mult[charged]} \text{ X}$ $3.5 \text{ Abdurakhimov 88B}$ mult $p \pi^- \text{ X}$ $3.5 \text{ Strugalski 86B}$ angp, p, pt $p \pi^- \text{ X}$ $3.5 \text{ Strugalski 86B}$ angp, p, pt $p \pi^- \text{ X}$ $3.5 \text{ Strugalski 86B}$ angp, p, pt

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

$\pi^- \text{Xe} \rightarrow 2p \text{X}$ $\pi^- \text{Pb} \rightarrow 2\pi^+ \text{X}$

$\pi^- \text{Xe}$	$\pi^- \text{Wt}$	$\pi^- \text{Pb}$
2p X	$\mu^- \mu^+ \text{X}$	$J/\psi(1S) \text{X}$
3.5 Pluta 88B Bartke 86 angp, cor p	194 225 250 252	Bordalo 87 a-dep, p Bordalo 87B a-dep, pt Richard 87 angp, mass Falciano 86 ang, p Betev 85 mass, p Betev 85B mass, p Falciano 85 mass Grab 87 mass Louis 86 mass Heinrich 89 p Conway 89
mult[p] $\pi^0 \text{X}$		x(unspec) X
3.5 Pluta 88 angp, cor, mult Strugalski 88C cor, mult, p		530 Kartik 90 a-dep, cs, p, pt
mult[p] $\pi^- \text{X}$		De 89 -
3.5 Strugalski 86B mult		K⁰ X
mult[p] 0πX		40 Gabunia 89 a-dep, mult
3.5 Strugalski 86B mult		p X
mult[p] mult[π^0] X		0.6 Golubeva 89 angp 1.4 - 5 Bayukov 85C a-dep, angp, p
3.5 Miller 87B angp, mult, p		1.5 Bayukov 85F a-dep, p Burgov 87 a-dep, angp, p
mult[p] mult[π] X		Vorobiev 85B pol Vorobiev 86B angp
3.5 Strugalski 85B mult		3 Abreu 85 a-dep, p, pt
(p's) (n's) π		5 Barwolff 85 mult
3.5 Grishin 88 angp, mult		30 Bannikov 89 a-dep, angp, cs, mult
mult[p] mult[n] mult[frag]		38 Albini 85 a-dep, angp, p
2.34 - 9 Strugalski 88 cs		40 Vishnyakov 85 angp
mult[p] mult[n] π^- mult[frag]		
3.5 Strugalski 88 cs		
$\pi^- \text{Ta}$		$\bar{p} \text{X}$
$\pi^- \text{X}$		30 Abreu 85 a-dep, p, pt
9.4 Agakishiev 87C angp		n X
Ta $a_1(1260)^-$		1.4 - 5 Bayukov 85C a-dep, angp, p
40 Zajmidoroga 85 mass, pwa		Bayukov 85F a-dep, p
$\pi^- \pi^\pm \text{X}$		nucleon X
9.4 Agakishiev 87C angp		40 Gabunia 90 a-dep, mult, p
p $\pi^- \text{X}$		
9.4 Agakishiev 87C angp		A X
$\pi^+ 2\pi^- \text{X}$		1.2 - 5 Vorobiev 89C angp Vorobiev 87B a-dep, angp
40 Bellini 84 mass, pwa		3 Vorobiev 88E p, pol
$\pi^- \text{Wt}$		40 Gabunia 89 a-dep, mult
mult[charged] X		
300 Badier 85 cs, mass		deuteron X
J/$\psi(1S)$ X		1.5 Burgov 87 a-dep, angp, p
125 Katsanevas 87 a-dep, cs, p, pt		5 Vorobiev 86B angp
225 Grab 87 cs		mult[p] X
Louis 86 cs		40 Bannikov 89 mult
252 Biino 87 p, pol		grey X
T(1S) X		40 Boos 88 a-dep, mult
194 Falciano 85 p, pt		mult[grey] X
286 Grossmanhand 86 cs, p, pt		40 Boos 88 a-dep, mult
T(2S) X		X star
194 Falciano 85 p, pt		40 Boos 88 a-dep, cs
286 Grossmanhand 86 cs		Pb[*] π^0
T(3S) X		39.1 Apokin 86D angp, cs
194 Falciano 85 p, pt		Pb[*] π^-
286 Grossmanhand 86 cs		39.1 Apokin 86D Marx 86 cs
D⁰ X		Pb[*] η
225 Grab 87 cs		39.1 Apokin 86D angp, cs
Louis 86 cs		Pb[*] ρ^-
$\overline{D}^0 \text{X}$		200 Capraro 87 angp
225 Louis 86 cs		Pb[*] ω
longlived X		39.1 Apokin 86D angp, cs
300 Badier 85 cs		Pb[*] η'
e⁻ e⁺ X		39.1 Apokin 86D angp, cs
300 Badier 85 cs, mass		Pb $a_1(1260)^-$
$\mu^- \mu^+ \text{X}$		40 Zajmidoroga 85 mass, pwa
80 Palestini 85 angp, mass, p, pt		Pb[*] $f_2(1270)$
125 Anassontzis 87 ang, angp, mass, p, pt		39.1 Apokin 86D angp, cs
Katsanevas 87 a-dep, mass		charged⁻ charged X
140 - 286 Guanziroli 88 angp		38 Barwolff 85 angp, mult
	$\pi^+ \text{X}$	2charged X
	0.2875 - 0.353 Gram 89 a-dep, cs 1.4 - 5 Bayukov 85E a-dep, angp, p	38 Barwolff 85 angp, mult
	1.5 Buklej 86 angp, p	2$\pi^+ \text{X}$
	3 Vorobiev 89B a-dep, angp	5 Vorobiev 89B angp, cor, pt
	40 Vorobiev 88D a-dep, angp	Vorobiev 88D angp, cor
	$\pi^- \text{X}$	
	1.4 - 5 Bayukov 85E a-dep, angp, p	

$\pi^- \text{ Pb} \rightarrow \pi^+ \pi^- \text{ X}$ $\pi^- \text{ nucleus} \rightarrow \text{mult}[g\text{rey}] \text{ X}$

$\pi^- \text{ Pb}$		$\pi^- \text{ nucleus}$
$\pi^+ \pi^- \text{ X}$		^{208}Bi
38	Barwolff 88	fragt X 0.1426 – 0.1947
$J/\psi(1S) \gamma \text{ X}$	mass	Hicks 85
530	De 89	
a-dep, cs, mass, p		^{238}U
$K^0 \text{ charged- X}$		fragt X 0.1426 – 0.1947
40	Gabunia 90	Hicks 85
a-dep, mult, p		$\pi^- \text{ U}$
$K_S \text{ charged X}$		X 1.4 – 5
38	Barwolff 88	Bayukov 85F a-dep, p
a-dep, cs, mult, p, pt		$\mu^+ \text{ X}$ 320 Cobbaert 87B a-dep, cs, p
$p \text{ charged X}$		$\mu^- \text{ X}$ 320 Cobbaert 87B a-dep, cs, p
38	Barwolff 85	$\pi^+ \text{ X}$ 1.4 – 5 Bayukov 85E a-dep, angp, p
a-dep, mult		$\pi^- \text{ X}$ 1.4 – 5 Bayukov 85E a-dep, angp, p
$p \pi^- \text{ X}$		$J/\psi(1S) \text{ X}$ 320 Catanesi 89 cs
40	Bannikov 89	$p \text{ X}$ 1.4 – 5 Bayukov 85C a-dep, angp, p
a-dep, mult		$\pi^- \text{ X}$ 320 Bayukov 85F a-dep, angp, p
$\bar{p} \pi^+ \text{ X}$		$n \text{ X}$ 1.4 – 5 Bayukov 85C a-dep, angn, p
38	Barwolff 88	charm X 320 Cobbaert 87B a-dep
a-dep, cs, mult		charm X 320 Cobbaert 87B a-dep
$\Delta \text{ charged X}$		$\mu^- \mu^+ \text{ X}$ 320 Catanesi 88 Cobbaert 88B p, pt
38	Barwolff 88	a-dep, mass, p
a-dep, cs, mult, p, pt		$2\mu^+ \text{ X}$ 320 Catanesi 88 p, pt
$\Delta \text{ charged- X}$		$2\mu^- \text{ X}$ 320 Catanesi 88 p, pt
40	Gabunia 90	$2p \text{ X}$ 2.5 Bayukov 85 cor
a-dep, mult, p		5 Bayukov 85 cor
$\text{nucleon } K^0 \text{ X}$		bottom bottom X 320 Catanesi 89 cs
40	Gabunia 90	Catanesi 89 cs
a-dep, mult, p		Catanesi 86 cs, p
$\text{mult}[p] \text{ charged- X}$		$\mu^- 2\mu^+ \text{ X}$ 320 Catanesi 86 p, pt
40	Bannikov 89	$2\mu^- \mu^+ \text{ X}$ 320 Catanesi 86 p, pt
a-dep, mult		$\pi^- \text{ nucleus}$
charged+ X star		inelastic
40	Boos 88	5 – 300 Fredriksson 87 a-dep, cs
a-dep, mult		13.3 Prokoshkin 87C cs
charged- X star		charged X 300 Holynski 86 p
40	Boos 88	charged+ X 40 Boos 88 a-dep, mult
a-dep, mult		charged- X 10.5 – 64 Fredriksson 87 mult
$\text{mult}[g\text{rey}] \text{ X star}$		40 Boos 88 a-dep, mult
40	Boos 88	$\text{mult}[charged+] \text{ X}$ 40 Boos 88 a-dep, mult
a-dep, mult		$\text{mult}[charged-] \text{ X}$ 40 Boos 88 a-dep, mult
$\text{Pb } \pi^- \gamma$		$\pi^- \text{ nucleus}$
40	Antipov 85	^{208}Pb
ang, angp, p		
$\mu^- \mu^+ \gamma \text{ X}$		
530	De 89	5 – 300 Fredriksson 87 a-dep, cs
a-dep, mult		13.3 Prokoshkin 87C cs
$\pi^+ 2\pi^- \text{ X}$		charged X 300 Holynski 86 p
40	Bellini 84	charged+ X 40 Boos 88 a-dep, mult
mass, pwa		charged- X 10.5 – 64 Fredriksson 87 mult
$K^0 \bar{K}^0 \text{ charged- X}$		40 Boos 88 a-dep, mult
40	Gabunia 90	$\text{mult}[charged+] \text{ X}$ 40 Boos 88 a-dep, mult
a-dep, mult, p		$\text{mult}[charged-] \text{ X}$ 40 Boos 88 a-dep, mult
$\text{nucleon } K^0 \bar{K}^0 \text{ X}$		$\text{mult}[black] \text{ X}$ 340 Ahmad 89 mult
40	Gabunia 90	$\text{mult}[grey] \text{ X}$ 40 Ahmad 89 mult
a-dep, mult, p		340 Boos 88 a-dep, mult
$\pi^- 208\text{Pb}$		Ahmad 90 angp, mult
0	Delaat 85	Ahmad 89 mult
p		Boos 88 a-dep, mult

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

π^- nucleus → mult[neutral] X $\pi^+ p \rightarrow K^*(892)^+ X$

π^- nucleus	π^- nucleus	π^- nucleus
mult[neutral] X 350	Arnold 87B cs, p	charged- X star 40 Boos 88 a-dep, mult
mult[shower] X 5.4 - 340	Fredriksson 87 mult 50 Kunan 89 angp, mult 300 Juric 86 angp, mult, p	mult[charged+] X star 40 Boos 88 a-dep, mult
shower X 5.4 - 340	Fredriksson 87 mult 17 - 200 Fredriksson 87 p 50 - 200 Fredriksson 87 mult 60 - 300 Holynski 86B p 300 Juric 86 angp, mult, p 340 Babecki 85 mult 340 Ahrar 86 mult, p	mult[charged-] X star 40 Boos 88 a-dep, mult
X star 40	Boos 88 a-dep, cs	mult[track] mult[shower] X 340 Ahmad 89 mult
nucleus ρ^- 43 - 202	Landsberg 86 -	black mult[grey] X 340 Ahmad 89 mult
nucleus $\pi_2(1670)^-$ 40	Cassata 88 cs	grey mult[grey] X 340 Ahmad 90 angp, mult
nucleus $a_3(2050)^-$ 40 200	Cassata 88 cs Joyner 89 cs	grey mult[shower] X 200 Jain 88B cor, mult, p
nucleus $K^*(892)^-$ 43 - 202	Landsberg 86 -	grey shower X 200 Jain 88B cor, mult, p
nucleus $K^*(1370)^-$ 43 - 202	Landsberg 86 -	grey X star 40 Boos 88 a-dep, mult
DD < $\pi^+ 2\pi^-$ > nucleus 40	Cassata 88 cs, mass	mult[black] grey X 340 Ahmad 89 mult
2charged X 50 - 200	Azimov 85 cor	mult[black] mult[shower] X 340 Ahmad 89 mult
e- e+ X 300	Badier 86 cs, mass	mult[grey] mult[shower] X 20 - 37 Fredriksson 87 mult 300 Juric 86 angp, mult, p 340 Ahmad 89 mult
$\mu^- \mu^+ X$ 43 - 280	Fredriksson 87 a-dep, angp, pt 150 - 280 Fredriksson 87 a-dep, angp	mult[grey] shower X 20 - 37 Fredriksson 87 cor, mult 50 - 340 Tariq 90 cor, mult, p 60 - 300 Holynski 86B cor, mult, p 300 Juric 86 angp, mult, p 340 Ahmad 90 angp, mult
$\pi^+ \pi^- X$ 300	Rutherford 85 a-dep, angp 225 Bino 87 ang, mass, p 300 Badier 86 cs, mass 530 Kartik 90 mass, p	mult[grey] X star 40 Boos 88 a-dep, mult
D0 D0 X 350	Aoki 88 ang	shower mult[hadron] X 300 Juric 86 angp, mult, p
D+ D0 X 350	Aoki 88 ang	nucleus $\pi^- \gamma$ 40 Antipov 86D P
D0 D- X 350	Aoki 88 ang	nucleus $\pi^0 \pi^-$ 43 - 202 Landsberg 86 mass
D+ D- X 350	Aoki 88 ang	2 π^- fragt 5 Agababyan 85B angp, cs, mass, p
Ks charged X 38	Barwolff 88 ang	nucleus $\rho^0 \pi^-$ 40 Cassata 88 cs, mass 200 Joyner 89 cs
p charged- X 25 - 60	Fredriksson 87 cor, mult	nucleus $f_0(1240) \pi^-$ 200 Joyner 89 cs
A charged X 38	Barwolff 88 ang	$\pi^- 2\pi^-$ X 300 Alde 88B mass
\bar{A} charged X 38	Barwolff 88 ang, p, pt	$\pi^+ \pi^- \pi^\pm X$ 300 Badier 86 cs, mass
2p X 4 4 - 6.2 5	Kechechyan 89 p Amelin 86 mass Amelin 87B ang, mass Zielinsky 88 cs, mass	nucleus $\pi^+ 2\pi^-$ 40 Prokoshkin 87C angp, mass 200 Joyner 89 cs, mass
$p \Sigma^- X$ 4	Shahbazyan 88 cs, mass	2D- 2charm X 350 Aoki 87 angp
2A X 4	Shahbazyan 88 cs, mass	(p's) $2\pi^- (\gamma's)$ fragt 5 Agababyan 85B cs, mass
charged+ X star 40	Boos 88 a-dep, mult	(p's) $2\pi^- (\gamma's)$ fragt charged+ 5 Agababyan 85B cs, mass
(p's) $2\pi^- 0\gamma$ fragt charged+		
5 Agababyan 85B cs, mass		
(p's) $\pi^+ 2\pi^- (\gamma's)$ fragt		
5 Agababyan 85B angp, cs, mass		
$\Delta K_S 2\pi^+ 2\pi^- X$		
200 Arenton 86 mass		
$\pi^- 0\gamma X$		
300 Alde 88B mass		
$\pi^+ \pi^-$		
$2\pi^0$		
0.1181 - 17.2 Clark 85 pwa		
0.9337 - 14.19 Apokin 89B cs		
$\pi^+ p$		
charged X		
80 - 140 Apsimon 89 angp, cs, pt		
250 Avazyan 89 mult, p		
Adamus 88B mult, p, pt		
Adamus 88C mult, p		
Avazyan 88 mult, p, pt		
Adamus 87C mult, p		
Adamus 86 mult, p		
Adamus 86B cs, mult		
charged+ X		
250 Avazyan 89 mult, p		
Adamus 88G mult, p, pt		
mult, p, pt		
charged- X		
200 Brick 90 cor, mult, p		
250 Avazyan 89 mult, p		
Adamus 88G mult, p		
Ajinenko 87 p, pt		
Adamus 86 mult, p		
mult[charged] X		
250 Adamus 88G mult		
mult[charged] (neutrals)		
147 Brick 86 p		
200 Naudet 86 cor, p		
250 Ajinenko 90 angp, mult, p		
Ajinenko 89C mult, p		
Ajinenko 89D mult, p		
Buschbeck 89 col, p		
Ajinenko 87 mult, p		
γX		
280 Bonesini 88 p, pt		
Richard 87 p, pt		
Lancor 86B angp, pt		
Rutherford 85 p, pt		
Demarzo 87 p, pt		
Richard 87 p, pt		
Ferbel 86 angp, pt		
Adamus 86C cs, mult, p, pt		
Bonesini 87 p, pt		
Richard 87 p, pt		
Lancor 86B angp, pt		
Demarzo 87B p, pt		
Richard 87 p, pt		
Ferbel 86 angp, pt		
$\pi^0 X$		
250 Adamus 86C		
cs, mult, p, pt		
ηX		
280 Bitsadze 86 a-dep, p		
Richard 87 cs, p, pt		
Richard 87 p, pt		
$K^+ X$		
12 Bitsadze 85B mass		
$K^*(892)^+ X$		
? Chliapnikov 90 cs		

$\pi^+ p \rightarrow K^*(892)^0 X$ $\pi^+ p \rightarrow \Sigma^0 K^+ \pi^+$

$\pi^+ p$	$\pi^+ p$	$\pi^+ p$
$K^*(892)^0 X$	$N_{5/2}^*(1480)+++ \pi^-$	$2\pi^- X$
? Chliapnikov 90	3.94 Arefiev 87	250 Adamus 88 angp, cor, p
$K^*(892)^0 X$	ang, angp, mass	$\pi^+ \pi^- X$
16 Jawahery 85	Arefiev 86	4.23 Drutskoy 87 ang
? Chliapnikov 90	7.792 Arefiev 90B	$K^- \pi^+ X$
$K_S X$	-	16 Jawahery 85 mass
? Chliapnikov 90	9.9 Baller 88 angp, cs, pt	$p \pi^+ X$
$D_S^\pm X$	$N_{5/2}^*(1650)+++ \pi^-$	85 Armstrong 86B mass, p
200 Becker 87	3.94 Arefiev 87	$\Sigma^+ \pi^+ X$
$p X$	ang, angp, mass	4.23 Drutskoy 87B mass
1.84 - 2.63 Abramov 88	Arefiev 86	$p K^+ X$
30 Abreu 85 a-dep, ang, angp, p	Drutskoy 88	4.23 Drutskoy 87B mass
30 Abreu 85 a-dep, p, pt	Mikhajlichen 87	$p K^0 X$
200 Brick 89 mult	-	4.23 Drutskoy 87B mass
250 Ajinenko 89E	4.23 Drutskoy 88	$p \bar{p} X$
cs, mult, p, pt	Mikhajlichen 87	30 Beusch 86 a-dep, ang, mass, p, pt
$\bar{p} X$	$\Delta(1232 P_{33})+++ \rho^0$	γ jet X
30 Abreu 85 a-dep, p, pt	3.94 Arefiev 90B	280 Bonesini 89B p, pt
$\Delta(1232 P_{33})+++ X$	Arefiev 86B	$2\text{jet } X$
250 Ajinenko 89E	angp	200 Naudet 86 p, pt
cs, mult, p, pt	4.23 Drutskoy 88	$\pi^+ \text{ mult[charged]} (\text{neutrals})$
ΛX	Mikhajlichen 87	250 Adamus 88F mult
18.5 Panagiotou 89	$\Delta(1232 P_{33})+++ f_2(1270)$	$p \text{ mult[charged]} (\text{neutrals})$
250 Ajinenko 89E	3.94 Arefiev 90B	250 Adamus 88F mult
p, pol, pt	Zhokin 89	$p \pi^+ \gamma$
250 Ajinenko 89E	15.7 Clark 85	$\Delta(1232 P_{33})+++ 2\pi^0$
cs, mult, p, pt	Brovkin 89	4.0158 Meyer 88 angp, p
$\Xi(1385 P_{13})^+ X$	$N_{5/2}^*(\text{unspec})+++ \pi^-$	15.7 Clark 85 ang, angp, mass, pwa
250 Ajinenko 89E	4 Abramov 89C	$\Delta(1232 P_{33})+++ \pi^+ \pi^-$
cs, mult, p, pt	4.23 Mikhajlichen 87	250 Ajinenko 89B cs
$\text{anomalous } X$	$\Sigma^+ K^+$	$N_{5/2}^*(1390)+++ \pi^0 \pi^-$
147 Fuess 87	1.49 - 2.069 Haba 88 angp, pol, pwa	3.94 Arefiev 87 ang, angp, mass
$\text{shower } X$	1.69 - 1.88 Candlin 88 angp, pol	$N_{5/2}^*(1480)+++ \pi^0 \pi^-$
200 Brick 90 cor, mult, p	1.7 Kobayashi 87 angp	3.94 Arefiev 87 ang, angp, mass
Brick 89 mult	4.23 Drutskoy 87	$\Sigma^*(1835 P_{13})^+ K^*(892)^+ \pi^-$
$p \pi^+$	9.9 Baller 88 angp, cs, pt	12 Bitsadze 85B angp, pol
0.03 - 0.67 Brack 89 angp, cs	12 Bitsadze 85B angp, pol	$\Sigma(1835 P_{13})^+ K^+$
0.0668 Brack 88 angp	1.49 - 2.069 Haba 88 angp, pol, pwa	12 Bitsadze 85B angp, pol
0.1208 - 0.2259 Friedman 90	1.69 - 1.88 Candlin 88 angp, pol	1.7 Kobayashi 87 angp
Friedman 89	1.7 Kobayashi 87 angp	4.23 Drutskoy 89
0.1305 - 0.2258 Friedman 89	4.23 Drutskoy 89	$\Sigma(1835 P_{13})^+ K^*(1370)^+ \pi^-$
Wiedner 89 angp, angp	4.23 Drutskoy 89	4.23 Drutskoy 89
Wiedner 87 angp	4.23 Drutskoy 89	$DD < \text{charged (charged)s (neutrals)} > \pi^+$
0.2445 - 0.4168 Oettmann 85B angp	250 Adamus 88F cs, p	250 Adamus 88F cs, p
0.303 - 0.7263 Abashev 84 pwa	250 Ajinenko 89B	$DD < \rho 2\pi^+ 2\pi^- > \pi^+$
0.378 - 0.687 Sadler 87 angp, cs	250 Ajinenko 89B	250 Ajinenko 89B cs, p
0.471 - 0.625 Barlow 89 angp	250 Ajinenko 89B	$n \rho^+ \pi^+$
Mokhtari 86 angp, asym, pol	250 Ajinenko 89B	15.7 Ferguson 87 cs
0.471 - 0.687 Mokhtari 86 asym, cs, pwa	250 Ajinenko 89B	15.7 Ferguson 87 cs
Mokhtari 85 pol	250 Ajinenko 89B	$DD < p \pi^+ \pi^- > \pi^+$
0.547 - 0.625 Seftor 89 pol	250 Ajinenko 89B	250 Ajinenko 89B cs, p
0.547 - 0.687 Wightman 88 angp, asym, pol	250 Ajinenko 89B	$DD < p \pi^+ \pi^- > \pi^+$
< 1.232 Arndt 85 amp	250 Ajinenko 89B	250 Ajinenko 89B cs, p
4.314 - 76.26 Zhokin 89 angp	250 Ajinenko 89B	$DD < 2\pi^+ \pi^- > p$
9.9 Baller 88 angp, cs, pt	250 Ajinenko 89B	250 Ajinenko 89B cs, mass, p
40 Siks 87 am	250 Ajinenko 89B	$DD < 3\pi^+ 2\pi^- > p$
50 Kazarzhanov 85 am	250 Ajinenko 89B	85 Armstrong 89C cs
< 200 Asad 85 angp	250 Ajinenko 89B	85 Augustin 88C mass
Hohler 89 angp	250 Adamus 88F cs, p	?
250 Grassler 88 angp, pol, pwa	250 Adamus 88F cs, p	85 Armstrong 86E
Adamus 87D angp, cs	250 Adamus 88F cs, p	Augustin 88C Armstrong 86E mass
$\Delta(1232 P_{33})^+ \pi^+$	2charged X	85 Augustin 88C Armstrong 86E mass
9.9 Baller 88 angp, cs, pt	200 Brick 90 cor, mult, p	$p K^+ \gamma$
$N_{5/2}^*(1380)+++ \pi^-$	300 Demarzo 87B mass	1.7 Kobayashi 87 angp
4.23 Drutskoy 88	40 - 225 Rutherford 85 mass	$\Lambda K^+ \pi^+$
$M_{5/2}^*(1390)+++ \pi^-$	250 Adamus 88 angp, cor, p	4.23 Drutskoy 87 cs
3.94 Arefiev 87 ang, angp, mass	250 Adamus 88 angp, cor, p	$\Sigma^+ K^+ \pi^0$
		4.23 Drutskoy 87 cs

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

$\pi^+ p \rightarrow \Sigma^+ K^0 \pi^+$ $\pi^+ p \rightarrow \text{vee 4charged (neutrals)}$

$\pi^+ p$		$\pi^+ p$		$\pi^+ p$	
$\Sigma^+ K^0 \pi^+$ 4.23	Drutskoy 87	cs	$p \phi \rho^0 \pi^+$ 85	Armstrong 86D	cs
$p K^+ K^0$ 4.23	Drutskoy 87	cs	$p 2\phi \pi^+$ 85	Armstrong 86	cs, mass
$\Sigma(1385 P_{13})^+ K^0 \pi^+$ 4.23	Drutskoy 89	cs	$\Lambda K^+ \pi^+ \pi^0$ 4.23	Drutskoy 87	cs
$\Lambda K^*(892)^+ \pi^+$ 4.23	Drutskoy 89	cs	$\Lambda K^0 2\pi^+$ 4.23	Drutskoy 89	cs, mass
$p \pi^+ \text{meson}^0$ 85	Armstrong 87 Armstrong 86B	cs	$\Sigma^+ K^0 \pi^+ \pi^0$ 4.23	Drutskoy 87	cs
baryon $K^0 \pi^+$?	Drutskoy 89	-	$\Sigma^+ K^+ \pi^+ \pi^-$ 4.23	Drutskoy 87	cs
$p \pi^+ \text{glueball}$ 85	Armstrong 87	cs	$\Sigma^0 K^0 2\pi^+$ 4.23	Drutskoy 87	cs
2charged (charged) (neutrals) 80 - 140	Apsimon 90	col, pt	$\Sigma^- K^+ 2\pi^+$ 4.23	Drutskoy 87	cs
2kappa πX 200	Becker 87	mass	$p K^+ \bar{K}^0 \pi^0$ 4.23	Drutskoy 87	cs
$\Delta 2\pi^+ X$ 4.23	Drutskoy 87B	mass	$p K^+ K^- \pi^+$ 85	Armstrong 86B	mass, pwa
$p K^+ \pi^0 X$ 4.23	Drutskoy 87B	mass		Augustin 85E Vassiliadis 85	angp, mass
$p K^+ \pi^+ X$ 4.23	Drutskoy 87B	mass	$n K^+ \bar{K}^0 \pi^+$ 4.23	Drutskoy 87	cs
$p K^0 \pi^+ X$ 4.23	Drutskoy 87B	mass	$p K^0 \bar{K}^0 \pi^+$ 4.23	Drutskoy 87	cs
vee 2charged (neutrals) 4.23	Drutskoy 87	cs	$p K^*(892)^- K^+ \pi^+$ 85	Augustin 88C	mass
kink ⁺ 2charged (neutrals) +			$p K^*(892)^+ K^- \pi^+$ 85	Augustin 88C	mass
kink ⁻ 2charged (neutrals)			$p K^*(892)^0 \bar{K}^0 \pi^+$ 85	Armstrong 86D	cs, mass
$p \pi^+ 2\pi^0$ 15.7	Ferguson 87 Clark 85	cs, mass ang, angp, mass, pwa		Augustin 88C	mass
$n 2\pi^+ \pi^0$ 15.7	Ferguson 87	cs, mass	$p K^*(892)^0 K^0 \pi^+$ 85	Armstrong 86D	cs, mass
$p 2\pi^+ \pi^-$ 3.94	Arefiev 90 Arefiev 90B Zhokin 89 Arefiev 87 Arefiev 86 Arefiev 86B	mass, p mass cs, mass mass mass ang, mass	$p 2K_S \pi^+$ 85	Vassiliadis 85	angp, mass
4	Abramov 89C	mass	$2p \bar{p} \pi^+$ 85	Armstrong 87 Vassiliadis 85	mass, p
4.23	Drutskoy 88	mass, p			angp, mass
15.7	Mikhajlichen 87	mass	$p \Delta \bar{\Delta} \pi^+$ 85	Armstrong 87	mass, p
85	Ferguson 87 Armstrong 86B	cs, mass mass, pwa	$DD < p > DD < \pi^+ > \pi^+ \pi^-$ 85	Vassiliadis 85	angp, mass
250	Vassiliadis 85	angp, mass			angp, mass
$p \rho^0 \pi^+ \pi^0$ 15.7	Ajinenko 89B	cs	$DD < p > DD < \pi^+ > K^+ K^-$ 85	Vassiliadis 85	angp, mass
$p \rho^+ \pi^+ \pi^-$ 15.7	Ferguson 87	cs			angp, mass
$p \rho^- 2\pi^+$ 15.7	Ferguson 87	cs	$DD < \pi^+ > DD < p > 2K_S$ 85	Vassiliadis 85	angp, mass
$n \omega 2\pi^+$ 15.7	Ferguson 87	cs			angp, mass
$p a_0(980)^+ \pi^+ \pi^-$ 85	Augustin 88C	mass	$DD < \pi^+ > DD < p > p \bar{p}$ 85	Vassiliadis 85	angp, mass
$p a_0(980)^- 2\pi^+$ 85	Augustin 88C	mass			angp, mass
$p a_2(1320)^+ \pi^+ \pi^- + p a_2(1320)^- 2\pi^+$ 85	Armstrong 89C	cs	4charged (neutrals) 4.23	Drutskoy 87	cs
$p 2\rho^0 \pi^+$ 85	Armstrong 89C	cs	2vee 2charged (neutrals) 4.23	Drutskoy 87	cs
			$p K_S K^- 2\pi^+$ 85	Augustin 88C	mass, p, pwa
					mass, p, pwa
			kink⁺ vee 2charged (neutrals) +		mass, p, pwa
			kink⁻ vee 2charged (neutrals) +		mass, p, pwa
			vee 4charged (neutrals) 4.23	Drutskoy 87	cs

$\pi^+ p \rightarrow \text{kink}^+ 4\text{charged (neutrals)} + \text{kink}^- 4\text{charged (neutrals)}$ $\pi^+ {}^6\text{Li} \rightarrow 2p \pi^- X$

$\pi^+ p$	$\pi^+ \text{ deuteron}$	$\pi^+ {}^3\text{He}$
kink⁺ 4charged (neutrals) + kink⁻ 4charged (neutrals)	$p X$	${}^3\text{He } \pi^+$
4.23 Drutskoy 87	0.1947 - 0.5212 Arvieux 84C	0.1922 - 0.2605 Marx 86
$n 3\pi^+ \pi^0 \pi^-$	$2p$	0.1947 - 0.248 Angelescu 90
15.7 Ferguson 87	0.2069 - 0.4168 Boschitz 86	0.2445 - 0.3314 Pillai 88
$p 3\pi^+ 2\pi^-$	0.3957 - 0.5728 Strakovsky 86	< 0.2875 Redwine 86
4.2 Brovkin 89	angp, dme, pol	0.2875 - 0.3314
15.7 Ferguson 87	0.3957 - 0.5728 Borkovsky 84	0.1461 - 0.1731 Aniol 85
85 Armstrong 89C	angp, pwa	0.1947 - 0.248 Angelescu 90
250 Ajinenko 89B	angp, cs, pwa	ang, cs, p
$p \rho^+ 2\pi^+ 2\pi^-$	0.65 - 1.95 Chuviilo 86	
15.7 Ferguson 87		
$p \rho^- 3\pi^+ \pi^-$	deuteron π^+	$\pi^+ 4\text{He}$
15.7 Ferguson 87	0.143 - 0.256 Smith 87C	X
	angp, asym	0.1283 - 0.4168 Marx 86
	0.1695 Smith 86F	
	angp, cs, pol	
	0.2069 - 0.2549 Smith 86D	
	angp, asym, pol	
85 Armstrong 86D	0.2069 - 0.3744 Redwine 86	${}^4\text{He } \pi^+$
cs, mass, p	0.2165 - 0.2514 Shin 86	0.1213 - 0.4168 Marx 86
$p 2K^+ 2K^- \pi^+$	0.2189 - 0.4105 Yokosawa 85C	${}^3\text{He } p \pi^0$
85 Armstrong 86	angp, pol	0.2069 - 0.2651 Marx 86
$2p \bar{p} 2\pi^+ \pi^-$	0.2236 - 0.4421 Ottermann 85B	${}^3\text{He } p \pi^+$
85 Armstrong 87	angp, dme, pol	0.1536 - 0.2605 Balestra 86
kink⁺ vee 4charged (neutrals) + kink⁻ vee 4charged (neutrals)	0.2248 - 0.4168 Boschitz 86	0.2069 - 0.2651 Marx 86
4.23 Drutskoy 87	angp, asym, pol	0.2605 Marx 86
2kink⁺ 4charged (neutrals) + 2kink⁻ 4charged (neutrals)	0.2353 - 0.2549 Smith 86C	${}^3\text{He } n \pi^+$
4.23 Drutskoy 87	angp, asym, pol	0.2069 - 0.2651 Marx 86
$p 3\pi^+ \pi^0 2\pi^-$	0.2353 - 0.3701 Ungrich 85	$3p n$
15.7 Ferguson 87	angp, pol, pwa	0.1536 - 0.2605 Balestra 86
kink⁺ 6charged (neutrals) + kink⁻ 6charged (neutrals)	0.2422 Blankeleider 84	0.2707 Weber 89
4.23 Drutskoy 87	0.2875 Smith 86E	angp, cs
$2p \bar{p} 3\pi^+ 2\pi^-$	0.74 Yamauchi 85	cs, p
85 Armstrong 87	angp, asym	
$\pi^+ n$	dibaryon π^-	$4p \pi^-$
X	0.2217 Ashery 88	0.2189 - 0.3851 Kinney 86
1.4 - 5 Bayukov 85F	angp, cs	angp, p
$p \pi^0$	dibaryon ($S = -1$) K^+	$2p 2n \pi^+$
6 - 11.85 Fujisaki 88	1.06 - 1.4 Pigot 85	0.1536 - 0.2605 Balestra 86
< 200 Hohler 89	angp, pol, pwa	angp, cs
$n \pi^+$	$\pi^+ \pi^- X$	$\pi^+ \text{ He}$
< 200 Hohler 89	3.9 Nakai 89	$\pi^+ X$
angp, pol, pwa	a-dep, mass	0.4693 - 0.5985 Boswell 86
$p \eta$	$p(\text{spect}) p \pi^0$	$\pi^- X$
6 - 11.85 Fujisaki 88	6 - 11.85 Fujisaki 88	0.2875 - 0.353 Gram 89
pol		a-dep, cs
ΛK^+	$p n \pi^+$	$\pi^+ \text{ Li}$
10.3 Bitsadze 86B	0.25 - 0.65 Boschitz 86	inelastic
$\Sigma^0 K^+$	0.34 Mathie 85	1.35 - 3.75 Gachurin 85
10.3 Bitsadze 86B	angp, dme, pol	cs
$p 2\gamma$	$p(\text{spect}) p \eta$	$\pi^- X$
6 - 11.85 Fujisaki 88	6 - 11.85 Fujisaki 88	0.2875 - 0.353 Gram 89
mass		a-dep, cs
$p \pi^+ \pi^-$	$p \Lambda K^+$	$p X$
5.98 - 11.85 Delesquen 85	10.3 Bitsadze 86B	1.5 Burgov 87
angp, dme, mass	angp	a-dep, angp, p
6 - 12 Svec 84	$p \Sigma^+ K^+$	deuteron X
	10.3 Bitsadze 86B	1.5 Burgov 87
	angp	a-dep, angp, p
$\pi^+ \text{ deuteron}$	$p \Sigma^0 K^+$	2^3He
ηX	10.3 Bitsadze 86B	0.1426 - 0.1695 Mcparland 85
10.5 Bitsadze 86	angp, mass	0.1426 - 0.2422 Mcparland 85B
Akimenko 85		angp
$p^0 X$	$p(\text{spect}) p 2\gamma$	$2p X$
3.9 Nakai 89	6 - 11.85 Fujisaki 88	0.2537 Ransome 90
$f_2(1270) X$	mass	cs, p
3.9 Nakai 89	0.2217 Ashery 88	0.2537 Ransome 90
a-dep, cs	angp, mass	cs, p
$K^+ X$	$\pi^+ \text{ H}$	$\pi^+ \text{ H}$
1.06 - 1.4 Pigot 85	0.2445 - 0.3314 Pillai 88	0.2537 Ransome 90
mass	angp	cs, p
$s_2(1270) X$	$\pi^+ \text{ He}$	$\pi^+ 2p$
3.9 Nakai 89	0.1947 - 0.248 Angelescu 90	0.2537 Ransome 90
a-dep, cs	cs	cs, p
$K^+ X$	$\pi^+ X$	$He^* 2p$
1.06 - 1.4 Pigot 85	0.4693 - 0.5985 Boswell 86	0.2537 Ransome 90
mass		cs, p
$\pi^+ \text{ H}$	$2p \pi^- X$	$2p \pi^- X$
	0.5 - 1.5 Kobayashi 88B	0.5 - 1.5 Kobayashi 88B
	angp, cs, mass	angp, cs, mass

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

$\pi^+ {}^6\text{Li} \rightarrow 3p\ X$ $\pi^+ {}^{15}\text{N}{}^{\text{it}} \rightarrow {}^{15}\text{N}{}^{\text{it}} \pi^+ \gamma$

$\pi^+ {}^6\text{Li}$		$\pi^+ \text{Be}$		$\pi^+ \text{C}$	
3p X		$2K^+ K^- X$		nucleus $\pi^- +$ nucleus p (p's) π^-	
0.2537	Ransome 90	120 Dijkstra 86C	mass	2.9 Vorobiev 84C	ang, mult, p
2p n X		$K^+ K_S K^- X$		C p+	
0.2537	Ransome 90	120 Dijkstra 86C	mass	202.5 Huston 86	angp
$^3\text{H} 3p$		$p K^+ K^- X$		$2\gamma X$	
0.2537	Ransome 90	120 Dijkstra 86C	mass	200 Badier 85C	cs, pt
4n X		$\bar{p} K^+ K^- X$		cs, p, pt	
0.2537	Ransome 90	120 Dijkstra 86C	mass		
$\pi^+ \text{Li}$		$\pi^+ {}^{12}\text{C}$		$\pi^+ \pi^- X$	
$\pi^+ X$	1.5	Buklej 86	angp, p	3.9 Nakai 89	a-dep, mass
ηX	10.5	Bitsadze 86	a-dep, p	530 De 89	mass
p X	0.8	Chrien 88	angp, p	$p \pi^- X$	
$\pi^+ \pi^- X$	3.9	Nakai 89	a-dep, mass	3 Vorobiev 88E	ang, mass, p
$\pi^+ {}^7\text{Li}$		inelastic		$\Delta K^+ X$	
inelastic	1.35 - 3.75	Gachurin 85	cs	10.3 Bitsadze 86B	angp
$\pi^0 X$	0.4168 - 0.6753	Rokni 88	a-dep, angp	$\Sigma^+ K^+ X$	
$\pi^- X$	0.2875 - 0.353	Gram 89	a-dep, cs	10.3 Bitsadze 86B	angp
${}^7\text{Be} \pi^0$	0.1023 - 0.141	Irom 85	angp	$\Sigma^0 K^+ X$	
$e^- e^+ X$	0.5005	Baturin 88	angp, cs	10.3 Bitsadze 86B	angp
${}^6\text{Li} p e^- e^+$	0.5005	Baturin 88	angp, cs	$p \bar{p} X$	
$\pi^+ \text{Be}$		inelastic		30 Beuscb 86	a-dep, ang, mass, p, pt
$\pi^- X$	1.35 - 3.75	Gachurin 85	cs	$2p X$	
ηX	0.2875 - 0.353	Gram 89	a-dep, cs	3 - 7.5 7.5 Bayukov 86 Bayukov 89C	ang ang, angp, p
ϕX	10.5	Bitsadze 86	a-dep, p	deuteron p X	
η mult[fragt]	120 - 200	Dijkstra 86	mult, p, pt	7.5 Bayukov 89C	ang, angp, p
$\phi \pi^+ X$	10.5	Akimenko 89	a-dep, ang, angp, cs, p	${}^3\text{H} p X$	
$\phi \pi^- X$	120	Dijkstra 86C	mass	7.5 Bayukov 89C	ang, angp, p
$K^+ \phi X$	120	Dijkstra 86C	mass	2deuteron X	
$K^- \phi X$	120	Dijkstra 86C	mass	7.5 Bayukov 89C	ang, angp, p
$K^+ K^- X$	120 - 200	Dijkstra 86	ang, dme, mass	nucleus $\pi^+ \pi^- +$ nucleus p (p's) $\pi^+ \pi^-$	
$K_S \phi X$	120	Dijkstra 86C	mass	2.9 Vorobiev 84C	ang, mult, p
$p \phi X$	120	Dijkstra 86C	mass	$\mu^- \mu^+ \gamma X$	
$\bar{p} \phi X$	120	Dijkstra 86C	mass	530 De 89	mass
$2\pi^0$ mult[fragt]	10.5	Akimenko 89	a-dep, cs	$3p X$	
$K^+ K^- \pi^+ X$	120	Dijkstra 86C	mass	0.34 Tacik 86	angp, p
$K^+ K^- \pi^- X$	120	Dijkstra 86C	mass	$\pi^+ {}^{14}\text{C}$	
$K^+ 2K^- X$	120	Dijkstra 86C	mass	$\pi^0 X$	
$\pi^+ \text{Be}$		inelastic		0.4168 - 0.6753 Rokni 88	a-dep, angp
$\pi^- X$	1.35 - 3.75	Gachurin 85	cs	$\pi^- X$	
ηX	0.2875 - 0.353	Gram 89	a-dep, cs	0.4084 - 0.6497 Williams 89B	angp, mass
ϕX	10.5	Bitsadze 86	a-dep, p	${}^{14}\text{C} \pi^+$	
η mult[fragt]	120 - 200	Dijkstra 86	mult, p, pt	0.1283 Mishra 85	angp
$\phi \pi^+ X$	10.5	Akimenko 89	a-dep, ang, angp, cs, p	${}^{14}\text{O} \pi^-$	
$\phi \pi^- X$	120	Dijkstra 86C	mass	0.1271 Leitch 85	angp, cs
$K^+ \phi X$	120	Dijkstra 86C	mass	0.4084 - 0.6497 Williams 89B	angp
$K^- \phi X$	120	Dijkstra 86C	mass	${}^{14}\text{C} \pi^+ \gamma$	
$K^+ K^- X$	120	Dijkstra 86	ang, dme, mass	0.2696 Holtkamp 85	-
$K_S \phi X$	120	Dijkstra 86C	mass	$\pi^+ {}^{15}\text{Nit}$	
$p \phi X$	120	Dijkstra 86C	mass	$\text{Nit}^+ \pi^+$	
$\bar{p} \phi X$	120	Dijkstra 86C	mass	0.2696 Seestrommorr 85	angp
$2\pi^0$ mult[fragt]	10.5	Akimenko 89	a-dep, cs	${}^{15}\text{O} \pi^0$	
$K^+ K^- \pi^+ X$	120	Dijkstra 86C	mass	0.1283 - 0.4063 Redwine 86	angp
$K^+ K^- \pi^- X$	120	Dijkstra 86C	mass	${}^{15}\text{Nit} \pi^+ \gamma$	
$K^+ 2K^- X$	120	Dijkstra 86C	mass	0.2696 Seestrommorr 85	angp

REACTION/MOMENTUM/DATA-DESCRIPTOR INDEX

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 $\pi^+ {}^{16}\text{O} \rightarrow \pi^- \text{X}$
 $\pi^+ {}^{60}\text{Ni} \rightarrow \pi^0 \text{X}$

$\pi^+ {}^{16}\text{O}$	$\pi^+ \text{Mg}$	$\pi^+ \text{Si}$	
$\pi^- \text{X}$ 0.2189 - 0.3851 0.3583 0.3583 ${}^{14}\text{N} \pi^+ 2p$ 0.1421 ${}^{18}\text{N} \pi^+ p \pi^+$ 0.353 0.353 $p \pi^0 \gamma \text{X}$ 0.353 ${}^{16}\text{N} \pi^+ p \pi^+ \gamma$ 0.353	Wood 85 Redwine 86 p Wharton 85 Redwine 86 angp, p Redwine 86 angp, p Redwine 86 angp, p	mult[grey] charged- X Brick 89 mult[grey] shower X 200 Brick 90 cor. mult, p mult[grey] charged+ charged- X 200 Brick 89 mult	${}^{18}\text{F} \pi^- 9\text{nucleon}$ 0.1283 - 0.5212 Dropesky 86 cs
$\pi^+ \text{O}$	$\pi^+ \text{Al}$	$\pi^+ {}^{32}\text{S}$	
$\pi^- \text{X}$ 0.2875 - 0.353 Gram 89 a-dep, cs $p \text{X}$ 0.8 1.5 Chrien 88 Burgov 87 a-dep, angp, p deuteron X 1.5 Burgov 87 a-dep, angp, p	250 Ajinenko 90B angp, mult, p mult[charged-] X 250 Ajinenko 90B angp, mult, p $\pi^0 \text{X}$ 1.1 Golubeva 90 p $\pi^- \text{X}$ 10.5 Bitsadze 86 a-dep, p $p^0 \text{X}$ 3.9 Nakai 89 a-dep, cs $f_2(1270) \text{X}$ 3.9 Nakai 89 a-dep, cs $p \text{X}$ 0.8 Chrien 88 angp, p 4 Tokushuku 90 angp 30 Abreu 85 a-dep, p, pt $\bar{p} \text{X}$ 30 Abreu 85 a-dep, p, pt ΔX 3 Vorobiev 89C angp ${}^{40}\text{Ca} \pi^+$ 3 Tokushuku 90 angp $\pi^+ \pi^- \text{X}$ 3.9 Nakai 89 a-dep, mass $J/\psi(1S) \gamma \text{X}$ 530 De 89 a-dep, cs, mass, p $p \bar{p} \text{X}$ 30 Beusch 86 a-dep, ang, mass, p, pt mult[grey] mult[charged-] X 250 Ajinenko 90B angp, mult, p mult[grey] mult[charged-] X 250 Ajinenko 90B angp, mult, p $\mu^- \mu^+ \gamma \text{X}$ 530 De 89 mass $\pi^+ {}^{27}\text{Al}$	${}^{32}\text{Ar} \pi^-$ 0.2189 - 0.3205 Mordechai 85 angp ${}^{32}\text{Ar} \pi^0$ 0.2189 - 0.3205 Mordechai 85 angp, p	
$\pi^+ \text{Ne}$	$\pi^+ \text{Cl}$	$\pi^+ {}^{37}\text{Cl}$	
$K^0 \text{X}$ 10.5 Fredriksson 87 mult $p \text{X}$ 30 Tkaczyk 96 p, pt mult[p] $\pi^\pm \text{X}$ 10.5 - 200 Fredriksson 87 cor, mult	$x(\text{unspec}) \text{X}$ 530 De 89 $\pi^+ {}^{40}\text{Ar}$	${}^{37}\text{Ar} \pi^0$ 0.3957 - 0.5108 Gavrin 89 cs	
$\pi^+ {}^{24}\text{Mg}$	$\pi^+ {}^{40}\text{Ar}$	$\pi^+ {}^{40}\text{Ar}$	
${}^{24}\text{Si}^0 \pi^-$ 0.2189 - 0.3205 Mordechai 85 angp, p	$\pi^+ {}^{40}\text{Ca}$	$\pi^- \text{X}$ 0.2189 - 0.3851 Wood 85 angp, cs, p	
${}^{24}\text{Si} \pi^-$ 0.2189 - 0.3205 Mordechai 85 angp (blocks) mult[grey] mult[shower] (neutrals) 100 Biswas 86 cs	${}^{40}\text{Ti} \pi^-$ 0.2189 - 0.3205 Mordechai 85 angp	${}^{40}\text{Ti} \pi^-$ 0.2189 - 0.3205 Mordechai 85 angp, p	
$\pi^+ \text{Mg}$	$\pi^+ {}^{40}\text{Ca}$	$\pi^+ {}^{40}\text{Ca}$	
charged X 200 Brick 89 mult charged- X 200 Brick 90 Brick 89 cor. mult, p mult[charged] X 200 Brick 89 mult mult[charged-] X 200 Brick 89 mult mult[shower] X 200 Brick 89 Brick 89 cor. mult, p 2charged X 200 Brick 90 cor. mult, p mult[grey] charged- X 200 Brick 90 cor. mult, p	inelastic 1.35 - 3.75 Gachurin 85 cs $\pi^0 \text{X}$ 0.4168 - 0.6753 Rokni 88 a-dep, angp ${}^{24}\text{Na} 3\text{nucleon}$ 0.1283 - 0.5212 Dropesky 86 cs ${}^{18}\text{F} \pi^- 9\text{nucleon}$ 0.1283 - 0.5212 Dropesky 86 cs $\pi^+ {}^{28}\text{Si}$	$\pi^+ {}^{48}\text{Ca}$	
	${}^{28}\text{S}^0 \pi^-$ 0.2189 - 0.3205 Mordechai 85 angp, p	${}^{47}\text{Ca} n \pi^+$ 0.1947 - 0.4168 Ohkubo 85 cs, p	
	${}^{28}\text{S} \pi^-$ 0.2189 - 0.3205 Mordechai 85 angp	$\pi^+ {}^{58}\text{Ni}$	
	$\pi^+ \text{Si}$	${}^{2p} \text{X}$	
	${}^{24}\text{Na} 3\text{nucleon}$ 0.1283 - 0.5212 Dropesky 86 cs	$\pi^+ {}^{60}\text{Ni}$	
		$\pi^0 \text{X}$ 0.4168 - 0.6753 Rokni 88 a-dep, angp	

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary). Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

$\pi^+ \text{ Cu} \rightarrow \pi^+ X$ $\pi^+ \text{ Pb} \rightarrow \pi^- X$

$\pi^+ \text{ Cu}$	$\pi^+ \text{ Ag}$	$\pi^+ \text{ Wt}$
$\pi^+ X$ 1 - 6	Bayukov 85E a-dep, angp, p	
1.5	Buklej 86 angp, p	
$\pi^- X$ 1 - 6	Bayukov 85E a-dep, angp, p	
ηX		
10.5	Bitsadze 86 a-dep, p	
$p^0 X$	Nakai 89 a-dep, cs	
3.9		
$f_2(1270) X$	Nakai 89 a-dep, cs	
3.9		
$\chi(\text{unspec}) X$	530	
	De 89	
$p X$		
0.6 - 1	Golubeva 89 angp	
1 - 6	Bayukov 85C a-dep, angp, p	
1.4 - 5	Bayukov 85F a-dep, p	
1.5	Burgov 87 a-dep, angp, p	
30	Abreu 85 a-dep, p, pt	
$\bar{p} X$	30	
	Abreu 85 a-dep, p, pt	
$n X$		
1 - 6	Bayukov 85C a-dep, angp, p	
ΔX		
3	Vorobiev 89C angp	
$d\text{euteron } X$		
1.5	Burgov 87 a-dep, angp, p	
$\eta \text{ mult[fragt]}$		
10.5	Akimenko 89 a-dep, ang, angp, cs, p	
$Cu p^+$		
202.5	Huston 86 angp	
$J/\psi(1S) \gamma X$		
530	De 89 a-dep, cs, mass, p	
$p \bar{p} X$		
30	Beusch 86 a-dep, ang, mass, p, pt	
$2\pi^0 \text{ mult[fragt]}$		
10.5	Akimenko 89 a-dep, cs	
$\mu^- \mu^+ \gamma X$		
530	De 89 mass	
$Cu 2\pi^+ \pi^-$		
202.5	Zielinsky 86 angp, mass, pwa	
$\pi^+ \text{ Zn}$		
inelastic		
1.35 - 3.75	Gachurin 85 cs	
$\pi^+ \text{ Zr}$		
$\pi^0 X$		
0.4168 - 0.6753	Rokni 88 a-dep, angp	
$\pi^+ Rh$		
$\pi^- X$		
0.2875 - 0.353	Gram 89 a-dep, cs	
$\pi^+ Ag$		
$\text{charged } X$		
200	Brick 89 mult	
$\text{charged}^- X$		
200	Brick 90 cor, mult, p	
	Brick 89 mult	
$\text{mult[charged]} X$		
200	Brick 89 mult	
$\pi^+ Ag$		
$\text{mult[charged}^- X$		
200	Brick 89 mult	
$\text{mult[shower} X$		
200	Brick 89 mult	
$\text{shower } X$		
200	Brick 90 cor, mult, p	
	Brick 89 mult	
$\text{2charged } X$		
200	Brick 90 cor, mult, p	
	Brick 89 mult	
$\text{mult[grey] charged}^- X$		
200	Brick 90 cor, mult, p	
	Brick 89 mult	
$\text{mult[grey] shower } X$		
200	Brick 90 cor, mult, p	
	Brick 89 mult	
$\text{mult[grey] charged}^+ \text{ charged}^- X$		
200	Brick 89 mult	
$\pi^+ 108Ag$		
(blocks) $\text{mult[grey] mult[shower]}$		
(neutrals)		
100	Biswas 86 cs	
$\pi^+ Cd$		
ΔX		
3	Vorobiev 89C angp	
$\pi^+ 118Sn$		
$Sn^* \pi^+$		
0.2306	Ullmann 85 angp	
$^{118}\text{Sn} \pi^+ \gamma$		
0.2306	Ullmann 85 angp	
$\pi^+ Sn$		
$p X$		
30	Abreu 85 a-dep, p, pt	
$\bar{p} X$		
30	Abreu 85 a-dep, p, pt	
$p \bar{p} X$		
30	Beusch 86 a-dep, ang, mass, p, pt	
$\pi^+ 120Sn$		
$\pi^0 X$		
0.4168 - 0.6753	Rokni 88 a-dep, angp	
$\pi^+ Xe$		
$\text{charged } X$		
2.34 - 9	Miller 87C mult	
$\pi^0 X$		
2.34 - 9	Miller 87C mult	
$\pi^+ X$		
2.34 - 9	Miller 87C mult	
$\pi^- X$		
2.34 - 9	Miller 87C mult	
$p X$		
2.34 - 9	Miller 87C mult	
$\text{nucleus } \pi^+ + \text{nucleus } p(p's) \pi^+$		
2.9	Vorobiev 84C ang, mult, p	
$\text{nucleus } \pi^- + \text{nucleus } p(p's) \pi^-$		
2.9	Vorobiev 84C ang, mult, p	
$\text{nucleus } \pi^+ \pi^- + \text{nucleus } p(p's) \pi^+ \pi^-$		
2.9	Vorobiev 84C ang, mult, p	
$\pi^+ 181Ta$		
inelastic		
1.35 - 3.75	Gachurin 85 cs	
$\pi^+ Pb$		
$\pi^+ X$		
1 - 6	Bayukov 85E a-dep, angp, p	
1.5	Buklej 86 angp, p	
$\pi^- X$		
0.2875 - 0.353	Gram 89 a-dep, cs	

$\pi^+ \text{ Pb} \rightarrow \pi^- X$ $K^- e^- \rightarrow K^- e^-$

$\pi^+ \text{ Pb}$		$\pi^+ 238\text{U}$		$\pi^+ \text{nucleus}$
$\pi^- X$ 1 - 6	Bayukov 85E a-dep, angp, p	inelastic 1.35 - 3.75 fragt X 0.1426 - 0.1947	Gachurin 85 Hicks 85	$b_1(1235)^+$ 43 - 202 Landsberg 86 $a_1(1280)^+$ 43 - 202 Landsberg 86 $a_2(1320)^+$ 43 - 202 Landsberg 86 nucleus $K^*(892)^+$ 43 - 202 Landsberg 86 nucleus $K^*(1370)^+$ 43 - 202 Landsberg 86
$\chi(\text{unspec}) X$ 530	De 89			
$p X$ 0.6 1 - 6	Golubeva 89 angp Bayukov 85C a-dep, angp, p	$\pi^+ U$ X 1.4 - 5	Bayukov 85F a-dep, p	$\pi^- \mu^+ X$ 10.5 200
1.4 - 5	Bayukov 85F a-dep, p	$\pi^+ X$ 1 - 6	Bayukov 85E a-dep, angp, p	Fredriksson 87 a-dep, angp
1.5	Burgov 87 a-dep, angp, p	$\pi^- X$ 1 - 6	Bayukov 85E a-dep, angp, p	Fredriksson 87 a-dep, angp, pt
4	Tokushuku 90 angp			Biino 87 ang, mass, p
30	Abreu 85 a-dep, p, pt			
$\bar{p} X$ 30	Abreu 85 a-dep, p, pt			
$n X$ 1 - 6	Bayukov 85C a-dep, angp, p	$\pi^+ X$ 1 - 6	Bayukov 85C a-dep, angp, p	Akimenko 89 mass, p
1.4 - 5	Bayukov 85F a-dep, p	$n X$ 1 - 6	Bayukov 85C a-dep, angp, p	
ΛX 3	Vorobiev 89C angp Vorobiev 88E p, pol			
deuteron X 1.5	Burgov 87 a-dep, angp, p	$\pi^+ \text{nucleus}$		
4	Tokushuku 90 angp	inelastic 5 - 300	Fredriksson 87 a-dep, cs	
hadron X 200	Akesson 88B angp, et	charged- X 10.5 - 200	Fredriksson 87 mult	
$\eta \text{ mult[fragt]}$ 10.5	Akimenko 89 a-dep, ang, angp, cs, p	$^{37}\text{Ar} X$ 0.3957 - 0.5108	Gavrin 89 cs, mult	
$\text{Pb } \rho^+$ 202.5	Huston 86 angp	γX 200	Fredriksson 87 angp, pt	
$J/\psi(1S) \gamma X$ 530	De 89 a-dep, cs, mass, p	$e^+ X$ 0.077	Azuelos 86 mass	
$p \pi^- X$ 3	Vorobiev 88E ang, mass, p	$\mu^+ X$ 0.077	Azuelos 86 mass	
$p \bar{p} X$ 30	Beusch 86 a-dep, ang, mass, p, pt	$\pi^0 X$ 200	Fredriksson 87 angp, pt	
$2p X$ 3 - 7.5	Bayukov 86 ang Bayukov 89C ang, angp, p	$\pi^+ X$ 100	Fredriksson 87 angp	
deuteron p X 7.5	Bayukov 89C ang, angp, p	$\pi^- X$ 100	Fredriksson 87 angp	
$^3\text{H} p X$ 7.5	Bayukov 89C ang, angp, p	ηX 200	Fredriksson 87 angp, pt	
2deuteron X 7.5	Bayukov 89C ang, angp, p	$J/\psi(1S) X$ 252	Biino 87 p, pol	
$\pi^0 \text{ mult[fragt]}$ 10.5	Akimenko 89 a-dep, cs	$K^+ X$ 100	Fredriksson 87 angp	
$\mu^- \mu^+ \gamma X$ 530	De 89 mass	$K^- X$ 100	Fredriksson 87 angp	
$\text{Pb } 2\pi^+ \pi^-$ 202.5	Zielinsky 86 angp, mass, pwa	$p X$ 10.5 - 64 30 - 100	Fredriksson 87 mult Fredriksson 87 angp, p	
$\pi^+ 208\text{pb}$		$\bar{p} X$ 30 - 100	Fredriksson 87 angp, p	
$\pi^0 X$ 0.4168 - 0.6753	Rokni 88 a-dep, angp	ΛX 30	Fredriksson 87 angp, p	
$\pi^+ 209\text{Bi}$		$\bar{\Lambda} X$ 30	Fredriksson 87 angp, p	
inelastic 1.35 - 3.75	Gachurin 85 cs	deuteron X 1 - 6	Gavrilov 85 a-dep, angp, p	
fragt X 0.1426 - 0.1947	Hicks 85	He X 7.5	Takibaev 90 p	
		jet X 200	Fredriksson 87 a-dep, angp, pt	
		nucleus π^- 0.2189 - 0.3205	Mordechai 85 angp, p	
		nucleus ρ^+ 43 - 202	Landsberg 86 -	

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

$K^- p \rightarrow$ charged X $K^- p \rightarrow \Lambda$ meson⁰

$K^- p$	$K^- p$	$K^- p$
charged X 80 - 140	Apsimon 89 angp, cs, pt	$\Sigma^0 \gamma$ 0 Whitehouse 89
110	Tannenbaum 89 p, pt	$\Sigma + \pi^-$ 0.688 - 0.833 Hessey 89 Koiso 84
mult[charged] X 110	Tannenbaum 89 p, pt	$\Sigma - \pi^+$ 0.688 - 0.833 Gall 88 Hertzog 88 Koiso 84
$\pi^0 X$ 40	Amaglobeli 89 Asym, pt Apokin 89 Asym, pt Apokin 88B angp, asym, p Paub 85 p, pt	$p K^-$ 8 - 12 Armstrong 87C angp, cs
$\pi^+ X$ 0.688 - 0.833	Koiso 84	Armstrong 86F angp
58	Paub 85	Baller 88 angp, cs, pt
$\pi^- X$ 0.688 - 0.833	Koiso 84	Asad 85 angp
58	Paub 85	Antipov 87B angp, cs
ϕX 110	Banerjee 86 cs, p, pt	$\Sigma(1660) + \pi^-$ 4.2 Hemingway 84
$f_2'(1525) X$ 40	Toki 88B	$p K^*(892)^-$?
$K^+ X$ 58	Paub 85	$n \bar{K}^*(892)^0$ 11 Aston 89B Aston 88B Aston 86 Aston 86G mass, pwa
$K^- X$ 58	Paub 85	$\Delta f_0(975)$?
$K^*(892)^- X$?	Chliapnikov 90	$\Delta \phi$ 11 Aston 88I Aston 88J
$K^*(892)^0 X$ 110	Banerjee 86 cs, p, pt	$n \bar{K}_1(1400)^0$ 11 Aston 88I Aston 88J Aston 86B
?	Chliapnikov 90	$p K^*(1370)^-$?
$K_S X$?	Chliapnikov 90	$n \bar{K}^*(1370)^0$ 11 Aston 88I Aston 86B Aston 88I
$D_S^\pm X$ 200	Becker 87	$p K_2^*(1430)^-$?
ΔX 3.93 - 176	Panagiotou 89	$n \bar{K}_2^*(1430)^0$ 11 Aston 89B Aston 88G Aston 88I Aston 86B Bird 88
12 - 16	Armstrong 85 p, pol, pt	$n \bar{K}_2^*(1430)^0$ 11 Aston 88I Aston 86B Aston 88I
110	Haupt 85	$n \bar{K}_2^*(1430)^0$ 11 Aston 88I Aston 86B Aston 88I
176	Gourlay 86	$n \bar{K}_2^*(1430)^0$ 11 Aston 89B Aston 88G Aston 88I Aston 86B Bird 88
$\Sigma(1385 P_{13})^+ X$ 110	Banerjee 86B cs, mult, p, pt	$n \bar{K}_2^*(1430)^0$ 11 Aston 89B Aston 88B Aston 86 Aston 86G mass, pwa
$\Sigma(1385 P_{13})^- X$ 110	Banerjee 86B cs, mult, p, pt	$n \bar{K}_2^*(1430)^0$ 11 Aston 89B Aston 88B Aston 86 Aston 86G mass, pwa
$\Xi(3170 B)^+ X$?	Aston 85	$n \bar{K}_2^*(1430)^0$ 11 Aston 89B Aston 88B Aston 86 Aston 86G mass, pwa
$\Xi^- X$ 5	Bensinger 85 asym, p, pol, pt	$\Delta h_1(1380)$ 11 Aston 88I Aston 86 Aston 86B Aston 88I Aston 87B
11	Aston 85B ang, cs, p, pt	$\Delta f_0(1525)$ 11 Aston 88I Aston 88J
$\Xi(1530 P_{13})^0 X$ 11	Aston 85B ang, cs, p, pt	$\Delta f_2'(1525)$ 11 Aston 88C Aston 88I Aston 88J Augustin 88C
?	Aston 85	$\Delta f_2'(1525)$ 11 Aston 88C Aston 88I Aston 88J Augustin 88C
$\Xi(1820 D_{13})^- X$?	Aston 85	$\Delta f_2'(1525)$ 11 Aston 88C Aston 88I Aston 88J Augustin 88C
$\Omega^- X$ 11	Aston 85B ang, cs, p, pt	$\Delta f_2'(1525) + \Sigma^0 f_2'(1525)$ 40 Bolonkin 88
$\Omega(2250)^- X$ 11	Aston 89	$\Delta f_2'(1525)$ 11 Aston 88C Aston 88I Aston 88J Augustin 88C Aston 86B
$\Omega(2470)^- X$ 11	Aston 89	$\Delta f_2'(1525)$ 11 Aston 88C Aston 88I Aston 88J Augustin 88C Aston 86B
$\Omega^*(unspec)^- X$ 11	Aston 88E Aston 87	$\Delta f_2'(1525)$ 11 Aston 88C Aston 88I Aston 88J Augustin 88C Aston 86B
$\Lambda \gamma$ 0	Whitehouse 89	$\Delta f_2'(1525) + \Sigma^0 f_2'(1525)$ 40 Bolonkin 88

$K^- p \rightarrow \Lambda$ meson⁰ $K^- p \rightarrow \Lambda K^+ K_S \pi^-$

$K^- p$	$K^- p$	$K^- p$	
Λ meson ⁰	$\Xi^- K^+ X$	$\Lambda 2K_S$	
32.5	Aston 88F angp, mass, pwa Toki 88B Landsberg 88 angp, cs	11 Aston 85 mass	Aston 88C mass
$\Xi^*(\text{unspec})$ meson ⁰	32.5 40 $f_2(1825)$ strange 40 $f_2(1720)$ strange 40	11 Aston 85 mass	Aston 88F mass
$\Lambda X(2200)$	Bolonkin 89 cs	11 Aston 89 mass	Aston 88H amp, mass
$\Lambda C(1480)^0$	32.5 32.1	11 Aston 87 mass	Aston 88I mass, pwa
$2\pi^+ X$	Landsberg 88 angp, cs	$\Xi(1530 P_{13})^0 K^- X$	Aston 88J mass, pwa
$2\pi^- X$	32.1 32.1	32.1 Ukhanov 86 ang	Aston 88B mass, pwa
$\pi^+ \pi^- X$	32.1 32.1 176	$\Sigma(1830 P_{13})^+$ mult[charged] (neutrals) 110 Banerjee 86B cs, mult	Aston 88C mass
$2\pi^+ X + 2\pi^- X$	32.1	$\Sigma(1385 P_{13})^-$ mult[charged] (neutrals) 110 Aston 85B cs, mult	Aston 88F mass
$a_0(980)^+ \pi^- X$?	Ξ^- mult[charged] (neutrals) 11 Aston 85B cs, mult	Aston 88H mass
$a_0(980)^- \pi^+ X$?	$\Xi(1530 P_{13})^0$ mult[charged] (neutrals) 11 Aston 85B cs, mult	Aston 88I mass
$\phi \pi^- X$	110	Ω^- mult[charged] (neutrals) 11 Aston 85B cs, mult	Aston 88J mass
$K^0 \pi^- X$	11	$n K^- \pi^+$	Aston 88B mass, pwa
$K^+ K^- X$	110	11 Aston 89B mass, pwa	Aston 88B mass
$K^*(892)^+ K^- X$?	$p K^0 \pi^-$	Aston 88I mass, pwa
$K^*(892)^0 K^+ X$?	11 Aston 88 Bird 88 mass, pwa	Aston 88J mass, pwa
$K^*(892)^0 K^0 X$?	$\Lambda(1405 S_{01}) \pi^+ \pi^-$	Hemingway 84 mass
$K_S \pi^+ X$	32.1	$n \bar{K}^*(392)^0 \pi^0$	Aston 86B -
$K_S \pi^- X$	32.1	?	Aston 86B -
$K^*(892)^0 K^0 X$?	$n K^*(892)^- \pi^+$	Aston 86B mass, pwa
$K_S \pi^+ X$	32.1	$p K^- \eta$	Aston 89B -
$K_S \pi^- X$	32.1	11 Aston 89B mass, pwa	Aston 88G mass, pwa
$K^*(892)^0 K^0 X$?	$n \bar{K}^0 \rho^0$	Aston 86B mass, pwa
$K_S \pi^+ X$	32.1	11 Aston 86B mass, pwa	Aston 88G mass, pwa
$K_S \pi^- X$	32.1	$p K^- \omega$	Aston 89B -
$K^*(892)^0 K^0 X$?	11 Aston 89B mass, pwa	Aston 88G -
$K_S \pi^+ X$	32.1	$\Lambda \pi^0 (\pi^* s)$	Haupt 85 p
$K_S \pi^- X$	32.1	110 Aston 88D mass, pwa	$\Lambda K^+ K^-$
$K^*(892)^0 K^0 X$?	11 Aston 88D mass, pwa	11 Aston 88D mass, pwa
$2K_S X$	40	$\Lambda K^+ K^-$	Aston 88F -
$p \pi^+ X$	32.1	11 Aston 88H mass, pwa	angp, mass, pwa
$p \pi^- X$	32.1 176	Aston 88H mass, pwa	Aston 88I mass, pwa
$\bar{p} \pi^+ X$	176	Aston 88J mass, pwa	Aston 87B mass, pwa
$n \pi^+ X$	11	Augustin 88C mass, pwa	Aston 86B mass, pwa
$\Lambda \pi^+ X$	32.1 110	32.5 Aston 86B mass, pwa	Sinervo 86 mass, p, pt
$\Lambda \pi^- X$	32.1 110	$\Lambda K^*(892)^0 \bar{K}^0$	Hemingway 84 ang, mass, p
$\Xi^- \pi^+ X$	11	11 Aston 88 cs, mass, pwa	Aston 89B ang, mass, p
$\Xi(1530 P_{13})^0 \pi^- X$	11	$\Lambda K^*(892)^0 K^0$	Aston 88I mass, pwa
		11 Aston 88 cs, mass, pwa	Aston 87B mass, pwa
		$p K_S \pi^-$	Aston 86B mass, pwa
		11 Bird 88 mass, pwa	Sinervo 86 mass, p, pt
		$\text{hyperon } \phi \pi^0$	$\Lambda K^+ K^- \gamma$
		32.5 Bityukov 86B mass, p, pt	32.5 Landsberg 88 ang, angp, mass
		$\Lambda K^*(892)^0 K_S + \Lambda K^*(892)^- K^+$	$\Lambda K^+ K^- \pi^0$
		11 Toki 88B mass	32.5 Landsberg 88 ang, angp, mass
		$\Delta K \bar{K}$	$\Lambda K^+ K^- \pi^+$
		11 Toki 88B mass	11 Aston 88 mass, pwa
		$\Xi(1530 P_{13})^0 K^- X$	$\Lambda K^+ K^- \pi^0$
		11 Aston 85 mass	32.5 Bityukov 85C cs, mass
		$\Xi(1530 P_{13})^0 \pi^- X$	$\Lambda K^+ K_S \pi^-$
		11 Aston 85 mass	11 Aston 88D mass, pwa
			$\Lambda K^+ K_S \pi^-$
			11 Aston 88I mass, pwa

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

$K^- p \rightarrow \Lambda K^+ K_S \pi^-$ $K^- C \rightarrow \text{charged}^+ X$

$K^- p$	$K^- \text{nucleon}$	$K^- {}^9\text{Be}$
$\Delta K^+ K_S \pi^-$	hyperon meson^0	${}^9\text{Li}_S$
Aston 88J mass, pwa	32.5 Landsberg 87 angp, cs, pwa	?
Augustin 88C mass, pwa		Pniewski 85
Toki 88B mass		
Aston 86B mass, pwa		
$\Delta K_S K^- \pi^+$	$\text{hyperon } \phi \gamma$	$K^- \text{Be}$
11 Aston 88D mass, pwa	32.5 Landsberg 87 mass, p	ϕX
Aston 88I mass, pwa		100 Dijkstra 86D
Aston 88J mass, pwa	32.5 Landsberg 87 mass, p	100 - 175 Dijkstra 86 mult, p, pt
Augustin 88C mass, pwa		
Aston 86B mass, pwa		
$\Delta K^+ K_S \pi^- + \Delta K_S K^- \pi^+$	$\text{hyperon } \phi \pi^0$	$p X$
11 Aston 88H amp, mass	32.5 Landsberg 87 mass, p	40 Antipov 87
$\text{hyperon } K^+ K^- \pi^0$	$\text{hyperon } K^+ K^- \gamma$	$DD < K^- \pi^+ \pi^- > Be$
32.5 Bityukov 86B mass, p	32.5 Landsberg 87 mass, p	40 Antipov 89C a-dep, angp, cs, mass
$\Delta K \bar{K} (\pi^0)$	$\text{hyperon } K^+ K^- \pi^0$	$\phi \pi^+ X$
3.93 - 176 Panagiotou 89 p, pol, pt	32.5 Landsberg 87 mass, p	100 Dijkstra 86C
$\Delta K^- \pi^+ \pi^- X$	$\text{hyperon } K^+ K^- 2\gamma$	100 Dijkstra 86C
11 Aston 89 mass, mass	32.5 Landsberg 87 mass, p	$K^+ \phi X$
$p K^- \pi^+ \pi^0 \pi^-$	$K^- \text{deuteron}$	100 Dijkstra 86C
11 Aston 89B mass, pwa	$\pi^0 X$	
Aston 88G cs, mass	40 Amaglobeli 89 asym, pt	
Aston 88I cs, mass	Apokin 89 asym, pt	
Aston 86B cs, mass	Apokin 88C angp, asym, p	
$p K^0 \pi^+ 2\pi^-$	$\pi^- X$	
32.1 Ma 86 p	0.92 - 1.4 Pigot 85 mass	
$\Delta K^+ K^- 2\gamma$	$dibaryon(S = -1) \pi^-$	
32.5 Landsberg 88 ang, angp, mass	0.92 - 1.4 Pigot 85 angp	
$p \bar{p} Y^*(\text{unspec}) \pi^+ \pi^-$	$K^- {}^4\text{He}$	
40 Bolonkin 89 mass	${}^3\text{He } \Delta \pi^-$	
$4\text{charged (charged)s (neutrals)}$	< 0.3 Dalitz 90	p
32.1 Babintsev 86B col	${}^3\text{He } \Sigma^0 \pi^-$	
$p K^- 2\pi^+ 2\pi^-$	< 0.3 Dalitz 90	p
32.1 Ma 86 Patalakha 85 ang, angp, mult, p, pt	$\text{deuteron } n \Sigma^+ \pi^-$	
$p K^+ 2K^- \pi^+ \pi^-$	< 0.3 Dalitz 90	p
32.1 Ma 86 Patalakha 85 ang, angp, mult, p, pt	$\text{deuteron } n \Sigma^- \pi^+$	
$2p \bar{p} K^- \pi^+ \pi^-$	< 0.3 Dalitz 90	p
32.1 Ma 86 Patalakha 85 ang, angp, mult, p, pt	$p 2n \Sigma^+ \pi^-$	
$p K^0 2\pi^+ 3\pi^-$	< 0.3 Dalitz 90	p
32.1 Ma 86 Patalakha 85 ang, angp, mult, p, pt	$p 2n \Sigma^- \pi^+$	
$p K^- 3\pi^+ 3\pi^-$	< 0.3 Dalitz 90	p
32.1 Ma 86 Patalakha 85 ang, angp, mult, p, pt	$K^- Li$	
$p K^- 4\pi^+ 4\pi^-$	$\text{charged}^+ X$	
32.1 Patalakha 85 ang, angp, mult, p, pt	40 Boos 88 a-dep, mult	
$K^- n$	$\text{charged}^- X$	
$\text{hyperon } f_1(1420)$	40 Boos 88 a-dep, mult	
32.5 Bityukov 87 cs	$\text{mult[charged}^+ X]$	
$\text{hyperon } \eta(1440)$	40 Boos 88 a-dep, mult	
32.5 Bityukov 87 cs	$\text{mult[charged}^- X]$	
$\text{hyperon } f_1(1510)$	40 Boos 88 a-dep, mult	
32.5 Bityukov 87 cs	mult[grey] X	
$\text{hyperon } K^+ K^- \gamma$	40 Boos 88 a-dep, mult	
32.5 Bityukov 87 mass	$X \text{ star}$	
$K^- \text{nucleon}$	40 Boos 88 a-dep, cs	
$\text{hyperon } f_1(1285)$	$\text{charged}^+ X \text{ star}$	
32.5 Landsberg 87 angp, cs, pwa	40 Boos 88 a-dep, mult	
$\text{hyperon } C(1480)$	$\text{charged}^- X \text{ star}$	
32.5 Landsberg 87 angp, cs, pwa	$\text{mult[charged}^+ X \text{ star}$	
	40 Boos 88 a-dep, mult	
	$\text{mult[charged}^- X \text{ star}$	
	40 Boos 88 a-dep, mult	
	grey X star	
	40 Boos 88 a-dep, mult	
	mult[grey] X star	
	40 Boos 88 a-dep, mult	
$K^- \text{C}$	$K^- {}^{12}\text{C}$	
$\text{hypernucleus } \pi^+$	0	
	Gal 86B Yamazaki 85	-
	0.9195 Yamazaki 86	p
	450 Dabrowski 86	-
$\text{hypernucleus } \pi^-$	0	
	0.8 Gal 86B Grace 85	-
$C_S \pi^+$	0.45 Bertini 84	angp, mass
$K^- C$	X	
	1.6 - 1.8 Afanasyev 88 a-dep, angp, cs	
inelastic	1.6 - 1.8 Afanasyev 88 a-dep, angp, cs	
$\text{charged}^+ X$	40 Boos 88 a-dep, mult	

$K^- C \rightarrow \text{charged}^- X$ $K^- \text{nucleus} \rightarrow \text{charged}^- X$

$K^- C$	$K^- S$	$K^- Cu$
charged ⁻ X 40 Boos 88 a-dep, mult	mult[charged ⁻] X 40 Boos 88 a-dep, mult	$Cu K^- \pi^+ \pi^-$ 38 Efendiev 89 mass, pwa
mult[charged ⁺] X 40 Boos 88 a-dep, mult	grey X 40 Boos 88 a-dep, mult	$K^- Ag$
mult[charged ⁻] X 40 Boos 88 a-dep, mult	mult[grey] X 40 Boos 88 a-dep, mult	$DD < K^- \pi^+ \pi^- > Ag$
grey X 40 Boos 88 a-dep, mult	X star 40 Boos 88 a-dep, cs	40 Antipov 89C a-dep, angp, cs, mass
mult[grey] X 40 Boos 88 a-dep, mult	charged ⁺ X star 40 Boos 88 a-dep, mult	$Ag K^- \pi^+ \pi^-$ 38 Efendiev 89 mass, pwa
X star 40 Boos 88 a-dep, cs	charged ⁻ X star 40 Boos 88 a-dep, mult	$K^- Cd$
charged ⁺ X star 40 Boos 88 a-dep, mult	mult[charged ⁺] X star 40 Boos 88 a-dep, mult	X 1.6 - 1.8 Afanasyev 88 a-dep, angp, cs
charged ⁻ X star 40 Boos 88 a-dep, mult	mult[charged ⁻] X star 40 Boos 88 a-dep, mult	inelastic 1.6 - 1.8 Afanasyev 88 a-dep, angp, cs
mult[charged ⁺] X star 40 Boos 88 a-dep, mult	grey X star 40 Boos 88 a-dep, mult	$K^- Wt$
mult[charged ⁻] X star 40 Boos 88 a-dep, mult	mult[grey] X star 40 Boos 88 a-dep, mult	γX 0 Gall 88 P
grey X star 40 Boos 88 a-dep, mult		$\Xi^0 X$ 6 Bensinger 88 -
mult[grey] X star 40 Boos 88 a-dep, mult		$\Lambda \pi^0 X$ 6 Bensinger 88 cs, mass
		$\Lambda \gamma X$ 6 Bensinger 88 cs, mass
$K^- {}^{16}O$		$K^- Pb$
Os π^+ 0.45	B- rtini 84 mass	charged ⁺ X 40 Boos 88 a-dep, mult
$K^- Al$		charged ⁻ X 40 Boos 88 a-dep, mult
X 1.6 - 1.8 Afanasyev 88 a-dep, angp, cs	mult[charged ⁺] X 40 Boos 88 a-dep, mult	mult[charged ⁺] X 40 Boos 88 a-dep, mult
inelastic 1.6 - 1.8 Afanasyev 88 a-dep, angp, cs	mult[charged ⁻] X 40 Boos 88 a-dep, mult	mult[charged ⁻] X 40 Boos 88 a-dep, mult
Al $K^- \pi^+ \pi^-$ 38 Efendiev 89 mass, pwa		γX 0 Gall 88 P
$K^- Si$		grey X 40 Boos 88 a-dep, mult
$D^0 X$ 200 Barlag 88 cs, p, pt	$\bar{\Lambda}_c X$ 230 Barlag 90D P	mult[grey] X 40 Boos 88 a-dep, mult
$\bar{D}^0 X$ 200 Barlag 88 cs, p, pt	grey X 40 Boos 88 a-dep, mult	X star 40 Boos 88 a-dep, cs
$D^+ X$ 200 Barlag 88 cs, p, pt	mult[grey] X 40 Boos 88 a-dep, mult	$DD < K^- \pi^+ \pi^- > Cu$ 40 Antipov 89C a-dep, angp, cs, mass
$D^- X$ 200 Barlag 88 cs, p, pt	X star 40 Boos 88 a-dep, mult	charged ⁺ X star 40 Boos 88 a-dep, mult
$D_s^- X$ 200 Barlag 88 cs, p, pt	$DD < K^- \pi^+ \pi^- > Cu$ 40 Antipov 89C a-dep, angp, cs, mass	charged ⁻ X star 40 Boos 88 a-dep, mult
$D_s^+ X$ 200 Barlag 88 cs, p, pt	charged ⁺ X star 40 Boos 88 a-dep, mult	mult[charged ⁺] X star 40 Boos 88 a-dep, mult
$D^*(2010)^+ X$ 200 Barlag 88 cs, p, pt	charged ⁻ X star 40 Boos 88 a-dep, mult	mult[charged ⁻] X star 40 Boos 88 a-dep, mult
$D^*(2010)^- X$ 200 Barlag 88 cs, p, pt	mult[charged ⁺] X star 40 Boos 88 a-dep, mult	grey X star 40 Boos 88 a-dep, mult
$K^+ K^- 2\pi^+ 2\pi^- X$ 200 Barlag 88 mass	mult[charged ⁻] X star 40 Boos 88 a-dep, mult	mult[grey] X star 40 Boos 88 a-dep, mult
	grey X star 40 Boos 88 a-dep, mult	Pb $K^- \pi^+ \pi^-$ 38 Efendiev 89 mass, pwa
$K^- S$		$K^- \text{nucleus}$
charged ⁺ X 40 Boos 88 a-dep, mult	mult[grey] X star 40 Boos 88 a-dep, mult	inelastic 5 - 300 Fredriksson 87 a-dep, cs
charged ⁻ X 40 Boos 88 a-dep, mult	p $K^- \pi^+ X$ 230 Barlag 90D angp, mass, p	13.3 Prokoshkin 87C cs
mult[charged ⁺] X 40 Boos 88 a-dep, mult	$\bar{p} K^+ \pi^- X$ 230 Barlag 90D angp, mass, p	charged ⁺ X 40 Boos 88 a-dep, mult
		charged ⁻ X 40 Boos 88 a-dep, mult

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

K^- nucleus → charged $^-$ X $K^+ p \rightarrow DD < 2K^+ K^- \rho^0 > p$

K^- nucleus	$K^+ p$	$K^+ p$
charged $^-$ X	$\rho^+ X$ 250 Fredriksson 87 mult	Agababyan 89 Adamus 87E cs, p cs, p
mult[charged $^+$] X	$\rho^- X$ 250 Boos 88 a-dep, mult	Adamus 87E cs, p
mult[charged $^-$] X	$\rho^0 X$ 250 Boos 88 a-dep, mult	Agababyan 89 Adamus 87E cs, mult, p cs, p
p X	ωX 250 Fredriksson 87 a-dep, mult	Agababyan 89 Adamus 87E cs, p cs, p
Ξ^- X	ϕX 120 May 89B 4 May 89B	Dijkstra 86D Agababyan 89 Adamus 87 cs, p cs, p
grey X	$f_2(1270) X$ 250 Fredriksson 87 mult Boos 88 a-dep, mult	Agababyan 89 cs, mult, p
mult[grey] X	$D^0 X + \bar{D}^0 X$ 32.1 Boos 88 a-dep, mult	Ajinenko 84B cs
shower X	$D^+ X$ 32.1 20 - 40 Fredriksson 87 mult	Ajinenko 84B cs
X star	$D^- X$ 32.1 40 Boos 88 a-dep, cs	Ajinenko 84B cs
nucleus meson	$D_S^+ X$ 32.1 Efendiev 89 cs	Ajinenko 84B cs
p charged $^-$ X	$K^+ X$ 32.1 25 - 60 Fredriksson 87 cor, mult	Ajinenko 84B cs
charged $^+$ X star	$K^*(892)^+ X$ 32.1 40 Boos 88 a-dep, mult	Ajinenko 83B cs, p, pt
charged $^-$ X star	$K^*(892)^- X$ 32.1 40 Boos 88 a-dep, mult	Agababyan 89 Chliapnikov 90 cs, p, pt cs, p cs
mult[charged $^+$] X star	$K^*(892)^0 X$ 32.1 40 Boos 88 a-dep, mult	Ajinenko 83B cs, p, pt
mult[charged $^-$] X star	$K^*(892)^0 X$ 250 40 Boos 88 a-dep, mult	Agababyan 89 Adamus 87 Chliapnikov 90 cs, mult, p cs, p cs
grey X star	$K^*(892)^0 X$ 32.1 40 Boos 88 a-dep, mult	Ajinenko 83B cs, p, pt
mult[grey] X star	$K^*(892)^0 X$ 250 40 Boos 88 a-dep, mult	Agababyan 89 Adamus 87 Chliapnikov 90 cs, mult, p cs, p cs
$K^+ p$	$K^*(892)^0 X$ 250 70 Kubic 85 mult	Agababyan 89 Adamus 87 cs, p cs
charged X	$K^*(1430)^+ X$ 32.1 80 - 140 Ajavazyan 89 mult, p	Ajinenko 83B cs, p, pt
	$K^*(1430)^0 X$ 32.1 250 Ajavazyan 88 mult, p	Agababyan 89 Chliapnikov 90 cs, p, pt cs, p cs
	$K^*(1430)^0 X$ 250 Adamus 87C mult, p	Ajinenko 83B cs, p, pt
	$K^*(1430)^0 X$ 250 Adamus 86B cs, mult	Agababyan 89 Adamus 87 Chliapnikov 90 cs, p, pt cs, p cs
charged $^+$ X	$K_S X$ 70 250 Kubic 85 mult Ajavazyan 89 mult, p	Dewolf 86 Chliapnikov 90 p cs
	$K_S X$ 70 250 Adamus 88G mult, p	Ajinenko 83B cs, p, pt
charged $^+$ X	$D_S^\pm X$ 200 70 Kubic 85 mult 200 Brick 90 cor, mult, p	Agababyan 89 Becker 87 mult
	$D_S^\pm X$ 200 250 Ajavazyan 89 mult, p	Brick 89 Ajinenko 89E mult
charged $^-$ X	ρX 200 250 Kubic 85 mult Brick 90 cor, mult, p	Ajinenko 89E cs, mult, p, pt
	$\Delta(1232) P_{33}^{++} X$ 250 250 Adamus 88G mult, p	Ajinenko 89E cs, mult, p, pt
mult[charged] X	$\Delta(1232) P_{33}^{++} X$ 250 250 Adamus 88G mult	Ajinenko 89E cs, mult, p, pt
mult[charged] (neutrals)	$\Lambda_c^+ X$ 32.1 70 Gritsaenko 84 cs, mult	Ajinenko 84B cs
	$\Xi_c(2460)^- X$ 32.1 147 Brick 86 p	Ajinenko 84B cs
	ΛX 8.2 - 70 Ajinenko 90 p	Panagiotou 89 P, pol, pt
$\pi^0 X$	ΛX 8.2 - 70 Ajinenko 89 p, pt	Ajinenko 89E cs, mult, p, pt
	$\bar{\Lambda} X$ 8.2 - 70 Adamus 86C cs, mult, p, pt	Panagiotou 89 P, pol, pt

$K^+ p \rightarrow DD < \text{charged (chargeds) (neutrals)} > p$ $K^+ p \rightarrow K_S \pi^+ \pi^- X$

$K^+ p$	$K^+ p$	$K^+ p$	
$DD < \text{charged (chargeds) (neutrals)} > p$	$\pi^+ \pi^- X$	$p K_S X$	
250 Adamus 88F cs, p	250 Agababyan 89 mass, p	Ajinenko 84B angp, cs, mass	
$DD < K^*(892)^0 + 2\pi^+ 2\pi^- > p$	$\rho^0 \text{ charged } X$	$\Delta K_S X$	
32.1 Gerdyukov 87 cs, mass, pt	250 Agababyan 89 cs, p	32.1 Tomaradze 86 ang	
$DD < K^*(892)^0 + \rho^0 > p$	$K^+ \pi^0 X$	70 Ronjin 86 p, pt	
32.1 Gerdyukov 87 ang, mass	250 Agababyan 89 mass, p	$\bar{\Delta} K_S X$	
$DD < K^*(892)^0 2\pi^+ \pi^- > p$	$K^+ \pi^- X$	32.1 Tomaradze 86 ang	
32.1 Ajinenko 87B cs	250 Agababyan 89 mass, p	70 Ronjin 86 p, pt	
$DD < K^*(892)^0 K^+ K^- \pi^+ > p$	$K^*(892)^0 \text{ charged } X$	$\Delta K_S X + \Sigma^0 K_S X$	
32.1 Ajinenko 87B cs	250 Agababyan 89 cs, p	32.1 Ajinenko 84C cs, mass, p, pt	
$DD < \bar{K}^*(892)^0 2K^+ \pi^- > p$	$K^*(892)^0 \text{ charged } X$	$\bar{\Delta} K_S X + \bar{\Sigma}^0 K_S X$	
32.1 Ajinenko 87B cs	250 Agababyan 89 cs, p	32.1 Ajinenko 84C cs, mass, p, pt	
$DD < K^+ 2\pi^+ 2\pi^- > p$	$K^*(892)^0 + \pi^+ X$	$p \Delta X$	
32.1 Ajinenko 87B ang, angp, cs, mass	32.1 Knyazev 85 cs, p	32.1 Ajinenko 85 cs, p	
250 Ajinenko 89B cs, mass, p	$K^*(892)^0 + \pi^- X$	$p \bar{\Delta} X$	
	32.1 Knyazev 85 cs, p	32.1 Tomaradze 86 ang	
$DD < K^+ \phi \pi^+ \pi^- > p$	$K^0 \phi X$	70 Ronjin 86 p, pt	
32.1 Ajinenko 87B cs	32.1 Tomaradze 86 ang	$\Delta \bar{\Delta} X$	
$DD < K^+ \pi^+ \pi^- > p$	$K^*(892)^0 + \rho^0 X$	70 Ronjin 86 p, pt	
250 Ajinenko 89B cs, mass, p	32.1 Knyazev 85 cs, p	$\Delta \bar{\Delta} X + \Delta \bar{\Sigma}^0 X + \bar{\Delta} \Sigma^0 X + \Sigma^0 \bar{\Sigma}^0 X$	
	$K^+ K^- X$	32.1 Ajinenko 84C cs, mass, p, pt	
$DD < K^+ \rho^0 \pi^+ \pi^- > p$	250 Agababyan 89 mass, p	$\bar{\Delta} \text{O} \text{strange } X$	
32.1 Gerdyukov 87 cs, mass, pt	Adamus 87 mass, p	32.1 Garutchava 87 asym, cs, p	
	$K^*(892)^0 + K^*(892)^0 X$		
$DD < p \bar{p} K^+ \pi^+ \pi^- > p$	32.1 Knyazev 85 cs, p	$\Delta \text{strange } X$	
32.1 Ajinenko 87B cs, mass	32.1 Ajinenko 84B angp, cs, mass	32.1 Garutchava 87 asym, cs, p	
$DD < \bar{K} > \bar{\Delta}$	$K_S \pi^+ X$	$K^+ \text{mult[charged]} \text{ (neutrals)}$	
32.1 Garutchava 87B ang, mass	32.1 Ajinenko 84B angp, cs, mass	250 Adamus 88F mult	
	$K_S \pi^- X$	$p \text{ mult[charged]} \text{ (neutrals)}$	
$DD < K^+ \pi^+ \pi^- > DD < 2p \bar{p} >$	32.1 Ajinenko 84B angp, cs, mass	250 Adamus 88F mult	
32.1 Ajinenko 87B cs	$K_S \rho^0 X$	$p K^0 \pi^+$	
	32.1 Knyazev 85 cs, p	32.1 Ajinenko 86C cs	
$DD < 2K^+ K^- > DD < \Delta(1232 P_{33})^{++} \pi^-$	$K^+ K_S X$	$Gerdyukov 86B cs, mass, p, p$	
> 32.1 Ajinenko 87B cs	32.1 Ajinenko 84B angp, cs, mass	$\Delta(1232 P_{33})^{++} K^+ \pi^-$	
	$K^*(892)^0 + K_S X$	250 Ajinenko 89B cs	
$DD < K^+ \pi^+ \pi^- > DD < \Delta(1232 P_{33})^{++} \pi^-$	32.1 Tomaradze 86 ang	$p K^*(892)^0 \pi^+$	
> 32.1 Ajinenko 87B cs	70 Knyazev 85 cs, p	250 Ajinenko 89B cs	
	$K^*(892)^0 - K_S X$	70 Ronjin 86 cs	
$DD < p \pi^+ \pi^- > DD < K^+ \pi^+ \pi^- >$	70 Ronjin 86 cs	$p K^+ \rho^0$	
32.1 Ajinenko 87B cs, mass	$2K_S X$	250 Ajinenko 89B cs	
	32.1 Tomaradze 86 ang	$p K^+ \phi$	
$DD < 2K^+ K^- > DD < p \pi^+ \pi^- >$	Ajinenko 84 angp, cs, mass	13 Frame 86	
32.1 Ajinenko 87B cs, mass	$K^+ \pi^+ X$	ang, angp, dme, mass, pwa	
	70 Ronjin 86 p, pt	$p K^*(1430)^0 \pi^+$	
$DD < K^*(892)^0 \pi^+ > DD < p \pi^+ \pi^- >$	70 Ronjin 86 p, pt	250 Ajinenko 89B cs	
32.1 Ajinenko 87B cs	$\Delta K^*(892)^0 + K_S X$	$p K^+ f_2(1270)$	
	70 Ronjin 86 p, pt	250 Ajinenko 89B cs	
$DD < K^+ \phi > DD < p \pi^+ \pi^- >$	70 Ronjin 86 p, pt	$\Delta 2K^+$	
32.1 Ajinenko 87B cs	$\Delta \pi^+ X$	32.1 Gerdyukov 87 ang, mass	
	32.1 Ajinenko 84B angp, cs, mass	$p K^*(892)^0 + X$	
$DD < p \bar{p} K^+ > DD < p \pi^+ \pi^- >$	32.1 Tomaradze 86 ang	32.1 Ajinenko 86C cs	
32.1 Ajinenko 87B cs	$\Sigma(1385 P_{13})^+ K^0 X$	$Gerdyukov 86 angp, cs, mass, p$	
	32.1 Ajinenko 84C cs, p	$2p \bar{\Delta}$	
$DD < 2K^+ K^- > DD < p \rho^0 >$	$\Sigma(1385 P_{13})^- K^0 X$	32.1 Ajinenko 86C cs	
32.1 Ajinenko 87B cs	32.1 Ajinenko 84C cs, p	$2\text{charged (chargeds) (neutrals)}$	
	$\Delta K^*(892)^0 + X$	80 ~ 140 A-simon 99 col, pi	
$DD < K^+ \pi^+ \pi^- > DD < p \rho^0 >$	70 Ronjin 86 cs	$\pi^+ \pi^0 \pi^- X$	
32.1 Ajinenko 87B cs	$\Delta K^*(892)^0 + X + \Sigma^0 K^*(892)^0 + X$	250 Agababyan 89 mass, p	
	32.1 Ajinenko 84C cs, p	$p K_S X$	
$\pi^+ \pi^0 X$	$p K_S X$	32.1 Ajinenko 84B angp, cs, mass	
250 Agababyan 89 mass, p	32.1 Tomaradze 86 ang		
$2\pi^+ X$			
250 Adamus 88 angp, cor, p			
$2\pi^- X$			
250 Adamus 88 angp, cor, p			

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

$$K^+ p \rightarrow K_S \pi^+ \pi^- X$$

$$K^+ \text{ Be} \rightarrow \phi \text{ X}$$

$K^+ \text{ Be} \rightarrow K^0 X$ $K^+ \text{ Au} \rightarrow \text{mult[grey] charged}^+ \text{ charged}^- X$

$K^+ \text{ Be}$	$K^+ \text{ Al}$	$K^+ \text{ Ag}$	
$K^0 X$ 11.2 Akimenko 90B a-dep, angp, p, pt	X 1.6 - 1.8 Afanasyev 88 a-dep, angp, cs	$\text{mult[grey] shower } X$ Brick 89 mult	
$K^*(892)^0 X$ 11.2 Akimenko 90C a-dep, angp, p, pt	inelastic 1.6 - 1.8 Afanasyev 88 a-dep, angp, cs	$\text{mult[grey] charged}^+ \text{ charged}^- X$ 200 Brick 89 mult	
$\phi \pi^+ X$ 120 Dijkstra 86C mass	$\text{charged } X$ 250 Ajinenko 89 mult	$K^+ \text{ Cd}$	
$\phi \pi^- X$ 120 Dijkstra 86C mass	$\text{charged}^+ X$ 250 Ajinenko 89 mult	X 1.6 - 1.8 Afanasyev 88 a-dep, angp, cs	
$K^+ \phi X$ 120 Dijkstra 86C mass	$\text{charged}^- X$ 250 Ajinenko 89 mult	inelastic 1.6 - 1.8 Afanasyev 88 a-dep, angp, cs	
$K^- \phi X$ 120 Dijkstra 86C mass	$\text{mult[charged]} X$ 250 Ajinenko 90B angp, mult, p	$K^+ \text{ Xe}$	
$K^+ K^- X$ 120 - 200 Dijkstra 86 ang, dme, mass	$\text{mult[charged}^+ X$ 250 Ajinenko 89 angp, mult, p	$K^+ X$ 0.56 - 0.81 Barmin 89B	
$K_S \phi X$ 120 Dijkstra 86C mass	$\text{mult[charged}^- X$ 250 Ajinenko 89 angp, mult, p	$K^0 X$ 0.85 Barmin 86B Barmin 85	
$p \phi X$ 120 Dijkstra 86C mass	$p X$ 250 Ajinenko 89 p	$K_S X$ 0.85 Barmin 86C	
$p \phi X$ 120 Dijkstra 86C mass	$\text{mult[grey] } X$ 250 Ajinenko 89 mult	$2\gamma X$ 0.85 Barmin 86C mass	
$K^+ K^- \pi^+ X$ 120 Dijkstra 86C mass	$\text{mult[grey] charged}^- X$ 250 Ajinenko 89 cor, mult	$\pi^+ \pi^0 \pi^- X$ 0.85 Barmin 85	
$K^+ K^- \pi^- X$ 120 Dijkstra 86C mass	$\text{mult[grey] mult[charged]} X$ 250 Ajinenko 90B angp, mult, p	$K^+ \text{ Au}$	
$K^+ 2K^- X$ 120 Dijkstra 86C mass	$\text{mult[grey] mult[charged}^- X$ 250 Ajinenko 90B angp, mult, p	$\text{charged } X$ 200 Brick 89 mult	
$2K^+ K^- X$ 120 Dijkstra 86C mass	$\text{mult[grey] mult[charged]} X$ 250 Ajinenko 90B angp, mult, p	250 Ajinenko 89 mult	
$K^+ K_S K^- X$ 120 Dijkstra 86C mass	$\text{mult[grey] mult[charged}^- X$ 250 Ajinenko 90B angp, mult, p	$\text{charged}^+ X$ 250 Ajinenko 89 mult	
$p K^+ K^- X$ 120 Dijkstra 86C mass	$\text{mult[grey] mult[charged}^- X$ 250 Ajinenko 90B angp, mult, p	$\text{charged}^- X$ 200 Brick 90 cor, mult, p	
$p K^+ K^- X$ 120 Dijkstra 86C mass	$\text{mult[grey] mult[charged}^- X$ 250 Ajinenko 90B angp, mult, p	250 Ajinenko 89 mult	
$K^+ C$	$K^+ \text{ Ti}$	$\text{mult[charged]} X$ 200 Brick 89 mult	
X 1.6 - 1.8 Afanasyev 88 a-dep, angp, cs	X 1.6 - 1.8 Afanasyev 88 a-dep, angp, cs	250 Ajinenko 89 mult	
inelastic 1.6 - 1.8 Afanasyev 88 a-dep, angp, cs	inelastic 1.6 - 1.8 Afanasyev 88 a-dep, angp, cs	$\text{mult[charged}^+ X$ 250 Ajinenko 89 mult	
$\pi^0 X$ 200 Badier 85E cs, p, pt	<th>$K^+ \text{ Cu}$</th> <td>$\text{mult[charged}^- X$ 200 Brick 89 mult</td>	$K^+ \text{ Cu}$	$\text{mult[charged}^- X$ 200 Brick 89 mult
<th>$K^+ \text{ Mg}$</th> <td>$K^0 X$ 11.2 Akimenko 90B a-dep, angp, p, pt</td> <td>250 Ajinenko 90B mult</td>	$K^+ \text{ Mg}$	$K^0 X$ 11.2 Akimenko 90B a-dep, angp, p, pt	250 Ajinenko 90B mult
$\text{charged } X$ 200 Brick 89 mult	$K^*(892)^0 X$ 11.2 Akimenko 90C a-dep, angp, p, pt	$\text{mult[grey] } X$ 250 Ajinenko 89 p	
$\text{charged}^- X$ 200 Brick 90 cor, mult, p Brick 89 mult	$\text{charged } X$ 200 Brick 89 mult	$\text{mult[shower} X$ 200 Brick 89 mult	
$\text{mult[charged]} X$ 200 Brick 89 mult	$\text{charged}^- X$ 200 Brick 90 cor, mult, p Brick 89 mult	$\text{shower } X$ 200 Brick 90 cor, mult, p Brick 89 mult	
$\text{mult[charged}^- X$ 200 Brick 89 mult	$\text{mult[charged]} X$ 200 Brick 89 mult	$\text{mult[grey] charged}^- X$ 200 Brick 90 cor, mult, p Brick 89 mult	
$\text{mult[shower} X$ 200 Brick 89 mult	$\text{mult[charged}^- X$ 200 Brick 89 mult	$\text{mult[grey] mult[charged]} X$ 250 Ajinenko 90B angp, mult, p	
$\text{shower } X$ 200 Brick 90 cor, mult, p Brick 89 mult	$\text{mult[shower} X$ 200 Brick 89 mult	$\text{mult[grey] mult[charged}^- X$ 250 Ajinenko 90B angp, mult, p	
$\text{mult[grey] charged}^- X$ 200 Brick 90 cor, mult, p Brick 89 mult	$\text{shower } X$ 200 Brick 90 cor, mult, p Brick 89 mult	$\text{mult[grey] shower } X$ 200 Brick 90 cor, mult, p	
$\text{mult[grey] shower } X$ 200 Brick 90 cor, mult, p Brick 89 mult	$\text{mult[grey] charged}^- X$ 200 Brick 90 cor, mult, p Brick 89 mult	$\text{mult[grey] charged}^+ \text{ charged}^- X$ 200 Brick 89 mult	
$\text{mult[grey] charged}^+ \text{ charged}^- X$ 200 Brick 89 mult	$\text{mult[grey] shower } X$ 200 Brick 90 cor, mult, p	200 Brick 89 mult	

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

$K^+ Pb \rightarrow K^0 X$ $\bar{p} p \rightarrow \text{charged}^- X$

$K^+ Pb$	$K_L Al$	$\bar{p} p$
$K^0 X$ 11.2 Akimenko 90B a-dep, angp, p, pt	X 1.6 - 7.4 Berezin 86 a-dep, cs	baryonium ? Angelopoulos 85 Tanimori 85
$K^*(892)^0 X$ 11.2 Akimenko 90C a-dep, angp, p, pt	$K_L Cu$	x(unspec) 5.586 - 5.624 Baglin 86B
hadron X 200 Akesson 88B angp, et	X 1.6 - 7.4 Berezin 86 a-dep, cs	mult[π^\pm] Sedlak 88
$K^+ \text{nucleus}$	$Cu K^*(892)^0$ 100 - 200 Carlsmith 86	mult[π^\pm] Sedlak 88
inelastic 5 - 300 Fredriksson 87 a-dep, cs	$Cu K_s^*(1430)^0$ 60 - 200 Carlsmith 87	annihil 0.1 - 100 Sedlak 88
charged- X 200 Fredriksson 87 mult	$Cu K_s$ 1.6 - 7.4 Balats 87 p, pt	0.3 - 0.58 Brueckner 90
$\pi^+ X$ 100 Fredriksson 87 angp	$Cu K_s \pi^0$ 60 - 200 Carlsmith 87 cs, mass	0.4 - 0.6 Bruckner 87
$\pi^- X$ 100 Fredriksson 87 angp	$K_L Sn$	0.464 Sapozhnikov 86
$K^+ X$ 100 Fredriksson 87 angp	X 1.6 - 7.4 Berezin 86 a-dep, cs	0.586 - 0.604 Franklin 87
$K^- X$ 100 Fredriksson 87 angp	$K_L Pb$	1.91 - 1.99 Fickinger 86B
$K^0 X$ 10 Fredriksson 87 angp	X 1.6 - 7.4 Berezin 86 a-dep, cs	inelastic 0.1 - 100 Sedlak 88
$K_S X$ 10.5 Bitsadze 85 -	$Pb K^*(892)^0$ 100 - 200 Carlsmith 86	6.1 Batyuny 86B
shower X 50 - 200 Fredriksson 87 mult	$Pb K_s^*(1430)^0$ 60 - 200 Carlsmith 87	12 Chakrabarti 85
$e^- e^+ X$ 10.5 Bitsadze 85 mass	$Pb K_s \pi^0$ 60 - 200 Carlsmith 87	32.1 Gogolyubsky 87E
p K^+ mult[fragt] 0.6 Berdnikov 86 ang, angp, cs, p	$\rho^0 \text{nucleon}$	(200 - 900) Salvini 88
nucleus p K^+ 0.3811 Smirnov 85 ang, cs, p	X < 3.9 Nakai 89 cs	Anero 86
0.5 Berdnikov 85 ang, cs, p	< 5 Abdinov 86 cs	Schnickler 86
$K_L \gamma$	$\bar{p} p$	Geichgimbel 85
$K_2^*(1430)^0$ 60 - 200 Carlsmith 87 cs	X 0.1 - 100 Sedlak 88	Paoletti 89
$K_L \text{deuteron}$	0.2219 - 0.4132 Bugg 87	(546) Anero 85C
deuteron K_S 10 - 50 Silvestrov 87 -	0.464 Sapozhnikov 86	(546 - 640) Ward 86B
Silvestrov 86 -	0.7 - 0.76 Banerjee 85	(900) Ward 86B
deuteron $\mu^- \mu^+ X$ 10 - 50 Silvestrov 87 mass	(5 - 62) Block 84 amp, angp, cs	(1800) Amos 90
$K_L C$	32.1 Bogolyubsky 87E	μjet (540) Savoyanavarro 85
X 1.6 - 7.4 Berezin 86 a-dep, cs	(23 - 62.5) Camilleri 87	(neutrals) X (630)
$\Omega^- X$ 80 - 280 Hartouni 85 cs, p, pt	(30.6 - 62.7) Sedlak 88	(1800) Alitti 89
$\bar{\Omega}^+ X$ 80 - 280 Hartouni 85 cs, p, pt	(200 - 900) Carboni 85	Tonelli 89
$K^*(892)^+ \pi^-$ 75 - 200 Lamm 87 cs, p	Salvini 88	Wagner 89
$K^*(892)^- \pi^+$ 75 - 200 Lamm 87 cs, p	(200) Anero 86	
$K_S \rho^0$ 75 - 200 Lamm 87 cs, p	Schnickler 86	charged X 0.76 - 12
$K_S \omega$ 75 - 200 Lamm 87 cs, p	(546 - 640) Geichgimbel 85	Banerjee 85B
$K_S \phi$ 75 - 200 Lamm 87 cs, p	Ward 86B	Batrava 89
$\Delta K^- X$ 80 - 280 Hartouni 85 mass	(546 - 900) cs, mult, p	Bogolyubsky 88C
$\bar{\Delta} K^+ X$ 80 - 280 Hartouni 85 mass	(900) Jenni 89	(32.1) Bogolyubsky 87D
$K_S \pi^+ \pi^-$ 75 - 200 Lamm 87 cs, p	(630) Mandelli 88	cor, mult, p
	(1800) Ward 86B	Bogolyubsky 86H
	J/ψ(1S)	p, pt
	$\chi_{c1}(1P)$	Allday 88
	$\chi_{c2}(1P)$	Adamus 86B
	3.621 - 5.755 Augustin 88C	Tannenbaum 89
	? Toki 87	Breakstone 86F
	Baglin 87	Tannenbaum 89
	Baglin 87C	Anorge 89
	Baglin 86	angp, mult
	Baglin 87	Jenni 89
	Baglin 87B	angp, p
	Baglin 86	Alner 86B
	Baglin 87	Schnickler 86
	Baglin 87B	Geichgimbel 85
	Baglin 88	Albjar 90B
	Baglin 87C	Banner 85B
	Baglin 87	Tao 88
	Baglin 87C	Alner 85C
	Baglin 87	mult
	Baglin 87	Albjar 89B
	Baglin 87B	mult, pt
	Baglin 88	Ward 86B
	Baglin 87	cs, mult, p
	Baglin 87B	Binkley 90
	Baglin 88	cs, p
	Baglin 87	Abe 80M
	Baglin 87	Abe 88C
	Baglin 87	es, p, pt
	Baglin 87	Ward 86B
	Baglin 87	cs, mult, p
	Baglin 87B	Abe 89H
	Baglin 87	pt
	Baglin 87B	Tonelli 89
	Baglin 87	Albrow 88
	Baglin 87	angp, mult, pt
	Baglin 87	Alexopoulos 88B
	Baglin 87	mult, p, pt
	Baglin 87	Turkot 88
	Baglin 87	cor, mult, p, pt
	Baglin 87	Abe 89D
	Baglin 87	angp, cs, p, pt
	Baglin 87	charged+ X 200
	Baglin 87	Allday 88
	Baglin 87	(23 - 62.5) Camilleri 87
	Baglin 87	cs, mult, p, pt
	Baglin 87	charged- X 32.1
	Baglin 87	Bogolyubsky 88C p, pt

$\bar{p} p \rightarrow$ charged $\sim X$

$\bar{p} \ p \rightarrow \text{mult}[\gamma] \ X$

$\bar{p} \ p$	$\bar{p} \ p$	$\bar{p} \ p$	
charged- X			
Bogolyubsky 86H p, pt Alday 88 pt (23 - 62.5) Camilleri 87 cs, mult, p, pt	(546 - 630) (630)	Albajar 86 Fransson 90 Botner 89	
mult[charged] X			
0.76 - 12 Banerjee 85B mult, p 5.7 - 22.4 Baldwin 86 col (23 - 62.5) Camilleri 87 cs, mult (53 - 630) Tannenbaum 89 ang, et, p	(546 - 630) (630)	Albajar 86 Albajar 88D Albajar 88F Skarha 89	
(200 - 900) Ansorge 89C mult, mult Turkot 88 cor, mult, pt	(1800)	p pt et, pt pt	
(540) Savoynavarro 85 (546 - 640) Ward 86B cs, mult, p (630) Appel 88B col, et (900) Ward 86B cs, mult, p (1800) Turkot 88 cor, mult, pt	(546 - 630) (630)	Albajar 86 Albajar 88D Albajar 88F	
(chargedds) (neutrals)			
22.4 Batyunya 90 cs (1800) Freeman 89 et	5.55 12 32.1 40	Sedlak 88 angp Chakrabarti 85 cs Bogolyubsky 87E mult Apokin 88B	
mult[charged] (neutrals)			
0.3 - 10 Sedlak 88 cs 0.7 - 0.76 Banerjee 85 cs 6.1 Batyunya 86B cs 12 Chakrabarti 85 cs 22.4 Boos 86 cs, mult 32.1 Bogolyubsky 88 p Bogolyubsky 87D cor, mult, p Bogolyubsky 87E mult Alday 88 cs, mult Albajar 89 cor, p Tao 88 mult Holl 86 et, mult, p Alday 88 mult Cerradini 85 mult Albajar 90B et, mult, p, pt	70 (23 - 62.5) 313.7	Ukhanov 86B p Camilleri 87 cs Bernasconi 88 cs, pt Antille 87 cs, pt Bernasconi 87 cs, pt Valenti 85 angp Akesson 85G p Lancor 86B p, pt Banner 85B p, pt Pare 90 angp, p, pt Ansari 88B p, pt Appel 86B p, pt	
200 (200 - 900)			
(540) Alner 85D mult (546) Alner 85C cs (630) Albajar 90 mult, p, pt	1.96 0 8.8 - 9.1 (546) (1800)	Akesson 85G p Ward 86B p Alexopoulos 90 mult, p, pt	
(1800) Hubbard 89B col, et, mass, mult, p, pt	5.55 12 - 1078 32.1	Sedlak 88 p Sedlak 88 angp, pt Bogolyubsky 88 p Smirnova 88 mult, p, pt Bogolyubsky 87E mult Bravina 86 p Camilleri 87 pt	
$\gamma \ X$			
0 Omori 89 p Adiels 86B p Gorringe 85 mult, p Tsukerman 85 p Ziegler 88 p 0.105 Ahmad 85C p 0.303 Banerjee 85B mult, p 0.76 - 12 Chakrabarti 85 cs, p, pt 12 Hubbard 89B col, et, mass, mult, p, pt 32.1 Bogolyubsky 88 p Bogolyubsky 88E cs, mult, p, pt	(23 - 62.5)	Ahmad 84 p Banerjee 85 p, pt Sedlak 88 angp Sedlak 88 angp, pt Sedlak 88 p Bogolyubsky 88 p Bogolyubsky 88 mult, p, pt Bogolyubsky 87E mult Bogolyubsky 86H p, pt Bravina 86 p Camilleri 87 pt	
70 (23 - 62.5) 313.7	0.7 - 100 5.55 12 - 1078 32.1	Ahmad 84 p Sedlak 88 cs Sedlak 88 angp Sedlak 88 angp, pt Sedlak 88 p Bogolyubsky 88 p Bogolyubsky 88C p, pt Smirnova 88 mult, p, pt Bogolyubsky 87E mult Bogolyubsky 86H p, pt Bravina 86 p Camilleri 87 pt	
(200 - 900)			
1496 (53 - 640) (200 - 900) Ansorge 89 ang, mult (540) Ferbel 86 angp, pt Hanni 85 cs, pt (540 - 630) Albajar 88B angp, pt (546 - 630) Appel 86B p, pt (546 - 900) Salvini 88 angp, p, pt (630) Albajar 89C pt Albrow 88 pt Ansari 88B ang, p, pt (1800) Harris 90 p, pt	(200 - 900) (630)	$\pi^+ \ X + \pi^- \ X$ (200 - 900) $\pi^- \ X$ (23 - 62.5)	Burow 87 cs, mult Botner 89 pt Chiba 89 cs Adiels 88 p Chakrabarti 85 cs Camilleri 87 cs Bernasconi 88 cs, pt Antille 87 cs, pt Bernasconi 87 cs, pt 1496 (540) (630)
e [±] X			
(540) Savoynavarro 85 - (540 - 630) Vuillemin 85 - (546 - 630) Appel 86 angp, pt	0.7 - 100	Sedlak 88 cs	
$\rho^0 \ X$			
9.1 - 405 12 - 22.4	32.1 (630)	Sedlak 88 Sedlak 88 Batyunya 87J angp, pol, pt	
Kozlovsky 86 cs, mult, p, pt Albajar 88C -	0 (630)	Chakrabarti 85 cs Albajar 88C -	
Chiba 89 cs Albajar 88C -	Chiba 89 cs Albajar 88C -		
$f_0(975) \ X$			
32.1	0.7 - 100 9.1 32.1	Sedlak 88 Sedlak 88 Kozlovsky 86 cs, mult, p, pt	
$f_2(1270) \ X$			
0.7 - 100 9.1 32.1	(540) (540 - 630)	Savoynavarro 85 Vuillemin 85 -	
$J/\psi(1S) \ X$			
5.586 - 5.624 (546 - 630)	Baglin 86B pt Tao 88 pt Albajar 88C pt Albajar 88D pt Albajar 88E cs, p, pt Liss 90 -		
$\Upsilon(1S) \ X$			
(630 - 1800)	Liss 90 -		
$\Upsilon(3S) \ X + \Upsilon(2S) \ X + \Upsilon(1S) \ X$			
(540 - 630)	Albajar 86C angp, cs		
$Z^0 \ X$			
(536 - 630)	Suminers 87 cs		
(540)	Albajar 89B cs, p, pt		
(540 - 630)	Rubbia 86 cs		
(540)	Arnison 86C cs		
(540 - 630)	Vuillemin 85 -		
(540 - 640)	Stabenrauch 86 p, pt		
(540 - 1800)	Jenni 89 cs, pt		
(546 - 630)	Stabenrauch 89 cs, p, pt		
(546)	Plotowbesch 88 cs		
(546)	Salvini 88 cs, p, pt		
(546)	Tao 88 cs, p, pt		
(546)	Albajar 87 cs		
(546)	Ansari 87C cs, p		
(546)	Ansari 87F cs		
(546)	Cenci 87 cs		
(546)	Albajar 86B cs		
(546)	Appel 86 cs, pt		
(546)	Arnison 85D cs		
(546)	Levi 85 cs		
(546)	Akesson 90B -		
(546)	Alitti 90 cs		
(546)	Alitti 90B pt		
(546)	Alitti 90C -		
(546)	Meier 89 cs		
(546)	Gan 88 cs		
(546)	Ansari 87B cs		
(546)	Repellin 87 cs, mass		
(546)	Richard 87 pt		
(546)	Watts 90 pt		
(546)	Abe 89Q cs		
(546)	Abe 89T -		
(546)	Geer 89 -		
(546)	Kamon 89 cs, pt		
(546)	Smith 89 -		
$Z^0 \ X + W^- \ X + W^+ \ X$			
(630)	Alitti 90D cs		
$x(unspec) \ X$			
(630)	Albajar 88E cs, p, pt		
$mult[\gamma] \ X$			
0	Chiba 89 mass		

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$\bar{p} p \rightarrow \text{mult}[\gamma] X$ $\bar{p} p \rightarrow W^\pm X$

$\bar{p} p$	$\bar{p} p$	$\bar{p} p$
$\text{mult}[\gamma] X$	$K_L X$ (200 - 900)	ΛX (200 - 900) (1800)
12 Chiba 88 Chakrabarti 85	Burow 87 cs, mult	Ansorge 89B Banerjee 89 Turkot 88
70 (900) Ukhhanov 86B Ward 86B	cor, mult mult cs, mult, p	cs, p, pt p, pt
$\text{mult}[\pi^\pm] X$ (540 - 630) (1800)	Sedlak 88 1 - 10 ³ 1.95 - 4 9.1 - 405 22.4 32.1	Tosello 89 Sedlak 88 Tosello 89 Sedlak 88 Batyunya 85 Bogolyubsky 88 Bogolyubsky 87C cs, p, pt p cs, p, pt p, pt
$\text{mult}[\pi^0] X$ (540 - 630)	(200 - 900)	Ansorge 88 Ansorge 87 angp, cs, mult, pt Burow 87 Alner 85B (540)
$\text{mult}[\pi] X$ 1.5 - 2.1	Sedlak 88	angp, cs, mult, pt Burow 87 Alner 85B (546)
$\Upsilon(\text{unspec}) X$ (546 - 630)	Tao 88	Ward 86B P (630 - 1800)
$W^\pm X$ (546 - 630) (1800)	Ansari 87D Geer 89	Abe 89L cs, p, pt
$W^+ X$ (546 - 630)	Stubenrauch 89	$\text{mult}[K^\pm] X$ (200 - 900) (1800)
$W^- X$ (546 - 630)	Stubenrauch 89	Pelzer 89 cs, mult, p, pt Alexopoulos 90 mult, p, pt
X_{axigluon} (546 - 630)	Sphicas 88	$\text{mult}[K_S] X$ (200 - 900)
$Z' X$ (546 - 630)	Stubenrauch 89 Ansari 87D Geer 89	D _S [±] 200 Becker 87
$W^+ X + Z' X + W^- X$ (630)	Alitti 90D	p X 24 32.1
$K^+ X$	Bogolyubsky 87E mult Camilleri 87 Sedlak 88 Ansorge 87 angp, cs, mult, pt Alner 85B angp, cs, mult, p	Batyunya 89 cs, p Bogolyubsky 88 p Bogolyubsky 87 cs Bogolyubsky 87E mult Camilleri 87 pt Burow 87 Ward 86B Bonino 88 angp, p angp, p
$K^- X$	Sedlak 88 Bogolyubsky 87E mult Camilleri 87 Sedlak 88 Ansorge 87 angp, cs, mult, pt Alner 85B angp, cs, mult, p	p X 32.1 (23 - 62.5) (200 - 900) (546 - 900) (630)
$K^+ X + K^- X$ (200 - 900)	Bogolyubsky 88B mult	Bogolyubsky 87 Camilleri 87 Burow 87 Bernard 86B angp, cs, mass mass, p Alexopoulos 90 mult, p, pt
$K^0 X$	Bogolyubsky 88B mult	Bogolyubsky 87E mult Burow 87 cs, mult
$K^0 X$	Bogolyubsky 87E mult	Bernard 85 mult, p, pt
$K^0 X$	Bogolyubsky 87E mult	Boos 85 ang, mult, pt
$K^*(892)^+ X$ 0.7 - 100	Sedlak 88 Babintsev 88	n X 32.1 (200 - 900)
$K^*(892)^+ X$ 32.1	cs cs, p, pt	Bogolyubsky 87E mult Burow 87 cs, mult
$K^*(892)^- X$ 0.7 - 100	Sedlak 88 Babintsev 88	$\bar{n} X$ 0.415 (200 - 900)
$K^*(892)^- X$ 32.1	cs cs	Mutchler 88 Burow 87 cs, mult
$K_2^{(1430)} X$ 32.1	Babintsev 88	$\Delta(1232 P_{33})^{++} X$ 32.1 Babintsev 85 cs, mult, p, pt
$K_2^{(1430)} X$ 32.1	Babintsev 88	(23 - 62.5) Camilleri 87 cs, p, pol, pt
$K_2^{(1430)} X$ 32.1	Babintsev 88	$\Delta(1232 P_{33})^{0} X$ 32.1 Babintsev 85 cs, mult, p, pt
$K_2^{(1430)} X$ 32.1	Babintsev 88	$\Delta(1232 P_{33})^{--} X$ (23 - 62.5) Camilleri 87 cs, p, pol, pt
$K \pm X$	Babintsev 88	ΛX 1.95 - 4 22.4 Batyunya 85 cs, mult, p, pol, pt Bogolyubsky 88 p Bogolyubsky 87C cs, p, pt Bogolyubsky 87E mult Bogolyubsky 86B cs, p, pt Bogolyubsky 87E mult Bogolyubsky 86B cs, p, pt
$K \pm X$	Sedlak 88	(31 - 62) Panagiotou 89 p, pol, pt
$K \pm X$	Sedlak 88	(1800)

$\bar{p} p \rightarrow W^\pm X$

$$\bar{p} \ p \rightarrow \phi \ \pi^0$$

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

$\bar{p} p \rightarrow \phi \pi^0$ $\bar{p} p \rightarrow \Lambda \bar{\Lambda}$

$\bar{p} p$	$\bar{p} p$	$\bar{p} p$
$\phi \pi^0$	π^0 baryonium	
? Chiba 87B	Sapozhnikov 86	
$\rho^0 \eta$	π^0 mult[π^\pm]	
0 Chiba 89	5.6 Sedlak 88	0.359 - 0.625 Ashford 85B
Adiels 88	cs	0.39 - 0.78 Kageyama 87
? Sedlak 88	0	0.4 - 0.86 Timmers 84
$\omega \eta$	π^+ baryonium	0.413 - 0.715 Iwasaki 85B
0 Chiba 89	0 Sapozhnikov 86	0.497 - 1.55 Kunne 88
Adiels 88	cs	asym
$b_1(1235)^+ \pi^- + b_1(1235)^- \pi^+$	π^- baryonium	Kunne 88B
? Sedlak 88	0 Sapozhnikov 86	angp, cs, pol
$f_2(1270) \pi^0$	ρ^0 mult[π^\pm]	Kunne 88C
? Sedlak 88	9.1 Sedlak 88	angp, cs, pol
$f_1(1285) \pi^0$	ω mult[π^\pm]	asym
0.702 - 0.757 Sedlak 88	9.1 Sedlak 88	Birsa 85
$a_2(1320)^0 \pi^0$	K^+ baryonium	Schiavon 89
0 Adiels 88	0 Sapozhnikov 86	amp, angp, cs
$a_2(1320)^+ \pi^-$	K^- baryonium	0.542 - 0.556 Birsa 85
0 Ahmad 84	0 Sapozhnikov 86	0.55 - 1.077 Schiavon 89
0.702 - 0.757 Sedlak 88	cs, mult	amp, angp, cs
$a_2(1320)^- \pi^+$	$K^+ K^-$	0.6103 - 1.097 Sapozhnikov 86
0 Ahmad 84	0 Ahmad 86	angp, cs
0.702 - 0.757 Sedlak 88	0 Tanimori 89B	Bertini 89
$a_2(1320)^+ \pi^- + a_2(1320)^- \pi^+$	0.36 - 0.76 Sugimoto 88	angp, pol
? Sedlak 88	0.39 - 0.78 Tanimori 85	Bertini 88C
$\eta' \eta$	0.7 - 2.12 Sedlak 88	Iwanickie 85
0 Chiba 89	0.7373 - 7.53 Sedlak 88	Sedlak 88
Adiels 88	1.3 - 1.5 Bardin 87	cs
0	30 - 50 Asad 85	1.91 - 1.99 Flickinger 86B
Chiba 89	? Sedlak 88	3.65 - 5.65 Baglin 89B
Adiels 88	0 Doser 88	8 - 12 Armstrong 87C
$2\rho^0$	$K^0 \bar{K}^0$	angp, cs
? Sedlak 88	$K^*(892)^- K^+$	Armstrong 86F
$\omega \rho^0$	0.702 - 0.757 Sedlak 88	Baller 88
? Sedlak 88	$K^*(892)^+ K^-$	Bogolyubsky 86F
$f_1(1420) \pi^0$	0.702 - 0.757 Sedlak 88	angp, cs, pt
0.702 - 0.757 Sedlak 88	$K^*(892)^0 \bar{K}^*(892)^0$	angp, cs
2ω	< 2 Hamann 90	Chakrabarti 85
	angp, cs, pwa	Block 84
$\phi \eta$	$K^*(892)^+ K^*(892)^-$	angp, cs
0 Chiba 89	0.702 - 0.757 Sedlak 88	Zlatanov 89
$f_2'(1525) \pi^0$	$K_2^*(1430)^- K^+$	Batyrunya 85C
0.702 - 0.757 Sedlak 88	0.702 - 0.757 Sedlak 88	angp, cs
$f_0(975) \rho^0$	$K_2^*(1430)^+ K^-$	Asad 85
0.702 - 0.757 Sedlak 88	0.702 - 0.757 Sedlak 88	Bogolyubsky 89B
$\phi \rho^0$	$K^0 K_S$	Bogolyubsky 84B
0.702 - 0.757 Sedlak 88	0.5 - 3 Sedlak 88	angp, cs
$\phi \omega$	$K^*(892)^0 K_S$	Camerieri 87
< 2 Hamann 90	0.702 - 0.757 Sedlak 88	amp, ang, angp, cs
	angp, cs, pwa	Breedon 89
$K_2^*(1430)^- K^+$	$K_2^*(1430)^- K^+$	angp, cs
0.702 - 0.757 Sedlak 88	0.702 - 0.757 Sedlak 88	(30.6 - 62.5) Amos 85
$K_2^*(1430)^+ K^-$	$K_2^*(1430)^+ K^-$	angp, cs
0.702 - 0.757 Sedlak 88	0.702 - 0.757 Sedlak 88	Breakstone 85C
$K^0 K_S$	$K^0 K_S$	Breakstone 85
0.702 - 0.757 Sedlak 88	0.5 - 3 Sedlak 88	angp, cs
$K^*(892)^0 K_S$	$K^*(892)^0 K_S$	Erhan 85
0.702 - 0.757 Sedlak 88	0.702 - 0.757 Sedlak 88	Schmidkler 86
$K^*(892)^0 K_S$	$K^*(892)^0 K_S$	Paoletti 89
0.702 - 0.757 Sedlak 88	0.702 - 0.757 Sedlak 88	Albow 88
$K_2^*(1430)^0 K_S$	$K_2^*(1430)^0 K_S$	amp, angp, cs
0.702 - 0.757 Sedlak 88	0.702 - 0.757 Sedlak 88	Bernard 87
$K_2^*(1430)^- K_S$	$K_2^*(1430)^- K_S$	Bozzo 85
0.702 - 0.757 Sedlak 88	0.702 - 0.757 Sedlak 88	Ward 86B
$K_2^*(1430)^+ K_S$	$K_2^*(1430)^+ K_S$	cs, mult, p
0.702 - 0.757 Sedlak 88	0.702 - 0.757 Sedlak 88	Jenni 89
$K_2^*(1430)^0 K_S$	$K_2^*(1430)^0 K_S$	Bernard 86
0.702 - 0.757 Sedlak 88	0.702 - 0.757 Sedlak 88	Amos 90
$K_2^*(1430)^- K_S$	$K_2^*(1430)^- K_S$	Amos 90B
0.702 - 0.757 Sedlak 88	0.702 - 0.757 Sedlak 88	Amos 89
$K_2^*(1430)^+ K_S$	$K_2^*(1430)^+ K_S$	Amos 88
0.702 - 0.757 Sedlak 88	0.702 - 0.757 Sedlak 88	Tonelli 88
$K_2^*(1430)^0 K_S$	$K_2^*(1430)^0 K_S$	Bertini 88B
0.702 - 0.757 Sedlak 88	0.702 - 0.757 Sedlak 88	pol
$n \bar{n}$		Bruckner 86
	0.18 - 0.6 Kageyama 87	angp, cs
	0.39 - 0.78 Banerjee 85	angp, cs
	0.7 - 0.76 Cresti 86	cs
	1.653 - 1.731 mass	mass
$\bar{p} N(1520 B)^+$	22.4 Batyunya 87F	cs
$\Delta(1232 P_{33})^{++}$	$\Delta(1232 P_{33})^{--}$	angp, cs
22.4 Batyunya 87F	$\Delta(1232 P_{33})^{--}$	angp, cs
$\Delta(1232 P_{33})^0$	$\Delta(1232 P_{33})^0$	Batyrunya 86C
22.4 Batyunya 86C	$\Delta(1232 P_{33})^0$	angp, cs, pol
$\bar{p} N(1700 B)^+$	22.4 Batyunya 87F	cs
$\bar{p} N^*(unspec)^+$	22.4 Batyunya 86D	cs
22.4 Batyunya 86D	$\Delta \bar{\Delta}$	angp, cs, pol
1.435 - 1.447 Vonfrankenbe 89		cs
1.435 - 1.92 Vonfrankenbe 89		angp, cs
1.435 - 1.45 Barnes 89		angp, cs, pol
1.476 - 1.507 Barnes 89		pol
	angp, cs, pol	
	Barnes 87	angp, pol
	Barnes 85	angp, cs
	Vonfrankenbe 89	pol

REACTION/MOMENTUM/DATA-DESCRIPTOR INDEX

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 $p p \rightarrow \Lambda \bar{\Lambda}$
 $\bar{p} p \rightarrow 2\pi X$

$\bar{p} p$	$\bar{p} p$	$\bar{p} p$
$\Lambda \bar{\Lambda}$ 1.546 Barnes 87B asym	$DD < \bar{X} > \bar{p}$ 32.1 Bogolyubsky 89B cs (200 - 900) Bogolyubsky 89D angp Ansorge 86 cs mult, p, pt	$e^- e^+ X$ 5.586 - 5.624 (540) Baglin 86B mass Rubbia 86 mass, p, pt Bagnaia 84E ang, mass, pt
$\Lambda \bar{\Lambda} + \Sigma^0 \bar{\Sigma}^0$ 3.15 - 7.9 Bachman 86 angp, pol	(546) Bernard 86B angp, cs, mass (1800) Amos 90 cs	(546 - 630) Ansari 87C mass Ansari 87D mass, pt Appel 86 mass
$\Lambda \Sigma^0$ 1.695 Barnes 90 angp, cs, pol	$DD < p X > \bar{\Lambda}(1232 P_{33})^{--}$ 32.1 Bogolyubsky 89D angp	$\mu^\pm \nu_\mu X$ (200 - 900) Ansorge 88 mass
$\bar{\Lambda} \Sigma^0$ 1.695 Barnes 90 angp, cs, pol Vonfrankenbe 89 angp, cs	$DD < \pi^+ X > \bar{\Lambda}(1232 P_{33})^{--}$ 32.1 Bogolyubsky 89D angp	$\mu^+ e^- X$ (1800) Barbarogalti 90 pt
γ jet (1800) Blair 89 angp	$DD < \pi^- X > \bar{\Lambda}(1232 P_{33})^{--}$ 32.1 Bogolyubsky 89D angp	$\mu^- e^+ X$ (1800) Barbarogalti 90 pt
π^0 annihil? ? Sedlak 88 mult, p	$\bar{t} t$ (1800) Barbarogalti 90 cs	$\pi^+ \text{mult[charged]} X$ 22.4 - 24 Batyunya 90 p
π^\pm annihil? 8.8 - 9.1 Sedlak 88 p	4.6 - 12 Markytan 89 col, pt (540) Savoynavarro 85 -	$\mu^- \mu^+ X$ (540) Rubbia 86 mass, p, pt
π^\pm annihil? 12 - 1078 Sedlak 88 p	$DD < \bar{p} \pi^0 > DD < p \pi^+ \pi^- >$ 22.4 Batyunya 87E angp, cs	Arnison 85 ang, mass, pt
π^- annihil? 12 - 1078 Sedlak 88 p	$DD < \bar{p} \pi^+ \pi^- > DD < p \pi^0 >$ 22.4 Batyunya 87E angp, cs	Albajar 87C ang, mass, pt
π annihil? ? Sedlak 88 mult, p	$DD < \bar{X} > DD < \bar{X} >$ (200 - 900) Ansorge 86 cs	Albajar 86C ang, mass, pt
ρ^0 annihil? 9.1 - 405 Sedlak 88 p	$\bar{e}^- \bar{e}^+$ (630) Repellin 87 cs, mass	Tao 88 ang, cs, pt
$f_2(1270)$ annihil? 9.1 Sedlak 88 p	$\text{charged}^+ \text{charged}^- X$ (1800) Abe 89H pt	Summers 87 ang, cs, cs, mass, p
K_S annihil? 9.1 - 405 Sedlak 88 p	$2\text{charged } X$ 32.1 Bogolyubsky 86 ang, cor	Albajar 88C ang, mass, pt
$DD < \text{jet } X > p$ (630) Bonino 88 angp, cs, mass, p	200 Derado 88 a-dep, cor, mult, p	Albajar 88D pt
$DD < \bar{p} > p$ (200 - 900) Schmickler 86 cs	(53 - 63) Kvatadze 88 angp, cor, p	Albajar 88E mass, p, pt
$DD < \bar{p} \pi^+ \pi^- > p$ 22.4 Batyunya 87F angp, cs, mass	(62) Breakstone 86B p, pt	Albajar 88F et, pt
Batyunya 86C angp, cs	(200 - 900) Asman 88 cor, mult, p	Albajar 88G cor, et, pt
$DD < \bar{p} \pi^+ \pi^0 \pi^- > p$ 22.4 Batyunya 87E angp, cs	(630 - 1800) Eckart 88 cor	Liss 90 mass, pt
$DD < X > p$ (200 - 900) Ansorge 86 cs, mult, p, pt	(630 - 1800) Binkley 90 cor	Tao 88 cs
$DD < \gamma X > \bar{p}$ 32.1 Bogolyubsky 89D angp	$2\text{charged}^+ X$ (200 - 900) Albajar 89 cor, p	Summers 87 cs
$DD < K^0 \bar{X} > \bar{p}$ 32.1 Bogolyubsky 89D angp	$2\text{charged}^- X$ (200 - 900) Albajar 89 cor, p	Arnison 85 ang, mass, pt
$DD < \Delta X > \bar{p}$ 32.1 Bogolyubsky 89D angp	$\text{charged}^- \text{mult[charged]} (\text{neutrals})$ 32.1 Bogolyubsky 88 p	Albajar 87C ang, mass, pt
$DD < p 2\pi^+ 2\pi^- > \bar{p}$ 32.1 Bogolyubsky 87B angp, cs, mass, p	$2\text{charged} (\text{neutrals}) \text{ inelastic}$ 12 Chakrabarti 85 cs	Albajar 86C ang, mass, pt
$DD < p > \bar{p}$ (200 - 900) Schmickler 86 cs	(200 - 900) Ansorge 89 cor	Tao 88 cs
$DD < p \pi^+ \pi^- > \bar{p}$ 22.4 Batyunya 87F angp, cs, mass	$\gamma \text{ charged } X$ 12 Chakrabarti 85 mass	Summers 87 cs
Batyunya 86C angp, cs	313.7 Valenti 85 mass	VUILLEMINT 85 -
$DD < p \pi^+ \pi^0 \pi^- > \bar{p}$ 22.4 Batyunya 87E angp, cs	(540 - 630) Albajar 88B ang, pt	$\pi^0 \pi^- X$ (200 - 900) Ansorge 88 mass
$DD < p \rho^0 \pi^+ \pi^- > \bar{p}$ 32.1 Bogolyubsky 87B cs	(630) Pare 90 mass	$2\pi^+ X$ 32.1 Burnazhov 86 cor, p
$DD < p X > \bar{p}$ 32.1 Bogolyubsky 89D angp	Albrow 88 pt	Akesson 86F cor, pt
$DD < \pi^+ X > \bar{p}$ 32.1 Bogolyubsky 89D angp	Ansari 88B ang, p, pt	Albajar 89 cor, p
$DD < \pi^- > \bar{p}$ 32.1 Bogolyubsky 89D angp	$e^\pm \nu X$ (546 - 630) Appel 86 pt	$2\pi^- X$ 32.1 Burnazhov 86 cor, p
$DD < p \pi^+ \pi^- > \bar{p}$ 22.4 Batyunya 87F angp, cs, mass	$e^+ \gamma X$ (546 - 630) Ansari 87D -	Akesson 86F cor, pt
Batyunya 86C angp, cs	$e^- \gamma X$ (546 - 630) Ansari 87D -	Albajar 89 cor, p
$DD < p \pi^+ \pi^0 \pi^- > \bar{p}$ 22.4 Batyunya 87E angp, cs	$e^+ \text{neutral } X$ (546 - 630) Ansari 87C -	$\pi^+ \pi^- X$ 12 - 22.4 Batyunya 87J
$DD < p \rho^0 \pi^+ \pi^- > \bar{p}$ 32.1 Bogolyubsky 87B cs	(546 - 630) Ansari 87D -	$2\pi^- X$ 32.1 Burnazhov 86 cor, p
$DD < p X > \bar{p}$ 32.1 Bogolyubsky 89D angp	$e^- \text{neutral } X$ (546 - 630) Ansari 87C -	Kozlovsky 86 cor, p
$DD < \pi^+ X > \bar{p}$ 32.1 Bogolyubsky 89D angp	$e^+ \nu_e X$ (1800) Abe 89B et, mass	mass, p, pt
$DD < \pi^- > \bar{p}$ 32.1 Bogolyubsky 89D angp	$e^- \nu_e X$ (1800) Abe 89B et, mass	Camilleri 87 p
$DD < \pi^+ > \bar{p}$ 32.1 Bogolyubsky 89D angp	$2\pi^- X$ (23 - 62.5) Ansorge 88 mass	Ansorge 88 mass
$DD < \pi^- > \bar{p}$ 32.1 Bogolyubsky 89D angp	(200 - 900) Abe 89B mass	Abe 89L mass
$DD < \pi^+ > \bar{p}$ 32.1 Bogolyubsky 89D angp	(630 - 1800) Abe 89B mass	Sedlak 88 p

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

$\bar{p} p \rightarrow J/\psi(1S) \gamma X$ $\bar{p} p \rightarrow \text{bottom bottom } X$

$\bar{p} p$	$\bar{p} p$	$\bar{p} p$
$J/\psi(1S) \gamma X$?	$\Delta \pi^0 X$ 32.1	Bogolyubsky 88 p
$\tau^- \tau^+ X$ (540 - 630)	$\Delta \pi^+ X$ 32.1	Bogolyubsky 88 p
mult:[?] mult[charged] X (900)	$\bar{\Lambda} \pi^+ X$ 32.1	Bogolyubsky 88 mult, p
$B(\text{unspec}) \bar{B}(\text{unspec}) X$ (546 - 630)	$\bar{\Lambda} \pi^- X$ 32.1	Bogolyubsky 88 mult, p
heavy-lepton ⁻ heavy-lepton ⁺ X (630)	$\Delta K^0 X$ 32.1	Bogolyubsky 86B p, pt
$2\ell^+ X$ (546 - 630)	$\Delta K^*(892)^+ X + \bar{\Lambda} K^*(892)^- X$ 32.1	Babintsev 88 cs, p
$2\ell^- X$ (546 - 630)	$p K_S X$ 32.1	Bogolyubsky 88 p
$t^+ t^- X$ (546 - 630)	$\Delta K_S X$ 32.1	Bogolyubsky 88 Bogolyubsky 87C cs, p, pt
$B^0 \bar{B}^0 X$ (546 - 630)	$p \bar{\Lambda} X$ 32.1	Bogolyubsky 88 mult, p, p
$K_S^0 \bar{K}_S^0 X$ (630)	$\Delta \bar{\Lambda} X$ 32.1	Bogolyubsky 88 mult, p, p
$2K^+ X$ 1496	$2\Lambda X$ 32.1	Bogolyubsky 87C Bogolyubsky 86B p, pt
$2K^- X$ 1496	$2\bar{\Lambda} X$ 32.1	Bogolyubsky 87C Bogolyubsky 86B p, pt
$K_S \pi^+ X$ 32.1	$W^\pm \text{ charged } X$ (546 - 630)	Bogolyubsky 87C Bogolyubsky 89B mult, pt
$K_S \pi^- X$ 32.1	$\gamma \text{ jet } X$ (630)	Albajar 89B ang, p, pt
$K^*(892)^+ K_S X + K^*(892)^- K_S X$ 32.1	$\text{hadron charged } X$ 32.1	Ansari 88B ang, p, pt
$2K_S X$ 32.1	$e^+ \text{ jet } X$ (540 - 630)	Bogolyubsky 88G angp, mult, p, pt
$p \text{ charged}^- X$ 32.1	$e^- \text{ jet } X$ (540 - 630)	Albajar 87E mass
$p \text{ mult[charged]} X$ 22.4 - 24	$\mu^+ \text{ jet } X$ (540 - 630)	Rubbia 86 mass, p, pt
$\bar{p} \text{ mult[charged]} X$ (546)	$\mu^+ \text{ jet } X$ (1800)	Albajar 87E mass
$p \pi^0 X$ 32.1	$\mu^- \text{ jet } X$ (540 - 630)	Skarha 89 pt
$p \pi^+ X$ 32.1	$\pi^\pm \text{ jet } X$ 5.7 - 12	Albajar 87E mass
$p \pi^- X$ 32.1	$\pi^- \text{ jet } X$ 22.4	Baldin 85 ang, p
176 (200 - 900) (1800)	$\sigma^0 \text{ jet } X$ 22.4	Baldin 85 ang, p
$p \pi^+ X$ 176 (1800)	$J/\psi(1S) \text{ mult[hadron]} X$ (630)	Albajar 88E col, p, pt
$p \rho^0 X$ 32.1	$W^\pm \text{ Ojet } X$ (546 - 630)	Rublmann 88 cs
$\Delta \text{ charged}^- X$ 32.1	$Z^0 \text{ higgs } X$ (1800)	Abe 89R -
$\Delta \text{ mult[charged]} X$ (1800)	$Z^0 \text{ jet } X$ (540 - 640)	Geer 89 pt
$\bar{\Delta} \text{ mult[charged]} X$ (1800)	$Z^0 \text{ mult[jet]} X$ (546 - 630)	Stubenrauch 86 angp, et
$\Delta \text{ mult[charged]} X +$ (1800)	$Z^0 \text{ mult[jet]} X$ (546 - 640)	Tao 88 pt
$\bar{\Delta} \text{ mult[charged]} X$ (1800)	$\text{bottom bottom } X$ (540)	Stubenrauch 86 mult
		Hanni 85 cs, pt
		$\text{bottom bottom } X$ (540 - 630)
		Arnison 85
		Albajar 87C
		Albajar 86C
		angp, cs, pt

$p p \rightarrow \text{bottom bottom } X$ $p p \rightarrow \mu^- \mu^+ \text{ mult[jet] } X$

$\bar{p} p$	$\bar{p} p$	$\bar{p} p$
bottom bottom X	K_s mult[charged] (neutrals)	$p \Delta(1232 P_{33})^{--} \pi^+$
(546 - 630) Summers 87	22.4 Batyunya 85	22.4 Batyunya 86C angp, cs
(630) Albajar 88C	32.1 Bogolyubsky 87C	$p \bar{p} \rho^0$ 22.4 Batyunya 87F
Albajar 88D	cs, pt	angp, cs, cs
Dowell 88	cs, p, pt	$p \bar{p} \omega$ 22.4 Batyunya 87E angp, cs
gluino $X \bar{q}$	$K^*(892)^{\pm} \text{ mult[charged] (neutrals)}$	Batyunya 86D
(546 - 630) Plotnowbesch 88	32.1 Babintsev 88	angp, cs, cs
(630) Alitti 89	-	$p \Delta(1950 B)^{++} \pi^-$
$\bar{t} t X$	$K^*(892)^{-} \text{ mult[charged] (neutrals)}$	Batyunya 86C
(630) Albajar 90E	24 Batyunya 89	angp, cs, cs
(630 - 1800) Barbarogalti 89	(630) Bonino 88	angp, et, p
Tonelli 89	-	$p \Delta(1950 B)^{-} \pi^+$
$X \bar{q} \bar{q}$	$\bar{p} \text{ charged}^+ \text{ (neutrals)}$	Batyunya 86C
(630) Alitti 89	32.1 Bogolyubsky 89B	angp, cs
$X \bar{q} \bar{q}$	$\bar{p} \text{ mult[charged] (neutrals)}$	$p \Lambda K^+$
(546 - 630) Plotnowbesch 88	32.1 Bogolyubsky 89B	32.1 Bogolyubsky 86C cs
2gluino X	$\bar{p} \text{ angp, mult, p, p, p}$	$2\pi^+ \text{ annihil}$
(546 - 630) Plotnowbesch 88	Bogolyubsky 87	101 Sedlak 88 p
(630) Alitti 89	-	$\pi^+ \pi^- \text{ annihil}$
2jet X	$A \text{ mult[charged] (neutrals)}$	12 Sedlak 88 p
(200 - 900) Albajar 87	22.4 Batyunya 85	$DD < \pi^+ \pi^- > p \bar{p}$
(540 - 630) Tao 88	(1800) Banerjee 89	22.4 Kanazirska 87
Reya 85B	-	cs, mass, p
(546) Arnisson 86D	-	$W^{\pm} \text{ (jets) jet}$
$\bar{A} \text{ mult[charged] (neutrals)}$	$\Sigma(1385 P_{13})^+ \text{ mult[charged] (neutrals)}$	Repellin 87 mass, p, pt
(546 - 630) Arnison 85C	32.1 Babintsev 86	(630) Savoynavarro 85
Appel 88	cs, mult	(540) Ansari 87 p, pt
(546 - 630) Sphicas 88	angp, mass, p, pt	2hadron (hadrons)
Tao 88	mult, p, pt	(200 - 900) Albajar 88 et
Ansari 87D	angp, et	(546 - 630) Sphicas 88 angp, col, pt
(546 - 900) Salvini 88	mass	(630) Albajar 87D angp, et, p
Appel 88	angp, mass, p, pt	(1800) Albrow 88 et
(546 - 630) Alitti 90D	angp, mass	3jet
Jenni 89	angp	(540) Savoynavarro 85
Meier 89	angp	$\mu^- \mu^+ \gamma X + e^- e^+ \gamma X$
Albajar 88H	angp, col, mass	(540 - 630) Vuillemin 85
Albajar 87D	angp, mass	$\eta \pi^+ \pi^-$
Ansari 87B	et	? Sedlak 88
Arnison 86B	mass	$\rho^0 \pi^+ \pi^-$
Appel 85	angp, mass	? Sedlak 88
Appel 85B	pt	1 - 8 Sedlak 88
Appel 85C	et	? Sedlak 88
Abe 90B	angp, pt	$\omega \pi^+ \pi^-$
Abe 89N	angp	0.7 - 7.2 Sedlak 88
Abe 89S	mass	1 - 8 Sedlak 88
Geer 89	ang, mass, pt	? Sedlak 88
Hubbard 89B	et, p, pt	$\eta(1295) 2\pi$
Tonelli 89	ang	0 Toki 88B
Abe 89D	angp, cs, p, pt	$f_1(1285) \pi^+ \pi^-$
$\pi^+ \pi^- \text{ (neutrals)}$	$\eta(1440) \pi^+ \pi^-$? Duch 89
1.25 - 1.55 Sculli 87	cs, mass	? Duch 89
5.7 - 22.4 Batyunya 55B	ang, mass	$\eta(1440) 2\pi$
$\rho^0 \text{ neutral (neutrals)}$	0	0 Toki 88B
5.7 - 22.4 Batyunya 85B	amp	baryonium $\gamma (\gamma')$
$K^+ K^- \text{ (neutrals)}$	0	0 May 89
1.25 - 1.55 Sculli 87	cs, mass	$\rho^0 \pi^0 \text{ mult}[\pi^{\pm}]$
$\gamma \text{ mult[charged] (neutrals)}$	9.1	9.1 Sedlak 88
12 Chakrabarti 85	cs	$K^+ K_S \pi^- + K_S K^- \pi^+$
32.1 Bogolyubsky 88E	mult	0.3014 - 1.914 Sedlak 88
(200 - 900) Ansgore 89	cor, mult	5.7 Sedlak 88
$\pi^0 \text{ mult[charged] (neutrals)}$	0.3014 - 1.914	0.3014 - 1.914 Sedlak 88
4.6 Sedlak 88	mult	5.7 Sedlak 88
32.1 Bogolyubsky 88	p	$2K_S \pi^0$
$\rho^0 \text{ mult[charged] (neutrals)}$	22.4	22.4 Batyunya 86
32.1 Kozlovsky 86	cs, mult	$n \bar{p} \pi^+$
$f_2(1270) \text{ mult[charged] (neutrals)}$	22.4	22.4 Batyunya 86
32.1 Kozlovsky 86	cs, mult	$p \bar{n} \pi^-$
$\text{mult}[\gamma] \text{ mult[charged] (neutrals)}$	22.4	22.4 Kanazski 89
12 Chakrabarti 85	cor, mult	ang, cs
		Batyunya 86
	$\bar{p} \Delta(1232 P_{33})^{++} \pi^-$	$\text{mult}[p] \text{ 2charged } X$
	22.4 Batyunya 86C	200 Derado 88
	angp, cs	a-dep, cor, mult, p
	$\mu^- \mu^+ \text{ mult[jet] } X$	$\mu^- \mu^+ \text{ mult[jet] } X$
	(546 - 630) Summers 87	-

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

$\bar{p} p \rightarrow DD\ p\ 2X$ $\bar{p} p \rightarrow 5\pi$

$\bar{p} p$	$\bar{p} p$	$\bar{p} p$
DD p 2X		
32.1 Bogolyubsky 87 cs	$p \pi^+ \text{ mult[charged] (neutrals)}$ 24 Batyunya 89 p, pt	$p \Delta(1232 P_{33})^{--} \pi^+ \pi^0$ 22.4 Batyunya 87E angp, cs
ν (jets) jet X (546 - 630)	Appel 86 pt	$\bar{p} N_{3/2}^+(1480)^{+++} 2\pi^-$ 32.1 Bogolyubsky 86E cs
e ⁺ (jets) jet X (630)	Albajar 88G cor, et, pt	$p \bar{p} \rho^0$ 22.4 Batyunya 86D cs
e ⁻ (jets) jet X (630)	Albajar 88G cor, et, pt	$p \bar{p} \rho^+ \pi^-$ 22.4 Batyunya 87E angp, cs
μ^+ (jets) jet X (630)	Albajar 88F et, pt	$p \bar{p} \rho^- \pi^+$ 22.4 Batyunya 87E angp, cs
μ^- (jets) jet X (630)	Albajar 88G cor, et, pt	$\Delta \bar{\Delta} \pi^+ \pi^-$ 32.1 Bogolyubsky 86C cs
Z ⁰ (jets) jet X (546 - 630)	Albajar 88F et, pt	$\bar{p} \Lambda K^0 \pi^+$ 32.1 Bogolyubsky 86C cs
W [±] (jets) jet X (546 - 630)	Albajar 88G cor, et, pt	$p \bar{p} K^+ K^-$ 32.1 Bogolyubsky 86C cs
W [±] 2jet X (546 - 630) (1800)	Appel 86 pt	$p \bar{p} K^0 K^0$ 32.1 Bogolyubsky 86C cs
Ruhmann 88 cs		$2p 2\bar{p}$ 32.1 Bogolyubsky 86C cs
Watts 90 pt		$\mu^- \mu^+ (\text{jets}) \text{ jet}$ (630) Albajar 88C mass, pt
Geer 89 mass, pt		$e^\pm (\text{jets}) 2\text{jet}$ (1800) Sinervo 89 et, mass
Kamon 89 pt		Z ⁰ 2hadron (hadrons) (546 - 630) Ansari 87C et, pt
W⁺ (jets) jet X (546 - 630)	Ansari 87C et, mass	W⁺ 2hadron (hadrons) (546 - 630) Ansari 87C et, pt
W⁻ (jets) jet X (546 - 630)	Ansari 87C et, mass	W⁻ 2hadron (hadrons) (546 - 630) Ansari 87C et, pt
W⁺ 2jet X (546 - 630)	Albajar 87E cor, mass, pt	$2\pi^+ 2\pi^- X$ 5.7 Sedlak 88 p
?	Sphicas 88 mass, pt	$\Delta \bar{\Delta} 2K_S X$ 32.1 Bogolyubsky 87C cs, p, pt
W⁻ 2jet X (546 - 630)	Albajar 87E cor, mass, pt	$2\gamma 2\text{jet } X$ (546 - 630) Ansari 87D mass, pt
?	Sphicas 88 mass, pt	$W^\pm (\text{jets}) 2\text{jet } X$ (1800) Kamon 89 mass
3jet X		$4\text{jet } X$ (546 - 630) Sphicas 88 mass, pt
(540 - 630) Tao 88 ang		$2K^+ 2K^-$ 3.742 Baglin 89C mass
(546) Reya 85B ang		$\pi^0 \text{ exotic-meson } \gamma (\gamma')$ 0 May 89 p
Arnison 85C -		$K^+ K_S \pi^0 \pi^- + K_S K^- \pi^+ \pi^0$ 5.7 Sedlak 88 cs
		$K_S K_L \pi^+ \pi^-$ 5.7 Sedlak 88 cs
(546 - 630) Sphicas 88 mass, p		$2K_S \pi^+ \pi^-$ 5.7 Sedlak 88 cs
Ansari 87D pt		$2K^+ 2K^-$ 3.742 Baglin 89C mass
(630) Appel 85C ang, angp, mass, p, pt		$\pi^0 \pi^0 \pi^- (\pi^0\pi^-)$? Sedlak 88 cs
$\rho^0 \pi^+ \pi^- (\text{neutrals})$		$2K^+ 2K^-$ 3.742 Baglin 89C mass
5.7 Sedlak 88 amp		$\pi^0 \pi^0 \pi^- (\pi^0\pi^-)$? Sedlak 88 cs
Batyunya 87J ang, pol		$2K^+ 2K^-$ 3.742 Baglin 89C mass
neutral (neutrals) 2jet		$2K^+ 2K^-$ 3.742 Baglin 89C mass
(546 - 630) Albajar 87B ang, et		$K^+ K_S \pi^0 \pi^- + K_S K^- \pi^+ \pi^0$ 5.7 Sedlak 88 cs
$\pi^0 \text{ mult[charged] neutral (neutrals)}$		$K_S K_L \pi^+ \pi^-$ 5.7 Sedlak 88 cs
32.1 Bogolyubsky 88 p		$2K_S \pi^+ \pi^-$ 5.7 Sedlak 88 cs
2π^+ mult[charged] (neutrals)		$2K_S \pi^+ \pi^-$ 5.7 Sedlak 88 cs
32.1 Bumazhov 86 cor, p		$p \bar{p} \pi^+ \pi^-$ 1.435 - 1.45 Barnes 89 mass
2π^- mult[charged] (neutrals)		$p \bar{p} \pi^+ \pi^-$ 1.476 - 1.507 Barnes 89B mass
32.1 Bumazhov 86 cor, p		$p \bar{p} \pi^+ \pi^-$ 1.546 Barnes 87B mass
$\pi^+ \pi^- \text{ mult[charged] (neutrals)}$		$p \bar{p} \pi^+ \pi^-$ 4.6 - 12 Markytan 89 col, pt
32.1 Bumazhov 86 cor, p		$p \bar{p} \pi^+ \pi^-$ 9 Sedlak 88 col
K_S mult[charged] neutral (neutrals)		$p \bar{p} \pi^+ \pi^-$ 22.4 Batyunya 87F angp, cs, mass
32.1 Bogolyubsky 88 p		$K_{S\bar{S}} \pi^+ \pi^-$ Kanazirski 87 cs, mass, p
K_S π^+ mult[charged] (neutrals)		$Batyunya 86C$ cs, mass
32.1 Babintsev 88 mass		$Bogolyubsky 86C$ cs
K_S π^- mult[charged] (neutrals)		$Bogolyubsky 86G$ cs
32.1 Babintsev 88 mass	32.1	$Bogolyubsky 86G$ cs
2K_S mult[charged] (neutrals)		$Breakstone 86B$ cor, p, pt
32.1 Bogolyubsky 87C cs, mult, p	(62)	$Breakstone 86B$ angp, mass
$\bar{p} \pi^0$ mult[charged] (neutrals)		$\bar{p} \Delta(1232 P_{33})^{++} \pi^0 \pi^-$ 22.4 Batyunya 87E angp, cs
32.1 Bogolyubsky 89B cs, mult		$\bar{p} \Delta(1232 P_{33})^{++} \pi^0 \pi^-$ 22.4 Batyunya 86D cs

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 $\bar{p} p \rightarrow \eta 2\pi^+ 2\pi^-$ $\bar{p} p \rightarrow 6\pi^+ 6\pi^-$

$\bar{p} p$	$\bar{p} p$	$\bar{p} p$
$\eta 2\pi^+ 2\pi^-$	$K^+ K_S \pi^+ \pi^0 2\pi^- + K_S K^- 2\pi^+ \pi^0 \pi^-$	$2\gamma 5\text{jet } X$
?	+ Sedlak 88	(546 - 630) Ansari 87D mass, pt
$\rho^0 2\pi^+ 2\pi^-$	$K^0 K_S 2\pi^+ \pi^0 2\pi^-$	$4\pi^+ 4\pi^-$
1 - 8	12 Sedlak 88	1.449 - 4.289 Sedlak 88 cs
$\omega 2\pi^+ 2\pi^-$	$K^+ K_S \pi^+ \pi^0 2\pi^- + K_S K^- 2\pi^+ \pi^0 \pi^-$	4.6 - 12 Markytan 89 col, pt
1 - 8	5.7 Sedlak 88	32.1 Sedlak 88 cs
?	$K_S K^- 2\pi^+ \pi^0 \pi^-$	Bogolyubsky 86C cs
$\eta' 2\pi^+ 2\pi^-$	5.7 Sedlak 88	8π 4.6 Sedlak 88 pt
?	Sedlak 88	$K^+ K_S 2\pi^+ \pi^0 3\pi^- + K^0 K_S 3\pi^+ 3\pi^-$
$f_2(1270) 2\pi^+ 2\pi^-$	$2K_S 2\pi^+ 2\pi^-$	$K_S K^- 3\pi^+ \pi^0 2\pi^-$
1 - 8	0.76 Sedlak 88	12 Sedlak 88 col, cs
$K^+ \bar{K}^0 \pi^+ 2\pi^- + K^0 K^- 2\pi^+ \pi^-$	5.7 Sedlak 88	$K^+ K_S 2\pi^+ \pi^0 3\pi^- + K_S K^- 3\pi^+ \pi^0 2\pi^-$
32.1 Bogolyubsky 86C	$p \bar{p} 2\pi^+ 2\pi^-$	+ Markytan 89 col, pt
$K^+ K_S \pi^+ 2\pi^- + K_S K^- 2\pi^+ \pi^-$	4.6 - 12 Sedlak 88	$K^0 K_S 3\pi^+ \pi^0 3\pi^-$
0 Augustin 85E	9 Boos 89	12 Sedlak 88 angp
5.7 Sedlak 88	Boos 89	$p \bar{p} 3\pi^+ 3\pi^-$
12 Sedlak 88	32.1 Bogolyubsky 86C	4.6 - 12 Markytan 89 col, pt
$2K_S \pi^+ \pi^0 \pi^-$	$p \bar{p} K^0 2\pi^+ 2\pi^-$	Bogolyubsky 86C
5.7 Sedlak 88	32.1 Bogolyubsky 86D	Bogolyubsky 86D col
$K_S \text{kaon } 3\pi$	$p \bar{p} K^0 2\pi^+ 2\pi^-$	Bogolyubsky 86G
0 Toki 88B	32.1 Bogolyubsky 86G	cor, p, pt
$p \bar{p} \pi^+ \pi^0 \pi^-$	$\bar{p} \Delta(1232 P_{33})++ \pi^+ \pi^0 2\pi^-$	$\Delta \bar{\Lambda} 3\pi^+ 3\pi^-$
22.4 Batyunya 87E	22.4 Boos 89	32.1 Bogolyubsky 86C cs
Batyunya 86D	$\bar{p} \Delta(1232 P_{33})++ \pi^+ 3\pi^-$	$\bar{p} \Lambda K^0 3\pi^+ 2\pi^-$
$p \bar{n} \pi^+ 2\pi^-$	22.4 Boos 89	32.1 Bogolyubsky 86C cs
?	Tsukerman 85	$p \bar{p} K^0 K^0 2\pi^+ 2\pi^-$
$\bar{p} \Delta(1232 P_{33})++ \pi^+ 2\pi^-$	32.1 Bogolyubsky 86C	32.1 Bogolyubsky 86C cs
22.4 Boos 89	$p \bar{p} \Lambda K^0 2\pi^+ \pi^-$	$p \bar{p} K^0 2\pi^+ 2\pi^-$
32.1 Bogolyubsky 86E	32.1 Bogolyubsky 86C	32.1 Bogolyubsky 86C cs
$p \bar{\Delta}(1232 P_{33})-- 2\pi^+ \pi^-$	$p \bar{p} K^0 K^0 \pi^+ \pi^-$	$2\gamma 6\text{jet } X$
32.1 Bogolyubsky 86E	32.1 Bogolyubsky 86C	(546 - 630) Ansari 87D mass, pt
$p \bar{p} \rho^0 \pi^+ \pi^-$	$p \bar{p} K^0 2\pi^+ \pi^-$	$4\pi^+ \pi^0 4\pi^-$
32.1 Bogolyubsky 86E	32.1 Bogolyubsky 86C	1.449 - 4.289 Sedlak 88 cs
$\bar{p} \Lambda K^+ \pi^+ \pi^-$	$2\gamma 4\text{jet } X$	4.6 - 12 Markytan 89 col, pt
32.1 Bogolyubsky 86C	(546 - 630) Ansari 87D	32.1 Sedlak 88 cs
$p \bar{p} K^+ \bar{K}^0 \pi^+ + p \bar{p} K^0 K^- \pi^+$	6jet X (546 - 630)	Bogolyubsky 86C cs
32.1 Bogolyubsky 86C	Ansari 87D	Bogolyubsky 86D cs
4charged (chargede) (neutrals)	$3\pi^+ \pi^0 3\pi^-$	angp, col
32.1 Babintsev 86B	1.449 - 4.289 Sedlak 88	$\theta\pi$ 4.6 Sedlak 88 pt
$2\pi^+ \pi^0 \pi^- (\pi^0)s X +$	4.6 - 12 Markytan 89	$3\pi^+ 2\pi^0 3\pi^- (\pi^0)s$
$\pi^+ \pi^0 2\pi^- (\pi^0)s X$	32.1 Sedlak 88	?
(540) Savoynavarro 85	Bogolyubsky 86C	Sedlak 88
$2\gamma 3\text{jet } X$	$2\pi^+ 2\pi^- (\pi^0)s$	$\bar{p} \Lambda K^+ 3\pi^+ 3\pi^-$
(546 - 630) Ansari 87D	Sedlak 88	32.1 Bogolyubsky 86C
5jet X	?	$p \bar{p} K^+ K^0 2\pi^+ 3\pi^-$
(546 - 630) Ansari 87D	4.6 Sedlak 88	$p \bar{p} K^0 K^- 3\pi^+ 3\pi^-$
$K^+ \pi^+ 2\pi^- \text{ neutral (neutrals)}$	$p^0 3\pi^+ 3\pi^-$	32.1 Bogolyubsky 86C
0 Duch 89	1 - 8 Sedlak 88	$5\pi^+ 5\pi^-$
$K^- 2\pi^+ \pi^- \text{ neutral (neutrals)}$	$2\pi^+ 2\pi^- (\pi^0)s$	1.449 - 4.289 Sedlak 88
0 Duch 89	Sedlak 88	32.1 Sedlak 88
$3\pi^+ 3\pi^-$	$K^+ \bar{K}^0 2\pi^+ 3\pi^- + K^0 K^- 3\pi^+ 2\pi^-$	$K^+ K^0 4\pi^+ 5\pi^- + K^0 K^- 5\pi^+ 4\pi^-$
1.449 - 4.289 Sedlak 88	32.1 Bogolyubsky 86C	32.1 Bogolyubsky 86C
4.6 - 12 Markytan 89	12 Sedlak 88	$p \bar{p} 4\pi^+ 4\pi^-$
9 Sedlak 88	Sedlak 88	32.1 Bogolyubsky 86C
32.1 Sedlak 88	5.7 Sedlak 88	$p \bar{p} K^+ K^0 \pi^+ 2\pi^-$
Bogolyubsky 86C	Sedlak 88	$p \bar{p} K^+ K^0 \pi^+ 2\pi^- +$
?	22.4 Boos 89	$p \bar{p} K^0 K^- 2\pi^+ \pi^-$
9.1 Sedlak 88	angp, asym, cs, mass, p	6 $\pi^+ 6\pi^-$
4.6 Sedlak 88	22.4 Boos 89	32.1 Sedlak 88
$\rho^0 2\pi^+ \pi^0 2\pi^-$	$p \bar{n} \pi^+ 2\pi^-$	Bogolyubsky 86C
1 - 8 Sedlak 88	22.4 Boos 89	$p \bar{p} K^+ K^0 3\pi^+ 4\pi^-$
$2\pi^+ \pi^0 2\pi^- (\pi^0)s$	$p \bar{p} \Lambda K^+ 2\pi^+ 2\pi^-$	32.1 Bogolyubsky 86C
?	32.1 Bogolyubsky 86C	$p \bar{p} K^+ K^0 4\pi^+ 3\pi^-$
$K^+ K_S \pi^+ \pi^0 2\pi^- + K^0 K_S 2\pi^+ 2\pi^- +$	$p \bar{p} K^+ K^0 \pi^+ 2\pi^- +$	32.1 Bogolyubsky 86C
$K_S K^- 2\pi^+ \pi^0 \pi^-$	32.1 Bogolyubsky 86C	$p \bar{p} K^0 K^- 2\pi^+ \pi^-$
12 Sedlak 88	col, cs	32.1 Sedlak 88

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

$p p \rightarrow p \bar{p} 5\pi^+ 5\pi^-$ $\bar{p} {}^4\text{He} \rightarrow X$

$p p$		$\bar{p} n$		\bar{p} deuteron	
$p \bar{p} 5\pi^+ 5\pi^-$		$2\pi^+ \pi^0 3\pi^-$	Sedlak 88	$n p^+ \pi^- + n p^0 \pi^0 + n p^- \pi^+$	
32.1	Bogolyubsky 86C	cs	9.2	0	Angelopoulos 88B
$6\pi^+ 6\pi^-$		$p^0 2\pi^+ 3\pi^-$	Sedlak 88	$p(\text{spect}) \omega \pi^-$	cs
32.1	Sedlak 88	cs	4.33 - 9.2	?	Sedlak 88
	Bogolyubsky 86C	cs	$\omega 2\pi^+ 3\pi^-$	$p(\text{spect}) f_2(1270) \pi^-$	cs
	Bogolyubsky 86D	col	4.33 - 9.2	?	Sedlak 88
$p \bar{p} 6\pi^+ 6\pi^-$		$2\pi^+ 3\pi^- \text{ neutral (neutrals)}$	Sedlak 88	$p(\text{spect}) a_2(1320)^0 \pi^-$	cs
32.1	Bogolyubsky 86C	cs	9.2	$p(\text{spect}) a_2(1320)^- \pi^0$	cs
		$3\pi^+ 4\pi^-$	Sedlak 88	?	Sedlak 88
		$p^0 2\pi^+ \pi^0 3\pi^-$	Sedlak 88	$p \pi^- \text{ baryonium}$	cs
		4.33 - 9.2		< 0.65	Liu 88
		$2\pi^+ \pi^0 3\pi^- (\pi^0\text{'s})$	Sedlak 88	Bridges 86	mass, p
		0.45 - 0.97		?	p
		$3\pi^+ \pi^0 4\pi^-$	Sedlak 88	$p K \bar{K} X$	cs
		9.2		0.5708	Guaraldo 89
		$3\pi^+ 4\pi^- \text{ neutral (neutrals)}$	Sedlak 88	$n \pi^+ \pi^0 \pi^-$	cs
		9.2		< 0.65	Angelopoulos 88B
		$4\pi^+ \pi^-$	Sedlak 88	$p(\text{spect}) \pi^+ 2\pi^-$	mass, p
		9.2		?	Bridges 86C
		$4\pi^+ \pi^0 5\pi^-$	Sedlak 88	$p(\text{spect}) \rho^0 \pi^0 \pi^-$	cs, p
		9.2		?	Sedlak 88
		$4\pi^+ 5\pi^- \text{ neutral (neutrals)}$	Sedlak 88	$p(\text{spect}) \rho^+ 2\pi^-$	cs
		9.2		?	Sedlak 88
				$p(\text{spect}) \rho^- \pi^+ \pi^-$	cs
				?	Sedlak 88
				$p(\text{spect}) \pi^0 \pi^- (\pi^0\text{'s})$	cs
				?	Sedlak 88
				$p K \bar{K} \pi$	cs
				1 - 3	Guaraldo 89B
				$p(\text{spect}) K \bar{K} \pi$	p
				?	Sedlak 88
		X	0.2 - 0.6	Sedlak 88	cs
		γX	0	Gorringe 85	mult, p
		$\pi^0 X$	40	Apokin 88C	angp, asym, p
		$K_S X$	0.45 - 0.921	Parkin 86	angp, cs
			< 2.9	Tosello 89	cs, mult
		ΛX	0.45 - 0.921	Parkin 86	angp, cs
			< 2.9	Tosello 89	cs, mult
		$\bar{\Lambda} X$	< 2.9	Tosello 89	cs, mult
		p^-	0	Angelopoulos 88B	p
		$\pi^+ \pi^- X$	0.45 - 0.921	Parkin 86	mass
		$p^- X$	0.45 - 0.921	Parkin 86	mass
		$p(\text{spect}) K_L X$	8.9	Shoemaker 88	p
		$p \pi^0 \pi^-$	0	Angelopoulos 88B	p
		$p(\text{spect}) \pi^0 \pi^-$	0	Bridges 86B	angp, p
			?	Bridges 86C	cs, cs
		$n(\text{spect}) \pi^+ \pi^-$	0	Sedlak 88	cs
		$n \pi^+ \pi^-$?	Sedlak 88	cs
		$n(\text{spect}) \eta \pi^-$	0	Balestra 88	mult
		$p(\text{spect}) \eta \pi^-$?	Balestra 88	mult
		$p(\text{spect}) \rho^0 \pi^-$	0	Balestra 87B	cs
			?		
			X	0.04 - 0.05	Balestra 89B
				cs	
$\bar{p} {}^3\text{He}$				$\bar{p} {}^4\text{He}$	
		annihil			
		0		Batusov 87C	cs
		inelastic			
		0.1928		Balestra 88	cs
		mult[charged] X			
		0.1928		Balestra 88	mult
		mult[charged] (neutrals)			
		0		Balestra 87B	cs
$\bar{p} {}^4\text{He}$					
			X		
			0.04 - 0.05		
			Balestra 89B		
			cs		

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 \bar{p} ${}^4\text{He} \rightarrow X$ \bar{p} C $\rightarrow C \bar{p}$

\bar{p} ${}^4\text{He}$	\bar{p} Li	\bar{p} Be	
X	charged+ X 40	Boos 88	a-dep, mult
0.18	Sedlak 88	cs	
0.2 – 0.6	Sedlak 88	cs	
0.6	Balestra 87	cs	
0.6077	Batusov 88	cs	
annihil			
0	Batusov 87C	cs	
inelastic			
0.201 – 0.609	Balestra 86B	cs	
charged X			
0.201 – 0.609	Balestra 86B	cs	
mult[charged] (neutrals)			
0	Balestra 87B	cs	
0.201 – 0.609	Balestra 86B	mult	
2charged (neutrals)			
0.6	Balestra 87	cs	
K_S X			
0.6077	Batusov 89C	cs, p, pt	
	Batusov 88B	cs, p, pt	
Δ X			
0.6077	Batusov 89C	cs, p, pt	
	Batusov 88B	cs, p, pt	
fragt X			
0.6	Balestra 87	cs	
vee X			
0.6077	Batusov 89C	cs, p, pt	
${}^4\text{He} \bar{p}$			
0.6077	Batusov 88	amp, angp, cs	
2 K_S X			
0.6077	Batusov 89C	cs	
ΔK_S X			
0.6077	Batusov 89C	cs	
${}^3\text{H}$ p \bar{p} + 2deuteron \bar{p} + deuteron p n \bar{p}			
+			
2p 2n \bar{p}			
0.6	Balestra 87	cs	
${}^3\text{He}$ n \bar{p}			
0.6	Balestra 87	cs	
3charged (neutrals)			
0.6	Balestra 87	cs	
annihil 2charged (neutrals)			
0.6	Balestra 87	cs	
annihil 3charged (neutrals)			
0.6	Balestra 87	cs	
\bar{p} He			
X			
0.1928 – 0.3062	Balestra 85	cs	
0.6462 – 1.23	Piragino 86B	cs	
inelastic			
0.6084	Balestra 84	cs	
mult[charged] X			
0.6462 – 1.23	Piragino 86B	cs	
mult[charged] (neutrals)			
0.1928 – 0.3062	Balestra 85	cs	
0.1928 – 0.6077	Batusov 85C	cs	
γ X			
0	Tsukerman 85	p	
${}^3\text{He}$ X			
0.1928 – 0.3062	Balestra 85	cs	
0.6084	Balestra 84	cs	
${}^3\text{H}$ X			
0.6084	Balestra 84	cs	
vee X			
0.1928 – 0.3062	Balestra 85	cs	
\bar{p} Li			
p X			
0.6	Garreta 85	p	
\bar{p} Li			
charged+ X	40	Boos 88	a-dep, mult
	Boos 88	mult	
charged- X	40	Boos 88	a-dep, mult
	Boos 87	mult	
mult[charged+] X	40	Boos 88	a-dep, mult
	Boos 87	mult	
mult[charged-] X	40	Boos 88	a-dep, mult
	Boos 87	mult	
p X	40	Boos 87	mult
	Boos 87	mult	
grey X	40	Boos 88	a-dep, mult
	Boos 88	mult	
grey X	40	Boos 88	a-dep, mult
	Boos 88	mult	
mult[grey] X	40	Boos 88	a-dep, mult
	Boos 88	mult	
X star	40	Boos 88	a-dep, mult
	Boos 88	mult	
mult[grey] X star	40	Boos 88	a-dep, mult
	Boos 88	mult	
mult[charged+] X star	40	Boos 88	a-dep, mult
	Boos 88	mult	
mult[charged-] X star	40	Boos 88	a-dep, mult
	Boos 88	mult	
grey X star	40	Boos 88	a-dep, mult
	Boos 88	mult	
mult[grey] X star	40	Boos 88	a-dep, mult
	Boos 88	mult	
charged+ X star	40	Boos 88	a-dep, mult
	Boos 88	mult	
charged- X star	40	Boos 88	a-dep, mult
	Boos 88	mult	
mult[charged+] X star	40	Boos 88	a-dep, mult
	Boos 88	mult	
mult[charged-] X star	40	Boos 88	a-dep, mult
	Boos 88	mult	
grey X star	40	Boos 88	a-dep, mult
	Boos 88	mult	
mult[grey] X star	40	Boos 88	a-dep, mult
	Boos 88	mult	
\bar{p} ${}^7\text{Li}$			
X	0.18	Sedlak 88	cs
\bar{p} ${}^9\text{Be}$			
X	0.18	Sedlak 88	cs
annihil	1.76	Kuzichev 88	cs
\bar{p} Be			
X	0.18	Sedlak 88	cs
annihil	1.76	Kuzichev 88	cs
\bar{p} Be			
annihil	1.26 – 2.5	Kuzichev 89	a-dep, cs
ϕ X	1.26 – 2.5	Kuzichev 89	a-dep, cs
	100	Dijkstra 86	mult, p, pt
		Dijkstra 86D	cs, p
$J/\psi(1S)$ X	125	Katsanevas 87	a-dep, cs, p, pt
p X	40	Antipov 87	p
\bar{p} X	40	Bailey 85B	cs, p
	120		
$\mu^- \mu^+ X$	125	Katsanevas 87	a-dep, mass
$\phi \pi^+ X$	100	Dijkstra 86C	mass
	100	Dijkstra 86C	mass
$\phi \pi^- X$	100	Dijkstra 86C	mass
	100	Dijkstra 86C	mass
$K^+ \phi X$	100	Dijkstra 86C	mass
	100	Dijkstra 86C	mass
$K^- \phi X$	100	Dijkstra 86C	mass
	100	Dijkstra 86C	mass
\bar{p} C			
annihil	1.26 – 2.5	Kuzichev 89	a-dep, cs
charged+ X	40	Boos 88	a-dep, mult
charged- X	40	Boos 88	a-dep, mult
	Boos 87	mult	
mult[charged+] X	40	Boos 88	a-dep, mult
mult[charged-] X	40	Boos 88	a-dep, mult
	Boos 88	mult	
p X	40	Boos 87	mult
	Boos 87	mult	
\bar{n} X	0.59	Nakamura 85B	angp, cs
mult[p] X	40	Boos 87	mult
grey X	40	Boos 88	a-dep, mult
	Boos 88	mult	
mult[grey] X	40	Boos 88	a-dep, mult
	Boos 88	mult	
X star	40	Boos 88	a-dep, mult
	Boos 88	mult	
C \bar{p}	0.3 – 1.247	Piragino 86B	angp
\bar{p} C			
annihil	1.26 – 2.5	Kuzichev 89	a-dep, cs
charged+ X	40	Boos 88	a-dep, mult
charged- X	40	Boos 88	a-dep, mult
	Boos 87	mult	
mult[charged+] X	40	Boos 88	a-dep, mult
mult[charged-] X	40	Boos 88	a-dep, mult
	Boos 88	mult	
p X	40	Boos 87	mult
	Boos 87	mult	
\bar{n} X	0.59	Nakamura 85B	angp, cs
mult[p] X	40	Boos 87	mult
grey X	40	Boos 88	a-dep, mult
	Boos 88	mult	
mult[grey] X	40	Boos 88	a-dep, mult
	Boos 88	mult	
X star	40	Boos 88	a-dep, mult
	Boos 88	mult	
C \bar{p}	0.48 – 0.54	Birsa 85	asym
	0.56 – 0.608	Birsa 85	asym

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

$\bar{p} \text{ C} \rightarrow \text{mult}[p] \text{ charged}^- \text{ X}$ $\bar{p} \text{ Cu} \rightarrow J/\psi(1S) \text{ X}$

$\bar{p} \text{ C}$	$\bar{p} \text{ Ne}$	$\bar{p} \text{ S}$
mult[p] charged ⁻ X 40 Boos 87	inelastic 0.201 - 0.609 Balestra 86B	mult[p] charged ⁻ X 40 Boos 87
charged ⁺ X star 40 Boos 88	charged X 0.201 - 0.609 Balestra 86B	charged ⁺ X star 40 Boos 88
charged ⁻ X star 40 Boos 88	mult[charged] X 0.193 - 0.608 Guaraldo 89	charged ⁻ X star 40 Boos 88
mult[charged ⁺] X star 40 Boos 88	0.6462 - 1.23 Piragino 86B	mult[charged ⁺] X star 40 Boos 88
mult[charged ⁻] X star 40 Boos 88	mult[charged] (neutrals) 0.193 - 0.608 Sedlak 88	mult[charged ⁻] X star 40 Boos 88
grey X star 40 Boos 88	0.201 - 0.609 Balestra 86B	grey X star 40 Boos 88
mult[grey] X star 40 Boos 88	π^- X 0.608 Guaraldo 89	mult[grey] X star 40 Boos 88
p charged ⁺ charged ⁻ X 40 Boos 87	π^- mult[charged] X 0.6084 Guaraldo 89	p charged ⁺ charged ⁻ X 40 Boos 87
$\bar{p} {}^{16}\text{O}$	π^- 0.607 Tosello 89	$\bar{p} {}^{16}\text{O}$
γ X 0.2 - 0.3 Poth 85	$K_S \pi^-$ X 0.607 Tosello 89	$\bar{p} {}^{16}\text{O}$
${}^{16}\text{O}$ \bar{p} 0.6084 Lichtenstadt 85 angp	$\Lambda \pi^-$ X 0.607 Tosello 89	$\bar{p} {}^{16}\text{O}$
$\bar{p} {}^{17}\text{O}$	$\bar{p} {}^{23}\text{Na}$	$\bar{p} {}^{17}\text{O}$
γ X 0.2 - 0.3 Poth 85	γ X 0.2 - 0.3 Poth 85	$\bar{p} {}^{17}\text{O}$
$\bar{p} {}^{18}\text{O}$	$\bar{p} {}^{24}\text{Mg}$	$\bar{p} {}^{18}\text{O}$
γ X 0.2 - 0.3 Poth 85	(blocks) mult[grey] mult[shower] (neutrals) 100 Biswas 86	$\bar{p} {}^{18}\text{O}$
${}^{18}\text{O}$ \bar{p} 0.6084 Lichtenstadt 85 angp	$\bar{p} \text{ Mg}$	$\bar{p} \text{ Mg}$
$\bar{p} {}^{19}\text{F}$	$\bar{p} \pi^\pm$ X 100 Toothacker 87	$\bar{p} {}^{19}\text{F}$
γ X 0.2 - 0.3 Poth 85	$\bar{p} \text{ mult}[\pi^\pm]$ X 100 Toothacker 87	γ X
$\bar{p} {}^{20}\text{Ne}$	$\bar{p} \bar{p} \text{ X}$ 100 Toothacker 87	$\bar{p} {}^{20}\text{Ne}$
X 0.18 Sedlak 88	$\bar{p} \text{ Al}$	X 0.18 - 0.6331 Ashford 85
0.2 - 0.6 Sedlak 88		annihil 1.26 - 2.5 Kuzichev 89 a-dep, cs
charged ⁻ X 0.607 Balestra 87C		Al \bar{p} 1.252 Piragino 86B angp
K_S X 0.607 Balestra 89	mult, p	
Balestra 87C	cs, mult, p	
p X 0.608 Guaraldo 89B		$\bar{p} {}^{27}\text{Al}$
Λ X + Σ^0 X 0.607 Balestra 87C		X 0.18 Sedlak 88
	cs, mult, p	0.2 - 0.6 Sedlak 88
$0\Lambda \pi^-$ X 0.607 Balestra 89	mult, p	
K_S charged X 0.607 Balestra 87C		charged ⁺ X 40 Boos 88 a-dep, mult
K_S charged ⁻ X 0.607 Balestra 87C	mult	charged ⁻ X 40 Boos 88 a-dep, mult
$K_S \pi^-$ X 0.607 Balestra 89	p, pt	mult[charged ⁺] X 40 Boos 88 a-dep, mult
Λ charged X + Σ^0 charged X 0.607 Balestra 87C	mult, p	mult[charged ⁻] X 40 Boos 88 a-dep, mult
Λ charged ⁺ X + Σ^0 charged ⁻ X 0.607 Balestra 87C	mult	p X 40 Boos 87 mult
$\Lambda \pi^-$ X 0.607 Balestra 89	p, pt	mult[p] X 40 Boos 87 mult
π^- mult[charged] (neutrals) 0.607 Guaraldo 89B	mult, p	grey X 40 Boos 88 a-dep, mult
	cor, mult	mult[grey] X 40 Boos 88 a-dep, mult
		X star 40 Boos 88 a-dep, cs
		$J/\psi(1S)$ X 125 Katsanevas 87 a-dep, cs, p, pt

$\bar{p} \text{ Cu} \rightarrow p X$ $\bar{p} \text{ }^{208}\text{Pb} \rightarrow \text{ }^{208}\text{Pb} \bar{p} \gamma$

$\bar{p} \text{ Cu}$							
$p X$							
40	Boos 87	mult					
$\bar{p} X$							
120	Bailey 85B	cs, p					
mult[p] X							
40	Boos 87	mult					
grey X							
40	Boos 88	a-dep, mult					
mult[grey] X							
40	Boos 88	a-dep, mult					
X star							
40	Boos 88	a-dep, cs					
Cu \bar{p}							
1.252	Piragino 86B	angp					
$\mu^- \mu^+ X$							
125	Katsanevas 87	a-dep, mass					
mult[p] charged- X							
40	Boos 87	cor, mult					
charged+ X star							
40	Boos 88	a-dep, mult					
charged- X star							
40	Boos 88	a-dep, mult					
mult[charged+] X star							
40	Boos 88	a-dep, mult					
mult[charged-] X star							
40	Boos 88	a-dep, mult					
grey X star							
40	Boos 88	a-dep, mult					
mult[grey] X star							
40	Boos 88	a-dep, mult					
p charged+ charged- X							
40	Boos 87	a-dep, mult					
$\bar{p} \text{ }^{70}\text{Ge}$							
γX							
0.2 - 0.3	Poth 85	p					
$\bar{p} \text{ Yt}$							
$\pi^+ X$							
0.608	Mcgaughay 86	cs, p					
$\pi^- X$							
0.608	Mcgaughay 86	cs, p					
$p X$							
0.608	Mcgaughay 86	cs, p					
$\bar{p} \text{ Mo}$							
fragt X							
0	Guaraldo 89	cs					
$\bar{p} \text{ Ag}$							
$p X$							
100	Tothacker 87	p					
$\bar{p} X$							
100	Tothacker 87	p					
120	Bailey 85B	cs, p					
$\bar{p} \pi^\pm X$							
100	Tothacker 87	mult, p					
$\bar{p} \text{ mult}[\pi^\pm] X$							
100	Tothacker 87	p					
$p \bar{p} X$							
100	Tothacker 87	mult					
$\bar{p} \text{ }^{108}\text{Ag}$							
(blocks) mult[grey] mult[shower]							
(neutrals)							
100	Biswas 86	cs					
$\bar{p} \text{ }^{112}\text{Cd}$							
annihil							
1.76	Kuzichev 88	cs					
$\bar{p} \text{ Cd}$							
annihil							
1.26 - 2.5	Kuzichev 89	a-dep, cs					
$\bar{p} \text{ }^{115}\text{In}$							
X							
0.18	Sedlak 88	cs					
$\bar{p} \text{ Xe}$							
$K^0 X$							
1.05	Guaraldo 89	cs, p					
ΛX							
1.05	Guaraldo 89	cs, p					
2charged X							
200	Derado 88	a-dep, cor, mult, p					
$K^+ K^0 X$							
1.05	Guaraldo 89	cs, p					
$K^0 K^- X$							
1.05	Guaraldo 89	cs, p					
$K^0 \bar{K}^0 X$							
1.05	Guaraldo 89	cs, p					
$\Lambda K^+ X$							
1.05	Guaraldo 89	cs, p					
$\Lambda K^0 X$							
1.05	Guaraldo 89	cs, p					
mult[p] 2charged X							
200	Derado 88	a-dep, cor, mult, p					
$\bar{p} \text{ }^{138}\text{Ba}$							
γX							
0.2 - 0.3	Poth 85	p					
$\bar{p} \text{ Ta}$							
X							
12.2	Andreev 87	-					
charged X							
12.2	Andreev 87	mult					
charged- X							
12.2	Andreev 87	mult					
mult[charged] (neutrals)							
4	Miyano 88	mult					
$K_S X$							
4	Tosello 89	angp, p					
	Miyano 88	ang, cs, p, pt					
ΛX							
4	Tosello 89	angp, p					
	Miyano 88	ang, cs, p, pt					
$\bar{\Lambda} X$							
4	Miyano 88	ang, cs, p, pt					
$p \text{ mult}[\pi^+] X$							
6.066	Guaraldo 89	cor, mult					
$\Lambda \bar{\Lambda} X$							
4	Miyano 88	cs					
$2\Lambda X$							
4	Miyano 88	cs					
$K_S \text{ mult}[charged]$ (neutrals)							
4	Miyano 88	mult					
$\Lambda \text{ mult}[charged]$ (neutrals)							
4	Miyano 88	mult					
$\bar{p} \text{ Wt}$							
$J/\psi(1S) X$							
125	Katsanevas 87	a-dep, cs, p, pt					
$\bar{p} X$							
120	Bailey 85B	cs, p					
$\mu^- \mu^+ X$							
125	Anassontzis 87	ang, angp, mass, p, pt					
$\bar{p} \text{ }^{208}\text{Pb}$							
X							
0.18	Sedlak 88	cs					
γX							
0.2 - 0.3	Poth 85	p					
$^{208}\text{Pb} \bar{p} \gamma$							
0	Kreissl 87	p					

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

\bar{p} Bi → hypernucleus X $p p \rightarrow$ mult[charged] (neutrals)

\bar{p} Bi		\bar{p} nucleus		$p p$	
hypernucleus X		Λ X		charged X	
0.2	Berrada 85	4 – 400	Tosello 89 Panagiotou 89	(10 – 100)	Ward 86B
\bar{p} 209Bi		a-dep. p, pol, pt	200	Allday 88	
hypernucleus X			205	Baldin 85B	
0.1	Campagnolle 89 Bocquet 87	< 4	Tosello 89	250	Avazyan 89
p X		mult[p] X	cs, mult	mult, p, pt	
0.18	Garreta 84	40	Boos 87	Avazyan 88	
\bar{p} 238U		grey X	mult	Adamus 87C	
hypernucleus X		40	Boos 88	Adamus 86	
0.1	Campagnolle 89	mult[black] X	a-dep. mult	Fischer 88	
0.1 – 0.2	Bocquet 86	5	Shivpuri 86	Baily 88B	
π^+ X		mult[grey] X	mult	Breakstone 86F	
0.608	Mcgaughay 86	40	Boos 88	Breakstone 86G	
π^- X		mult[shower] X	a-dep. mult	Hofmann 87B	
0.608	Mcgaughay 86	5	Shivpuri 86	Allday 88	
p X		200	Fredriksson 87	Avazyan 89	
0.608	Mcgaughay 86	shower X	mult	Adamus 88G	
\bar{p} U		5	Shivpuri 86	mult, p, pt	
mult[frag]		200	Fredriksson 87	Breakstone 86G	
0	Guaraldo 89B	X star	ang, p	mult, p, pt	
hypernucleus X		40	Boos 88	Camilleri 87	
0.2	Berrada 85	nucleus \bar{p}	mult	Bell 85B	
π^+ X		185	Akchurin 89	Breakstone 86D	
0.607	Guaraldo 89	angp, asym, pol	(31 – 62)	angp, cs, p, pt	
p X		p charged- X	200	Klar 84	
0.607	Guaraldo 89	40 – 200	Fredriksson 87	Brick 90	
\bar{p} X		cor, mult	250	Allday 88	
120	Bailey 85B	mult[p] charged- X	cor, mult	Avazyan 89	
n X		40	Boos 87	Adamus 88G	
0	Guaraldo 89B	charged+ X star	mult, p, pt	Ajinenko 87	
	Angelopoulos 88	40	Boos 88	Adamus 86	
\bar{p} nucleus		charged- X star	a-dep, mult	Camilleri 87	
X		40	Boos 88	cs, mult, p, pt	
0.6084	Piragino 86B	mult[charged+] X star	(23 – 63)	Fischer 88	
inelastic		40	Boos 88	Bell 85B	
5 – 300	Fredriksson 87	mult[charged-] X star	(31 – 62)	Breakstone 86D	
13.3	Prokoshkin 87C	40	Boos 88	angp, cs, p, pt	
charged X		mult[charged-] X star	19 – 303	Tannenbaum 89	
< 0.6	Balestra 85B	a-dep, mult	(10 – 100)	Ward 86B	
charged+ X		40	Boos 88	Dengler 86C	
40	Boos 88	grey X star	200	angp, mult, p	
200	Fredriksson 87	40	Boos 88	Baldin 86	
charged- X		mult[black] mult[grey] X	250	Adamus 88G	
40	Boos 88	5	Shivpuri 86	mult	
40 – 200	Fredriksson 87	mult[black] mult[shower] X	250	Camilleri 87	
200	Fredriksson 87	5	Shivpuri 86	cs, mult	
mult[charged] X		mult[grey] X star	(23 – 62.5)	Tannenbaum 89	
0.3 – 0.5	Guaraldo 89	40	Boos 88	ang, angp, et, p	
< 2.142	Piragino 86B	mult[charged-] X star	300 – 400	Aguilarbenit 85F	
mult[charged+] X		40	Boos 88	Tannenbaum 89	
40	Boos 88	mult[charged-] X star	360	ang, et, p	
mult[charged-] X		40	Boos 87	Ammar 88B	
40	Boos 88	mult[charged-] X	800	Ammar 87	
mult[charged] (neutrals)		40	Boos 87	Tannenbaum 89	
0 – 0.5	Balestra 86B	a-dep, mult	1496	ang, et, p	
K _S X		200		Fabbri 88	
< 4	Guaraldo 89	0.2 – 1		Tannenbaum 89	
	Tosello 89	Yokosawa 85	(62)	mult, p, pt	
		Yokosawa 85C	(540)	Fabbri 88	
p X		0.304 – 2.48		Tannenbaum 89	
0.18	Garreta 84	Madigan 85	200	angp, mult, p	
40	Boos 87	Perrot 86	mult	Dengler 86C	
	Fredriksson 87	asym	200	angp, mult, p	
mult[charged-] X		1.463	Yuan 86	200	angp, mult, p
40	Boos 88	Block 84	asym	200	angp, mult, p
mult[charged-] X		32.1	Bogolyubsky 87E	200	angp, mult, p
40	Boos 88	Bogolyubsky 87E	32.1	200	angp, mult, p
mult[charged] (neutrals)		(23 – 62.5)	Camilleri 87	200	angp, mult, p
0 – 0.5	Balestra 86B	Sedlaci 88	147	200	angp, mult, p
K _S X		(30.6 – 62.7)	Carboni 85	200	angp, mult, p
< 4	Guaraldo 89	Gomez 86	200	angp, mult, p	
	Tosello 89	Akesson 87	250	angp, mult, p	
		(63)	Linsley 84	250	angp, mult, p
p X		(433.2 – 16777)	Bertini 88	399.1	angp, mult, p
0.18	Garreta 84	??		400	angp, mult, p
40	Boos 87			angp, mult, p	
	Fredriksson 87	inelastic	< 500	angp, mult, p	
		32.1	(31 – 62)	angp, mult, p	
\bar{p} X		< 10 ³	Bogolyubsky 87E	angp, mult, p	
120	Fredriksson 87	1496	Bystricky 87	angp, mult, p	
Λ X		Ward 86B	800	angp, mult, p	
< 4	Guaraldo 89	charged X	(62)	angp, mult, p	
	angp, cs, p	32.1	Bravina 89	angp, mult, p	

$p p \rightarrow \text{mult[charged]} \text{ (neutrals)}$ $p p \rightarrow K_S X$

$p p$	$p p$	$p p$	$p p$
mult[charged] (neutrals)		$\pi^- X$	
(63) Akesson 88D pt		4.2 Bekmirzaev 87C	$D^- X$
Akesson 87E		4.2 – 10 Bekmirzaev 89	800 Ammar 88B cs, p, pt
	angp, col, pt		Ammar 87 cs
Akesson 85E	angp, col	13.3 – 18.5 Saroff 90	$D_S^- X$
		mult, p, pt	400 Aguilarbenit 88B
2charged (neutrals)		32.1 Bogolyubsky 87E	angp, cs, p, pt
511.2 Angelis 86 mult, p		(11.29 – 61.28) Prokoshkin 87C	
γX		70 Abramov 84C	
280 Bonesini 88B p, pt		360 Camilleri 87	
Richard 87 p, pt		Baily 87B	cs, p
(23 – 62.5) Camilleri 87 cs		Baily 86D	p
300 Alimov 89B mult		Brown 86	angp
Demarzi 87 p, pt		400 Jaffe 89	angp, cs, p, pt
Richard 87 p, pt		511.2 Breakstone 85D	cs
Ferbel 86 angp, pt		(31 – 62) Breakstone 86D	
Richard 87 p, pt			angp, cs, p, pt
(24 – 63) Rutherford 85 p, pt		280 Bonesini 89	cs, p, pt
(24 – 630) 1496 Lancon 86B p, pt		313.7 Richard 87	p, pt
Akesson 85G pt		1496 Antille 87	cs, pt
(63) Anassontzis 90 pt		400 Benayoun 87	cs, pt
Angelis 90 pt		(63) Akesson 85C	pt
Akesson 87C pt			
Akesson 86E pt		ηX	
e ⁺ X		280 Bonesini 89	cs, p, pt
(53 – 63) Richard 87 pt		313.7 Camilleri 87	cs
(63) Akesson 87B mult, p, pt		1496 Antille 87	cs, pt
Akesson 85C pt		400 Benayoun 87	cs, pt
$\pi^0 X$		(23 – 62.5) Akesson 86C	pt
32.1 Bogolyubsky 87E mult			
185 Bonner 88B asym, p		$\rho^0 X$	
250 Adamus 86C cs, mult, p, pt		24 Batyunya 87J	angp, pol
280 Bonesini 88B p, pt		313.7 Benayoun 87	cs, pt
Richard 87 p, pt		1496 Akesson 85G	pt
Camilleri 87 cs		400 Akesson 86C	pt
(23 – 62.5) Tannenbaum 89 angp, pt			
(23.5 – 62.4) 300 Demarzo 87B p, pt		ωX	
Artikov 86 cs, mult		24 Batyunya 87J	angp, pol
Ferbel 86 angp, pt		313.7 Benayoun 87	cs, pt
Azimov 85E cs		1496 Akesson 85F	mult
Richard 87 p, pt		400 Azimov 85E	mult
(24 – 63) Rutherford 85 p, pt			
(24 – 630) 313.7 Antille 87 cs, pt		$\eta' X$	
360 Baily 86B pt		120 Dijkstra 86D	–
511.2 Angelis 87 angp, pt		527.8 – 1031 Akesson 85F	cs
Benayoun 87 cs, pt			
(31 – 62) Richard 87 p, pt		ϕX	
(31 – 63) 1496 Lancon 86B p, pt		120 Dijkstra 86D	–
Akesson 85G pt		527.8 – 1031 Akesson 85F	cs
(63) Anassontzis 90 pt			
Angelis 90 pt		$\rho^0 X$	
Akesson 86C pt		24 Batyunya 87J	angp, pol
Akesson 86E pt		313.7 Benayoun 87	cs, pt
$\pi^\pm X$		1496 Akesson 85F	mult
4.2 – 10 Bekmirzaev 89 mult		400 Azimov 85E	mult
801.3 Jaffe 88 angp			
1496 Ward 86B p		$D^0 X$	
(53 – 63) Richard 87 pt		400 Aguilarbenit 88 cs, p	
$\pi^+ X$		400 Aguilarbenit 88B	
13.3 – 18.5 Saroff 90 asym, p, pt		angp, cs, p, pt	
32.1 Bogolyubsky 87E mult		400 Aguilarbenit 87B	
70 Abramov 84C pt		400 Aguilarbenit 87C	
(23 – 62) Hofmann 87B p		400 Aguilarbenit 87E	
(23 – 62.5) Camilleri 87 pt		400 Aguilarbenit 87F	
360 Baily 86D p		800 Ammar 88B cs, p, pt	
400 Brown 86 a-dep, angp, pt		800 Ammar 88B cs, p, pt	
400 – 800 Jaffe 89 pt		800 Ammar 88B cs, p, pt	
511.2 Breakstone 85D cs		800 Ammar 88B cs, p, pt	
(31 – 62) Breakstone 86D		800 Ammar 88B cs, p, pt	
	angp, cs, p, pt	400 Aguilarbenit 88	
(62) Breakstone 87 p, pt		400 Aguilarbenit 88B	
Breakstone 85B cs		angp, cs, p, pt	
Breakstone 85E pt		400 Aguilarbenit 87B	
(63) Akesson 85C pt		400 Aguilarbenit 87C	
$\pi^- X$		400 Aguilarbenit 87E	
1.45 Willis 89 angp, mass, pol		400 Aguilarbenit 87F	
1.696 Abaev 87 angp			

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

$p p - K_S X$ $p p \rightarrow 2p$

$p p$	$p p$	$p p$
$K_S X$	ΛX	$mult[hadron] X$
360 Bailly 87F ang, angp, asym, p, pt Bailly 86B pt Aziz 85C cs Asai 84 angp, cs, mult, p, pt Ward 86B p Chliapnikov 90 cs	32.1 Bogolyubsky 88F cs, p, pt Bogolyubsky 87E mult Gourlay 86 pol Baldin 85B col, p (23 - 62.5) Camilleri 87 cs, p, pt, pt Asai 84 angp, asym, cs, mult, p, pt Yokosawa 85C Chauvat 85 asym, pol Panagiotou 89 p, pol, pt Smith 87 angp, p, pol	200 Tannenbaum 89 et, p 205 Baldin 86B col (24 - 540) Tannenbaum 89 et, p 360 Bailly 86B pt 800 Tannenbaum 89 et, p
meson⁰ X (63) Angelis 90 pt	360 Bailly 86B cs, p, pt 400 Yokosawa 85C 504.6 Chauvat 85 (31 - 62) Panagiotou 89 p, pol, pt Smith 87 angp, p, pol	205 Baldin 86 Breakstone 89 et, p (62) Tannenbaum 89 et, p
$D_S^{\pm} X$ 200 Becker 87 -	$\bar{\Lambda} X$ 1.5 - 300 Panagiotou 89 p, pol, pt 32.1 Bogolyubsky 88F Camilleri 87 (23 - 62.5) Asai 84 angp, cs, mult, p, pt Panagiotou 89 p, pol, pt $\Lambda X + \bar{\Lambda} X$ 32.1 Bogolyubsky 88F p, pt $\Sigma^+ X$ 32.1 Bogolyubsky 87E mult 405 Okusawa 88 cs, p $\Sigma^0 X$ 32.1 Bogolyubsky 88F cs Bogolyubsky 87E mult $\Sigma^- X$ 32.1 Bogolyubsky 87E mult 405 Okusawa 88 cs, p $\Sigma(1385 P_13)^+ X$ 32.1 Bogolyubsky 88F cs 360 Bailly 86B pt Aziz 85C cs, p, pt $\Sigma(1385 P_13)^- X$ 32.1 Bogolyubsky 88F cs 360 Bailly 86B pt Aziz 85C cs, p, pt hyperon X < 24 deuteron X 70 Abramov 86 a-dep, pt deuteron X 70 Abramov 86 a-dep, pt anomalon X 147 Fuess 87 - 360 Aguilarbenit 85F - hadron X 32.1 Bogolyubsky 87E mult 527.8 Akesson 89 et hadron⁺ X 360 Bailly 86B pt 400 Brown 86 angp 400 - 800 Jaffe 89 a-dep, angp, pt hadron⁻ X 360 Bailly 86B pt 400 Brown 86 angp 400 - 800 Jaffe 89 pt jet X 200 Tannenbaum 89 angp, p, pt 200 - 400 Arenton 85B ang, col, et, pt 205 Baldwin 88B ang, p Baldin 85B col, p 400 Nelson 87 col, cor, pt 800 Stewart 90 a-dep, angp, col, pt mult[hadron] X 5.7 - 205 Baldwin 87 col, p	511.2 Tannenbaum 89 et, p 1479 Angelis 85 p, pt (63) Tannenbaum 89 et, p shower X 200 Brick 89 mult 2p 0.0302 - 1.453 Yokosawa 85 - 0.045 Kisiryan 87 cs 0.1228 - 1.505 Vaners 85 amp 0.1374 - 1.464 Bystricky 86D amp, angp, cs 0.2461 Vovchenko 86 pwa Vovchenko 85 pwa < 0.3104 Donoghue 84D 0.4 - 0.579 Onel 89 pol 0.447 - 0.597 Hausammann 89 amp 0.5 - 0.8 Bystricky 85D pol Davis 85 angp, asym, pol 0.655 - 1.017 Garcon 87B asym 0.7 - 1.3 Lehar 86 amp, pwa 0.83 - 1.1 Bystricky 85C pol 0.88 - 2.7 Lehar 87B angp, pol Perrot 87 angp, asym, pol 0.926 - 1.696 Shklyarevsky 86 pwa 1 - 3 Shimizu 89 pol 1 - 13 Soffer 85 amp, angp, pol 1.01 - 1.168 Aprilie 86 asym, pol 1.09 - 1.921 Garcon 86 - < 1.1 Arndt 87 amp 1.18 - 2.47 Yoko: wa 85 - 1.279 - 1.687 Dobrovolsky 88 angp 1.282 - 1.463 Gazzala 87 angp, pol Paulette 87 asym 1.331 - 1.639 Tanaka 87 asym, p, pol 1.366 - 1.804 Vochenko 86B pol 1.373 - 1.696 Bystricky 85 pol 1.463 - 1.662 Barlett 85 angp, pol Vovchenko 89B angp, p, pol, pwa Borisov 86 pol Lac 88 asym Lac 89C angp, p, pol 1.504 - 3.511 Lac 89D angp, p, pol 1.511 - 3.515 Lac 89 angp, pol 1.522 - 1.569 Vochenko 89 angp, pol 1.55 - 3.2 Fontaine 89 angp, p, pol, pwa Lehar 88 asym, pol Perrot 88 asym, pol Bazhanov 88 asym, pol Bazhanov 88B pol, pwa Auer 86B cs Chuvilo 86 - Matsuda 86 pwa Auer 88 angp, pol Yokosawa 85C - Prokoshkin 87C cs Bogolyubsky 86F angp, cs Block 84 amp, angp, cs Court 86 asym, pol Khaiari 89 pol Crabb 88 asym, pol Soffer 85 angp, pol, pt Cameron 85B pol Raymond 85 pol, pt Asad 85 angp
$\bar{p} X$ (11.29 - 61.28) Prokoshkin 87C p 70 Abramov 86 a-dep, pt Abramov 84C pt (23 - 62.5) Abramov 87 pt 360 Bailly 87B cs, p 400 Brown 86 angp 400 - 800 Jaffe 89 pt 511.2 Breakstone 85D cs (62) Breakstone 87 cs, p, pt Breakstone 85B cs cs, p, pt, pt Breakstone 85B cs n X 1.696 Baturin 87 & dep, angp 4.2 Bekmirzaev 87B angp, mult, p 4.2 - 10 Bekmirzaev 89 mult Bekmirzaev 87 angp, mult, p 32.1 Bogolyubsky 87E mult 300 Azimov 85F mult angp, mult, p $\Delta(1232 P_{33})^{++} X$ (23 - 62.5) Camilleri 87 cs, p, pol, pt 405 Okusawa 88 cs, p $\Delta(1232 P_{33})^{--} X$ (23 - 62.5) Camilleri 87 cs, p, pol, pt $A_c^+ X$ 400 Klein 89C - Aguilarbenit 88B angp, cs, p, pt Aguilarbenit 87 cs, p Aguilarbenit 87H - Chauvat 87 cs, p, pol, pt $\bar{A}_c^- X$ 400 Aguilarbenit 88B angp, cs, p, pt Aguilarbenit 87 cs, p Aguilarbenit 87H - ΛX 1.5 - 300 Panagiotou 89 p, pol, pt 13.3 - 18.5 Bonner 87 asym, p, pol, pt	400 - 800 Jaffe 89 a-dep, angp, pt 360 Bailly 86B pt 400 Brown 86 angp 400 - 800 Jaffe 89 pt 200 Tannenbaum 89 angp, p, pt 200 - 400 Arenton 85B ang, col, et, pt 205 Baldwin 88B ang, p Baldin 85B col, p 400 Nelson 87 col, cor, pt 800 Stewart 90 a-dep, angp, col, pt 5.7 - 205 Baldwin 87 col, p	

$p p \rightarrow 2p$ $p p \rightarrow \bar{p} \gamma X$

$p p$	$p p$	$p p$
2p	2charged X	2p
150 - 300 Soffer 85 angp, pol 185 Akchurin 89 angp, asym, pol	200 Brick 90 cor, mult, p Derado 88 a-dep, cor, mult, p (30.4 - 62.2) Bell 85C cor (53 - 63) Kvadatze 88 angp, cor, p (62) Breakstone 86B p, pt	$D^+ \bar{D}^0 X + D^0 D^- X$ 400 Aguilarbenit 87C cs
250 Grassler 88 angp, cs Adamus 87D angp, cs (23 - 62.5) Camilleri 87 angp, ang, angp, cs (23.5 - 62.5) Amos 85 angp, cs 313.7 Breedon 89 angp 360 Bailly 88C angp, cs (31 - 62) Breakstone 85C angp 1496 Breakstone 85 angp Erhan 85 angp, cs	< 500 Bystricky 87 cs 2charged (neutrals) inelastic (63) Angelis 90 angp Akesson 86E p, pt	$D^+ D^- X$ 400 Aguilarbenit 88B cor, cs, mass, p, pt Aguilarbenit 87C cs
deuteron π^+	γ charged X	$K^+ \gamma X$ (63) Akesson 86E p, pt
0.7942 - 1.475 Hiroshige 84C - 0.9303 - 1.463 Blanksteider 84 - 0.95 - 2.5 Yokosawa 85 - 0.9543 - 1.023 Fall 83 asym, p 1.09 - 1.463 Glass 85B pol 1.18 Yokosawa 85C - 1.373 - 3.099 Bertini 88B angp 1.696 - 3.099 Yokosawa 85 - 1.921 - 3.099 Bertini 88 asym Bertini 85 asym 1.921 - 3.204 Yokosawa 85C - < 2 Bystricky 87 cs 2.07 - 12.3 Chuivilo 86 -	300 Demarzo 87B mass Akesson 86B mass, p e ⁻ e ⁺ X (63) Richard 87 mass, p, pt π^0 charged X (62.4) Tannenbaum 89 ang, cor, pt Akesson 86E p, pt	$K^- \gamma X$ (63) Akesson 86E p, pt
n $\Delta(1232 P_{33})^{++}$	$\pi^+ \text{ charged } X$	$K^+ \pi^0 X$ (63) Abramov 84 p, pt Smith 86B p, pt
1.18 - 1.98 Wicklund 87 angp, asym, cs, dme, pwa 3 - 12 Wicklund 85 asym, dme, p	527.8 - 1031 Akesson 85F mult Breakstone 86E angp, p	$K^- \pi^+ X$ (62) Abramov 84 p, pt Smith 86B p, pt
dibaryon π^-	$\pi^+ \text{ charged } X$	$K^- \pi^- X$ (62) Abramov 84 p, pt Smith 86B p, pt
1.696 Abaev 87 cs	Breakstone 86E angp, p	$K^*(892)^0 \phi X$
AN(2130 3S₁)⁺ K⁺	$\pi^- \text{ charged } X$	400 Torres 85 mass
3.099 Frascaria 89 -	527.8 - 1031 Akesson 85F mult	$K^+ K^- X$
dibaryon ($S = -1$) K⁺	$\mu^- \mu^+ X$	70 Abramov 84 p, pt 527.8 - 1031 Akesson 85F cs Smith 86B p, pt
3.099 Frascaria 87 angp, cs	(19 - 63) Rutherford 85 mass, p, pt	2K⁺ X
DD < 2$\pi^+ \pi^-$ (neutrals) > p	225 Rutherford 85 mass	70 Abramov 84 p, pt 400 Brown 86 mass 527.8 - 1031 Akesson 85F cs Smith 86B p, pt
360 Asai 89C mass, p, pt	2 $\pi^+ X$	2K⁻ X
DD < K_s X > p	70 Bailly 88E p, pt 360 Bailly 87F p, pt	527.8 - 1031 Akesson 85F cs Smith 86B p, pt
360 Asai 84 p	ang, angp, asym, p, pt	K_s π⁺ X
DD < A K⁺ φ > p	Bailly 86D p, pt	360 Aziz 88 mass
(63) Smith 85D ang, cs, mass	Bailly 86 mass	K_s π⁻ X
DD < A X > p	400 Brown 86 mass	360 Aziz 88 mass
360 Asai 84 p	1496 Akesson 86F cor, pt	meson⁰ charged X
DD < A K X > p	(62) Smith 86B p, pt	(63) Angelis 90 angp
360 Asai 84 p	2$\pi^- X$	meson⁰ charged⁺ X
DD < n 2$\pi^+ \pi^-$ > p	70 Abramov 84 p, pt	(63) Angelis 90 angp
360 Asai 89C mass, p, pt	360 Bailly 88E p, pt	meson⁰ charged⁻ X
DD < p 2$\pi^+ 2\pi^-$ > p	Bailly 87F ang, angp, asym, p, pt	(63) Angelis 90 angp
(62) Smith 85B ang, mass, p	Bailly 86D p, pt	K K X
DD < p A \bar{A} > p	1496 Akesson 86F cor, pt	32.1 Bogolyubsky 88F cs
(63) Smith 85D ang, cs, mass	Smith 86B p, pt	K[±] K_s X
DD < p π⁺ 2π⁰ π⁻ > p	π⁺ π⁻ X	360 Bailly 87F ang, angp, asym, p, pt
360 Asai 89C ang, mass, p, pt	24 Batyunya 87J angp, mass	2K_s X
DD < p π⁺ π⁻ > p	70 Abramov 84 p, pt	32.1 Bogolyubsky 88F cs
360 Asai 89C ang, mass, p, pt	(23 - 62.5) Camilleri 87 p	360 Aziz 88 ang, cs, mass, p, pt
DD < p π⁺ π⁰ π⁻ > p	360 Bailly 87F ang, angp, asym, p, pt	charmed-meson charmed-meson X
360 Asai 89C ang, mass, p, pt	(62) Smith 86B p, pt	400 Aguilarbenit 87C cs
DD < X > p	mult[π⁰] mult[π⁻] X	p γ X
(62) Breakstone 88 p, pt	300 Azimov 85E mult	(63) Akesson 86E p, pt
2jet	D⁰ $\bar{D}^0 X$	barmed-meson barmed-meson X
(63) Akesson 85E ang, mass, p, pt	400 Aguilarbenit 88B cor, cs, mass, p, pt	400 Aguilarbenit 88B cor, cs, mass, p, pt
charged+ charged- X	D⁰ D⁻ X	barmed-meson barmed-meson X
399.1 Ahn 87 angp, p	400 Aguilarbenit 88B cor, cs, mass, p, pt	(63) Akesson 86E p, pt

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

$$p \ p \rightarrow p \ \pi^0 \ X$$

p p → 2p f₁(1285)

p p	p p	p p
p $\pi^0 X$ (63)	Akesson 86E	p, pt
$\bar{p} \pi^0 X$ (63)	Akesson 86E	p, pt
p $\pi^+ X$ 69 70 (62)	Boos 88C Abramov 84 Breakstone 87	p, pt p, pt mass, pt
p $\pi^- X$ 69 70 176 (62)	Boos 88C Abramov 84 Gourlay 86 Smith 86B	p, pt p, pt mass p, pt
$\bar{p} \pi^+ X$ 70 176 (62)	Abramov 84 Gourlay 86 Smith 86B	p, pt mass p, pt
$\bar{p} \pi^- X$ 70 (62)	Abramov 84 Smith 86B	p, pt p, pt
$\Delta \pi^+ X$ 360 (62)	Bailly 87F ang, angp, asym, p, pt Smith 86B	p, pt p, pt
$\Delta \pi^- X$ 360 (62)	Bailly 87F ang, angp, asym, p, pt Smith 86B	p, pt p, pt
p $K^+ X$ 70 (62)	Abramov 84 Smith 86B	p, pt p, pt
p $K^- X$ 70 (62)	Abramov 84 Smith 86B	p, pt p, pt
$\bar{p} K^+ X$ 70 (62)	Abramov 84 Smith 86B	p, pt p, pt
$\bar{p} K^- X$ (62)	Smith 86B	p, pt
$\Delta K^+ X$ (62)	Smith 86B	p, pt
$\Delta K^- X$ (62)	Smith 86B	p, pt
p $K_S X$ 32.1	Bogolyubsky 88F	cs
$\Delta K_S X$ 32.1 360	Bogolyubsky 88F Aziz 88 Bailly 87F	cs ang, cs, mass, p, pt ang, angp, asym, p, pt
$\bar{\Lambda} K_S X$ 32.1	Bogolyubsky 88F	cs
hyperon kaon X 32.1	Bogolyubsky 88F	cs
p $\bar{p} X$ 70 360 (62)	Abramov 84 Bailly 87F ang, angp, asym, p, pt Smith 86B	p, pt p, pt p, pt
2p X 2 - 11.75 6 - 10 70 85 (62)	Auer 88 Carroll 88 Abramov 84 Armstrong 86B Breakstone 89B ang, cs, mass, pt	cs, mass angp p, pt mass, p angp, cs, mass, pt
2p X (62)	Smith 86B	p, pt
p ΛX (62)	Smith 86E	p, pt
$p \Lambda X + p \bar{\Lambda} X$ 32.1		
$\bar{\Lambda} \bar{\Lambda} X$ 32.1 360		
2A X 32.1		
hyperon hyperon X 32.1		
$\pi^- charm X$ 400		
$\gamma jet X$ 280 (63)		
$\pi^0 charged-hadron X$ (63)		
$\pi^\pm jet X$ 10		
$\pi^+ jet X$ (62)		
$\pi^- jet X$ (62)		
$K^- jet X$ (62)		
$\bar{\Lambda}_c^- charm X$ 400		
DD < charged > p X 69		
$\Lambda_c^+ charm X$ 400		
$\Delta charged-hadron X$ 360		
(jets) jet X 400		
shower jet X 200 - 400		
2hadron X 5 - 70		
2hadron⁺ X 70 360		
2hadron⁻ X 70 360		
hadron⁺ hadron⁻ X 70 360		
2jet X 801.3		
2jet X 200		
2jet X 200 - 400		
2p (π^+ neutrals) 3.88		
$\gamma mult[charged] (neutrals)$ (63)		
$\pi^+ mult[charged] (neutrals)$ (62)		
$K^+ mult[charged] (neutrals)$ (62)		
$K^- mult[charged] (neutrals)$ (62)		
$K_S mult[charged] (neutrals)$ 32.1		
$p mult[charged] (neutrals)$ 22.4		
$\Delta mult[charged] (neutrals)$ 32.1		
$\bar{\Lambda} mult[charged] (neutrals)$ 32.1		
charm mult[charged] (neutrals) 400		
mult[shower] mult[charged] (neutrals) 200 - 400		
2p γ 0.6444 - 0.7771		
2p π^0 0.7771		
2p π^+ 0.6 - 0.9		
2p π^- 1 - 6 1.278 - 1.463 < 4		
deuteron $\pi^+ \pi^0$ < 3		
2p $f_0(985)$ (40 - 63)		
2p $f_2(1270)$ 300 (62)		
(spectr) p $f_1(1285)$ 300		
2p $f_1(1285)$ 85		
2p $f_0(1370)$ 200		
2p $f_2(1430)$ 200		
2p $f_0(1710)$ 200		
2p $f_2(1720)$ 200		
2p $f_0(1730)$ 200		
2p $f_2(1730)$ 200		
2p $f_0(1960)$ 200		
2p $f_2(1970)$ 200		
2p $f_0(2170)$ 200		
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2p $f_0(2610)$ 200		
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2p $f_0(24294)$ 200	</td	

$p p \rightarrow 2p f_1(1285)$ $p p \rightarrow 2\text{hyperon } 2\text{kaon } X$

$p p$	$p p$	$p p$
$2p f_1(1285)$		
85 - 300 Armstrong 89E cs	π^- 2jet X (62) Geist 89	$2p K^+ K^-$
300 Armstrong 89 cs		85 Armstrong 86B mass, pwa
Armstrong 89E cs, mass, pwa	K^+ 2jet X (62) Geist 89	Vassiliadis 85 angp, mass
?	Armstrong 86E -	300 Armstrong 89 dme, mass
(spect) $p f_1(1420)$	Toki 88B -	Armstrong 89F ang, angp, mass
300		Armstrong 88 ang, angp, mass
$2p f_1(1420)$		Breakstone 89B angp, cs, mass, pt
85 Augustin 88C -	K^- 2jet X (62) Geist 89	Akesson 85D pwa
300 Armstrong 89 cs		
?	Armstrong 86E -	
$2p f_2(1525)$	Toki 88B -	
85		
$2p f_2(1720)$	Toki 88B -	
85		
$2p$ mult[π^\pm] (62)	Breakstone 86C angp	
$p \Lambda K^+$	Bertini 88B pol	
?		
$2p$ meson⁰		
85 Armstrong 87 cs	$2p \pi^+ \pi^-$ < 5 Bystricky 87 cs	
Armstrong 86B -	11.75 Finley 85	
300 Armstrong 89E cs, mass, pwa		
(40 - 63) Toki 88B -		
$2p$ glueball		
85 Armstrong 87 cs	300 Armstrong 89F mass, pt	
300 Chan 88 -	Armstrong 88 ang, angp, mass	
2hadron (hadrons)		
205 Baldin 88B col	Chan 88 mass	
(62) Breakstone 89 angp, p, pt	Breakstone 89B angp, cs, mass, pt	
	Breakstone 88C mass, pt	
3charged X		
400 Aguilarbenit 87 -	Breakstone 86 mass, p	
2charged (charged)s (neutrals)		
24 Batyunya 90 cs	Breakstone 86B mass	
400 Arenton 85 angp, col	angp, mass	
$2\pi^+ \pi^- X$		
360 Bailly 86D P	$2p 2\pi$ (40 - 63) Toki 88B mass	
	deuteron $2\pi^+ \pi^-$ < 5 Bystricky 87 cs	
$3\pi^+ X$		
360 Bailly 88E P, pt	$2p p^0 \gamma$ 300 Armstrong 89F	
Bailly 86D P	ang, angp, mass	
$3\pi^- X$		
360 Bailly 88E P, pt	Armstrong 88 ang, angp, mass	
Bailly 86D P	ang, angp, mass	
$\pi^+ 2\pi^- X$		
360 Bailly 86D P	$2p a_0(980)^+ \pi^-$ 85 Augustin 88C mass	
$K^+ \phi \pi^- X$		
400 Torres 85 mass	$2p a_0(980)^- \pi^+$ 85 Augustin 88C mass	
$K^- \phi \pi^+ X$		
400 Torres 85 mass	$p \Delta(1232 P_{33})^{++} p^0 \pi^-$ 85 Armstrong 89C cs	
$2K_S \pi^\pm X$		
360 Aziz 88 mass	$2p a_2(1320)^+ \pi^-$ 300 Armstrong 89E cs, mass, pwa	
p 2charged X		
400 Aguilarbenit 87 -	$2p a_2(1320)^- \pi^+$ 300 Armstrong 89E cs, mass, pwa	
$p 2K_S X$		
32.1 Bogolyubsky 88F cs	Armstrong 89E cs, mass, pwa	
$\Lambda 2K_S X$		
32.1 Bogolyubsky 88F cs	$2p a_2(1320)^+ \pi^- + 2p a_2(1320)^- \pi^+$ 85 Armstrong 89C cs	
$2p \pi^\pm X$		
(62) Breakstone 88C angp, p, pt	$2p p^0$ 300 Armstrong 89E cs, mass, pwa	
$2\Lambda K_S X$		
32.1 Bogolyubsky 88F cs	$2p \phi^0$ 85 Armstrong 86D cs	
mult[p] 2charged X		
200 Derado 88 a-dep, cor, mult, p	$2p 2\phi$ 85 Armstrong 86 cs, mass	
	300 Armstrong 89B cs, mass	
$\pi^+ 2jet X$		
(62) Geist 89 angp, col, p, pt	$p n \pi^+ (\pi^0's)$ < 7 Bystricky 87 cs	

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 15%.

$p p \rightarrow$ 2charged⁺ 2jet X p nucleon $\rightarrow K^+ K^- \phi X$

$p p$	$p p$	p nucleon
2charged⁺ 2jet X	$2p K^+ K_S \pi^- + 2p K_S K^- \pi^+$	mult[charged] (neutrals)
(63) Akesson 87E ang, cor, p	300 Armstrong 89 mass	2 - 400 Boos 86 cs, mult
2charged⁻ 2jet X	(hadrons) 4jet	γX
(63) Akesson 87E ang, cor, p	(6.2) Breakstone 85E	300 Artykov 90 pt
4jet X	K ⁺ 2K ⁻ $\pi^+ \pi^- X$	T(1S) X
(62) Breakstone 89	400 Torres 85 mass	808.1 Albrow 88 mass
(63) Akesson 87 ang, et	2K ⁺ K ⁻ $\pi^+ \pi^- X$	T(2S) X
2p $\pi^+ \pi^0 \pi^-$	400 Torres 85 mass	808.1 Albrow 88 mass
< 11 Bystricky 87 cs	2p $2\pi^+ 2\pi^-$	T(3S) X
p n 2 $\pi^+ \pi^-$	85 Armstrong 89C mass, pwa	808.1 Albrow 88 mass
< 12 Bystricky 87 cs	300 Armstrong 89E mass, pwa	D ⁺ X
p $\Delta(1232 P_{33})^{++} \pi^+ 2\pi^-$	Armstrong 89E	400 Georgiopoulos 84 angp, cs
300	cs, mass	D ⁻ X
p $\Delta(1232 P_{33})^0 2\pi^+ \pi^-$	Armstrong 89E	400 Georgiopoulos 84 angp, cs
300	cs, mass	D _S ⁻ X
2p $\eta \pi^+ \pi^-$	Armstrong 89F ang, angp, mass	400 Georgiopoulos 84 angp, cs
300	Armstrong 88 ang, angp, mass	2p $K^+ K^- \pi^+ \pi^-$
2p $\rho^0 \pi^+ \pi^-$	Armstrong 89C cs	85 Armstrong 86D cs, mass, p
85	Armstrong 89E	300 Armstrong 90 angp, mass
300	cs, mass, pwa	2p $2K^+ 2K^-$
2p $\phi \pi^+ \pi^-$	Armstrong 86D cs	85 Armstrong 86 cs, mass
85	Armstrong 86D	300 Armstrong 89B mass
2p $f_2(1270) \pi^+ \pi^-$	Armstrong 89C cs	3p $\bar{p} \pi^+ \pi^-$
85	Armstrong 89E	8 Armstrong 87 mass, p
300	cs, mass, pwa	(6.2) Breakstone 89B angp, cs, mass, pt
2p $2\pi^0 (\pi^0)$'s	< 7 Bystricky 87 cs	DD < p > DD < p > 2 $\pi^+ 2\pi^-$
< 9 Bystricky 87 cs	300 Armstrong 89E	300 Armstrong 89E angp, mass
p $\Delta(1232 P_{33})^{++} K^+ K^- \pi^-$	Armstrong 86D cs	DD < p > DD < p > K ⁺ K ⁻ $\pi^+ \pi^-$
85	Armstrong 86D	300 Armstrong 90 angp, mass
2p $K^*(892)^0 K^- \pi^+$	Armstrong 86D cs	6(charged) (neutrals)
85	Armstrong 86D	2C - 400 Abdushamilov 88 col, cor
2p $\overline{K}^*(892)^0 K^+ \pi^-$	Armstrong 86D cs	2p $3\pi^- 3\pi^-$
85	Armstrong 86D	(6.2) Breakstone 89B angp, cs, mass, pt
2p $K^+ K^- \rho^0$	Armstrong 86D cs	3p $\bar{p} 2\pi^+ 2\pi^-$
85	Armstrong 86D	85 Armstrong 87 mass, p
2p $K^+ K^- \phi$	Armstrong 86	p n
85	Armstrong 89B	mult[charged] (neutrals)
300	cs, mass	400 Bhattacharjee 90 mult
2p $K_2^*(1430)^0 K^- \pi^+$	Armstrong 86D cs	400 Bhattacharjee 89C mult
85	Armstrong 86D	400 Alimov 89B mult
2 Λ 2K ⁺ (π^0)'s	7.8 Aleshin 86 cs	70 Artykov 86 cs, mult
p(spect) p $K^+ K_S \pi^-$	300 Toki 88B mass	300 Azimov 85E cs, mult
2p $K^+ K_S \pi^-$	85 Augustin 88C mass, pwa	mult[π^0] X
	Armstrong 86E cs, mass, p, pwa	300 Azimov 85E mult
300	Armstrong 89F ang, angp, mass	mult[hadron] X
	Armstrong 88 ang, angp, mass	100 - 300 Bhattacharjee 89B mult
2p $K_S K^- \pi^+$	85 Augustin 88C mass, pwa	p n
	Armstrong 86E cs, mass, p, pwa	0.1 - 1.464 Bystricky 86D amp, angp, cs
300	Armstrong 89F ang, angp, mass	0.6103 Sowinski 87 angp, asym
	Armstrong 88 ang, angp, mass	1.463 Barlett 85 angp, pol
2p $K_S K^- \pi^+$	85 Augustin 88C mass, pwa	6 - 8 Soffer 85 angp, pol
	Armstrong 86E cs, mass, p, pwa	2p π^-
300	Armstrong 89F ang, angp, mass	0.9 - 43 Ponting 88 asym, pwa
	Armstrong 88 ang, angp, mass	5charg d (neutrals)
	ang, angp, mass	21 25 Saidkhannov 86 col, mass

REACTION/MOMENTUM/DATA-DESCRIPTOR INDEX

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 $p \text{ nucleon} \rightarrow K^+ K^- \phi X$
 $p \text{ He} \rightarrow (\text{jets}) \text{ jet } X$

$p \text{ nucleon}$		$p \text{ deuteron}$		$p \text{ }^3\text{He}$		
$K^+ K^- \phi X$				${}^3\text{H } \pi^0$	$\Delta(1232 P_{33})^{++}$	
Green 86	mass	0.8 0.8081 – 1.09	Adams 89 Silverman 85	Ellegaard 85	angp, p	
$K^+ K^- 2\phi X$		1.604 – 3.722	Berthet 85	deuteron $p(\text{spect}) p$		
400	mass		0.8081 – 1.023	Epstein 85	angp	
$2K^+ K^- \phi X + K^+ 2K^- \phi X$			${}^3\text{H } \pi^+$	deuteron $2p$		
400	mass	0.9 – 1.1	Mayer 86 Silverman 85	0.8081 – 1.023	angp	
$2K^+ 2K^- X$			${}^3\text{He } \eta$	${}^3p \pi^-$		
400	Davenport 86 Green 86	mass mass	0.896 1.604 – 3.722	Mayer 89 Berthet 85	0.8254 – 1.671	Blinov 88 angp, cs, mass, p
$K^+ K^- \phi \pi^+ \pi^- X$			dibaryon p			
400	Green 86	mass	1.438 – 1.669	Andreev 88		
$2K^+ 2K^- \phi X$			1.463 – 1.696	Andreev 87C Andreev 87B	– cs cs	
400	Green 86	mass				
$2K^+ 2K^- \text{ mult[charged] (neutrals)}$			dibaryon n			
400	Georgioupolo 84	mass	1.438 – 1.669	Andreev 88		
$2K^+ 2K^- \pi^+ \pi^- X$			1.463 – 1.696	Andreev 87C Andreev 87B	– cs cs	
400	Green 86 Georgioupolo 84	mass mass	$\mu^+ \mu^+ X$	$\mu^- \mu^- X$		
			800	Mishra 90	a-dep, p, pt	
$p \text{ deuteron}$			$2\pi^+ X$	Brown 86	mass	
charged X			400			
19.2	Boos 86B	cs, mult	$\pi^+ \pi^- X$	Nakai 89	a-dep, mass	
300	Crittenden 86	angp	3.9			
charged ⁺ X			$2K^+ X$	Brown 86	mass	
300	Crittenden 86	angp	400			
charged ⁻ X			$p \pi^+ X$	Nakai 89	a-dep, mass	
300	Crittenden 86	angp	3.9			
$\pi^+ X$			$p \pi^- X$	Nakai 89	a-dep, mass	
400	Jaffe 89	pt	3.9			
$\pi^- X$			$2\text{hadron}^+ X$	Brown 86	mass	
4.2	Bartke 85	a-dep, asym, p	400			
400	Jaffe 89	pt	$2p \pi^-$	Kistryn 89	pol	
$\psi(2S) X$			0.2873	Chalmers 85	pol	
800	Mishra 90	a-dep, a-dep, p, pt	0.5 – 0.8	Perdrisat 84	pol	
$T(1S) X$			1.099	Punjabi 88	angp, p	
800	Mishra 90	a-dep	1.099 – 1.101	Andreev 84	angp, p	
$K^+ X$			1.438 – 1.669	Andreev 88	ang, mass	
400	Jaffe 89	pt	1.463 – 1.696	Andreev 87C	mass	
$K^- X$			1.5 – 1.7	Andreev 87B	ang, mass	
400	Jaffe 89	pt	1.696	Zielinsky 88	cs, mass	
$p X$				Aleshin 90	angp, pol	
0.5	Rees 86	pol		Aleshin 87B	angp, pol	
1.696	Belostotsky 84	pol	$deuteron \pi^+ \pi^-$	Aleshin 87E	angp, p, pol	
3.9	Nakai 89	a-dep, angp	1.098	Debebe 85	angp, cs	
400	Jaffe 89	pt	$2p \pi^+ X$	Nakai 89	a-dep, angp	
$\bar{p} X$			3.9			
400	Jaffe 89	pt	$2p \pi^- X$	Nakai 89	a-dep, angp	
$n X$			3.9			
1.696	Baturin 87	a-dep, angp	$p(\text{spect}) 2p \pi^-$	Ponting 88	asym, pwa	
$\Delta(1232 P_{33})^0 X$			0.9543			
3.88	Nagae 87	angp, cs	$2p \pi^+ \text{ charged (neutrals)}$	Nagae 87	angp, mass	
$hadron^+ X$			3.88			
400	Jaffe 89	pt	$2p \pi^- \text{ charged (neutrals)}$	Nagae 87	angp, mass	
$hadron^- X$			3.88			
400	Jaffe 89	pt	$p \text{ }^3\text{He}$			
${}^3\text{He } \gamma$			charged X			
0.4446 – 1.09	Fearing 86	angp, pol	5	Abdullin 89H	cs	
$deuteron p$			$deuteron X$	1.6 – 1.9	Zielinsky 88	
0.2873	Kistryn 89	pol		1.61	Yokosawa 85C	
< 0.3104	Donoghue 84D	–	$anomalous X$	5	Abdullin 89H	
0.5804	Vanoers 85	pol		0.0433 – 0.1374	cs	
1.085 – 1.463	Sun 85	pol		0.0444 – 0.111	Beltramini 85	
1.09 – 1.463	Rahbar 87	asym, pol		1.696	Hasell 85	
1.337 – 1.686	Dobrovolsky 88	angp			angp, pol	
	Velichko 98	angp			angp	
1.463	Bartlett 85	angp, pol				
1.61	Yokosawa 85	pol				
3.5	Ohmori 88	pol	${}^3\text{H } \Delta(1232 P_{33})^{++}$	2.251 – 3.099	Ellegaard 89	
					pol	

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$\bar{\nu}_\mu \text{ Ne} \rightarrow \rho^0 \mu^+ X$ $e^- \gamma \rightarrow \eta' e^-$

$\bar{\nu}_\mu \text{ Ne}$	$\bar{\nu}_\mu \text{ Ne}$	$\bar{\nu}_\mu \text{ nucleus}$	
$\rho^0 \mu^+ X$ 10 - 100	Wittek 89 mult., p, pt dime	2Ks $\mu^+ e^- X$ 10 - 100 Baton 85 cs, mass, p, pt	$\pi^+ \pi^- \mu^+ X$ 10 - 100 Wittek 87 ang, mass, p
< 200	Schmitz 88 mult., pol	$\Delta Ks \mu^+ e^- X$ 10 - 100 Baton 85 cs, mass, p, pt	$\phi \mu^+ \gamma X$ 10 - 200 Asratyan 86 mass
$\omega \mu^+ X$ 10 - 100	Wittek 89 mult., p, pt	$\Delta Ks \mu^- \mu^+ X$ 10 - 100 Baton 85 es, mass, p, pt	$\phi \pi^- \mu^+ X$ 10 - 200 Asratyan 87C mass
$f_2(1270) \mu^+ X$ 10 - 100	Wittek 89 mult., p, pt	$\bar{\nu}_\mu \text{ Fe}$	$K^- \pi^+ \pi^0 X$ 10 - 200 Asratyan 87B mass
$\text{mult}[\pi^\pm] \mu^+ X$ 10 - 100	Wittek 88 angp., mult., p	$\bar{\nu}_\mu X$ 10 - 160 Abramowicz 85 cs	$K^- 2\pi^+ X$ 10 - 200 Asratyan 87B mass
$\text{mult}[\pi^\mp] \mu^+ X$ 10 - 100	Wittek 88 angp., mult., p	$\mu^+ X$ 10 - 160 Berge 87 cs	$Ks \pi^+ \pi^0 X$ 10 - 200 Asratyan 87B mass
$\text{mult}[\pi^0] \mu^+ X$ 10 - 100	Wittek 88 angp., mult., p	$\mu^+ X$ 10 - 260 Abramowicz 85 cs	$Ks \pi^+ \pi^- X$ 10 - 200 Asratyan 87B mass
$D_S^- \mu^+ X$ < 300	Schmitz 88 cs	$\mu^- \mu^+ X$ 30 - 600 Burkhardt 85 Foudas 88 Merritt 87 Reutens 85 es, p, pt ang, cs, pt es, p	$Ks K^- \mu^+ X$ 10 - 200 Asratyan 87C mass
$p \mu^+ X$ < 200	Schmitz 88 mult.	$2\mu^+ X$ 10 - 260 Burkhardt 85 Schum 88 Merritt 87 Merritt 87B es, p, pt ang, cs, pt es, p	$\pi^0 \mu^+ \text{ charged (neutrals)}$ 3 - 30 Baranov 85 mult
$\text{mult}[p] \mu^+ X$ 10 - 300	Guy 89 es, mult., p	$\mu^+ \text{ charm } X$ 30 - 600 Foudas 88	$\text{nucleus } \mu^- \mu^+ \bar{\nu}_\mu$ 10 - 160 Geiregat 90 cs
$\mu^+ \text{ mult}[hadron^+] X$ 10 - 100	Wittek 88 angp., mult., p	$\bar{\nu}_\mu \text{ nucleus}$	$\phi \pi^0 \pi^- \mu^+ X$ 10 - 200 Asratyan 87C mass
$\mu^+ \text{ mult}[hadron^-] X$ 10 - 100	Wittek 88 angp., mult., p	$\text{charged } X$ 0.1 - 1.1 Suzuki 88 flux	$K^+ 2\pi^- \mu^+ X$ 10 - 200 Ammosov 87F mass, p
$\text{Ne } \pi^- \mu^+$ 10 - 100	Marage 86 angp., cs, mass, p	$\bar{\nu}_\mu X$ 0.4 - 2 Bionta 88 cs	$K^+ \pi^- \mu^+ X$ 10 - 200 Asratyan 87B mass
$10 - 200$	Ammosov 86C angp., cs	$\mu^+ X$ 0.2 - 20 Berger 89B Perdereau 89 Longuemare 88 flux	$K^+ K^- \pi^0 \mu^+ X$ 10 - 200 Asratyan 87C mass
$40 - 300$	Aderholz 89 cs	$\mu^+ X$ 0.1 - 1.1 Suzuki 88 flux	$\phi \pi^+ 2\pi^- \mu^+ X$ 10 - 200 Asratyan 87C mass
$\text{Ne } \rho^- \mu^+$ 10 - 100	Marage 87 cs	$\mu^+ X$ 0.2 - 20 Berger 89B Perdereau 89 Longuemare 88 flux	$K^+ K^- \pi^- \mu^+ \gamma X$ 10 - 200 Asratyan 86 Ammosov 86B mass
$\text{Ne } a_1(1280)^- \mu^+$ 10 - 200	Ammosov 88C cs	$\mu^+ X$ 0.1 - 1.1 Suzuki 88 flux	$K^+ Ks 2\pi^- \mu^+ X$ 10 - 200 Asratyan 87C mass
$\pi^+ \pi^- \mu^+ X$ 10 - 100	Wittek 87 ang, mass, p	$\mu^+ X$ 0.2 - 20 Berger 89B Perdereau 89 Longuemare 88 flux	$Ks K^- \pi^+ \pi^- \mu^+ X$ 10 - 200 Asratyan 87C mass
$\rho^+ \pi^- \mu^+ X$ 10 - 100	Wittek 89 mult., p, pt	$\tau^- X$ 10 - 100 Ushida 86C es	$\tau^- X$ < 400 Talebzadeh 87 cs
$\phi \pi^- \mu^+ X$ < 300	Schmitz 88 mass	$\text{charmed-meson } X$ 10 - 200 Asratyan 87B	$\bar{\nu}_\tau \text{ nucleus}$
$Ks \mu^+ e^- X$ 10 - 100	Baton 85 es, mass, p, pt	$\pi^0 \mu^+ X$ 3 - 30 Baranov 85 mult	$\tau^+ X$ < 400 Talebzadeh 87 cs
$Ks \mu^- \mu^+ X$ 10 - 100	Baton 85 es, mass, p, pt	$\pi^- \mu^+ X$?	$e^- \gamma$
$\Delta \mu^+ e^- X$ 10 - 100	Baton 85 es, mass, p, pt	$\rho^0 \mu^+ X$ 10 - 100 Wittek 87 dime	$e^- \text{ (14 - 28)}$ Bonneaud 86 cs
$\Delta \mu^+ e^- X + Ks \mu^+ e^- X$ 10 - 100	Baton 85 es, mass, p, pt	$D^*(2010)^- \mu^+ X$ 10 - 200 Ammosov 87F cs	$e^- \text{ (2 - 13)}$ Berger 87B Aihara 89C cs
$\Delta \mu^- \mu^+ X$ 10 - 100	Baton 85 es, mass, p, pt	$K^- \pi^+ X$ 10 - 200 Asratyan 87B mass	14.5 Aihara 87F Althoff 86B Berger 87C Sasaki 89 Sasaki 88 Berger 87B col. const. p Kolanoski 86 const. p
$\Delta \mu^- \mu^+ X + Ks \mu^- \mu^+ X$ 10 - 100	Baton 85 es, mass, p, pt	$Ks \pi^+ X$ 10 - 200 Asratyan 87B mass	$16.5 - 17.5$ 17.3 25 - 28
$p (p's) \mu^+ X$ 10 - 300	Guy 89 es, mult., p	$p \mu^+ X$ 3 - 30 Ammosov 85C angp, p	$\eta \text{ e}^-$?
$\text{mult}[p] \mu^+ \text{ mult}[hadron^+] X$ 10 - 300	Guy 89 a-dep., mult.	$\text{mult}[p] \mu^+ X$ 3 - 30 Ammosov 85C mult	$\eta' \text{ e}^-$?
$\text{Ne } \pi^0 \pi^- \mu^+$ 10 - 100	Marage 87 angp, p	$\text{nucleus } \pi^0 \bar{\nu}_\mu$ 10 - 260 Bergsma 85B es	14.5 Aihara 88D Gidal 88B Landsberg 85 cs
		$\text{nucleus } \pi^- \mu^+$ 3 - 30 Grabosch 86 angp, es, p	$?$

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$p^{11}\text{Bor} \rightarrow p X$ $p C \rightarrow \text{dibaryon } X$

$p^{11}\text{Bor}$	$p C$	$p C$
$p X$		
7.5 Bayukov 85D angp, p	charged- X	$J/\psi(1S) X$
Gavrilov 85B a-dep, angp, p	2.3 Grigalashvil 88	530 De 89 a-dep, cs, p
n X	4.2 Grigalashvil 88	800 Mishra 90 a-dep, p, pt
1.696 Baturin 87 a-dep, angp	a-dep, mult	$\psi(2S) X$
7.5 Bayukov 85D angp, p	mult[charged] X	800 Mishra 90 a-dep
Gavrilov 85B a-dep, angp, p	4.2 Mekhtiev 88 et	
deuteron X	4.2 - 10 Baatar 87B	
7.5 Gavrilov 85B a-dep, angp, p	14.5 Remsberg 88 cs, mult, p, pt	$T(1S) X$
$^{11}\text{Bor } p$	mult[charged+] X	800 Mishra 90 a-dep
1.696 Alkhazov 85B angp	10 Armutlijsky 87B	
$p^{12}\text{C}$	mult[charged-] X	$x(\text{unspec}) X$
inelastic	2.3 Grigalashvil 88	530 De 89 -
1.35 - 3.75 Gachurin 85 cs	4.2 Grigalashvil 88	70 Afanasyev 90 cs
$^{11}\text{C } X$	10 Armutlijsky 87B	Afanasyev 90B cs
4.491 Kozaia 89B cs	neutral X	$K^+ X$
$\pi^\pm X$	14.5 Remsberg 88 p	1.468 - 1.685 Koptyev 88 cs
0.8533 - 1.09 Digiocomo 85 p	Tannenbaum 88 et, p	1.505 - 1.685 Abrosimov 85B cs
$\pi^+ X$	4.2 - 10 Baatar 88	1.693 Koptyev 88 cs
0.6084 - 0.6462 Bimbott 85 angp, cs	cor, mass, mult, p, pt	70 Abramov 84E a-dep, pt
0.8533 - 1.09 Digiocomo 85 p	400 Miettinen 88 a-dep, angp, col, et, mult, p	
15 - 61 Belyaev 88 angp	800 Gomez 86 col, et	$K^- X$
$\pi^- X$	γX	70 Abramov 84E a-dep, pt
0.6084 - 0.6462 Bimbott 85 angp, cs	10 Armutlijsky 85B angp	0.3956 - 1.199 Mcnaughton 86 pol
0.8533 - 1.09 Digiocomo 85 p	70 Afanasyev 90 cs	0.5513 Segel 85 cs, p
4.3 - 9.9 Bairamov 89 p	200 Afanasyev 90B cs	1 - 9 Bayukov 85C a-dep, angp, p
15 - 61 Belyaev 88 angp	200 Badier 85F pt	Baturin 87B angp, p
Belyaev 88B angp	Badier 85F pt	Baturin 85 a-dep, p
$p X$	Bardadinotwi 85 p, pt	Belostotsky 84 pol
16.97 - 31.99 Belyaev 89 ang, angp, p, pol	$\pi^0 X$	3.9 Nakai 89 a-dep, angp
16.97 - 61.99 Belyaev 88C angp, pol	4.5 Abraamyan 88 p, pt	4.2 Gulkanyan 88D a-dep, angp, cor, cs, mult
n X	10 Armutlijsky 86 cs	Kopylova 87 P
1.696 Baturin 87 a-dep, angp	200 Badier 85E cs, p, pt	Armumlijsky 86C angp, mult, p
4.2 Bekmirzaev 87B angp, mult, p	Badier 85F pt	Agakishiev 88 p
4.2 - 10 Bekmirzaev 89 mult, p	Bardadinotwi 85 p, pt	Armumlijsky 87C col, mult
10 Bekmirzaev 87 angp, mult, p	$\pi^\pm X$	Vorobiev 86B angp, p
deuteron X	10 Armutlijsky 85B	Bayukov 85D angp, p
16.97 - 31.99 Belyaev 89 ang, angp, p, pol	angp, cs	Vorobiev 85F a-dep, p
dibaryon($S = -1$) X	$\pi^+ X$	10 Bardadinotwi 85 p, pt
10 Shahbazyan 90 cs, mass	0.9543 - 1.023 Falk 83 asym, p	17.98 - 63.99 Abramov 84E a-dep, pt
$^{12}\text{C } p$	1 - 9 Bayukov 85E a-dep, angp, p	200.9 Schmidt 88 p, pt
0.046 Sedlak 88 angp	4.2 Kopylova 87 p	800 Gomez 86 -
1.696 Alkhazov 85B angp	7.5 Simich 86 mult, p	$\bar{p} X$
$2p X$	Vorobiev 88B a-dep, angp	70 Abramov 84E a-dep, pt
0.6444 Cowley 88 angp, p	10 Vorobiev 88D a-dep, angp	n X
mult[charged] 2neutral (neutrals)	25 - 65 Belyaev 88D a-dep, angp, mult	1 - 9 Bayukov 85C a-dep, angp, p
4.2 - 10 Angelov 89 col, p	70 Abramov 84E a-dep, pt	Binz 89 pol
π^\pm mult[charged] 2neutral (neutrals)	200 Bardadinotwi 85 p, pt	Baturin 87B angp, p
4.2 - 10 Angelov 89 col, p	$\pi^- X$	Baturin 85 a-dep, p
p mult[charged] 2neutral (neutrals)	1 - 9 Bayukov 85E a-dep, angp, p	Agakishiev 88 p
4.2 - 10 Angelov 89 col, p	1.463 Barlow 88 a-dep, angp, p	Vlasov 89 a-dep, angp
$p C$	4.2 Agakishiev 89B angp	Bayukov 85D angp, p
X	10 Simich 86 mult, p	Bayukov 85F a-dep, p
800 Gomez 86 a-dep, cs	Bartke 85 a-dep, asym, p	$\Delta(1232 P_{33})^{++} X$
inelastic	Agakishiev 84B angp, mult, p, pt	7.5 Vorobiev 90 angp
1.26 - 2.5 Kuzichev 89 a-dep, cs	10 Armutlijsky 87B a-dep, angp, mult, p	$\Delta(1232 P_{33})^0 X$
4.2 Grigalashvil 88 cs	4.2 Kopylova 86B angp	3.88 Nagae 87 angp, cs
(106.4 - 473.2) Avakyan 89C a-dep, cs	10 Armutlijsky 85B a-dep, angp, mult, p	ΔX
charged X	7.5 Mekhtiev 88 angp, mult, p	3 - 7.5 Vorobiev 89C angp
2 - 10 Kutsidi 86 mult	70 Abramov 84E a-dep, pt	10 Kopylova 87 p
2.3 Grigalashvil 88 a-dep, mult	200 Bardadinotwi 85 p, pt	10 Armutlijsky 87 cs, p
4.2 Mekhtiev 88 et, mult	17.98 - 63.99 Belyaev 89C angp, p, pol	10 Kopylova 87 p
dibaryon X	7.5 Vorobiev 87C cs	

$p\text{ C} \rightarrow {}^3\text{He X}$ $p\text{ C} \rightarrow 2\text{jet X}$

$p\text{ C}$	$p\text{ C}$	$p\text{ C}$
${}^3\text{He X}$ 7.48	Abashidze 85B a-dep, angp	$\pi^+ \pi^- \text{ X}$ 4.2 $J/\psi(1S) \gamma \text{ X}$ 530
${}^3\text{H X}$ 0.5513	Segel 85 cs, p	$\pi^- \text{ mult}[\pi^-] \text{ X}$ 4.2
${}^4\text{He X}$ 7.48	Abashidze 85B a-dep, angp	$K_S \pi \text{ X}$ 10
mult[p] X 4.2 4.2 - 10	Gulkanyan 88D mult Baldin 88C angp, cor Armutlijsky 87C col, mult	Angelov 88 ang, cor
hadron+ X 10	Armutlijsky 85B angp, mult, p, pt	De 89 mass
hadron- X 10	Armutlijsky 85B pt	Aliiev 89 angp, cor, mult
jet X 800	Stewart 90 a-dep, angp, col, pt	Andryonenko 86 ang, mult
mult[hadron] X 10 800	Baldin 86B Tannenbaum 89 et, p	Agakishiev 88 mult, p
2charged+ X 4.2	Angelov 88 ang, cor	Angelov 88 ang, cor
$2\gamma \text{ X}$ 4.5 200	Abraamyan 88 mass Badier 85C cs, pt Bardadinotwi 85 cs, p, pt	$p \text{ charged}^+ \text{ X}$ 4.2 $p \text{ charged}^- \text{ X}$ 4.2 - 10 $n \text{ charged}^+ \text{ X}$ 4.2 - 10 $n \text{ charged}^- \text{ X}$ 4.2 - 10 $p \pi^0 \text{ X}$ 10 $p \pi^\pm \text{ X}$ 7.5 10
$\pi^0 \text{ charged}^+ \text{ X}$ 10	Armutlijsky 86 pt	Vorobiev 90 mass
$\pi^0 \text{ charged}^- \text{ X}$ 10	Armutlijsky 86 pt	Armutlijsky 85B mass
$\pi^\pm \text{ charged} \text{ X}$ 1.696	Andronenko 86 ang, mult	Nakai 89 a-dep, mass Vlasov 90 a-dep, ang, angp, cor, p Vorobiev 90 mass
$\pi^+ \text{ charged}^+ \text{ X}$ 4.2	Angelov 88 ang, cor	Armutlijsky 85B mult
$\pi^- \text{ charged}^+ \text{ X}$ 4.2	Angelov 88 ang, cor	$p \pi^+ \text{ X} + 2\pi^+ \text{ X} + \pi^+ \pi^- \text{ X}$ 10 $p \pi^- \text{ X} + \pi^+ \pi^- \text{ X} + 2\pi^- \text{ X}$ 10 $\Lambda \pi \text{ X}$ 10
$\mu^- \mu^+ \text{ X}$ 800	Mishra 90 a-dep, p, pt	$p K_S \text{ X}$ 10
$2\pi^0 \text{ X}$ 10	Agakishiev 87B Armutlijsky 86 mult	Armutlijsky 88 mult, p, pt
$\pi^0 \pi^\pm \text{ X}$ 10	Armutlijsky 85B mult	Armutlijsky 88 angp, mult, p
$\pi^+ \pi^0 \text{ X}$ 10	Armutlijsky 86 mult	deuteron charged X 1.696
$\pi^0 \pi^- \text{ X}$ 10	Armutlijsky 86 angp, mult, p	Andronenko 86 ang, mult
$2\pi^\pm \text{ X}$ 10	Armutlijsky 85B cs	deuteron charged+ X 10 deuteron charged- X 10
$\pi^+ \pi^\pm \text{ X}$ 10	Armutlijsky 85B mult	Armutlijsky 87 pt
$\pi^- \pi^\pm \text{ X}$ 10	Armutlijsky 85B angp, mult, p	Armutlijsky 87 pt
$2\pi^\pm \text{ X}$ 7.5	Vlasov 90 a-dep, ang, angp, cor, p Vorobiev 89B angp, cor, pt	$2\pi \text{ X}$ 1.463 3 - 7.5 4.2
$2\pi^- \text{ X}$ 10	Vorobiev 88D angp, cor, p Agakishiev 87B cor	Pluta 88B angp, cor, p Armutlijsky 86B cor Armutlijsky 87D angp, cs, mass, p
$\pi^+ \pi^- \text{ X}$ 3.9	Nakai 89 a-dep, mass	Ohmori 89 angp, pol Budilov 90 angp, cor, p Carroll 88 angp Vorobiev 90B ang, angp, mass, p Bayukov 89 ang, angp, p Bayukov 89B ang, angp, p
$2p\text{ X}$		
		Bayukov 89C ang, angp, p
		Bayukov 88 angp, cor
		Vorobiev 87C mass
		Agakishiev 87B cor
		Armutlijsky 85B cs, mult
		$2p\text{ X} + p \pi^+ \text{ X} + p \pi^- \text{ X}$ 10
		Kopylova 86E cor
		$p n \text{ X}$ 7.5
		Vlasov 89 a-dep, ang, cor, p
		deuteron $\pi^0 \text{ X}$ 10
		Armutlijsky 87 mult, p
		$\pi^- \text{ X}$ 10
		Vlasov 90 a-dep, ang, angp, cor, p
		Armutlijsky 87 mult
		$p \Lambda \text{ X}$ 10
		Armutlijsky 88 mult, p, pt
		${}^3\text{H charged} \text{ X}$ 1.696
		Andronenko 86 mult
		deuteron $p \text{ X}$ 1.463 7.5
		Miake 84 angp
		Bayukov 89C ang, angp, p
		Vlasov 89B ang, angp, p
		Vlasov 86 ang, angp, p
		Armutlijsky 87 cor, mult
		$\pi^- \text{ X}$ 7.5
		Vlasov 89 a-dep, ang, cor, p
		${}^3\text{H p} \text{ X}$ 7.5
		Bayukov 89C ang, angp, p
		Vlasov 89B ang, angp, p
		$2\text{deuteron} \text{ X}$ 7.5
		Bayukov 89C ang, angp, p
		Vlasov 89B ang, angp, p
		$\pi^\pm \text{ hadron}^+ \text{ X}$ 10
		Armutlijsky 85B angp, mult, p, pt
		$\pi^\pm \text{ hadron}^- \text{ X}$ 10
		Armutlijsky 85B pt
		Baldin 85 ang, p
		$\pi^- \text{ jet} \text{ X}$ 10
		Baldin 85 ang, p
		$\pi^- \text{ hadron} \text{ X}$ 10
		Lyubimov 88 col
		$p(p') \text{ X}$ 4.2 - 10
		Angelov 88 angp, col
		$p \text{ hadron}^+ \text{ X}$ 10
		Armutlijsky 85B angp, mult, p, pt
		$p \text{ hadron}^- \text{ X}$ 10
		Armutlijsky 85B pt
		(jets) $\text{jet} \text{ X}$ 400
		Miettinen 88 a-dep, angp, et, p
		shower mult[shower] X 4.2
		Aliev 89 angp, cor, mult
		$2\text{jet} \text{ X}$ 800
		Stewart 90 a-dep, angp, col, et

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

$p\ C \rightarrow \pi \text{ mult[charged]} \text{ (neutrals)}$ $p\ Ne \rightarrow \gamma \text{ mult[charged]} X$

$p\ C$	$p\ C$		$p\ ^{16}O$
$\pi \text{ mult[charged]} \text{ (neutrals)}$ 4.2 - 10 Baatar 89 angp, mass, mult, pt	$2p\ \pi^+ X$ 10 Agakishiev 87B cor, mass, mult, p, pt	Agakishiev 87B cor	$n\ X$ 1.696 Baturin 87 a-dep, angp
$\text{mult}[\pi] \text{ mult[charged]} \text{ (neutrals)}$ 4.2 - 10 Baatar 88 cor, mass, mult, p, pt	$2p\ 0\pi^+ X$ 4.2 - 10 Armutlijsky 87D angp, cs, mass, p	Armutlijsky 87D mult	$^{16}O\ p$ 0.6444 Glover 85B angp, cs, pol
$p\ \text{mult[charged]} \text{ (neutrals)}$ 4.2 - 10 Baatar 89 angp, mass, mult, pt	$p\ \Delta\ \pi^+ X$ 10 Armutlijsky 88 angp, mult, p	Armutlijsky 88 mult	1.696 Alkhazov 85B angp
$\text{mult}[\rho] \text{ mult[charged]} \text{ (neutrals)}$ 4.2 - 10 Baatar 88 cor, mass, mult, p, pt	$p\ \Delta\ \pi^- X$ 10 Armutlijsky 88 angp, mult, p	Armutlijsky 88 mult	$p\ F1$
$\mu^- \mu^+ \gamma X$ 530 De 89 mass	$p\ \Delta\ \pi^ X$ 10 Armutlijsky 88 mult	Armutlijsky 88 mult	$p\ X$ 7.5 Bayukov 85D angp, p
$3\pi^0 X$ 10 Agakishiev 87B cor	$2p\ K_S X$ 10 Vlasov 88 ang, angp, cor	Armutlijsky 88 mult	$n\ X$ 7.5 Bayukov 85D angp, p
$2\pi^0 \pi^0 X$ 10 Agakishiev 87B cor	$3p\ X$ 7.5 Vlasov 88 ang, angp, cor	Armutlijsky 87 cor	$p\ ^{19}F1$
$2\pi^+ \pi^0 X$ 10 Agakishiev 87B cor	$2p\ \Delta\ X$ 7.5 Vlasov 88 ang, angp, cor	Armutlijsky 85B mult	$n\ X$ 1.696 Baturin 87 a-dep, angp
$\pi^0 2\pi^- X$ 10 Agakishiev 87B cor	$\text{deuteron } 2p\ X$ 7.5 Vlasov 88 ang, angp, cor	Armutlijsky 88 mult	$^{16}O\ ^4He$ 0.0398 Savage 88C 0.057 Bini 89B cs
$2\pi^+ \pi^- X$ 10 Agakishiev 87B cor	$2\text{deuteron } p\ X$ 7.5 Vlasov 88 ang, angp, cor	Armutlijsky 88 mult	$p\ ^{20}Ne$
$2\pi^- \pi^- X$ 10 Agakishiev 87B cor	$p\ \pi^\pm \text{ hadron}^\pm X$ 10 Armutlijsky 88 angp, mult, p, pt	Armutlijsky 85B pt	$p\ X$ 300 Alimov 89 angp, cs, mult, p
$K_S \pi^+ \pi^- X$ 10 Armutlijsky 88 mult	$p\ \pi^\pm \text{ hadron}^\pm X$ 10 Armutlijsky 85B pt	Armutlijsky 85B pt	$\Delta(1232\ P_{33})^{++} X$ 300 Alimov 88 angp, cs
$K_S \pi^- \pi^- X$ 10 Armutlijsky 88 angp, mult, p	$2p\ \text{hadron}^\pm X$ 10 Armutlijsky 85B angp, mult, p, pt	Armutlijsky 85B pt	$\Delta(1232\ P_{33})^0 X$ 300 Alimov 88 angp, cs
$p\ \text{charged}^+ \text{ charged}^- X$ 4.2 - 10 Agakishiev 88 p	$2p\ \text{hadron}^- X$ 10 Armutlijsky 85B pt	Armutlijsky 85B pt	$N(1440\ B)^0 X$ 300 Alimov 88 angp, cs
$n\ \text{charged}^+ \text{ charged}^- X$ 4.2 - 10 Agakishiev 88 p	$2p\ \text{hadron}^- X$ 10 Armutlijsky 85B angp, mult, p, pt	Armutlijsky 85B pt	$\pi^- \text{ mult}[\pi^-] X$ 300 Aliev 89 angp, cor, mult
$p\ 2\pi^0 X$ 10 Agakishiev 87B cor	$2p\ \text{fragt (neutrals)}$ 3.88 Nagae 87 6 - 10 Heppelmann 89 angp	Armutlijsky 85B pt	$p\ \pi^+ X$ 300 Alimov 89 angp, mult, p
$p\ \pi^+ \pi^\pm X$ 10 Armutlijsky 85B mult	$2p\ 2\pi^+ X$ 4.2 - 10 Armutlijsky 87D angp, cs, mass, p	Armutlijsky 85B pt	$p\ \pi^- X$ 300 Alimov 88 angp, mult, p
$p\ \pi^- \pi^\pm X$ 10 Armutlijsky 85B angp, mult, p	$3p\ (p's) X$ 10 Lyubimov 88 col	Armutlijsky 85B pt	$2p\ X$ 300 Alimov 89 angp, cs, mass
$p\ 2\pi^+ X$ 10 Agakishiev 87B cor	$2p\ \pi^+ \text{ fragt (neutrals)}$ 3.88 Nagae 87 angp, mass	Armutlijsky 85B pt	$\text{shower mult}[\text{shower}] X$ 300 Aliev 89 angp, cor, mult
$p\ 2\pi^- X$ 10 Agakishiev 87B cor	$2p\ \pi^- \text{ fragt (neutrals)}$ 3.88 Nagae 87 angp, mass	Armutlijsky 85B pt	$2p\ 0\pi^\pm X$ 300 Alimov 89 mass
$\Lambda\ \pi^+ \pi^- X$ 10 Armutlijsky 88 mult	$p\ ^{13}C$	Armutlijsky 85B pt	$2p\ \text{mult}(\pi^\pm) X$ 300 Alimov 89 mass
$\Lambda\ \pi^- \pi^- X$ 10 Armutlijsky 88 angp, mult, p	$^{14}\text{Nit}'$ 0.0573 Savage 88C	Armutlijsky 85B pt	$2p\ (p's) X$ 300 Allaberdin 87 angp, cor
$p\ K_S \pi^+ X$ 10 Armutlijsky 88 mult	$\text{Nit}'\ \gamma$ 0.0573 Savage 86B	Armutlijsky 85B pt	$p\ Ne$
$p\ K_S \pi^- X$ 10 Armutlijsky 88 angp, mult, p	$^{13}\text{C}\ p$ 1.696 Alkhazov 85B angp	Armutlijsky 85B pt	$\gamma\ X$ 28 Fredriksson 87 mult 300 Artykov 90 pt Alimov 89B mult
$p\ K_S \pi^- X$ 10 Armutlijsky 88 mult	$^{13}\text{Njt}\ n$ 0.5708 Goodman 85 angp, pol	Armutlijsky 85B pt	$\pi^0 X$ 300 Artykov 86 cs, mult Azimov 85E cs
$2p\ \pi^0 X$ 10 Agakishiev 87B cor	$p\ ^{14}\text{Nit}$	Armutlijsky 85B pt	$\text{mult}[\pi^0] X$ 300 Azimov 85E mult
$2p\ \pi^\pm X$ 10 Armutlijsky 85B mult	$\pi^- X$ 21 Bajramov 89 p	Armutlijsky 85B pt	$p\ X$ 300 Alimov 85 angp, mult
$2p\ \pi^+ X$ 3.9 Nakai 89 a-dep, angp	$p\ \text{Nit}$	Armutlijsky 85B pt	$n\ X$ 300 Azimov 85F angp, mult, p
$2p\ \pi^- X$ 10 Armutlijsky 85B mult	$\text{Nit}\ p$ 1.696 Alkhazov 85B angp	Armutlijsky 85B pt	$\gamma\ \text{mult}[\text{charged}^-] X$ 28 Fredriksson 87 cor, mult 300 Alimov 89B mult, p
$2p\ \pi^- X$ 3.9 Nakai 89 a-dep, angp	$p\ ^{15}\text{Nit}$	Armutlijsky 85B pt	
$2p\ \pi^- X$ 10 Armutlijsky 85B angp, mult, p	$^{16}\text{O}\ n$ 0.5708 Goodman 85 angp, pol	Armutlijsky 85B pt	

$p \text{ Ne} \rightarrow \pi^0 \text{ charged}^- \text{ X}$ $p \text{ Al} \rightarrow \text{mult}[\text{grey}] \text{ X}$

$p \text{ Ne}$	$p \text{ Mg}$	$p \text{ Al}$		
$\pi^0 \text{ charged}^- \text{ X}$ 300	Artykov 86 mult	$\text{mult}[\text{grey}] \text{ charged}^- \text{ X}$ 200	$K^+ \text{ X}$ 10.1	Sibirtsev 88 Vorontsov 88B Boyarinov 89 Boyarinov 88B Abramov 84E
$p \pi^0 \text{ X}$ 300	Artykov 86 mult	Brick 90 cor, mult. p Brick 89 mult	$\text{mult}[\text{grey}] \text{ charged}^- \text{ X}$ 100	a-dep, angp a-dep, angp a-dep, angp a-dep, angp a-dep, pt
$2p \text{ X}$ 300	Azimov 84C mass	Tothacker 87 p, pt	$\text{K}^+ \text{ X}$ 10.14	Vorontsov 88B Boyarinov 89 Boyarinov 88B Abramov 84E
$\text{mult}[\text{p}] \text{ mult}[\pi^0] \text{ X}$ 300	Azimov 85E mult	Tothacker 87 p, pt	$K^- \text{ X}$ 70	a-dep, angp a-dep, angp a-dep, angp a-dep, pt
$\gamma \text{ mult}[\text{grey}] \text{ X}$ 300	Artykov 90 mult, p, pt Alimov 89B mult, p	$\text{mult}[\text{grey}] \text{ shower} \text{ X}$ 200	$K^- \text{ X}$ 10.1	Vorontsov 88B Boyarinov 89 Boyarinov 88C Snow 85 Abramov 84E
$3p \text{ X}$ 300	Azimov 86 mass	Brick 90 cor, mult. p Brick 89 mult	$\text{mult}[\text{grey}] \text{ charged}^+ \text{ charged}^- \text{ X}$ 200	a-dep, angp a-dep, angp a-dep, angp a-dep, angp a-dep, pt
$\gamma \text{ mult}[\text{grey}] \text{ mult}[\text{charged}^-] \text{ X}$ 300	Alimov 89B mult	Brick 89 mult	$p \text{ X}$ 1.696	Baturin 87 a-dep, angp
$4p \text{ X}$ 300	Azimov 86 mass	$p^{25}\text{Mg}$	$p \text{ X}$ 1.696	Baturin 85 a-dep, p Belostotsky 84 pol
	Azimov 84B mass	$n \text{ X}$ 1.696	$saf \text{ X}$ 2.5 – 9.2	Safronov 88 Nakai 89 a-dep, angp Tokushukti 90 angp
$p \text{ Na}$		$n \text{ X}$ 1.696	$4.94 - 10.14$	Enyo 85 p
$p \text{ X}$ 1.463	Miake 84 angp	X 800 Gomez 86 a-dep, cs	$6.37 - 8.08$	Boyarinov 86 angp
$2p \text{ X}$ 1.463	Miake 84 angp	inelastic 1.26 – 2.5 Kuzichev 89 a-dep, cs	7.5	Arefiev 85 a-dep, angp
deuteron $p \text{ X}$ 1.463	Miake 84 angp	$\text{charged} \text{ X}$ 220 – 1500 Dzaoshvili 90 mult, p $> 10^3$ Berdzenishvi 85 mult, p	8.9	Bayukov 85F a-dep, p Averchikov 87 a-dep, angp
$p^{24}\text{Mg}$		$\text{mult}[\text{charged}] \text{ X}$ 360 Baily 88 mult, p Baily 87D mult	10.1	Safronov 88B angp Sibirtsev 88 a-dep, angp
$n \text{ X}$ 1.696	Baturin 87 a-dep, angp	$\text{mult}[\text{charged}^-] \text{ X}$ 360 Baily 87D mult	10.14	Vorontsov 88B a-dep, angp
(blocks) $\text{mult}[\text{grey}] \text{ mult}[\text{shower}]$		$\text{neutral} \text{ X}$ 14.5 Remsberg 88 p	70	Ergakov 86 a-dep, angp
(neutrals)		220 – 1500 Tannenbaum 88 et, p	800	Boyarinov 87B angp
100 Biswas 86 cs		$\text{mult}[\text{charged}] \text{ (neutrals)}$ 400 Miettinen 88 a-dep, angp, col, et, mult, p	10.1	Abramov 84E a-dep, pt
$p \text{ Mg}$		800 Gomez 86 col, et	70	Gomez 86B –
inelastic 200 Abe 88 cs		$\gamma \text{ X}$ 450.9 Schukraft 88B angp, pt	4.542 – 10.09	Lepikhin 87 a-dep, angp
$\text{charged} \text{ X}$ 200 Brick 89 mult		$\mu^+ \text{ X}$ 300 Cobbaert 88 a-dep	8.9	Averchikov 87 a-dep, angp
$\text{charged}^- \text{ X}$ 200 Brick 90 cor, mult, p		$\mu^- \text{ X}$ 300 Cobbaert 88 a-dep	10.1	Vorontsov 88 a-dep, angp
$\text{mult}[\text{charged}] \text{ X}$ 200 Brick 89 mult		$\pi^+ \text{ X}$ 4.94 – 10.14 Boyarinov 87 angp, p	70	Abramov 84E a-dep, pt
$\text{mult}[\text{charged}^-] \text{ X}$ 200 Brick 89 mult		6.37 – 8.08 Arefiev 85 a-dep, angp	3.88	Nagae 87 angp, cs
$\pi^\pm \text{ X}$ 200	Abe 88 mult	10.1 Bayukov 85F a-dep, p	3 – 7.5	Vorobiev 89C angp
$\pi^- \text{ X}$ 200	Abe 88 mult	$\text{deuteron} \text{ X}$ 2.03 – 10.1 Ergakov 86 a-dep, angp	deuteron X 2.5 – 9.2 Safronov 88 angp	
$p \text{ X}$ 100	Tothacker 87 mult, p	10.14 Boyarinov 87 angp, p	4 Tokushukti 90 angp	
200 Abe 88 p		14.97 – 64.99 Belyaev 89B angp	6.37 – 8.08 Arefiev 85 a-dep, angp	
$\bar{p} \text{ X}$ 100	Tothacker 87 mult, p	25 – 65 Belyaev 88D a-dep, angp	10.1 Safronov 88B angp	
200 Abe 88 p		70 Abramov 84E a-dep, pt	10.14 Bayukov 88 angp, p	
$\text{grey} \text{ X}$ 200 Abe 88 mult		10.14 Vorontsov 88B a-dep, angp	70 Barkov 85C a-dep, cs, p	
$\text{mult}[\text{shower}] \text{ X}$ 200 Brick 89 mult		14.97 – 64.99 Belyaev 88D a-dep, angp	6.37 – 8.08 Arefiev 85 a-dep, angp	
$\text{shower} \text{ X}$ 200 Brick 90 cor, mult, p		70 Abramov 84E a-dep, pt	10.1 Safronov 88B angp	
$2\text{charged} \text{ X}$ 200 Brick 90 cor, mult, p		10.14 Boyarinov 87B angp, p	10.14 Ergakov 86 a-dep, angp	
$p \pi^\pm \text{ X}$ 100	Tothacker 87 mult, p	4 Enyo 85 p	10.14 Bayarinov 88 angp, p	
$p \text{ mult}[\pi^\pm] \text{ X}$ 100	Tothacker 87 p	4.94 – 10.14 Boyarinov 87 angp, p	70 Barkov 85C a-dep, cs, p	
$2p \text{ X}$ 100	Tothacker 87 mult	8.9 Averchikov 87 a-dep, angp	10.14 Cobbaert 88 a-dep, cs	
		10.1 Vorontsov 88B a-dep, angp	300 charm X	
		10.14 Boyarinov 87B angp, p	5.762 frag X	
		14.97 – 64.99 Belyaev 89B a-dep, angp	360 grey X	
		70 Abramov 84E a-dep, pt	360 mult[grey] X	
		1.693 Koptyev 88 cs	360 Bailly 87D mult	
		Ahrosimov 85B cs		

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

$p\text{ Al} \rightarrow \text{mult[hadron]} X$ $p\text{ Ti} \rightarrow ^3\text{H } p\text{ X}$

$p\text{ Al}$	$p\text{ Si}$	$p\text{ Ca}$
mult[hadron] X		$\psi(2S) X$
800 Tannenbaum 89 et, p	$D^0 X$ 200 Barlag 88 Barlag 87 cs, p, pt	800 Mishra 90 a-dep
mult[shower] X		$\Upsilon(1S) X$
360 Bailly 87D mult	$D^+ X$ 200 Barlag 88 Barlag 87 cs, p, pt	800 Mishra 90 a-dep
shower X		$p X$
360 Bailly 87D p	$D^- X$ 200 Barlag 88 Barlag 87 cs, p, pt	0.5 Rees 86 pol
$\pi^- \text{ mult[charged] X}$		$\mu^- \mu^+ X$
4 Enyo 85 mult, p	$D_S^- X$ 200 Barlag 88 cs, p, pt	800 Mishra 90 a-dep, p, pt
$\mu^- \mu^+ X$		$p^{44}\text{Ca}$
300 Cobbaert 88 a-dep	$D_S^+ X$ 200 Barlag 88 cs, p, pt	
Cobbaert 88B a-dep, mass, p		$n X$
$\pi^+ \pi^- X$		1.696 Baturin 87 a-dep, angp
3.9 Nakai 89 a-dep, mass	$D^*(2010)^+ X$ 200 Barlag 88 cs, p, pt	
$J/\psi(1S) \gamma X$		$\nu_e X$
530 De 89 a-dep, cs, mass, p	$D^*(2010)^- X$ 200 Barlag 88 cs, p, pt	28.3 Krizmanic 89 flux
p mult[charged] X		$\bar{\nu}_e X$
4 Enyo 85 mult, p	$K^+ K^- 2\pi^+ 2\pi^- X$ 200 Barlag 88 mass	28.3 Krizmanic 89 flux
2p X		$\nu_\mu X$
6 - 12 Carroll 88 angp		28.3 Krizmanic 89 flux
7.5 Bayukov 85 cor	$p X$	
(jets) jet X		$\bar{\nu}_\mu X$
400 Miettinen 88 a-dep, angp, et, p	1.463 Miake 84 angp	28.3 Krizmanic 89 flux
grey shower X		$\pi^+ X$
360 Bailly 87D cor, mult	$2p X$	14.97 - 64.99 Belyaev 89B a-dep, angp
mult[grey] shower X		25 - 65 Belyaev 88D a-dep, angp
360 Bailly 87D p	$deuteron p X$	
shower hadron X		$\pi^- X$
360 Bailly 87D cor, mult, p	1.463 Miake 84 angp	14.97 - 64.99 Belyaev 89B a-dep, angp
2hadron⁺ X		$K^+ X$
800 Streets 89 a-dep, ang, mass, pt	$\chi(\text{unspec}) X$	1.693 Koptyev 88 cs
2hadron⁻ X		Abrosimov 85B cs
800 Streets 89 a-dep, ang, mass, pt	530 De 89	
hadron⁺ hadron⁻ X		$p X$
800 Streets 89 a-dep, ang, mass, pt	$charged^- X$	7.5 Bayukov 85F a-dep, p
$\mu^- \mu^+ \gamma X$		$mult[\text{charged}] X$
530 De 89 mass	200 Klar 84 mult, p, pt	7.5 Bayukov 85F a-dep, p
$2p \pi^- X$		$mult[\text{charged}^-] X$
3.9 Nakai 89 a-dep, angp	200 Dengler 86C angp, mult, p	7.5 Vlasov 90 a-dep, ang, angp, cor, p
2p fragt (neutrals)		$2\pi^+ X$
6 - 10 Heppelmann 89 angp	200 Dengler 86C angp, mult, p	7.5 Vlasov 90 a-dep, ang, angp, cor, p
2p π^+ fragt (neutrals)		$mult[p] 2\pi^+ X$
3.88 Nagae 87 angp, mass	200 Derado 88 a-dep, cor, mult, p	7.5 Vlasov 90 a-dep, ang, angp, cor, p
2p π^- fragt (neutrals)		$2p X$
3.88 Nagae 87 angp, mass	200 Derado 88 a-dep, cor, mult, p	3 - 7.5 Bayukov 86 ang
$p^{27}\text{Al}$		7.5 Bayukov 89 an, angp, p
inelastic		Bayukov 89B ang, angp, p
1.35 - 3.75 Gachurin 85 cs	$dibaryon X$	Bayukov 89C ang, angp, p
$^{24}\text{Na } X$	1.696 Ermakov 86	Bayukov 88 angp, cor
4.491 Damdinsuren 87 cs	Ermakov 86B	
p X		$p n X$
0.097 - 0.4207 Machner 85 p	$2p X$	7.5 Vlasov 89 a-dep, ang, cor, p
0.3467 - 1.166 Machner 85 angp	1.696 Ermakov 86 ang, mass	deuteron $\pi^+ X$
n X	$2p \pi^+ X$	7.5 Vlasov 90 a-dep, ang, angp, cor, p
0.097 - 0.4207 Machner 85 p	1.696 Ermakov 86B mass	deuteron p X
1.696 Baturin 87 a-dep, angp		7.5 Bayukov 89C ang, angp, p
deuteron X		Vlasov 89B ang, angp, p
0.3467 - 1.166 Machner 85 angp	$^{40}\text{Ca } p$	Vlasov 86 ang, angp, p
$^{24}\text{Na } 3p\ n$	0.6444 - 0.9543 Lee 88 angp	
0.2941 - 0.6444 Michel 85 cs	1.09 Baturin 87 a-dep, angp	deuteron n X
	$Ca^* p$	7.5 Vlasov 89 a-dep, ang, cor, p
	1.09 Berezhnoj 85	$^3\text{H } p X$
	Berezhnoj 85	7.5 Bayukov 89C ang, angp, p
p Si		Vlasov 89B ang, angp, p
$D^0 X$		
200 Barlag 88 cs, p, pt	$p Ca$	
Barlag 87	$J/\psi(1S) X$	
	800 Mishra 90 a-dep, p, pt	

REACTION/MOMENTUM/DATA-DESCRIPTOR INDEX

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 $p\ Ti \rightarrow 2\text{deuteron X}$ $p\ ^{59}\text{Co} \rightarrow ^{28}\text{Mg X}$

$p\ Ti$	$p\ ^{58}\text{Mn}$	$p\ ^{58}\text{Ni}$
2deuteron X		
7.5 Bayukov 89C Vlasov 89B ang, angp, p Vlasov 86 ang, angp, p	$^{51}\text{Cr X}$ 4.491 Kozma 88B $^{52}\text{Mn X}$ 4.491 Kozma 88B $^{52}\text{Fe X}$ 4.491 Kozma 88B $^{54}\text{Mn X}$ 4.491 Kozma 88B frag X 4.491 Kozma 88B $\text{nucleus nucleon (nuclons)}$ 0.2941 - 0.6444 Michel 85	cs 0.4207 Machner 85 0.5513 Segel 85 7.5 Bayukov 85D angp, p Gavrilov 85B a-dep, angp, p
3p X		n X 7.5 Bayukov 85D angp, p Gavrilov 85B a-dep, angp, p
7.5 Vlasov 88 ang, angp, cor		
deuteron 2p X		deuteron X 7.5 Gavrilov 85B a-dep, angp, p
7.5 Vlasov 88 ang, angp, cor		
2deuteron p X		
7.5 Vlasov 88 ang, angp, cor		
$p\ ^{48}\text{Ca}$		$^3\text{H X}$ 0.5513 Segel 85 cs, p
inelastic		
1.09 Seth 85 asym		
$^{48}\text{Sc n}$		p Ni
0.5211 - 0.5708 Anderson 85B angp, cs, p	$^{24}\text{Na X}$ 4.491 Kozma 88B cs	
	$^{28}\text{Mg X}$ 4.491 Kozma 88B cs	
	$^{42}\text{KK X}$ 4.491 Kozma 88B cs	
	$^{43}\text{KK X}$ 4.491 Kozma 88B cs	
	$^{43}\text{Sc X}$ 4.491 Kozma 88B cs	
	$^{44}\text{Sc X}$ 4.491 Kozma 88B cs	
	$^{45}\text{Sc X}$ 4.491 Kozma 88B cs	
	$^{47}\text{Sc X}$ 4.491 Kozma 88B cs	
	$^{48}\text{Cr X}$ 4.491 Kozma 88B cs	
	$^{48}\text{Sc X}$ 4.491 Kozma 88B cs	
	$^{48}\text{Va X}$ 4.491 Kozma 88B cs	
	$^{51}\text{Cr X}$ 4.491 Kozma 88B cs	
	$^{52}\text{Mn X}$ 4.491 Kozma 88B cs	
	$^{52}\text{Fe X}$ 4.491 Kozma 88B cs	
	$^{54}\text{Mn X}$ 4.491 Kozma 88B cs	
	$^{55}\text{Co X}$ 4.491 Kozma 88B cs	
	$^{56}\text{Co X}$ 4.491 Kozma 88B cs	
	$^{56}\text{Mn X}$ 4.491 Kozma 88B cs	
	$^{56}\text{Ni X}$ 4.491 Kozma 88B cs	
	$^{57}\text{Co X}$ 4.491 Kozma 88B cs	
	$^{57}\text{Ni X}$ 4.491 Kozma 88B cs	
	$p\ X$ 7.5 Bayukov 85D angp, p	
	n X 7.5 Bayukov 85D angp, p	
	charm X 300 Cobbaert 88 a-dep, cs	
	shower X 300 Muraki 84 -	
	$\mu^- \mu^+ X$ 70 Sviridov 88 angp 300 Cobbaert 88 a-dep	
	$\pi^0 X$ (233.9 - 723.1) Avakyan 85D cs	
	$J/\psi(1S) X$ 800 Mishra 90 a-dep, p, pt	
	$\psi(2S) X$ 800 Mishra 90 a-dep	
	$\Upsilon(1S) X$ 800 Mishra 90 a-dep	
	p X 7.5 Bayukov 85F a-dep, p	
	n X 7.5 Bayukov 85F a-dep, p	
	charm X 300 Cobbaert 88 a-dep, cs	
	$\mu^- \mu^+ X$ 70 Sviridov 88 angp 300 Cobbaert 88 a-dep	
	$\pi^0 X$ 800 Mishra 90 a-dep, mass, p	
	charmed-meson charmed-meson X 70 Sviridov 88 -	
	$A_c^+ \text{charmed-meson X}$ 70 Sviridov 88 -	
	charm charm X 70 Sviridov 88 -	
	$2\text{hadron}^+ X$ 800 Streets 89 a-dep, ang. mass, pt	
	$2\text{hadron}^- X$ 800 Streets 89 a-dep, ang. mass, pt	
	$\text{hadron}^+ \text{hadron}^- X$ 800 Streets 89 a-dep, ang. mass, pt	

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

$p\ ^{59}\text{Co} \rightarrow ^{42}\text{KK X}$ $p\ \text{Cu} \rightarrow \text{heavy-lepton}^0\ \text{X}$

$p\ ^{59}\text{Co}$		$p\ \text{Cu}$		$p\ \text{Cu}$	
$^{42}\text{KK X}$ 4.491	Kozma 88B	cs	neutral X 14.5 220 – 1500	Remsberg 88 Tannenbaum 88 Dzhoshvili 90	et. p p p
$^{43}\text{KK X}$ 4.491	Kozma 88B	cs	$^{24}\text{Na X}$ 4.491 9	Kozma 88B Kozma 86	cs cs
$^{43}\text{Sc X}$ 4.491	Kozma 88B	cs	$^{28}\text{Mg X}$ 4.491 9	Kozma 88B Kozma 86	cs cs
$^{46}\text{Sc X}$ 4.491	Kozma 88B	cs	$^{42}\text{KK X}$ 4.491 9	Kozma 88B Kozma 86	cs cs
$^{47}\text{Sc X}$ 4.491	Kozma 88B	cs	^{43}KX 4.491	Kozma 88B	cs
$^{48}\text{Cr X}$ 4.491	Kozma 88B	cs	$^{44}\text{Sc X}$ 4.491 9	Kozma 88B Kozma 86	cs cs
$^{52}\text{Mn X}$ 4.491	Kozma 88B	cs	$^{48}\text{Sc X}$ 4.491 9	Kozma 88B Kozma 86	cs cs
$^{62}\text{Fe X}$ 4.491	Kozma 88B	cs	$^{47}\text{Sc X}$ 4.491 9	Kozma 88B Kozma 86	cs cs
$^{54}\text{Mn X}$ 4.491	Kozma 88B	cs	$\nu_e\ X$ 400	$\nu_e\ X + \bar{\nu}_e\ X$ 400	Duffy 88 Duffy 85
$^{55}\text{Co X}$ 4.491	Kozma 88B	cs	$^{48}\text{Cr X}$ 4.491 9	$\nu_\mu\ X + \bar{\nu}_\mu\ X$ 400	Dorenbosch 87 angp, p
$^{56}\text{Co X}$ 4.491	Kozma 88B	cs	$^{48}\text{Sc X}$ 4.491 9	$\pi^0\ X$ 400	Dorenbosch 87 angp, p
$^{56}\text{Mn X}$ 4.491	Kozma 88B	cs	$\pi^\pm\ X$ 0.8474 – 0.9668	$\pi^+ X$ 0.8459 – 0.9189	Dorenbosch 87 cs
$^{57}\text{Co X}$ 4.491	Kozma 88B	cs	$^{51}\text{Cr X}$ 4.491 9	1 – 9	Akimov 89 angp
$^{58}\text{Co X}$ 4.491	Kozma 88B	cs	$^{52}\text{Mn X}$ 4.491 9	4.94 – 10.14 6.37 – 8.08 10.1	Haysak 85 Bayukov 85E Boyarinov 87 Arefiev 85 Sibirsev 88
frag X 4.491	Kozma 88B	cs	$^{52}\text{Fe X}$ 4.491	Kozma 88B	a-dep, angp
nucleus nucleon (nucleons) 0.2941 – 0.6444	Michel 85	cs	$^{53}\text{Fe X}$ 4.491 9	Kozma 86	Vorontsov 88B
$^{58}\text{Co p n}$ 0.2941 – 0.6444	Michel 85	cs	$^{54}\text{Mn X}$ 4.491 9	Kozma 86	a-dep, angp
$^{52}\text{Mn 3p 5n}$ 0.2941 – 0.6444	Michel 85	cs	$^{55}\text{Co X}$ 4.491 9	Kozma 86	Abramov 84E Brown 86 Hsiung 85 Thron 84
$^{51}\text{Cr 4p 5n}$ 0.2941 – 0.6444	Michel 85	cs	$^{56}\text{Mn X}$ 4.491 9	Kozma 86	a-dep, angp
$^{48}\text{Va 5p 7n}$ 0.2941 – 0.6444	Michel 85	cs	$^{56}\text{Ni X}$ 4.491 9	Kozma 86	Boyarinov 87B Averchikov 87
$^{46}\text{Sc 7p 7n}$ 0.2941 – 0.6444	Michel 85	cs	$^{57}\text{Co X}$ 4.491 9	Kozma 86	a-dep, angp
$p\ ^{62}\text{Ni}$			$^{57}\text{Ni X}$ 4.491 9	Kozma 86	Boyarinov 87B Averchikov 87
$p\ X$ 0.5513	Segel 85	cs, p	$^{58}\text{Co X}$ 4.491 9	Kozma 86	a-dep, angp
$p\ \text{Cu}$			$^{59}\text{Fe X}$ 4.491 9	Kozma 86	Boyarinov 87B Averchikov 87
X 800	Gomez 86	a-dep, cs	$^{60}\text{Co X}$ 4.491 9	Kozma 86	a-dep, angp
inelastic 1.26 – 2.5	Kuzichev 89	a-dep, cs	$^{67}\text{Ni X}$ 4.491 9	Kozma 86	Boyarinov 87B Averchikov 87
charged X 220 – 1500	Dzhoshvili 90	mult, p	$T(1S)\ X$ 200.9	Kozma 88B	Sonderegger 89
300	Crittenden 86	angp	$T(1S)\ X$ 800	Kozma 86	Brown 86
> 10^3	Berdzenishvili 85	mult, p	$T(2S)\ X$ 800	Kozma 88B	Brown 86
charged+ X 300	Crittenden 86	angp	$T(3S)\ X$ 800	Kozma 86	Brown 86
charged- X 300	Crittenden 86	angp	$x(\text{unspec})\ X$ 530	Kozma 86	De 89
			heavy-lepton X 400	Kozma 88B	Duffy 88
			$\text{heavy-lepton}^0\ X$ 400	Kozma 88B	Dorenbosch 86B

$p\text{ Cu} \rightarrow D(\text{unspec}) X$ $p\text{ Cu} \rightarrow (\text{jets}) \text{ jet } X$

$p\text{ Cu}$	$p\text{ Cu}$	$p\text{ Cu}$
D(unspec) X		
400 Coopersarkar 85	400 Wah 85	2γ X
K⁺ X		400 Bergsma 85 cs, mass
1.468 - 1.685 Koptyev 88	400 Cardello 84 pol p. pt	$e^- e^+ X$
1.505 - 1.685 Abrosimov 85B	400 Cardello 84 p. pt	400 Dorenbosch 86B
1.693 Koptyev 88	400 Beretvas 86 angp, cs, p	Bergsma 85 cs, mass
1.693 Abrosimov 85B	400 Trost 89 p. pol	Guo 89 ang, mass
10.1 Sibirsev 88	400 Cardello 84 p. pt	Brown 86B mass
	a-dep, angp	
Vorontsov 88B		$\mu^+ e^- X$
	a-dep, angp	400 Dorenbosch 86B
10.14 Boyarinov 89	400 Cardello 84 p. pt	angp, p
	a-dep, angp	
Boyarinov 88B	400 Cardello 84 p. pt	Dorenbosch 86B
	a-dep, angp	angp, p
70 Abramov 84E	400 Cardello 84 p. pt	
400 Brown 86 a-dep, pt	400	
Hsiung 85 a-dep, pt	deuteron X	
	2.03 - 10.1 Ergakov 86 a-dep, angp	
	2.5 - 9.2 Safronov 88 angp	
	6.37 - 8.08 Arefiev 85 a-dep, angp	
	10.1 Safronov 88B angp	
	10.14 Boyarinov 88 angp, p	
	70 Abramov 86 a-dep, pt	
	400 Thron 84 cs	
	deuteron X	$\mu^- \mu^+ X$
	70 Abramov 86 a-dep, pt	200.9 Sonderegger 89 cs, et
	400 Thron 84 cs	400 Dorenbosch 86B
	dibaryon X	Bergsma 85 angp, p
	7.5 Vorobiev 87C cs	Brown 89 cs, mass
	?	Brown 86 p
	3 ^{He} X	Brown 86 mass
	7.48 Abashidze 85B a-dep, angp	Abramov 84D
	10.1 Safronov 88B angp	a-dep, angp, pt
	Ergakov 86 a-dep, angp	Brown 86 mass
	4 ^{He} X	$J/\psi(1S) \gamma X$
	7.48 Abashidze 85B a-dep, angp	530 De 89
	10.1 Safronov 88B angp	a-dep, cs, mass, p
	charm X	$K^+ \pi^+ X$
	400 Duffy 88 a-dep, cs	70 Abramov 84D
	axion X	a-dep, angp, pt
	400 Bergsma 85 cs	400 Brown 86 mass
	800 Guo 89	$\pi^+ \pi^- X$
	70 Brown 86 cs	400 Cardello 84 mass
	70 Brown 86B	$\pi^- \pi^+ X$
	bottom X	400 Cardello 84 mass
	400 Duffy 88 cs	$\Lambda \pi^0 X$
	bottom X	400 Cardello 84 mass
	400 Duffy 88 cs	$\Lambda \pi^- X$
	charm X	400 Trost 89 angp, mass
	400 Duffy 88 a-dep, cs	Cardello 84 mass
	frag X	$\pi^+ \pi^- X$
	4.491 Kozma 88B cs	400 Cardello 84 mass
	gluino X	$\Lambda K^- X$
	400 Coopersarkar 85B cs	400 Cardello 84 mass
	hadron ⁺ X	$\Lambda_c^+ \text{charmed-meson } X$
	400 Brown 86 a-dep, pt	400 Duffy 88 a-dep, cs
	Hsiung 85 a-dep, pt	2p X
	jet X	4.338 Ohmori 89 angp, pol
	800 Stewart 90 a-dep, angp, col, pt	6.10 Carroll 88 angp
	mult[hadron] X	7.5 Vorobiev 90B ang, angp, mass, p
	800 Tannenbaum 89 et, p	Vorobiev 87C mass
	longlived X + charged X	70 Bayukov 85 cor
	400 Thron 84 angp	Abramov 84D a-dep, angp, pt
	2charged ⁺ X	charm charm X
	70 Abramov 84D a-dep, angp, pt	400 Dorenbosch 87 cs
	$\nu_\mu \bar{\nu}_\mu X$	(jets) jet X
	400 Dorenbosch 87 cs	400 Miettinen 88 a-dep, angp, et, p

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

$p \text{ Cu} \rightarrow 2\text{hadron}^+ X$ $p \text{ Ag} \rightarrow p \text{ mult}[\pi^\pm] X$

$p \text{ Cu}$	$p \text{ }^{89}\text{Yt}$	$p \text{ Ag}$
2hadron⁺ X	$\pi^+ X$	Sc X
400 Brown 86	0.6084 - 0.6462	4.491 Kozma 90 cs
hadron⁺ hadron⁻ X	$\pi^- X$	Mn X
400 Hsiung 85	0.6084 - 0.6462	4.491 Kozma 90 cs
a-dep, mass, pt	Bimbot 85 angp, cs	⁵⁵Co X
2jet X	Bimbot 85 angp, cs	4.491 Kozma 90 cs
800 Stewart 90	$p \text{ }^{90}\text{Zr}$	Fe X
a-dep, angp, col, et	p X	4.491 Kozma 90 cs
$\mu^- \mu^+ \gamma X$	De 89 mass	⁵⁷Co X
530	Trost 89 angp, mass	4.491 Kozma 90 cs
p $2\pi^-$ X	$p \text{ }^{90}\text{Zr}$	Zn X
400	Lee 88 angp	4.491 Kozma 90 cs
2p π^+ X	p Zr	Ga X
3.9 Nakai 89	Koptev 88 Abrosimov 85B	4.491 Kozma 90 cs
2p π^- X	K⁺ X	As X
3.9 Nakai 89	1.693	4.491 Kozma 90 cs
2p frag (neutrals)	Koptev 88 Abrosimov 85B	Se X
6 - 10 Heppelmann 89	cs	4.491 Kozma 90 cs
2p π^+ frag (neutrals)	p Nb	Br X
3.88 Nagae 87	7.5 Bayukov 85F	4.491 Kozma 90 cs
2p π^- frag (neutrals)	p X	Kr X
3.88 Nagae 87	n X 7.5 Bayukov 85F	4.491 Kozma 90 cs
p ^{64}Ni	p Mo	Rb X
p X	$\pi^+ X$	Yt X
0.5513 Segel 85	14.97 - 64.99 Belyaev 89B	4.491 Kozma 90 cs
7.5 Bayukov 85D	a-dep, angp, p	Zr X
Gavrilov 85B	a-dep, angp, p	4.491 Kozma 90 cs
n X	$\pi^- X$	Nb X
7.5 Bayukov 85D	14.97 - 64.99 Belyaev 89B	4.491 Kozma 90 cs
Gavrilov 85B	a-dep, angp, p	Mo X
deuteron X	17.5 - 63 Belyaev 85	4.491 Kozma 90 cs
7.5 Gavrilov 85B	a-dep, angp, p	Tc X
a-dep, angp, p	25 - 65 Belyaev 88D	4.491 Kozma 90 cs
p ^{64}Cu	p X	$\pi^\pm X$
$^{24}\text{Na} X$	17.98 - 63.99 Belyaev 89C	200 Abe 88 mult
4.491 Kozma 90B	angp, p	200 Abe 88 mult
$^{28}\text{Mg} X$	angp, p	p X
4.491 Kozma 90B	angp, p	0.6266 - 1.064 Green 86B
p ^{66}Zn	$p \text{ }^{98}\text{Mo}$	1.463 Miake 84
inelastic	0.4895 Rapaport 85	100 Toothacker 87
1.35 - 3.75 Gachurin 85	cs	mult, p, p
p Zn	$p \text{ }^{98}\text{Tc} \pi$	120 Bailey 85B
p X	0.4895	200 Abe 88
7.5 Bayukov 85D	angp, p	200.9 Schmidt 88
n X	p Ag	$\bar{p} X$
7.5 Bayukov 85D	angp, p	100 Toothacker 87
p ^{71}Ga	inelastic	mult, p
$^{71}\text{Ge} n$	4.491 Kozma 90	frag X
0.4895 - 0.6444 Kroscheck 85	200 Abe 88	5.762 Shibata 86
p ^{81}Br	charged X	frag X
$^{81}\text{Kr} n$	200 Brick 89	0.6266 - 1.064 Green 86B
0.6266 - 0.6444 Kroscheck 87	mult	1.696 Roepke 85
p Kr	charged⁻ X	4.9 Hufner 85
frag X	200 Brick 90	grey X
80.93 - 350.9 Shibata 86	cor, mult, p	200 Abe 88
p ^{89}Yt	mult[charged] X	mult[shower] X
$^{24}\text{Na} X$	200 Brick 89	200 Brick 89
4.491 Kozma 90B	mult	shower X
$^{28}\text{Mg} X$	200 Brick 89	200 Brick 90
4.491 Kozma 90B	mult	Brick 89 cor, mult, p
a-dep, p	2charged X	mult
Ru X	200 Brick 90	200 Brick 90 cor, mult, p
Rh X	4.491 Kozma 90	π^\pm charged X
Pd X	4.491 Kozma 90	1.696 Andronenko 86
Ag[*] X	4.491 Kozma 90	ang, mult
Na X	4.491 Kozma 90	p charged X
Mg X	4.491 Kozma 90	1.696 Andronenko 86
KK X	4.491 Kozma 90	ang, mult
$p \pi^\pm X$	100 Toothacker 87	$p \text{ mult}[\pi^\pm] X$
$p \text{ mult}[\pi^\pm] X$	100 Toothacker 87	p

$p\text{ Ag} \rightarrow \text{deuteron charged X}$ $p\text{ Tm} \rightarrow ^{149}\text{Tb X}$

p Ag		p ^{115}In		p Xe	
deuteron charged X		^{115}Sn n	0.4895	charged- X	
1.696 Andronenko 86	ang, mult		Rapaport 85	200 Klar 84	mult, p, pt
				200 Dengler 86C	angp, mult, p
2p X		p ^{116}Sn		mult[charged] X	
1.09 Cebra 89	cor, p	0.5513	Segel 85	200 Dengler 86C	angp, mult, p
1.463 Miake 84	angp				
100 Toothacker 87	mult				
^3H charged X		n X	1.696	mult[charged-] X	
1.696 Andronenko 86	mult	Baturin 87	a-dep, angp	200 Dengler 86C	angp, mult, p
		Segel 85	cs, p		
deuteron p X		$^3\text{He X}$	0.5513	Be X	1 - 19
1.09 Cebra 89	cor, p	0.5513	Segel 85	1 - 19 Sangster 87	angp
1.463 Miake 84	angp				
2deuteron X		$^3\text{H X}$	0.5513	Nit X	1 - 19 Sangster 87
1.09 Cebra 89	cor, p	0.5513	Segel 85		angp
$^4\text{He p X}$		He X	0.5513	Ne X	1 - 19 Sangster 87
1.09 Cebra 89	cor, p	0.5513	Segel 85		angp
$^{23}\text{H X}$				frag X	1 - 20 Mahi 88
1.09 Cebra 89	cor, p				Shibata 85 angp, p
$^4\text{He deuteron X}$				mult[frag] X	5.762
1.09 Cebra 89	cor, p			30 - 300 Hufner 85	p
mult[grey] charged- X				2charged X	200 Derado 88
200 Brick 90 cor, mult, p					a-dep, cor, mult, p
Brick 89 mult				mult[p] 2charged X	200 Derado 88
p mult[p] X					a-dep, cor, mult, p
100 Toothacker 87 p, pt					
n mult[p] X				p ^{133}Cs	
100 Toothacker 87 p, pt				^{42}KX	
mult[grey] shower X				0.6444 Wagner 85	cs
200 Brick 90 cor, mult, p				$^{45}\text{Ni X}$	
Brick 89 mult				0.6444 Wagner 85	cs
mult[grey] charged+ charged- X				$^{60}\text{Ni X}$	
200 Brick 89 mult				0.6444 Wagner 85	cs
2frag (frags) X				$^{67}\text{Cu X}$	
300 Bujak 85 cs, mass				0.6444 Wagner 85	cs
p ^{108}Ag				$^{72}\text{Zn X}$	
$^{24}\text{Na X}$				0.6444 Wagner 85	cs
4.491 Kozma 90B angp, p				$^{77}\text{As X}$	
$^{28}\text{Mg X}$				0.6444 Wagner 85	cs
4.491 Kozma 90B angp, p				frag X	
(blocks) mult[grey] mult[shower]				0.6444 Wagner 85	cs
(neutrals)					
100 Biswas 86 cs				p ^{140}Ce	
p ^{112}Sn				Ce* deuteron	
p X				0.4938 Dickey 85	pol
7.5 Bayukov 85D angp, p				$^{158}\text{Ce deuteron } \gamma$	
Gavrilov 85B a-dep, angp, p				0.4938 Dickey 85	pol
n X					
7.5 Bayukov 85D angp, p				p Tb	
Gavrilov 85B a-dep, angp, p				$^{149}\text{Tb X}$	
deuteron X				0.3438 - 1.627 Aleksandrov 89	cs
7.5 Gavrilov 85B a-dep, angp, p				1.696 Aleksandrov 87B	cs
p Cd				p ^{159}Tb	
inelastic				$^{24}\text{Na X}$	
1.26 - 2.5 Kuzichev 89 a-dep, cs				4.491 Kozma 90B angp, p	
p X				$^{28}\text{Mg X}$	
7.5 Bayukov 85F a-dep, p				4.491 Kozma 90B angp, p	
n X					
7.5 Bayukov 85F a-dep, p				p Ho	
ΛX				$^{140}\text{Tb X}$	
3 - 7.5 Vorobiev 89C angp				0.3438 - 1.627 Aleksandrov 89	cs
p In				1.696 Aleksandrov 87B	cs
p X				$^{149}\text{Tb X}$	
7.5 Bayukov 85D angp, p				0.3438 - 1.627 Aleksandrov 89	cs
n X				1.696 Aleksandrov 87B	cs
7.5 Bayukov 85D angp, p				p Gd	
ΔX				$^{149}\text{Tb X}$	
3 - 7.5 Vorobiev 89C angp				0.3438 - 1.627 Aleksandrov 89	cs
p Tm				1.696 Aleksandrov 87B	cs
p X				$^{149}\text{Tb X}$	
7.5 Bayukov 85D angp, p				0.3438 - 1.627 Aleksandrov 89	cs
n X				1.696 Aleksandrov 87B	cs
7.5 Bayukov 85D angp, p					
deuteron X					
7.5 Gavrilov 85B a-dep, angp, p					

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

$p\text{ Ta} \rightarrow \text{charged X}$ $p\text{ Wt} \rightarrow {}^3\text{H X}$

$p\text{ Ta}$	$p\text{ Ta}$	$p\text{ Wt}$
charged X	deuteron X	charged- X
1 - 10 2.3	Kutsidi 86 mult Grigalashvil 88 a-dep, mult	Ergakov 86 a-dep. angp Safronov 88 angp Arefiev 85 a-dep. angp Safronov 88B angp Boyarinov 88 angp. p
charged- X	2.03 - 10.1 2.5 - 9.2 6.37 - 8.08 10.1 10.14	300
2.3	Grigalashvil 88 a-dep, mult	$\gamma\text{ X}$ 200.9
mult[charged] X	${}^3\text{He}$ X	$\nu\text{ X}$ 400
2.3	Grigalashvil 88 a-dep, mult	400
mult[charged-] X	${}^3\text{H}$ X	Duffy 88
2.3	Grigalashvil 88 a-dep, mult	Duffy 86 a-dep, cs, p, pt Duffy 86 cs, p, pt Duffy 85 a-dep, cs, p Romanowski 85 cs, p, pt
${}^{160}\text{Tb}$ X	${}^4\text{He}$ X	Duffy 88 a-dep, cs, p, pt Duffy 86 cs, p, pt Duffy 85 a-dep, cs, p Romanowski 85 cs, p, pt
0.3438 - 1.627 1.696	Aleksandrov 89 cs Aleksandrov 87B cs	Duffy 86 a-dep, cs, p, pt Duffy 86 cs, p, pt Duffy 85 a-dep, cs, p Romanowski 85 cs, p, pt
${}^{24}\text{Na}$ X	mult[p] X	Duffy 88 a-dep, cs, p, pt Duffy 86 cs, p, pt Duffy 85 a-dep, cs, p Romanowski 85 cs, p, pt
4.491	Kozma 89 angp	Duffy 88 a-dep, cs, p, pt Duffy 86 cs, p, pt Duffy 85 a-dep, cs, p Romanowski 85 cs, p, pt
${}^{28}\text{Mg}$ X	4.491	Duffy 88 a-dep, cs, p, pt Duffy 86 cs, p, pt Duffy 85 a-dep, cs, p Romanowski 85 cs, p, pt
π^0 X	4.2	Duffy 88 a-dep, cs, p, pt Duffy 86 cs, p, pt Duffy 85 a-dep, cs, p Romanowski 85 cs, p, pt
π^+ X	4.94 - 10.14 6.37 - 8.08 10.1	Duffy 88 a-dep, cs, p, pt Duffy 86 cs, p, pt Duffy 85 a-dep, cs, p Romanowski 85 cs, p, pt
π^- X	4.94 - 10.14 6.37 - 8.08 10.1	Duffy 88 a-dep, cs, p, pt Duffy 86 cs, p, pt Duffy 85 a-dep, cs, p Romanowski 85 cs, p, pt
K^+ X	4.2	Duffy 88 a-dep, cs, p, pt Duffy 86 cs, p, pt Duffy 85 a-dep, cs, p Romanowski 85 cs, p, pt
1.693	Koptyev 88 cs Abrosimov 85B cs Sibirtsev 88 a-dep, asym, p	Duffy 88 a-dep, cs, p, pt Duffy 86 cs, p, pt Duffy 85 a-dep, cs, p Romanowski 85 cs, p, pt
10.1	Boyarinov 87 angp, p Armutlijsky 87B a-dep, angp	Duffy 88 a-dep, cs, p, pt Duffy 86 cs, p, pt Duffy 85 a-dep, cs, p Romanowski 85 cs, p, pt
10.14	Vorontsov 88B a-dep, angp Boyarinov 87B angp	Duffy 88 a-dep, cs, p, pt Duffy 86 cs, p, pt Duffy 85 a-dep, cs, p Romanowski 85 cs, p, pt
K^- X	4.2	Duffy 88 a-dep, cs, p, pt Duffy 86 cs, p, pt Duffy 85 a-dep, cs, p Romanowski 85 cs, p, pt
1.693	Koptyev 88 cs Abrosimov 85B cs Sibirtsev 88 a-dep, angp	Duffy 88 a-dep, cs, p, pt Duffy 86 cs, p, pt Duffy 85 a-dep, cs, p Romanowski 85 cs, p, pt
10.1	Vorontsov 88B a-dep, angp Boyarinov 89 a-dep, angp	Duffy 88 a-dep, cs, p, pt Duffy 86 cs, p, pt Duffy 85 a-dep, cs, p Romanowski 85 cs, p, pt
10.14	Boyarinov 89 a-dep, angp Boyarinov 88B angp	Duffy 88 a-dep, cs, p, pt Duffy 86 cs, p, pt Duffy 85 a-dep, cs, p Romanowski 85 cs, p, pt
p X	p charged- X	π^0 X 200.9
2.5 - 9.2 4.2	Safronov 88 angp Gulkanyan 88D a-dep, angp, cor, cs, mult	Akesson 89D cs, et, pt
4.2 - 10	Armutlijsky 87O col, mult	π^+ X 10
4.94 - 10.14 6.37 - 8.08 7.5	Boyarinov 86 angp Arefiev 85 a-dep, angp Bayukov 85F a-dep, p	Bertin 88 angp Brown 86 a-dep, pt Hsiung 85 a-dep, pt
10	Agakishiev 88 p Agakishiev 87 mult	π^- X 14.97 - 64.99
10.1	Safronov 88B angp Sibirtsev 88 a-dep, angp	Belyaev 89B a-dep, angp Belyaev 88D a-dep, angp
10.14	Vorontsov 88B a-dep, angp Boyarinov 89 a-dep, angp	Bertin 86 angp Brown 86 a-dep, pt Hsiung 85 a-dep, pt
\bar{p} X	p charged+ charged- X	π^0 X 14.97 - 64.99
2.5 - 9.2 4.2	Safronov 88 angp Gulkanyan 88D a-dep, angp, cor, cs, mult	Belyaev 89B a-dep, angp Bertin 86 angp Brown 86 a-dep, pt Hsiung 85 a-dep, pt
4.2 - 10	Armutlijsky 87O col, mult	$J/\psi(1S)$ X 800
4.94 - 10.14 6.37 - 8.08 7.5	Boyarinov 86 angp Arefiev 85 a-dep, angp Bayukov 85F a-dep, p	Mishra 90 a-dep, p, pt
10	Agakishiev 88 p Agakishiev 87 mult	$\psi(2S)$ X 800
10.1	Safronov 88B angp Sibirtsev 88 a-dep, angp	$\Upsilon(1S)$ X 800
10.14	Vorontsov 88B a-dep, angp Boyarinov 87B angp	Mishra 90 a-dep
p Wt	p charged X	$\Upsilon(3S)$ X + $\Upsilon(2S)$ X + $\Upsilon(1S)$ X 400
10.14	300	Childers 85 p
\bar{p} X	p charged+ X	heavy-lepton X
10.1	300	Duffy 88 cs
n X	p charged- X	K^+ X 400
7.5	0.0433 - 0.1567	K_S X 12
10	1.696	Abe 87B cs, p, pt
10.1	Machner 85 p Baturin 87 a-dep, angp	Bailey 85B cs, p
p Wt	p fragt X	Λ X 12
10.14	9	Barkov 85C cs, p, pt
\bar{p} X	p charge X	deuteron X 70
10.1	Kozma 87 cs	Barkov 85C a-dep, cs, p
n X	p charged+ X	${}^3\text{He}$ X 70
7.5	300	Barkov 85C a-dep, cs, p
10	Crittenden 86 angp	${}^3\text{H}$ X 70
p Wt	p charged- X	Barkov 85C a-dep, cs, p
10.14	200.9	Akesson 89E cs, et, pt
\bar{p} X	p charged X	
10.1	Voronin 88 a-dep, angp	
n X	p charged+ X	
7.5	300	
10	Crittenden 86 angp	
p Wt	p charged- X	
10.14	200.9	
\bar{p} X	p charged X	
10.1	Voronin 88 a-dep, angp	
n X	p charged+ X	
7.5	300	
10	Akesson 89E cs, et, pt	

p Wt		p Pt		p Au	
^4He X 70	Barkov 85C	a-dep, cs, p	K^- X 28.4	Snow 85	angp
charm X 400	Duffy 88	a-dep, cs	\bar{p} X 28.4	Snow 85	angp
bottom X 400	Duffy 86	-	longlived X 12	Nakamura 89	-
bottom X 400	Duffy 88	cs	p Au		
charm X 400	Badier 85D	cs	inelastic		
hadron+ X 400	Duffy 88	cs	200	Abe 88	cs
$\mu^- \mu^+$ X 125	Duffy 86	a-dep, cs	200	Brick 89	mult
400	Brown 86	a-dep, pt	60.93 - 200.9	Bamberger 89	
$\mu^- \mu^+$ X 800	Hsiung 85	a-dep, pt	200	Brick 90	mult, p, pt
2 π^+ X 400	Anassontzis 85	mass, p	200	Brick 89	mult
400	Badier 85B	mass, p	360	Baily 88	mult, p
J/ $\psi(1S)$ μ^+ X 400	Badier 85D	mass, p	360	Baily 87D	mult
J/ $\psi(1S)$ μ^- X 400	Childers 85	ang, mass, pt	mult[charged] X		
2J/ $\psi(1S)$ X 400	Mishra 90	mass, p	200	Brick 89	mult
400	Brown 86	mass	360	Baily 87D	mult
charmed-meson charmed-meson X 400	Duffy 88	a-dep, cs	mult[charged] X		
400	Duffy 86	cs	200	Brick 89	mult
Λ_c^+ charmed-meson X 400	Duffy 88	a-dep, cs	360	Baily 87D	mult
400	Duffy 86	cs	neutral X 14.5		
charm cha. m X 400	Duffy 85	a-dep	1 - 300	Remsberg 88	p
2hadron X 800	Romanowski 85	-	Tannenbaum 88	et, p	
2hadron+ X 400	Kaplan 89	ang, mass, p, pt	Bor X 2.55	Hufner 85	cs
800	Brown 86	mass	3.308 - 8.386	Avdejchikov 87I	
2hadron- X 800	Streets 89	a-dep, ang, mass, pt	3.308 - 8.386	Avdejchikov 87B	angp, p
400	Hsiung 85	a-dep, ang, mass, pt	3.36 - 8.396	Avdejchikov 87E	angp, p
800	Streets 89	a-dep, ang, mass, pt	3.36 - 8.396	Avdejchikov 87	angp, p
hadron+ hadron- X 400	Hsiung 85	a-dep, mass, pt	131Ba X 1 - 300	Hufner 85	cs
800	Streets 89	a-dep, ang, mass, pt	130Ce X 1 - 300	Hufner 85	cs
$\mu^- 2\mu^+$ X 400	Badier 85D	ang, mass, pt	Nit X 2.55	Avdejchikov 87I	
400	Badier 85D	ang, mass, pt	3.308 - 8.386	Avdejchikov 87B	angp, p
J/ $\psi(1S)$ $\mu^- \mu^+$ X 400	Badier 85D	mass, pt	3.308 - 8.386	Avdejchikov 87E	angp, p
2 $\mu^- 2\mu^+$ X 400	Badier 85D	ang, mass, mass, pt	3.36 - 8.396	Avdejchikov 87	angp, p
p ^{184}Wt			136Gd X 1 - 300	Hufner 85	cs
fragt X 1.696	Chestnov 87	mass, p	140Tb X 0.3438 - 1.627	Hufner 85	cs
2fragt X 1.696	Chestnov 87	mass, p, pt	1.696	Aleksandrov 89	cs
p F1 X			140Tb X 0.3438 - 1.627	Aleksandrov 87B	cs
2.55			2.55	Avdejchikov 87I	
			3.308 - 8.386	Avdejchikov 87B	angp, p
			3.308 - 8.386	Avdejchikov 87E	angp, p
			3.36 - 8.396	Avdejchikov 87	angp, p
			3.36 - 8.396	Avdejchikov 87C	angp, p
			angp, p		
			100	Tothacker 87	mult, p
			200	Abe 88	mult, p
			200.9	Schmidt 87	p, pt
			100	Tothacker 87	mult, p
			100	Bamberger 89	mult, p, pt
			200	London 89	angp
			200.9	Pugh 89	pt
				Vesztergombi 88	cs, p, pt
			2.55	Avdejchikov 87I	
			3.308 - 8.386	Avdejchikov 87B	angp, p
			3.308 - 8.386	Avdejchikov 87E	angp, p
			3.36 - 8.396	Avdejchikov 87	angp, p
			3.36 - 8.396	Avdejchikov 87C	angp, p
			angp, p		
			100	Tothacker 87	mult, p
			200	Abe 88	mult, p
			200.9	Schmidt 87	p, pt
			100	Tothacker 87	mult, p
			100	Bamberger 89	mult, p, pt
			200	London 89	angp
			200.9	Pugh 89	pt
				Odyniec 89	mult
			2.55	Avdejchikov 87I	
			3.308 - 8.386	Avdejchikov 87B	angp, p
			3.308 - 8.386	Avdejchikov 87E	angp, p
			3.36 - 8.396	Avdejchikov 87	angp, p
			3.36 - 8.396	Avdejchikov 87C	angp, p
			angp, p		
			100	Tothacker 87	mult, p
			200	Abe 88	mult, p
			200.9	Schmidt 87	p, pt
			100	Tothacker 87	mult, p
			100	Bamberger 89	mult, p, pt
			200	London 89	angp
			200.9	Pugh 89	pt
				Odyniec 89	mult
			2.55	Avdejchikov 87I	
			3.308 - 8.386	Avdejchikov 87B	angp, p
			3.308 - 8.386	Avdejchikov 87E	angp, p
			3.36 - 8.396	Avdejchikov 87	angp, p
			3.36 - 8.396	Avdejchikov 87C	angp, p
			angp, p		
			100	Tothacker 87	mult, p
			200	Abe 88	mult, p
			200.9	Schmidt 87	p, pt
			100	Tothacker 87	mult, p
			100	Bamberger 89	mult, p, pt
			200	London 89	angp
			200.9	Pugh 89	pt
				Odyniec 89	mult
			2.55	Avdejchikov 87I	
			3.308 - 8.386	Avdejchikov 87B	angp, p
			3.308 - 8.386	Avdejchikov 87E	angp, p
			3.36 - 8.396	Avdejchikov 87	angp, p
			3.36 - 8.396	Avdejchikov 87C	angp, p
			angp, p		
			100	Tothacker 87	mult, p
			200	Abe 88	mult, p
			200.9	Schmidt 87	p, pt
			100	Tothacker 87	mult, p
			100	Bamberger 89	mult, p, pt
			200	London 89	angp
			200.9	Pugh 89	pt
				Odyniec 89	mult
			2.55	Avdejchikov 87I	
			3.308 - 8.386	Avdejchikov 87B	angp, p
			3.308 - 8.386	Avdejchikov 87E	angp, p
			3.36 - 8.396	Avdejchikov 87	angp, p
			3.36 - 8.396	Avdejchikov 87C	angp, p
			angp, p		
			100	Tothacker 87	mult, p
			200	Abe 88	mult, p
			200.9	Schmidt 87	p, pt
			100	Tothacker 87	mult, p
			100	Bamberger 89	mult, p, pt
			200	London 89	angp
			200.9	Pugh 89	pt
				Odyniec 89	mult
			2.55	Avdejchikov 87I	
			3.308 - 8.386	Avdejchikov 87B	angp, p
			3.308 - 8.386	Avdejchikov 87E	angp, p
			3.36 - 8.396	Avdejchikov 87	angp, p
			3.36 - 8.396	Avdejchikov 87C	angp, p
			angp, p		
			100	Tothacker 87	mult, p
			200	Abe 88	mult, p
			200.9	Schmidt 87	p, pt
			100	Tothacker 87	mult, p
			100	Bamberger 89	mult, p, pt
			200	London 89	angp
			200.9	Pugh 89	pt
				Odyniec 89	mult
			2.55	Avdejchikov 87I	
			3.308 - 8.386	Avdejchikov 87B	angp, p
			3.308 - 8.386	Avdejchikov 87E	angp, p
			3.36 - 8.396	Avdejchikov 87	angp, p
			3.36 - 8.396	Avdejchikov 87C	angp, p
			angp, p		
			100	Tothacker 87	mult, p
			200	Abe 88	mult, p
			200.9	Schmidt 87	p, pt
			100	Tothacker 87	mult, p
			100	Bamberger 89	mult, p, pt
			200	London 89	angp
			200.9	Pugh 89	pt
				Odyniec 89	mult
			2.55	Avdejchikov 87I	
			3.308 - 8.386	Avdejchikov 87B	angp, p
			3.308 - 8.386	Avdejchikov 87E	angp, p
			3.36 - 8.396	Avdejchikov 87	angp, p
			3.36 - 8.396	Avdejchikov 87C	angp, p
			angp, p		
			100	Tothacker 87	mult, p
			200	Abe 88	mult, p
			200.9	Schmidt 87	p, pt
			100	Tothacker 87	mult, p
			100	Bamberger 89	mult, p, pt
			200	London 89	angp
			200.9	Pugh 89	pt
				Odyniec 89	mult
			2.55	Avdejchikov 87I	
			3.308 - 8.386	Avdejchikov 87B	angp, p
			3.308 - 8.386	Avdejchikov 87E	angp, p
			3.36 - 8.396	Avdejchikov 87	angp, p
			3.36 - 8.396	Avdejchikov 87C	angp, p
			angp, p		
			100	Tothacker 87	mult, p
			200	Abe 88	mult, p
			200.9	Schmidt 87	p, pt
			100	Tothacker 87	mult, p
			100	Bamberger 89	mult, p, pt
			200	London 89	angp
			200.9	Pugh 89	pt
				Odyniec 89	mult
			2.55	Avdejchikov 87I	
			3.308 - 8.386	Avdejchikov 87B	angp, p
			3.308 - 8.386	Avdejchikov 87E	angp, p
			3.36 - 8.396	Avdejchikov 87	angp, p
			3.36 - 8.396	Avdejchikov 87C	angp, p
			angp, p		
			100	Tothacker 87	mult, p
			200	Abe 88	mult, p
			200.9	Schmidt 87	p, pt
			100	Tothacker 87	mult, p
			100	Bamberger 89	mult, p, pt
			200	London 89	angp
			200.9	Pugh 89	pt
				Odyniec 89	mult
			2.55	Avdejchikov 87I	
			3.308 - 8.386	Avdejchikov 87B	angp, p
			3.308 - 8.386	Avdejchikov 87E	angp, p
			3.36 - 8.396	Avdejchikov 87	angp, p
			3.36 - 8.396	Avdejchikov 87C	angp, p
			angp, p		
			100	Tothacker 87	mult, p
			200	Abe 88	mult, p
			200.9	Schmidt 87	p, pt
			100	Tothacker 87	mult, p
			100	Bamberger 89	mult, p, pt
			200	London 89	angp
			200.9	Pugh 89	pt
				Odyniec 89	mult
			2.55	Avdejchikov 87I	
			3.308 - 8.386	Avdejchikov 87B	angp, p
			3.308 - 8.386	Avdejchikov 87E	angp, p
			3.36 - 8.396	Avdejchikov 87	angp, p
			3.36 - 8.396	Avdejchikov 87C	angp, p
			angp, p		
			100	Tothacker 87	mult, p
			200	Abe 88	mult, p
			200.9	Schmidt 87	p, pt
			100	Tothacker 87	mult, p
			100	Bamberger 89	mult, p, pt
			200	London 89	angp
			200.9	Pugh 89	pt
				Odyniec 89	mult
			2.55	Avdejchikov 87I	
			3.308 - 8.386	Avdejchikov 87B	angp, p
			3.308 - 8.386	Avdejchikov 87E	angp, p
			3.36 - 8.396	Avdejchikov 87	angp, p
			3.36 - 8.396	Avdejchikov 87C	angp, p
			angp, p		
			100	Tothacker 87	mult, p
			200	Abe 88	mult, p
			200.9	Schmidt 87	p, pt
			100	Tothacker 87	mult, p
			100	Bamberger 89	mult, p, pt
			200	London 89	angp
			200.9	Pugh 89	pt
				Odyniec 89	mult
			2.55	Avdejchikov 87I	
			3.308 - 8.386	Avdejchikov 87B	angp, p
			3.308 - 8.386	Avdejchikov 87E	angp, p
			3.36 - 8.396	Avdejchikov 87	angp, p
			3.36 - 8.396	Avdejchikov 87C	angp, p
			angp, p		
			100	Tothacker 87	mult, p
			200	Abe 88</	

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

$p\text{ Au} \rightarrow \Lambda X$ $p\text{ Pb} \rightarrow \pi^\pm X$

$p\text{ Au}$	$p\text{ Au}$	$p\text{ }^{197}\text{Au}$
ΛX	n mult[p] X	Mn X
Vesztergombi 88 cs, p, pt	100 Toothacker 87 p, pt	Kozma 88 cs
$\bar{\Lambda} X$	grey shower X	Fe X
200 London 89 200.9 Odyniec 89 Vesztergombi 88 cs, p, pt	360 Bailly 87D mult [grey] shower X 200 Brick 90 360 Brick 89 Bailly 87D shower hadron X 360 Bailly 87D mult [grey] charged+ charged- X 200 Brick 89 n.ult	4.491 cor, mult 4.491 cor, mult, p mult p cor, mult, p n.ult
baryon X		Zn X
200.9 Schmidt 87 $^3\text{He} X$		4.491 Kozma 90 Kozma 88 cs
7.48 Abashidze 85B a-dep, angp		As X
$^4\text{He} X$		4.491 Kozma 90 Kozma 88 cs
7.48 Abashidze 85B a-dep, angp		Se X
fragt X		Rb X
3 - 28 Hufner 85 p	inelastic 4.491 Kozma 90 Kozma 88 cs	4.491 Kozma 90 Kozma 88 cs
grey X		$\pi^\pm Yt X$
200 Abe 88 360 Bailly 87D p	mult 4.491 Kozma 90 Kozma 88 cs	4.491 Kozma 90 Kozma 88 cs
hadron X		Nb X
200.9 Bamberger 86 et		4.491 Kozma 90 Kozma 88 cs
mult[frag] X		Tc X
11.5 - 300 Hufner 85 p		4.491 Kozma 90 Kozma 88 cs
mult[grey] X		$p X$
360 Bailly 87D mult		0.6444 deuteron X
mult[hadron] X		0.6444 Machner 85
200 Tannenbaum 89 et, p		He X
mult[neutral] X		0.3746 Machner 85 0.6444 Machner 85
14.5 Tannenbaum 89 et, p		fragt X
mult[shower] X		1.696 Chestnov 87 mass, p
200 Brick 89 360 Bailly 87D mult		4.491 Damdinsuren 88B cs
shower X		2fragt X
200 Brick 90 cor, mult, p Brick 89 mult		1.696 Chestnov 87 mass, p, pt
360 Bailly 87D p		(blocks) mult[grey] mult[shower] (neutrals)
2charged X		100 Biswas 86 cs
200 Brick 90 cor, mult, p		$p\text{ Hg}$
γ mult[charged] X		q X
60.93 - 200.9 Lohner 88 mult, pt		800 Matis 88 Matis 86 cs
$2\gamma X$		$p\text{ }^{207}\text{Pb}$
200.9 Albrecht 88B mass		inelastic 1.35 - 3.75 Gachurin 85 cs
$\pi^+ \pi^- X$		$p\text{ Pb}$
60.93 - 200.9 Bamberger 89 Vesztergombi 88 mass		X 800 Gomez 86 a-dep, cs
$p\text{ }\pi^\pm X$		inelastic 1.26 - 2.5 Kuzichev 89 (479.9 - 1974) Avakyan 89C a-dep, cs
100 Toothacker 87 mult, p, pt		charged X 220 - 1500 Dzhaoishvili 90 $> 10^3$ Berdzenishvili 85 mult, p
$p\text{ }\pi^- X$		neutral X 220 - 1500 Dzhaoishvili 90 P
60.93 - 200.9 Bamberger 89 Vesztergombi 88 mass		$^{24}\text{Na} X$ 4.491 Kozma 90B angp, p
$\bar{p}\text{ }\pi^+ X$		$^{24}\text{Na} X$ 4.491 Kozma 90B angp, p
60.93 - 200.9 Bamberger 89 Vesztergombi 88 mass		$^{28}\text{Mg} X$ 4.491 Kozma 90B angp, p
p mult[π^\pm] X		mult[charged] (neutrals) 400 Miettinen 88 a-dep, angp, col, et, mult, p
100 Toothacker 87 p		800 Gomez 86 col, et
$\bar{\Lambda} \pi^+ X$		$\pi^0 X$ 185 Underwood 89 asym, p
60.93 - 200.9 Bamberger 89 mult, p, pt		$\pi^\pm X$ 4.5 - 7.5 Vorobiev 86B angp
γ hadron X		
60.93 - 200.9 Lohner 88 p, pt		
hadron charged- X		
200.9 Strobel 88 cs, et, mult, p		
mult[grey] charged- X		
200 Brick 90 cor, mult, p Brick 89 mult		
p mult[p] X		
100 Toothacker 87 p, pt		

p Pb → π⁺ X

p ^{238}U → inelastic

p Pb	p Pb	p Pb	
$\pi^+ X$ 0.6084 - 0.6462 1 - 9 7.5	Bimbot 85 angp, cs Bayukov 85E a-dep, angp, p Vorobiev 89B a-dep, angp Vorobiev 88D a-dep, angp 70 Abramov 84E a-dep, pt	hadron X 200 Akesson 88B angp, et jet X 800 Stewart 90 a-dep, angp, col, pt	
$\pi^- X$ 0.6084 - 0.6462 1 - 9 4 70	Bimbot 85 angp, cs Bayukov 85E a-dep, angp, p Enyo 85 p Abramov 84E a-dep, pt	longlived X 70 Abramov 86B cs mult[hadron] X 200 Tannenbaum 89 et, p 800 Tannenbaum 89 et, p	
$\chi(\text{unspec}) X$ 530 $K^+ X$ 1.468 - 1.685 1.505 - 1.685 1.693 2.89	De 89 - Koptev 88 cs Abrosimov 85B cs Koptev 88 cs Abrosimov 85B cs Schnetzer 89 angp, cs, p 70 Abramov 84E a-dep, pt	q X 800 Matis 86 cs shower X 300 Muraki 84 - 2charged+ X 70 Abramov 84D (jets) jet X a-dep, angp, pt	
$K^- X$ 70 $p X$ 0.5 1 - 9 1.463 1.696 4 4.5 - 7.5 7.5 70 800	Rees 86 pol Bayukov 85C a-dep, angp, p Miake 84 angp Baturin 87B angp, p Baturin 85 a-dep, p Belostotsky 84 pol Tokushuku 90 angp Enyo 85 p Vorobiev 86B angp Bayukov 85F a-dep, p Vorobiev 85B pol Abramov 86 a-dep, pt Abramov 84E a-dep, pt Gomez 86B -	2 γ X 1.206 Faissner 88 ang, p $e^- e^+ X$ 1.206 Faissner 89 p 2 π^+ X 7.5 Vlasov 90 a-dep, angp, cor, p Vorobiev 89B angp, cor, pt Vorobiev 88D angp, cor a-dep, angp, pt	
$\bar{p} X$ 70 $n X$ 1 - 9 1.696 7.5 $\Delta(1232 P_3)$ ++ X 7.5	Abramov 86 a-dep, pt Abramov 84E a-dep, pt Bayukov 85C a-dep, angp, p Baturin 87B angp, p Baturin 85 a-dep, p Vlasov 89 a-dep, angp Bayukov 85F a-dep, p Vorobiev 90 angp Vorobiev 89C angp Lundberg 89 pol Beretvas 86 angp, cs, p 400 Beretvas 86 angp, cs, p 4 70 Tokushuku 90 angp Abramov 86 a-dep, pt deuteron X 70 Abramov 86 a-dep, pt dibaryon X 7.5 Vorobiev 87C cs $^3H X$ 70 Abramov 86 a-dep, pt mult[n] X 4.5 Voronko 88 cs exotic X 70 Abramov 86B cs fragt X 4.491 Damdinseuren 89 cs	J/ $\psi(1S)$ γ X 530 De 89 a-dep, cs, mass, p $K^+ \pi^+ X$ 70 Abramov 84D a-dep, angp, pt $p \pi^+ X$ 7.5 Vlasov 90 a-dep, ang, angp, cor, p Averichev 89 cor, mass Abramov 84D a-dep, angp, pt $p \pi^- X$ 8.9 Averichev 89 cor, mass $p K^+ X$ 70 Abramov 84D a-dep, angp, pt 2 $p X$ 1.463 Miake 84 angp 3 - 7.5 Bayukov 86 ang 6 - 10 Carroll 88 angp 7.5 Vorobiev 90B ang, angp, mass, p Bayukov 89 ang, angp, p Bayukov 89B ang, angp, p Bayukov 89C ang, angp, p Bayukov 88 ang, angp, p Vorobiev 87C mass Bayukov 85 cor Averichev 89 cor, mass Abramov 84D a-dep, angp, pt $p n X$ 7.5 Vlasov 89 a-dep, ang, cor, p 2n X 7.5 Bayukov 85B cor deuteron $\pi^+ X$ 7.5 Vlasov 90 a-dep, ang, angp, cor, p deuteron p X 1.463 Miak 84 angp 7.5 Bayukov 89C angp ang, angp, p	deuteron p X 7.5 Vlasov 89 a-dep, ang, cor, p deuteron n X 7.5 Bayukov 89C ang, angp, p Vlasov 89 ang, angp, p 2deuteron X 7.5 Stewart 90 a-dep, angp, col, et $Pb p \pi^0$ 185 Underwood 89 mass $\mu^- \mu^+ \gamma X$ 530 De 89 mass 3p X 7.5 Vlasov 88 ang, angp, cor deuteron 2p X 7.5 Vlasov 88 ang, angp, cor 2deuteron p X 7.5 Vlasov 88 ang, angp, cor 2p fragt (nevratals) 6 - 10 Heppelmann 89 angp 4p X 7.5 Vlasov 88 ang, angp, cor $p^{208}\text{Pb}$ $^{208}\text{Pb } p$ 0.6444 Morsch 85 angp, cs, pwa 0.6444 - 0.9543 Lee 88 angp $p \text{Bi}$ $p X$ 0.5513 Segel 85 cs, p $^3H X$ 0.5513 Segel 85 cs, p $p^{209}\text{Bi}$ inelastic 1.35 - 3.75 Gachurin 85 cs $p X$ 0.4207 Machner 85 p mult[n] $\pi^+ X$ 0.4895 - 1.463 Dombsky 85 angp, p $p \text{Ac}$ $2p \pi^+ X$ 3.9 Nakai 89 a-dep, angp $p^{232}\text{Th}$ fragt X 1.696 Chestnov 87 mass, p 2fragt X 1.696 Chestnov 87 mass, p, pt $p^{238}\text{U}$ inelastic 1.35 - 3.75 Gachurin 85 cs

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{beam} in GeV/c, or in parentheses E_{beam} in GeV. See the legend on page 153.

$p^{238}\text{U} \rightarrow \pi^\pm X$ p nucleus → black X

$p^{238}\text{U}$	$p\text{ U}$	p nucleus
$\pi^\pm X$ 0.8533 - 1.09 Digiacomo 85	$\mu^- \mu^+ X$ 300 Cobbaert 88 a-dep	πX 8.7 Fredriksson 87 mult
$\pi^\pm X$ 0.8533 - 1.09 Digiacomo 85	Cobbaert 88B a-dep	$J/\psi(1S) X$ 16 - 400 Fredriksson 87 a-dep, angp
$\pi^- X$ 0.8533 - 1.09 Digiacomo 85	320 Catanesi 89 mass, p, pt	$\text{fireball } X$ 400 Shivpuri 88 angp, mass, p
$\text{fragt } X$ 1.696 Chestnov 87 mass, p	$2\mu^- X + 2\mu^+ X$ 200.9 Sonderegger 89 et, mass	$\text{mult}[\gamma] X$ $4 \cdot 10^3 - 5 \cdot 10^5$ Azimov 85B pt
28 Hufner 85	2p X 7.5 Bayukov 85 cor	$\text{mult}[h\text{track}] X$ 800 Abduzhamilov 88C a-dep, mult
$2\mu^- X + 2\mu^+ X$ 200.9 Sonderegger 88 pt	p nucleus	$K^+ X$ 2.89 Schnetzer 89 angp, cs, p
$2\text{fragt } X$ 1.696 Filatov 88 ang, col, cs, p	X 1.5 Harper 85 cs	$K^- X$ 4 - 400 Stock 87 angp
Chestnov 87 mass, p, pt	$10^3 - 10^5$ Kawamura 89 -	$K_S X$ 4 - 400 Fredriksson 87 angp
2fragt (neutrals) 1.696 Filatov 88 ang, col, cs, p	$10^5 - 10^{10}$ Linsley 84 cs	$p X$ 1.921 Antonchik 90B angp, mult, p
$2\text{fragt mult[charged]} X$ 1.696 Filatov 88 mult	10^6 Dawson 86 cs	2.03 - 10.1 Sibirtsev 90 a-dep, angp, p
$3\text{fragt } X$ 1.696 Filatov 88 ang, col, cs, p	inelastic 5 - 300 Fredriksson 87 a-dep, cs	$4 - 400$ Fredriksson 87 a-dep
	$500 - 5 \cdot 10^3$ Avakyan 85C cs	$4.5 - 13.8 - 300$ Leskin 86 p
	$2 \cdot 10^7$ Efimov 89 cs	$4 - 400$ Fredriksson 87 mult
	$\text{mult}[b\text{lock}]$ 800 Abdurazakova 87 mult	$\bar{p} X$ 2.723 - 6.129 Fredriksson 87 angp
	shower 300 - 1600 Avakyan 85F cs	4 - 400 Fredriksson 87 angp
$^{105}\text{Ag } X$ 400 Hufner 85 angp	$\text{charged } X$ 220 - 1500 Dzhaozhvili 90 mult, p	70 Prokoshkin 87C angp
$^{111}\text{Ag } X$ 400 Hufner 85 angp	$> 10^3$ Berdzenishvili 85 mult, p	$n X$ 2.4 - 15 Ableev 87D a-dep, angp, cs
$^{120}\text{Ba } X$ 400 Hufner 85 angp	$> 5 \cdot 10^3$ Nikolsky 85 p	$4 - 400$ Fredriksson 87 angp
$^{140}\text{Ba } X$ 400 Hufner 85 angp	$8 \cdot 10^4$ Otterlund 88 p	$\text{nucleon } X$ $3 \cdot 10^5 - 5 \cdot 10^5$ Dubovsky 88 p
$^{28}\text{Mg } X$ 400 Hufner 85 angp	$\text{charged}^- X$ 5.4 - 300 Fredriksson 87 mult	$\Delta(1232 P_3)++ X$ 2.4 - 15 Ableev 87D a-dep, angp, cs
$^{44}\text{Sc } X$ 400 Hufner 85 angp	$\text{mult}[c\text{harged}] X$ 10 Baldin 86 col	ΛX 4 - 400 Fredriksson 87 a-dep, angp, p, pol, pt
$^{48}\text{Sc } X$ 400 Hufner 85 angp	$200 - 400$ Aggarwal 85 mult	12 - 2070 Panagioutou 89 a-dep, p, pol, pt
$^{64}\text{Cu } X$ 400 Hufner 85 angp	200.9 Holynski 89 mult	$\bar{\Lambda} X$ 4 - 400 Fredriksson 87 a-dep, angp
$^{67}\text{Cu } X$ 400 Hufner 85 angp	$\text{neutral } X$ 220 - 1500 Dzhaozhvili 90 p	$\Xi^0 X$ 400 Fredriksson 87 a-dep, angp, p, pol, pt
$\mu^+ X$ 300 Cobbaert 88 a-dep	$\text{supernucleus } X$ 70 - 250 Batusov 85B cs	$\text{deuteron } X$ 1.4 - 400 Gavrilov 85 a-dep, angp, p
$\mu^- X$ 300 Cobbaert 88 a-dep	$70 - 250$ Batusov 85B cs	$\text{deuteron } X$ 70 Prokoshkin 87C angp
$\pi^+ X$ 1 - 9 Bayukov 85E a-dep, angp, p	$\text{charmed-nucleus } X$ 70 - 250 Lyukov 89 cs	$\text{dibaryon}(S = -2) X$ 10 Shahbazyan 88 cs, mass
$\pi^- X$ 1 - 9 Bayukov 85E a-dep, angp, p	$\text{hypernucleus } X$ 70 - 250 Batusov 85 angp, cs, p	$^3\text{He } X$ 70 Prokoshkin 87C angp
$K^+ X$ 1.693 Koptyev 88 cs	$\text{nucleus } X$ $3 \cdot 10^5 - 5 \cdot 10^5$ Dubovsky 88 p	$\text{tritium } X$ 70 Prokoshkin 87C angp
$Abramovim 85B$	$\text{mult}[c\text{harged}] (neutrals)$ 200 - 800 Buschbeck 89 mult, p	$\text{He } X$ 200 - 400 Takibaev 90 p
$p X$	γX $8 \cdot 10^4$ Otterlund 88 p, pt	$\text{mult}[d\text{euterion}] X$ 4.5 Bannik 87B mult
1 - 9 Bayukov 85C a-dep, angp, p	$\pi^\pm X$ 4.5 Vokal 88 a-dep, angp, p	$\text{mult}[p] X$ 4.5 Bannik 87B mult
7.5 Bayukov 85F a-dep, p	< 800 Leskin 86 a-dep, angp, p, pt	$W^\pm X$ 70 Prokoshkin 87C cs
120 Bailey 85B cs, p	$\pi^- X$ 2.03 - 10.1 Sibirtsev 90 a-dep, angp, p, pt	$\text{black } X$ 1.05 - 400.9 Atageldieva 88 mult, p
$n X$	$4 - 400$ Fredriksson 87 angp	
1 - 9 Bayukov 85C a-dep, angp, p	< 800 Bajramov 89 p	
7.5 Bayukov 85F a-dep, p	$Sulyayev 88$ a-dep, angp, p, pt	
charm X 300 Cobbaert 88 a-dep, cs	$a -$	
fragt X 5.762 Shibata 86 cs	$\pi^- X$ 4 - 400 Fredriksson 87 angp	
fragt X 4.9 Hufner 85 angp	21 Bajramov 89 p	
$\mu^- \mu^+ X$ 200.9 Sonderegger 89 et, mass	70 Prokoshkin 87C angp	
	< 800 Sulyayev 88 a-dep, angp, p, pt	

p nucleus → black X*p* nucleus → hypernucleus shower X

<i>p</i> nucleus	<i>p</i> nucleus	<i>p</i> nucleus
black X 24 – 800	Abduzhamilov 88B angp	Abduzhamilov 87 mult
67 – 400	Absemetova 85 angp, p	Jain 87B mult, p
800	Abduzhamilov 88C a-dep, mult	Shivpuri 87B mult, p
?	Abdurazakova 87 mult	Jain 86 mult
grey X 5.7 – 400	Abduzhamilov 87	nucleus p 185
24 – 800	Fredriksson 87 mult	Akchurin 89 angp, asym, pol
	Abduzhamilov 88B angp	Reiner 86
90.2 – 99	Antonchik 87 angp, mult, p, pt	mult[black] mult[shower] 30 – 400
200 – 800	Abduzhamilov 89 angp	Kim 85 p
800	Abduzhamilov 88C a-dep, mult	2charged X 24 – 400
	Abdurazakova 87 mult	Azimov 85 cor
	Abduzhamilov 87 mult	$\mu^- \mu^+$ X 16 – 400
hadron X 70	Prokoshkin 87C angp, cor, pt	Fredriksson 87 a-dep, angp
hadron+ X < 800	Sulyaev 88 a-dep, angp, p, pt	70 Prokoshkin 87C angp, cor, pt
hadron- X < 800	Sulyaev 88 a-dep, angp, p, pt	225 Rutherford 85 a-dep, mass
htrack X 5.7 – 400	Fredriksson 87 mult	Berger 86B cs, mass
800	Abduzhamilov 88C a-dep, mult	Sulyaev 88 a-dep, angp, p, pt
	Abdurazakova 87 mult	2 π^0 X 70
	Abduzhamilov 87 mult	Prokoshkin 87C a-dep, angp, pt
	Shivpuri 87B mult	Sulyaev 88 a-dep, angp, p, pt
jet X 200	Fredriksson 87 a-dep, angp, pt	2fireball X 400
		Shivpuri 88 angp, mass, p
mult[black] X 30 – 400	Kim 85 p	K+ K- X < 800
800	Abduzhamilov 88C a-dep, mult	Sulyaev 88 a-dep, angp, p, pt
mult[grey] X 4.5	Bannik 87B p	p charged- X 5.4 – 300
400	Ahmad 90 angp, mult	Fredriksson 87 cor, mult
800	Abduzhamilov 89 mult	p π^+ X 4.2
	Abduzhamilov 88C a-dep, mult	Grishin 88B mass
mult[hadron] X 5.7 – 205	Baldin 87 col, p	10 Kopylova 86 mass, p
mult[jet] X 10	Baldin 86 col	p π^- X 10
mult[shower] X 5.7 – 400	Fredriksson 87 mult	Kopylova 86 mass, p
6.129 – 800	Kumar 89 mult	2 Λ X 10
70	Bhattacharjee 89 angp, cor, mult, p	Shahbazyan 88 cs, mass
200 – 800	Holynski 89B cor, mult, p	He n: mult[htrack] X 200 – 400
800	Abduzhamilov 89 mult	Takibaev 90 p
	Abduzhamilov 88C a-dep, mult	mult[p] mult[π^\pm] X 7.1
	Jain 87B mult, p	Guaraldo 89B cor, mult
	Shivpuri 87B mult	π^\pm mult[grey] X 200
	Nikolsky 85 p	Abe 88 mult
q X 800	Matis 86 cs	π^- mult[grey] X 200
shower X 4 – 400	Fredriksson 87 angp	mult[htrack] black X 1.05 – 400.9
5.7 – 400	Fredriksson 87 mult	Atageldieva 88 mult, p
24 – 800	Abduzhamilov 88B p	800 Abduzhamilov 88C cor, mult
30 – 400	Kim 85 p	mult[htrack] grey X 800 Abduzhamilov 88C cor, mult
800	Abduzhamilov 89 mult, p	?
	Abduzhamilov 88C a-dep, mult	Abduzhamilov 89 –
	Abdurazakova 87 mult, p	mult[htrack] mult[black] X 67 – 400
		Takibaev 88 ang, cor
		mult[htrack] mult[grey] X 800 Abduzhamilov 89 mult
		mult[black] mult[shower] X 200 Boos 86C a-dep, mult, p
		800 Abduzhamilov 89 mult, p
		mult[htrack] shower X 7.1 – 400 Fredriksson 87
		?
		p mult[grey] X 200 Abe 88 p
		*Li black X 70 – 250 Batusov 85 mult
		*Li grey X 70 – 250 Batusov 85 mult
		*Li shower X 70 – 250 Batusov 85 mult
		charm charm X 200 – 360 Erriquez 85 cs
		black grey X 90.2 – 99 Antonchik 87 angp, mult, p, pt
		400 Shivpuri 88B mult
		black mult[black] X 800 Abduzhamilov 88B angp, cor, mult
		black mult[grey] X 800 Abduzhamilov 88B angp, cor, mult
		black mult[shower] X 800 Abduzhamilov 88C cor, mult
		black shower X 400 Shivpuri 88B mult
		grey mult[grey] X 400 Ahmad 90 angp, mult
		800 Abduzhamilov 88B angp, cor, mult
		grey mult[shower] X 300 – 800 Jain 88B cor, mult, p
		800 Abduzhamilov 88C cor, mult
		grey shower X 300 – 800 Jain 88B cor, mult, p
		400 Shivpuri 88B mult
		htrack black X 400 Shivpuri 88B mult
		htrack grey X 400 Shivpuri 88B mult
		htrack mult[black] X 800 Abduzhamilov 88C cor, mult
		htrack mult[grey] X 800 Abduzhamilov 88C cor, mult
		htrack mult[shower] X 400 Shivpuri 88B angp, mult
		800 Abduzhamilov 88C cor, mult
		htrack shower X 400 Shivpuri 88B cor, mult, p
		hypernucleus black X 70 – 250 Batusov 85 mult
		hypernucleus grey X 70 – 250 Batusov 85 mult
		hypernucleus shower X 70 – 250 Batusov 85 mult

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

p nucleus → mult[black] grey X $n p \rightarrow p K^- 2\pi^+ X$

p nucleus	p supernucleus	$n p$
mult[black] grey X 800 Abduzhamilov 88B angp, cor, mult	supernucleus n 0.1374 Norman 87B	dibaryon π^- 1.25 – 2.23 Troyan 88
Abduzhamilov 88C cor, mult	cs	1.257 Troyan 86
mult[black] shower X 800 Abduzhamilov 88C cor, mult	X 0.4898 – 1.194 Grundies 85 0.5317 – 1.207 Binz 89B 1.257 – 1.788 Lehar 87	DD $< \Lambda K^0 > p$ 40 Aleev 88B cs, mass, pt
mult[grey] mult[shower] X 200 Boos 86C a-dep, mult, p	inelastic < 4.2 Bystricky 87	deuteron axion 0 Borzakov 87
mult[grey] shower X 24 – 800 Abduzhamilov 88B cor, mult, p	charged X 6.1 Batyunya 86B	Enghardt 87
400 Ahmad 90 Tariq 90 cor, mult, p	charged-X 1 – 200 Azimov 85D	cs
800 Abduzhamilov 88C cor, mult	mult[charged] (neutrals) < 100 Bystricky 87	deuteron 2γ ? Ananiev 83
shower jet X 200 – 400 Boos 88B angp, mult	π^+ X 4.2 Bekmirzaev 88B angp, mult, p, pt	deuteron $e^- e^+$ 0 Borzakov 87
shower mult[shower] X 800 Abduzhamilov 88B cor, mult, p	π^- X 4.2 Bekmirzaev 88B angp, mult, p, pt	2p π^- 1 – 5 Yokosawa 85C
hadron+ hadron- X < 800 Sulyaev 88 a-dep, angp, p, pt	baryonium X 20 – 70 Aleev 89 Aleev 88F	1 – 6 Yokosawa 85
2jet X 400 Moore 90 a-dep, angp, p, pt	40 Aleev 88G	1.25 – 2.23 Troyan 88
2mult[shower] X 800 Jain 86 cor, mult, p	baryonium ($S = +1$) X 20 – 70 Aleev 88D	Beshliu 85
2shower X 70 Bhattacharje 89 cor, p 800 Barbier 88 ang, angp, mult	baryonium ($S = -1$) X 20 – 70 Aleev 88D	Troyan 86
Shivpuri 87B a-dep, cor, p	p X 4.2 Bekmirzaev 88B angp, mult, p, pt	Glagolev 89C
Jain 86 cor, mult, p	A _c ⁺ X 40 – 70 Vecko 89 Aleev 88C	angp, col, p Bystricky 87
black shower X + grey shower X 400 Shivpuri 87 angp	mult[p] X 1 – 200 Azimov 85D	2p π^+ 1 – 5 Yokosawa 85C
$e^- e^+ \nu X$ 19.48 Bernardi 85 p	deuteron γ 0 Enghardt 87	Yokosawa 85
$e^- e^+ e^\pm X$ 19.48 Bernardi 85 p	< 0.3106 Dofiohague 84D	–
$\mu^\pm e^- e^\pm X$ 19.48 Bernardi 85 p	0.6088 – 1.061 Vanoers 85 0.618 Meyer 85D 0.7618 Fearing 86	amp, pwa
$\mu^- \mu^+ \gamma X$ 400 Rosner 85E	p n 0.025 Sromicki 86 0.1228 – 1.505 Vanoers 85 0.1374 – 1.464 Bystricky 86D	amp, angp, cs
$\mu^- \mu^+ \text{mult}[charged] X$ 200 – 360 Erriquez 85	0.22 – 0.477 Abegg 89B 0.6448 – 1.091 Davis 88 0.9237 – 1.793 Terrier 87 0.9237 – 1.85 Dobrovolsky 88	amp, angp, cs
2Ks $\pi^0 X$? Cason 89 mass	1.06 Abegg 89 Ahegg 85	amp, angp, cs
Op 2charged X 200 Brick 90 cor, mult, p	1.069 – 1.45 Garnett 89 1.091 – 1.464 Ditzler 87	2p $\Lambda K^- X$ 20 – 70 Aleev 89
$\pi^\pm \text{mult}[grey] \text{ mult}[charged-] X$ 200 Abe 88 mult	< 1.1 Arndt 87	Aleev 88F
$\pi^- \text{mult}[grey] \text{ mult}[charged-] X$ 200 Abe 88 mult	1.25 – 5.1 Beshliu 86	Aleev 88G
p mult[grey] mult[charged-] X 200 Abe 88 p	1.257 – 1.788 Ball 88 1.261 – 1.68 Dobrovolsky 88	amp, asym, pol
mult[track] 2shower X 800 Jain 86 cor, mult, p	1.373 – 1.696 Bystricky 85 1.397 – 1.457 Delesquen 88	2p $\pi^+ (\pi^0)$ 1.25 – 5.1 Beshliu 86
(blocks) (greys) mult[shower] X 200 – 400 Andreeva 85B mult	1.452 Nath 89	Bystricky 87
grey 2shower X 800 Barber 88 angp, mult	< 1.697 Lechanoinele 86	3charged (charged) (neutrals) 1 – 4.2 Bekmirzaev 87B
3shower X 70 Bhattacharje 89 cor, p	3 – 200 Prokoshkin 87C	$\Lambda 2\pi^+ \pi^- X$ 40 – 70 Aleev 88C
4shower X 70 Bhattacharje 89 cor, p	deuteron π^0 0.7411 – 0.7941	$p K^- 2\pi^+ X$ 20 – 70 Aleev 89B
	Hutcheon 89	mass

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 $n p \rightarrow p K^- \pi^+ \pi^- X$
 $n C \rightarrow \pi^- X$

$n p$		n nucleon		n Be
$p K^- \pi^+ \pi^- X$ 20 - 70	Aleev 89B	mass	$2K_S X$ 560	$\bar{p} K^+ \pi^+ \pi^- X$ 640
$p K^0 \pi^+ \pi^- X$ 40 - 70	Aleev 88C	mass	$K^+ K^- \pi^- X$ 560	$\Sigma_c(2455)^0 K^- 2\pi^+ X$ 640
$\bar{p} \Lambda 2\pi^+ X$ 20 - 70	Aleev 88D	mass	n deuteron	$Coteus 87$
$\bar{p} \Lambda \pi^+ \pi^- X$ 20 - 70	Aleev 88D	mass	$^3H \gamma$ < 0.3106	$Cumalat 87B$
$p \bar{\Lambda} 2\pi^- X$ 20 - 70	Aleev 88D	mass	n Be	$\Sigma_c(2455)^{++} K^- 2\pi^+ X$ 640
$p \bar{\Lambda} \pi^+ \pi^- X$ 20 - 70	Aleev 88D	mass	X 0.5712 - 1.188 Franz 88	$Coteus 87$
$\bar{p} \Lambda K^+ \pi^+ X$ 20 - 70	Aleev 89 Aleev 88F Aleev 88G	mass mass mass	$D^0 X$ 640	$\Sigma_c(2460)^+ K^- 2\pi^+ X$ 640
$\bar{p} \Lambda K^+ \pi^- X$ 20 - 70	Aleev 89 Aleev 88F Aleev 88G	mass mass mass	$D_S^- X$ 640	$Coteus 87$
$p \bar{\Lambda} K^- \pi^+ X$ 20 - 70	Aleev 89 Aleev 88F Aleev 88G	mass mass mass	$D_S^+ X$ 640	$Cumalat 87B$
$p \bar{\Lambda} K^- \pi^- X$ 20 - 70	Aleev 89 Aleev 88F Aleev 88G	mass mass mass	$D^*(2010)^+ X$ 640	$a\text{-dep}, cs, p, pt$
$p \bar{\Lambda} K^- \pi^- X$ 40	Aleev 89 Aleev 88F Aleev 88G	mass mass mass	$D^*(2010)^- X$ 640	$Cumalat 87B$
$p \bar{p} K^+ K_S X$ 20 - 70	Aleev 89 Aleev 88F Aleev 88G	mass mass mass	$\Lambda_c^+ X$ 640	$a\text{-dep}, cs, p, pt$
$p \bar{p} K_S K^- X$ 20 - 70	Aleev 89 Aleev 88F Aleev 88G	mass mass mass	$\bar{\Lambda}_c^- X$ 640	$Shipbaugh 88B$
$2p \pi^+ 2\pi^-$ 1.25 - 5.1 < 9 40	Beshliu 86 Bystricky 87 Alevy 88B	cs cs mass	$\Sigma_c(2455)^0 X$ 640	$Shipbaugh 88B$
3charged 2neutral (neutrals) 1.25 - 5.1	Beshliu 86	cs	$\Sigma_c(2455)^{++} X$ 640	$a\text{-dep}, cs, p, pt$
$2p \pi^+ \pi^0 2\pi^-$ 1.25 - 5.1	Zielinsky 88 Beshliu 86 Beshliu 85	cs, mass cs mass	$\bar{\Sigma}_c(2455)^{--} X$ 640	$Shipbaugh 88B$
$p n 2\pi^+ 2\pi^-$ 1.25 - 5.1 < 9	Beshliu 86 Bystricky 87	cs cs	$\phi \pi^+ X$ 640	$Shipbaugh 88B$
$p n \pi^+ \pi^0 \pi^- (\pi^0's)$ < 10	Bystricky 87	cs	$\phi \pi^- X$ 640	$Shipbaugh 88B$
5charged 2neutral (neutrals) 1.25 - 5.1	Beshliu 86	cs	$\Lambda_c^+ \pi^+ X$ 640	$Shipbaugh 88B$
nn			$\Lambda_c^+ \pi^- X$ 640	$Shipbaugh 88B$
inelastic 6.1	Batyunya 85D	cs	$\bar{\Lambda}_c^- \pi^+ X$ 640	$Shipbaugh 88B$
mult[charged] (neutrals) 6.1	Batyunya 85D	cs, mult	$\bar{\Lambda}_c^- \pi^- X$ 640	$Shipbaugh 88B$
n nucleon			$K^+ K^- \pi^+ X$ 640	$Shipbaugh 88B$
$D^0 X$ 560	Cumalat 87	-	$K^+ K^- \pi^- X$ 640	$Shipbaugh 88B$
$D^0 X$ 560	Cumalat 87	-	$p K^- \pi^+ X$ 640	$Shipbaugh 88B$
$D^*(2010)^+ X$ 560	Cumalat 87	-	$\bar{p} K^+ \pi^- X$ 640	$Filaseta 87B$
$D^*(2010)^- X$ 560	Cumalat 87	-	$p K^- \pi^+ \pi^- X$ 640	$Filaseta 87B$
$K^*(892)^+ X$ 560	Cumalat 87	-	$\bar{p} K^+ \pi^- \pi^- X$ 640	$Filaseta 87B$
$K^*(892)^0 X$ 560	Cumalat 87	-	$\pi^- X$ 640	$Diesburg 87$

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

$n\ C \rightarrow \pi^- X$ $n\ Al \rightarrow \Lambda\ X$

$n\ C$	$n\ C$	$n\ C$
$\pi^- X$	$K^*(892)^+ \pi^- X$	$\bar{p}\ \Lambda\ \pi^+ \pi^- X$
Bekmirzaev 87C angp, p, pt	40 - 70 Aleev 88 Aleev 85 mass	20 - 70 Aleev 88D Aleev 86C mass
Bekmirzaev 86 mult, p	40 - 70 Aleev 88 Aleev 85 mass	$\bar{p}\ \bar{\Lambda}\ 2\pi^- X$ 20 - 70 Aleev 88D mass
Bekmirzaev 85 mult, p	40 - 70 Aleev 88 Aleev 85 mass	$\bar{p}\ \bar{\Lambda}\ \pi^+ \pi^- X$ 20 - 70 Aleev 88D mass
$X(3100)^+ X$ 40 - 70 Aleev 86C a-dep, cs	$K_S\ \pi^+ X$ 40 - 70 Aleev 88 Aleev 85 mass	$\bar{p}\ \Lambda\ K^+ \pi^+ X$ 20 - 70 Aleev 89 Aleev 88F mass
$X(3100)^- X$ 40 - 70 Aleev 86C a-dep, cs	$K_S\ \pi^- X$ 40 - 70 Aleev 88 mass	$\bar{p}\ \Lambda\ K^+ \pi^- X$ 20 - 70 Aleev 89 Aleev 88F mass
$X(3100)^0 X$ 40 - 70 Aleev 86C a-dep, cs	$p\ \pi^- X$ 40 Aleev 87 Aleev 86 mass	$\bar{p}\ \bar{\Lambda}\ K^- \pi^+ X$ 20 - 70 Aleev 89 Aleev 88F mass
baryonium X 20 - 70 Aleev 89 Aleev 88F -	$\bar{p}\ \pi^+ X$ 40 Aleev 86 mass	$\bar{p}\ \bar{\Lambda}\ K^- \pi^- X$ 20 - 70 Aleev 89 Aleev 88F mass
$D^0 X$ 40 - 70 Aleev 85 cs, p, pt	$\Lambda\ \pi^+ X$ 40 Aleev 86 mass	$p\ \bar{p}\ K^+ K^- X$ 20 - 70 Aleev 89 Aleev 88F mass
$\bar{D}^0 X$ 40 - 70 Aleev 88 cs, p, pt	$\Lambda\ \pi^- X$ 20 - 70 Aleev 86B 40 Aleev 86 mass	$p\ \bar{p}\ K^+ K^- X$ 20 - 70 Aleev 89 Aleev 88F mass
$D^+ X$ 40 - 70 Aleev 85 cs, p, pt	$\Lambda\ K^- X$ 40 Aleev 86 mass	$p\ \bar{p}\ K^- K^- X$ 20 - 70 Aleev 89 Aleev 88F mass
$D^- X$ 40 - 70 Aleev 88 cs, p, pt	$\Sigma(1385\ P_{13})^+ K^+ X$ 60 Prokoshkin 87C ang, mass	$\bar{p}\ \bar{p}\ K^- K^- X$ 20 - 70 Aleev 89 Aleev 88F mass
baryonium($S = +1$) X 20 - 70 Aleev 88D -	$K^*(892)^+ 2\pi^- X$ 40 - 70 Aleev 88 mass	$\bar{p}\ \Lambda\ 2\pi^+ \pi^- X$ 40 - 70 Aleev 86C mass
baryonium($S = -1$) X 20 - 70 Aleev 88D -	$K^*(892)^- 2\pi^+ X$ 40 - 70 Aleev 88 Aleev 85 mass	$n\ O$
$p\ X$	$K_S\ \pi^+ \pi^- X$ 40 - 70 Aleev 88 Aleev 85 mass	X 0.5712 - 1.188 Franz 88 cs
0.8374 - 1.149 Ero 87 4.2 Bekmirzaev 88 a-dep, angp, mult, p, pt	$p\ 2\pi^- X$ 20 - 70 Aleev 86B mass	$n\ 20Ne$
Bekmirzaev 88B angp, mult, p, pt	$\Lambda\ \pi^+ \pi^- X$ 40 Krastev 88 mass	charged- X 1 - 200 Azimov 85D mult
Kopylova 87 p	$\bar{p}\ \Lambda\ \pi^+ X$ 20 - 70 Aleev 88D 40 - 70 Aleev 86C mass	$mult[p]\ X$ 1 - 200 Azimov 85D cs, mult
$N\phi(1950)\ X$ 20 - 60 Aleev 85B a-dep, cs	$\bar{p}\ \Lambda\ \pi^- X$ 20 - 70 Aleev 88D 40 - 70 Aleev 86C mass	$n\ Ne$
$A_c^+ X$ 40 Prokoshkin 87C cs 40 - 70 Klein 89C cs, p, pt Aleev 87B a-dep Aleev 84C pol, pt	$\bar{p}\ \bar{\Lambda}\ \pi^+ X$ 20 - 70 Aleev 88D 40 - 70 Aleev 86C mass	$\mu^+ X$ 280 Tzeng 85 p
$\Lambda\ X$ 40 Aleev 87 a-dep, p, pol, pt Aleev 86 cs, p, pt	$\bar{p}\ \bar{\Lambda}\ \pi^- X$ 20 - 70 Aleev 88D 40 - 70 Aleev 86C mass	$\mu^- X$ 280 Tzeng 85 p
$\bar{\Lambda}\ X$ 40 Aleev 86 cs, p, pt	$p\ \bar{\Lambda}\ \pi^+ X$ 20 - 70 Aleev 88D 40 - 70 Aleev 86C mass	charmed-meson charmed-meson X 280 Tzeng 85 cs
$\Sigma(1385\ P_{13})^+ X$ 40 Aleev 86 cs, p, pt	$p\ \bar{\Lambda}\ \pi^- X$ 20 - 70 Aleev 88D 40 - 70 Aleev 86C mass	$A_c^+\ charmed-meson X$ 280 Tzeng 85 cs
$\Sigma(1385\ P_{13})^- X$ 40 Aleev 86 cs, p, pt	$\bar{p}\ \Lambda\ K^+ X$ 20 - 70 Aleev 88D 40 - 70 Aleev 86C mass	$n\ Al$
$\bar{\Sigma}(1385\ P_{13})^+ X$ 40 Aleev 86 cs	$\bar{p}\ \Lambda\ K^- X$ 20 - 70 Aleev 88D 40 - 70 Aleev 86C mass	X 0.5712 - 1.188 Franz 88 cs
$\Lambda(1620\ D_{0s})\ X$ 40 Kraasteve 88 cs, p	$K_S\ 2\pi^+ \pi^- X$ 40 - 70 Aleev 88 Aleev 85 mass	$X(3100)^+ X$ 40 - 70 Aleev 86C a-dep, cs
$\Xi^- X$ 20 - 70 Aleev 86B pol 40 Aleev 86 cs, p, pt	$K_S\ \pi^+ 2\pi^- X$ 40 - 70 Aleev 88 Aleev 85 mass	$X(3100)^- X$ 40 - 70 Aleev 86C a-dep, cs
$\Xi^+ X$ 40 Aleev 86 cs	$\Lambda\ 2\pi^+ \pi^- X$ 40 - 70 Aleev 87B Aleev 84C angp, asym, mass	$X(3100)^0 X$ 40 - 70 Aleev 86C a-dep, cs
$\Xi(1630\ P_{13})^0 X$ 40 Aleev 86 cs	$p\ K^0\ \pi^+ \pi^- X$ 40 - 70 Aleev 84C angp, asym, mass	baryonium X 20 - 70 Aleev 89 Aleev 88F -
$\Omega^- X$ 40 Aleev 86 cs	$p\ K_S\ \pi^+ \pi^- X$ 40 - 70 Aleev 87B mass	baryonium($S = +1$) X 20 - 70 Aleev 88D -
deuteron X 0.8374 - 1.149 Ero 87 4.2 Kopylova 87 angp	$\bar{p}\ \bar{\Lambda}\ 2\pi^+ X$ 20 - 70 Aleev 88D 40 - 70 Aleev 86C mass	baryonium($S = -1$) X 20 - 70 Aleev 88D -
${}^3H\ X$ 0.8374 - 1.149 Ero 87 angp		$N\phi(1950)\ X$ 20 - 60 Aleev 85B a-dep, cs
mult[p] X 1 - 200 Azimov 85D cs, mult		$A_c^+ X$ 40 Aleev 87B a-dep
		$\Lambda\ X$ 40 Aleev 87 a-dep, p, pol, pt

n Al $\rightarrow \Lambda(1520 D_{03}) X$ n Cu $\rightarrow p \bar{p} K^+ K_S X$

n Al		n Si		n Cu
$\Lambda(1520 D_{03}) X$		$\Lambda_c^+ X$		$X(3100)^0 X$
40 Krastev 88	cs, p	640 Filaseta 87B	cs, p, pt	40 - 70 Aleev 86C a-dep, cs
$p \pi^- X$	mass	$\Lambda_c^- X$		baryonium X
40 Aleev 87	mass	640 Filaseta 87B	cs, p, pt	20 - 70 Aleev 89 Aleev 88F
$\Lambda \pi^+ \pi^- X$	mass	$\phi \pi^+ X$		baryonium($S = +1$) X
40 Krastev 88	mass	640 Shipbaugh 88B	mass	20 - 70 Aleev 88D
$\bar{p} \Lambda \pi^+ X$	mass	640 Shipbaugh 87	mass	baryonium($S = -1$) X
20 - 70 Aleev 88D	mass	640 Shipbaugh 88B	mass	20 - 70 Aleev 88D
$\bar{p} \Lambda \pi^+ X$	mass	640 Shipbaugh 87	mass	$p \bar{X}$
40 - 70 Aleev 86C	mass	640 Shipbaugh 88B	mass	0.8085 - 1.194 Franz 89 angp, p
$p \bar{\Lambda} \pi^+ X$	mass	640 Shipbaugh 87	mass	$N\phi(1950) X$
20 - 70 Aleev 88D	mass	640 Shipbaugh 88B	mass	20 - 60 Aleev 85B a-dep, cs
$p \bar{\Lambda} \pi^- X$	mass	640 Shipbaugh 87	mass	$\Lambda_c^+ X$
20 - 70 Aleev 88D	mass	640 Shipbaugh 88B	mass	40 - 70 Aleev 87B a-dep
$\bar{p} \Lambda K^+ X$	mass	640 Shipbaugh 87	mass	ΛX
20 - 70 Aleev 89	mass	640 Filaseta 87B	mass	40 Aleev 87 a-dep, p, pol, pt
$p \bar{\Lambda} K^- X$	mass	640 Filaseta 87B	mass	$\Lambda(1520 D_{03}) X$
20 - 70 Aleev 89 Aleev 88F	mass	640 Coteus 87 Cumalat 87B	a-dep, cs a-dep, cs	40 Krastev 88 cs, p
$\Lambda 2\pi^+ \pi^- X$	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	deuteron X
40 - 70 Aleev 87B	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	0.8085 - 1.194 Franz 89 angp, p
$p K_S \pi^+ \pi^- X$	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	$^3S_1 X$
40 - 70 Aleev 87B	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	0.8085 - 1.194 Franz 89 angp, p
$\bar{p} \Lambda 2\pi^+ X$	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	$p \pi^- X$
20 - 70 Aleev 88D	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	40 Aleev 87 mass
$\bar{p} \Lambda 2\pi^+ X$	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	$\Lambda \pi^+ \pi^- X$
20 - 70 Aleev 86C	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	40 Krastev 88 mass
$\bar{p} \Lambda \pi^+ \pi^- X$	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	$\bar{p} \Lambda \pi^+ X$
20 - 70 Aleev 88D Aleev 86C	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	20 - 70 Aleev 88D Aleev 86C mass
$p \bar{\Lambda} 2\pi^- X$	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	40 - 70 Aleev 88D Aleev 86C mass
20 - 70 Aleev 88D	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	$p \bar{\Lambda} \pi^+ X$
$p \bar{\Lambda} \pi^+ \pi^- X$	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	20 - 70 Aleev 88D
20 - 70 Aleev 88D	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	$\bar{p} \Lambda K^+ X$
$\bar{p} \Lambda K^+ \pi^+ X$	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	20 - 70 Aleev 88D
20 - 70 Aleev 89 Aleev 88F	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	$p \bar{\Lambda} K^- X$
$\bar{p} \Lambda K^+ \pi^- X$	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	20 - 70 Aleev 89 Aleev 88F
20 - 70 Aleev 89 Aleev 88F	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	$p \bar{\Lambda} K^- X$
$p \bar{\Lambda} K^- \pi^+ X$	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	20 - 70 Aleev 89 Aleev 88F
20 - 70 Aleev 89 Aleev 88F	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	$p \bar{\Lambda} K^- X$
$p \bar{\Lambda} K^- \pi^- X$	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	20 - 70 Aleev 89 Aleev 88F
20 - 70 Aleev 89 Aleev 88F	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	$\Lambda 2\pi^+ \pi^- X$
$p \bar{\Lambda} K^- \pi^- X$	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	40 - 70 Aleev 88F
20 - 70 Aleev 89 Aleev 88F	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	$p K_S \pi^+ \pi^- X$
$p \bar{p} K^+ K_S X$	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	40 - 70 Aleev 87B
20 - 70 Aleev 89 Aleev 88F	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	$\bar{p} \Lambda \pi^+ X$
$p \bar{p} K_S K^- X$	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	20 - 70 Aleev 88D
20 - 70 Aleev 89 Aleev 88F	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	$\bar{p} \Lambda K^+ X$
$\bar{p} \Lambda 2\pi^+ \pi^- X$	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	20 - 70 Aleev 88D
40 - 70 Aleev 89 Aleev 88F	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	$p \bar{\Lambda} K^- X$
$p \bar{\Lambda} K^- \pi^+ X$	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	20 - 70 Aleev 89 Aleev 88F
20 - 70 Aleev 89 Aleev 88F	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	$p \bar{\Lambda} K^- X$
$p \bar{\Lambda} K^- \pi^- X$	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	20 - 70 Aleev 89 Aleev 88F
20 - 70 Aleev 89 Aleev 88F	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	$\Lambda 2\pi^+ \pi^- X$
$p \bar{\Lambda} K^- \pi^- X$	mass	640 Coteus 87 Cumalat 87B	a-dep, cs	40 - 70 Aleev 88F
n Si		$n^{56}\text{Cl}$		$\Lambda 2\pi^+ \pi^- X$
$D^0 X$	640 Coteus 87 Cumalat 87B	a-dep, cs a-dep, cs	< 0.1304 Avenier 85 asym	40 - 70 Aleev 87B
$D_S^- X$	640 Shipbaugh 88B Shipbaugh 87	cs, p	$n \text{Va}$	$p K_S \pi^+ \pi^- X$
$D_S^+ X$	640 Shipbaugh 88B Shipbaugh 87	cs, p p	X 0.5712 - 1.188 Franz 88	40 - 70 Aleev 87B
$D^*(2010)^+ X$	640 Shipbaugh 88B a-dep, cs, p, pt	cs, p	$n \text{Mn}$	$\bar{p} \Lambda \pi^+ \pi^- X$
$D^*(2010)^- X$	640 Shipbaugh 88B a-dep, cs, p, pt	cs, p	X 0.5712 - 1.188 Franz 88	20 - 70 Aleev 88D
n Si		$n \text{Fe}$		$p \bar{\Lambda} \pi^+ \pi^- X$
$D^0 X$	640 Coteus 87 Cumalat 87B	a-dep, cs a-dep, cs	inelastic (233.9 - 1021) Avakyan 89C a-dep, cs	20 - 70 Aleev 88D
$D_S^- X$	640 Shipbaugh 88B Shipbaugh 87	cs, p	$n^{56}\text{Fe}$	$\bar{p} \Lambda K^+ \pi^- X$
$D_S^+ X$	640 Shipbaugh 88B Shipbaugh 87	cs, p p	$^{57}\text{Fe} \gamma$ < 0.005 Vesna 89 asym	20 - 70 Aleev 88D
$D^*(2010)^+ X$	640 Shipbaugh 88B a-dep, cs, p, pt	cs, p	$n \text{Co}$	$\bar{p} \Lambda \pi^+ \pi^- X$
$D^*(2010)^- X$	640 Shipbaugh 88B a-dep, cs, p, pt	cs, p	X 0.5712 - 1.188 Franz 88	20 - 70 Aleev 88D
n Si		$n \text{Cu}$		$p \bar{\Lambda} \pi^+ \pi^- X$
$D^0 X$	640 Coteus 87 Cumalat 87B	a-dep, cs a-dep, cs	X 0.5712 - 1.188 Franz 88	20 - 70 Aleev 88D
$D_S^- X$	640 Shipbaugh 88B Shipbaugh 87	cs, p	$\pi^\pm X$ 0.8085 - 1.194 Buchle 89	$\bar{p} \Lambda \pi^+ \pi^- X$
$D_S^+ X$	640 Shipbaugh 88B Shipbaugh 87	cs, p p	X(3100) ⁺ X 40 - 70 Aleev 86C a-dep, angp, p	20 - 70 Aleev 88F
$D^*(2010)^+ X$	640 Shipbaugh 88B a-dep, cs, p, pt	cs, p	X(3100) ⁻ X 40 - 70 Aleev 86C a-dep, cs	$p \bar{\Lambda} \pi^+ \pi^- X$
$D^*(2010)^- X$	640 Shipbaugh 88B a-dep, cs, p, pt	cs, p	X(3100) ⁻ X 40 - 70 Aleev 86C a-dep, cs	$p \bar{\Lambda} K^+ \pi^- X$
n Si				$p \bar{\Lambda} K^- \pi^- X$
$D^0 X$	640 Coteus 87 Cumalat 87B	a-dep, cs a-dep, cs	X(3100) ⁻ X 40 - 70 Aleev 86C a-dep, cs	20 - 70 Aleev 88F
$D_S^- X$	640 Shipbaugh 88B Shipbaugh 87	cs, p	$\pi^\pm X$ 0.8085 - 1.194 Buchle 89	$p \bar{\Lambda} K^- \pi^- X$
$D_S^+ X$	640 Shipbaugh 88B Shipbaugh 87	cs, p p	X(3100) ⁺ X 40 - 70 Aleev 86C a-dep, angp, p	20 - 70 Aleev 88F
$D^*(2010)^+ X$	640 Shipbaugh 88B a-dep, cs, p, pt	cs, p	X(3100) ⁻ X 40 - 70 Aleev 86C a-dep, cs	$p \bar{\Lambda} K^- \pi^- X$
$D^*(2010)^- X$	640 Shipbaugh 88B a-dep, cs, p, pt	cs, p	X(3100) ⁻ X 40 - 70 Aleev 86C a-dep, cs	$p \bar{\Lambda} K^- \pi^- X$

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

$n \text{ Cu} \rightarrow p \bar{p} K^+ K_S X$ $\bar{n} p \rightarrow \pi^0 X$

$n \text{ Cu}$	$n \text{ Wt}$	$n \text{ nucleus}$
$p \bar{p} K^+ K_S X$ Aleev 88F mass	$\Sigma_c(2455)^{++} K^- 2\pi^+ X$ Cumalat 87B a-dep, cs $\Xi_c(2460)^+ K^- 2\pi^+ X$ Coteus 87 640 a-dep, cs, p, pt Coteus 87B a-dep, cs, p Cumalat 87B a-dep, cs, p, pt	charged X 200 - 300 Fredriksson 87 p charged $+X$ 200 - 300 Fredriksson 87 p charged $-X$ 200 - 300 Fredriksson 87 p $X(3100) X$ 40 - 70 Augustin 88C cs $X(3100)^- X$ 40 - 70 Augustin 88C cs $X(3100)^0 X$ 40 - 70 Augustin 88C cs baryonium X 40 Aleev 88G cs
$p \bar{p} K^- 2\pi^+ \pi^- X$ 20 - 70 Aleev 89 mass	$\Lambda K^- 2\pi^+ X$ 640 Coteus 87 mass, p Coteus 87B mass, p Cumalat 87B mass, p	$\Xi_c(2460)^+ X$ 640 Klein 89C a-dep, cs, p dibaryon ($S = -2$) X 7 Shahbazyan 88 cs, mass
$n \text{ Ag}$	$\Sigma^0 K^- 2\pi^+ X$ 640 Coteus 87 mass, p Coteus 87B mass, p Cumalat 87B mass, p	nucleus n $< 0.2 \cdot 10^{-4}$ Schmiedmayer 88 cs
X 0.5712 - 1.188 Franz 88 cs	$n \text{ Pb}$	$\mu^- \mu^+ X$ 400 Fredriksson 87 a-dep, angp
$n^{113}\text{Cd}$	$^{208}\text{Pb} \gamma$ < 0.0971 Abov 89 asym	$2p \text{ } X$ 7 Kechechyan 89 p
$^{114}\text{Cd} \gamma$ < 0.005 Vesna 89 asym	$n \text{ Pb}$	$p \Sigma^- X$ 7 Shahbazyan 88 cs, mass
$n \text{ Ce}$	X 0.5712 - 1.188 Franz 88 cs	$2\Delta \text{ } X$ 7 Shahbazyan 88 cs, mass
X 0.5712 - 1.188 Franz 88 cs	$\pi^\pm \text{ } X$ inelastic (479.9 - 1974) Avakyan 89C a-dep, cs	$\bar{p} \Lambda \pi^+ X$ 40 - 70 Augustin 88C mass
$\pi^- \text{ } X$ 4.2 Bekmirzaev 87C angp, p, pt	$n \text{ Pb}$	$\bar{p} \Lambda \pi^- X$ 40 - 70 Augustin 88C mass
$p \text{ } X$ 4.2 Bekmirzaev 86 mult, p	$p \text{ } X$ inelastic (479.9 - 1974) Avakyan 89C a-dep, cs	$\bar{p} \Lambda \text{ mult}[\pi] \text{ } X$ 40 - 70 Augustin 88C mass
$n \text{ Wt}$	$n \text{ Bi}$	$\bar{p} \Lambda K^+ X$ 40 Aleev 88G mass
$D^0 \text{ } X$ 640 Coteus 87 a-dep, cs Cumalat 87B a-dep, cs	X 0.5712 - 1.188 Franz 88 cs	$\bar{p} \Lambda K^+ \pi^+ X$ 40 Aleev 88G mass
$D_S^- \text{ } X$ 640 Shipbaugh 88B cs, p Shipbaugh 87 p	$\pi^\pm \text{ } X$ 0.8085 - 1.194 Buchle 89 a-dep, angp, p	$\bar{p} \Lambda K^+ \pi^- X$ 40 Aleev 88G mass
$D_S^+ \text{ } X$ 640 Shipbaugh 88B cs, p Shipbaugh 87 p	$p \text{ } X$ 0.8085 - 1.194 Franz 89 angp, p	$\bar{p} \Lambda K^+ \pi^+ X$ 40 Aleev 88G mass
$D^*(2010)^+ \text{ } X$ 640 Shipbaugh 88B a-dep, cs, p, pt	$\text{deuteron } X$ 0.8085 - 1.194 Franz 89 angp, p	$\bar{p} \Lambda K^+ \pi^- X$ 40 Aleev 88G mass
$D^*(2010)^- \text{ } X$ 640 Shipbaugh 88B a-dep, cs, p, pt	$^3\text{H } X$ 0.8085 - 1.194 Franz 89 angp, p	$\bar{p} \Lambda K^+ \pi^+ X$ 40 Aleev 88G mass
$A_c^+ \text{ } X$ 640 Filaseta 87B cs, p, pt	$n \text{ } U$	$\bar{p} \Lambda K^+ \pi^- X$ 40 Aleev 88G mass
$\bar{A}_c^- \text{ } X$ 640 Filaseta 87B cs, p, pt	X 0.1501655 - 10^{-4} Bondarenko 87 asym, cs	$\bar{p} \bar{\Lambda} K^- \pi^+ X$ 40 Aleev 88G mass
$\phi \pi^+ \text{ } X$ 640 Shipbaugh 88B mass Shipbaugh 87 mass	$n \text{ } U$	$\bar{p} \bar{\Lambda} K^- \pi^- X$ 40 Aleev 88G mass
$\phi \pi^- \text{ } X$ 640 Shipbaugh 88B mass Shipbaugh 87 mass	X 0.1501655 - 10^{-4} Bondarenko 87B asym, cs	$p \bar{p} K^+ K_S X$ 40 Aleev 88G mass
$K^+ K^- \pi^+ \text{ } X$ 640 Shipbaugh 88B mass Shipbaugh 87 mass	$n \text{ } U$	$p \bar{p} K_S K^- X$ 40 Aleev 88G mass
$K^+ K^- \pi^- \text{ } X$ 640 Shipbaugh 88B mass Shipbaugh 87 mass	X 0.1501655 - 10^{-4} Bondarenko 87B asym, cs	$\bar{n} \text{ } p$
$p K^- \pi^+ \text{ } X$ 640 Filaseta 87B mass	2frag (frags) 0 Damdinsuren 88 p	X 0.1 - 0.5 Armstrong 87B cs annihil 0.1 - 0.5 Armstrong 86C cs
$\bar{p} K^+ \pi^- \text{ } X$ 640 Filaseta 87B mass	$n \text{ } U$	X 0.1 - 0.5 Armstrong 87B cs annihil 0.1 - 0.5 Armstrong 86C cs
$\Sigma_c(2455)^0 K^- 2\pi^+ \text{ } X$ 640 Coteus 87 a-dep, cs Cumalat 87B a-dep, cs	X 0.1501655 - 10^{-4} Bondarenko 87B asym, cs	6.1 inelastic 6.1 Batyunya 86B cs
$\Sigma_c(2455)^{++} K^- 2\pi^+ \text{ } X$ 640 Coteus 87 a-dep, cs	$n \text{ nucleus}$	6.1 charged X 6.1 Batyunya 86B mult
$\Xi_c(2460)^+ K^- 2\pi^+ \text{ } X$ 640 Coteus 87 a-dep, cs	$inelastic$ 160 - 375 Fredriksson 87 a-dep, cs	$mult[\text{charged}] (\text{neutrals})$ 0.7 Batyunya 86B cs 6.1 Batyunya 86B cs
$\Xi_c(2460)^+ K^- 2\pi^+ \text{ } X$ 640 Coteus 87 a-dep, cs		$\pi^0 \text{ } X$ 6.1 Batyunya 87B cs, mult, p, pt

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 $\pi^- p \rightarrow \pi^+ X$
 $\bar{n} n \rightarrow 2\pi^+ 2\pi^0 2\pi^-$

$\pi^- p$	$\pi^- p$	$\bar{n} p$
$\pi^+ X$ 0.7 6.1	Banerjee 85 Batyunya 87B angp, cs, mult, p, pt	π^0 mult[charged] (neutrals) 6.1 Batyunya 87B cs, mult, p, pt
$\pi^- X$ 0.7 6.1	Banerjee 85 Batyunya 87B angp	π^+ mult[charged] (neutrals) 6.1 Batyunya 87B cs, mult, p, pt
$\rho^0 X$ 0.5 - 0.8 6.1	Banerjee 86C Batyunya 88B cs, p, pt cs, mult, p, pt	π^- mult[charged] (neutrals) 6.1 Batyunya 87B mult, p
ωX 6.1	Batyunya 88B cs, mult	ρ^0 mult[charged] (neutrals) 6.1 Batyunya 88B cs, mult
$f_0(975) X$ 0.5 - 0.8	Banerjee 86C cs, p, pt	ω mult[charged] (neutrals) 6.1 Batyunya 88B cs, mult
$f_2(1270) X$ 6.1	Batyunya 88B cs, mult	$f_2(1270)$ mult[charged] (neutrals) 6.1 Batyunya 88B cs, mult
$p X$ 6.1	Batyunya 87B angp, cs, mult, p, pt Batyunya 86B cs	p mult[charged] (neutrals) 6.1 Batyunya 87B cs, mult, p, pt
$\bar{p} X$ 6.1	Batyunya 87B cs, mult, p, pt Batyunya 86B cs	\bar{p} mult[charged] (neutrals) 6.1 Batyunya 87B mult, p Batyunya 86B cs
$\Delta(1232 P_{33})^{++} X$ 6.1	Batyunya 88B cs, mult, p, pt	$\Delta(1232 P_{33})^{++}$ mult[charged] (neutrals) 6.1 Batyunya 88B cs, mult
$\Delta(1232 P_{33})^0 X$ 6.1	Batyunya 88B cs, mult	annihil mult[charged] (neutrals) 6.1 Batyunya 86B cs
$\Delta(1232 P_{33})^{--} X$ 6.1	Batyunya 88B cs, mult	$2\pi^+ \pi^-$ 0.48 - 0.72 Sedlak 88 0.5 - 0.8 Banerjee 86C cs, mass
$\Delta(1232 P_{33})^0 X$ 6.1	Batyunya 88B cs, mult	$\rho^0 \pi^+ \pi^0$ 0.5 - 0.8 Banerjee 86C 0.5 - 0.8 Banerjee 86C cs
annihil charged 6.1	Batyunya 86B mult	$\rho^+ \pi^+ \pi^-$ 0.5 - 0.8 Banerjee 86C 0.5 - 0.8 Banerjee 86C cs
$\pi^+ \pi^0$ 0.5 - 0.8	Banerjee 86C cs	$\rho^- 2\pi^+$ 0.5 - 0.8 Banerjee 86C 0.5 - 0.8 Banerjee 86C cs
$\rho^0 \pi^+$ 0.5 - 0.8	Banerjee 86C cs	$2\rho^0 \pi^+$ 0.5 - 0.8 Banerjee 86C 0.5 - 0.8 Banerjee 86C cs
$\omega \pi^+$ 0.5 - 0.8	Banerjee 86C cs	ρ^0 annihil mult[charged] (neutrals) 6.1 Batyunya 88B cs, mult
$f_0(975) \pi^+$ 0.5 - 0.8	Banerjee 86C cs	ω annihil mult[charged] (neutrals) 6.1 Batyunya 88B cs, mult
$\rho^+ \rho^0$ 0.5 - 0.8	Banerjee 86C cs	$f_2(1270)$ annihil mult[charged] (neutrals) 6.1 Batyunya 88B cs, mult
$p \bar{n}$ 0.7 6.1	Banerjee 85 Batyunya 84 cs	$2\pi^+ \pi^-$ 0.5 - 0.8 Banerjee 86C 0.5 - 0.8 Banerjee 86C cs
$\pi^+ annihil$ 6.1	Batyunya 87B angp, mult, p, pt	$\rho^0 2\pi^+ \pi^-$ 0.5 - 0.8 Banerjee 86C 0.5 - 0.8 Banerjee 86C cs
$\pi^- annihil$ 6.1	Batyunya 87B angp, mult, p, pt	$\omega 2\pi^+ \pi^-$ 0.5 - 0.8 Banerjee 86C 0.5 - 0.8 Banerjee 86C cs
$\rho^0 annihil$ 6.1	Batyunya 88B cs, mult	$f_0(975) 2\pi^+ \pi^-$ 0.5 - 0.8 Banerjee 86C 0.5 - 0.8 Banerjee 86C cs
$\omega annihil$ 6.1	Batyunya 88B cs, mult	$3\pi^+ 2\pi^-$ 0.48 - 0.72 Sedlak 88 0.5 - 0.8 Banerjee 86C cs, mass
$f_2(1270) annihil$ 6.1	Batyunya 88B cs, mult	$\rho^+ 2\pi^+ 2\pi^-$ 0.5 - 0.8 Banerjee 86C 0.5 - 0.8 Banerjee 86C cs
$\pi^+ \pi^- X$ 6.1	Batyunya 88B mass	$2\rho^0 2\pi^+ \pi^-$ 0.5 - 0.8 Banerjee 86C 0.5 - 0.8 Banerjee 86C cs
$p \pi^+ X$ 6.1	Batyunya 88B mass	$2\pi^+ \pi^- (\pi^0 b)$ 0.48 - 0.72 Sedlak 88 0.5 - 0.8 Banerjee 86C cs, mass
$p \pi^- X$ 6.1	Batyunya 88B mass	$3\pi^+ \pi^0 2\pi^-$ 0.5 - 0.8 Banerjee 86C 0.5 - 0.8 Banerjee 86C cs, mass
$\bar{p} \pi^+ X$ 6.1	Batyunya 88B mass	$\rho^0 3\pi^+ 2\pi^-$ 0.5 - 0.8 Banerjee 86C 0.5 - 0.8 Banerjee 86C cs
$\bar{p} \pi^- X$ 6.1	Batyunya 88B mass	$4\pi^+ 3\pi^-$ 0.5 - 0.8 Banerjee 86C 0.5 - 0.8 Banerjee 86C cs, mass
		$3\pi^+ \pi^0 2\pi^- (\pi^0 b)$ 0.48 - 0.72 Sedlak 88 0.5 - 0.8 Banerjee 86C cs, mass
$\bar{n} n$		$\pi^- X$
		inelastic 6.1 Batyunya 85D cs
		charged+ X 6.1 Batyunya 87G p
		charged- X 6.1 Batyunya 87G p
		mult[charged] (neutrals) 6.1 Batyunya 85D cs, mult
		$\pi^0 X$ 6.1 Batyunya 87G ang, angp
		$\pi^+ X$ 6.1 Batyunya 87G ang, angp, cs
		$\pi^- X$ 6.1 Batyunya 87G ang, angp, cs
		$p X$ 6.1 Batyunya 87G ang, angp, cs
		$\bar{p} X$ 6.1 Batyunya 87G ang, angp, cs
		$n X$ 6.1 Batyunya 87G ang, angp
		$\bar{n} X$ 6.1 Batyunya 87G ang, angp
		$p \bar{p}$ 6.1 Batyunya 87G cs
		$\pi^+ \pi^0 \pi^-$ 6.1 Batyunya 87G cs
		$p \bar{p} \pi^0$ 6.1 Batyunya 87G cs
		$n \bar{p} \pi^+$ 6.1 Batyunya 87G cs
		$p \bar{n} \pi^-$ 6.1 Batyunya 87G cs
		$p \pi^- neutral$ (neutrals) 6.1 Batyunya 87G cs
		$\bar{p} \pi^+ neutral$ (neutrals) 6.1 Batyunya 87G cs
		$p \bar{p} neutral$ (neutrals) 6.1 Batyunya 87G cs
		$2\pi^+ 2\pi^-$ 6.1 Batyunya 87G cs
		$p \bar{p} \pi^+ \pi^-$ 6.1 Batyunya 87G cs
		$p \bar{p} \pi^+ \pi^0 \pi^-$ 6.1 Batyunya 87G cs
		$n \bar{p} 2\pi^+ \pi^-$ 6.1 Batyunya 87G cs
		$p \bar{n} \pi^+ 2\pi^-$ 6.1 Batyunya 87G cs
		$2\pi^+ 2\pi^- neutral$ (neutrals) 6.1 Batyunya 87G cs
		$p \pi^+ 2\pi^- neutral$ (neutrals) 6.1 Batyunya 87G cs
		$\bar{p} 2\pi^+ \pi^- neutral$ (neutrals) 6.1 Batyunya 87G cs
		$p \bar{p} \pi^+ \pi^- neutral$ (neutrals) 6.1 Batyunya 87G cs
		$2\pi^+ 2\pi^0 2\pi^-$ 6.1 Batyunya 87G cs
		$2\pi^+ 2\pi^0 2\pi^-$ 6.1 Batyunya 87G cs

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

$\bar{n} n \rightarrow 3\pi^+ 3\pi^-$ deuteron $p \rightarrow p X$

$\bar{n} n$		nucleon Pb		$\Sigma^- Be$
$3\pi^+ 3\pi^-$		nucleon X (2785 - 6216) Borisov 85D	p	$p 2K^- 2\pi^+ X$ 135 Biagi 85 mass
6.1	Batyunya 87G	nucleon nucleus		$\bar{p} \Lambda 2\pi^+ \pi^- X$ 135 Augustin 88C mass
$p \bar{p} 2\pi^+ 2\pi^-$		mult[charged-meson] X 10 - 250 Atwater 87	pt	Bourquin 86 mass
6.1	Batyunya 87G	2frag (frags)		
$3\pi^+ \pi^0 3\pi^-$?	mult. p	
6.1	Batyunya 87G	Cai 87B		
$n \bar{p} 3\pi^+ 2\pi^-$		ΔBe		
6.1	Batyunya 87G	$Be \Sigma^0$		
$p \bar{n} 2\pi^+ 3\pi^-$		80 - 350 Petersen 86	-	
6.1	Batyunya 87G	ΛSn		
$3\pi^+ 3\pi^-$ neutral (neutrals)		$Sn \Sigma^0$		
6.1	Batyunya 87G	80 - 350 Petersen 86	-	
$4\pi^+ \pi^0 4\pi^-$		$A Pb$		
6.1	Batyunya 87G	$Pb \Sigma^0$		
$n \bar{p} 4\pi^+ 3\pi^-$		80 - 350 Petersen 86	-	
6.1	Batyunya 87G	X < 3.9 Nakai 89	cs	
\bar{n} nucleon				
annihil				
< 0.043	Mutchler 88	amp, cs		
2π (π^+ 's)				
0	Takita 86			
$\bar{n}^{12}C$				
mult[p] mult[π^+] X				
1.4	Guaraldo 89B	cor, mult		
$\bar{n} C$				
annihil				
0	Bitter 89	-		
mult[charged] X				
0	Bressi 89	cs		
$\bar{n} Ta$				
X				
12.2	Andreev 87	-		
charged X				
6.1	Andreev 90B	mult		
12.2	Andreev 87	mult		
charged- X				
6.1	Andreev 90B	mult		
12.2	Andreev 87	mult		
mult[charged] X				
6.1	Andreev 90B	mult		
p X				
6.1	Andreev 90B	mult		
mult[p] X				
6.1	Andreev 90B	mult		
shower X				
6.1	Andreev 90B	mult		
p mult[π^+] X				
6.1	Andreev 90B	mult		
p mult[π^-] X				
6.1	Andreev 90B	mult		
p mult[shower] X				
6.1	Andreev 90B	mult		
mult[p] shower X				
6.1	Andreev 90B	mult		
$\bar{n}^{181}Ta$				
mult[p] mult[π^+] X				
6.1	Guaraldo 89B	cor, mult		
nucleon nucleon				
charm X				
200.9	Aoki 89	cs		
nucleon Cu				
2frag (frags)				
1.582 - 2.574	Tolstov 87	p		
nucleon Pb				
inelastic				
(2785 - 6216) Borisov 85D	cs			
$\Sigma^- Be$				
$p 2K^- 2\pi^+ X$				
135				
$\bar{p} \Lambda 2\pi^+ \pi^- X$				
135				
$\Sigma^- Wt$				
γX				
0				
0.1728				
$\Sigma^- Pb$				
γX				
0				
0.1728				
$f_2(1270)$ nucleon				
X				
< 3.9				
Nakai 89				
$\Xi^- Be$				
$\Xi^- X$				
116				
Biagi 87C	cs, p, pol, pt			
$\Xi(1530 P_{13})^0 X$				
116				
Schneider 90	cs, p, pt			
$\Xi(1530 P_{13})^- X$				
116				
Schneider 90	cs, p, pt			
$\Xi(1600)^- X$				
116				
Biagi 87	pt			
$\Xi(1820 D_{13})^- X$				
116				
Biagi 87	pt			
$\Xi(1820 D_{13})^0 X$				
116				
Biagi 87B	pwa			
$\Xi(1950)^0 X$				
116				
Biagi 87B	pwa			
$\Xi'(unspec) X$				
116				
Biagi 86B	cs			
$\Omega^- X$				
116				
Biagi 87C	cs, p, pol, pt			
$\Omega^*(unspec)^- X$				
116				
Biagi 86B	cs			
$DD < \Lambda K^- > X$				
116				
Biagi 87	mass, pt			
$DD < \Xi^- \pi^+ \pi^- > X$				
116				
Biagi 87	mass, pt			
Ξ^0 charged X				
116				
Schneider 90	cs, p, pt			
$\Xi^0 \pi^- X$				
116				
Schneider 90	mass			
$\Xi^- \pi^+ X$				
116				
Schneider 90	mass			
$\Lambda K^0 X$				
116				
Biagi 87B	mass, pwa			
$\Sigma^0 K^0 X$				
116				
Biagi 87B	mass, pwa			
$\Xi(1530 P_{13})^0 K^- X$				
116				
Biagi 86B	mass			
$\Xi^- K^- \pi^+ X$				
116				
Biagi 86B	cs, mass			
$\Xi^- 12C$				
$^7Li ^6He S$				
0				
May 89B	-			
Ξ^- nucleus				
$^{10}Be S$				
0				
May 89B	-			
deuteron p				
p X				
12.2				
Batyunya 84	mass, p			

deuteron $p \rightarrow \bar{p}$ (spect) $p \bar{n}$ deuteron deuteron $\rightarrow K^-$ charged X

deuteron p	deuteron p	deuteron p
\bar{p} (spect) $p \bar{n}$ 12.2 Batyunya 84 cs	X 2.067 - 3.67 Katayama 85 cs $\pi^0 X$ 1478 Fredriksson 87 angp, pt $\pi^- X$ 1 Viryatos 89 angp, p	$p 2n \pi^+$ Glagolev 89B inass Balagansuren 88 mass, p Zielinsky 88 cs, mass
$p \bar{n} \bar{p}$ 12.2 Batyunya 84 angp, cs, mass	mult[π^-] X 3.392 Gulkanyan 89 mult	deuteron deuteron
deuteron deuteron	$p X$ 2.067 - 3.67 Katayama 85 cs 2.1 Perdrisat 87 cs, pwa 3.33 Shimansky 88 angp 4.3 - 9 Azhgirej 85 angp 9 Azhgirej 87 angp Azhgirej 86 angp, p	X 1.5 - 4 Kishida 89 cs charged X 12.2 Batyunya 87D cs, mult (124) Fischer 88 a-dep, p, pt Breakstone 86F mult, pt
inelastic 12.2 Batyunya 87 cs	deuteron X 4.3 - 9 Azhgirej 85 angp 9 Azhgirej 88B angp, mass	charged- X 1036 Bell 86 mult, p (124) Fischer 88 a-dep, p, pt
charged+ X 12.2 Batyunya 87H pt	deuteron p 1.908 Adams 87 asym, dme, pol 2.067 - 3.67 Katayama 85 angp, cs 2.08 Yokosawa 85C - 2.38 - 12 Avdechikov 88 asym 3 Ableev 88 pol	$\pi^0 X$ 1023 Angelis 87 angp, pt 1063 Fredriksson 97 angp, pt
charged- X 12.2 Batyunya 87H pt	$^3He \pi^0$ 1.29 Boudard, d pol	Breakstone 85D cs Fischer 88 a-dep, p, pt
mult[charged] (neutrals) 12.2 Batyunya 87 cs	deuteron N(1440 B)+ 9 Azhgirej 88B angp	$\pi^- X$ 1023 Breakstone 85D cs (124) Fischer 88 a-dep, p, pt
γX 12.2 Batyunya 87I cs, p, pt	$^3He n$ 2.038 - 2.134 Mayer 89 cs 3.146 - 3.229 Berger 88C angp, pol	ϕX (63 - 88) Akesson 85F cs
$\pi^+ X$ 12.2 Batyunya 87H cor, p	deuteron N(1520 B)+ 9 Azhgirej 88B angp	mult[π^0] X 12.2 Batyunya 87D cs, r mult
$\pi^- X$ 12.2 Batyunya 87H cor, cs, p, pt	deuteron N(1680 F ₁₅) ⁺ 9 Azhgirej 88B angp	K ⁺ X 1023 Breakstone 85D cs (124) Fischer 88 a-dep, p, pt
K _S X 12.2 Batyunya 87I cs, pt	dibaryon p 3.33 Glagolev 90 cs 3.33 Glagolev 89B cs	K ⁻ X 1023 Breakstone 85D c (124) Fischer 88 a-dep, p, pt
A X 12.2 Batyunya 87I cs, pt	dibaryon n 3.33 Glagolev 90 cs 3.33 Glagolev 89B cs	$p X$ 4.3 - 9 Azhgirej 85 angp 9 Azhgirej 87 angp Azhgirej 86 angp, p
$\bar{\Lambda}$ X 12.2 Batyunya 87I cs, pt	$p \pi^+ X$ 3.3 Yokosawa 85C -	Breakstone 85D cs Fischer 88 a-dep, p, pt
Λ X 12.2 Batyunya 87I cs, pt	n(spect) 2p 1.529 - 2.368 Ball 87 asym, pol 2 - 3.7 Sai 86 angp, cs	p (spect) X 12.2 Batyunya 88 cs, p
K _S mult[charged] X 12.2 Batyunya 87I mult	p (spect) p n 1.529 - 2.368 Ball 87 asym, pol 1.829 - 1.9 Delesques 88 angp, cs 2 - 3.7 Sai 86 angp, cs	deuteron X 4.3 - 9 Azhgirej 85 angp 9 Azhgirej 88F angp
Λ mult[charged] X 12.2 Batyunya 87I mult	2p n < 1.417 Yokosawa 85 - 2 - 3.7 Sai 86 angp, cs	He X 2.746 Banaigs 86 mass
$\bar{\Lambda}$ mult[charged] X 12.2 Batyunya 87I mult	3.33 Yokosawa 85C - 3.33 Glagolev 90 mass 3.33 Glagolev 89B mass	anomalon X 7.9 Clarke 86 cs
p (spect) \bar{p} (spect) X 12.2 Batyunya 87G -	Balgansuren 88 mass, p Glagolev 88 angp Zielinsky 88 cs, mass Dolidze 86 mass	hadron X (126) Akesson 49 et
deuteron Th	dibaryon p π^+ 3.33 Glagolev 90 cs 3.33 Glagolev 89B cs	mult[neutral] X (124) Tannenbaum 89 et, p
X 12.2 Andreev 87 -	2n $\pi^+ X$ < 1.417 Yokosawa 85 - 3.3 Yokosawa 85C -	$^4He \gamma$ 0.0335 - 0.436 Weller 88 pol
charged X 12.2 Andreev 90B mult	3.33 Glagolev 90 mass 3.33 Glagolev 89B mass	2deuteron 2.38 - 4.18 Avdechikov 88 asym
charged- X 12.2 Andreev 90B mult	3.33 Delesques 88 angp, cs 2 - 3.7 Sai 86 angp, cs	$^4He \pi^0$ 1.908 Banaigs 87 angp
mult[charged] X 12.2 Andreev 90B mult	dibaryon p π^- 3.33 Glagolev 90 cs 3.33 Glagolev 89B cs	He n 2.746 Banaigs 86B cs
$p X$ 12.2 Andreev 90B mult	2n $\pi^- X$ < 1.417 Yokosawa 85 - 3.3 Yokosawa 85C -	$\pi^+ charged X$ (63 - 88) Akesson 85F mult
mult[p] X 12.2 Andreev 90B mult	3p π^- < 1.417 Yokosawa 85 - 3.33 Glagolev 89C angp, col, p 3.33 Dolidze 86 mass	$\pi^- charged X$ (63 - 88) Akesson 85F mult
shower X 12.2 Andreev 90B mult	dibaryon p π^+ 3.33 Glagolev 90 cs 3.33 Glagolev 89B cs	K ⁺ charged X (63 - 88) Akesson 85F mult
p mult[π^+] X 12.2 Andreev 90B mult	2n $\pi^+ X$ < 1.417 Yokosawa 85 - 3.3 Yokosawa 85C -	K ⁻ charged X (63 - 88) Akesson 85F mult
p mult[π^-] X 12.2 Andreev 90B mult	3p π^- < 1.417 Yokosawa 85 - 3.33 Glagolev 89C angp, col, p 3.33 Dolidze 86 mass	
p mult[shower] X 12.2 Andreev 90B mult	dibaryon p π^- 3.33 Glagolev 90 cs 3.33 Glagolev 89B cs	
mult[p] shower X 12.2 Andreev 90B mult	2n $\pi^- X$ < 1.417 Yokosawa 85 - 3.3 Yokosawa 85C -	
deuteron nucleus	3p π^+ < 1.417 Yokosawa 85 - 3.33 Glagolev 89C angp, col, p 3.33 Dolidze 86 mass	
inelastic 13.3 Prokoshkin 87C cs	$p 2n \pi^+$ 3.33 Glagolev 90 mass	

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

deuteron deuteron $\rightarrow K^+ K^- X$ deuteron Cu $\rightarrow ^{57}\text{Ni } X$

deuteron deuteron	deuteron C	deuteron C
$K^+ K^- X$ (63 - 88) Akesson 85F	$p X$ 3.392 4.2 4.3 - 9 8.4	Gulkanyan 89 mult Gulkanyan 88D a-dep, angp, cor, cs, mult, p Azhgirej 85 angp Bekmirzaev 88 a-dep, angp, mult, p, pt Armutlijsky 87C col. mult Kopylova 87 p Armutlijsky 86C angp, mult, p Agakishiev 84E a-dep, ang, angp, col, mult Armutlijsky 84 p, pt Azhgirej 86 angp, p
$2K^+ X$ (63 - 88) Akesson 85F	$2p \text{ mult}[\pi^+] X$ 4.2	Armutlijsky 87D angp, cs, mass, p
$2K^- X$ (63 - 88) Akesson 85F	deuteron Al	
$p(\text{spect}) \text{ mult}[\text{charged}] X$ 12.2 Batyunya 88	$p X$ 9	Azhgirej 85 angp
$p \text{ mult}[\text{charged}] (\text{neutrals})$ 1036 Bell 86	$\text{deuteron } X$ 1.6	$\text{deuteron } X$ 4.3 - 9
$\text{deuteron } ^3\text{He}$	$\text{deuteron } X$ 1.6	$\text{deuteron } X$ 4.3 - 9
$^4\text{He } p$ 0.0613 - 0.2531 Vanoers 85 angp, pol	9	Azhgirej 85 angp
$\text{deuteron } ^7\text{Li}$	$\text{deuteron } X$ 1.6	$\text{deuteron } Ti$
$2p \text{ X}$ 8.9 Averichev 89 cor, mass	$p X$ 2.38 4.3 - 9 7.2 8.4 9	$p X$ 2.1
$\text{deuteron } ^{12}\text{C}$	$\text{dibaryon } X$ 8.4	$\text{deuteron } ^{55}\text{Ni}$
$^{11}\text{C } X$ 8.982 Kozma 89B	$^3\text{He } X$ 2.38	$\text{mult}[p] X$ 0.5536
$p \text{ X}$ 9 Azhgirej 87	$^3\text{H } X$ 2.38	deuteron Ni
9.1 Abileev 88	$\text{He } X$ 2.38	$\text{fragt } X$ 9
deuteron C	$\text{mult}[p] X$ 4.2 8.4	$\text{deuteron } ^{63}\text{Cu}$
inelastic 3.392 Gulkanyan 89	$\text{He } X$ 2.38	$\text{He } X$ 0.4862
8.4 Grigalashvil 88	$\text{mult}[p] X$ 4.2 8.4	deuteron Cu
$\text{charged } X$ 3.392 Gulkanyan 89	$\text{2 charged } + X$ 8.4	$^{24}\text{Na } X$ 9
4.6 Grigalashvil 88	$\pi^+ \text{ charged } X$ 8.4	$^{28}\text{Mg } X$ 9
8.4 Grigalashvil 88	$\pi^+ \text{ charged } + X$ 8.4	$^{42}\text{K } X$ 9
$\text{mult}[\text{charged}] \text{ X}$ 3.392 Gulkanyan 89	$\pi^- \text{ charged } X$ 8.4	$^{43}\text{K } X$ 9
8.4 Mekhtiev 88	$\pi^- \text{ charged } X$ 8.4	$^{43}\text{Sc } X$ 9
$\text{charged } - X$ 4.6 Grigalashvil 88	$\pi^- \text{ charged } + X$ 8.4	$^{44}\text{Sc } X$ 9
8.4 Grigalashvil 88	$\pi^- \text{ charged } + X$ 8.4	$^{46}\text{Sc } X$ 9
$\text{mult}[\text{charged}] \text{ X}$ 3.392 Gulkanyan 89	$\pi^- \text{ charged } + X$ 8.4	$^{47}\text{Sc } X$ 9
8.4 Mekhtiev 88	$\pi^- \text{ charged } + X$ 8.4	$^{48}\text{Cr } X$ 9
$\text{mult}[\text{charged}] \text{ X}$ 4.6 Grigalashvil 88	$\pi^- \text{ charged } + X$ 8.4	$^{48}\text{Sc } X$ 9
8.4 Grigalashvil 88	$2\pi^- X$ 8.4	$^{48}\text{V } X$ 9
$\pi^+ \text{ X}$ 8.4 Kopylova 87	$\pi^+ \pi^- X$ 8.4	$^{51}\text{Cr } X$ 9
8.4 Simich 86	$p \text{ charged } X$ 8.4	$^{52}\text{Mn } X$ 9
$\pi^- \text{ X}$ 1 Viryasov 89	$p \text{ charged } + X$ 8.4	$^{53}\text{Fe } X$ 9
3.392 Gulkanyan 89	$p \text{ charged } + X$ 8.4	$^{54}\text{Mn } X$ 9
8.4 Baatar 90	$p \pi^- X$ 8.4	$^{55}\text{Co } X$ 9
Agakishiev 89B	$2p \text{ X}$ 4 4.2 8.4	$^{56}\text{Co } X$ 9
Agakishiev 84E	$Budilov 90 \text{ angp, cor, p, pt}$ 4 4.2 8.4	$^{56}\text{Mn } X$ 9
Agakishiev 84E	Armutlijsky 87D angp, cs, mass, p	$^{56}\text{Ni } X$ 9
Armutlijsky 84	$\text{Angelov 88 \text{ angp, cor, p, pt}}$ 4 4.2 8.4	$^{57}\text{Co } X$ 9
$\text{mult}[\pi^-] \text{ X}$ 3.392 Gulkanyan 89	$\text{Zielinsky 88 \text{ angp, cor, p, pt}}$ 4 4.2 8.4	$^{57}\text{Ni } X$ 9
$p \text{ X}$ 1.6 Beznogikh 88	$\text{Armutlijsky 86B \text{ angp, cor, p, pt}}$ 4 4.2 8.4	Kozma 86
2.1 Perdrisat 87	$\text{Agakishiev 84E \text{ mass}}$ 4 4.2 8.4	
2.38 Avdejchikov 88	$\text{Angelov 88 \text{ angp, col}}$ 4 4.2 8.4	
	$\text{Armutlijsky 87D \text{ angp, cs, mass, p}}$ 4 4.2 8.4	

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 deuteron Cu → ^{58}Co X

 deuteron ^{207}Pb → ^{93}Tc X

deuteron Cu	deuteron ^{159}Tb	deuteron Ta
^{58}Co X 9 Kozma 86	^{119}I X 9 Butsev 85	p X Armutlijsky 87C col, mult
^{59}Fe X 9 Kozma 86	^{120}I X 9 Butsev 85	Gasparyan 85 angp, p Armutlijsky 84 p, pt
deuteron ^{80}Zr	^{121}I X 9 Butsev 85	mult[p] X 8.4 Armutlijsky 87C col, mult
mult[p] X 0.5172	^{131}La X 9 Butsev 85	mult[π ⁰] mult[grey] X 8.4 Gulkanyan 87B mult
deuteron ^{85}Nb	^{132}Ce X 9 Butsev 85	deuteron ^{181}Ta
^{24}Na X 9 Butsev 85	^{132}La X 9 Butsev 85	p X 1.794 Machner 85 angp
^{28}Mg X 9 Butsev 85	^{133}Ce X 9 Butsev 85	fragt X 18 Kozma 87 cs
^{41}Ar X 9 Butsev 85	$^{138}\text{Pr}^*$ X 9 Butsev 85	deuteron Au
^{67}Cu X 9 Butsev 85	^{157}Dy X 9 Butsev 85	2p X 4 Budilov 90 angp, cor, p
^{71}As X 9 Butsev 85	^{24}Na X 9 Butsev 85	deuteron ^{197}Au
^{72}As X 9 Butsev 85	^{28}Mg X 9 Butsev 85	mult[p] X 0.5536 Machner 85 angp, cs
^{72}Zn X 9 Butsev 85	$^{34}\text{Cl}^*$ X 9 Butsev 85	fragt X 8.982 Damdinsuren 89B cs
^{73}Se X 9 Butsev 85	^{41}Ar X 9 Butsev 85	deuteron ^{207}Pb
^{75}Br X 9 Butsev 85	$^{85}\text{Kr}^*$ X 9 Butsev 85	^{132}La X 9 Butsev 85
^{76}Br X 9 Butsev 85	^{90}Nb X 9 Butsev 85	^{173}Hf X 9 Butsev 85
^{77}Br X 9 Butsev 85	^{93}Tc X 9 Butsev 85	^{186}Ir X 9 Butsev 85
^{77}Kr X 9 Butsev 85	$^{93}\text{Tc}^*$ X 9 Butsev 85	^{198}Pb X 9 Butsev 85
^{81}Rb X 9 Butsev 85	^{94}Tc X 9 Butsev 85	^{198}Ti X 9 Butsev 85
$^{81}\text{Rb}^*$ X 9 Butsev 85	$^{94}\text{Tc}^*$ X 9 Butsev 85	$^{198}\text{Ti}^*$ X 9 Butsev 85
^{84}Yt X 9 Butsev 85	fragt X 8.982 Damdinsuren 89B	^{199}pb X 9 Butsev 85
^{86}Yt X 9 Butsev 85	deuteron Ta	^{200}Ti X 9 Butsev 85
^{86}Zr X 9 Butsev 85	charged X 2 – 10 4.4 Kutsidi 86 Grigalashvil 88 a-dep, mult	^{201}Pb X 9 Butsev 85
^{87}Yt X 9 Butsev 85	charged- X 4.6 Grigalashvil 88 a-dep, mult	^{202}Bi X 9 Butsev 85
$^{87}\text{Yt}^*$ X 9 Butsev 85	mult[charged] X 4.6 Grigalashvil 88 a-dep, mult	$^{202}\text{Pb}^*$ X 9 Butsev 85
^{89}Zr X 9 Butsev 85	8.4 Kutsidi 86 mult[charged-] X 4.6 Grigalashvil 88 a-dep, mult	^{203}Bi X 9 Butsev 85
^{90}Mo X 9 Butsev 85	8.4 Kutsidi 86 mult	^{203}Pb X 9 Butsev 85
^{90}Nb X 9 Butsev 85	8.4 Kutsidi 86 mult	^{204}Bi X 9 Butsev 85
$^{92}\text{Nb}^*$ X 9 Butsev 85	8.4 Grigalashvil 88 a-dep, mult	$^{204}\text{Pb}^*$ X 9 Butsev 85
deuteron X 0.5536	π^0 X 8.4 Gulkanyan 88C mult, p	^{205}Bi X 9 Butsev 85
fragt X 8.982	π^+ X 8.4 Gulkanyan 88C mult, p	^{206}Bi X 9 Butsev 85
deuteron Ag	π^- X 8.4 Gulkanyan 88C mult, p	^{24}Na X 9 Butsev 85
fragt X 8.982	π X 8.4 Gulkanyan 88C mult, p	^{28}Mg X 9 Butsev 85
deuteron ^{159}Tb	p X 4.2 Gulkanyan 88D a-dep, angp, cor, cs, mult, p	^{41}Ar X 9 Butsev 85
^{104}Ag X 9 Butsev 85	π X 8.4 Gulkanyan 88C mult, p	^{56}Mn X 9 Butsev 85
$^{104}\text{Ag}^*$ X 9 Butsev 85	p X 4.2 Gulkanyan 88D a-dep, angp, cor, cs, mult, p	^{90}Nb X 9 Butsev 85
$^{116}\text{In}^*$ X 9 Butsev 85	8.4 Armutiljsky 89 a-dep, angp, cor, cs, mult, p	^{93}Mo X 9 Butsev 85
^{117}Te X 9 Butsev 85	8.4 Armutiljsky 89 a-dep, angp, mult, p, pt	^{93}Tc X 9 Butsev 85
		a-dep, angp, mult, p, pt

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle symbols in the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

deuteron $^{207}\text{Pb} \rightarrow ^{93}\text{Tc}^* X$ $^3\text{He } p \rightarrow \text{deuteron dibaryon } \pi^+$

deuteron ^{207}Pb		deuteron ^{232}Th		$^3\text{H } p$	
$^{93}\text{Tc}^* X$	9	Butsev 85	cs	mult[p] X 0.5172	Machner 85
$^{93}\text{Tc} X$	9	Butsev 85	cs	deuteron nucleus	p
deuteron Pb		inelastic		$^3\text{H } p$	4charged (neutrals)
$K^+ X$	5.779	Schnetzer 89	angp, cs, p	5	Abdullin 89
$\text{mult}[n] X$	9	Voronko 88	cs	5	Abdullin 89F
$\text{fragt } X$	9	Damdisuren 89B	cs	5	Abdullin 88B
$2p X$	8.982	Averichev 89	cor, mass	angp, cs, mass	angp, p
$2p X$	8.9	Averichev 89	cor, mass	5	angp, cs, mass
deuteron p X	8.9	Averichev 89	cor, mass	5	angp, p
deuteron ^{208}Pb		grey X		5	Abdullin 89
$\text{mult}[p] X$	0.5172	Machner 85	p	5	Abdullin 89
^{208}Pb deuteron	0.5745	Morsch 85	angp, cs, pwr	5	Abdullin 89
deuteron Bi		nucleus deuteron		5	Abdullin 89
$p X$	4.3 - 9	Azhgirej 85	angp	5	Abdullin 89
deuteron X	4.3 - 9	Azhgirej 85	angp	5	Abdullin 89
deuteron ^{208}Bi		2charged X		5	Abdullin 89
$^{132}\text{La} X$	9	Butsev 85	cs	8.2	Balea 85
$^{198}\text{Pb} X$	9	Butsev 85	cs	$p \pi^+ X$	Grishin 88B
$^{198}\text{Ti} X$	9	Butsev 85	cs	8.4	mass
$^{198}\text{Ti}^* X$	9	Butsev 85	cs	black grey X	Antonchik 87
$^{200}\text{Pb} X$	9	Butsev 85	cs	90.2 - 99	angp, mult, p, pt
$^{200}\text{Tl} X$	9	Butsev 85	cs	2.746 - 3.392	Bystricky 85
$^{201}\text{Pb} X$	9	Butsev 85	cs	$^3\text{H } p$	
$^{202}\text{Bi} X$	9	Butsev 85	cs	X	5
$^{202}\text{Pb} X$	9	Butsev 85	cs	charged (neutrals)	Abdullin 89
$^{203}\text{Bi} X$	9	Butsev 85	cs	5	Abdullin 89
$^{203}\text{Pb} X$	9	Butsev 85	cs	2charged (neutrals)	Abdullin 89
$^{204}\text{Bi} X$	9	Butsev 85	cs	5	Abdullin 89
$^{204}\text{Bi} X$	9	Butsev 85	cs	$p X$	Abdullin 89B
$^{205}\text{Bi} X$	9	Butsev 85	cs	5	Abdullin 89F
$^{205}\text{Pb} X$	9	Butsev 85	cs	n X	5
$^{206}\text{Bi} X$	9	Butsev 85	cs	$^3\text{H } p$	Abdullin 89F
$^{206}\text{Na} X$	9	Butsev 85	cs	5	Abdullin 89
$^{28}\text{Mg} X$	9	Butsev 85	cs	deuteron p n	Abdullin 89C
$^{41}\text{Ar} X$	9	Butsev 85	cs	5	Abdullin 89
$^{56}\text{Mn} X$	9	Butsev 85	cs	5	Abdullin 89C
$^{90}\text{Mo} X$	9	Butsev 85	cs	2p 2n	Abdullin 89
$^{90}\text{Mo}^* X$	9	Butsev 85	cs	5	Abdullin 88B
$^{90}\text{Nb} X$	9	Butsev 85	cs	deuteron p n π^0	angp, cs, mass
$^{98}\text{Tc} X$	9	Butsev 85	cs	5	angp, p
deuteron $^{207}\text{Pb} \rightarrow ^{93}\text{Tc}^* X$		deuteron ^{232}Th		5	angp, p
deuteron $^{208}\text{Pb} \rightarrow ^{93}\text{Tc}^* X$		inelastic		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[3] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[2] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[1] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[0] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[1] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[2] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[3] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[4] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[5] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[6] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[7] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[8] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[9] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[10] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[11] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[12] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[13] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[14] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[15] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[16] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[17] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[18] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[19] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[20] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[21] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[22] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[23] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[24] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[25] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[26] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[27] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[28] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[29] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[30] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[31] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[32] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[33] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[34] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[35] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[36] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[37] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[38] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[39] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[40] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[41] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[42] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[43] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[44] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[45] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[46] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[47] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[48] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[49] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[50] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[51] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[52] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[53] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[54] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[55] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[56] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[57] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[58] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[59] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[60] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[61] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[62] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[63] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[64] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[65] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[66] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[67] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[68] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[69] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[70] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[71] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[72] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[73] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[74] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[75] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[76] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[77] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[78] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[79] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[80] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[81] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[82] X		5	angp, p
deuteron $^{208}\text{Bi} \rightarrow ^{93}\text{Tc}^* X$		mult[83] X		5	angp, p

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 ^3He $p \rightarrow 2p(\text{spect}) p n$
 ^4He C → charged X

$^3\text{He} p$	$^3\text{He} 27\text{Al}$	$^4\text{He} 4\text{He}$		
$2p(\text{spect}) p n$	$p X$	$\pi^\pm X$		
2.5 - 5	Blinov 87B ang, angp, cs	0.7149 Machner 85 p	(126) Fredriksson 87 p	
$3p n$	$^3\text{He} 65\text{Ni}$	$\pi^+ X$		
2.5	Blinov 85 angp, cs, mass, p	0.5919 Machner 85 p	(248) Fischer 88 a-dep, p, pt	
2.5 - 5	Blinov 88 Blinov 86 angp, cs, mass, p	$\pi^- X$	(248) Fischer 88 a-dep, p, pt	
5	Abdullin 89F angp, p	14.43 Adyasevich 87 angp, p	$K^+ X$	(248) Fischer 88 a-dep, p, pt
	Abdullin 87 angp, cs, mass, p	Adyasevich 85 a-dep, cs, p	$K^- X$	(248) Fischer 88 a-dep, p, pt
13.5	Glagolev 88B ang, angp, cor, cs, p	$K^\pm X$	(126) Fredriksson 87 p	
deuteron 2p π^0	$^3\text{He} \text{Cu}$	$K_S X$		
5	Abdullin 89F angp, p	14.43 Adyasevich 87 angp, p	(126) Fredriksson 87 p	
deuteron p n π^+	Abdullin 89F Abdullin 88 ang, angp, cs, p	Adyasevich 85 a-dep, cs, p	$\bar{p} X$	(248) Fischer 88 a-dep, p, pt
5	Abdullin 88D angp, cs, mass	$^3\text{He} \text{Pb}$	$A X$	(126) Fredriksson 87 p
		14.43 Adyasevich 87 angp, p	(126) Fredriksson 87 p	
$p 2n \Delta(1232 P_{33})^{++}$	$^3\text{He} 208\text{Pb}$	$\Delta(1232 P_{33})^{++} X$	$\text{hadron } X$	(252) Akesson 89 et
5	Abdullin 90 angp, p	2.4 - 5 Ableev 87D a-dep, angp, cs	$\text{mult}[neutral] X$	(248) Tannenbaum 89 et, p
	Abdullin 89E angp, cs, p	$^3\text{He} \text{nucleus}$	$2\text{charged } X$	(126) Fredriksson 87 cor, p
	Abdullin 88C cs, mass	$\Delta(1232 P_{33})^{++} X$	$\gamma \text{ mult}[charged] (\text{neutrals})$	(252) Akesson 88D cs, pt
dibaryon 2p π^+	$^3\text{He} X$	2.4 - 15 Ableev 87D a-dep, angp, cs	$^4\text{He He}$	
5	Abdullin 89E Abdullin 88C cs	$^4\text{He} H_S X$	$\pi^- X$	
dibaryon 2n π^+	$^3\text{He} X$	2.4 - 15 Ableev 87D a-dep, angp, cs	$^4\text{He} \pi^- X$	
5	Abdullin 89E Abdullin 88C cs	$^4\text{He} H_p$	$\pi^- X$	
$3p n \pi^0$	X	8.6 - 13.5 Braun 89 angp, cs	$^4\text{He} Li$	
5	Abdullin 89F angp, p	$p X$	$\pi^- X$	
$2p 2n \pi^+$	$^3\text{He} 2p$	8.6 - 13.5 Sobchak 88 angp	$H_S X$	
5	Abdullin 90 angp, mass, p	$n X$	$\pi^- X$	
	Abdullin 89E angp, cs, mass, p	8.6 - 13.5 Sobchak 88 angp	$^4\text{He} \pi^- X$	
	Abdullin 89F angp, p	$^4\text{He} p$	$\pi^- X$	
	Abdullin 88C angp, cs, mass	8.6 - 13.5 Braun 89 angp, cs	$^4\text{He} Be$	
		$\text{mult}[charged] (\text{neutrals}) X$	$^4\text{He} Be$	
		8.6 - 13.5 Braun 89 cs	inelastic	
$^3\text{He} Be$	$^3\text{H} 2p$	$\pi^- X$		
inelastic		8.6 Zelinski 86 ang, p	$^4\text{He} H_S X$	
(199.8)	Tanihata 85	$^3\text{He} p n$	$\pi^- X$	
		8.6 Zelinski 86 ang, p	$^4\text{He} \pi^- X$	
$^3\text{He} 12\text{C}$	$2\text{deuteron } p$	$2\pi^- X$	$^4\text{He} Li$	
		8.6 Glagolev 86B angp, asym, p	$^4\text{He} He$	
$^3\text{H} X$	$deuteron 2p n$	$^4\text{He} Be$		
2.4 - 15	Ableev 87D a-dep, angp, cs	$^3\text{H} X$	inelastic	
4.4 - 18.3	Ableev 87C angp	Zielinsky 88 cs, mass	(230.7) Tanihata 85 cs	
	Ableev 87E angp	Glagolev 86B angp, asym, p	$^4\text{He} ^{10}\text{Bor}$	
$^3\text{H} \Delta(1232 P_{33}) X$	8.6	Zelinski 86 ang, p	$^{13}\text{C}^* p$	
4.4 - 18.3	Ableev 87E angp	Zelinski 88 ang, p	0.1309 Baba 86	-
$^3\text{He} C$	$4p n \pi^-$	Glagolev 87 cor	$^4\text{He} ^{12}\text{C}$	
inelastic	8.6 Zielinsky 88 cs, mass	inelastic		
(230.7)	Tanihata 85	$^4\text{He} 4\text{He}$	0.4323 Dubar 89	cs
		$\text{charged } X$		
$p X$	10.8 Ableev 87B Adyasevich 87 angp, p	(248) Fischer 88 a-dep, p, pt	$^{11}\text{C} X$	
14.43	Adyasevich 85 a-dep, cs, p	$\text{charged}^- X$	17.94 Kozma 89B	cs
deuteron X	10.8 Ableev 87B Ableev 84B cs	(126) Fischer 88 a-dep, p, pt	$p X$	
10.8	Ableev 84B cs	(248) Fredriksson 87 et, p	$^3\text{H} X$	
$^3\text{He} X$	10.8 Ableev 84B cs	$\text{mult}[charged] X$	2.65 - 4.52 Ableev 89	angp
anomalous X	10.8 Ableev 84B cs	(104 - 126) Fredriksson 87 Tannenbaum 89	2.65 - 4.52 Ableev 89	angp
10.8	Ableev 84B cs	(248) Fischer 88 a-dep, p, pt	$^4\text{He} C$	
demon X	10.8 Ableev 84B cs	$\text{mult}[charged]^- X$	inelastic	
10.8	Ableev 84B cs	(104 - 126) Fredriksson 87 Tannenbaum 89	16.8 Grigalashvil 88	cs
$^3\text{He} Al$	$\text{mult}[charged] (neutrals)$	(248) Fredriksson 87 mult	(266.3) Tanihata 85	cs
inelastic	(346.3) Tanihata 85	(252) Akesson 88D pt	$\text{charged } X$	
			9.2 Grigalashvil 88	a-dep, mult
			16.8 Mekhtiev 88	et, mult

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

$^4\text{He C} \rightarrow \text{charged}^- \text{ X}$ $^4\text{He Pb} \rightarrow p \text{ X}$

$^4\text{He C}$	$^4\text{He Al}$	$^4\text{He Au}$
$\text{charged}^- \text{ X}$	inelastic (399.6)	Tanihata 85 cs
9.2 Grigalashvil 88 a-dep, mult		
16.8 Grigalashvil 88 a-dep, mult		
$\text{mult}[\text{charged}] \text{ X}$	$^4\text{He }^{27}\text{Al}$	Bor X
16.8 Mekhtiev 88 et	inelastic 0.4323	16.82 Avdejchikov 87F angp, p
$\text{mult}[\text{charged}^-] \text{ X}$	$^4\text{He Cu}$	C X 3.373 – 16.82 Avdejchikov 87B angp, cs
9.2 Grigalashvil 88 a-dep, mult	$\pi^+ \text{ X}$ 2.569 – 5.838 Lhote 87	Avdejchikov 87F angp, p
16.8 Grigalashvil 88 a-dep, mult	$\pi^- \text{ X}$ 2.569 – 5.838 Lhote 87	Avdejchikov 87H a-dep, p
$\pi^0 \text{ X}$	$p \text{ X}$ 19.24 Adyasevich 85B angp, p	Avdejchikov 87G angp, p
4.5 Abraamyan 89 angp, p, pt	$^3\text{He X}$ 16.51 Abashidze 85B a-dep, angp	Nit X 3.373 – 16.82 Avdejchikov 87B angp, cs
$\pi^+ \text{ X}$	$^4\text{He X}$ 16.51 Abashidze 85B a-dep, angp	Avdejchikov 87F angp, p
2.569 – 5.838 Lhote 87 a-dep, mult	$\pi^+ \text{ mult}[grey] \text{ X}$ 5.838 Lhote 89	Avdejchikov 87H a-dep, p
2.569 – 5.838 Lhote 87 a-dep, mult	$\pi^- \text{ mult}[grey] \text{ X}$ 5.838 Lhote 89	Avdejchikov 87G angp, p
$p \text{ X}$	$^4\text{He Zr}$	O X 3.373 – 16.82 Avdejchikov 87B angp, cs
4.2 Gulkanyan 88D a-dep, angp, cor, cs, mult, p	inelastic 0.4323 Dubar 89 cs	Avdejchikov 87F angp, p
19.24 Adyasevich 85B angp, p		Avdejchikov 87H a-dep, p
$^3\text{He X}$	$^4\text{He Mo}$	16.82 Avdejchikov 87G angp, p
16.51 Abashidze 85B a-dep, angp	inelastic 0.4323 Dubar 89 cs	F1 X 3.373 – 16.82 Avdejchikov 87B angp, cs
$\text{mult}[p] \text{ X}$	$^4\text{He Ag}$	Avdejchikov 87F angp, cs
4.2 Gulkanyan 88D mult	$^6\text{He X}$ 13.32 Avdejchikov 86 angp, p	Avdejchikov 87H a-dep, p
16.8 Baldin 88C angp, cor, pt	$^6\text{Li X}$ 13.32 Avdejchikov 86 angp, p	16.82 Avdejchikov 87G angp, p
$2\text{charged}^+ \text{ X}$	$^7\text{Li X}$ 13.32 Avdejchikov 86 angp, p	Ne X 3.373 – 16.82 Avdejchikov 87B angp
4.2 Angelov 88 ang, cor	$^8\text{Li X}$ 13.32 Avdejchikov 86 angp, p	Avdejchikov 87F angp, p
$2\gamma \text{ X}$	$^4\text{He Ta}$	16.82 Avdejchikov 87G angp, p
4.5 Abraamyan 89 mass	$\text{charged} \text{ X}$ 9.2 Grigalashvil 88 a-dep, mult	Na X 3.373 – 16.82 Avdejchikov 87B angp
$\pi^+ \text{ charged}^+ \text{ X}$	$\text{charged}^- \text{ X}$ 9.2 Grigalashvil 88 a-dep, mult	Avdejchikov 87F angp, p
4.2 Angelov 88 ang, cor	$\text{mult}[\text{charged}] \text{ X}$ 9.2 Grigalashvil 88 a-dep, mult	16.82 Avdejchikov 87G angp, p
$\pi^- \text{ charged}^+ \text{ X}$	$\text{mult}[\text{charged}^-] \text{ X}$ 9.2 Grigalashvil 88 a-dep, mult	Mg X 3.373 – 16.82 Avdejchikov 87B angp
4.2 Angelov 88 ang, cor	$p \text{ X}$ 4.2 Gulkanyan 88D a-dep, angp, cor, cs, mult, p	Avdejchikov 87F angp, p
$2\pi^- \text{ X}$	$^4\text{He }^{181}\text{Ta}$	16.82 Avdejchikov 87G angp, p
4.2 Angelov 88 ang, cor	inelastic 0.4323 Dubar 89 cs	$^3\text{He X}$ 16.51 Abashidze 85B a-dep, angp
18 Abdurakhimov 88 angp, cor	$^4\text{He Au}$	$^4\text{He X}$ 16.51 Abashidze 85B a-dep, angp
$\pi^+ \pi^- \text{ X}$	$^6\text{He X}$ 13.32 Avdejchikov 86 angp, p	$2p \text{ X}$ 8 Budilov 90 angp, cor, p
4.2 Angelov 88 ang, cor	$^6\text{Li X}$ 13.32 Avdejchikov 86 angp, p	$^4\text{He }^{197}\text{Au}$
$p \text{ charged}^+ \text{ X}$	$^7\text{Li X}$ 13.32 Avdejchikov 86 angp, p	inelastic 0.4323 Dubar 89 cs
4.2 Angelov 88 ang, cor	$^8\text{Li X}$ 13.32 Avdejchikov 86 angp, p	$^4\text{He Pb}$
$p \pi^- \text{ X}$	$\pi^+ \text{ X}$ 2.569 – 5.838 Lhote 87 a-dep, mult	$\pi^- \text{ X}$ 2.569 – 5.838 Lhote 87 a-dep, mult
4.2 Angelov 88 ang, cor	$\pi^- \text{ X}$ 2.569 – 5.838 Lhote 87 a-dep, mult	$p \text{ X}$ 19.24 Adyasevich 85B angp, p
$2p \text{ X}$	Bor X 3.373 – 16.82 Avdejchikov 87B angp, cs	
4.2 Angelov 88 ang, cor		
8 Budilov 90 angp, cor, p		
16.8 Pluta 88B angp, cor, p		
Zielinsky 88 cs, mass		
$\pi^+ \text{ mult}[grey] \text{ X}$		
5.838 Lhote 89 mult		
$\pi^- \text{ mult}[grey] \text{ X}$		
5.838 Lhote 89 mult		
$p(p') \text{ X}$		
16.8 Angelov 88 angp, col		
$2p(p') \text{ X}$		
16.8 Akhababian 85 cor, mass, p, pt		
$^4\text{He Ne}$		
$2\pi^- \text{ X}$		
18 Abdurakhimov 88 angp, cor		

$^4\text{He Pb} \rightarrow p \pi^+ X$

He C → C He

${}^4\text{He Pb}$	
$p \pi^+ X$	17.8 Averichev 89 cor, mass
$p \pi^- X$	17.8 Averichev 89 cor, mass
$2p X$	17.8 Averichev 89 cor, mass
$\pi^+ \text{ mult}[grey] X$	5.838 Lhote 89 mult
$\pi^- \text{ mult}[grey] X$	5.838 Lhote 89 mult
${}^4\text{He } {}^{208}\text{Pb}$	
$\text{mult}[fragt] X$	11.96 Grabez 88 mult
${}^4\text{He nucleus}$	
inelastic	
4.5 Khan 89	cs
18 Anikina 86D	cs
803.7 Baroni 90	cs
charged- X	
18 Anikina 86D	mult
mult[charged-] X	
18 Anikina 86D	mult
${}^3\text{H}_S X$	18 Abdurakhimov 89C
${}^4\text{H}_S X$	18 Abdurakhimov 89C Avramenko 88
fragb X	
18 Anikina 86D angp, cs	
grey X	
90.2 - 99 Antonchik 87 angp, mult, p, pt	
0Δ charged- X	
18 Anikina 86D	mult
$p \pi^+ X$	
16.8 Grishin 88B	mass
A charged- X	
18 Anikina 86D	mult
${}^3\text{He } \pi^- X$	18 Avramenko 88
${}^4\text{He } \pi^- X$	18 Avramenko 88
fragb charged- X	
18 Anikina 86D angp, mult	
fragb mult[charged-] X	
18 Anikina 86D angp, angp, mult, mult, p, pt	
black grey X	
90.2 - 99 Antonchik 87 angp, mult, p, pt	

$\text{He } p$	
$2p X$	16.8 Armulijsky 86B cor
$p \text{ mult}[charged] (\text{neutrals})$	(88) Bell 86B angp, mult, p, pt
${}^3\text{H } 2p$	8.6 Glagolev 86 cs
${}^3\text{He } p n$	8.6 Glagolev 86 cs
$2\text{deuteron } p$	8.6 Glagolev 86 cs
$\text{deuteron } 2p n$	8.6 Glagolev 86 cs
$3p 2n$	8.6 Glagolev 86 cs
He He	
$2K^+ X$	(126) Akesson 85B cor
$p \text{ mult}[charged] (\text{neutrals})$	(126 - 176) Akesson 85F cor
$2K^- X$	(126) Akesson 85B cor
$2\text{He } X$	(126) Cavassini 85 ang, cs, mult
$p \text{ mult}[charged] (\text{neutrals})$	(125) Bell 86 mult, p
$He {}^3\text{H } p$	Bell 86B angp, mult, p, pt
$He 2\text{deuteron}$	(125) Bell 85 p, pt
$He p \text{ frag}$	(125) Bell 85 p, pt
$He \text{ deuteron } p n$	(125) Bell 85 p, pt
$2\text{He } \pi^+ \pi^-$	(126) Akesson 85D -
$4\text{charged } (\text{neutrals})$	125.1 Angelis 86 mult, p
He Li	
$A X$	17.74 Stock 87
	18 Anikina 85B angp
He Be	
${}^3\text{He } X$	16.64 Abashidze 84 p
${}^3\text{H } X$	16.64 Abashidze 84 p
$He X$	16.64 Abashidze 84 p
$\text{He } {}^{12}\text{C}$	
${}^3\text{He } X$	16.64 Abashidze 84 p
${}^3\text{H } X$	16.64 Abashidze 84 p
$He X$	16.64 Abashidze 84 p
He C	
$\text{charged } X$	18 Anikina 86B a-dep, angp, cs, mult
2He	17.9 Ableev 85 angp
	Lloydowen 86 angp, cs
	Akesson 84B angp
$DD < X > \text{He}$	(126) Lloydowen 86 angp, cs
$2\text{charged } X$	
	(125) Bell 85C cor
$\pi^+ \text{ charged } X$	(126 - 176) Akesson 85F mult
$\pi^- \text{ charged } X$	(126 - 176) Akesson 85F mult
$2\pi^+ X$	(126) Akesson 86F cor, pt
$2\pi^- X$	(126) Akesson 86F cor, pt
$K^+ \text{ charged } X$	(126 - 176) Akesson 85F mult
$K^- \text{ charged } X$	(126 - 176) Akesson 85F mult
$K^+ K^- X$	(126 - 176) Akesson 85F cs
$\text{dibaryon } X$	
	16.8 Armulijsky 86C angp, mult, p
	Agakishiev 84E angp, mult, p, pt
	Agakishiev 84E a-dep, angp, mult
	Agakishiev 84E a-dep, ang, angp, col, mult
$\text{exotic } X$	16.8 Agakishiev 84E cs
$\text{longived } X$	17.9 Ableev 86 cs
$C \text{ He}$	17.9 Ableev 85 angp

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an 'X' as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

He C → π⁺ charged X

8He C → inelastic

He C		He 90Zr		6He C
π ⁺ charged X 16.8	Agakishiev 86B	mult	He X 0.8515	Machner 85
π ⁻ charged X 16.8	Agakishiev 86B	angp, mult, p, pt	He 10 ⁸ Ag	angp
p charged X 16.8	Agakishiev 86B	angp, mult, p, pt	6Li X 16.64	Abashidze 85
p π ⁻ X 16.8	Gulkanyan 88	ang, angp, cor, p, pt	7Li X 16.64	Abashidze 85
2p X 16.8	Balea 86	p	8Li X 16.64	Abashidze 85
mult[π ⁻] mult[fragt] mult[fragb] X 18	Agakishiev 84E	mass	3He X 16.64	Abashidze 84
	Anikina 85	cor, mult	3H X 16.64	Abashidze 84
			He X 16.64	Abashidze 84
He Ne		He 11⁶Sn		6Li Be
charged X 18	Anikina 86B	a-dep, angp, cs, mult	11 ⁶ Sn He 1.493 – 2.388	Bonin 86
mult[π ⁻] mult[fragt] mult[fragb] X 18	Anikina 85	cor, mult	angp, cs	
He Al		He Ta		frag X 8.686
charged X 18	Anikina 86B	a-dep, angp, cs, mult	charged X 16.8	Kutsidi 86
Al He 17.9	Ableev 85	angp	mult[charged] X 16.8	Kutsidi 86
He 27Al		He 19⁷Au		inelastic 8.686
3He X 16.64	Abashidze 84	p	6Li X 16.64	Abashidze 85
3H X 16.64	Abashidze 84	p	7Li X 16.64	Abashidze 85
He X 16.64	Abashidze 84	p	8Li X 16.64	Abashidze 85
He X 16.64	Abashidze 84	p	3He X 16.64	Abashidze 84
He X 0.6659 – 0.9535	Machner 85	p	3H X 16.64	Abashidze 84
He 58Ni		He Pb		He X 1206
deuteron X 1.031	Machner 85	p	charged X 18	Anikina 86B
He X 0.7259 – 1.031	Machner 85	cs	a-dep, angp, cs, mult	
58Ni He 1.493 – 2.388	Bonin 86	angp, cs	mult[n] X 18	Voronko 88
He p X 1.031	Machner 85	p	mult[π ⁻] mult[fragt] mult[fragb] X 18	Anikina 85
He 61Ni		He 20⁸Pb		cor, mult
He X 0.6828	Machner 85	p	20 ⁸ Pb He 1.145	Morsch 85
He Cu			1.493 – 2.388	Bonin 86
charged X 18	Anikina 86B	a-dep, angp, cs, mult	angp, cs, pwa	
Cu He 17.9	Ableev 85	angp	angp, cs	
mult[π ⁻] mult[fragt] mult[fragb] X 18	Anikina 85	cor, mult		
He 64Cu		He nucleus		
3He X 16.64	Abashidze 84	p	X < 60	Sengupta 89
3H X 16.64	Abashidze 84	p	< 803.7	Singh 88B
He X 16.64	Abashidze 84	p	10 ³ – 10 ⁵	Kawamura 89
			π ⁻ X 17.74	Stock 87
			mult[black] mult[shower]	
			48	Claesson 85
				mult
		6He Be		
		inelastic	(282.5)	Tanihata 85
				cs
		6He C		inelastic
		inelastic	(326 !)	Tanihata 85
				cs
		3He X		inelastic
		8.686	(376.5)	Tanihata 85
				cs

$^8\text{He C} \rightarrow ^6\text{He X}$ $^{12}\text{C C} \rightarrow \text{mult}[\text{charged}^-] \text{ X}$

$^8\text{He C}$		$^{10}\text{Be Al}$		$^{11}\text{Be C}$	
$^8\text{He X}$ 11.58	Kobayashi 88 cs, pt	frag X 14.48	Tanihata 86 cs	inelastic 15.93	Tanihata 88 a-dep, cs
$^8\text{He X}$ 11.58	Kobayashi 88 cs, pt	Bor nucleus		$^{11}\text{Be Al}$	
$^8\text{He Al}$		inelastic 2010	Baroni 90 cs	inelastic 15.93	Tanihata 88 a-dep, cs
$^8\text{Li Be}$		$^{10}\text{Be X}$ 16.06	Kobayashi 89B pt	$^{11}\text{Be nucleus}$	
frag X 11.58	Tanihata 86 cs	$^{10}\text{Be n X}$ 16.06	Kobayashi 89B pt	inelastic 16.06	Kobayashi 89C a-dep, cs
$^8\text{Li C}$		$^{11}\text{Li Be}$		$^{10}\text{Be n X}$ 16.06	Kobayashi 89C a-dep, cs
frag X 11.58	Tanihata 86 cs	inelastic 15.92	Kobayashi 89 a-dep, cs	$^8\text{Be 2n X}$ 16.06	Kobayashi 89C a-dep, cs
$^8\text{Li Al}$		frag X 15.92	Tanihata 86 cs	$^{12}\text{Be Be}$	
frag X 11.58	Tanihata 86 cs	$^{11}\text{Li C}$		inelastic 17.37	Tanihata 88 a-dep, cs
$^8\text{Bor Be}$		inelastic 15.92	Kobayashi 89 a-dep, cs	$^{12}\text{Be C}$	
inelastic 11.58	Tanihata 88 a-dep, cs	$^8\text{He X}$ 15.92	Kobayashi 88 cs, pt	inelastic 17.37	Tanihata 88 a-dep, cs
$^8\text{Bor C}$		$^8\text{Li X}$ 15.92	Kobayashi 88 cs, pt	$^{12}\text{Be Al}$	
inelastic 11.58	Tanihata 88 a-dep, cs	$^7\text{Li X}$ 15.92	Kobayashi 88 cs, pt	inelastic 17.37	Tanihata 88 a-dep, cs
$^8\text{Bor Al}$		$^8\text{He X}$ 15.92	Kobayashi 88 cs, pt	$^{12}\text{C p}$	
inelastic 11.58	Tanihata 88 a-dep, cs	$^8\text{Li X}$ 15.92	Kobayashi 88 cs, pt	$\pi^- \text{ X}$ 54	Gazdzicki 85 angp, pt
$^8\text{Li Be}$		$^8\text{He X}$ 15.92	Kobayashi 89 Kobayashi 88 a-dep, cs	$\Lambda \text{ X}$ 54	Gazdzicki 85 angp, pt
frag X 13.03	Tanihata 86 cs	$^8\text{He X}$ 15.92	Kobayashi 88 cs, pt	mult[He] X 4.5	Khan 89 mult
$^8\text{Li C}$		$^8\text{He X}$ 15.92	Kobayashi 88 cs, pt	fragb X 51.99	Bogdanov 88 Khan 88 a-dep, mult
frag X 13.03	Tanihata 86 cs	frag X 15.92	Tanihata 86 cs	$^{12}\text{C }^{12}\text{C}$	
$^8\text{Li Al}$		$^{11}\text{Li Al}$		inelastic 0.8196 – 2.607	Dubar 89 cs
frag X 13.03	Tanihata 86 cs	inelastic 15.92	Kobayashi 89 a-dep, cs	$^{11}\text{C X}$ 53.83	Kozma 89B cs
$^8\text{Li nucleus}$		frag X 15.92	Tanihata 86 cs	^{212}C 5.874 – 7.709	Mermaz 86
inelastic 13.14	Kobayashi 89C a-dep, cs	$^{11}\text{Li Cu}$		p X 4.883	Kristiansson 85 ang, cor
$^8\text{Li n X}$ 13.14	Kobayashi 89C a-dep, cs	inelastic 15.92	Kobayashi 89 a-dep, cs	anomalon X 50.76	Bayman 87
$^7\text{Li 2n X}$ 13.14	Kobayashi 89C a-dep, cs	$^8\text{Li X}$ 15.92	Kobayashi 89 a-dep, cs	p γ X 34.62	Roche 84
Be Be		$^{11}\text{Li Pb}$		deuteron γ X 34.62	Roche 84
frag X 13.04	Tanihata 86 cs	inelastic 15.92	Kobayashi 89 a-dep, cs	2p X 4.883	Kristiansson 85 ang, cor
Be C		$^8\text{He X}$ 15.92	Kobayashi 88 cs, pt	2deuteron X 4.883	Kristiansson 85 ang, cor
frag X 13.04	Tanihata 86 cs	$^8\text{Li X}$ 15.92	Kobayashi 89 a-dep, cs Kobayashi 88 cs, pt	$^{23}\text{H X}$ 4.883	Kristiansson 85 ang, cor
Be Al		$^{11}\text{Li nucleus}$		2He X 4.883	Kristiansson 85 ang, cor
frag X 13.04	Tanihata 86 cs	inelastic 16.06	Kobayashi 89C a-dep, cs	$^{12}\text{C C}$	
Be nucleus		$^{10}\text{Li n X}$ 16.06	Kobayashi 89C a-dep, cs	inelastic 50.4	Grigalashvili 88 cs
inelastic 1808	Baroni 90 cs	$^8\text{Li 2n X}$ 16.06	Kobayashi 89C a-dep, cs	charged X 54	Anikina 86B a-dep, angp, cs, mult
$^{10}\text{Be Be}$		$^{11}\text{Be Be}$		charged- X 54	Anikina 89 mult
frag X 14.48	Tanihata 86 cs	inelastic 15.93	Tanihata 88 a-dep, cs	mult[charged-] X 54	Anikina 89 mult
$^{10}\text{Be C}$					
frag X 14.48	Tanihata 86 cs				

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

$^{12}\text{C C} \rightarrow \pi^+ \text{ X}$ $^{12}\text{C } ^{59}\text{Co} \rightarrow ^{57}\text{Ni X}$

$^{12}\text{C C}$	$^{12}\text{C } ^{55}\text{Mn}$	$^{12}\text{C Ni}$
$\pi^+ \text{ X}$ 53.83	Kurepin 88 a-dep. angp	$^{52}\text{Mn X}$ 53.83
$\pi^- \text{ X}$ 18 53.83 54	Gazdzicki 85 angp. pt Kurepin 88 a-dep. angp Gazdzicki 85 angp. pt	$^{52}\text{Fe X}$ 53.83
$\text{mult}[\pi^-] \text{ X}$ 54	Anikina 89 mult	$^{54}\text{Mn X}$ 53.83
$K^+ \text{ X}$ 53.83	Kurepin 88 a-dep. angp	$^{55}\text{Co X}$ 53.83
$K^- \text{ X}$ 53.83	Kurepin 88 a-dep. angp	$^{56}\text{Co X}$ 53.83
$p \text{ X}$ 41.73 54	Adyasevich 87B angp Anikina 85C a-dep. angp. p	$^{56}\text{Mn X}$ 53.83
$\Delta \text{ X}$ 18 54	Gazdzicki 85 angp. pt Gazdzicki 85 angp. pt	$^{57}\text{Ni X}$ 53.83
deuteron X 41.73 54	Adyasevich 87B angp Adyasevich 85C angp. p Anikina 85C a-dep. angp. p	$^{58}\text{Co X}$ 53.83
$^3\text{H X}$ 41.73 54	Adyasevich 87B angp Anikina 85C a-dep. angp. p	$^{59}\text{Fe X}$ 53.83
$\text{mult}[\text{frag}] \text{ mult}[\text{charged}] \text{ X}$ 54	Anikina 89 mult	$^{60}\text{Co X}$ 53.83
$\text{mult}[\pi^-] \text{ mult}[\text{frag}] \text{ mult}[\text{frag}] \text{ X}$ 54	Anikina 85 cor. mult	$^{61}\text{Cr X}$ 53.83
$^{12}\text{C Ne}$		$^{62}\text{Mn X}$ 53.83
charged X 54	Anikina 86B a-dep. angp. cs. mult	$^{63}\text{Co X}$ 53.83
$\pi^- \text{ X}$ 54	Gazdzicki 85 angp. pt	$^{67}\text{Ni X}$ 53.83
$\Delta \text{ X}$ 54	Gazdzicki 85 angp. pt	$^{68}\text{Co X}$ 53.83
$2\pi^- \text{ fragb X}$ 54	Abdurakhimov 88 angp. cor.	$^{69}\text{Fe X}$ 53.83
$\text{mult}[\pi^-] \text{ mult}[\text{frag}] \text{ mult}[\text{frag}] \text{ X}$ 54	Anikina 85 cor. mult	$^{70}\text{Co X}$ 53.83
$^{12}\text{C Al}$		$^{66}\text{Zn X}$ 53.83
$p \text{ X}$ 54	Anikina 85C a-dep. angp. p	$^{71}\text{frag X}$ 53.83
deuteron X 54	Anikina 85C a-dep. angp. p	$^{12}\text{C } ^{59}\text{Co}$
$^3\text{H X}$ 54	Anikina 85C a-dep. angp. p	$^{24}\text{Na X}$ 53.83
$^{12}\text{C } ^{27}\text{Al}$		$^{25}\text{Mg X}$ 53.83
inelastic 0.8196 - 2.607 Dubar 89	cs	$^{42}\text{KK X}$ 53.83
$^{24}\text{Na X}$ 53.83	Damdisuren 87	$^{43}\text{KK X}$ 53.83
$^{12}\text{C Si}$		$^{43}\text{KK X}$ 53.83
charged X 54	Anikina 86B a-dep. angp. cs. mult	$^{43}\text{Sc X}$ 53.83
$^{12}\text{C } ^{55}\text{Mn}$		$^{47}\text{Sc X}$ 53.83
$^{25}\text{Na X}$ 53.83	Kozma 90B angp. p Kozma 88B cs	$^{48}\text{Cr X}$ 53.83
$^{28}\text{Mg X}$ 53.83	Kozma 90B angp. p	$^{48}\text{Sc X}$ 53.83
		$^{48}\text{Sc X}$ 53.83
		$^{48}\text{Va X}$ 53.83
		$^{51}\text{Cr X}$ 53.83

REACTION/MOMENTUM/DATA-DESCRIPTOR INDEX

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 $^{12}\text{C} \ ^{59}\text{Co} \rightarrow ^{58}\text{Co} \ X$
 $^{12}\text{C} \ ^{197}\text{Au} \rightarrow \text{Te} \ X$
 $^{12}\text{C} \ ^{59}\text{Co}$

$^{58}\text{Co} \ X$	53.83	Kozma 88B	cs
$^{59}\text{Fe} \ X$	53.83	Kozma 88B	cs
$^{60}\text{Co} \ X$	53.83	Kozma 88B	cs
$^{65}\text{Zn} \ X$	53.83	Kozma 88B	cs
$\text{frag} \ X$	53.83	Kozma 88B	cs

 $^{12}\text{C} \ \text{Cu}$

$\text{charged} \ X$	54	Anikina 86B	a-dep, angp, cs, mult
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 $^{24}\text{Na} \ X$

53.83

 Kozma 88B

cs

 $^{28}\text{Mg} \ X$

53.83

 Kozma 88B

cs

 $^{42}\text{KK} \ X$

53.83

 Kozma 88B

cs

 $^{43}\text{KK} \ X$

53.83

 Kozma 88B

cs

 $^{43}\text{Sc} \ X$

53.83

 Kozma 88B

cs

 $^{44}\text{Sc} \ X$

53.83

 Kozma 88B

cs

 $^{46}\text{Sc} \ X$

53.83

 Kozma 88B

cs

 $^{48}\text{Sc} \ X$

53.83

 Kozma 88B

cs

 $^{48}\text{Va} \ X$

53.83

 Kozma 88B

cs

 $^{51}\text{Cr} \ X$

53.83

 Kozma 88B

cs

 $^{52}\text{Mn} \ X$

53.83

 Kozma 88B

cs

 $^{52}\text{Fe} \ X$

53.83

 Kozma 88B

cs

 $^{54}\text{Mn} \ X$

53.83

 Kozma 88B

cs

 $^{55}\text{Co} \ X$

53.83

 Kozma 88B

cs

 $^{56}\text{Co} \ X$

53.83

 Kozma 88B

cs

 $^{56}\text{Mn} \ X$

53.83

 Kozma 88B

cs

 $^{56}\text{Ni} \ X$

53.83

 Kozma 88B

cs

 $^{57}\text{Co} \ X$

53.83

 Kozma 88B

cs

 $^{57}\text{Ni} \ X$

53.83

 Kozma 88B

cs

 $^{58}\text{Co} \ X$

53.83

 Kozma 88B

cs

 $^{58}\text{Fe} \ X$

53.83

 Kozma 88B

cs

 $^{59}\text{Fe} \ X$

53.83

 Kozma 88B

cs

 $^{60}\text{Co} \ X$

53.83

 Kozma 88B

cs

 $^{61}\text{Cu} \ X$

53.83

 Kozma 88B

cs

 $^{65}\text{Zn} \ X$

53.83

 Kozma 88B

cs

 $\pi^- \ X$

53.83

 Baldin 88

angp

 $p \ X$

41.73

 Adyasevich 87B

angp

 $\bar{p} \ X$

54

 Anikina 85C

a-dep, angp, p

 $\bar{p} \ X$

53.83

 Baldin 88

angp

 $^{12}\text{C} \ \text{Cu}$
 $\text{deuteron} \ X$

41.73

Adyasevich 87B

angp

Adyasevich 85C

angp, p

Anikina 85C

a-dep, angp, p

 $^3\text{H} \ X$

41.73

Adyasevich 87B

angp

Anikina 85C

a-dep, angp, p

 $\text{frag} \ X$

53.83

Kozma 88B

cs

 $2\pi^- \ \text{fragb} \ X$

53.95

Abdurakhimov 89

angp, cor

54

Abdurakhimov 88

angp, cor

Anikina 85

cor, mult

 $^{12}\text{C} \ ^{64}\text{Cu}$
 $^{24}\text{Na} \ X$

53.83

Kozma 90B

angp, p

 $^{28}\text{Mg} \ X$

53.83

Kozma 90B

angp, p

 $^{12}\text{C} \ ^{88}\text{Yt}$
 inelastic

0.8196

Dubar 89

cs

0.8196 - 2.607

Dubar 89

cs

 $^{12}\text{C} \ ^{40}\text{Zr}$
 $\text{charged} \ X$

54

Anikina 86B

a-dep, angp, cs, mult

 $^{12}\text{C} \ \text{Ag}$
 inelastic

53.83

Kozma 90

cs

 $^{24}\text{Na} \ X$

53.83

Kozma 90B

angp, p

 $^{28}\text{Mg} \ X$

53.83

Kozma 90B

angp, p

 $^{12}\text{C} \ \text{Sn}$
 $p \ X$

41.73

Adyasevich 87B

angp

 $^{12}\text{C} \ \text{Ta}$
 $\text{charged} \ X$

50.4

Boldea 85

mult

 $^{24}\text{Na} \ X$

50.4

Boldea 85

mult

 $^{28}\text{Mg} \ X$

50.4

Boldea 85

angp

 $\pi^- \ X$

50.4

Boldea 85

mult

 $\text{frag} \ X$

53.83

Kozma 89

cs

 $\text{grey} \ X$

50.4

Boldea 85

mult

 $\text{mult}[frag] \ X$

50.4

Boldea 85

mult

 $\text{mult}[grey] \ X$

50.4

Boldea 85

mult

 $^{12}\text{C} \ ^{161}\text{Ta}$
 $^{24}\text{Na} \ X$

53.83

Kozma 90B

angp, p

 $^{28}\text{Mg} \ X$

53.83

Kozma 90B

angp, p

 $^{24}\text{Ar} \ X$

25

Hufner 85

angp

 $\text{frag} \ X$

25 - 48

Hufner 85

p

 $^{12}\text{C} \ ^{197}\text{Au}$
 inelastic

53.83

Kozma 90

Kozma 88

cs

 $\text{Rh} \ X$

53.83

Kozma 90

cs

 $\text{Sb} \ X$

53.83

Kozma 90

cs

 $\text{Te} \ X$

53.83

Kozma 90

cs

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are p_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

^{12}C ^{197}Au		^{12}C ^{197}Au		^{12}C ^{232}Th	
Te X	Kozma 88	cs	Te X	Kozma 88	cs
Xe X	53.83	Kozma 90 Kozma 88	cs	fragt X	53.83
Ba X	53.83	Kozma 90 Kozma 88	cs	^{12}C Pb	54
Pr X	53.83	Kozma 90 Kozma 88	cs	charged X	54
Eu X	53.83	Kozma 90 Kozma 88	cs	π^+ X	53.83
Gd X	53.83	Kozma 90 Kozma 88	cs	π^- X	53.83
Tb X	53.83	Kozma 90 Kozma 88	cs	mult[htrack] X	54
Dy X	53.83	Kozma 90 Kozma 88	cs	K^+ X	53.83
Yb X	53.83	Kozma 90 Kozma 88	cs	K^- X	53.83
Lu X	53.83	Kozma 90 Kozma 88	cs	p X	34.62 41.73
Hf X	53.83	Kozma 90 Kozma 88	cs	deuteron X	34.62 41.73
Re X	53.83	Kozma 90 Kozma 88	cs	^3H X	41.73
Na X	53.83	Kozma 90 Kozma 88	cs	π^\pm X	53.83
^{24}Na X	53.83	Kozma 90B	angp, p	mult[htrack] X	54
Mg X	53.83	Kozma 90 Kozma 88	cs	$p \gamma$ X	34.62
^{28}Mg X	53.83	Kozma 90B	angp, p	deuteron γ X	34.62
Sc X	53.83	Kozma 90 Kozma 88	cs	$2p$ X	41.73
Va X	53.83	Kozma 90 Kozma 88	cs	γ fragt X	34.62
Mn X	53.83	Kozma 90 Kozma 88	cs	htrack mult[htrack] X	54
Fe X	53.83	Kozma 90 Kozma 88	cs	π^\pm X	54
Zn X	53.83	Kozma 90 Kozma 88	cs	mult[htrack] black X	54
As X	53.83	Kozma 90 Kozma 88	cs	mult[htrack] shower X	54
Se X	53.83	Kozma 90 Kozma 88	cs	π^\pm X	54
Rb X	53.83	Kozma 90 Kozma 88	cs	mult[π^-] mult[fragt] mult[fragb] X	54
^{87}Yt X	53.83	Kozma 90 Kozma 88	cs	π^\pm X	11.42 - 34.62
Nb X	53.83	Kozma 90 Kozma 88	cs	π^\pm X	5.874 - 7.709
Tc X	53.83	Kozma 90	cs	π^0 X	11.42 - 34.62
				π^\pm X	11.42 - 34.62
				mult[π^\pm] X	11.42 - 34.62
				mult[π^\pm] X	11.42 - 34.62
				mult[π^\pm] X	11.42 - 34.62
				mult[π^\pm] X	11.42 - 34.62
				mult[black] X	54
				mult[grey] X	54

REACTION/MOMENTUM/DATA-DESCRIPTOR INDEX

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 ^{12}C nucleus → mult[grey] X

 C C → $2\pi^-$ X

^{12}C nucleus	^{12}C nucleus	C C
mult[grey] X	mult[grey] shower X	π^- X
Khan 88 a-dep, mult	54 Ghosh 86 mult	Grishin 87 p
mult[shower] X	mult[shower] mult[fragb] X	Simich 86 mult, p
54 Babaev 90 ang	54 Babaev 90 ang	Ameev 85 angp, p, pt
Ghosh 89D mult, p	2fragb X 39.63 – 64.21 Abdurazakova 88	Armuthijsky 85 a-dep, angp, p
Khan 88 a-dep, mult	2shower fragb X 4.5 Ghosh 89C cor, p, pt	Agakishiev 84E angp, mult, p, pt
shower X	12Bor Be inelastic 17.38 Tanihata 88 a-dep, cs	Agakishiev 84E a-dep, angp, mult
54 Khan 88 a-dep, angp, mult	12Bor C inelastic 17.38 Tanihata 88 a-dep, cs	Armuthijsky 84 angp, p, pt
? Ghosh 86	12Bor Al inelastic 17.38 Tanihata 88 a-dep, cs	
0Δ charged- X	C p Ks X 50.4 Agakishiev 85 angp, cs, mult, p, pt	
54 Anikina 86D angp, mult	n X 50.4 Bekmirzaev 88C mult, p	
e- e+ X	Δ X 50.4 Agakishiev 85 angp, cs, mult, p, pt	
54 Elnadi 88 mass	n (fragb) mult[charged+] mult[charged-] X 50.4 Bekmirzaev 88C mult	
p π+ X	C C charged X 27.6 Grigalashvil 88 a-dep, mult	
50.4 Grishin 88B mass	50.4 Mekhtiev 88 et, mult	
Δ charged- X	50.4 Bialkowska 86 p, pt	
54 Anikina 86D angp, mult	charged- X 27.6 Grigalashvil 88 a-dep, mult	
fragb charged- X	50.4 Grigalashvil 88 a-dep, mult	
54 Anikina 86D angp, mult	mult[charged] X 50.4 Agakishiev 89C mult	
fragb mult[charged] X	50.4 Mekhtiev 88 et	
4.5 Khan 89 mult	mult[charged+] X 50.4 Agakishiev 89C mult	
fragb mult[charged-] X	50.4 Grigalashvil 88 a-dep, mult	
54 Anikina 86D angp, angp, mult, mult, p, pt	mult[charged-] X 27.6 Grigalashvil 88 a-dep, mult	
mult[htrack] shower X	50.4 Agakishiev 89C mult	
54 Khan 88 cor, mult	γ X 50.4 Gulkanyan 88B p, pt	
p (p's) X	π0 X 50.4 Gulkanyan 98B p, pt	
54 Ghosh 87 angp, mult	π+ X 50.4 Gulkanyan 98C mult, p	
anomalon fragt X	50.4 Stock 87 mult	
53.95 Bayman 87	π- X 17.74 Baatar 90 mult	
black grey X	50.4 Stock 87 mult	
90.2 – 99 Antonchik 87 angp, mult, p, pt	angp, et, p, pt	
black mult[black] X	Agakishiev 89B angp, mult, p, pt	
54 Ghosh 86 mult	Agakishiev 89B angp, mult, p, pt	
black mult[grey] X	Agakishiev 89B angp, mult, p, pt	
54 Khan 88 cor, mult	Agakishiev 89C mult	
black mult[shower] X	Agakishiev 89C mult	
54 Ghosh 86 mult	Agakishiev 89C mult	
grey mult[shower] X	Agakishiev 89C mult	
54 Ghosh 86 mult	Agakishiev 89C mult	
htrack mult[black] X	Agakishiev 89C mult	
54 Ghosh 86 mult	Agakishiev 89C mult	
htrack mult[grey] X	Agakishiev 89C mult	
54 Ghosh 86 mult	Agakishiev 89C mult	
htrack mult[shower] X	Agakishiev 89C mult	
54 Khan 88 cor, mult	Agakishiev 89C mult	
mult[black] grey X	Agakishiev 89C mult	
54 Ghosh 86 mult	Agakishiev 89C mult	
mult[black] mult[fragb] X	Agakishiev 89C mult	
54 Babaev 90 ang	Agakishiev 89C mult	
mult[black] mult[grey] X	Agakishiev 89C mult	
54 Babaev 90 ang	Agakishiev 89C mult	
mult[black] mult[shower] X	Agakishiev 89C mult	
54 Babaev 90 ang	Agakishiev 89C mult	
mult[black] shower X	Agakishiev 89C mult	
54 Ghosh 86 angp, mult	Agakishiev 89C mult	
mult[grey] mult[fragb] X	Agakishiev 89C mult	
54 Babaev 90 ang	Agakishiev 89C mult	
mult[grey] mult[shower] X	Agakishiev 89C mult	
54 Babaev 90 ang	Agakishiev 89C mult	
Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.		

$\text{C C} \rightarrow \pi^+ \pi^- \text{X}$ $^{13}\text{Bor Al} \rightarrow \text{inelastic}$

C C	C Cu	C Ta
$\pi^+ \pi^- \text{X}$ 4.2 $\pi^0 \text{ mult}[\pi^-] \text{X}$ 50.4	Angelov 88 ang, cor Gulkanyan 87C cor, mult	Anikina 86C angp
$\pi^- \text{ mult}[\pi^-] \text{X}$ 50.4	Agakishiev 89 angp, mult	Stock 87 mult
$p \text{ charged X}$ 50.4	Agakishiev 86B angp, mult, p, pt	Stock 87 angp, pol
$p \text{ charged+ X}$ 4.2	Agakishiev 88 ang, cor	Anikina 85B angp, pol
$p \pi^- \text{X}$ 4.2 50.4	Angelov 88 ang, cor Gulkanyan 88 ang, angp, cor, p, pt	Adyasevich 85 a-dep, cs, p
$2p \text{X}$ 4.2 50.4	Angelov 88 ang, cor Pluta 88B angp, cor, p Zielinsky 88 cs, mass	Batskovich 88 cs
$\pi^- \text{ Offragb X}$ 50.4	Grishin 87 p Armutiljsky 86B cor Agakishiev 84E mass	Grigalashvil 88 a-dep, mult
$\text{mult}[p] \pi^- \text{X}$ 50.4	Agakishiev 89B angp, mult, p	Batskovich 88 cor, mult
$\gamma \text{ anomalon X}$ 50.4	Agakishiev 89 angp, p	Bialkowska 86 p, pt
$\gamma \text{ frag X}$ 50.4	Cheplakov 85 p	Kutsidi 86 mult
$\pi \text{ hadron X}$ 4.2	Cheplakov 85 p	Grigalashvil 88 a-dep, mult
$\text{mult}[\gamma] \text{ mult}[\text{fragb}] \text{X}$ 50.4	Lyubimov 88 col	Grigalashvil 88 a-dep, mult
$\text{mult}[\pi^0] \text{ mult}[\text{fragb}] \text{X}$ 50.4	Gulkanyan 87C mult	Mekhtiev 88 et
$\pi \text{ hadron X}$ 4.2	Gulkanyan 87C mult	Kutsidi 86 mult
$p \text{ (p's) X}$ 50.4	Angelov 88 angp, col	Batskovich 88 cor, mult
2fragb X 4.2	Angelov 88 ang, cor	Grigalashvil 88 a-dep, mult
$p \text{ mult}[\text{charged}] \text{ (neutrals)}$ 50.4	Aneeov 85 mult, p	Batskovich 88 cor, mult
$2p \text{ (p's) X}$ 50.4	Agakishiev 89C angp, mult, p, pt	Gulkanyan 88B p, pt
$3p \text{ (p's) X}$ 4.2	Lyubimov 88 col	Gulkanyan 88C mult, p
C Ne	C Si	C nucleus
$\pi^- \text{X}$ 17.74	$\pi^- \text{X}$ 17.74	$\pi^- \text{X}$ 11.42 – 38.39
ΔX 53.22 54	ΔX 53.22 54	Stock 87 mult
deuteron X 54	Stock 87 angp, pol	Baroni 90 cs
C Cu	C Si	$\text{p} \pi^- \text{X}$ 23.01
$\pi^- \text{X}$ 17.74	$\pi^- \text{X}$ 17.74	$\text{mult}[\pi^+] \text{ mult}[\pi^-] \text{X}$ 53.96
$p \text{X}$ 54	Stock 87 mult	Stock 87 mult
ΔX 53.22 54	Stock 87 angp, pol	Okonov 88 cor, mult
deuteron X 54	Anikina 86C angp	$^{13}\text{Bor Be}$
		inelastic 18.82
		$^{13}\text{Bor C}$
		inelastic 18.82
		$^{13}\text{Bor Al}$
		inelastic 18.82

¹⁴Bor Be → inelastic¹⁶O Cu → mult[charged] X

¹⁴ Bor Be		¹⁶ O p		¹⁶ O C	
inelastic 19.3	Tanihata 88	a-dep, cs	π^- mult[charged] X 62.76 Glagolev 89	mult	2γ X (268.9) Lohner 88
¹⁴ Bor C			$0\pi^-$ mult[charged] X 62.76 Glagolev 89	mult	Schmidt 87 mass
inelastic 19.3	Tanihata 88	a-dep, cs	mult[π^-] mult[charged] X 62.76 Glagolev 89	cor, mult	frag fragb X (268.9) Franz 88B cor, mult, p
¹⁴ Bor Al			mult[fragb] mult[charged] X 62.76 Glagolev 89	cor, mult	mult[π^-] mult[frag] mult[fragb] X 72 Anikina 85 cor, mult
inelastic 19.3	Tanihata 88	a-dep, cs	mult[π^-] mult[fragb] X 62.76 Glagolev 89	cor, mult	¹⁶ O Ne
¹⁴ Be C			$2\pi^-$ mult[charged] X 62.76 Glagolev 89	mult	inelastic (192.9 – 348.4) Pugh 88 cs
inelastic 20.27	Tanihata 88	a-dep, cs	$3\pi^-$ mult[charged] X 62.76 Glagolev 89	mult	charged X 72 Anikina 86B a-dep, angp, cs, mult
¹⁴ Nit Cu			¹⁶ O He		π^- X 72 Gazdzicki 85 angp, pt
e ⁺ X 3.863	Beard 85B	angp, p	inelastic (86.63 – 155.6) Pugh 88	cs	A X 72 Gazdzicki 85 angp, pt
¹⁴ Nit nucleus			¹⁶ O 12C		2 π^- fragb X 72 Abdurakhimov 88 angp, cor
⁴ He X 39.63 – 64.21	Abdurazakova 88	pt	¹⁶ O X 10 Hufner 85	p	mult[π^-] mult[frag] mult[fragb] X 72 Anikina 85 cor, mult
mult[black] X 40.6	Babaev 90	ang	¹⁶ O C		¹⁶ O Al
mult[grey] X 40.6	Babaev 90	ang	X (148.9 – 268.9) Albrecht 87	et, p	inelastic (403.1) Barnes 88 cs
mult[shower] X 40.6	Babaev 90	ang	charged X (148.9 – 268.9) Albrecht 88 a-dep, et, p		charged X (223.3 – 403.1) Akesson 89B cor, et, p
mult[black] mult[fragb] X 40.6	Babaev 90	ang	(268.9) Lund 88	p	mult[charged] X (223.3 – 403.1) Akesson 89B cor, mult, p
mult[black] mult[grey] X 40.6	Babaev 90	ang	Schmidt 87	p	frag X (223.3 – 403.1) Brechtmann 88B cs
mult[black] mult[shower] X 40.6	Babaev 90	ang	²³² Remsberg 88	mult	hadron X (223.3 – 403.1) Akesson 88 a-dep, angp, et
mult[grey] mult[fragb] X 40.6	Babaev 90	ang	(148.9 – 268.9) Albrecht 88	mult	Corriveau 88 et
mult[grey] mult[grey] X 40.6	Babaev 90	ang	Otterlund 88B	mult, p	Odyniec 89 et
mult[black] mult[shower] X 40.6	Babaev 90	ang	(268.9) Albrecht 89D	cor, mult, p	Pugh 88 et
mult[shower] mult[fragb] X 40.6	Babaev 90	ang	Lund 88	mult	mult[hadron] X (223.3 – 403.1) Tannenbaum 89 et, p
mult[shower] mult[fragb] X 40.6	Babaev 90	ang	Franz 88B	cs	mult[neutral] X (403.1) Tannenbaum 89 et, p
2fragb X 39.63 – 64.21	Abdurazakova 88	ang, cor	(268.9) Schmidt 87	cor, et, mult, p	shower X (403.1) Barnes 88 cs
Nit nucleus			γ X (148.9 – 268.9) Lohner 88	pt	¹⁶ O 27Al
inelastic 2813	Baroni 90	cs	(268.9) Albrecht 88	pt	inelastic 0.946 Dubar 89 cs
¹⁶ Bor Be			Schmidt 87	pt	¹⁶ O Cu
inelastic 20.76	Tanihata 88	a-dep, cs	^{974.8} Lohner 88	pt	X (345.2 – 620) Albrecht 87 et, p
¹⁶ Bor C			(148.9 – 268.9) Albrecht 88B	pt	inelastic (345.2 – 620) Bamberger 88B cs
inelastic 20.76	Tanihata 88	a-dep, cs	(268.9) Franz 88B	ang, p	Pugh 88 cs
¹⁶ Bor Al			Lohner 88	an, p, pt	charged X (345.2 – 620) Albrecht 90C a-dep, et, p
inelastic 20.76	Tanihata 88	a-dep, cs	Schmidt 87	pt	Albrecht 88 a-dep, et, p
¹⁶ O p			²³² Remsberg 88	mult	Bamberger 88B et, mult, p
mult[charged] X 62.76	Glagolev 89	mult	(268.9) Tannenbaum 89	p	Otterlund 88B a-dep, p
hypernucleus X 46.15	Bartke 89	cs	Sorensen 88	cs, et, p	Lund 88 p
mult[charged] (neutrals) (45.3 – 79.09)	Brechtmann 88B	cs	Schmidt 87	et	Schmidt 87 p
2charged (neutrals) 62.76	Glagolev 89	cs	(268.9) Heck 88	et	charged- X (345.2 – 620) Bamberger 88B et, mult, p
frag X (45.3 – 79.09)	Brechtmann 88B	cs	Schmidt 87	p	mult[charged] X 232 Remsberg 88 mult
2charged (neutrals) inelastic 62.76	Glagolev 89	cs	^{148.9 – 268.9} Tannenbaum 89	et, p	(345.2 – 620) Albrecht 88 mult
			mult[neutral] X (148.9 – 268.9) Tannenbaum 89	et, p	Otterlund 88B mult, p
					Lund 88 mult

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

$^{16}\text{O Cu} \rightarrow \text{neutral X}$ $^{16}\text{O Au} \rightarrow \bar{\Lambda} \text{X}$

$^{16}\text{O Cu}$	$^{16}\text{O Ag}$	$^{16}\text{O Au}$
neutral X	p X	charged- X
232 Remsberg 88 Tannenbaum 88 et, p	(810.2) Schmidt 88 p, pt	Odyniec 89 Bamberger 88B p, pt
mult[charged] (neutrals)	baryon X	(1102)
(345.2 - 620) Brechtmann 88B cs Franz 88B cor, et, mult, p	974.8 Schmidt 88 P (454.1 - 810.2) Albrecht 90C	Pugh 89 et, mult, p Bamberger 88 mult, p Humanic 88 mult, p
(620) Schmidt 87 mult	(810.2) Schmidt 88 a-dep, et, p	Pugh 88 angp, p, pt
π^\pm X	frag X	mult[charged] X
(345.2 - 620) Albrecht 90C a-dep, et, p	(454.1 - 810.2) Brechtmann 88B cs	232 Remsberg 88 mult
$J/\psi(1S)$ X	fragb X	(625.8 - 1102) Albrecht 88 mult
(620) Sonderegger 89 cs, et	(810.2) Tannenbaum 89 P	Lund 88 mult
mult[γ] X	hadron X	Otterlund 88B mult, p
232 Abbott 87 P 246.5 Tannenbaum 87 P	974.8 Heck 88 a-dep, angp, et (454.1 - 810.2) Akesson 88 et	Albrecht 89D cor, mult, p
p X	Sorensen 88 cs, et, p Schmidt 87 et	Lund 89 mult
(620) Schmidt 88 p, pt	(810.2) Corriveau 88 et Heck 88 et	Otterlund 88B cor, et, mult
baryon X	Lund 88 cs Sorensen 88 cs, et, p	Lund 89 mult
974.8 Schmidt 88 P (345.2 - 620) Albrecht 90C	Schmidt 87 et Odyniec 89 et Pugh 88 et	Otterlund 88B cor, et, mult
(620) Schmidt 88 a-dep, et, p	Schmidt 87 P	neutral X
fragb X	mult[hadron] X	232 Remsberg 88 mult
(620) Tannenbaum 89 P	(454.1 - 810.2) Tannenbaum 89 et, p	Tannenbaum 88 et, p
hadron X	mult[neutral] X	mult[charged] (neutrals)
974.8 (345.2 - 620) Heck 88 P Heck 88 et Lund 88 cs	(454.1 - 810.2) Tannenbaum 89 et, p	(625.8 - 1102) Franz 88B cor, et, mult, p
(620) Sorensen 88 cs, et, p Schmidt 87 et	(810.2) Franz 88B cor, mult, p	(1102) Schmidt 87 mult
Odyniec 89 et Pugh 88 et	frag fragb X	γ X
Schmidt 87 P	(810.2) Franz 88B cor, mult, p	(625.8 - 1102) Albrecht 88B pt
mult[hadron] X	16⁰ Wt	Lohner 88 pt
(345.2 - 620) Tannenbaum 89 et, p	charged X	Schmidt 87 pt
mult[neutral] X	(602.9 - 1063) Akesson 89B cor, et, p (1063) Schukraft 88 et, p	London 89 pt
14.5 Tannenbaum 89 et, p (345.2 - 620) Tannenbaum 89 et, p	charged- X	Lund 89 angp, pt
$\mu^- \mu^+ X$	(1063) Akesson 89E cs, et, pt Bartels 88 pt Schukraft 88B p, pt	π^0 X
(620) Sonderegger 89 cs, et, et, mass	cor, mult, p	(625.8 - 1102) Albrecht 90C a-dep, et, p
$2\mu^- X + 2\mu^+ X$	(1063) Schukraft 88 mult, p	$\pi^- X$
(620) Sonderegger 89 et, mass	γ X	(1102) London 89 angp Odyniec 89 pt Pugh 89 pt
frag fragb X	(1063) Akesson 89D cs, et, pt Bartels 88 pt	$J/\psi(1S)$ X
(620) Franz 88B cor, mult, p	$\pi^0 X$	(1102) Bartke 89 et, pt
mult[π^-] mult[fragt] mult[fragb] X	(1063) Akesson 89D cs, et, pt	$\psi(2S)$ X
72 Anikina 85 cor, mult	hadron X	(1102) Bartke 89 et, pt
$^{16}\text{O Ag}$	mult[hadron] X	mult[γ] X
X	(602.9 - 1063) Tannenbaum 89 et, p	232 Abbott 87 Tannenbaum 87 p
(454.1 - 810.2) Albrecht 87 et, p	16⁰ Au	246.5 (1102) Odyniec 89 mult, pt
charged X	X	K⁰ X
(454.1 - 810.2) Albrecht 90C a-dep, et, p	(625.8 - 1102) Albrecht 87 et, p	(1102) Odyniec 89 mult, pt
Akesson 89B cor, et, p Albrecht 88 a-dep, et, p Otterlund 88B a-dep, p (810.2) Lund 88 p Schmidt 87 P	inelastic	K_S X
mult[charged] X	(625.8 - 1102) A!brecht 87 et, p	(625.8 - 1102) Bamberger 89 mult, p, pt
(454.1 - 810.2) Akesson 89B cor, mult, p	(625.8 - 1102) Bamberger 88B cs, p, pt	Vesztergombi 88 cs, p, pt
Albrecht 88 mult Otterlund 88B mult, p	Lund 88 p	London 89 angp Pugh 89 pt, pt
(810.2) Lund 88 mult	Otterlund 88B a-dep, p	p X
mult[charged] (neutrals)	(810.2) Schmidt 87 P	(1102) Albrecht 90C et, p, pt
(454.1 - 810.2) Brechtmann 88B cs	charged X	Schmidt 88 et, p, pt
Franz 88B cor, et, mult, p	(625.8 - 1102) Albrecht 90C a-dep, et, p	(625.8 - 1102) Bamberger 89 mult, p, pt
(810.2) Schmidt 87 mult	Albrecht 88 a-dep, et, p Bamberger 88B et, mult, p	Vesztergombi 88 cs, p, pt
π^\pm X	Lund 88 p	London 89 angp Odyniec 89 mult, pt
(454.1 - 810.2) Albrecht 90C a-dep, et, p	Otterlund 88B a-dep, p	Pugh 89 pt, pt
	Schmidt 87 P	Λ X
	(1102) Pugh 88 pt	(625.8 - 1102) Bamberger 89 mult, p, pt
	Stroble 88 cor, cs, mult, p	Vesztergombi 88 cs, p, pt
	(625.8 - 1102) Bamberger 89 mult, p, pt	London 89 angp Odyniec 89 mult, pt

REACTION/MOMENTUM/DATA-DESCRIPTOR INDEX

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 $^{16}\text{O} \text{ Au} \rightarrow \bar{\Lambda} X$
 ^{16}O nucleus \rightarrow mult[char^{no 11}] (neutrals)

 $^{16}\text{O} \text{ Au}$

$\bar{\Lambda} X$	Pugh 89	pt
baryon X	Schmidt 88	p
974.8 (625.8 - 1102)	Albrecht 90C	a-dep, et, p
deuteron X	Schmidt 88	mult, p
(1102)	Schmidt 88	mult, p
mult[p] X	Machner 85	p
3.08		
fragb X	Tannenbaum: 89	p
(1102)		
hadron X	Heck 88	p
974.8 (625.8 - 1102)	Heck 88	et
Lund 88		cs
Pugh 88		et, p
Sorensen 88		cs, et, p
Schmidt 87		et
Albrecht 90C		p
Odyniec 89		et, pt
Heck 88		p
Schmidt 87		et
Tannenbaum 87		et
Bamberger 86		et
mult[hadron] X	Tannenbaum 89	et, p
(625.8 - 1102)		
mult[neutral] X	Tannenbaum 89	et, p
14.5 (625.8 - 1102)	Tannenbaum 89	et, p
charged neutral X	Remsberg 88	cor, mult, p
232		
2charged- X	Pugh 88	angp, cor
(1102)		
γ mult[charged] X	Lohner 88	mult, pt
(625.8 - 1102)		
2 γ X	Lund 89	mass, pt
	Albrecht 88B	mass
	Lohner 88	mass
	Schmidt 87	mass
$\mu^- \mu^+ X$	Bartke 89	et, pt
(1102)		
2 π^- X	Odyniec 89	angp, cor
(1102)	Bamberger 88	cor
	Humanic 88	angp, cor, p
$\pi^+ \pi^- X$	Bamberger 89	mass
(625.8 - 1102)	Vesztergombi 88	mass
$p \pi^- X$	Bamberger 89	mass
(625.8 - 1102)	Vesztergombi 88	mass
$\bar{p} \pi^+ X$	Bamberger 89	mass
(625.8 - 1102)	Vesztergombi 88	mass
$\bar{\Lambda} \pi^+ X$	Bamberger 89	mult, p, pt
(625.8 - 1102)		
γ hadron X	Lohner 88	p, pt
(625.8 - 1102)		
γ mult[hadron] X	Lund 89	angp, p, et
(1102)		
hadron charged X	Albrecht 89M	cor, et, p
(1102)	Lund 88	p
	Pugh 88	cor, mult, p
hadron charged- X	Stroebel 88	cor, cs, et, mult, p, pt
(625.8 - 1102)		

 $^{16}\text{O} \text{ Au}$

hadron mult[charged] X	(1102)	Albrecht 89M
		cor, mult, p
π^0 hadron X	(1102)	Franz 88B
		angp, cor, p, pt
π^0 mult[hadron] X	(1102)	Lund 89
		angp, p, pt
fragt fragb X	(1102)	Franz 88B
		cor, mult, p
$3\pi^- X$	(1102)	Odyniec 89
		angp, cor
$^{16}\text{O} \text{ Hg}$		
$q X$		
	231.5	Shaw 87
	974.8 - 1935	Calloway 89
$^{16}\text{O} \text{ Pb}$		
inelastic	(643.3 - 1131)	Barnes 88
charged X	72	Anikina 86B
		a-dep, angp, cs, mult
mult[charged] (neutrals)	(643.3 - 1131)	Brechtmann 88B
		cs
$J/\psi(1S) X$	(1131)	Bussiere 88
		cs
frag X	(643.3 - 1131)	Brechtmann 88B
		cs
fragb X	(1131)	Gerbier 87
		angp, pt
hadron X	(1131)	Odyniec 89
		et
		Pugh 89
mult[hadron] X	(1131)	Tannenbaum 89
		et, p
$q X$	(364.4 - 1131)	Hoffmann 88
		cs
	(1131)	Gerbier 87
shower X	(643.3 - 1131)	Barnes 88
		cs
$\mu^- \mu^+ X$	(1131)	Bussiere 88
		mass
$2\mu^- X + 2\mu^+ X$	(1131)	Bussiere 88
		mass
$J/\psi(1S) \text{ neutral } X$	(1131)	Bussiere 88
		cs, et, pt
hadron charged X	(1131)	Tannenbaum 87
		cor, mult, p
		Bamberger 86
		cor, mult, p
$\mu^- \mu^+ \text{ neutral } X$	(1131)	Bussiere 88
		et
$2\mu^- \text{ neutral } X + 2\mu^+ \text{ neutral } X$	(1131)	Bussiere 88
		et
mult[π^-] mult[fragt] mult[fragb] X	72	Anikina 85
		cor, mult
$^{16}\text{O} \text{ 238U}$		
$2\mu^+ X$	(1214)	Sonderegger 88
		mass, pt
$2\mu^- X$	(1214)	Sonderegger 88
		mass, pt

 $^{16}\text{O} \text{ 238U}$

$2\mu^- X + 2\mu^+ X$	(1214)	Sonderegger 88
		pt
$2\mu^+ \text{ (neutrals) } X$	(1214)	Sonderegger 88
		et
$2\mu^- \text{ (neutrals) } X$	(1214)	Sonderegger 88
		et
$2\mu^- \text{ (neutrals) } X + 2\mu^+ \text{ (neutrals) } X$	974.8	Sonderegger 88
		et, pt
$^{24}\text{Na} \text{ 2frag (frag) }$	(694 - 1214)	Aleklett 87
		-
$^{44}\text{Sc} \text{ 2frag (frag) }$	(694 - 1214)	Aleklett 87
		-
$^{48}\text{Sc} \text{ 2frag (frag) }$	(694 - 1214)	Aleklett 87
		-
$^{16}\text{O} \text{ U}$		
$J/\psi(1S) X$	(1215)	Baglin 89
		London 89
		Sonderegger 89
		cs, et, pt
$\mu^- \mu^+ X$	(1215)	Baglin 89
		London 89
		Sonderegger 89
		cs, et, mass
$2\mu^- X + 2\mu^+ X$	(1215)	Baglin 89
		et, mass
		Sonderegger 89
$^{16}\text{O} \text{ nucleus}$		
X	44.47 - 3215	Otterlund 88
	248.1 - 3215	Adamovich 88B
	3215	Ramello 88
		cs
		et
		mass
	43.94 - 3200	London 89
	44.47	Judek 86
	248.1 - 3215	Barbier 88B
	974.8 - 3215	Sengupta 89B
		cs
		Bamberger 88B
	3215	Singh 88
		Baroni 90
		Romano 89
		Ramello 88
charged X	974.8 - 3215	Bamberger 88B
	3215	Akesson 90
		cor, et, mult, p
		London 89
		a-dep, p
		Ro-nano 89
		et, mult, p
		Ramello 88
		et, p, pt
		Jain 87
		angp, mult
charged- X	72	Anikina 86D
	974.8 - 3215	Bamberger 88B
		et, mult, p
$2\mu^- \text{ charged- } X$	3215	Akesson 90
		cor, et, mult, p
		London 89
		a-dep, p
		Ro-nano 89
		et, mult, p
		Ramello 88
		et, p, pt
		Jain 87
		angp, mult
charged- X	72	Anikina 86D
	974.8 - 3215	Bamberger 88B
		et, mult, p
$2\mu^- \text{ neutral } X$	(1131)	Bussiere 88
		et
$2\mu^- \text{ neutral } X + 2\mu^+ \text{ neutral } X$	(1131)	Bussiere 88
		et
mult[π^-] mult[fragt] mult[fragb] X	72	Anikina 85
		cor, mult
$^{16}\text{O} \text{ 238U}$		
$2\mu^+ X$	(1214)	Sonderegger 88
		mass, pt
$2\mu^- X$	(1214)	Sonderegger 88
		mass, pt

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary). Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

^{16}O nucleus → mult[γ] X

O Cu → mult[charged] (neutrals)

^{16}O nucleus	^{16}O nucleus	^{16}O nucleus
mult[γ] X 232 Abbott 87 p 246.5 Tannenbaum 87 p	shower X 44.47 Judek 86 angp, mult 46.15 – 3215 Adamovich 90 mult Adamovich 89B mult 230 – 3200 Bartke 89 p 248.1 – 974.8 Adamovich 88D mult, p Otterlund 88 mult Ramello 88 mult	htrack mult[fragb] X 3215 Ramello 88 mult
mult[htrack] X 248.1 – 974.8 Adamovich 88D mult 3215 Otterlund 88 mult Ramello 88 mult	shower X 248.1 – 974.8 Adamovich 88D mult, p Tannenbaum 89 p Adamovich 88B mult, p 974.8 – 3215 Jain 90 mult, p Singh 88 mult, p Tretyakova 88 mult	shower mult[shower] X 3215 Adamovich 88 p
^4He X 974.8 – 3215 Ardito 87 cs	black X + grey X 974.8 – 3215 Ardito 87 mult	2shower X 46.15 Ghosh 89B cor, p
He X 974.8 – 3215 Sengupta 89 mult 974.8 – 3215 Sengupta 89B cs 3215 Otterlund 88 angp, mult Singh 88B cs	shower X + fragb X 248.1 – 3215 Adamovich 88C angp, p nucleus mult[fragb] 3215 Romano 89 cs	nucleus ^{12}C ^4He 974.8 – 3215 Ardito 87 cs
Ofragb X 974.8 – 3215 Sengupta 89B cs	OA charged- X 72 Anikina 86D angp, mult	nucleus C He 3215 Baroni 90 cs, p
charm X 3215 Aoki 89 cs	nucleus Li X 3215 Baroni 90 cs, p	^2He black X 974.8 – 3215 Ardito 87 cs
mult[He] X 974.8 Sengupta 89 cs 974.8 – 3215 Sengupta 89B cs, mult	nucleus Be X 3215 Baroni 90 cs, p	^3He X 974.8 – 3215 Ardito 87 cs
anomalon X 46.15 Bayman 87 – 72 Avdejchikov 85 cs	2 π^- X 3215 London 89 angp, cor, pt	mult[htrack] black (fragbs) X 3215 Tretyakova 88 mult
black X 974.8 – 3215 Ardito 87 cor, cs 3215 Adamovich 89C mult Ramello 88 angp, mult Tretyakova 88 mult	A charged- X 72 Anikina 86D angp, mult	mult[htrack] grey (fragbs) X 3215 Tretyakova 88 mult
frag X 974.8 – 3215 Brechtmann 88B cs	He mult[htrack] X 974.8 Sengupta 89 mult 3215 Singh 88B cs	mult[htrack] mult[shower] (fragbs) X 3215 Tretyakova 88 mult
fragb X 72 Avdejchikov 85 cs 974.8 – 3215 Ardito 87 cs 3215 Romano 89 angp, p Otterlund 88 cs	2 π^+ He X 974.8 – 3215 Ardito 87 cs	shower mult[shower] Ofragb X 974.8 – 3215 Singh 89 cor, mult, p
fragt X 974.8 – 3215 Ardito 87 mult	mult[He] mult[htrack] X 974.8 Sengupta 89 cs	charm mult[shower] fragb X 3215 Aoki 89 cs, mult
grey X 90.2 – 99 Antonchik 87 angp, mult, p, pt 248.1 – 3215 Adamovich 89D angp, mult	fragb charged X 3215 London 89 cor, mult, p	htrack mult[shower] fragb X 248.1 – 3215 Barbier 88B mult
	fragb charged- X 72 Anikina 86D angp, mult	htrack shower fragb X 248.1 – 3215 Barbier 88B cs, mult, p Otterlund 88 p
	fragb mult[charged-] X 72 Anikina 86D angp, angp, mult, mult, p, pt	3shower X 46.15 Ghosh 89B cor, p
	mult[htrack] fragb X 3215 Otterlund 88 mult	nucleus C 2p 3215 Baroni 90 cs, p
htrack X 44.47 Judek 86 angp, mult 3215 Ramello 88 angp, mult Tretyakova 88 mult	mult[htrack] mult[shower] X 248.1 – 974.8 Adamovich 88D mult	nucleus Bor He p 3215 Baroni 90 cs, p
mult[black] X 248.1 – 974.8 Adamovich 88D mult 3215 Adamovich 89C mult	mult[htrack] shower X 248.1 – 974.8 Adamovich 88D mult, p 248.1 – 3215 Adamovich 88B mult, p	^3He black X 974.8 – 3215 Ardito 87 cs
mult[fragb] X 3215 Ramello 88 mult	^4He black X 974.8 – 3215 Ardito 87 cs	^4He X 974.8 – 3215 Ardito 87 cs
mult[grey] X 46.15 – 3215 Adamovich 89D mult 3215 Adamovich 89C mult	mult[shower] Ofragb X 974.8 – 3215 Romano 89 mult 3215 Jain 90B cor, mult, p	4shower X 46.15 Ghosh 89B cor, p
mult[neutral] X 14.5 Tannenbaum 89 et, p	shower Ofragb X 974.8 – 3215 Jain 90 mult, p	nucleus Bor 3p 3215 Baroni 90 cs, p
mult[shower] X 248.1 – 3215 Adamovich 89E cor, mult, p Adamovich 88C mult Otterlund 88 mult 974.8 – 3215 Jain 90 mult Holynski 89B cor, mult, p Singh 88 ang, cor, mult, p Ramello 89 et, mult Adamovich 88 mult Stenlund 88 mult	^{15}N p X 3215 Ramello 88 pt	nucleus 4He 3215 Baroni 90 cs, p
	^{16}O n X 7.761 – 3200 Bartke 89 a-dep, cs	$^{4\text{He}}$ black X 974.8 – 3215 Ardito 87 cs
	black fragb X 974.8 – 3215 Ardito 87 cs	nucleus 3He 2p 3215 Baroni 90 cs, p
	black grey X 90.2 – 99 Antonchik 87 angp, mult, p, pt	nucleus 2He 4p 3215 Baroni 90 cs, p
	grey mult[shower] X 248.1 – 3215 Adamovich 89D mult	nucleus He 6p 3215 Baroni 90 cs, p
	grey shower X 3215 Otterlund 88 cor, mult	O C
		mult[charged] (neutrals) (148.9 – 268.9) Ritter 88 et, mult
		O Ne
		π^- X 70.95 Stock 87 mult
		Δ X 70.95 Stock 87 angp 72 Anikina 85B angp, pol
		O Cu
		mult[charged] (neutrals) (345.2 – 620) Ritter 88 et, mult

O Ag → mult[charged] (neutrals)

Ne Pb → 2charged (chargeds) (neutrals)

O Ag	$^{19}\text{Fl Wt}$	$^{20}\text{Ne nucleus}$
mult[charged] (neutrals) (454.1 – 810.2) Ritter 88	fragb X 76	mult[p] mult[charged] X 16.11 Aggarwal 85B
et, mult	Golovin 88	angp. cs. p
O Wt	$^{19}\text{Fl Bi}$	$^{20}\text{Ne Li X}$
mult[charged] (neutrals) (1063) Ritter 88	fragb X 76	fragb mult[charged-] X 90 Anikina 86D
et, mult	Golovin 88	angp. mult. p. pt
O Au	$^{19}\text{Fl U}$	$^{20}\text{Li He X}$
mult[charged] (neutrals) (625.8 – 1102) Ritter 88	fragb X 76	Nit 2Li X 16.11 Aggarwal 85B
(1102) Ritter 88	et, mult	angp. cs. p
O Pb	$^{20}\text{Ne Ne}$	$^{20}\text{Li He X}$
π^- X 70.95 Stock 87 mult	charged X 90	16.11 Aggarwal 85B
Δ X 70.95 Stock 87 angp	Anikina 86B a-dep, angp. cs. mult	angp. cs. p
72 Panagiotou 89	Dubar 89	
Anikina 85B p, pol, pt angp, pol	cs	
O U	$^{20}\text{Ne }^{27}\text{Al}$	$^{20}\text{Ne Zr}$
ω mult[charged] (neutrals) + ρ^0 mult[charged] (neutrals) (1212) Abreu 89	inelastic 1.058 – 3.357	charged X 90 Anikina 86B
cs	Dubar 89	a-dep, angp. cs. mult
ϕ mult[charged] (neutrals) (1212) Abreu 89	3.357	inelastic Dubar 89
cs		cs
$\mu^- \mu^+$ mult[charged] (neutrals) (1212) Abreu 89	$^{20}\text{Ne Ta}$	$^{20}\text{Ne Ta}$
et, mass	fragt X 8	fragt X 8 Hufner 85
	Hufner 85	p
O nucleus	$^{20}\text{Ne Au}$	$^{20}\text{Ne f}_2(1270)$
p X 30.67 Antonchik 90B	fragt X 7.6	π^+ X 29.28 Gosset 89
angp, mult, p	Hufner 85	angp. p
mult[p] mult[π^+] mult[π^-] X 71.94 Okonov 88	$^{20}\text{Ne }^{197}\text{Au}$	π^- X 29.28 Gosset 89
cor, mult	p X 3.842 – 3.881	angp. p
Fl C	$^{20}\text{Ne nucleus}$	$^{20}\text{Ne Na}$
inelastic 79.8 Grigalashvil 88	mult[charged] X 16.11	π^+ X 29.28 Gosset 89
charged- X 79.8 Grigalashvil 88	Aggarwal 85B angp. cs. p	π^- X 29.28 Gosset 89
mult[charged-] X 79.8 Grigalashvil 88	π^- X 55.59 Shor 89	n X 18.81 – 29.04 Maday 85
a-dep, mult	K- X 55.59 Shor 89	angp. p
	p X 16.11 Aggarwal 85B	Ne Nb
	angp. cs. p	π^+ X 29.23 Gosset 89
	\bar{p} X 55.59 Shor 89	π^- X 29.28 Gosset 89
$^{19}\text{Fl C}$	He X	Ne Au
fragb X 76 Golovin 88	16.11 Aggarwal 85B angp. cs. p	fragt X 5 – 42 Hufner 85
cs		42 Hufner 85
$^{19}\text{Fl Mg}$	$^{16}\text{He X}$	Ne Pb
charged- X 85.5 Anikina 89 mult	16.11 Aggarwal 85B angp. cs. p	charged X 19.09 – 29.28 Bastid 89
mult[charged-] X 85.5 Anikina 89 mult	16.11 Aggarwal 85B angp. cs. p	mult[charged] (neutrals) 19.09 – 29.28 Bastid 89
mult[π^-] X 85.5 Anikina 89 mult	16.11 Aggarwal 85B angp. cs. p	mult
mult[frag] mult[charged] X 85.5 Anikina 89 mult	16.11 Aggarwal 85B angp. cs. p	π^+ X 29.28 Gosset 89
	mult[He] mult[neutral] 16.11 Aggarwal 85B angp. cs. p	angp. p
	mult[p] mult[neutral] 16.11 Aggarwal 85B angp. cs. p	π^- X 29.28 Gosset 89
$^{19}\text{Fl Al}$	Nit Li X	$K^+ X$
fragb X 76 Golovin 88	16.11 Aggarwal 85B angp. cs. p	57.81 Schnetzer 89
cs		angp. cs. p
$^{19}\text{Fl Cu}$	$^{16}\text{He X}$	Stock 87
fragb X 76 Golovin 88	16.11 Aggarwal 85B angp. cs. p	angp.
cs		
$^{19}\text{Fl In}$	$^{16}\text{He X}$	$n X$
fragb X 76 Golovin 88	16.11 Aggarwal 85B angp. cs. p	18.81 – 29.04 Maday 85
cs		angp. p
	mult[He] mult[charged] X 16.11 Aggarwal 85B angp. cs. p	2charged (chargeds) (neutrals) 19.09 – 29.28 Bastid 89
		angp. mult, p. pt

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

Ne U → charged X

22Ne nucleus → 2black X

Ne U		22Ne nucleus		22Ne nucleus	
charged X 19.09	Schurman 87	angp. p	3H X 99	Vokal 88	p
mult[charged] (neutrals) 19.09 - 29.28	Bastid 89	angp. p	4He X 39.63 - 64.21	Abdurazakova 88	pt
anomalon X 90.2			He X 90.2	Andreeva 88B	angp
black X 90.2	Dubinina 88	angp. p	90.2	Alekseeva 88	angp. cs
frag X 4.1			90.81	Bayman 87	
fragb X 90.2			black X 90.2	Andreeva 88	mult. p
fragt X 90.2			Lepeshkin 89	mult	
grey X 90.2			Andreeva 88	angp. mult. pt	
mult[black] X 90.2			Andreeva 86	angp. mult.	
mult[fragb] X 90.2			Vokalova 85	angp. mult. p	
mult[fragt] X 90.2			Elnaghy 87	mult	
mult[frag] X 90.2			Andreeva 86B	p	
mult[shower] X 90.2			Vokalova 85	angp. mult. p	
mult[black] (neutrals) 19.09 - 29.28	Bastid 89	angp. mult. p	Lepekhin 89	mult	
mult[p] mult[π+] X 90.05	Stock 87	angp. p	Andreeva 88C	angp. pt	
mult[π-] X 90.05	Schurman 87	angp. p	Lepeshkin 89	mult	
2charged (charged) (neutrals) 19.09 - 29.28	Bastid 89	angp. mult. p	Andreeva 88	mult	
mult[p] mult[π+] mult[π-] X 90.05	Stock 87	mult	Andreeva 88	angp. mult. pt	
22Ne p			Andreeva 89	mult	
fragb X 88.55	Bogdanov 88	cs, mult	Babaev 90	ang	
22Ne 12C			Bannik 87	angp. mult. p	
mult[charged] (neutrals) 90.2	Elnaghy 87B	mult	mult[fragb] X 90.2	Andreeva 88C	col. cor
22Ne nucleus			Bannik 87	angp. mult. p	
mult[charged] X 90.2	Bannik 87	angp. mult. p	mult[fragt] X 90.2	Bannik 87	angp. mult. p
hypernucleus X 90.2	Andreeva 86B	-	mult[grey] X 90.2	Babaev 90	ang
mult[charged] (neutrals) 90.2	Elnaghy 87B	mult	Bannik 87	angp. mult. p	
π± X 99	Vokal 88	p	mult[shower] X 90.2	Babaev 90	ang
	Leskin 86	p	Bannik 87	angp. mult. p	
π+ X 90.2	Shabratova 86	angp. p	shower X 90.2	Lepekhin 89	ang
π- X 90.2	Shabratova 86	angp. p	Andreeva 88	ang. angp. col	
meson ⁰ X 99	Elnadi 88	-	Bannik 87	angp. mult. p	
p X 90.2	Andreeva 88B	angp	shower X 90.2	Andreeva 89	mult. p
	Shabratova 86	angp. p	Lepekhin 89	mult	
	Vokal 88	p	Andreeva 88	mult	
deuteron X 99	Leskin 86	p	Krasnov 86	angp. mult. pt	
	Vokal 88	p	Vokal 85	angp. mult. p	
			99	Vokal 88	angp. mult. p
			mult[black] (neutrals) 90.2	Andreeva 89	mult. p
			Andreeva 88	mult	
			Elnaghy 87B	mult	
			Andreeva 86	mult	
			Krasnov 86	mult	
			mult[grey] (neutrals) 90.2	Andreeva 89	mult. p
			Andreeva 88	mult	
			Elnaghy 87B	mult	
			mult[shower] mult[fragb] X 90.2	Babaev 90	ang
			mult[black] mult[fragb] X 90.2	Babaev 90	ang
			mult[black] mult[grey] X 90.2	Babaev 90	ang
			mult[black] mult[shower] X 90.2	Babaev 90	ang
			mult[grey] mult[fragb] X 90.2	Babaev 90	ang
			mult[grey] mult[shower] X 90.2	Babaev 90	ang
			mult[shower] mult[fragb] X 90.2	Babaev 90	ang
			shower frag X 4.1	Elnaghy 87	mult
			shower fragt X 90.2	Krasnov 87	cor
			shower jet X 90.2	Lepekhin 89	mult
			2black X 90.2	Krasnov 86	ang

²²Ne nucleus → 2frag XSi Si → K⁺ X

Ne nucleus				
frag X				
4.1	Elnaghy 87	mult		
2fragb X				
39.63 - 64.21	Abdurazakova 88	ang, cor		
2frag (frags)				
90.2	Andreeva 88	cs		
	Elnaghy 87B	cs		
	Andreeva 86	cs		
black mult[black] fragt X				
90.2	Krasnov 87	cor		
black mult[black] shower X				
90.2	Krasnov 87	cor		
black shower fragt X				
90.2	Krasnov 87	cor		
grey shower fragt X				
90.2	Krasnov 87	cor		
mult[black] grey fragt X				
90.2	Krasnov 87	cor		
mult[black] grey shower X				
90.2	Krasnov 87	cor		
mult[black] shower fragt X				
90.2	Krasnov 87	cor		
mult[black] 2grey X				
90.2	Krasnov 87	cor		
mult[black] 2shower X				
90.2	Krasnov 87	cor		
2black fragt X				
90.2	Krasnov 87	cor		
2black mult[black] X				
90.2	Krasnov 87	cor		
2grey fragt X				
90.2	Krasnov 87	cor		
2shower fragt X				
90.2	Krasnov 87	cor		
mult[black] mult[grey] fragt fragb				
99	Andreeva 85C	mult		
²⁴Mg Mg				
charged X				
108	Anikina 89	mult		
charged- X				
108	Anikina 89	mult		
mult[charged] X				
108	Anikina 89	mult		
mult[charged-] X				
108	Anikina 89	mult		
π- X				
108	Anikina 89	mult		
mult[π-] X				
108	Anikina 89	mult		
mult[frag] mult[charged] X				
108	Anikina 89	mult		
²⁴Mg nucleus				
anomalon X				
108	Karev 88	cs		
	Veres 85	cs		
frag X				
108	Karev 88	-		
fragb X				
108	Veres 85	cs		
mult[shower] X				
108	Ghosh 89D	mult. p		
Mg C				
inelastic				
102	Grigalashvili 88	cs		
charged- X				
102	Grigalashvili 88	a-dep, mult		
Mg C				
mult[charged] X				
102	Grigalashvili 88	mult		
Mg Pb				
mult[htrack] X				
108	Krasnov 88	mult		
π± mult[htrack] X				
108	Krasnov 88	mult		
htrack mult[htrack] X				
108	Krasnov 88	angp, mult		
mult[htrack] black X				
108	Krasnov 88	mult		
mult[htrack] fragb X				
108	Krasnov 88	mult		
mult[htrack] shower X				
108	Krasnov 88	mult, p		
htrack mult[htrack] shower X				
108	Krasnov 88	ang, angp, cor		
Mg nucleus				
mult[charged] X				
108	Ghosh 89	cor, mult, p		
π+ X				
79.82	Dubinina 88	angp, p		
π- X				
79.82	Dubinina 88	angp, p		
π± mult[htrack] X				
79.82	Dubinina 88	angp, p		
0π± mult[htrack] X				
79.82	Dubinina 88	angp, p		
²⁸Si Al				
fragb X				
431.3	Tannenbaum 89	p		
mult[hadron] X				
280	Tannenbaum 89	et, p		
²⁸Si nucleus				
hypernucleus X				
114.8	Ameeva 87	cs		
black X				
4.5	Ameeva 89	angp, mult		
126	Krasnov 88B	cs, mult, p		
fragb X				
114.8	Ameeva 87	cs		
126	Krasnov 88B	cs		
fragt X				
126	Krasnov 88B	cs		
grey X				
4.5	Ameeva 89	angp, mult		
126	Krasnov 88B	cs, mult, p		
hadron X				
406	London 89	angp, et		
mult[black] X				
4.5	Ameeva 89	mult		
mult[grey] X				
4.5	Ameeva 89	mult		
mult[shower] X				
4.5	Ameeva 89	mult		
shower X				
4.5	Ameeva 89	mult, p		
126	Krasnov 88B	cs, mult, p		
mult[htrack] fragb X				
4.5	Ameeva 89	ang, p		
black mult[shower] X				
4.5	Ameeva 89	mult		
grey mult[shower] X				
4.5	Ameeva 89	mult		
mult[black] fragb X				
4.5	Ameeva 89	ang, p		
mult[shower] fragb X				
4.5	Ameeva 89	ang, p		
2frag (frags)				
126	Krasnov 88B	cs		
Si Al				
neutral X				
406	Remsberg 88	p		
hadron X				
305	Braunmumzing 88	et, p		
Si Si				
K+ X				
80.83	Stock 87	angp		

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

Si Si → $K^- X$ ^{32}S Au → fragb neutral X

Si Si	^{32}S S	^{32}S Wt
$K^- X$ 80.83	Schurman 87 angp. p	charged- X (621.1) Odyniec 89 p. pt
Si Cu	$\pi^- X$ (621.1) Odyniec 89 pt	$\pi^- X$ (1494) Akesson 89E cs, et, pt
hadron X 305	Braunmuzung 88 et. p	Schukraft 88B et. p, pt
Si Au	$K^0 X$ (621.1) Odyniec 89 pt	mult[charged] (neutrals) (1494) Ritter 88 et, mult
neutral X 406	$K_S X$ (621.1) Pugh 89 pt	γX (1494) Akesson 89D cs, et, pt
$\pi^+ X$ 431.4	$p X$ (621.1) Odyniec 89 p. pt	Schukraft 88B pt
$\pi^- X$ 431.4	ΔX (621.1) Odyniec 89 pt	$\pi^0 X$ (1494) Akesson 89D cs, et, pt
$K^+ X$ 431.4	$\bar{\Delta} X$ (621.1) Odyniec 89 pt	ΛX (1494) Abatzis 90 p. pt
$K^- X$ 431.4	hadron X (621.1) Odyniec 89 pt	$\bar{\Lambda} X$ (1494) Abatzis 90 p. pt
	mult[hadron] X (621.1) Odyniec 89 cor. et. p	hadron X (1494) Akesson 88C a-dep, cor, et, p
Si Pb		Schukraft 88B a-dep, et, p
hadron X 305	Braunmuzung 88 et. p	mult[neutral] X (1494) Tannenbaum 89 et, p
mult[γ] mult[frag] X (6578)	Burnett 85D angp. mult, p, pt	charged- mult[charged] X (1494) Abatzis 90 mult, p
Si nucleus	fragb X (820.1) Andersen 89 a-dep, cs	$p \pi^- X$ (1494) Abatzis 90 mass
mult[γ] mult[frag] X $112 \cdot 10^3$	shower X (820.1) Andersen 89 a-dep, cs	$\bar{p} \pi^+ X$ (1494) Abatzis 90 mass
^{32}S p		Λ mult[charged] X (1494) Abatzis 90 mult, p
frag X (31.42 – 113.8) Brechtmann 88	inelastic (875) Andersen 89 a-dep, cs	$\bar{\Lambda}$ mult[charged] X (1494) Abatzis 90 mult, p
charged (charged)s) (neutrals) (31.42 – 113.8) Brechtmann 88	neutral X 464 Tannenbaum 88 p	
^{32}S C	frag X (111.7 – 875) Brechtmann 88 cs	
frag X (46.71 – 380.6) Brechtmann 88	frag X (875) Andersen 89 a-dep, cs	charged- X (1540) Akesson 89E cs, et, pt
charged (charged)s) (neutrals) (46.71 – 380.6) Brechtmann 88	mult[hadron] X (875) Odyniec 89 cor. et, p	γX (1540) Akesson 89D cs, et, pt
^{32}S Al	shower X (875) Andersen 89 a-dep, cs	$\pi^0 X$ (1540) Akesson 89D cs, et, pt
inelastic (569.8)	charged (charged)s) (neutrals) (111.7 – 875) Brechtmann 88 cs	hadron X (1540) Akesson 88C a-dep, cor, et, p
neutral X 464	inelastic (1142) Andersen 89 a-dep, cs	Schukraft 88B a-dep, et, p
frag X (70.35 – 569.8) Brechtmann 88	neutral X 464 Tannenbaum 88 p	mult[neutral] X (1540) Tannenbaum 89 et, p
fragb X 464	frag X (146.5 – 1142) Brechtmann 88 cs	$\mu^- \mu^+ X$ (1540) London 89 Schukraft 88B mass, p, pt
hadron X (569.8)	frag X (1142) Andersen 89 a-dep, cs	$2\mu^- X + 2\mu^+ X$ (1540) Schukraft 88B mass, p
	hadron X (1142) Akesson 88C a-dep, cor, et, p	
mult[neutral] X (569.8)	mult[hadron] X (1142) Odyniec 89 cor. et, p	Ag
shower X (569.8)	mult[neutral] X (1142) Tannenbaum 89 et, p	Ag
charged (charged)s) (neutrals) (70.35 – 569.8) Brechtmann 88	shower X (1142) Andersen 89 a-dep, cs	Ag
fragb neutral X 464	charged (charged)s) (neutrals) (146.5 – 1142) Brechtmann 88 cs	Ag
^{32}S ^{32}S	fragb X (1547) Panagiotou 89 p. pol. pt	Ag
ΛX (619.1)	mult[hadron] X (1547) Akesson 90 cor. et, mult, d	Au
	charged X (1494) Akesson 90 cor. et, mult, d	charged X (1547) Otterlund 88B et
		neutral X 464 Tannenbaum 88 p
		mult[charged] (neutrals) (1547) Ritter 88 et, mult
		fragb X 464 Tannenbaum 88 p
		hadron X (1547) Heck 88 et
		mult[hadron] X (1547) Odyniec 89 cor. et, p
		shower X (1547) Adamovich 89 mult, p
		fragb neutral X 464 Tannenbaum 88 cor. p

REACTION/MOMENTUM/DATA-DESCRIPTOR INDEX

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³²S Au → shower mult[shower] X

^{40}Ar nucleus → grey X

$^{32}\text{S Au}$	$^{32}\text{S nucleus}$	Ar nucleus
shower mult[shower] X (1547) Adamovich 89 mult, p	mult[shower] X 6430 Jain 90 mult. Romano 89 et. mult. Singh 88 ang, cor. mult. p Stenlund 88 ang, angp. cor. cor. mult. mult. p. p	$\pi^- \text{X}$ 57.41 Lhote 89 angp $p \text{X}$ 57.41 Lhote 89 Schurman 87 angp, p Stock 87 angp, p
$^{32}\text{S Hg}$	shower X	He X
q X (1562) Calloway 89 -	6430 Jain 90 mult. p Adamovich 89 mult. p Adamovich 89B mult. p Singh 88 mult. p	109 Jain 85
$^{32}\text{S Pb}$	nucleus mult[fragb]	$p \pi^- \text{X}$ 37.47 – 125.4 Stock 87 mult
inelastic (1588) Andersen 89 a-dep, cs	6430 Romano 89 angp, cor	$\pi^- \text{mult}[grey] \text{X}$ 45.35 – 98.68 Lhote 89 mult
frag X (1588) Brechtmann 88 cs	6430 Romano 89	$p \text{dcharged-hadron X}$ 57.41 Schurman 87 angp, p
fragb X (1588) Andersen 89 a-dep, cs	6430 Baroni 90 cs. p	
hadron X (1588) Akesson 88C a-dep, cor, et, p	6430 Baroni 90 cs. p	
	6430 Baroni 90 cs. p	
mult[neutral] X (1588) Tannenbaum 89 et, p	6430 Baroni 90 cs. p	
shower X (1588) Andersen 89 a-dep, cs	6430 Baroni 90 cs. p	
charged (charged) (neutrals) (1588) Brechtmann 88 cs	6430 Baroni 90 cs. p	
$^{32}\text{S U}$	charged (charged) (neutrals)	$^{40}\text{Ar C}$
$J/\psi(1S) \text{X}$ (1703) Sonderegger 89 cs, et, pt	42.86 – 6430 Brechtmann 88	fragt X 8.1 Hufner 85 p
hadron X (1703) Akesson 88C a-dep, cor, et, p	6430 Singh 88B	$^{40}\text{Ar}^{40}\text{Ar}$
	6430 Baroni 90 cs. p	$\pi^+ \text{X}$ 58.38 Schurman 87 angp, p
	6430 Jain 90B cor. mult. p	
	6430 Romano 89 mult	
mult[neutral] X (1703) Tannenbaum 89 et, p	shower Ofragb X	$^{40}\text{Ar Cu}$
$\mu^- \mu^+ \text{X}$ (1703) Sonderegger 89 cs, et, et, mass, pt	6430 Jain 90 mult. p	$^{24}\text{Na X}$ 102.7 Dersch 85 angp, cs
$2\mu^- \text{X} + 2\mu^+ \text{X}$ (1703) Sonderegger 89 et, mass	shower mult[shower] X	$^{28}\text{Mg X}$ 102.7 Dersch 85 angp, cs
$^{32}\text{S nucleus}$	6430 Adamovich 89 mult. p	anomalon X 63.08 – 102.7 Tolstov 87 p
inelastic 6430 Baroni 90 cs	nucleus Ph p	frag X 102.7 Dersch 85 angp, cs
	6430 Romano 89 cs	2frag (frags) 63.08 – 102.7 Tolstov 87 p
	Sengupta 89B cs	
	Singh 88 cs	
charged X 6430 Akesson 90 cor, et, mult, p	nucleus Si He p	$^{40}\text{Ar}^{208}\text{Pb}$
	6430 Baroni 90 cs. p	mult[charged] X 102.7 Hallman 85 angp, mult
mult[charged] X 6430 Holynski 89 mult	nucleus Al 3p	γX 102.7 Hallman 85 angp, mult
	6430 Sengupta 88 cor, mult, p	$\pi^0 \text{X}$ 102.7 Hallman 85 angp, mult
mult[charged] (neutrals) 6430 Buschbeck 89 mult, p	6430 Baroni 90 cs. p	$\pi^\pm \text{X}$ 102.7 Hallman 85 angp, mult
He X 6430 Sengupta 89B cs	6430 Baroni 90 cs. p	mult[π^\pm] X 102.7 Hallman 85 angp, mult
	Singh 88B cs	mult[π^0] X 102.7 Hallman 85 angp, mult
Ofragb X 6430 Sengupta 89B cs	S U	$^{40}\text{Ar nucleus}$
mult[He] X 1950 – 6430 Sengupta 89B mult	$\omega \text{ mult[charged] (neutrals)} + \rho^0 \text{ mult[charged] (neutrals)}$ (1699) Abreu 89 cs	charged X 67.68 – 76.69 Antonchik 90 mult
	$\phi \text{ mult[charged] (neutrals)}$ (1699) Abreu 89 cs	$\pi^+ \text{X}$ 58.38 Stock 87 angp
frag X 42.86 – 6430 Brechtmann 88 cs	$\mu^- \mu^+ \text{ mult[charged] (neutrals)}$ (1699) Abreu 89 et, mass	$\pi^- \text{X}$ 58.38 – 102.7 Stock 87 angp
fragb X 6430 Romano 89 angp, p	Ar Pb	$p \text{X}$ 76.69 Antonchik 90B angp, mult, p, pt
hadron X 6430 London 89 et, p	$p \text{X}$ 57.41 Stock 87 angp	He X
	mult[γ] mult[frag] X (3885) Burnett 85D	76.69 Antonchik 90B angp, mult, p, pt
	$\pi^- \text{X}$ 37.47 – 100.8 Stock 87 mult	anomalon X 102.7 Bhanja 85 cs
		102.7 – 111.2 Bayman 87
		black X
		67.68 – 76.69 Antonchik 90 mult
		fragb X
		67.68 – 76.69 Antonchik 90 angp, mult, pt
		grey X
		67.68 – 76.69 Antonchik 90 mult

Entries in order of beam mass, then target mass, then multiplicity of final state. Inclusive reactions have an "X" as the last of the final state particles. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (See the Particle Vocabulary.) Beam momenta are P_{lab} in GeV/c , or in parentheses E_{cm} in GeV . See the legend on page 153.

⁴⁰ Ar nucleus		
shower X	67.68 – 76.69	Antonchik 90
mult[htrack] charged X	67.68 – 76.69	mult
mult[htrack] black X	67.68 – 76.69	Antonchik 90
mult[htrack] fragb X	67.68 – 76.69	mult
mult[htrack] grey X	67.68 – 76.69	Antonchik 90
mult[htrack] shower X	67.68 – 76.69	mult
Ca Ca		
charged X	22 – 70	Gustafsson 88
mult[p] X	38.09 – 70	Gustafsson 88
e ⁻ e ⁺ X	67.73	Naudet 88C
		mass, pt
		Roche 88
	67.73 – 111.2	mass, pt
	109.1	Roche 89
	111.2	cs, mass, pt
		Roche 87
		Naudet 88C
		mass
		Roche 88
mass		
Ca Pb		
mult[γ] mult[frag] X	(2786)	Burnett 85D
		angp, mult, p, pt
γ fragb 451charged (charged)s X	(5276)	Burnett 86
		angp, p, pt
γ fragb 670charged X	(2786)	Burnett 86
		angp, p, pt
Ca nucleus		
charged X	12 · 10 ³	Chernavskaya 87
p X	600 – 8 · 10 ³	Gagarin 89
p mult[htrack] X	600 – 8 · 10 ³	angp, p
mult[γ] mult[frag] X	48 · 10 ⁵	Burnett 85D
		angp, mult, p, pt
γ fragb 780charged X	4 · 10 ⁶	Burnett 86
		angp, p, pt
Ti Pb		
267charged X	1973	Burnett 87
p 267charged X	1973	angp, p
γ fragb 415charged (charged)s X	(4264)	Burnett 87
		mult
Ti nucleus		
265charged X	1315	Burnett 87
p 265charged X	1315	angp, p
		mult
⁴⁸ Sc Be		
fragt X		

This index lists papers by particles produced and their decays, ordered alphabetically by particle, then decay. For a given decay, ID's are ordered by year (most recent to oldest), then author name. For the full reference, see the ID/Reference>Title Index.

When no decay mode is given, no mode was given in the original paper.

Illustrative Key

Particle: see the *Particle Vocabulary* for nomenclature.

Decay: decay mode of the particle.

a₂(1320)⁺
Ahmad 84
Baltrusaitis 86
Bisello 88
Kopke 89
Thorndike 88
$\eta \pi^+$
Atkinson 85C
Landsberg 86
$K^+ K_S$
Landsberg 86

Document ID: see *ID/Reference>Title Index* for the full reference.

$a_0(980)$	Szklarz 89 K \bar{K} Toki 88B	$a_1(1260)^-$	$a_2(1320)^0$	^{20}Al
$a_0(980)^+$	Ouldsanda 88B Baltrusaitis 86 Aston 85	$2\pi^0 \pi^-$ $\pi^+ 2\pi^-$ $\rho^- \pi^0$ $\rho^0 \pi^-$	Miller 89 Riles 89 Stoker 89 Thorndike 88 Bebek 87B Albrecht 86E Ruckstuhl 86	$^{20}\text{Mg} e^+ \nu_e$ Hardy 89 Wichers 87
$\eta \pi^+$	Ando 86	Skwarnicki 87B	2γ	^{241}Am
$K^+ K_S$	Augustin 88C Toki 88B Armstrong 86E	Zajmidoroga 85	Albrecht 89K Barlow 87 Berger 87B Kolomoski 87 Landsberg 86 Tsukerman 85	$^3\text{He} e^+ e^- X$ Asanuma 90
$a_0(980)^-$	Ouldsanda 88B Baltrusaitis 86 Aston 85	$\rho^0 \pi^-$	$2K_S$	$^4\text{He neutral } X$ Asanuma 90
$\eta \pi^-$	Ando 86	Albrecht 90E Ammosov 88C Ford 87	Rath 89 Bolonkin 88	annihil
$K_S K^-$	Augustin 88C Armstrong 86E	$a_1(1260)^0$	$e^- e^+$ $\eta \pi^0$	Brueckner 90 Bitter 89 Kuzichev 89 Batyunya 88B Kuzichev 88 Mutchler 88 Sedlak 88 Armstrong 87B Balestra 87 Batusov 87C Batyunya 87B Bogolyubsky 87E Druckner 87 Franklin 87 Armstrong 86C Batyunya 86B Fickinger 86B Sapozhnikov 86
$a_0(980)^0$	Kopke 89 Druzhinina 85	$\eta \pi^+ \pi^-$ $\pi^+ \pi^0 \pi^-$ $\rho^+ \pi^-$	Chapin 85 Inagaki 89B Takamatsu 89 Albrecht 90E	$a_2(1320)$
2γ	Berger 87B	$\rho^+ \pi^-$	Berger 88 Bebek 87B	anomalon
$2K_S$	Rath 89 Toki 88B	$a_2(1320)^+$	$\pi^+ \pi^0 \pi^-$	Abdullin 89H Alekseeva 88 Karev 88 Bano 87 Bayman 87 Fuess 87 Tolstov 87 Bano 86 Clarke 86 Aguilarbenit 85F Avdejchikov 85 Bhanja 85 Cheplakov 85 Drechsel 85 Ghosh 85 Veres 85 Ableev 84B
$e^- e^+$	Vorobiev 88C	Drell 89 Halling 89 Kopke 89 Bisello 88 Thorndike 88 Bebek 87B Baltrusaitis 86	$a_3(2050)^-$	^{32}Ar
$\eta \pi^0$	Boutemeur 89 Dolinsky 89B Mallik 89B Augustin 88C Biellein 88 Boutemeur 88 Gidal 88C Aulchenko 87C Kolanoski 87 Antreasyan 86	$\eta \pi^+$	$f_0(1240) \pi^-$ Joyner 89	Mordechai 85
$\eta \pi$	Berger 87B	Landsberg 86 Atkinson 85C	$\rho^0 \pi^-$	$^{32}\text{Ar}^*$
$K^+ K^-$	Toki 87	Sedlak 88 Landsberg 86	$a_5(1790)^-$	^{37}Ar
$a_1(1260)$	$\rho \pi$ Bebek 87B	$\pi^+ \gamma$ $\rho^0 \pi^+$	Antipov 86C	Gavrin 89 Nakamura 88 Cribier 85 Hufner 85
$a_1(1260)^+$	Browder 89 Drell 89 Halling 89 Thorndike 88 Bebek 87B Skwarnicki 87B Albrecht 86E	$a_2(1320)^-$	^{38}Ar	
$2\pi^+ \pi^-$	Adler 89D Adler 89E Dejongh 89 Ruckstuhl 86	$\eta \pi^-$ $K_S K^-$ $\rho^0 \pi^-$	Kozma 90	^{32}Ar
$\pi^+ \gamma$	Landsberg 86	Drell 89 Halling 89 Kopke 89 Bisello 88 Thorndike 88 Bebek 87B Baltrusaitis 86	^{104}Ag	^{40}Ar
$\rho^+ \pi^0$	Albrecht 90E Ford 87 Landsberg 86	Atkinson 85C Sedlak 88	Butsev 85	^{41}Ar
$\rho^0 \pi^+$	Albrecht 90E Ford 87	Armstrong 89C Armstrong 89E Augustin 88B Sedlak 88 Bridges 86D	$^{104}\text{Ag}^*$	Butsev 85
$a_1(1260)^-$	Drell 89 Halling 89 Kreinick 89	$a_2(1320)^0$	Hufner 85	^{41}Ar
		Kopke 89 Adiels 88 Sedlak 88 Bolonkin 87	Baroni 90 Efendiev 89 Avdejchikov 87C Antipov 86 Antipov 86B Marx 86 Piragino 86B Ableev 85 Antipov 85 Antipov 85B Antipov 85C Zajmidoroga 85	As
			Hufner 85	^{71}As
			Apokin 86D	^{72}As
				^{77}As
				Wagner 85
				Cs(atom)
				Gilbert 86B Gilbert 85

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Bartke 89 Hill 88	$D^0 X$ $e^+ \nu_e X$	Danilov 88 Albrecht 90D Danilov 89 Danilov 88	$D^0 e^- X$ $D^0 \mu^+ X$ $D^0 \mu^- X$ $D^0 X$
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2jet		Alain 89 Halling 89 Snyder 89	Harder 89 Thorndike 88 Bartoletto 87 Schindler 87
axion		$J/\psi(1S) X$ $K^*(892) \gamma$	π Miller 89
Atoyanc 90 Gninenko 89 Orito 89 Balke 88 Albrecht 86C Badier 86 Ananiev 83	π Sugahara 88B	$e^\pm \nu_e$ charmed-meson Wachs 89	$J/\psi(1S) 2\pi$ Albrecht 87G
2\gamma	π Sugahara 88B	π Danilov 88	$K_S J/\psi(1S) \pi$ Albrecht 87G
Kolb 89 Wuensch 89 Avignone 88 Druzhinin 88 Fairfield 88 Faissner 88 Konaka 86 Bergsma 85	ΛX $\Lambda_c^+ X$ $\bar{\Lambda}_c^- X$ $\bar{\Lambda} X$ $\epsilon \nu X$ $\epsilon^+ \nu X$ $\mu^+ \nu_\mu X$ $\mu^\pm X$ $\mu^- \mu^+ X$ $\mu^- X$ $p X$ $\bar{p} X$ $\psi(2S) X + \chi_c(\text{unspec}) X + J/\psi(1S) X$ $\psi(2S) X$	Miller 89 Danilov 88 Danilov 88 Danilov 88 Schubert 89 Artuso 89 Albrecht 90D Danilov 89 Danilov 88 Bartel 86 Alam 89 Band 89 Danilov 88 Danilov 88 Danilov 88 Danilov 88 Miller 89	π Thorndike 88 Albrecht 87G Schindler 87 Alam 86 Albrecht 85K Haas 85
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Ackle 89 Bross 89 Faissner 89 Guo 89 Tsertos 89 Tsertos 89B Druzhinin 88 Fairfield 88 Tsertos 88 Tsertos 88B Baker 87 Borzakov 87 Davier 87 Enghardt 87 Korenchenko 87 Riordan 87 Aulchenko 86C Baba 86 Bowcock 86 Brown 86 Brown 86B Davier 86 Hallin 86 Konaka 86 Mageras 86 Bergsma 85	$\epsilon^- e^+ X$ π $K^+ J/\psi(1S) 2\pi$ $K^+ J/\psi(1S) 3\pi$ $K^+ J/\psi(1S) \pi$ $K^+ \ell^- X$ $K^+ \mu^- X$ $K^+ X$	π Wu 87 Thorndike 88 Albrecht 87G Albrecht 85K Albrecht 85K Albrecht 85K Albrecht 87G Albrecht 85K Alam 87	π Thorndike 88
γX		$K^+ e^- X$ $K^- J/\psi(1S) 2\pi$ $K^- J/\psi(1S) 3\pi$ $K^- J/\psi(1S) \pi$ $K^- \ell^- X$ $K^- \mu^- X$ $K^- X$	π Albrecht 87G Albrecht 85K Albrecht 85K Albrecht 85K Albrecht 85K Albrecht 85K Alam 87
$\mu^- \mu^+$		$K^0 J/\psi(1S) 2\pi$ $K^0 J/\psi(1S) 3\pi$ $K^0 J/\psi(1S) \pi$ $K^0 \bar{K}^0 \ell^- X$ $K^0 \bar{K}^0 J/\psi(1S) 2\pi$ $K^0 \bar{K}^0 J/\psi(1S) 3\pi$ $K^0 \bar{K}^0 J/\psi(1S) \pi$ $K_S e^- X$	π Thorndike 88
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$D^* (2010)^0 X$		$D^-(2010)^0 X$	π Schindler 87
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$D^0 X$	$D_S^+ X$	$D_S^0 X$	π Bartoletto 90
$D_S^- X$	$D_S^0 X$	$D_S^- X$	π Artuso 89
$D^0 X$	$D^0 e^+ X$	$D^0 e^+ X$	π Bartoletto 89B
			π Kleinick 89
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			π Albrecht 89U

Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

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K ⁽⁸⁹²⁾ ⁻ φ	Albrecht 89S
K ⁽⁸⁹²⁾ ⁻ π ⁺ π ⁻	Alam 89 Avery 89B
K ⁽⁸⁹²⁾ ⁻ ψ(2S)	Albrecht 89S Kreinick 89 Miller 89

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K [*] (892) ⁻ ρ ⁰	Albrecht 89S
K [*] (892) ⁰ K ⁽⁸⁹²⁾ ⁰ K ⁻	Alam 89
K [*] (892) ⁰ π ⁻	Halling 89
K [*] (892) ⁰ K ⁰ K ⁻	Alam 89
K [*] (892) ⁰ π ⁻	Alam 89
K [*] (892) ⁻ π ⁻	Albrecht 89S Avery 89B Thorndike 88 Avery 87
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K ⁺ 2K ⁻	Alam 89
K ⁺ 2μ ⁻	Weir 89
K ⁺ μ ⁻ e ⁻	Weir 89
K ⁻ e ⁻ e ⁺	Weir 89
K ⁻ f ₀ (1400)	Halling 89
K ⁻ f ₂ (1270)	Avery 89B
K ⁻ higgs	Alam 89
K ⁻ J/ψ(1S) π ⁺ π ⁻	Halling 89 Kreinick 89 Miller 89 Albrecht 87G
K ⁻ J/ψ(1S)	Halling 89 Kreinick 89 Miller 89 Albrecht 87G
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K ⁻ μ ⁻ e ⁺	Weir 89
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K ⁻ π ⁺ π ⁻	Alam 86
K ⁻ μ ⁺ e ⁻	Weir 89
K ⁻ μ ⁻ e ⁺	Weir 89
K ⁻ μ ⁻ μ ⁺	Weir 89
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K ₁ (1400) ⁻ γ	Albrecht 89L Avery 89B Halling 89

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K ₁ (1400) ⁻ φ	Albrecht 89S
K ₁ (1400) ⁻ ρ ⁰	Albrecht 89S
Κ̄ ₁ (1400) ⁰ π ⁻	Albrecht 89S
K ₂ [*] (1430) ⁻ γ	Albrecht 89L Albrecht 88E
K ₂ [*] (1430) ⁻ φ	Albrecht 89S
K ₂ [*] (1430) ⁻ ρ ⁰	Albrecht 89S
Κ̄ ₂ (1430) ⁰ π ⁻	Albrecht 89S
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Λ μ ⁺ X	Schubert 89
Λ X	Schubert 89
Λ _c ⁺ X	Schubert 89
Λ e ⁺ X	Schubert 89
Λ μ ⁺ X	Schubert 89
Λ X	Schubert 89
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p Λ̄ X	Schubert 89
p μ ⁺ X	Schubert 89
p p̄ e ⁺ X	Schubert 89
p p̄ μ ⁺ X	Schubert 89
p p̄ π ⁻	Schubert 89
p p̄ X	Schubert 89
p X	Schubert 89
p Δ(1232 F ₃₃) ⁰	Drell 89 Halling 89
p e ⁺ X	Schubert 89
p Λ̄ X	Schubert 89
p μ ⁺ X	Schubert 89
p p̄ π ⁻	Schubert 89
p p̄ X	Schubert 89
p X	Schubert 89
p Δ(1232 F ₃₃) ⁰	Drell 89 Halling 89
p e ⁺ X	Schubert 89
p Λ̄ X	Schubert 89
p μ ⁺ X	Schubert 89
p p̄ π ⁻	Schubert 89
p p̄ X	Schubert 89
p X	Schubert 89
p Δ(1232 F ₃₃) ⁰	Drell 89 Halling 89
p e ⁺ X	Schubert 89
p Λ̄ X	Schubert 89
p μ ⁺ X	Schubert 89
p p̄ π ⁻	Schubert 89
p p̄ X	Schubert 89
p X	Schubert 89

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bar p μ ⁺ X	Schubert 89
bar p X	Schubert 89
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μ ⁻ X	Porter 89 Albajar 87C Summers 87
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B ⁰	Albrecht 90D

Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

B^0	B^0	B^0	B^0
Bortoletto 90 Bortoletto 89 Kreinick 89 Miller 89 Bebek 87B Schindler 87 $2\pi^+ 2\pi^-$ Albrecht 90E Danilov 89 $2\pi^+ \pi^0 2\pi^-$ Albrecht 90E $2\rho^0$ Albrecht 90E Halling 89 Schubert 89 Thorndike 88 $3\pi^+ 3\pi^-$ Albrecht 90E Danilov 89 $3\pi^+ \pi^0 3\pi^-$ Albrecht 90E $a_1(1260)^+$ $a_1(1260)^-$ Albrecht 90E Halling 89 $a_1(1260)^+ \pi^- +$ $a_1(1260)^- \pi^+$ Halling 89 $a_1(1260)^+ \pi^-$ Albrecht 90E $a_1(1260)^+ \rho^+$ Albrecht 90E $a_1(1260)^- \pi^+$ Thorndike 88 $a_1(1260)^0 \pi^0$ Albrecht 90E $a_1(1260)^0 \rho^0$ Albrecht 90E $a_2(1320)^+ \pi^- +$ $a_2(1320)^- \pi^+$ Halling 89	$D^*(2010)^- \ell^+ \nu$ Albrecht 89Q $D^*(2010)^- \ell^- \bar{\nu}$ Schubert 89 $D^*(2010)^- \mu^+ \nu_\mu$ Albrecht 89C Bortoletto 89B Danilov 89 Wagner 89B Albrecht 87O Albrecht 87P $D^*(2010)^- \pi^+ \pi^0$ Halling 89 Schubert 89 Thorndike 88 Albrecht 87B Albrecht 87P $D^*(2010)^- \pi^+$ Halling 89 Schubert 89 Thorndike 88 Albrecht 87B Albrecht 87P $D^*(2010)^- \rho^+$ Halling 89 Chen 85 $D^- e^+ \nu_e$ Danilov 89 $D^- \ell^+ \nu$ Albrecht 89N Albrecht 89Q $D^- \mu^+ \nu_\mu$ Danilov 89 $D^- \pi^+ \pi^0$ Schubert 89 Albrecht 88M Danilov 88 Thorndike 88 $D^- \pi^+$ Halling 89 Schubert 89 Albrecht 88M Danilov 88 Thorndike 88 $D^- \rho^+$ Halling 89 Albrecht 88M Danilov 88 $D_S^+ D^-$ Halling 89 Schubert 89 $D^0 \rho^0$ Danilov 88 $\bar{D}^0 \pi^+ \pi^-$ Danilov 88 $\bar{D}^0 \pi^- e^+ \nu_e$ Thorndike 88 $\bar{D}^0 \pi^- \mu^+ \nu_\mu$ Albrecht 89C $\bar{D}^0 \rho^0$ Albrecht 88M $\Delta(1232 P_{33})^{++}$ $\Delta(1232 P_{33})^{--}$ $\Delta(1232 P_{33})^0 \bar{\Delta}(1232 P_{33})^0$ Halling 89 $e^+ \nu_e X$ Drell 89 $e^+ X$ Weir 90 Porter 89 $e^\pm X$ Gray 87 $e^- e^+$ Avery 89B Halling 89 Thorndike 88 Albrecht 87B Albrecht 87P $D^*(2010)^- e^+ \nu_e$ Albrecht 89C Bortoletto 89B Danilov 89 Wagner 89B Albrecht 87O Albrecht 87P	$\eta \pi^0$ Albrecht 90E $K^*(1680)^0 \gamma$ Albrecht 89L $K^*(892)^+ \pi^-$ Albrecht 89S Avery 89B Danilov 89 Halling 89 Avery 87 $K^*(892)^- \pi^+$ Thorndike 88 $K^*(892)^0 2K^*(892)^0$ Alam 89 $K^*(892)^0 e^- e^+$ Albrecht 89U Avery 89B Halling 89 $K^*(892)^0 f_0(1400)$ $K^*(892)^0 f_2(1270)$ Avery 89B $K^*(892)^0 \gamma$ Albrecht 89L Avery 89B Danilov 89 Halling 89 Albrecht 88E Avery 87 $K^*(892)^0 higgs$ Alam 89 $K^*(892)^0 J/\psi(1S)$ Halling 89 Schubert 89 Thorndike 88 Albrecht 87G Alam 86 $K^*(892)^0 K^*(892)^- K^+$ Alam 89 $K^*(892)^0 \bar{K}^*(892)^0 K^0$ Alam 89 $K^*(892)^0 K^+ K^-$ Alam 89 $K^*(892)^0 \mu^- \mu^+$ Albrecht 89U Alam 89 Albrecht 89U Avery 89B Halling 89 $K^*(892)^0 \phi$ Albrecht 89S Avery 89B Danilov 89 Halling 89 $K^*(892)^0 \pi^-$ Albrecht 89S Avery 89B Danilov 89 Halling 89 Avery 87 $K^*(892)^0 \pi^+$ Alam 89 Albrecht 89U Avery 89B Halling 89 $K^*(892)^0 \psi(2S)$ Albrecht 87G $K^*(892)^0 \rho^0$ Albrecht 88M Avery 89B Danilov 89 Halling 89 Avery 87 $K^*(892)^0 higgs$ Alam 89 $K^*(892)^0 \psi(2S)$ Schubert 89 $K^+ e^- X$ Gray 87 $K^+ K^0 K^-$ Alam 89 $K^+ K_S K^-$ Albrecht 89U $K^+ \mu^- X$ Gray 87 $K^+ \pi^-$ Albrecht 89S Avery 89B	Danilov 89 Gilman 89 Halling 89 Avery 87 $K^- e^- X$ Gray 87 $K^- J/\psi(1S) \pi^+$ Schubert 89 $K^- \mu^- X$ Gray 87 $K^- \pi^+$ Thorndike 88 $K^0 e^- e^+$ Avery 87 $K^0 f_0(1400)$ $K^0 f_2(1270)$ Halling 89 $K^0 higgs$ Alam 89 $K^0 J/\psi(1S)$ Halling 89 Schubert 89 Alam 86 $K^0 \mu^- \mu^+$ Avery 87 $K^0 \phi$ Avery 89B Halling 89 $K^0 \pi^+ \pi^-$ Alam 89 $K^0 \rho^0$ Avery 89B Halling 89 Avery 87 $K_1(1270)^0 \gamma$ Albrecht 89L $K_1(1400)^+ \pi^-$ Albrecht 89S $K_1(1400)^0 \gamma$ Albrecht 89L Albrecht 88E $K_1(1400)^0 \phi$ Albrecht 89S $K_1(1400)^0 \rho^0$ Albrecht 89S $K_2^*(1430)^+ \pi^-$ Albrecht 89S $K_2^*(1430)^0 \gamma$ Albrecht 89L Albrecht 88E $K_2^*(1430)^0 \phi$ Albrecht 89S $K_2^*(1430)^0 \rho^0$ Albrecht 89S $K_3^*(1780)^0 \gamma$ Albrecht 89L Albrecht 88E $K_4^*(2045)^0 \gamma$ Albrecht 89L $K_S e^- e^+$ Albrecht 89U Thorndike 88 $K_S J/\psi(1S)$ Albrecht 87G $K_S \mu^- \mu^+$ Thorndike 88 $K_S \phi$ Albrecht 89S Danilov 89 $K_S \pi^+ \pi^-$ Albrecht 89U $K_S \rho^0$ Albrecht 89S Danilov 89 Thorndike 88 $\mu^+ e^-$ Avery 89B Thorndike 88 Avery 87

B^0

B^0
$\mu^+ \nu_\mu X$
$\mu^+ X$
Drell 89
Weir 90
Porter 89
Summers 87
$\mu^\pm X$
Gray 87
$\mu^- e^+ + \mu^+ e^-$
Halling 89
$\mu^- e^+$
Avery 89B
Thorndike 88
Avery 87
$\mu^- \mu^+$
Avery 89B
Halling 89
Albajar 88C
Thorndike 88
Avery 87
$\mu^- X$
Band 88
Albajar 87C
Bean 87B
Summers 87
$w \pi^0$
$p \bar{p} \pi^+ \pi^-$
Albrecht 90E
Bebek 89
Schubert 89
Albrecht 88T
$p \bar{p}$
Halling 89
Schubert 89
Thorndike 88
$\pi^+ 2\pi^0 \pi^-$
Albrecht 90E
Danilov 89
$\pi^+ \pi^-$
Albrecht 90E
Danilov 89
Halling 89
Schubert 89
Thorndike 88
$\pi^+ \pi^0 \pi^-$
Albrecht 90E
Danilov 89
$\pi^- e^+ \nu_e$
Danilov 89
$\pi^- \ell^+ \nu$
Danilov 89
$\pi^- \mu^+ \nu_\mu$
Danilov 89
$\rho^+ \pi^-$
Albrecht 90E
$\rho^+ \rho^-$
Albrecht 90E
Danilov 89
$\rho^0 \pi^0$
Albrecht 90E
Danilov 89

 $b_1(1235)^+$

$w \pi^+$
Landsberg 86
Augustin 88B
Sedlak 88
Atkinson 89B

 $b_1(1235)^-$

$w \pi^-$
Augustin 88B
Sedlak 88
Aleshin 87C
Aleshin 87D
Aleshin 86B
Atkinson 86B

 $b_1(1235)^0$

$\eta \pi^+ \pi^-$
Diekmann 88

Takamatsu 89

 $b_1(1235)^0$

$w \pi^0$
Augustin 88B
Brau 88
Mallik 89B
Ba
Kozina 90
Kozina 88
^{128}Ba
Hufner 85
^{131}Ba
Hufner 85
^{134}Ba
Barabash 90
Barabash 89
Barabash 89B
^{136}Ba
Barabash 90
Artemiev 89
Barabash 89
Barabash 89B
Bellotti 89
Ajnutdinov 88
Rosen 88
Barabash 87
Barabanov 86
^{140}Ba
Hufner 85
$baryon$
Albrecht 90C
Drtskoy 89
Bogolyubsky 88B
Danilov 88
Schmidt 88
Schmidt 87
$p \pi^+ \pi^-$
Amelin 87
$baryon$
Danilov 88
Batyunya 87H
$baryonium$
Omeri 89
Chiba 87
Chiba 87B
Angelopoulos 86
Bridges 86
Sapochnikov 86
$2\pi^+ 2\pi^-$
Bridges 86C
Bridges 86D
$2\rho^0$
Liu 88
Bridges 86D
$charged-meson X$
Angelopoulos 85
$K^+ K^-$
Tanimori 85
$p \bar{A} K^- \pi^+$
Aleev 89
Aleev 88E
Aleev 88F
$p \bar{A} K^- \pi^-$
Aleev 89
Aleev 88E
Aleev 88F
$p \bar{A} K^-$
Aleev 89
Aleev 88F
$p \bar{p} K^+ K_S$
Aleev 89
Aleev 88E
Aleev 88F
$p \bar{p} K_S K^-$
Aleev 89
Aleev 88E
Aleev 88F

$\pi^+ \pi^-$
Mallik 89B

 $baryonium$

$p \bar{p}$
Bodenkamp 85
$\bar{p} \Lambda K^+ \pi^+$
Aleev 89
Aleev 88E
Aleev 88F
$\bar{p} \Lambda K^+ \pi^-$
Aleev 89
Aleev 88F
$\bar{p} \Lambda K^+$
Aleev 89
Aleev 88F
$\pi^+ \pi^-$
Daftari 87
Tanimori 85
π^0 exotic->meson
May 89
$\rho^+ \rho^-$
Liu 88

 $baryonium(S=+1)$

$p \bar{A} 2\pi^-$
Aleev 88D
$p \bar{A} \pi^+ \pi^-$
Aleev 88D
$p \bar{A} \pi^+$
Aleev 88D
$p \bar{A} \pi^-$
Aleev 88D

 $baryonium(S=-1)$

$\bar{p} \Lambda 2\pi^+$
Aleev 88D
$\bar{p} \Lambda \pi^+ \pi^-$
Aleev 88D
$\bar{p} \Lambda \pi^+$
Aleev 88D
$\bar{p} \Lambda \pi^-$
Aleev 88D

 \bar{B}

$\bar{p} X$
Danilov 88
$\psi(2S) X + \chi_c(\text{unspec}) X + J/\psi(1S) X$
Danilov 88
$\bar{B}(\text{unspec})$
Albrecht 89E
Albrecht 88G
Alam 87
Wu 87
Haas 85
$D^*(2010)- X$
Harder 89
Bartoletto 87
$D^- X$
Harder 89
Bartoletto 87
$D_S^+ X$
Albrecht 87D
$D_S^+ X$
Haas 86
$D_S^- X$
Albrecht 87D
$D^0 X$
Harder 89
Bartoletto 87
$e^\pm \nu_e$ charmed-meson
Wachs 89
$e^\pm X$
Wachs 89
Tao 88
$J/\psi(1S) \pi^+ \pi^- X$
Albrecht 87G
$J/\psi(1S) X$
Maschmann 89
Albrecht 87G
Alam 86
Albrecht 85K
$K^+ J/\psi(1S) 2\pi$
Albrecht 87G
$K^+ J/\psi(1S) 3\pi$
Albrecht 85K
$K^+ J/\psi(1S) \pi$
Albrecht 87G
$K^- J/\psi(1S) 2\pi$
Albrecht 85K
$K^- J/\psi(1S) 3\pi$
Albrecht 85K
$K^- J/\psi(1S) \pi$
Albrecht 85K
$K^0 J/\psi(1S) 2\pi$
Albrecht 85K
$K^0 J/\psi(1S) 3\pi$
Albrecht 85K
$K^0 J/\psi(1S) \pi$
Albrecht 85K
$\bar{K}^0 J/\psi(1S) 2\pi$
Albrecht 85K
$\bar{K}^0 J/\psi(1S) 3\pi$
Albrecht 85K
$\bar{K}^0 J/\psi(1S) \pi$
Albrecht 85K
$K_S J/\psi(1S) 2\pi$
Albrecht 87G
$K_S J/\psi(1S) \pi$
Albrecht 87G
$\Lambda \bar{\Lambda} X$
Alam 87B
$\Lambda_c^+ X$
Danilov 88
$\bar{\Lambda} X$
Danilov 88
$\ell^- \nu X$
Artuso 89
$\mu^+ \nu_\mu X$
Danilov 88
$\mu^+ X$
Danilov 88
$\mu^- \mu^+ X$
Band 89
$\mu^- \mu^+ X$
Alam 89
$p X$
Danilov 88

Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

$\overline{B}(\text{unspec})$

五〇

\bar{B}^0

bottom

B⁰	B⁰	203Bi	bottom
K⁰ ψ(2S)		Butsev 85	Summers 87
Kreinick 89 Miller 89	Drell 89 Halling 89 Thorndike 88 Bebek 87B	204Bi	Barate 86C
K⁰ ρ⁰	p X	Butsev 85	Saxon 86
Avery 80D Halling 89 Avery 87	bar p e⁺ X	206Bi	Kiesling 85
K_S e⁻ e⁺	bar p Λ X	Butsev 85	Marshall 85
Thorndike 88	bar p μ⁺ X	black	
K_S J/ψ(1S)	bar p X		charm X Aihara 85F
Albrecht 87G	π⁺ ξ⁻ ν		charmed-meson X Badier 85D
K_S K⁻ π⁺	π⁺ ξ⁻ ν		e ⁺ X Benvenuti 85
Bortoletto 90	π⁺ π⁻		e [±] X Ong 88B
K_S μ⁻ μ⁺	π⁺ π⁻		e ⁻ X Sakuda 85
Thorndike 88	π⁺ π⁻		Ong 89
K_S φ	Albrecht 89T		Brom 87
Albrecht 89S	Bortoletto 89		Ong 87
K_S ρ⁰	Drell 89		Klem 86
Albrecht 89S	Halling 89		Aihara 85F
Λ e⁺ X	Thorndike 88		Venkataraman 85B
Λ μ⁺ X	Bebek 87B		γ strange Gilman 89
Schubert 89	Cassel 85		higgs strange Gilman 89
Λ X	Be		J/ψ(1S) X
Schubert 89	Antipov 89C		Albjar 88D
Λ⁺ X	Efendiev 89		Albjar 88E
Schubert 89	Ananikyan 87		Badier 85D
Λ X	Sangster 87		Λ K _S 2π ⁺ 2π ⁻ Arenton 86
Schubert 89	Avazyan 86		ε ⁺ ε ⁻ strange Gilman 89
μ⁺ e⁻	Alvazyan 86B		μ ⁺ X Ong 88B
Avery 89B	Petersen 86		μ [±] X Badier 85D
Thorndike 88	Sokoloff 86		Bartel 86G
Avery 87	Alkhazov 85B		Aihara 85E
μ⁺ X	Antipov 85		Arnison 85
Band 88	Roy 85B		Catanese 88
Bean 87B	Zajmidoroga 85		Catanese 86
μ[±] X	10Be		Absemetova 85
Gray 87	Kobayashi 89B		Azimov 85G
μ⁻ e⁺ + μ⁺ e⁻	Kobayashi 89C		Babecki 85
Halling 89	Hoistad 86		Batusov 85
μ⁻ e⁺	8Be dibaryon(S = -1)		Vokalova 85
Avery 89B	Ejiri 89		
Thorndike 88			Bor
Avery 87			Avdeichikov 87
μ⁻ μ⁺	10Be[*]		Avdeichikov 87B
Avery 89B	9Be s p π⁻		Avdeichikov 87C
Halling 89			Avdeichikov 87E
Albjar 88C			Avdeichikov 87F
Thorndike 88			Avdeichikov 87G
Avery 87			Avdeichikov 87H
μ⁻ ν_μ X	7Be		Avdeichikov 87I
Drell 89			Avizayyan 86
Miller 89			Avizayyan 86B
Weir 90	Anuroyan 89		
Porter 89	Avramenko 87		10Bor
Albjar 87C	Irom 85		Hallin 86
p e⁺ X	8Be		10Bor*
Schubert 89			Hallin 86
p Λ X	Ejiri 89		10Bor axion
Schubert 89	Savage 88C		Hallin 86
p μ⁺ X	8Be meson⁰		11Bor
Schubert 89	Savage 88C		Alkhazov 85B
p p e⁺ X	9Be		Ziegler 85
Schubert 89			11Bor*
p p e⁺ X	Hiel 89		Ziegler 85
Schubert 89	Kobayashi 89C		12Bor
p p μ⁺ X			Hasinoff 89
Schubert 89			Hasinoff 88
p p π⁺ π⁻	2³He p π⁻		bottom
Bebek 89	May 89B		Braunschweig 89C
Drell 89			Piccolo 89
Albrecht 88T	Pniewski 85		Dowell 88
Sugahara 88B			Albjar 87C
p p X	202Bi		Ash 87B
Schubert 89			Summers 87
p p			Saxon 86
Bortoletto 89			Kiesling 85
			Marshall 85
			charmed-meson X Benvenuti 85
			e ⁺ X Ong 89
			Brom 87
			Ong 87

Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

12C

charmed-meson

12C	Alkhazov 85B Lichtenstadt 85	Ce*	Dickey 85	chargino-	charm
12C*		139Ce γ		$\mu^- \bar{\nu}_\mu$ photino	$e^- X$
12C γ	Apokin 89B Naumenko 89	132Ce	Butsev 85	Adachi 89 Adachi 89B Takahashi 88	Ong 88B Ong 87 Klem 86
13C		133Ce	Butsev 85	$q \bar{q}$ photino	$\mu^- X$
13C*	Alkhazov 85B Deboer 85	139Ce	Dickey 85 Hufner 85	Adachi 89 Adachi 89B Takahashi 88	Catanese 89 Albajar 88C A'lbajar 88F Foudas 88 Foudas 88B Ong 88B Sviridov 88 Ushida 88B Bartel 87C Cobbaert 87B Ong 87 Arneodo 86F Erriquez 85
13C γ		centauro		$\tau^- \bar{\nu}_\tau$ photino	mult[charged] X
axion X	Baba 86		Ren 88B Borisov 87B Burow 87 Aler 86C Ward 86B	charm	$\bar{\nu}_e X$
$e^- e^+ X$	Baba 86			Braunschweig 90B Aoki 89 Wormser 89 Aguilarbenit 88C Purohit 88 Roudeau 88 Schmitz 88 Ushida 88 Aguilarbenit 87 Aoki 87 Cobbaert 87 Gittelman 87 Adamovich 86B Albert 86C Barate 86C Butler 86 Duffy 86 Ammosov 85D Bazarov 85B Castellina 85 Forden 85B	Duffy 88 Duffy 85 Romanowski 85
14C	Holtkamp 85 Mishra 85 Roehrich 85	charged-hadron		$e^+ X$	$\bar{\nu}_\mu X$
Ca	Ahmad 87 Blecher 87		Akrawy 90L Decamp 90F Gladney 90 Abe 89L Abrams 89E Albrecht 89W Ballagh 89 Jongejans 89 Komamiya 89C Li 89B Weinstein 89 Bernstein 88 Yamauchi 88 Baily 87F Bartel 87B Berger 87B Schurman 87 Aihara 86I Althoff 86B Derrick 86C Aihara 85C Akesson 85 Ammosov 85C Arneodo 85 Arneodo 85B Aubert 85B Blinov 85E Derrick 85D Fernandez 85D Kester 85 Rowson 85B Ammosov 84H Bender 84C	$e^- X$	charmed-meson
40Ca γ	Ullmann 85			$\mu^+ X$	Worner 89 Roudeau 88 Usiada 88 Aguilarbenit 87C Schindler 87 Duffy 86 Benvenuti 85
40Ca	Koch 89 Lee 88 Piragino 86B Berezhnoj 85 Lichtenstadt 85 Ullmann 85			D*(2010)+ K^0	Asratyan 87B
42Ca	Hardy 89			D*(2010)0 K^+	Asratyan 87B
44Ca	Ohkubo 85			e[±] X	Ammosov 87D
47Ca	Ohkubo 85			ℓ hadron (hadrons)	Wachs 89 Elsen 90
48Ca	Wise 85			$\mu^+ X$	Mooney 89 Catanesi 88 Sviridov 88 Ginther 87 Catanesi 86 Tzeng 85
48Ti 2e⁻ 2D_e	Barabash 89B	charged-lepton	Bernstein 88 Bartel 85F	$\mu^- X$	Badier 85D
48Ti 2e⁻ majoron	Barabash 89B Caldwell 88 Barabash 87B		Angelopoulos 85	$\nu_e X$	Duffy 88
48Ti 2e⁻	Barabash 89B You 89 Barabash 87B			$\nu_\mu X$	Duffy 88
100Cd	Barabash 89B	chargino	Barklow 90	charmed-meson	
114Cd	Vesna 89	chargino+			
116Cd					
116Sn 2e⁻ 2D_e	Barabash 89B				
116Sn 2e⁻ majoron	Barabash 89B				
116Sn 2e⁻	Barabash 89B Danovich 89 Norman 87				
116Sn* 2e⁻ 2D_e	Barabash 89C majoron				
116Sn* 2e⁻	Barabash 89C Barabash 89C				
116n* 2e⁻	Barabash 89C	chargino-			
		e⁻ $\bar{\nu}_e$ photino			
			Adachi 89 Adachi 89B Takahashi 88		
		$\mu^+ \bar{\nu}_\mu$ photino			
			Adachi 89B Takahashi 88		
		$q \bar{q}$ photino			
			Adachi 89B Takahashi 88		
		$\tau^+ \bar{\nu}_\tau$ photino			
			Adachi 89B Takahashi 88		
		chargino-			
		$e^- \bar{\nu}_e$ photino			
			Adachi 89 Adachi 89B Takahashi 88		

Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

charmed-nucleus		x _{c0} (1P)	x _{c2} (1P)	hadron- X
	Lyukov 89	$J/\psi(1S) \gamma$	Mir 89 $K^*(892)^0 \bar{K}^*(892)^0$ Chen 89C $K^*(892)^0 K^- \pi^+ +$ $\bar{K}^*(892)^0 K^+ \pi^-$ Chen 89C $K^+ K^- \phi$ $K^+ K^- \pi^+ \pi^-$ Aihara 88B Chen 89C Aihara 88B $K^+ K_S \pi^- + K_S K^- \pi^+$ Chen 89C Aihara 88B	Chen 89C Chen 89C Hardy 89 Butsev 85 Altzizoglow 85 Apalikov 85 Avenier 85
x _b (unspec)	J/ $\psi(1S) \gamma$	De 89 Albajar 88E Baglin 86B	De 89 Albajar 88E Baglin 86B	Kesten 85 Kroha 89B Aihara 87C
J/ $\psi(1S) X$		Baglin 86B		Aihara 87C (hadrons) Behrend 89J
x _b (unspec)	T(1S) γ	Voloshin 87 Augustin 85E Bloom 85C	Voloshin 87 Augustin 85E Bloom 85C	Aihara 88B Haas 88
	Skwarnicki 87			Kroha 89B Marshall 89 Barlow 87
x _{b0} (1P)		Schindler 87 Albrecht 85H	Chen 89C	$\mu^- e^+ X$ $\mu^- \mu^+ X$ Haas 88 Haas 88 Grab 87
x _{b0} (2P)		Schindler 87		p X p X Aihara 87C
x _{b1} (1P)		Schindler 87 Albrecht 85H Skwarnicki 85B Walk 85	Schindler 87 Gaiser 85	$\pi^+ X$ $\pi^- X$ Aihara 87C
gluon 2gluino		Albrecht 86	2 γ	
gluon 2longlived		Albrecht 86	2 $\pi^+ 2\pi^-$	
q \bar{q} gluon		Albrecht 86	3 $\pi^+ 3\pi^-$	
T(1S) γ		Albrecht 86	$J/\psi(1S) \gamma$	
	Nernst 85		Mir 89 Schindler 88	Abreu 90C Akravy 90D Decamp 90 Decamp 90C Elsen 90 Fransson 90 Albajar 89B Botner 89 Ene 89B Ouldsanda 88B Bartel 87 Behrend 87C Wu 87
x _{b1} (2P)		Schindler 87		charm X
x _{b2} (1P)		Schindler 87 Albrecht 85H Skwarnicki 85B Walk 85	2 γ	e- $\bar{\nu}_e \bar{s}$ Bartel 87C
x _{b2} (2P)		Gray 87 Schindler 87	Chen 89C Aihara 88B Augustin 88C Baglin 87	e- X Pal 86
x _c (3455)	J/ $\psi(1S) \gamma$	Bauer 85	2 ϕ	Kroha 89B Marshall 89
x _c (unspec)		Danilov 88	2 $\pi^+ 2\pi^-$	jet X K+ X K- X ϵ^- hadron (hadrons) Behrend 89J
x _{c0} (1P)		Prokoshkin 87C Schindler 87 Gaiser 85	2 $K^+ 2K^-$	Kroha 89B Aihara 87C
2 γ		Chen 89C Aihara 88B	2 ϕ	Kroha 89B Aihara 87C
2 $K^+ 2K^-$		Chen 89C Aihara 88B	2 $\pi^+ 2\pi^-$	Kroha 89B Aihara 87C
2 ϕ		Chen 89C Aihara 88B	2 $K^+ 2K^-$	Kroha 89B Aihara 87C
2 ρ^0		Chen 89C Aihara 88B	2 ρ^0	Kroha 89B Marshall 89 Barlow 87
3 $\pi^+ 3\pi^-$		Mir 89 Aihara 88B Schindler 88	3 $\pi^+ 3\pi^-$	Kroha 89B Aihara 87C
$J/\psi(1S) \gamma$			$J/\psi(1S) \gamma$	Kroha 89B Aihara 87C
			Baglin 87B Jani 87 Baglin 86 Barate 86B Bauer 85	Kroha 89B Behrend 87C Behrends 87 Wu 87
2 $\pi^+ 2\pi^-$				2hadron (hadrons)
2 $\pi^+ 2\pi^-$				Rowson 85
2 $\pi^+ 2\pi^-$				charm X
2 ρ^0				Bartel 87C
3 $\pi^+ 3\pi^-$				e+ $\nu_e s$
				e+ X
				e- e+ X
				hadron X
				hadron+ X

PARTICLE/DECAY INDEX

Cu

Cu	$D^*(2010)^+$	$D^*(2010)^-$	$D^*(2010)^0$
Antipov 89 Antipov 89C Efendiev 89 Antipov 88 Antipov 88B Balats 87 Capraro 87 Carlsmith 87 Antipov 86C Carlsmith 86 Huston 86 Marx 86 Piragino 86B Zielinsky 86 Ableev 85 Antipov 85 Zajmidoroga 85	Marshall 85 Rosner 85E Yamamoto 85E	Aguilarbenit 88B Anjos 88B Bowcock 88 Thorndike 88 Aguilarbenit 87C Cumalat 87 Schindler 87 Wu 87 Abe 86 Adamovich 86B Aguilarbenit 86B Fitch 86 Bailey 85C Cassel 85 Csorna 85 Kesten 85 Marshall 85 Rosner 85E Yamamoto 85E	Schindler 87 Abe 86 Aguilarbenit 86B
Cu^*		$D^+ \gamma$	$D^+ \pi^-$
Apokin 86D	Adler 88C Asratyan 87B	Adler 88C Asratyan 87B Asratyan 87C Gladney 86B	$D^0 \gamma$
^{60}Cu	Adler 88C Asratyan 87B Asratyan 87C Gladney 86B	Albajar 90D Alexander 90 Bortoletto 90 Braunschweig 90B Abachi 89C Abe 89O Albrecht 89R Albrecht 89V Averill 89 Bortoletto 89B Braunschweig 89G	$D^0 \pi^0$
^{61}Cu	Harder 89 Mooney 89 Ouldsada 89	Abachi 89C Abachi 88 Abachi 88C Adler 88C Albrecht 88J Anjos 88 Anjos 88F Baringer 88 Barlag 88 Bortoletto 88 Danilov 88 Ouldsada 88B Roudeau 88 Shipbaugh 88B Abachi 87C Albrecht 87B Albrecht 87F Albrecht 87O Albrecht 87P Anjos 87 Asratyan 87B Asratyan 87C Barlow 87 Bartel 87B Bortoletto 87 Ginther 87 Gittelman 87 Jones 87B Kolanoski 87 Naroska 87 Wagner 87 Abachi 86B Aihara 86E Albrecht 86B Althoff 86C Gladney 86B Albrecht 85 Albrecht 85N Chen 85 Yamamoto 85 Yamamoto 85B Yamamoto 85C Sliwa 83 Yamamoto 85	$D^- \gamma$
^{64}Cu		$D^- \pi^0$	$D^0 \pi^-$
Hufner 85			
^{65}Cu	Avignone 88	Albajar 90D Alexander 90 Braunschweig 90B Abe 89O Albrecht 89P Albrecht 89Q Averill 89 Bortoletto 89B Braunschweig 89G	$D^*(2150)^0$
$^{66}\text{Cu}^*$		Harder 89 Mooney 89 Ouldsada 89 Wagner 89B	$D^*(2300)^0$
$^{66}\text{Cu}^* 2\gamma$	Avignone 88	Abachi 88 Abachi 88C Adler 88C Albrecht 88J Anjos 88 Anjos 88F Baringer 88 Barlag 88 Bortoletto 88 Danilov 88 Ouldsada 88B Roudeau 88 Shipbaugh 88B Abachi 87C Albrecht 87B Albrecht 87F Albrecht 87O Albrecht 87P Anjos 87 Asratyan 87B Asratyan 87C Barlow 87 Bartel 87B Bortoletto 87 Danilov 88 Ouldsada 88B Roudeau 88 Shipbaugh 88B Abachi 87C Albrecht 87B Albrecht 87F Albrecht 87O Albrecht 87P Ammosov 87F Anjos 87 Barlow 87 Bartel 87B Bortoletto 87 Ginther 87 Gittelman 87 Jones 87B Kolanoski 87 Naroska 87 Wagner 87 Abachi 86B Aihara 86E Albrecht 86B Althoff 86C Gladney 86B Albrecht 85 Albrecht 85N Chen 85 Yamamoto 85 Yamamoto 85B Yamamoto 85C Sliwa 83 Yamamoto 85	$D^*(2150)^0$
^{67}Cu	Butsev 85 Hufner 85 Wagner 85	$D^+ \pi^+$	$D^+ \pi^-$
D		$D^0 \gamma$	$D^0 \pi^0$
$\mu^+ X$	Bordalo 88	Abachi 88	Abachi 88
$D(\text{unspec})$	Bailey 85C	Adler 88C Bortoletto 88 Low 87 Naroska 87 Bartel 85G	$D^*(2150)^0$
$D^*(2010)^+ \pi^-$	Albrecht 89V		$D^*(2300)^0$
$D_S^+ \pi^-$	Albrecht 89		$D^*(2150)^0$
$D^*(2010)$	Osterheld 86 Kiesling 85		$D^+(2150)^0$
$D^*(2010)^+$	Avery 90 Albrecht 89C Bortoletto 89 Halling 89 Kreinick 89 Miller 89 Wormser 89 Aguilarbenit 88B Anjos 88B Bowcock 88 Thorndike 88 Aguilarbenit 87C Bebek 87B Cumalat 87 Schindler 87 Wu 87 Abe 86 Aguilarbenit 86B Anjos 86 Fitch 86 Augustin 85E Bailey 85C Cassel 85 Csorna 85 Kesten 85	$D^0 \pi^+$	D^+
		Braunschweig 90B Marshall 89 Ouldsada 88B Naroska 85	$D^0 \pi^+$
		$D^*(2010)^{\pm}$	$D^0 \pi^0$
		Braunschweig 90B Marshall 89 Ouldsada 88B Naroska 85	$D^*(2010)^0$
		$D^*(2010)^{\pm}$	
		Albrecht 89C Danilov 89 Halling 89 Schubert 89	$D^*(2010)^0$
		$D^*(2010)^-$	
		Albrecht 89C Danilov 89 Halling 89 Schubert 89	$D^0 \pi^-$

Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

D ⁺	D ⁺	D ⁺	D ⁺
Goldhaber 85C Voyvodic 85 Ajinsek 84B	K ⁺ K ⁻ 2π ⁺ π ⁻ K ⁺ K ⁻ π ⁺ π ⁰ K ⁺ K ⁻ π ⁺	Schindler 87 Anjos 86 Baltrusaitis 86E Gladney 86B Bailey 85 Baltrusaitis 85B Baltrusaitis 85D Derrick 85B Schindler 85	Adler 88F Izen 88 Brent 87 Schindler 87 Baltrusaitis 85B Baltrusaitis 85D Schindler 85
2π ⁺ π ⁻ Barlag 90C Adler 88F Anjos 88D Brent 87 Schindler 87 Baltrusaitis 85B Coward 85 Schindler 85	Barlag 90B Barlag 90C Adler 88F Albrow 88 Anjos 88G Schindler 87 Baltrusaitis 85B Coward 85 Schindler 85	Anjos 90 Barlag 90C Barlag 88C Schindler 87 Georgioupolo 84	Izen 88 Barlag 90C Barlag 88C Schindler 87 Coward 85
2π ⁺ π ⁰ π ⁻ Barlag 90C 3charged (neutrals) Ammar 88B Aguilarbenit 86 Aguilarbenit 86D Aziz 85	K ⁺ K ⁰ K ⁺ μ ⁺ e ⁻ K ⁺ μ ⁻ e ⁺ K ⁺ μ ⁻ μ ⁺ K ⁺ X	Adler 88F Brent 87 Schindler 87 Baltrusaitis 85B Coward 85 Schindler 85	Weir 89 Izen 88 Aguilarbenit 87F Schindler 87 Schindler 86 Smart 86 Coward 85 Schindler 85
3π ⁺ 2π ⁻ Barlag 90C Anjos 88D	K ⁺ μ ⁺ e ⁻ K ⁺ μ ⁻ e ⁺ K ⁺ μ ⁻ μ ⁺ K ⁺ X	Weir 89 Weir 89 Weir 89 Weir 89	Agularbenit 87F Aguilarbenit 87F Aguilarbenit 87E
5charged (neutrals) Ammar 88B Aguilarbenit 86	K ⁻ 2e ⁺ K ⁻ 2μ ⁺ K ⁻ 2π ⁺ 2π ⁰ K ⁻ 2π ⁺ π ⁰	Weir 89 Weir 89 Barlag 90C Aguilarbenit 87E	Barlag 90C Aguilarbenit 88B Aguilarbenit 87E Aguilarbenit 88B
5charged neutral (neutrals) Ammar 88B Aguilarbenit 88B Aguilarbenit 87E	K ⁻ 2e ⁺ K ⁻ 2μ ⁺ K ⁻ 2π ⁺ 2π ⁰ K ⁻ 2π ⁺ π ⁰	Weir 89 Weir 89 Barlag 90C Aguilarbenit 87F	Barlag 90C Aguilarbenit 88B Aguilarbenit 87E Aguilarbenit 88B
e ⁺ 2charged (neutrals) Aguilarbenit 86	K ⁻ 2π ⁺ π ⁰	Weir 89	Aguilarbenit 87F
e ⁺ 4charged (neutrals) Aguilarbenit 86	K ⁻ 2π ⁺ π ⁰	Weir 89	Aguilarbenit 87F
e ⁺ X	K ⁻ 2π ⁺ π ⁰	Weir 89	Aguilarbenit 87F
η π ⁺ Anjos 89B	K ⁻ 2π ⁺	Barlag 90C Anjos 89B Aguilarbenit 87F Baltrusaitis 85D	Barlag 90C Anjos 89B Aguilarbenit 87F Schindler 87 Baltrusaitis 86E Schindler 85
η' π ⁺ Wormser 89	K ⁻ 2π ⁺	Alvarez 90 Alvarez 90C Barlag 90B Barlag 90C	Alvarez 90 Alvarez 90C Barlag 90B Bortoletto 90
K ^{*(862)} + K ^{*(862)} 0 Barlag 90C	K ⁰ π ⁺	Anjos 89B Averill 89 Harder 89 Wormser 89B	Adler 89E Browder 89 Dejongh 89
K ^{*(862)} 0 K ^{*(862)} 0 Schindler 85	K ⁰ π ⁺	Barlag 90C Anjos 88C Anjos 88D Anjos 88F	Browder 89 Dejongh 89
K ^{*(862)} 0 2π ⁺ π ⁻ Barlag 88C	K ⁰ 2π ⁺ π ⁻	Barlag 90C Barlag 88 Barlag 88C Barlag 88D	Barlag 90C Adler 89E Browder 89 Dejongh 89
K ^{*(862)} 0 e ⁺ ν _e Anjos 90B Anjos 88E Luth 87 Palka 87B Schindler 86 Coward 85	K ⁰ 2π ⁺ π ⁻	Barlag 90C Barlag 88 Barlag 88C Barlag 88D	Barlag 90C Adler 89E Browder 89 Dejongh 89
K ^{*(862)} 0 e ⁺ Palka 87	K ⁰ 2π ⁺ π ⁻	Barlag 88 Barlag 88C Barlag 88D	Barlag 90C Adler 89E Browder 89
K ^{*(862)} 0 K ⁺ Alvarez 90C Barlag 90C Adler 88F Anjos 88G Barlag 88C Briem 87 Baltrusaitis 85B Coward 85	K ⁰ e ⁺ ν _e Bortoletto 88 Danilov 88 Izen 88 Adler 87 Anjos 87 Anjos 87D Asratyan 87B Asratyan 87C Barlag 87 Bortoletto 87 Batusov 87 Bobek 87B Brent 87 Csorna 87B Gittelman 87 Luth 87 Raab 87	Izen 88 Schindler 87 Coward 85	Barlag 90C Adler 89E Browder 89 Izen 88 Schindler 87 Coward 85
K ^{*(862)} 0 π ⁺ Adler 87 Coward 85 Schindler 85	K ⁰ μ ⁺ ν _μ Izen 88 Schindler 87 Baltrusaitis 85B Coward 85	Izen 88 Schindler 87 Coward 85	Weir 89 Haas 88 Grab 87
K ^{*(862)} 0 ρ ⁺ Schindler 85	K ⁰ π ⁺ π ⁻ e ⁺ ν _e Aguilarbenit 87F	Izen 88 Schindler 87 Coward 85	Weir 89 Haas 88 Grab 87
K ⁺ e ⁻ e ⁺ Weir 89	K ⁰ π ⁺ π ⁰ Aguilarbenit 87F	Izen 88 Schindler 87 Coward 85	Weir 89 Haas 88 Grab 87

PARTICLE/DECAY INDEX

 D^+

D^+
$\pi^+ \pi^0$
Schindler 87
Baltrusaitis 85B
Coward 85
Schindler 85
$\pi^- 2e^+$
Weir 89
$\pi^- 2\mu^+$
Weir 89
$\pi^- \mu^+ e^+$
Weir 89
$\rho \pi^+$
Anjos 88D

 D^\pm

Marshall 89
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Abe 86
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Adamovich 86E
Baltrusaitis 86D
Ushida 86
Aguilarbenit 85D
Aguilarbenit 85E
Bailey 85C
Ajinenko 84B

 $2\pi^+ 3\pi^-$

Anjos 88D

3charged (neutrals)

Ammar 88B

Aguilarbenit 86

Aziz 85

3charged neutral (neutrals)

Aguilarbenit 88B

Aguilarbenit 87E

5charged (neutrals)

Ammar 88B

Aguilarbenit 86

Aguilarbenit 86D

5charged neutral (neutrals)

Aguilarbenit 88B

Ammar 88B

Aguilarbenit 87E

charged neutral (neutrals)

Aguilarbenit 88B

Ammar 88B

Aguilarbenit 87E

e- 2charged (neutrals)

Aguilarbenit 86

e- 4charged (neutrals)

Aguilarbenit 86

e- X

Aguilarbenit 88B

Bowcock 88

Aguilarbenit 87E

Baltrusaitis 85D

 D^- $\eta' \pi^-$ $K^*(892)^0 e^- \bar{\nu}_e$ $K^*(892)^0 e^- K^-$ $K^*(892)^0 K^-$ $K^*(892)^0 \pi^+ 2\pi^-$ $K^*(892)^0 \pi^-$ $K^*(892)^0 \rho^-$ $K^*(892)^0 K^+$ $K^*(892)^0 \pi^-$ $K^*(892)^0 \pi^-$ </div

D_S^{*+}	D_S^+	D_S^+	D_S^+
		Browder 89 Schindler 89 Toki 89B Barlag 90C Adler 89E Alder 89 Browder 89 Schindler 89 Toki 89B Barlag 88C	Ammosov 86 Toki 86 Barlag 90C Aguilarbenit 86D Albrecht 89 Adler 89B Schindler 89 Ammosov 86 Anjos 89B Schindler 89 Albrecht 89 Barlag 90C Adler 89E Alder 89 Browder 89 Schindler 89 Toki 89B Barlag 88C
D_S^{*-}	$K^*(892)^+ K^*(892)^0$	$K^+ \pi^+ \pi^-$ $K^+ X$ $K^- 2\pi^+$ $K^0 \pi^+$ $\bar{K}^0 \pi^+$ $K_S K^- 2\pi^+$ $\omega \pi^+$ $\phi 2\pi^+ \pi^-$	$K^+ \pi^+ \pi^-$ $K^- 2\pi^+$ $K^0 \pi^+$ $\bar{K}^0 \pi^+$ $K_S K^- 2\pi^+$ $\omega \pi^+$ $\phi 2\pi^+ \pi^-$ $\phi e^+ \nu_e$ $\phi \pi^+ \pi^0$
$D_S^- \gamma$	$K^*(892)^+ K^0$ $K^*(892)^+ \bar{K}^0$ $K^*(892)^0 \rho^+$ $K^*(892)^0 K^+$	$\text{Chen } 89B$ $\text{Miller } 89$ $\text{Alvarez } 90C$ $\text{Bai } 90$ $\text{Barlag } 90C$ $\text{Adler } 89B$ $\text{Alder } 89E$ $\text{Browder } 89$ $\text{Schindler } 89$ $\text{Toki } 89B$ $\text{Anjos } 88G$ $\text{Barlag } 88C$ $\text{Schindler } 87$ $\text{Ammosov } 86$ $\text{Albrecht } 85D$	$\text{Bai } 90$ $\text{Barlag } 90C$ $\text{Adler } 89E$ $\text{Alder } 89$ $\text{Browder } 89$ $\text{Schindler } 89$ $\text{Toki } 89B$ $\text{Anjos } 88G$ $\text{Barlag } 88C$ $\text{Schindler } 87$ $\text{Ammosov } 86$ $\text{Albrecht } 85D$
X	$K^+ K^- 2\pi^+ \pi^-$ $K^+ K^- \pi^+ \pi^0$ $K^+ K^- \pi^+$	$\text{Alvarez } 90C$ $\text{Bai } 90$ $\text{Barlag } 90C$ $\text{Adler } 89B$ $\text{Alder } 89E$ $\text{Browder } 89$ $\text{Schindler } 89$ $\text{Toki } 89B$ $\text{Anjos } 90B$ $\text{Barlag } 90C$ $\text{Adler } 89E$ $\text{Alder } 89$ $\text{Browder } 89$ $\text{Schindler } 89$ $\text{Toki } 89B$ $\text{Anjos } 89B$ $\text{Barlag } 88C$ $\text{Schindler } 87$ $\text{Ammosov } 86$ $\text{Albrecht } 85M$	$\text{Alvarez } 90C$ $\text{Bai } 90$ $\text{Barlag } 90C$ $\text{Adler } 89E$ $\text{Alder } 89$ $\text{Browder } 89$ $\text{Schindler } 89$ $\text{Toki } 89B$ $\text{Anjos } 88G$ $\text{Barlag } 88C$ $\text{Schindler } 87$ $\text{Ammosov } 86$ $\text{Albrecht } 85D$
D_S^+	$K^+ K^- 2\pi^+ \pi^-$ $K^+ K^- \pi^+ \pi^0$ $K^+ K^- \pi^+$	$\phi \pi^+$ $\phi \pi^+ \pi^-$	$\phi \pi^+ \pi^-$ $\phi e^+ \nu_e$ $\phi \pi^+ \pi^0$
$2\pi^+ \pi^-$	$Bortoletto 90$ $Averill 89$ $Halling 89$ $Schubert 89$ $Aguilarbenit 88B$ $Bortoletto 88$ $Danilov 88$ $Roudeau 88$ $Adamovich 86B$ $Albrecht 86F$ $Ushida 86$ $Vayvodic 85$ $Ajinenko 84B$	$\text{Bortoletto } 90$ $\text{Averill } 89$ $\text{Halling } 89$ $\text{Schubert } 89$ $\text{Aguilarbenit } 88B$ $\text{Bortoletto } 88$ $\text{Danilov } 88$ $\text{Roudeau } 88$ $\text{Adamovich } 86B$ $\text{Albrecht } 86F$ $\text{Ushida } 86$ $\text{Vayvodic } 85$ $\text{Ajinenko } 84B$	$\text{Alvarez } 90C$ $\text{Bai } 90$ $\text{Barlag } 88C$ $\text{Schindler } 88$ $\text{Anjos } 87C$ $\text{Luth } 87$ $\text{Raab } 87$ $\text{Schindler } 87$ $\text{Toki } 86$ $\text{Albrecht } 85M$
$2\pi^+ \pi^0 \pi^-$	$Anjos 88D$ $Aguilarbenit 85C$	$\text{Anjos } 88D$ $\text{Aguilarbenit } 85C$	$\text{Albrecht } 90$ $\text{Alvarez } 90C$ $\text{Anjos } 90B$ $\text{Bai } 90$ $\text{Barlag } 90C$ $\text{Adler } 89E$ $\text{Alder } 89$ $\text{Browder } 89$ $\text{Schindler } 89$ $\text{Toki } 89B$ $\text{Wasserbaech } 89$ $\text{Wormser } 89$ $\text{Wormser } 89B$ $\text{Ammosov } 86$
$3\pi^+ 2\pi^-$	$Anjos 89B$ $Smart 86$	$\text{Anjos } 89B$ $\text{Barlag } 90C$ $\text{Schindler } 89$ $\text{Anjos } 88D$	$\text{Albrecht } 90$ $\text{Alvarez } 90C$ $\text{Anjos } 90B$ $\text{Bai } 90$ $\text{Barlag } 90C$ $\text{Adler } 89E$ $\text{Alder } 89$ $\text{Browder } 89$ $\text{Chen } 89B$ $\text{Pitman } 89$ $\text{Schindler } 89$ $\text{Toki } 89B$ $\text{Wasserbaech } 89$ $\text{Wormser } 89$ $\text{Wormser } 89B$ $\text{Ammosov } 86$
$e^+ X$	$Bai 90$ $Pitman 89$ $Schindler 89$	$\text{Bai } 90$ $\text{Barlag } 90C$ $\text{Schindler } 89$	$\text{Albrecht } 90$ $\text{Alvarez } 90C$ $\text{Anjos } 90B$ $\text{Bai } 90$ $\text{Barlag } 90C$ $\text{Adler } 89E$ $\text{Alder } 89$ $\text{Browder } 89$ $\text{Chen } 89B$ $\text{Pitman } 89$ $\text{Schindler } 89$ $\text{Toki } 89B$ $\text{Wasserbaech } 89$ $\text{Wormser } 89$ $\text{Wormser } 89B$ $\text{Ammosov } 86$
$\eta \pi^+$	$Anjos 89B$ $Browder 89$ $Schindler 89$ $Wormser 88B$ $Stockdale 87$	$\text{Anjos } 89B$ $\text{Browder } 89$ $\text{Schindler } 89$ $\text{Chen } 89B$ $\text{Miller } 89$ $\text{Schindler } 89$ $\text{Toki } 89B$ $\text{Schindler } 88$ $\text{Schindler } 87$ $\text{Ammosov } 86$ $\text{Ammosov } 86$	$\text{Bai } 90$ $\text{Adler } 89E$ $\text{Alder } 89$ $\text{Browder } 89$ $\text{Chen } 89B$ $\text{Miller } 89$ $\text{Schindler } 88$ $\text{Slipbaugh } 88B$ $\text{Albrecht } 87N$ $\text{Albrecht } 87R$ $\text{Anjos } 88D$ $\text{Barlag } 88C$ $\text{Schindler } 88$ $\text{Slipbaugh } 88B$ $\text{Albrecht } 87C$ $\text{Barlow } 87$ $\text{Blaylock } 87$ $\text{Braunschweig } 87B$ $\text{Csorna } 87B$ $\text{Ginther } 87$ $\text{Luth } 87$ $\text{Naroska } 87$ $\text{Raab } 87$ $\text{Schindler } 87$ $\text{Shipbaugh } 87$
$\eta' \pi^+$	$Albrecht 90$ $Browder 89$ $Schindler 89$ $Wormser 89$ $Wormser 89B$ $Wormser 88B$	$\text{Albrecht } 90$ $\text{Browder } 89$ $\text{Schindler } 89$ $\text{Chen } 89B$ $\text{Miller } 89$ $\text{Schindler } 89$ $\text{Toki } 89B$ $\text{Schindler } 88$ $\text{Schindler } 87$ $\text{Ammosov } 86$ $\text{Ammosov } 86$	$\text{Bai } 90$ $\text{Alder } 89$ $\text{Alder } 89$ $\text{Browder } 89$ $\text{Chen } 89B$ $\text{Miller } 89$ $\text{Schindler } 88$ $\text{Slipbaugh } 88B$ $\text{Albrecht } 87C$ $\text{Barlow } 87$ $\text{Blaylock } 87$ $\text{Braunschweig } 87B$ $\text{Csorna } 87B$ $\text{Ginther } 87$ $\text{Luth } 87$ $\text{Naroska } 87$ $\text{Raab } 87$ $\text{Schindler } 87$ $\text{Shipbaugh } 87$
$f_0(975) \pi^+$	$Bai 90$ $Adler 89E$ $Alder 89$	$\text{Bai } 90$ $\text{Barlag } 90C$ $\text{Schindler } 89$ $\text{Chen } 89B$ $\text{Miller } 89$ $\text{Schindler } 89$ $\text{Toki } 86$ $\text{Ammosov } 86$ $\text{Ammosov } 86$	$\text{Bai } 90$ $\text{Bortoletto } 90$ $\text{Bortoletto } 90$ $\text{Bai } 90$ $\text{Alder } 89$ $\text{Barlag } 88C$ $\text{K}^*(892)^- K^0$ $\text{K}^*(892)^0 K^*(892)^-$ $\text{K}^*(892)^0 K^-$ $\text{Bai } 90$ $\text{Bortoletto } 90$ $\text{Adler } 89B$ $\text{Alder } 89$ $\text{Alder } 89$ $\text{Browder } 89$ $\text{Chen } 89B$ $\text{Anjos } 88D$ $\text{Anjos } 88D$ $\text{Anjos } 88C$ $\text{Anjos } 88G$ $\text{Raab } 87$ $\text{Slipbaugh } 88B$ $\text{Bai } 90$ $\text{Bortoletto } 90$ $\text{Adler } 89B$ $\text{Alder } 89$ $\text{Alder } 89$ $\text{Browder } 89$ $\text{Chen } 89B$ $\text{Anjos } 88C$ $\text{Anjos } 88G$ $\text{Raab } 87$ $\text{Slipbaugh } 88B$ $\text{Bai } 90$ $\text{Bortoletto } 90$ $\text{Adler } 89B$ $\text{Alder } 89$ $\text{Alder } 89$ $\text{Browder } 89$ $\text{Chen } 89B$ $\text{Anjos } 88C$ $\text{Anjos } 88G$ $\text{Raab } 87$ $\text{Slipbaugh } 88B$

D_S^- D_S^- $K^+ K^- \pi^-$

Anjos 88C
Barlag 88
Barlag 88D
Blaylock 87
Aguilarbenit 85C

 $K^+ K^- \pi^0 \pi^-$

Anjos 89B
Schindler 89

 $K^+ K_S 2\pi^-$

Aseytian 87C
Ammosov 86

 $K^- X$

Aguilarbenit 86D

 $K^0 K^-$

Bai 90
Adler 89B
Alder 89
Chen 89B

 $K^0 \pi^-$

Adler 89B

 $K_S K^- \pi^+ \pi^-$

Aseytian 87C
Ammosov 86

 $K_S K^- \pi^0$

Aseytian 87C
Ammosov 86

 $K_S K^-$

Bortoletto 90
Aseytian 87C
Ammosov 86

 $\phi \pi^+ 2\pi^-$

Toki 86

 $\phi \pi^- X$

Bai 90
Alder 89
Anjos 88C

 $\phi \pi^-$

Barlag 88C
Aseytian 87C
Ammosov 86

 $\phi \pi^-$

Bai 90
Alder 89
Bortoletto 90
Aseytian 87C
Ammosov 86

 $\phi \pi^-$

Bai 90
Alder 89
Anjos 88C
Barlag 88C
Aseytian 87C
Ammosov 86

 $\phi \pi^-$

Albrecht 85D

 $\phi \pi^-$

Bai 90
Bortoletto 90
Alder 89
Chen 89B

 $\phi \pi^-$

Wasserbaech 89

 $\phi \pi^-$

Wormser 89

 $\phi \pi^-$

Albrecht 88J

 $\phi \pi^-$

Albro 88

 $\phi \pi^-$

Anjos 88C

 $\phi \pi^-$

Anjos 88G

 $\phi \pi^-$

Barlag 88C

 $\phi \pi^-$

Schmitz 88

 $\phi \pi^-$

Shipbaugh 88B

 $\phi \pi^-$

Albrecht 87D

 $\phi \pi^-$

Albrecht 87N

 $\phi \pi^-$

Albrecht 87R

 $\phi \pi^-$

Aseytian 87

 $\phi \pi^-$

Aseytian 87C

 $\phi \pi^-$

Barlow 87

 $\phi \pi^-$

Blaylock 87

 $\phi \pi^-$

Braunschweig 87B

 $\phi \pi^-$

Csorna 87B

 $\phi \pi^-$

Ginther 87

 $\phi \pi^-$

Naroska 87

 $\phi \pi^-$

Raab 87

 $\phi \pi^-$

Shipbaugh 87

 $\phi \pi^-$

Wasserbaech 87

 $\phi \pi^-$

Ammosov 86

 $\phi \pi^-$

Haas 86

 $\phi \pi^-$

Jung 86

 $\phi \pi^-$

Schindler 86

 $\phi \pi^-$

Toki 86

 $\phi \pi^-$

Aguilarbenit 85C

 $\phi \pi^-$

Albrecht 85B

 $\phi \pi^-$

Albrecht 85D

 $\phi \pi^-$

Bartel 85G

 $\phi \pi^-$

Derrick 85C

 $\phi \pi^-$

Georgiopoulos 84

 $\phi \pi^-$ $\phi \pi^-$

$K^- 2\pi^+ \pi^-$
 Anjos 90
 Barlag 90C
 Barlag 90B
 Miller 89
 $K^- 2\pi^0 e^+ \nu_e$
 Aguilarbenit 87F

$K^- \alpha_1(1280)^+$
 Adler 89D
 Adler 89E
 Browder 89
 Dejongh 89
 $K^- \text{ charged}^+$

$K^- e^+ \nu_e$ Yamanoto 85

$K^- \mu^+ \nu_\mu$
 Izen 88
 Schindler 87
 $K^- \pi^+ (\text{neutral})$
 Luth 87

$K^- \pi^+ 2\pi^0$
 Barlag 90C
 Barlag 89B
 Adler 88F
 Aguilarbenit 87F
 Brent 87

$K^- \pi^+ 3\pi^0$ Aguilarbenit 87F

$K^- \pi^+ \pi^0$
 Alvarez 90C
 Barlag 90C
 Braunschweig 90B
 Abachi 89C
 Barlag 89B
 Braunschweig 89G
 Miller 89
 Ouidesada 89
 Wormser 89B
 Adler 88F
 Schindler 88
 Adler 87

Aguilarbenit 87F
 Albrecht 87B
 Albrecht 87P
 Asratyan 87B
 Asratyan 87C
 Barlag 87
 Barlow 87
 Bartoletto 87
 Batsov 87
 Bebek 87B
 Brent 87
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 Gitelman 87
 Jones 87B
 Luth 87
 Naroska 87
 Raab 87
 Schindler 87
 Wagner 87
 Abachi 86B
 Aihara 86E
 Albrecht 86B
 Althoff 86C
 Anjos 86
 Baltrusaitis 86E
 Gladney 86B
 Bailey 85
 Baltrusaitis 85B
 Baltrusaitis 85D
 Bartel 85G
 Brent 87
 Schindler 87
 Wagner 87
 Aihara 86E
 Althoff 86C
 Baltrusaitis 86E
 Gladney 86B
 Smart 86
 Baltrusaitis 85D
 Coward 85
 Schindler 85
 Yamamoto 85C
 Sliwa 83

$K^- \pi^+$
 Albaraj 90D
 Alexander 90
 Alvarez 90
 Alvarez 90C
 Barlag 90B
 Barlag 90C
 Bortoletto 90
 Braunschweig 90B
 Abachi 89C
 Abe 89O
 Albrecht 89V
 Albrecht 89X
 Averill 89
 Bortoletto 89B

Braunschweig 89G
 Harder 89
 Miller 89
 Mooney 89
 Wormser 89
 Wormser 89B
 Abachi 88
 Abachi 88C
 Adler 88C
 Adler 88F
 Albrecht 88J
 Albrecht 88M
 Albrecht 88S
 Anjos 88
 Anjos 88C
 Anjos 88F
 Barlag 88C
 Barlag 88D
 Bortoletto 88
 Danilov 88
 Izen 88
 Roudoule 88
 Schindler 88
 Shipbaugh 88B
 Aguilarbenit 87F
 Albrecht 87B
 Albrecht 87O
 Anjos 87D
 Asratyan 87B
 Asratyan 87C
 Barlag 87
 Barlow 87
 Bartoletto 87
 Batsov 87
 Bebek 87B
 Brent 87
 Cserna 87B
 Ginterher 87
 Gitelman 87
 Jones 87B
 Luth 87
 Naroska 87
 Raab 87
 Schindler 87
 Wagner 87
 Abachi 86B
 Aihara 86E
 Albrecht 86B
 Althoff 86C
 Anjos 86
 Baltrusaitis 86E
 Gladney 86B
 Bailey 85
 Baltrusaitis 85B
 Baltrusaitis 85D
 Bartel 85G
 Coward 85
 Derrick 85B
 Schindler 85
 Yamamoto 85
 Yamamoto 85B
 Sliwa 83

$K^- X$
 Dejongh 89
 $K^0 2\pi^+ 2\pi^-$
 Barlag 90C
 $K^0 3\pi^+ 3\pi^-$
 Barlag 89B

$K^0 e^- e^+$
 $K^0 K^- \pi^+$
 $K^0 \bar{K}^0$

Grab 88
 Coward 85
 Schindler 85
 $K^0 \phi$

Barlag 89B
 Bebek 86

$K^0 \pi^+ \pi^-$
 Bortoletto 90
 Barlag 89B
 Smart 86

$K^0 \pi^+ \pi^0 \pi^-$
 Barlag 89B

$K^0 X + \bar{K}^0 X$

Barlag 90C

$K_1(1270)^- \pi^+$
 Adler 89D
 Adler 89E

Browder 89
 Dejongh 89

$K_1(1400)^- \pi^+$
 Adler 89E
 Browder 89
 Dejongh 89

$\bar{K}^0 2\pi^+ 2\pi^-$
 Anjos 90
 Barlag 90C

$\bar{K}^0 e^- e^+$
 $\bar{K}^0 \eta$

Adler 89C
 Albrecht 88S
 Schindler 87

Coward 85
 Schindler 85

$\bar{K}^0 \omega$
 Miller 89

Albrecht 88S
 Schindler 87

Coward 85
 Schindler 85

$\bar{K}^0 \phi$
 Barlag 90C

Adler 88F
 Barlag 88C

Albrecht 87E
 Schindler 87

Bebek 86
 Aguilabenit 87F

$\bar{K}^0 \pi^+ 2\pi^0 \pi^-$
 Aguilabenit 87F

$\bar{K}^0 \pi^+ e^- \bar{\nu}_e$
 Izen 88

$\bar{K}^0 \pi^+ \mu^- \bar{\nu}_\mu$
 Izen 88

$\bar{K}^0 \pi^+ \pi^- X$
 Batusov 87

$\bar{K}^0 \pi^+ \pi^-$
 Barlag 90C

Braunschweig 90B

Miller 89

Schindler 88

Adler 87

Dejongh 89

Barlag 90C
 Aguilarbenit 88B

Aguilarbenit 87E
 Aguilarbenit 86

$K^0 \pi^+ \pi^0 \pi^-$
 Barlag 90C

$K^0 \pi^- \mu^+ \nu_\mu$
 Aguilarbenit 87F

$\bar{K}^0 \pi^0 \pi^- e^+ \nu_e$
 Aguilarbenit 87F

$K^0 \pi^0$
 Miller 89

Schindler 87

Coward 85

Schindler 85

$\bar{K}^0 \rho^0$
 Adler 87

Brent 87

Coward 85

$K_S K^- \pi^+$
 Albrecht 89R

$K_S \phi$
 Baltrusaitis 86D

$K_S \pi^+ \pi^-$
 Albrecht 89V

Albrecht 88M

Danilov 88

Albrecht 87B

Albrecht 87P

Asratyan 87B

Asratyan 87C

Albrecht 85G

$\mu^+ e^-$
 Adler 88F

Albrecht 88F

Grabs 88

Anjos 87D

Becker 87B

Grab 87

Palika 87

Riles 87

Stockhausen 87

Wasserbaech 87

$\mu^+ X$
 Benvenuti 85

$\mu^- e^+ + \mu^+ e^-$
 Brent 87

$\mu^- e^+$
 Adler 88F

Albrecht 88F

Haas 88

Anjos 87D

Becker 87B

Grab 87

Palika 87

Riles 87

Stockhausen 87

Wasserbaech 87

$\mu^- \mu^+$
 Albrecht 88F

Haas 88

Anjos 87D

Becker 87B

Grab 87

Louis 86

Aubert 85

$\text{mult}[charged] (\text{neutral})$

Wagner 89B

$\text{nonres} < K^+ K^- > K^0$

Brent 87

$\text{nonres} < K^+ K^- > \pi^+ \pi^-$

Barlag 89B

D^0 D^0 $\phi \pi^+ \pi^-$ Barlag 90C
Barlag 89B
Miller 89

Barlag 88C

 $\phi \rho^0$

Barlag 90C

 $\pi^+ \pi^-$ Barlag 90C
Albrecht 89R
Barlag 89B

Miller 89

Adler 88F

Aguilarbenit 87F
Brent 87

Jones 87B

Baltrusaitis 85B

Coward 85

Schindler 85

 $\pi^- \pi^0 \pi^-$ Barlag 90C
Barlag 89B

Coward 85

Schindler 85

 $\pi^- e^+ \nu_e$ Adler 89
Wasserbaech 89

Izen 88

Aguilarbenit 87F

Schindler 87

 $\pi^0 \pi^- e^+ \nu_e$

Aguilarbenit 87F

 $\rho^0 e^- e^+$

Haas 88

 $\rho^0 \mu^- \mu^+$

Haas 88

 $D_1(2420)^+$ $D^*(2010)^+ K^0$

Schindler 87

Miller 89

 $D_1(2420)^-$

Schindler 87

 $D_1(2420)^0$ $D^*(2010)^+ \pi^-$

Schindler 87

Avery 90

Miller 89

Anjos 88F

Roudeau 88

Albrecht 86B

 $D^+ \pi^-$

Avery 90

Miller 89

Anjos 88F

 $D_1(2420)^0$ $D^*(2010)^- \pi^+$

Schindler 87

Anjos 88F

Roudeau 88

Albrecht 86B

 $D^- \pi^+$

Anjos 88F

 $D_2^*(2460)^+$ $D^0 \pi^+$

Albrecht 89X

 $D_2^*(2460)^-$ $\bar{D}^0 \pi^-$

Albrecht 89X

 $D_2^*(2460)^0$ $D^*(2010)^+ \pi^-$

Avery 90

Albrecht 89V

 $D^+ \pi^-$

Avery 90

Anjos 88F

 $\bar{D}_2^*(2460)^0$

Anjos 88F

 \bar{D} $\mu^+ X$

Bordalo 88

 $\bar{D}(\text{unspec})$

Bailey 85C

 \bar{D}^0

Adler 89D

Adler 89E

Albrecht 89C

Alexander 89

Browder 89

Dejough 89

Halling 89

Marshall 89

Schubert 89

Agullarbenit 88

Aleeve 88

Aoki 88

Baringer 88

Grab 88

Ouldsada 88B

Purohit 88

Thornndike 88

Abachi 87C

Adler 87

Aguilarbenit 87B

Aguilarbenit 87C

Aguilarbenit 87D

Amendolia 87

Aminar 87

Barlag 87

Becker 87B

Forino 87

Gittelman 87

Grab 87

Kolanoski 87

Low 87

Palka 87

Schindler 87

Stockhausen 87

Wasserbaech 87

Abe 86

Adamovich 86B

Adamovich 86E

Aguilarbenit 86B

Aguilarbenit 86D

Butler 86

Fitch 86

Ushida 86B

Aguilarbenit 85D

Aguilarbenit 85E

Albrecht 85N

Bailey 85C

Chen 85

Csorna 85

Kesten 85

Ajenenco 84B

Ammar 88B

Aguilarbenit 88B

 $2K_S$

Baltrusaitis 86D

 $2\pi^+ 2\pi^-$

Barlag 88C

Aguilarbenit 87F

Coward 85

 $4\text{charged (neutrals)}$

Ammar 88B

Aguilarbenit 85

 $4\text{charged neutral (neutrals)}$

Ammar 88B

Aguilarbenit 88B

 $6\text{charged (neutrals)}$

Ammar 88B

Aguilarbenit 88B

 D^0

Anjos 88

Albrecht 87F

 \bar{D}^0 $e^- e^+$

Adler 88B

Albrecht 88F

 $e^- X$

Bowcock 88

Aguilarbenit 87E

Aguilarbenit 86

Baltrusaitis 85D

Coward 85

 $K^*(892)^+ e^- \bar{\nu}_e$

Coward 85

 $K^*(892)^+ K^-$

Barlag 88C

Coward 85

Schindler 85

 $K^*(892)^+ \pi^-$

Brent 87

Aleeve 85

Coward 85

Schindler 85

 $K^*(892)^0 \bar{K}^0$

Coward 85

 $K^*(892)^0 \pi^0$

Coward 85

 $K^*(892)^0 \rho^0$

Schindler 85

 $K^*(892)^0 \pi^0$

Brent 87

 $K^+ \pi^- e^- \bar{\nu}_e$

Aguilarbenit 87F

 $K^+ 2\pi^0 \pi^-$

Adler 88F

Aguilarbenit 87F

Brent 87

 $K^+ 3\pi^0 \pi^-$

Aguilarbenit 87F

 $K^+ \text{charged}^-$

Yamamoto 85

 $K^+ e^- \bar{\nu}_e$

Adler 89

Wasserbaech 89

Anjos 88B

Schindler 88

Aguilarbenit 87F

Coward 85

 $K^+ K^- \pi^+ \pi^-$

Barlag 88C

 $K^+ K^-$

Adler 88F

Barlag 88C

Brent 87

Baltrusaitis 85B

Coward 87P

Ammosov 87F

Anjos 87

Barlag 88

Bortoletto 88

Danilov 88

Roudeau 88

Shipbaugh 88B

Aguilarbenit 87F

Albrecht 87F

Albrecht 87O

Albrecht 87P

Ammosov 87F

Anjos 87

Barlag 88

Bortoletto 87

Danilov 88

Roudeau 88

Shipbaugh 88B

Aguilarbenit 87F

Albrecht 87F

Aguilarbenit 87F

Coward 85

 $K^+ \pi^0 e^- \bar{\nu}_e$

Aguilarbenit 87F

Coward 85

 $K^+ \pi^0 \pi^-$

Braunschweig 89G

D⁰

Ouldsada 89
 Adler 88F
 Aguilarbenit 87F
 Albrecht 87B
 Albrecht 87P
 Barlow 87
 Bartel 87B
 Brent 87
 Wagner 87
 Aihara 86E
 Althoff 86C
 Baltrusaitis 86E
 Schindler 86
 Baltrusaitis 85D
 Coward 85
 Schindler 85
 Yamamoto 85C
 Siwia 83

K⁺ p⁻

Brent 87
 Coward 85
 Schindler 85

K⁺ X

Aguilarbenit 88B
 Aguilarbenit 87E
 Aguilarbenit 86

K⁻ 2π⁺ π⁻

Albrecht 89P

K⁻ π⁺ π⁰

Albrecht 89P

Izen 88

K⁻ π⁺

Albrecht 89P

K⁻ X

Aguilarbenit 87E

K⁰ e⁻ e⁺

Adler 89C

K⁰ η

Coward 85

Schindler 85

K⁰ K⁻ π⁺

Barlag 88C

K⁰ K⁰

Adler 88F

Brent 87

Cumalat 87

Coward 85

Schindler 85

K⁰ ω

Coward 85

Schindler 85

K⁰ φ

Adler 88F

Barlag 88C

K⁰ π⁺ 2π⁰ π⁻

Aguilarbenit 87F

K⁰ π⁺ e⁻ ν_e

Aguilarbenit 87F

Coward 85

K⁰ π⁺ π⁻

Braunschweig 90B

Aguilarbenit 87F

Coward 85

Schindler 85

K⁰ π⁺ π⁰ e⁻ ν_e

Aguilarbenit 87F

K⁰ π⁺ π⁰ π⁻

Aguilarbenit 87F

Coward 85

K⁰ π⁺ π⁻

Schindler 85

K⁰ π⁺ π⁰ e⁺ ν_e

Schindler 85

K⁰ π⁰

Coward 85

K⁰ ρ⁰

Brent 87

Coward 85

K⁰ π⁺ π⁻

Izen 88

K_s φ

Baltrusaitis 86D

K_s π⁺ π⁻

Albrecht 88M

DD

Danilov 88
 Albrecht 87B
 Albrecht 87P
 Aleev 85

μ⁺ e⁻

Adler 88F
 Albrecht 88F
 Riles 87

μ⁺ X

Louis 86

μ⁺ e⁺ + μ⁺ e⁻

Brent 87

μ⁺ e⁺

Adler 88F
 Albrecht 88F
 Riles 87

μ⁻ μ⁺

Albrecht 88F

μ⁻ X

Louis 86

mult[charged] (neutrals)

Benvenuti 85

nonres < K⁺ K⁻ > K⁰

Brent 87

φ π⁺ π⁻

Barlag 88C

π⁺ e⁻ ν_e

Adler 89

π⁺ π⁻

Wasserbaech 89

π⁺ π⁻

Schindler 88

π⁺ π⁰ e⁻ ν_e

Aguilarbenit 87F

π⁺ π⁰ π⁻

Coward 85

D(unspec)

Coopersarkar 85

DD

Amos 90
 Armstrong 90
 Ajinenko 89B
 Antipov 89C
 Armstrong 89E
 Asai 89C
 Bugolyubsky 89B
 Bugolyubsky 89D
 Adamus 88F
 Aleev 88B
 Bonino 88
 Boos 88C
 Breakstone 88
 Cassata 88
 Ajinenko 87B
 Batyunya 87E
 Batyunya 87F
 Biagi 87
 Bugolyubsky 87
 Bugolyubsky 87B
 Garutchava 87B
 Gerdyukov 87
 Kanazirski 87
 Ansorge 86
 Batyunya 86C
 Bernard 86B
 Lloydowen 86
 Mikocki 86
 Schmickler 86
 Vigni 86
 Abe 85

Atkinson 85B
 Atkinson 85C
 Smith 85B
 Smith 85D
 Vassiliadis 85
 Asai 84

Δ(1232 P₃₃)⁻

Sealock 89

Ableev 87E

Amelin 87

Δ(1232 P₃₃)⁺

Kopke 89

Amaglobeli 87

n π⁺

Baller 88

Kitagaki 86

p π⁰

Henrard 87

Kitagaki 86

Δ(1232 P₃₃)⁺⁺

Abdullin 90

Degtyarenko 90

Vorobev 90

Armstrong 89C

Armstrong 89E

Eleggaard 89

Halling 89

Klein 89C

Kopke 89

Mattig 89

Alimov 88

Barlag 88C

Diekmann 88

Okusawa 88

Ableev 87

Ableev 87D

Ableev 87E

Batyunya 87F

Forino 87

Gerdyukov 87

Hofmann 87B

Mikhailichen 87

Wicklund 87

Ajinenko 86B

Allasia 86

Armstrong 86D

Bogolyubsky 86E

Gerdyukov 86B

Babintsev 85

Baldin 85

Clark 85

Dainton 85

Eleggaard 85

Wicklund 85

Arefev 90B

Abdullin 89E

Aihara 89

Ajinenko 89B

Ajinenko 89E

Albrecht 89I

Asai 89

Boos 89

Zhokin 89

Abdullin 88C

Abdullin 88D

Reesager 90

Tokushuku 90

Vlasov 90

Abdullin 89

Abdullin 89C

Abdullin 89D

Abdullin 89F

Abdullin 89G

Abramov 89B

Adamyan 89

Bayukov 89C

Belyaev 89

Belyaev 89C

Bosted 89

Cebra 89

Δ(1232 P₃₃)⁻

Zhokin 89

Baller 88

Δ(1232 P₃₃)⁰

Degtyarenko 90

Armstrong 89E

Drell 89

Halling 89

Zhokin 89

Alimov 88

Arkhipov 88

Arkhipov 87

Arkhipov 85

Babintsev 85

p π⁻

Aihara 89

Albrecht 88R

Batyunya 88B

Amelin 87

Nagae 87

Batyunya 86C

Δ(1620 S₁₁)⁻

p 2π⁻

Amelin 87

Δ(1700 D₃₃)⁻

Amelin 87

Δ(1950 B)⁺⁺

Batyunya 86C

Δ(1232 P₃₃)⁻⁻

Drell 89

Halling 89

Kopke 89

Barlag 88C

Batyunya 87F

Batyunya 87E

Batyunya 86B

Bogolyubsky 86E

Bogolyubsky 87B

Gerdyukov 87

Garutchava 87B

Aleksin 87

Amelin 87

Batyunya 87E

Camilleri 87

Aleshin 86B

Arefev 86B

Batyunya 86C

Batyunya 86D

Kitagaki 86

demon

Ableev 84B

deuteron

Amelin 90

Dalitz 90

Ransome 90

Reesager 90

Tokushuku 90

deuteron

deuteron	deuteron	dibaryon	e ⁺
Degtyarenko 89 Franz 89 Garcon 89 Hutcheon 89 Kistryn 89 Maruyama 89 Mattig 89 Platchkov 89 Schablitzky 89 Vlasov 89 Vlasov 89B Abdullin 88 Abdullin 88D Adamyan 88 Argan 88 Bertini 88 Bertini 88B Boyarinov 88 Dobrovolsky 88 Endo 88 Galumyan 88 Imanishi 88 Meyer 88B Ohmori 88 Safronov 88 Safronov 88B Schmidt 88 Velichko 88 Vlasov 88 Vokal 88 Zelinski 88 Ableev 87B Abramov 87 Adyasevich 87B Armutlijsky 87 Arnold 87 Asai 87 Balestra 87 Borzakov 87 Burgov 87 Bystricky 87 Enghardt 87 Ero 87 Glagolev 87 Gornov 87 Gornov 87B Rahbar 87 Schurman 87 Silvestrov 87 Smith 87C Abramov 86 Adamyan 86 Andronenko 86 Anikina 86C Belyaev 86B Beslius 86 Blinov 86 Boschitz 86 Durgov 86 Chuvilo 86 Doerr 86 Ergakov 86 Fearing 86 Glagolev 86 Glagolev 86B Gornov 86B Greene 86 Redwine 86 Shin 86 Silvestrov 86 Smith 86C Smith 86D Smith 86E Smith 86F Vlasov 86 Voitsekhevsk 86 Vorobiev 86B Zelinski 86 Abramov 85 Adyasevich 85C Anikina 85C Aniol 85 Antonchik 85 Arefev 85	Auffret 85B Backenstoss 85 Barkov 85C Barlett 85 Bayukov 85 Bell 85 Bertini 85 Blinov 85D Cramer 85 Debebe 85 Dickey 85 Dmitriev 85 Epstein 85 Franz 85 Gavrilov 85 Gavrilov 85B Glass 85B Gorbenko 85 Gorshkova 85 Hamagaki 85 Imanishi 85 Keizer 85 Kristiansson 85 Meyer 85D Ottermann 85B Segel 85 Sun 85 Ungrich 85 Warner 85 Yamauchi 85 Blankleider 84 Blinov 84B Bovet 84 Donoghue 84D Hiroshima 84C Miaka 84 Roche 84 Thron 84 Ananiev 83 Falk 83 dibaryon($S = -1$) e ⁺ e _c Ejiri 89	Amelin 86 Ermakov 86 Troyan 86 Agakishiev 84E Azimov 84D deuteron π^+ Abdullin 88D Bertini 88 γX Stanislaus 89 $n \Delta(1232) P_3$ ⁺⁺ Abdullin 88D $p \Delta(1232) P_3$ ⁺⁺ Abdullin 88E Abdullin 88C $p n \pi^+$ Abdullin 88D $p n$ Glagolev 90 Glagolev 89B Abdullin 88D Andreev 88 Balgansuren 88 Andreev 87B $\pi^+ X$ Haysak 85 dibaryon($S = -1$) Ejiri 89 Pigot 85 $n \Sigma(1385) F_1$ ⁺ Frascaria 87 $p \Lambda$ Frascaria 87 $p \Sigma^-$ Shahbazyan 90 dibaryon($S = -2$) Ejiri 89 2Λ Shahbazyan 88 $p \Sigma^-$ Shahbazyan 88 d Albajar 89B Eno 89B d Albajar 89B Eno 89B $2n \pi^+$ Abdullin 89E $2n \pi^-$ Ashery 88 $2n$ Glagolev 90 Abdullin 89E Glagolev 89B Parker 89 Abdullin 88C Balgansuren 88 $2p \pi^+$ Abdullin 89E Abdullin 88C Ashery 88 Ermakov 86B Glagolev 90 Vorobiev 90B Glagolev 89B Shimizu 89 Abdullin 88B Abdullin 88C Andreev 88 Balgansuren 88 $2p$ Glagolev 90 Vorobiev 90B Glagolev 89B Shimizu 89 Abdullin 88B Abdullin 88C Andreev 88 Balgansuren 88 $e^+ \gamma$ Kim 89B Kamae 88 Kim 88C Akrawy 90G Decamp 90G Adachi 89D Abe 88E Gan 88 Maki 88B Shirai 88 Sumiyoshi 88 Unno 88 Yamauchi 88 Ansari 87D Repellin 87 Aulchenko 86 Behrend 86 Bonneaud 86 $e^+ \gamma$ Kichimi 88 Kim 88C Appel 86 e^- Kim 89B Kamae 88 Kim 88C Akrawy 90G Decamp 90G Adachi 89D Abe 88E Gan 88 Maki 88B Shirai 88 Sumiyoshi 88 Unno 88 Yamauchi 88 Ansari 87D Repellin 87 $e^- \gamma$ Avignone 86 η Kim 89E e^- Akrawy 90F Anjos 90 Janssen 90 Akimenko 89 Albrecht 89G Armstrong 89F Chiba 89 Feindt 89 Hayes 89B Kopke 89 Landsberg 89 Mallik 89B Marshall 89 Matti 89 Miller 89 Schindler 89 Takamatsu 89 Abachi 88B Aihara 88D Albajar 88C Armstrong 88 Aston 88I Barish 88 Barloutaud 88 Berger 88C Bernasconi 88 Bourdarios 88 Chiba 88 Cofman 88 Diekmann 88 Fukui 88 Gan 88B Hitlin 88 Idir 88 Mir 88 Ouldsadaa 88B Sedlak 88	

Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

η	Sirunyan 88 Abachi 87F Aihara 87G Albrecht 87Q Antille 87 Aulchenko 87C Bailly 87G Bailly 87H Barloutaud 87 Benayoun 87 Bernasconi 87 Camilleri 87 Chiba 87B Coffman 87 Derrick 87B Fredriksson 87 Gan 87B Hofmann 87B Kolanski 87 Lurz 87 Peng 87 Prokoshkin 87B Richard 87 Schindler 87 Stockhausen 87B Aihara 86G Akesson 86C Ando 86 Antreasyan 86 Apokin 86C Apokin 86D Atkinson 86 Aulchenko 86B Aulchenko 86C Baltrusaitis 86 Baltrusaitis 86C Banaigs 86B Burchat 86B Druzhinin 86 Haines 86 Konigsmann 86 Krishnaswamy 86 Stockhausen 86 Akesson 85G Arkhipov 85 Atkinson 85C Augustin 85C Augustin 85E Baltrusaitis 85F Banner 85B Bartel 85 Berthet 85 Blewitt 85 Coward 85 Druzhinin 85 Golubev 85 Kolanski 85 Lee 85B Odian 85 Park 85B Prokoshkin 85 Schindler 85 Tsukerman 85B	Ajaltouni 88B Albrecht 88S Albro 88 Alde 88B Alde 88D Alde 88E Antonelli 88 Arkhipov 88 Augustin 88C Behrend 88 Bielein 88 Boutemeur 88 Dolinsky 88B Druzhinin 88 Fujisaki 88 Gan 88 Gidal 88B Gidal 88C Jousset 88 Kehl 88B Schmitt 88 Seidel 88 Toki 88 Toki 88B Williams 88 Wormser 88B Alde 87 Alde 87B Antreasyan 87 Arkhipov 87 Baringer 87 Berger 87B Naroska 87 Okhrimenko 87 Skwarnicki 87B Toki 87 Wormser 87 Aguilarbenit 86C Aihara 86 Alde 86 Alde 86B Alde 86C Alde 86D Alde 86E Bitsadze 86 Landsberg 86 Lowe 86B Lowe 86C Akimenko 85 Apel 85 Apokin 85B Bartel 85B Chakrabarti 85 Dolinsky 85 Tsukerman 85
$2\pi^+$	$\mu^- \mu^+$ $\pi^+ \pi^-$ (neutral) $\pi^+ \pi^- \gamma$	Mayer 89 Prokoshkin 87C Landsberg 85 Decamp 90B Phillips 89 Ajaltouni 88B Albrecht 88P Antonelli 88 Augustin 88C Jousset 88 Landsberg 88 Mayer 89 Augustin 88C Albrecht 90E Adler 89E Anjos 89B Aston 89B Browder 89 Philips 89 Wittek 89 Ajaltouni 88B Albrecht 88P Albrecht 88S Antonelli 88 Aston 88C Augustin 88C Bohrend 88 Gan 88 Jousset 88 Baringer 87 Stockdale 87 Toki 87 Aleshin 86B Aston 86B Prokoshkin 87C Landsberg 86 Mayer 89 Landsberg 86 Landsberg 85 Mayer 89 Landsberg 86 Landsberg 85
$3\pi^0$	$\pi^0 \pi^0 \pi^-$ $\pi^0 \pi^- \pi^+$ $\pi^0 e^- e^+$ $\pi^0 \mu^- \mu^+$	Stanco 88 Ando 86 Ando 86 Ando 86 Ando 86 Ando 86 Antreasyan 87 Takamatsu 89 Augustin 88C Chan 88 Falvard 88 Barlow 87 Becker 87C Benayoun 87B Toki 87 Aihara 86J Chung 85 Tsukerman 85B
$e^- e^+ \gamma$	$2\pi^+ 2\pi^-$ $\eta(980)^+ \pi^-$ $\eta(980)^- \pi^+$ $\eta 2\pi^0$ $\eta \pi^+ \pi^-$ $\eta \pi\pi(L=0)$ $K^+ K_S \pi^-$ $K_S K^- \pi^+$ $K_S K^- \pi^+$	Stanco 88 Ando 86 Ando 86 Ando 86 Ando 86 Ando 86 Antreasyan 87 Takamatsu 89 Augustin 88C Chan 88 Falvard 88 Barlow 87 Becker 87C Benayoun 87B Toki 87 Aihara 86J Chung 85 Tsukerman 85B
$e^- e^+ \gamma$	$\phi \gamma$ $\rho^0 \gamma$	Duch 89 Duch 89 Bartel 85J Feindt 89 Fulton 89B Takamatsu 89 Augustin 88C Chan 88 Falvard 88 Barlow 87 Becker 87C Benayoun 87B Toki 87 Aihara 86J Tsukerman 85B
$\mu^- \mu^+ \gamma$	$\eta(1440)$	Toku 88B Toku 88B Berger 87B Franzini 87 Rosner 85E

$\eta_c(1S)$

exotic-meson

$\eta_c(1S)$	$\eta_c(1S)$	η'	η'
Kopke 89 Althoff 85D Augustin 85D Gaiser 85	Jensen 89 Mallik 89B Schindler 87 Baltrusaitis 86	Chiba 87B Hofmann 87B Prokoshkin 87B Baltrusaitis 86 Baltrusaitis 85F Druzhinin 85 Kolanoski 85 Lee 85B Prokoshkin 85 Tsukerman 85B	Landsberg 85
2f₂(1270) Mallik 89B Adler 88D Augustin 88C Mir 88	$K^*(892)^0 K^+ \pi^- +$ $K^*(892)^0 K^- \pi^+$ Baltrusaitis 86 $K^*(892)^0 K^- \pi^+ +$ $K^*(892)^0 K^+ \pi^-$	Roe 89 Roe 89B Aihara 88D Ajaltouni 88 Aihara 88B Baltrusaitis 86 Aihara 88B Braunschweig 89 Chen 89C Aihara 88B Kolanoski 86	$\omega \gamma$ Alde 87B Alde 86D Landsberg 86
2 γ Chen 89C Aihara 88 Aihara 88B Ajaltouni 88 Augustin 88C Baglin 87 Barlow 87 Berger 87B Toki 87 Blinov 86C Chiang 86 Kolanoski 86	$K^*(892)^0 K^- \pi^+$ $K^+ K^- \eta$ $K^+ K^- \phi$ $K^+ K^- \pi^+ \pi^-$	Chen 89C Jensen 89 Baltrusaitis 86 Aihara 88B Braunschweig 89 Chen 89C Aihara 88B Gidal 88C Ouldsanda 88B Schindler 87 Baltrusaitis 86	$\pi^+ \pi^-$ (neutrals) Decamp 90B
2K⁺ 2K⁻ Mallik 89B Baltrusaitis 86	$K^+ K^- \pi^0$ $K^+ K_S \pi^- + K_S K^- \pi^+$	Braunschweig 89 Chen 89C Aihara 88B Gidal 88C Berger 87B $K^+ K_S \pi^- e^- e^+$ $K^+ K_S \pi^-$	$\pi^+ \pi^- \gamma$ Feindt 89 Landsberg 88
2 ϕ Chen 89C Jensen 89 Mallik 89B Aihara 88 Aihara 88B Ajaltouni 88 Toki 87 Baltrusaitis 86 Bisello 86	$K^+ K_S \pi^- e^- e^+$ $K^+ K_S \pi^- e^- e^+$	Braunschweig 89 Chen 89C Aihara 88B Gidal 88C Berger 87B $K_S K^- \pi^+ e^- e^+$ $K_S K^- \pi^+$	$\pi^0 2\gamma$ Alde 87B $\pi^0 e^- e^+$ Landsberg 85
2 $\pi^+ 2\pi^-$ Braunschweig 89 Chen 89C Mallik 89B Adler 88D Aihara 88 Aihara 88B Bisello 88 Booth 86	$K^+ K^- \pi^0$ $K^+ K_S \pi^- + K_S K^- \pi^+$	Braunschweig 89 Chen 89C Aihara 88B Gidal 88C Berger 87B $K_S K^- \pi^+ e^- e^+$ $K_S K^- \pi^+$	$\pi^0 \mu^- \mu^+$ Landsberg 86 Landsberg 85
2 ρ^0 Chen 89C Jensen 89 Mallik 89B Adler 88D Aihara 88 Aihara 88B Bisello 88 Gidal 88C Ouldsanda 88B Baltrusaitis 86	$p \bar{p} \pi^+ \pi^-$ $p \bar{p}$	Braunschweig 89 Jensen 89 Ouldsanda 88B Barlow 87 Kolanoski 87 Toki 87 Baltrusaitis 86 Berger 86 $p \bar{p} \pi^+ \pi^-$ $p \bar{p}$	$\rho \gamma$ Wornher 89B
$a_0(980)^+ \pi^-$ Baltrusaitis 86	$\phi \omega$	Berger 87B Toki 87 Baltrusaitis 86	$\rho^0 \gamma$ Albrecht 90 Bityukov 90 Ajaltouni 88B Augustin 88C Jousset 88
$a_0(980)^- \pi^+$ Baltrusaitis 86		Mallik 89B	Eu Kozma 90 Kozma 88
$a_2(1320)^+ \pi^-$ Baltrusaitis 86	η'	Boutemeur 89 Browder 89 Chiba 89 Dolinsky 89 Kopke 89 Landsberg 89 Schindler 89 Wormser 89	even-charged Tenner 88
$a_2(1320)^- \pi^+$ Baltrusaitis 86		Adielis 88 Albajar 88C Chiba 88 Coffman 88 Hitlin 88 Mir 88 Sedlak 88 Bailey 87G Bailey 87H Benayoun 87	exotic Ableev 86 Abramov 86B Abachi 85
$\eta \pi^+ \pi^-$			exotic-meson
$\eta' \pi^+ \pi^-$			2 ω Landsberg 89
f₂(1270) η			2 ϕ Landsberg 89 Davenport 86 Green 86
$K \bar{K} \pi$			2 ρ^0 Landsberg 89
$K^*(892)^0 K^*(892)^0$			$\eta \pi^+$ Landsberg 89
Chen 89C			$\eta \pi^0$ Landsberg 89

Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

exotic-meson

f₂(1270)

exotic-meson	f ₀ (1750)	f ₁ (1285)	f ₁ (1420)				
$p \bar{\Lambda} \pi^+ \pi^-$	Shoemaker 88 Landsberg 89	$2K_S$ Bolonkin 88	$K^+ K_S \pi^-$ Armstrong 89 Feindt 89 Hill 89				
$p \bar{\Lambda} \pi^+$	Landsberg 89	$f_0(700)$ 2γ $\pi^+ \pi^-$	Aston 88J Ouldsada 88B Sedlak 88				
$p \bar{\Lambda} \pi^-$	Landsberg 89	Courau 86 Berger 85C	Toki 88B Becker 87C Toki 87				
$p \bar{\Sigma}^- \pi^+$	Landsberg 89 Shoemaker 88	$f_0(975)$ 2γ $2K_S$ $2\pi^0$ $e^- e^+$ $K^+ K^-$ $\pi^+ \pi^-$	Aihara 86J Chung 85 $K^*(892)^+ K^-$ $K^*(892)^- K^+$ $K^*(892)^0 K_S$ $K^*(892)^0 K_S$ $K^+ K^- \pi^0$ $K^+ \bar{K}^0 \pi^-$ $K^+ K_S \pi^- + K_S K^- \pi^+$ $K^+ K_S \pi^-$ Bai 90 Barlag 90C Marsiske 90 Alder 89 Browder 89 Drell 89 Kopke 89 Mattig 89 Schindler 89 Toki 89B Anjos 88D Gidal 88C Fredriksson 87 Druzhinin 85 Berger 87B Aston 88I Aston 88J Sedlak 88 Kolanoski 87 Dolinsky 89 Dolinsky 89B Lockman 89 Bienlein 88 Aulchenko 87C Toki 88B Vorobiev 88C Lockman 89 Adler 89E Lockman 89 Mallik 89B Augustin 88B Falvard 88 Abachi 86C Banerjee 86C Kozlovsky 86 2π $\pi^+ \pi^-$	Augustin 88C Augustin 88C Rath 89 Augustin 88C Becker 87C Birman 88 Gidal 88 Armstrong 89 Takamatsu 89 Aston 88J Augustin 88C Sedlak 88 Toki 88B Becker 87C Chiung 85 $K^+ \pi^- X$ $K^- \pi^+ X$ $K_S K^- \pi^+$ $\phi \gamma$ $\pi^+ \pi^-$ Duch 89 Duch 89 Armstrong 89 Takamatsu 89 Aston 88J Augustin 88C Sedlak 88 Becker 87C Augustin 88C Bityukov 88 Bityukov 87 Landsberg 87 Prokoshkin 87B $\rho^0 \gamma$ $\rho^0 \pi^+ \pi^-$ Bityukov 89 Coffman 89 Toki 88B $\rho^0 \pi^+ \pi^-$ Armstrong 89C Armstrong 89E Augustin 88C 2π $2K_S$ $2\pi^+ 2\pi^-$ $a_0(980)^+ \pi^-$ $a_0(980)^- \pi^+$ $a_0(980)^0 \pi^0$ $\eta \pi^+ \pi^-$	Augustin 88C Ouldsada 88B Armstrong 86E Augustin 88C Ouldsada 88B Armstrong 86E Rath 89 Feindt 89 Takamatsu 89 Aihara 88D Aihara 88E Augustin 88C Gidal 88B Bityukov 85C Bolonkin 88 Toki 88B Augustin 88C Armstrong 86E Augustin 88C Armstrong 86E Augustin 88C Augustin 88C Toki 88B $K^*(892)^+ K^-$ $K^*(892)^- K^+$ $K^*(892)^0 K_S$ $K^*(892)^- K^+$ $K^*(892)^0 K_S$ $K^*(892)^0 K_S$ $K^+ K^- \pi^0$	Ando 86 Bityukov 85C Bolonkin 88 Toki 88B Augustin 88C Armstrong 86E Augustin 88C Armstrong 86E Augustin 88C Armstrong 86E Augustin 88C Augustin 88C Toki 88B Augustin 88C Armstrong 86E Augustin 88C Augustin 88C Toki 88B Augustin 88C Armstrong 86E Augustin 88C Augustin 88C Toki 88B Augustin 88C Augustin 88C Becker 87C	Marsiske 90 Avery 89B Bortoletto 89 Drell 89 Halling 89 Kopke 89 Mattig 89 Adler 88D Berger 88 Bolonkin 87 Baltrusaitis 86 Althoff 85D Ajaltouni 88 Prokoshkin 87C Alde 86 Albrecht 89K Roe 89 Berger 87B Aihara 86D Landsberg 86 Tsukerman 85
$f_0(1240)$	Brovkin 89		$f_1(1510)$ $a_0(980) \pi$ $K^*(892) \bar{K}$ $K^*(892)^0 K_S +$ $K^*(892)^- K^+$ $K^*(892) K$ $K^+ K_S \pi^-$				
2γ	Landsberg 86		Aston 86B Toki 88B				
$\pi^+ \pi^-$	Joyner 89		$K^*(892)^- K^+$ Aston 88J Augustin 88C Aston 86B				
$f_0(1400)$			$K_S K^- \pi^+$ Aston 88I Aston 88J Augustin 88C Aston 86B				
2η	Halling 89		$f_2(1270)$				
2γ	Alde 86						
2π	Berger 87B						
$2\pi^0$	Dolinsky 89B Bienlein 88 Aulchenko 87C						
2π	Berger 87B						
$e^- e^+$	Vorobiev 88C						
$f_0(1525)$							
$2K_S$	Aston 88I Aston 88J						
$K^+ K^-$	Albrecht 89J						
$f_0(1590)$							
2η	Diekmann 88						
$\eta' \eta$	Augustin 88C Toki 88B Alde 87 Prokoshkin 87C Alde 86 Tsukerman 85B						
$4\pi^0$	Toki 88B Alde 87D						
	Toki 88B Tsukerman 85B						

$f_2(1270)$ $f_2(1270)$ $2\pi^0$

Dolinsky 89B
Ajaltouni 88
Augustin 88B
Bienlein 88
Gidal 88C
Schmitt 88
Aulchenko 87C
Kolanoski 87
Toki 87
Apokin 86B
Apokin 86C
Apokin 86D
Lowe 86B
Clark 85

 $4\pi^0$

Alde 87D
Vorobiev 88C
Armstrong 89D
Aston 88H
Augustin 88
Baltrusaitis 87
Benayoun 87B

 $\pi^+ \pi^-$

Adachi 90
Arefev 90B
Agababyan 89
Ajimenko 88B
Albrecht 89J
Armstrong 89C
Armstrong 89E
Breakstone 89
Feindt 89
Fulton 89B
Mallik 89B
Nakai 89
Wittek 89
Zhokin 89
Augustin 88B
Augustin 88C
Falvard 88
Breakstone 89
Alde 87D

 $\pi^- \pi^+$

Batyunya 88B

 $f_2(1720)$ $f_2(1720)$ $2w$

Aston 86B
Bolonkin 86
Longacre 86
Longacre 86B

 $2\pi^0$

Hitlin 88
Ajaltouni 88
Hitlin 88

 2π

Tsukerman 85B

 $2p^0$

Berger 87B
Hitlin 88
Tsukerman 85B

 $2p$

Berger 87B

 $\eta' \eta$

Augustin 88C
Hitlin 88

 $K \bar{K} 2\pi$

Hitlin 88
Tsukerman 85B

 $K \bar{K} \pi$

Hitlin 88

 $K \bar{K}$

Tsukerman 85B

 $K^+ K^-$

Toki 88B
Berger 87B
Tsukerman 85B

 $K^+ K'$

Albrecht 89J
Fulton 89B
Mallik 89B
Augustin 88C

 $\pi^+ \pi^-$

Hitlin 88

 $\pi^+ \pi^+$

Berger 87B

 $\pi^+ \pi^+$

Toki 87

 $\pi^+ \pi^+$

Bean 86

 $f_2(1810)$

Albrecht 89J

 $2K_S$

Augustin 88C

 $4\pi^0$

Hitlin 88

 $f_2(2010)$

Bean 86

 $2K_S$

Bolonkin 87

 2ϕ

Longacre 86

 $4\pi^0$

Longacre 86B

 $f_2(2300)$

Alde 87D

 $Bolonkin 87$

Bolonkin 88

 2ϕ

Longacre 87

 $f_2(2340)$

Longacre 86B

 $f_2(1525)$

Tsukerman 85B

 2η

Tsukerman 85B

 2ϕ

Tsukerman 85B

 $f_2(2340)$

Tsukerman 85B

 $f_2'(1525)$

Tsukerman 85B

 2η

Kopke 89

 $K 2\eta$

Gidal 88C

 $K^*(892) \bar{K}$

Bolonkin 87

 2η

Kolanoski 87

 $K^*(892) \bar{K}$

Althoff 85D

 $f_2(1525)$

Augustin 88C

 $f_2(1525)$

Alde 86

 $f_2'(1525)$ 2γ

Alde 86

 $2K_S$

Albrecht 89K
Bolonkin 89K
Tsukerman 85

 $\mu^- \mu^+$

Feindt 89
Mallik 89B
Aston 88C
Aston 88I
Aston 88J
Augustin 88

 $K \bar{K}$

Hitlin 88
Tsukerman 85B

 $K^+ K^-$

Toki 88B
Berger 87B

 $K \bar{K}$

Toki 88B
Berger 87B

 $K^+ K^-$

Fulton 89B
Mallik 89B
Aston 88I
Aston 88J
Augustin 88

 $\mu^- \mu^+$

Falvard 88
Baltrusaitis 87

 $p \bar{p}$

Toki 87
Aston 86B

 $\phi \omega$

Mallik 89B

 $\pi^+ \pi^-$

Baltrusaitis 86C

 $familon$

Jodidio 86

 Fe

Kozma 90

 $52Fe$

Kozma 88

 $53Fe$

Antipov 86

 $54Fe$

Antipov 86B

 $55Fe$

Sokoloff 86

 $56Fe$

Antipov 85

 $57Fe$

Antipov 85B

 $58Fe$

Antipov 85C

 $59Fe$

Antipov 85

 $60Fe$

Hardy 89

 $61Fe$

Dickey 85

 $62Fe$

Kozma 88B

 $63Fe$

Kozma 86

 $64Fe$

Dickey 85

 $65Fe$

Vesna 89

 $66Fe$

Arakelyan 90

 $67Fe$

Kozma 88B

 $68Fe$

Kozma 86

 $69Fe$

Hufer 85

 $70Fe$

Arakelyan 90

 $71Fe$

Arakelyan 90

 $72Fe$

fireball

 $73Fe$

mult[charged] X

 $74Fe$

Shivpuri 88

 $75Fe$

F1

 $76Fe$

Baroni 90

 $77Fe$

Avdeichikov 87

 $78Fe$

Avdeichikov 87R

 $79Fe$

Avdeichikov 87C

 $80Fe$

Avdeichikov 87E

 $81Fe$

Avdeichikov 87F

Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

FI	Avdejchikov 87G Avdejchikov 87H Avdejchikov 87I	Daindinsuren 89 Daindinsuren 89B Dolina 89 Guardo 89 Heppelmann 89 Kozma 89 Kozma 89C Lepekhin 89 Amroyan 88 Damindinsuren 88 Karev 88 Kozma 88B Krasnov 88B Mahi 88 Alekkett 87 Cai 87 Cai 87B Elnaghy 87 Elnaghy 87B Harris 87 Tolstov 87 Andreeva 86 Shibata 86 Tanihata 86 Aggarwal 85B Bell 85 Bujak 85 Cheplakov 85 Dersch 85 Vokalova 85 Wagner 85	
18 FI	Dropesky 86		
frag	Andreeva 88 Brechtmann 88 Brechtmann 88B Damindinsuren 88 Karev 88 Kozma 88B Krasnov 88B Mahi 88 Alekkett 87 Cai 87 Cai 87B Elnaghy 87 Elnaghy 87B Harris 87 Tolstov 87 Andreeva 86 Shibata 86 Tanihata 86 Aggarwal 85B Bell 85 Bujak 85 Cheplakov 85 Dersch 85 Vokalova 85 Wagner 85		
fragb	Antonchik 90 Ghosh 90 Gill 90 Abdurakhimov 89 Ameeva 89 Andersen 89 Aoki 89 Bartke 89 Ghosh 89C Lepekhin 89 London 89 Romano 89 Tannenbaum 89 Abdurakhimov 88 Abdurazakova 88 Adamovich 88C Andreeva 88C Angelov 88 Barbier 88B Batskovich 88 Bogdanov 88 Brady 88 Franz 88B Golovin 88 Khan 88 Krasnov 88 Krasnov 88B Ottendorf 88 Price 88 Tannenbaum 88 Vokal 88 Ameeva 87 Ardito 87 Cai 87 Gerbier 87 Anikina 86D Burnett 86 Andreeva 85C Drechsel 85 Jochve 85 Mangotra 85 Veres 85		
anomalon X	Avdejchikov 85		
fragt	Arakelyan 89 Arakelyan 89C Bartke 89		
fragt	Daindinsuren 89 Daindinsuren 89B Dolina 89 Guardo 89 Heppelmann 89 Kozma 89 Kozma 89C Lepekhin 89 Amroyan 88 Damindinsuren 88B Filatov 88 Franz 88B Kitagaki 88 Krasnov 88B Ardito 87 Balestra 87 Bayman 87 Cai 87 Chestnov 87 Fredriksson 87 Kozma 87 Krasnov 87 Nagea 87 Abdinov 86 Arakelyan 86 Barate 86B Green 86B Kozma 86B Agababyan 85B Andreeva 85C Azimov 85G Bell 85D Hicks 85 Hufner 85 Mangotra 85 Roepke 85 Roche 84		
Ga	Kozma 90		
gaugino	e ⁻ $\bar{\nu}_e$ photino + e ⁺ ν_e photino μ^- $\bar{\nu}_\mu$ photino + μ^+ ν_μ photino τ^- $\bar{\nu}_\tau$ photino + τ^+ ν_τ photino	Yamauchi 88 Yamauchi 88 Yamauchi 88 Yamauchi 88 Yamauchi 88	
Gd	Kozma 90 Kozma 88		
140 Gd	Hufner 85		
Ge	Belkacem 85		
70 Ge	Ejiri 89		
71 Ge	Krofcheck 85		
72 Ge			
70 Ge	dibaryon ($S = -1$) γ	Ejiri 89	
76 Ge			
Se* 2e ⁻	Morales 88		
76 Se 2e ⁻	27 τ_c		
76 Se 2e ⁻	majoron	Barabash 89B Vasenko 89 Nakamura 88 Vasenko 88	
76 Se 2e ⁻		Barabash 89B Fisher 89 Vasenko 89	
gluon			
76 Ge		Caldwell 88 Nakamura 88 Vasenko 88 Caldwell 87 Fisher 87	
76 Se 2e ⁻		Barabash 89B Fisher 89 Vasenko 89 Caldwell 88 Nakamura 88 Rosen 88 Vasenko 88 Avignone 87 Caldwell 87 Fisher 87 Avignone 86B Bellotti 86 Caldwell 86 Avignone 85 Caldwell 85 Zdesensku 85	
glueball		Kopke 89 Prokoshkin 85	
2η	Landsberg 89 Alde 86	Tsukerman 85B	
2η'	Landsberg 89		
2K _S π ⁰	Chan 88		
2φ	Landsberg 89 Chan 88	Tsukerman 85B	
4π ⁰	Landsberg 89		
η' η	Landsberg 89	Tsukerman 85B	
Δ Δ̄	Armstrong 87		
p p̄ 2π ⁺ 2π ⁻	Armstrong 87		
p p̄ π ⁺ π ⁻	Armstrong 87		
p p̄	Armstrong 87		
π ⁺ π ⁻	Chan 88		
gluinum		Tuts 87	
gluino		Sinervo 89 Dowell 88 Albajar 87B Arnold 87B Albrecht 86 Badier 86 Bartel 85F	
2hadron (hadrons)		Behrend 87	
photino \bar{q}		Plot how besch 88	
q \bar{q} photino		Plot how besch 88	
gluon		Alitti 89 Ansari 87D Coopersarkar 85B	
gluon		Plot how besch 88	
gluon		Breakstone 90	
gluon		Abrams 89F Adachi 89E Albrecht 89S Eno 89B Eno 89C Albrecht 87H Bartel 87 Albrecht 86 Behrend 86C Petersen 85	
charged X		Maki 88B Tao 88	
hadron (hadrons)		Braunschweig 89E	
jet		Kim 89C Derrick 85G	
goldstino		Abe 89F Bartel 85C	
goldstone		Baltrusaitis 85J	
gravitino		Albrecht 86C	
grey		Ahmad 90 Antonchik 90 Gill 90 Abduzhamilov 89 Adamovich 89C Adamovich 89D Ahmed 89 Ameeva 89 Ammar 89 Ammar 89B Andreeva 89 Brick 89 Lepekhin 89 Abduzhamilov 88B Abduzhamilov 88C Abe 88 Ammar 88 Andreeva 88 Barbier 88 Boos 88 Jain 88B Khan 88 Krasnov 88B Ottendorf 88 Shivpuri 88E Treytyakov 88 Vokal 88 Abdurazakova 87 Abduzhamilov 87 Ammosov 87C Antonchik 87 Ardito 87 Baily 87D Elnaghy 87 Fredriksson 87 Krasnov 87 Shivpuri 87 Ahrar 86 Andreeva 86 Ghosh 86 Voyvodic 86 Azimov 85G Babekci 85 Batusov 85 Boldea 85 Vokalova 85	
h ₁ (1170)		Diekmann 88 Inagaki 89B Takamatsu 89	
η π ⁺ π ⁻			
π ⁺ π ⁰ π ⁻			

$h_1(1380)$ heavy-lepton⁰

$h_1(1380)$	^3He
$K^+ K_S \pi^-$	Astoun 88I Aston 88J Augustin 88C
$K_S K^- \pi^+$	Astoun 88I Aston 88J Augustin 88C
$^3\text{H}_S$	Abdurakhimov 89C
^4H	Amelin 90 Gornov 87
$^4\text{H}_S$	deuteron $n \Sigma^+ \pi^-$ Dalitz 90 deuteron $n \Sigma^- \pi^+$ Dalitz 90
$^3\text{He} \Lambda \pi^-$	Dalitz 90
$^3\text{He} n \pi^-$	Abdurakhimov 89C
$^3\text{He} \Sigma^0 \pi^-$	Dalitz 90
$^4\text{He} \pi^-$	Abdurakhimov 89C Avramenko 88 Avramenko 87
$p 2n \Sigma^+ \pi^-$	Dalitz 90
$p 2n \Sigma^- \pi^+$	Dalitz 90
^5H	Amelin 90 Gornov 87
He	^3He Antonchik 90B Baroni 90 Ransome 90 Takibaev 90 Sengupta 89B Andreeva 88B Avdejchikov 88 Dobrovolsky 88 Otterlund 88 Burnett 87 Avizayyan 86 Avizayyan 86B Banaigs 86B Doerr 86 Kim 86C Redwine 86 Aggarwal 85B Alkhazov 85 Ananin 85 Dodge 85 Ghosh 85 Jain 85 Kristiansson 85 Lang 85B Ottermann 85 Segel 85 Velichko 85 Wang 85D Warner 85 Donoghue 84D
He^*	^5He Ransome 90
^3He	Angelescu 90 Dalitz 90 Abdurakhimov 89C Adams 89 Kawakami 89 Mayer 89 Spahn 89 Argan 88

^6Hes	$^6\text{Hes} p \pi^-$ May 89B
$\text{heavy-}e$	$e^\pm \gamma$ Dolinsky 89B
heavy-lepton	$Kichimi 88$ Riles 88 Rosenfeld 88 Miyamoto 87 Sakai 87 Albajar 86B
$2\ell \nu$	Beck 87 Boris 87 Boris 87B Gornov 87B Kawakami 87 Wilkinson 87
3ℓ	Barreau 86 Doerr 86 Ergakov 86 Fearing 86 Fritsch 86 Glagolev 86 Gornov 86B Marx 86
jet X	Zelinski 86 Abashidze 85B Alkhazov 85 Balestra 85 Barkov 85C Beltramin 85 Berthet 85 Boris 85 Gorshkov 85 Hasell 85 McParland 85 McParland 85B Ottermann 85
$\nu q \bar{q}$	McParland 85B Ottermann 85
νq	Segel 85 Silverman 85 Abashidze 84 Balestra 84
$\nu_e X$	Prokoshkin 87C
$\nu_\mu X$	Asanuma 90 Borzakov 90 Gill 90 Reesager 90 Bini 89B Cebra 89 Kobayashi 89C May 89B
$\pi^+ \mu^-$	Abdurazakova 88 Argan 88 Batusov 88 Kobayashi 88 Safronov 88B Savage 88C Weiler 88 Aleksandrov 87B Ardito 87 Banaigs 87 Gornov 87B Alekseyants 86 Ermakov 86C Gornov 86B Marx 86 Barkov 85C Vanover 85 Waddington 85
$2\ell (\text{leptons}) \bar{\nu}$	Behrend 88C Gan 88 Mathis 88
$\bar{d} u$	Adachi 88B Dowell 88 Kamae 88 Ko 88 Maki 88 Maki 88B Unno 88
$e^+ \nu_e \bar{\nu}$	Yamauchi 88 Wu 87
$\ell^+ \nu \bar{\nu}$	Kim 88D
$\mu^+ \nu_\mu \bar{\nu}$	Albajar 89B
$2\nu \text{ hadron} (\text{hadrons})$	Behrend 88C Gan 88 Mathis 88
$\nu c \bar{s}$	Kim 88D
$\nu \text{ hadron} (\text{hadrons})$	Sumiyoshi 88
$\nu c \bar{s}$	Albajar 89B
$\nu \text{ hadron} (\text{hadrons})$	Gan 88 Igarashi 87
$\nu q \bar{q}$	Behrend 88C Shirai 88 Amako 87 Yoshida 87
νX	Abe 88D $\pi^- \text{ heavy-lepton}^0$ Riles 89
$\pi^- \nu$	Riles 89B
$\rho^- \text{ heavy-lepton}^0$	Mathis 88 Riles 89
$\tau^- \nu_\tau \nu$	Riles 89B
heavy-lepton^0	Behrend 88C Burchat 90 Decamp 89E

Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

heavy-lepton⁰

heavy-lepton ⁰	
$e^- e^+$ neutral (neutrals)	Dorenbosch 86B
$e^- e^+ \nu_e$	Sakai 89 Shaw 89
$e^- q \bar{q}$	Sakai 89 Shaw 89
ℓ hadron (hadrons)	Akrawy 90I
$\ell^+ \ell^-$ (neutrals)	Behrend 88C
$\mu^+ e^-$ neutral (neutrals)	Dorenbosch 86B
$\mu^+ e^- \nu_\mu$	Gan 88
$\mu^+ e^- \nu_\tau \nu_\mu \bar{\nu}_e$	Gan 88
$\mu^- e^+$ neutral (neutrals)	Dorenbosch 86B
$\mu^- e^+ \nu_e$	Sakai 89 Shaw 89 Gan 88
$\mu^- \mu^+$ neutral (neutrals)	Dorenbosch 86B
$\mu^- \mu^+ \nu_\mu$	Mishra 87
$\mu^- \mu^+$	Maki 88
$\mu^- q \bar{q}$	Sakai 89 Shaw 89
$\mu^- X$	Misura 87
$\nu_\mu X$	Mishra 87
$\pi^+ \mu^- + \pi^- \mu^+$	Allasia 85
$\tau^+ e^- \nu_\tau$	Sakai 89 Shaw 89
$\tau^+ \mu^- \nu_\tau$	Sakai 89 Shaw 89
$\tau^- \tau^+$	Maki 88
heavy-lepton ⁰	
$e^+ q \bar{q}$	Akrawy 90I Burchat 90 Decamp 89E Behrend 88C Perl 85
$e^- e^+ \bar{\nu}_e$	Sakai 89 Shaw 89
$\mu^+ e^- \bar{\nu}_e$	Sakai 89 Shaw 89
$\mu^+ q \bar{q}$	Sakai 89 Shaw 89 Gan 88
$\mu^- e^+ \bar{\nu}_\mu$	Sakai 89 Shaw 89
$\mu^- e^+ \bar{\nu}_\tau \bar{\nu}_\mu \bar{\nu}_e$	Gan 88 Gan 88
$\tau^- e^+ \bar{\nu}_\tau$	Sakai 89 Shaw 89

heavy-lepton ⁰	
$\tau^- \mu^+ \bar{\nu}_\tau$	Sakai 89 Shaw 89
heavy- ν	
$\mu^+ e^- \nu$	Ahrens 87B
$\mu^+ e^- X$	Ahrens 87B
$\mu^- e^+ \nu$	Ahrens 87B
$\mu^- e^+ X$	Ahrens 87B
heavy- ν_e	
$e^- e^+ \nu_e$	Bernardi 88 Bernardi 85
heavy- ν_μ	
$e^- e^+ \nu_\mu$	Daum 87
$\mu^- e^+ \nu_\mu$	Bernardi 88 Bernardi 85
$\mu^- \mu^+ \nu_\mu$	Coopersarkar 85
$\pi^+ \mu^-$	Coopersarkar 85
Hf	
	Kozma 90 Kozma 88
173Hf	
	Butsev 85
higgs	
	Abreu 90F Decamp 90H Komamiya 90 Franzini 87 Wu 87 Adeva 85 Albrecht 85L Rosner 85E
2 γ	Druzhinin 88
2hadron (hadrons)	
	Adachi 90C Decamp 89C Decamp 89H Bartel 85E Behrend 85
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	Komamiya 89
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	Abreu 90C Akrawy 90J Akrawy 90N Decamp 90E
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	Decamp 90E
$\bar{c} c$	
	Abreu 90C
$\epsilon^\pm X$	
	Igarashi 87
$e^- e^+$	
	Barr 90B Auge 89B Davier 89 Decamp 89C Decamp 89H Egli 89 Gilman 89 Snyder 89 Baker 87
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hadron ⁻	
	Decamp 89C Decamp 89H

higgs	
higgs hadron (hadrons)	Bartel 85E Behrend 85
jet X	Ash 85D $K^*(892)^+$ K^+ $K^*(892)^-$ K^+ $K^*(892)^0$ $K^*(892)^0$ $K^*(892)^0$ \bar{K}^0 $K^*(892)^0$ K^0
$\mu^\pm X$	Alam 89 Alam 89 Atiya 89 Decamp 89C Decamp 89H Geer 89 Gilman 89 Halling 89 Komamiya 89 Selen 89 Prokoshkin 87C Landsberg 85
$\mu^\pm \mu^\pm$	Igarashi 87
$p \bar{p}$	
$\pi^+ \pi^-$	Albrecht 89J
$q \bar{q}$ higgs	
$q \bar{q}$	Low 89
$\tau^- \tau^+$	Low 89
higgs ⁺	
	Abreu 90C Akravy 90J Akravy 90N Decamp 89H Decamp 89H Bartel 86D Albrecht 85C
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	Abrams 89F Kim 89E Wu 87
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	Ouldsada 88B
$c \bar{q}$	
	Ouldsada 88B Behrend 87C
$c \bar{s}$	
	Abreu 90 Akravy 90D Decamp 90
$\tau^+ \nu_\tau$	
	Abreu 90 Adachi 90C Akravy 90D Decamp 90 Ouldsada 88B Behrend 87C
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	Wu 87
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	Wu 87
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	Wu 87
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	Butsev 85
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	Butsev 85

Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

$J/\psi(1S)$ $J/\psi(1S)$

$J/\psi(1S)$	$J/\psi(1S)$	$J/\psi(1S)$	$J/\psi(1S)$
$\eta(1295) \gamma$	$f_1(1420) \gamma$ Toki 87 Baltrusaitis 85F	$Toki 88B$ $f_1(1420) \phi$ Toki 87 $f_1(1510) \gamma$ $f_2(1270) \gamma$	$K^*(892)^+ K^-$ Kopke 89 Jousset 88 Baltrusaitis 85F
$\eta(1440) \gamma$	$Becker 87C$ Augustin 88C Stanco 88 Toki 88 Toki 88B Toki 87 Richman 85 Tsukerman 85B	$Becker 87C$ $f_1(1510) \gamma$ $f_2(1270) \gamma$	$Falvard 88$ $K^*(892)^- K^+ \phi$ Kopke 89 Mallik 89B Ajaltouni 88 Augustin 87 Baltrusaitis 87 Toki 87
$\eta(1440) \omega$	$Becker 87C$ Augustin 88C Stanco 88 Toki 88 Toki 88B Toki 87 Richman 85 Tsukerman 85B	$f_2(1270) \omega$ Malik 89B Augustin 88B Falvard 88	$Kopke 89$ $K^*(892)^0 K^*(892)^0 \gamma$ Mallik 89B Toki 88 Toki 88B $K^*(892)^0 K^d + K^*(892)^0 K^0$ Augustin 88C Coffman 88 Mir 88
$\eta_c(1S) \gamma$	$Becker 87C$ Kopke 89 Mallik 89B Adler 88D Ajaltouni 88 Augustin 88C Bisello 88 Gaiser 85	$f_2(1270) \phi$ Kopke 89 Falvard 88	$K^*(892)^0 K^-$ Kopke 89 Jousset 88 Baltrusaitis 85F
$\eta' \eta \gamma$	$Kopke 89$ Augustin 88C	$f_2(1270) \rho^0$ Mallik 89B	$K^*(892) K \gamma + K^*(892) K^- \gamma$ Toki 88B
$\eta' \gamma$	$Kopke 89$ Ajaltouni 88 Augustin 88C Toki 87 Lee 85B	$f_2(1270) X$ Kopke 89	$K^*(892) K^-$ Toki 87
$\eta' \omega$	$Kopke 89$ Ajaltouni 88B Augustin 88C Coffman 88 Jousset 88 Mir 88 Toki 87 Baltrusaitis 85F	$f_2(1720) \gamma$ Mallik 89B Ajaltouni 88 Augustin 88 Augustin 88C Hitlin 88 Toki 87 Tsukerman 85B	$K^*(892)^0 K^0$ Kopke 89 Jousset 88 Baltrusaitis 85F
$\eta' \pi^+ \pi^- \gamma$	$Toki 87$ Kopke 89 Ajaltouni 88B Augustin 88C Coffman 88 Jousset 88 Mir 88 Toki 87 Baltrusaitis 85F	$f_2(1720) \omega$ Augustin 88C Toki 87	$K^+ K^- \pi^+ \pi^-$ Kopke 89 Augustin 88C $K^+ K^- 2\pi^+ 2\pi^-$ Kopke 89 Baltrusaitis 86
$\eta' \rho^0$	$Toki 87$ Kopke 89 Ajaltouni 88B Augustin 88C Coffman 88 Jousset 88 Mir 88 Toki 87 Baltrusaitis 85F	$f_2(1525) \gamma$ Kopke 89 Mallik 89B Augustin 88 Augustin 88C Baltrusaitis 87 Toki 87	$K^+ K^- 2\pi^-$ Kopke 89 Augustin 88C $K^+ K^- 3\gamma$ Kopke 89 Baltrusaitis 86
$f_0(975) \gamma$	$Toki 87$ Malik 89B	$f_2(1525) \omega$ Kopke 89 Falvard 88	$K^+ K^- \eta \pi^+ \pi^-$ Toki 87 Baltrusaitis 85F
$f_0(975) \omega$	$Toki 87$ Kopke 89 Ajaltouni 88B Augustin 88C Coffman 88 Jousset 88 Mir 88 Toki 87 Baltrusaitis 85F	$f_2(1525) \phi$ Kopke 89 Mallik 89B Falvard 88	$K^+ K^- \eta$ Toki 87 Baltrusaitis 85F
$f_0(975) X$	$Toki 87$ Kopke 89 Lockman 89 Augustin 88B Falvard 88	$f_4(2220) \gamma$ Malik 89B Augustin 88 Augustin 88C Hitlin 88 Toki 87 Baltrusaitis 86C Tsukerman 85B	$K^+ K^- \gamma$ Kopke 89 Mallik 89B Augustin 88C Diekmann 88 Hitlin 88 Toki 88 Toki 88B Baltrusaitis 87 Toki 87
$f_1(1285) \gamma$	$Toki 87$ Coffman 89 Malik 89B Adler 88D Augustin 88C Mir 88 Stanco 88	γ glueball Kopke 89 Chan 88 Bisello 86B	$K^+ K^- \omega$ Kopke 89 Stockhausen 86 Augustin 85 Augustin 85B Augustin 85D Augustin 85E Jeanmarie 85 Odian 85 Rosner 85E Toki 85B
$f_1(1285) \omega$	$Toki 88B$ Becker 87C Becker 87C	γX Kopke 89 Gaiser 85	$K^+ K^- \omega \pi^0$ Kopke 89 Becker 87C Augustin 85C
$f_1(1285) X$	$Toki 87$ Coffman 89 Malik 89B Adler 88D Augustin 88C Mir 88 Stanco 88	$K K \phi \pi$ Kopke 89	$K^+ K^- \omega$ Kopke 89 Stockhausen 86 Augustin 85 Augustin 85B Augustin 85D Augustin 85E Jeanmarie 85 Odian 85 Rosner 85E Toki 85B
$f_1(1285) \gamma$	$Toki 88B$ Becker 87C Becker 87C	$K^*(892) \bar{K}$ $K^*(892)^+ K^*(892)^-$ $K^*(892)^+ K^- +$ $K^*(892)^- K^+$	$K^+ K^- \omega \pi^0$ Kopke 89 Becker 87C Augustin 85C
$f_1(1285) \omega$	$Toki 88B$ Becker 87C	$Augustin 88C$ Coffman 88 Mir 88	$K^+ K^- \omega$ Kopke 89 Stockhausen 86
$f_1(1285) \phi$	$Becker 87C$ Becker 87C	$K^*(892)^+ K^- \phi$ Falvard 88	$K^+ K^- \phi + \phi \pi^+ \pi^-$ Kopke 89 Stockhausen 86 Augustin 85 Augustin 85B Augustin 85D Jeanmarie 85

$J/\psi(1S)$ $J/\psi(1S)$

$J/\psi(1S)$	$J/\psi(1S)$	$J/\psi(1S)$	$J/\psi(1S)$
$K^+ K_S \pi^- \gamma$	$\Lambda \bar{\Sigma}^- \pi^+$	$\omega \pi^0$	Coffman 88
Szklarz 89 Augustin 88C Stanco 88 Toki 88B Toki 87	Kopke 89 Henrard 87	Kopke 89 Ajaltouni 88B Augustin 88C Coffman 88 Jouset 88	Jouset 88
$K^+ K_S \pi^-$	$\Lambda \bar{\Sigma}^0$	$\omega \pi^-$	Mir 88
Kopke 89 Augustin 88C Toki 87 Baltrusaitis 85F	Kopke 89	Toki 87	Toki 87
$K^+ X$	$\bar{\Lambda} \Sigma(1385) P_{13}^0$	$\phi \omega$	Baltrusaitis 85F
Kopke 89	Kopke 89 Henrard 87	$\phi \omega \gamma$	Kopke 89
$K^\pm K_S \pi^\pm \gamma$	$\bar{\Lambda} \Sigma^0$	$\phi \pi^+ \pi^-$	Lockman 89
Kopke 89 Odian 85	Kopke 89		Falvard 88
$K^- X$	$\omega \pi^+$	$\phi \pi^0$	Malik 89B
Kopke 89			Toki 87
$K^0 K^- \omega \pi^+$	$\text{meson}^0 \gamma$	ωX	Kopke 89
Kopke 89	Bisello 90 Mallik 89B Augustin 88 Augustin 88C Stanco 88 Toki 88B Bisello 87 Toki 87	Kopke 89	Kopke 89
$K^0 K^0 \omega$	$\mu^- \mu^+$	$p \bar{\Lambda} K^-$	Kopke 89
Kopke 89	Kartik 90 Liss 90 Mishra 90 Baglin 89 De 89	Kopke 89	Kopke 89
$K_2^*(1430)^+$	$K^*(892)^-$	$p \bar{n} \pi^-$	Baltrusaitis 86
Kopke 89	Kopke 89 London 89	$p \bar{p} \eta$	Falvard 88
$K_2^*(1430)^-$	$K^*(892)^+$	$p \bar{p} \eta'$	Kopke 89
Kopke 89	Mir 89 Schubert 89 Sonderreger 89	$p \bar{p} \gamma$	Kopke 89
$K_2^*(1430)^0$	$K^*(892)^0$	$p \bar{p} \phi$	Baltrusaitis 85F
Kopke 89	Albasjor 88C Bussiere 88 Ferraro 88	$p \bar{p} \pi^0$	Kopke 89
$K_2^*(1430)^0$	$K^*(892)^0$	$p \bar{p} \rho^0$	Baltrusaitis 86B
Kopke 89	Schindler 88 Wormser 88	$p \bar{p}$	Kopke 89
$K_S 0\gamma X$	Biino 87 Alam 86	Kopke 89	Kopke 89
$K_S 2\gamma X$	Barate 86B	Pallin 87	Augustin 88C
$K_S 3\gamma X$	Sokoloff 86	Augustin 85B	Coffman 88
$K_S 4\gamma X$	Albrecht 85K	Augustin 85C	Mir 88
$K_S 8\gamma X$	Badier 85D	Augustin 85D	Toki 87
$K_S \gamma X$	Budd 85	Jeanmarie 85	Baltrusaitis 85F
$K_S \gamma X$	Aubert 84C	$p \bar{\Sigma}(1385) P_{13}^0 K^-$	$\pi^+ C(1480)^-$
$K_S K^- 2\pi^+ \pi^-$	Kopke 89	Kopke 89	Falvard 88
Falvard 88	$n \bar{n}$	$\pi^+ \pi^- 2\gamma$	Kopke 89
$K_S K^- \omega \pi^+$	$n \bar{p} \pi^+$	$\pi^+ \pi^- \gamma$	Toki 88
Becker 87C	$\omega 2\gamma$	$\pi^+ \pi^- \gamma$	Toki 88B
$K_S K^- \phi \pi^+$	$\omega 2\pi^+ 2\pi^-$	$\pi^+ \pi^- \gamma$	Toki 87
Falvard 88 Becker 87C	$\omega 2\pi^0$	$\pi^+ \pi^- \gamma$	Baltrusaitis 86
$K_S K^- \pi^+ \gamma$	$\omega \eta \pi^+ \pi^-$	$\pi^+ \pi^- \gamma$	Mallik 89B
Szklarz 89 Augustin 88C Stanco 88 Toki 87	Kopke 89 Stockhausen 86	$\pi^+ \pi^- \gamma$	Augustin 88C
$K_S K^- \pi^+$	$\omega \eta$	$\pi^+ \pi^- \gamma$	Dickmann 88
Kopke 89 Augustin 88C Toki 87 Baltrusaitis 85F	Kopke 89 Ajaltouni 88B Augustin 88C Coffman 88 Jouset 88 Mir 88 Toki 87 Baltrusaitis 85F	$\pi^+ \pi^- \gamma$	Hitlin 88
$K_S K_L$	ωmeson^0	$\pi^+ \pi^- \gamma$	Toki 88
Kopke 89 Augustin 85C Baltrusaitis 85E	Mallik 89B	$\pi^+ \pi^- \gamma$	Toki 88B
$\Lambda \bar{\Lambda} \gamma$	$\omega \pi^+ 2\pi^0 \pi^-$	$\pi^+ \pi^- \gamma$	Augustin 87
Henrard 87	Kopke 89	$\pi^+ \pi^- \gamma$	Baltrusaitis 87
$\Lambda \bar{\Lambda} \pi^0$	$\omega \pi^+ \pi^- \gamma$	$\pi^+ \pi^- \gamma$	Toki 87
Kopke 89 Henrard 87	Kopke 89	$\pi^+ \pi^- \gamma$	Konigsmann 86
$\Lambda \bar{\Lambda}$	$\omega \pi^+ \pi^-$	$\pi^+ \pi^- \gamma$	Stockhausen 86
Kopke 89 Tixier 88 Pallin 87 Augustin 85B Augustin 85C Augustin 85D Jeanmarie 85	Augustin 85C	$\pi^+ \pi^- \gamma$	Augustin 85B
$\Lambda \bar{\Sigma} + \pi^-$	$\omega \pi^+ \pi^-$	$\pi^+ \pi^- \gamma$	Odian 85
Kopke 89 Henrard 87	Kopke 89 Lockman 89 Augustin 88B Augustin 85C Stockhausen 86 Augustin 85C Jeanmarie 85	$\pi^+ \pi^- \gamma$	Kopke 89
	$\phi \eta'$	$\pi^+ \pi^- \gamma$	Augustin 85C
		$\pi^+ \pi^- \gamma$	Baltrusaitis 85E
		$\pi^+ \pi^- \gamma$	Kopke 89
		$\pi^+ \pi^- \gamma$	Augustin 88C
		$\pi^+ \pi^- \gamma$	Augustin 85C
		$\pi^+ \pi^- \gamma$	Toki 87
		$\pi^+ \pi^- \gamma$	Kopke 89
		$\pi^+ \pi^- \gamma$	Augustin 88C
		$\pi^+ \pi^- \gamma$	Coffman 88
		$\pi^+ \pi^- \gamma$	Toki 87
		$\pi^+ \pi^- \gamma$	Baltrusaitis 85F

Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

$J/\psi(1S)$

$J/\psi(1S)$	
$\pi^+ X$	Kopke 89
$\pi^- C(1480)^+$	Falvard 88
$\pi^- X$	Kopke 89
$\pi^0 \gamma$	Kopke 89 Ajaltouni 88 Augustin 88C Toki 87
$\rho \pi$	Mir 88 Toki 87
$\rho^+ \pi^-$	Kopke 89 Toki 89 Coffman 88 Baltrusaitis 85F
$\rho^+ \rho^- \gamma$	Bisello 89 Toki 88B Toki 87 Baltrusaitis 86B
$\rho^+ \rho^-$	Kopke 89
$\rho^+ \rho^0 \pi^- + \rho^0 \rho^- \pi^+$	Augustin 85C Augustin 85D
$\rho^+ \rho^0 \pi^-$	Augustin 88B
$\rho^- \pi^+$	Kopke 89 Toki 89 Coffman 88 Baltrusaitis 85F
$\rho^0 2\gamma$	Coffman 89 Toki 88 Toki 88B Toki 87 Augustin 85D Jeanmarie 85 Rosner 85E Achasov 84F
$\rho^0 \eta$	Kopke 89 Ajaltouni 88B Augustin 88C Coffman 88 Jousset 88 Mir 88 Toki 87 Baltrusaitis 85F
$\rho^0 \pi^+ \pi^- \gamma$	Augustin 88C
$\rho^0 \pi^+ \pi^0 \pi^- \gamma$	Toki 87 Baltrusaitis 85F
$\rho^0 \pi^0$	Kopke 89 Toki 89 Ajaltouni 88B Augustin 88C Coffman 88 Jousset 88
$\rho^0 \rho^- \pi^+$	Kopke 89
$\rho^0 X$	Augustin 88B
$\rho_3(1690)^0 \gamma$	Kopke 89
$\Sigma(1385 P_{13})^+ \bar{\Sigma}(1385 P_{13})^-$	Baltrusaitis 85G
$\Sigma(1385 P_{13})^- \bar{\Sigma}(1385 P_{13})^+$	Kopke 89 Henrard 87
$\Sigma^+ \bar{\Sigma}(1385 P_{13})^-$	Kopke 89 Henrard 87

$J/\psi(1S)$	
$\Sigma^- \bar{\Sigma}(1385 P_{13})^+$	Kopke 89
$\Sigma^0 \Sigma^0$	Kopke 89 Pallin 87
$\Sigma^+ \Sigma(1385 P_{13})^-$	Henrard 87
$\bar{\Sigma}^- \Sigma(1385 P_{13})^+$	Henrard 87
$X(1700) \omega$	Falvard 88
$X(1700) \phi$	Falvard 88
$\Xi^- \Xi(1530 P_{13})^+$	Kopke 89
$\Xi^- \Xi(1530 P_{13})^-$	Kopke 89 Henrard 87
$\Xi^- \Xi(1530 P_{13})^0$	Kopke 89 Henrard 87
jet	

jet	
Ogawa 89	Arenton 85
Park 89	Arenton 85B
Park 89B	Arnison 85C
Porter 89	Arnison 85E
Sagawa 89	Ash 85D
Sinervo 89	Bald 85
Skarha 89	Baldi 85B
Stubebruch 89	Barre 85B
Tannenbaum 89	Bartel 85E
Tonelli 89	Bartel 85L
Weinstein 89	Behrend 85
Albajar 88	Berger 85
Albajar 88C	Berger 85H
Albajar 88F	Borisov 85
Albajar 88G	Cerradini 85
Albajar 88H	Collins 85E
Albrow 88	Derrick 85G
Ansari 88	Feldman 85
Ansari 88B	Goldhaber 85C
Baldin 88B	Hanni 85
Bethke 88	Krasnikov 85
Bethke 88B	Peterson 85
Boos 88B	Reya 85B
Braunschweig 88G	Rosenberg 85B
Dzaoshvili 88B	Savoyanvaro 85
Kanaz 88	Venkataraman 85B
Mcneil 88	Vuillemi 85
Miettinen 88	Yamamoto 85E
Olsen 88	Aihara 84G
2charged (charged) (neutrals)	
	Bodek 89
	Bonesini 89B
$2\pi^+ X$	Akesson 87E
2charged- X	
	Akesson 87E
2hadron (hadrons)	
	Bodek 89
	Braunschweig 89H
	Kim 89C
	Maki 88
	Albajar 87D
	Baldin 86B
	Barrel 85H
$2\pi^+ X$	Akesson 87E
$2\pi^- X$	Akesson 87E
$3\pi^+ X$	Akesson 87E
$3\pi^- X$	Akesson 87E
charged X	
	Abe 90B
	Hubbard 89B
	Tao 88
	Breakstone 86E
	Akesson 85E
	Atkinson 85E
charged-hadron (charged-hadrons)	
	Derrick 86C
charged-hadron X	
	Bender 84C
$D^*(2010)^+ X$	Albajar 90D
$D^*(2010)^- X$	Albajar 90D
$f_2(1270) X$	Albajar 90D
hadron (hadrons)	
	Breakstone 89
hadron X	
	Naroska 87
hadron+ X	
	Bodek 89
	Geer 89
	Kim 89C
	Dzaoshvili 88
	Maki 88B
	Park 88
	Arneodo 87
hadron+ X	
	Tsagova 85

jet

jet	$K^*(892)$	$K^*(892)^+$	$K^*(892)^-$
hadron-X	Tsagova 85	Babintsev 88	Adler 87
$K^*(892)^0$ X	Breakstone 89	Sedlak 88	Aihara 87G
$K^*(892)^0$ X	Breakstone 89	Tschirhart 88	Karnaughov 87
K^+ charged X	Breakstone 89	Karnaughov 87	Lamm 87
$K^+ \pi^+ X$	Breakstone 85E	Lamim 87	Naroska 87
$K^+ X$	Akesson 87E	Naroska 87	Mikocki 86
$K^+ X$	Rouse 87	Mikocki 86	Ronjin 86
K^- charged X	Breakstone 85E	Ronjin 86	Yelton 86
$K^- \pi^- X$	Akesson 87E	Allasia 85D	Allasia 85D
K_S charged (neutrals)	Abach 89C	Aziz 85C	Aziz 85C
K_S mult[charged] (neutrals)	Althoff 85B	Ajinenko 83B	Ajinenko 83B
Λ mult[charged] (neutrals) +	Landsberg 89	Babintsev 88	
$\bar{\Lambda}$ mult[charged] (neutrals)	Mattig 89	Marshall 89	Armstrong 90
$\mu^+ X$	Althoff 85B	Bai 90	Bai 90
$\mu^- X$	Atrashkevich 85	Chliapnikov 90	Barlag 90C
mult[charged] (neutrals)	Atrashkevich 85	Albrecht 89S	Chliapnikov 90
Althoff 85C	Barlag 88C	Alder 89	Albrecht 89S
Sakuda 85	Barloutaud 88	Avery 89B	Avery 89B
$\mu^+ X$	Bogolyubsky 88F	Behrend 89F	Chen 89B
mult[charged] X	Bourdarios 88	Chen 89B	Danilov 89
neutral X	Coffman 88	Halling 89	Halling 89
$p X + \bar{p} X$	Falvard 88	Haying 89	Jensen 89
$p X$	Gan 88	Hayes 89	Kopke 89
$\pi (\pi')$'s	Jousset 88	Hayes 89B	Landsberg 89
$\pi^+ \text{ charged } X$	Levy 88	Kopke 89	Mallik 89B
$\pi^+ X$	Mir 88	Kreinick 89	Marshall 89
$\rho^0 X$	Thorndike 88	Landsberg 89	Mattig 89
$\rho^0 X$	Toki 88B	Mattig 89	Rath 89
	Abachi 87B	Mitter 89	Schubert 89
	Avery 87	Riles 89	Adler 88F
	Barloutaud 87	Aleev 88	Anjos 88C
	Brent 87	Aston 88I	Anjos 88E
	Cumalat 87	Barlag 88C	Anjos 88G
	Aihara 86I	Bogolyubsky 88F	Aston 88
	Ajinenko 86B	Coffman 88	Barlag 88C
	Baily 86B	Falvard 88	Barloutaud 88
	Baltrusaitis 86C	Gan 88	Bourdarios 88
	Bityukov 86B	Jousset 88	Coffman 88
$K^*(1370)^+$	Haines 86	Levy 88	Gan 88
$K^+ \gamma$	Tomaradze 86	Mir 88	Jousset 88
$K^0 \pi^+$	Arneodo 87	Thorndike 88	Levy 88
$K^*(1370)^-$	Brent 87	Toki 88B	Mir 88
$K^- \gamma$	Cumalat 87	Abachi 87B	Thorndike 88
$K^0 \pi^-$	Aihara 86I	Avery 87	Toki 88
	Ajinenko 86B	Briens 87	Toki 88B
	Baily 86B	Forino 87	Albrecht 87G
	Baltrusaitis 86C	Schindler 87	Avery 87
	Bityukov 86B	Aihara 86I	Barloutaud 87
	Haines 86	Albrecht 86F	Brent 87
	Tomaradze 86	Aston 86B	Cumalat 87
	Aleev 85	Baily 86B	Gittelman 87
	Aleshin 85	Baltrusaitis 86C	Hofmann 87B
	Aston 85	Bityukov 86B	Kolanoski 87
	Behrends 85	Schindler 86	Schindler 87
	Blewitt 85	Aleev 85	Alam 86
	Coward 85	Aleshin 85	Baltrusaitis 86
	Knyazev 85	Baltrusaitis 85F	Aihara 85D
	Park 85B	Behrends 85	Aston 85
	Schindler 85	Coward 85	Atkinson 85B
$K^*(1680)^+$	Ajinenko 84C	Schindler 85	Atkinson 85F
$K_S \pi^+$	Landsberg 86	$K^- \gamma$	Baltrusaitis 85B
$K^*(1680)^-$	Albrecht 89L	$K^- \pi^0$	Baltrusaitis 85F
$K^0 \pi^-$	Agababyan 89	$K^0 \pi^-$	Behrends 85
$K_S \pi^-$	Aguilarbenit 89	$K^0 \pi^-$	Coward 85
$K^*(1680)^0$	Berger 89	$K_S \pi^-$	Knyazev 85
$K^+ \pi^-$	Albrecht 88N		Park 85B
$K^*(892)$	Drutskoy 89		Schindler 85
Efendiev 89	Gerdyukov 87		Torres 85
Szklarz 89	Gerdyukov 86B	$3\pi^0$	Hirata 89B
Sugahara 89B	Alam 89	$K^+ \pi^-$	Akimeno 90C
Toki 88B	Albrecht 89L		Bortoletto 90
Aston 86B	Albrecht 89U		Abachi 89D
Tsukerman 85B	Berger 89		Agababyan 89
	Aihara 88D		Aguilarbenit 89
	Alam 89		Ajinenko 89B
	Albrecht 88E		Alam 89
	Albrecht 88N		Albrecht 89U
	Albrecht 88O		Berger 89
	Augustin 88C		Breakstone 89

Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

$K^*(892)^0$	$K^*(892)$	$K^*(892)^0$	K^+
Chen 89C Aihara 88 Albrecht 88E Augustin 88C Edberg 88 Sedlak 88 Adamus 87 Ajinenko 87B Albrecht 87S Ammosov 87 Palka 87 Palka 87B Raab 87 Althoff 86D Ammosov 86D Armstrong 86D Karnaughov 86 Toki 86 Aihara 85 Derrick 85F	$\bar{K} \pi$ $K^*(892)^0$	Toki 87 Anjos 90 Armstrong 90 Bai 90 Barlag 90C Chlipnikov 90 Adler 89B Albrecht 89S Alder 89 Avery 89B Browder 89 Chen 89B Dejongh 89 Halling 89 Jensen 89 Klein 89C Kopke 89 Kreinick 89 Landsberg 89 Mallik 89B Marshall 89 Miller 89 Pitman 89 Schindler 89 Schubert 89 Toki 89B Adler 88F Albrecht 88S Anjos 88C Anjos 88E Anjos 88G Aston 88 Barlag 88C Batusov 88C Coffman 88 Gan 88 Jousset 88 Levy 88 Mir 88 Schindler 88 Thorndike 88 Toki 88 Toki 88B Albrecht 87C Albrecht 87G Avery 87 Bebek 87B Brent 87 Kolanowski 87 Luth 87 Schindler 87 Albrecht 86F Baltrusaitis 86 Banerjee 86 Haines 86 Schindler 86 Aihara 85 Aihara 85D Albrecht 85M Aston 85 Atkinson 85B Atkinson 85F Baltrusaitis 85B Baltrusaitis 85F Behrends 85 Biagi 85 Coward 85 Schindler 85 Albrecht 89L	Chen 89C Aihara 88 Albrecht 88E Aston 88B Aston 88I Augustin 88C Sedlak 88 Adamus 87 Adler 87 Ajinenko 87B Albrecht 87S Anjos 87C Palka 87 Palka 87B Raab 87 Althoff 86D Armstrong 86D Aston 86 Aston 86B Toki 86 Derrick 85F Jawahery 85
$K^- \pi^+$ $K_L \gamma$ $K_S \pi^0$ $\pi^- \mu^+ \nu_\mu$		$K^*(unspec)^0$	$\pi^+ \nu_e \bar{\nu}_e$ $\pi^+ \nu_e \bar{\nu}_e$ $\pi^+ \pi^0$ $\pi^0 e^+ \nu_e$ $\pi^0 \mu^+ \nu_\mu$
Berger 89 Hirata 89B		$K^- 2\pi^+ \pi^-$	Atiya 90 Littenberg 89 Numao 89
$K^*(unspec)$		$K^- \pi^+$	Gilman 89
Wu 87		$K^- 2\pi^+ \pi^-$	Phillips 89
$K^*(unspec)^+$		$K^- \pi^+$	Tanimori 89B
$K^+ \pi^+ \pi^-$	Karnaughov 87	$K^- \pi^+$	Ansorge 88
$K^*(unspec)^-$		$K^- \pi^+$	Campagnari 88
$K^- \pi^+ \pi^-$	Karnaughov 87	$K^- \pi^+$	Landsberg 85
$K^*(unspec)^0$		$K^- 2\pi^-$	Tanimori 89B
$K^+ \pi^+ 2\pi^-$	Karnaughov 87	$K^- 2\pi^-$	Barmin 86
$K^*(1370)^0$		K^+	
$K^*(892)^- \pi^+$	Aston 88I Aston 86B	$2\pi^+ \pi^- \gamma$	
$K^*(892)^0 \pi^0$	Aston 86B	$2\pi^+ \pi^-$	Barmin 89B
$K^- \pi^+$	Aston 88B	$2\pi^0 e^- \nu_e$	Phillips 89
$K^0 \pi^+ \pi^-$	Aston 88I	$2\pi^0 e^- \nu_e$	Tanimori 89B
$K^0 \rho^0$	Aston 86B	$e^+ \nu_e$	Ansorge 88
	Aston 88I	$e^+ \nu_e$	Barmin 86
$K^*(1680)^0$		$\mu^+ \nu_\mu \gamma$	Bernardi 88 Bernardi 85
$K^*(892)^- \pi^+$	Aston 88I Aston 86B	$\mu^+ \nu_\mu$	Demidov 89 Numao 89
$K^*(892)^0 \pi^0$	Aston 86B	$\mu^+ \nu_\mu$	Barmin 87 Akiba 85
$K^- \pi^+$	Aston 88B	$\mu^- 2\mu^+ \nu_\mu$	Phillips 89 Tanimori 89B
$K^0 \pi^+ \pi^-$	Aston 88I	$\mu^- 2\mu^+ \nu_\mu$	Ansorge 88 Bernardi 88 Bernardi 85 Yamanaka 85
$K^0 \rho^0$	Aston 86B	$\pi^+ 2\pi^0$	Atiya 89 Littenberg 89 Selen 89
	Aston 88I	$\pi^+ \text{axion}$	Tanimori 89B
$K^+ \pi^-$	Albrecht 89L	$\pi^+ e^- e^+$	Baker 87
$K^0 \pi^+ \pi^-$	Aston 88I	$\pi^+ \text{higgs}$	Gilman 89 Littenberg 89 Lubatti 89 Baker 87
$K^- \pi^+$	Albrecht 89L	$\pi^+ \mu^+ e^-$	Atiya 89 Gilman 89 Selen 89 Baker 87
$K^0 \pi^+ \pi^-$	Aston 88I Aston 86B	$\pi^+ \mu^+ e^-$	Gilman 89 Littenberg 89 Lubatti 89 Campagnari 88
$K^0 \rho^0$	Aston 88I Aston 86B	$\pi^+ \mu^- \mu^+$	Atiya 89 Gilman 89 Littenberg 89 Selen 89
$K^*(892)$			
$K^- \pi^+$	Toki 88B Aston 86B Aston 85 Tsukerman 85B		
$K^- \pi^+$	Adler 89D		

$K_1(1270)^0$

$K_1(1270)^0$	$K_2^*(1430)^-$	$K_3^*(1780)^0$	^{40}KK
$K_S \rho^0$ Albrecht 89L	Babintsev 88 Sedlak 88	$K''(892)^0 \pi^0$ Aston 86B	Hasinoff 89 Hasinoff 88
$K_1(1400)^+$	$K_2^*(1430)^0$	$K^- \pi^+$ Aston 89B	^{42}KK Kozma 88B Kozma 86 Wagner 85
$K''(892)^0 \pi^+$ Albrecht 89S Albrecht 89L Albrecht 88E	Albrecht 89S Kopke 89 Mattić 89 Armstrong 86D Atkinson 85B	$\bar{K}^0 \pi^+ \pi^-$ Aston 88I Aston 86B	^{43}KK Kozma 88B Kozma 86 Michel 85
$K_1(1400)^-$	$K^+ \pi^-$ Agababyan 89 Ajinenko 89B Albrecht 89L Albrecht 88E	$K^- \pi^+$ Aston 89B	^{47}KK Ohkubo 85
$K''(892)^0 \pi^-$ Albrecht 89S Browder 89	Albrecht 89S Kopke 89 Mattić 89 Armstrong 86D Atkinson 85B	$K^0 \rho^0$ Aston 88I Aston 87B Aston 86B	K_L Bisello 90 Dolinsky 89B Kopke 89 Malik 89B Augustin 88C Doser 88 Sedlak 88
$K_1(1400)^0$	$K_L \gamma$ Carlsmith 87	$K_S \rho^0$ Albrecht 89L	$K''(2045)^+$ Albrecht 89L
$K''(892)^+ \pi^-$ Albrecht 89S Albrecht 89L Albrecht 88E	$K_S \pi^0$ Carlsmith 87	$K_2^*(1430)^0$ Albrecht 89S Kopke 89 Atkinson 85B	$K_2^*(2045)^-$ Albrecht 89L
$K_1(1270)^0$	$K''(892)^- \pi^+$ Aston 88I Aston 87B Aston 86B	$K_2^*(892)^0 \pi^0$ Aston 86B	$K_4^*(2045)^0$ Torres 85
$K^0 \pi^+ \pi^-$ Browder 89	$K^- \pi^+$ Albrecht 89L Aston 89B Aston 88E	$K''(892)^0 \phi$ Torres 85	$K''(892)^- \pi^+$ Aston 88I Aston 87B
$K_S \pi^+ \pi^-$ Adler 89E	$K^0 \pi^+ \pi^-$ Aston 88I Aston 87B	$K^+ \phi \pi^-$ Torres 85	$K_2^*(1980)^0$ Albrecht 89L
$K_S \rho^0$ Dejongh 89	$K^0 \rho^0$ Aston 88I Aston 87B	$K^+ \pi^-$ Albrecht 89L	$K_2^*(1980)^-$ Aston 88I
$K_1(1400)^0$	$K_2^*(1980)^0$ Aston 88I	$K_4^*(2045)^-$ Albrecht 89L	$K_4^*(2045)^0$ Albrecht 89L
$K''(892)^- \pi^+$ Browder 89	$K^0 \pi^+ \pi^-$ Aston 88I Aston 87B	$K''(892)^0 \phi$ Torres 85	$K''(892)^- \pi^+$ Aston 88I Aston 87B
$K^0 \pi^+ \pi^-$ Albrecht 89L Albrecht 88E	$K^0 \pi^+ \pi^-$ Aston 88I Aston 87B	$K^+ \phi \pi^-$ Torres 85	$K''(892)^- \pi^+$ Aston 88I Aston 87B
$K''(892)^+ \pi^-$ Aston 88I Aston 87B	$K^0 \rho^0$ Aston 88I Aston 87B	$K^+ \pi^-$ Albrecht 89L	$K_2^*(1780)^+$ Albrecht 89L
$K^0 \pi^+ \pi^-$ Adler 89E	$K^0 \pi^+ \pi^-$ Aston 88I Aston 87B	$K_4^*(2045)^-$ Albrecht 89L	$K_2^*(1780)^-$ Albrecht 88E
$K^0 \rho^0$ Aston 88I	$K^0 \rho^0$ Aston 88I Aston 87B	$K_2^*(1780)^-$ Albrecht 88E	$K_2^*(2380)^0$ Aston 89B
$K_S \pi^+ \pi^-$ Dejongh 89	$K^+ \rho^0$ Albrecht 89L	$K^- \eta$ Aston 89B Aston 88G Aston 88I Aston 86B	$K^- \pi^+$ Aston 88B Aston 88I Aston 86B
$K_2^*(1430)^+$	$K_S \pi^+$ Albrecht 89L	$K^- \eta$ Aston 89B Aston 88G Aston 88I Aston 86B	$K''(2380)^0$ Aston 89B
$K^0 \pi^+$ Gerdyukov 87	$K^0 \rho^0$ Albrecht 89L	$K^- \eta$ Aston 89B Aston 88G Aston 88I Aston 86B	$K^- \pi^+$ Aston 88B Aston 88I Aston 86B
$K_S \pi^+$ Gerdyukov 86B	$K^0 \pi^-$ Albrecht 89L	$K^- \eta$ Aston 89B Aston 88G Aston 88I Aston 86B	$K''(2380)^-$ Aston 88B
$K^0 \pi^+$ Albrecht 89L Albrecht 88E Babintsev 88	$K^0 \rho^0$ Albrecht 89L	$K^- \eta$ Aston 89B Aston 88G Aston 88I Aston 86B	$K^- \pi^+$ Aston 88B Aston 88I Aston 86B
$K_S \pi^+$ Sedlak 88	$K^0 \pi^-$ Bird 88	$K^- \eta$ Aston 89B Aston 88G Aston 88I Aston 86B	$K''(2380)^0$ Aston 88B
$K^0 \pi^+$ Ajinenko 83B	$K_S \pi^-$ Albrecht 88E	$K^- \eta$ Aston 89B Aston 88G Aston 88I Aston 86B	$K^- \pi^+$ Aston 88B Aston 88I Aston 86B
$K_2^*(1430)^-$	$K_S \pi^-$ Albrecht 88E	$K^- \eta$ Aston 89B Aston 88G Aston 88I Aston 86B	$K''(2380)^-$ Aston 88B
$K^- \eta$ Aston 88B Aston 88G Aston 88I Aston 86B	$K^+ \pi^-$ Bird 88	$K^- \eta$ Aston 89B Aston 88G Aston 88I Aston 86B	$K''(2380)^0$ Aston 88B
$K^0 \pi^-$ Aston 88B	$K_S \rho^0$ Albrecht 88E	$K^- \eta$ Aston 89B Aston 88G Aston 88I Aston 86B	$K''(2380)^-$ Aston 88B
$K_S \pi^-$ Bird 88	$K_3^*(1780)^0$ Albrecht 88E	$K^- \eta$ Aston 89B Aston 88G Aston 88I Aston 86B	$K''(2380)^0$ Aston 88B
$K^0 \pi^-$ Albrecht 89L	$K''(892)^- \pi^+$ Aston 88I Aston 87B Aston 86B	$K^- \eta$ Aston 89B Aston 88G Aston 88I Aston 86B	$K''(2380)^-$ Aston 88H
$K_S \pi^-$ Albrecht 88E	$K''(892)^- \pi^+$ Aston 88I Aston 87B Aston 86B	$K^- \eta$ Aston 89B Aston 88G Aston 88I Aston 86B	^{38}KK Hardy 89
			$^{38}\text{Ar} e^+ \nu_e$ Hardy 89

Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

K_L	61 Kr	K_S	(1405 S₀₁)	
$\mu^- e^+$	Inagaki 89 Inagaki 89C Littenberg 89 Mathiazagan 89 Schaffner 89 Cousins 88 Greenlee 88 Inagaki 88	Krofcheck 87	$\Sigma^- \pi^+$ Hemingway 84	
$\mu^- \mu^+$	Gilman 89 Inagaki 89 Inagaki 89C Littenberg 89 Mathiazagan 89 Mathiazagan 89B Schaffner 89 Inagaki 88	Barabash 89B Caldwell 88 Nakamura 88 Rosen 88 Elliott 87 Elliott 87B Elliott 86 Marti 85	$\Delta(1520 D_{03})$ Allen 85 Dainton 85 $\Lambda \pi^+ \pi^-$ Krastev 88 $p K^-$ Albrecht 89B Albrecht 88Q	
ν_μ atom($\pi\mu$)	Aronson 86	Butsev 85	$\Delta N(2130^3 S_1)^+$ $n \Sigma(1385 P_{13})^+$ Frascaria 89	
$\pi \ell \nu$	Cupal 85	Caldwell 88	$p \Lambda$ Frascaria 89	
$\pi \mu^\pm \nu_\mu$	Aronson 86	131 La	$p \Sigma(1385 P_{13})^0$ Frascaria 89	
$\pi^+ \mu^- \bar{\nu}_\mu$	Ramm 85	132 La	Λ_c^+	
$\pi^+ \pi^-$	Barr 90 Carosi 90 Patterson 90 Yamanaka 90 Auge 89 Fayard 89 Gibson 89 Holder 89 Inagaki 89 Inagaki 89C Mathiazagan 89 Mathiazagan 89B Peyaud 89 Winstein 89 Burkhardt 88 Gibbons 88 Greenlee 88 Hsiung 88 Inagaki 88 Jastrzembski 88 Woods 88 Bernstein 85 Blatt 85 Cupal 85	2γ Auge 89B Dolinsky 89B Balats 87 Burkhardt 87 	$n \gamma$ Biagi 86 $n \pi^0$ Biagi 87D $p e^- \bar{\nu}_e$ Dworkin 90 $p \pi^-$ Barnes 90 Ajinenko 89E Albrecht 89B Bamberger 89 Barlag 89 Barlag 89C Bolonkin 89 Braunschweig 89I Trost 89 Vecko 89 Albrecht 88I Aleev 88B Aleev 88E Alekseev 88 Aston 88C Avery 88 Baller 88 Barwolff 88 Bensinger 88 Bonner 88 Klein 88 Luk 88 	Miller 89 Wormser 89 Aguilarbenit 88B Albrecht 88G Danilov 88
$\pi^+ \pi^0 \pi^-$	Jastrzembski 88 Barmen 85	2π^0 Auge 89B Bitsadze 85	$\Delta(1405 S_{01})$	
$\pi^- \mu^+ \nu_\mu$	Ramm 85	$n \bar{K}^0$	$\Sigma^+ \pi^-$ Hemingway 84	
$\pi^0 2\gamma$	Barr 90C Auge 89B Littenberg 89 Papadimitriou 89	131 La	$\Sigma^+ \pi^-$ Hemingway 84	
$\pi^0 e^- e^+$	Ohl 90 Auge 89B Gilman 89 Holder 89 Littenberg 89 Yamanaka 89 Barr 88 Gibbons 88 Hsiung 88 Jastrzembski 88	132 La	$\Lambda(1405 S_{01})$	
π^0 higgs	Barr 90B Auge 89B Gilman 89	Butsev 85		
Kr	Kozma 90			
77 Kr	Butsev 85			

PARTICLE/DECAY INDEX

 Λ_c^+

Λ_c^+	Klein 89C Albrecht 88D Klein 88 Jones 87B
$\mu^+ X$	Sviridov 88 Tzeng 85
$n K^- 2\pi^+$	Klein 89C Batusov 87B
$\nu_e X$	Duffy 88
$\nu_\mu X$	Duffy 88 (neutrals)
$p \text{ 2charged}$	Aguilarbenit 87
$p 2\pi^+ 2\pi^-$	Barlag 90C
$p e^+ X$	Klein 89C
$p f_0(975)$	Barlag 90C
$p K^*(892)^0 \pi^+ \pi^-$	Barlag 88C
$p K^*(892)^0$	Klein 89C Barlag 88C
$p K^+ K^-$	Barlag 90C
$p K^- 2\pi^+ \pi^-$	Barlag 90C Klein 89C Barlag 88C
$p K^- \pi^+ 2\pi^0$	Barlag 90C
$p K^- \pi^+ \pi^0$	Barlag 90C
$p K^- \pi^+$	Barlag 90C Klein 89C
$p K^0 \pi^+ \pi^-$	Alvarez 90 Alvarez 90B Barlag 90 Barlag 90B Barlag 90C Barlag 90D Alev 89B Anjos 89 Bowcock 89 Klein 89C Schubert 89 Albrecht 88D Albrecht 88H Albrow 88 Anjos 88C Barlag 88B Barlag 88C Barlag 88D Bortoletto 88 Klein 88 Aguilarbenit 87 Anjos 87B Batusov 87 Batusov 87B Coteus 87 Coteus 87B Cumalat 87B Diesburg 87 Filaseta 87B Luth 87 Smart 86
$p \bar{K}^0 \pi^+ \pi^-$	Barlag 90C Anjos 89C Alev 88C
$p \bar{K}^0 \pi^+ \pi^0 \pi^-$	Barlag 90C
$p \bar{K}^0$	Anjos 89C Klein 89C Albrecht 88D

 Λ_c^+

$p K_S \pi^+ \pi^-$	Albrecht 88H Klein 89C Prokoshkin 87C
$p K_S$	Bowcock 89 Klein 88
$p \phi$	Barlag 90C Klein 89C Barlag 88C
$p \pi^+ \pi^-$	Barlag 90C Barlag 90C
$p \pi^+ \pi^0 \pi^-$	Barlag 90C
$p X$	Aguilarbenit 86D
$\Sigma^- \pi^+ \pi^-$	Barlag 88C
$\bar{\Lambda}_c^-$	
$\bar{\pi} K^0$	Anjos 89C Albrecht 88D Albrecht 88H
$\bar{p} K_S$	Klein 88
$\bar{p} \phi$	Barlag 88C
$\bar{p} X$	Aguilarbenit 86D
$\Sigma^- \pi^+ \pi^-$	Barlag 88C
$\bar{\Lambda}$	
$\bar{\pi} \pi^0$	Henrard 87
$\bar{p} \pi^+$	Barnes 90 Ajinenko 89E Albrecht 89B Bamberger 89 Bolonkin 89 Alev 88E Avery 88 Barwolff 88 Klein 88 Tixier 88 Turkot 88
$\Sigma^0 \pi^+ \pi^0$	Vesztorgombi 88 Barnes 87 Barnes 87B Bogolyubsky 87C Camilleri 87 Henrard 87 Kennett 87B Klein 87B Naroska 87 Baden 86 Gourlay 86 Aihara 85B Althoff 85B Bowcock 85
$\Xi^- K^+ \pi^+$	Aguilarbenit 86D
$\bar{\Lambda}_c^-$	
$\bar{p} K^- \pi^+ \pi^-$	Barlag 90C Barlag 90D Aguilarbenit 88B Danilov 88 Aguilarbenit 87H Alam 87B Barlag 86 Yamamoto 85E
$\bar{p} K^- \pi^+ 2\pi^0$	Barlag 90C
$\bar{p} K^- \pi^+ \pi^0$	Barlag 90C
$\bar{p} K^- \pi^+$	Barlag 90C Klein 89C
$\bar{\Delta}(1232 P_{33})^{+-} K^+$	Aguilarbenit 87
$\bar{\Lambda} e^- X$	Barlag 88C
$\bar{\Lambda} \mu^- X$	Klein 89 Klein 88
$\bar{\Lambda} \pi^+ 2\pi^-$	Klein 89 Klein 88
$\bar{\Lambda} \pi^-$	Anjos 89C Albrecht 88D Albrecht 88H Klein 88 Bowcock 85
$\bar{\nu}_e X$	Anjos 89C Albrecht 88D Klein 88
$\bar{\nu}_\mu X$	Duffy 88
$\bar{p} K^*(892)^0 \pi^+ \pi^-$	Duffy 88
$\bar{p} K^*(892)^0$	Barlag 88C
$\bar{p} K^+ \pi^+ 2\pi^-$	Barlag 88C
$\bar{p} K^+ \pi^+ \pi^-$	Barlag 88C
$\bar{p} K^0 \pi^+ \pi^-$	Alvarez 90B Albrecht 88D Albrecht 88H Barlag 88D Bortoletto 88 Klein 88 Aguilarbenit 87 Anjos 87B Batusov 87 Batusov 87B Coteus 87 Coteus 87B Cumalat 87B Diesburg 87 Filaseta 87B Luth 87 Smart 86
$\bar{p} K^0 \pi^+ \pi^0 \pi^-$	Barlag 90C Anjos 89C Alev 88C
$\bar{p} K^0$	Barlag 90C
$\bar{p} K^0 \pi^+ \pi^0 \pi^-$	Anjos 89C Klein 89C Albrecht 88D

 $\bar{\Lambda}_c^-$

$\bar{p} K^0$	Anjos 89C Albrecht 88D Albrecht 88H
$\bar{p} K_S$	Klein 88
$\bar{p} \phi$	Barlag 88C
$\bar{p} X$	Aguilarbenit 86D
$\Sigma^- \pi^+ \pi^-$	Barlag 88C
$\bar{\Lambda}$	
$\bar{\pi} \pi^0$	Henrard 87
$\bar{p} \pi^+$	Barnes 90 Ajinenko 89E Albrecht 89B Bamberger 89 Bolonkin 89 Alev 88E Avery 88 Barwolff 88 Klein 88 Tixier 88 Turkot 88
$\Sigma^0 \pi^+ \pi^0$	Vesztorgombi 88 Barnes 87 Barnes 87B Bogolyubsky 87C Camilleri 87 Henrard 87 Kennett 87B Klein 87B Naroska 87 Baden 86 Gourlay 86 Aihara 85B Althoff 85B Bowcock 85
$\Xi^- K^+ \pi^+$	Aguilarbenit 86D
$\bar{\Lambda}_c^-$	
$\bar{p} K^- \pi^+ \pi^-$	Barlag 90C Barlag 90D Aguilarbenit 88B Danilov 88 Aguilarbenit 87H Alam 87B Barlag 86 Yamamoto 85E
$\bar{p} K^- \pi^+ 2\pi^0$	Barlag 90C
$\bar{p} K^- \pi^+ \pi^0$	Barlag 90C
$\bar{p} K^- \pi^+$	Barlag 90C Klein 89C
$\bar{\Delta}(1232 P_{33})^{+-} K^+$	Aguilarbenit 87
$\bar{\Lambda} e^- X$	Barlag 88C
$\bar{\Lambda} \mu^- X$	Klein 89 Klein 88
$\bar{\Lambda} \pi^+ 2\pi^-$	Klein 89 Klein 88
$\bar{\Lambda} \pi^-$	Anjos 89C Albrecht 88D Albrecht 88H Klein 88 Bowcock 85
$\bar{\nu}_e X$	Anjos 89C Albrecht 88D Klein 88
$\bar{\nu}_\mu X$	Duffy 88
$\bar{p} K^*(892)^0 \pi^+ \pi^-$	Duffy 88
$\bar{p} K^*(892)^0$	Barlag 88C
$\bar{p} K^+ \pi^+ 2\pi^-$	Barlag 88C
$\bar{p} K^+ \pi^+ \pi^-$	Barlag 88C
$\bar{p} K^0 \pi^+ \pi^-$	Alvarez 90B Albrecht 88D Albrecht 88H Barlag 88D Bortoletto 88 Klein 88 Aguilarbenit 87 Anjos 87B Batusov 87 Batusov 87B Coteus 87 Coteus 87B Cumalat 87B Diesburg 87 Filaseta 87B Luth 87 Smart 86
$\bar{p} K^0 \pi^+ \pi^0 \pi^-$	Barlag 90C Anjos 89C Alev 88C
$\bar{p} K^0$	Barlag 90C
$\bar{p} K^0 \pi^+ \pi^0 \pi^-$	Anjos 89C Klein 89C Albrecht 88D

 ℓ^+

$\ell^- \bar{\nu}_\mu \nu_e$	Albrecht 89N Albrecht 89Q Artuso 89 Behrend 89J Decamp 89C Franzini 89 Gilman 89 Halling 89 Itep 89 Schubert 89 Stoker 89 Behrend 88C Barlow 87 Adeva 85 Murtagh 85B
$\mu^+ \nu_\mu \bar{\nu}_\mu$	Sakai 89
$\bar{\nu}_\mu q \bar{q}$	Sakai 89
$\tau^+ \nu_\tau \bar{\nu}_\mu$	Sakai 89
ℓ^\pm	Rowson 85B
ℓ^-	Alexander 90 Decamp 90H Elsen 90 Adachi 89B Albrecht 89T Artuso 89 Behrend 89J Decamp 89C Franzini 89 Gilman 89 Halling 89 Itep 89 Jung 89 Behrend 88C Alam 87 Barlow 87 Wendt 87 Adeva 85 Murtagh 85B
$(K^\pm) s$	(K^\pm) $4K^0 \ell^0 \gamma (\gamma's)$
$\mu^\pm \pi^\pm$	Stoker 89
$\pi^\pm (\pi^\pm) s$	$5\pi^\pm (\pi^\pm) \ell^0 \gamma (\gamma's)$
$a_1(1280)^- \ell^0$	Stoker 89
$e^- \ell^0 \bar{\nu}_e$	Stoker 89
$e^- \nu_\mu \bar{\nu}_e$	Sakai 89
$\mu^- \ell^0 \bar{\nu}_\mu$	Sakai 89
$\mu^- \nu_\mu \bar{\nu}_\mu$	Sakai 89
$\nu_\mu q \bar{q}$	Sakai 89
$\pi^- \ell^0$	Stoker 89
$\rho^- \ell^0$	Stoker 89
$\tau^- \bar{\nu}_\tau \nu_\mu$	Sakai 89
ℓ^+	Akrawy 90I Elsen 90 Artuso 89B Kim 89G Schubert 89 Kichimi 88 Kim 88 Kim 88D Maki 88B Ouldsaada 88B Salvini 88 Unno 88 Bartel 87 Behrend 87 Behrends 87 Wu 87 Bareyre 86 Cassel 85 Cupal 85 Park 85
ℓ^-	Akrawy 90I Elsen 90 Artuso 89B Kim 89G Schubert 89 Kichimi 88 Kim 88 Kim 88D Maki 88B Ouldsaada 88B Salvini 88 Unno 88 Bartel 87 Behrend 87 Behrends 87 Wu 87 Bareyre 86 Cassel 85 Cupal 85 Park 85
ℓ^0	Alexander 90 Decamp 90H Elsen 90 Adachi 89B
$e^\pm X$	Stoker 89
$e^- X$	Wu 87
$e^- X$	Abrams 89F

Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

e^0	longlived	meson ⁰	meson ⁰
$\mu^- X$	Abrams 89F	$\pi^+ \pi^-$ Badier 85	2ϕ Bisello 90 Augustin 88C Toki 88B Toki 87 Booth 85
$\tau^- X$	Abrams 89F	Lu	$2\pi^+ 2\pi^-$ Armstrong 89E Bridges 86C Bridges 86D
\bar{e}^0	Abrams 89F Wu 87	Kozma 90 Kozma 88	$2\pi^0$ Alde 88D Schmitt 88
Li	Aivazyan 86 Aivazyan 86B Kim 86C Aggarwal 85B	majoron	2π Toki 88B
Li*	Ananiev 83		$2\rho^0$ Bisello 89 Augustin 88C Berger 88B Toki 88B Toki 87 Bridges 86D
^{10}Li	Kobayashi 89C		$4\pi^0$ Alde 87C Prokoshkin 87B
^{6}Li	Naumenko 89 Baturin 88 Kobayashi 88 Avdejchikov 86 Hallin 86 Abashidze 85 Alkhazov 85B	meson	$a_0(980)^+ \pi^-$ Ando 86 $a_0(980)^- \pi^+$ Ando 86 $a_2(1320)^+ \pi^-$ Armstrong 89E $a_2(1320)^- \pi^+$ Armstrong 89E $b_1(1235)^+ \pi^-$ Atkinson 86B $b_1(1235)^- \pi^+$ Atkinson 86B
$^{6}\text{Li}^*$	Hallin 86		$e^- e^+$ Bini 89B Bokemeyer 89 Bokemeyer 88 Elnadi 88 Kozhuharov 88 Savage 88C Bowcock 86
$^{6}\text{Li axion}$	Naumenko 89		$\eta \pi^+ \pi^-$ Toki 88B Toki 87
$^{6}\text{Li } \gamma$			$\eta \pi^0$ Boutemeur 89 Alde 88E Augustin 88C Boutemeur 88 Iddir 88
^{7}Li	Kobayashi 89C May 89B Kobayashi 88 Avdejchikov 86 Ermakov 86C Marx 86 Abashidze 85 Ruckstuhl 85B Ananiev 83	meson ⁻	$\eta' \eta$ Alde 88D Alde 86E
$^{7}\text{Li}^*$			$\eta' \pi^0$ Boutemeur 89 Toki 88B Toki 88B
$^{7}\text{Be } \pi^-$	Avramenko 87	meson ⁰	$f_2(1270)^+ \pi^-$ Armstrong 89E
^{8}Li	Kobayashi 89C Kobayashi 88 Avdejchikov 86 Abashidze 85 Batusov 85 Pniewski 85	meson ⁰	$K \bar{K}$ Toki 88B $K^*(892)^+ K^*(892)^-$ Toki 88B
^{9}Li	Kobayashi 89 Kobayashi 88	2 η	$K^*(892)^+ K^-(892)^-$ Toki 88B
$^{9}\text{Li}^*$		2 γ	$K^*(892)^+ K^-$ Aihara 88D
$^{9}\text{Li } p \pi^-$	Pniewski 85	2K _S	$K^*(892)^- K^+$ Aihara 88D
longlived	Soderstrom 90 Nakanura 89 Bernstein 88 Ahlev 86 Abramov 86B Albrecht 86 Badier 86 Abachi 85 Amaldi 85 Thron 84	2 ω	$K^*(892)^0 K^-(892)^0$ Aihara 88D Mallii 89B Toki 88B Toki 88B Baloshin 87 Toki 87 Baloshin 84
$e^+ e^- \nu_e$	Jung 89		$K^+(892)^0 K^-(892)^0 K^0$ Aston 88
$e^- e^+$	Badier 85		$K^+ K^-$ Mallii 89B Alde 90 Alde 89 Alde 88C Toki 88B Bisello 87 Toki 87
$\mu^- \mu^+$	Badier 85		K^0 Aihara 88D Stanco 88

Mn

mult[charged]

Mn	Kozma 90 Kozma 88	μ^{++}	Kamae 88 Kim 88C	muonium	Huber 88 Marshall 88 Ni 87 Beer 86	mult[charged]	Khan 89 Lund 89 Marshall 89 Mattig 89 Nagy 89 Tannenbaum 89 Wagner 89B Abdurakhimov 88B Adamus 88F Adamus 88G Aguilarbenit 88C Akesson 88D Albrecht 88 Alexopoulos 88B Allday 88 Anmar 88B Arneodo 88B Baatar 88 Baatar 88B Babintsev 88 Baily 88 Balestra 88 Batskovich 88 Batyunya 88 Batyunya 88B Bogolyubsky 88 Bogolyubsky 88E Bogolyubsky 88F Bonino 88 Boos 88B Breakstone 88B Brechtman 88B Chekulaev 88B Eckart 88 Fabbi 88 Filatov 88 Franz 88B Grigalashvil 88 Kitagaki 88 Korsgen 88 Lohner 88 Lund 88 Mekhtiev 88 Miettinen 88 Miyano 88 Otterlund 88B Perepelitsa 88 Rensberg 88 Ren 88C Ritter 88 Schukraft 88 Sedlak 88 Sengupta 88 Shivpuri 88 Tao 88 Turkot 88 Ajinenko 87 Akesson 87E Ammar 87 Baatar 87 Baatar 87B Baily 87D Balestra 87B Bannik 87 Batyunya 87 Batyunya 87B Batyunya 87I Berger 87B Bogolyubsky 87 Bogolyubsky 87C Bogolyubsky 87D Bogolyubsky 87E Boos 87B Bystricky 87 Camilieri 87 Derrick 87C Doss 87 Elmagly 87B Fredriksson 87 Gittelman 87 Jain 87C Naroska 87 Okhrimenko 87 Schmidt 87
⁵⁰ Mn	$e^+ \nu_e$	$\mu^+ \gamma$	Akrawy 90G Adachi 89D Maki 88B Shirai 88 Yamauchi 88 Behrend 86	mult[black]	Babaev 90 Adamovich 89C Ahmad 89 Ameeva 89 Andreeva 89 Abduzhamilov 88B Abduzhamilov 88C Adamovich 88D Ammar 88 Andreeva 88 Jain 88 Khan 88 Takibaev 88 Abdurazakov 87 Abduzhamilov 87 Bannik 87 Elnaghy 87B Krasnov 87 Andreeva 86 Ghosh 86 Krasnov 86 Shivpuri 86 Andreeva 85C Claesson 85 Kim 85		
⁵² Mn			Kichimi 88 Kim 88C	mult[charged]			
⁵⁴ Mn		μ^\pm					
⁵⁶ Mn		$\mu^\pm \gamma$	Decamp 90G Kim 89B Kamae 88 Kim 88C	mult[charged]			
Mo		$\mu^- \gamma$	Akrawy 90G Adachi 89D Maki 88B Shirai 88 Yamauchi 88 Behrend 86	mult[charged]			
¹⁰⁰ Mo	Kozma 90	μ^+	Bolton 88 Grosnick 86	mult[charged]			
¹⁰⁰ Ru 2e ⁻ 2 ν	Wasiliev 90 Dougherty 88	$e^+ 2\gamma$	Balke 88 Jodidio 86	mult[charged]			
¹⁰⁰ Ru 2e ⁻ 2 $\bar{\nu}_e$	Barabash 89D	$e^+ \text{ axion}$	Goldman 87	mult[charged]			
¹⁰⁰ Ru 2e ⁻ 2 $\bar{\nu}_e$	Barabash 89B	$e^+ \text{ familon}$	Goldman 87	mult[charged]			
¹⁰⁰ Ru 2e ⁻ 2 $\bar{\nu}_e$	Rosen 88	$e^+ \gamma \text{ neutral (neutrals)}$	Goldman 87	mult[charged]			
¹⁰⁰ Ru 2e ⁻ 2 $\bar{\nu}_e$	Barabash 89D	$e^+ \gamma \text{ neutral}$	Goldman 87	mult[charged]			
¹⁰⁰ Ru 2e ⁻ 2 $\bar{\nu}_e$	majoron	$e^+ \gamma$	Bolton 88	mult[charged]			
¹⁰⁰ Ru 2e ⁻ 2 $\bar{\nu}_e$	Barabash 89B	$e^+ \text{ neutral}$	Bolton 86	mult[charged]			
¹⁰⁰ Ru 2e ⁻ 2 $\bar{\nu}_e$	Alstongarnjo 89	$e^+ \nu \bar{\nu}$	Bryman 86B	mult[charged]			
¹⁰⁰ Ru 2e ⁻ 2 $\bar{\nu}_e$	Barabash 89B	$e^+ \bar{\nu}_\mu \nu_e$	Eichler 86	mult[charged]			
¹⁰⁰ Ru 2e ⁻ 2 $\bar{\nu}_e$	Klimenko 89		Bossingham 89	mult[charged]			
¹⁰⁰ Ru 2e ⁻ 2 $\bar{\nu}_e$	Dougherty 88		Balke 88	mult[charged]			
¹⁰⁰ Ru 2e ⁻ 2 $\bar{\nu}_e$	Krivicich 88		Bolton 88	mult[charged]			
¹⁰⁰ Ru 2e ⁻ 2 $\bar{\nu}_e$	Rosen 88		Boltrami 87	mult[charged]			
¹⁰⁰ Ru* 2e ⁻ 2 $\bar{\nu}_e$	Barabash 89D		Boltrami 87B	mult[charged]			
¹⁰⁰ Ru* 2e ⁻ 2 $\bar{\nu}_e$	Barabash 89D		Bryman 86B	mult[charged]			
⁹⁰ Mo	Butsev 85		Jodidio 86	mult[charged]			
⁹⁰ Mo*	Butsev 85		Andreev 85	mult[charged]			
⁹³ Mo*	Butsev 85		Burkhardt 85B	mult[charged]			
⁹⁴ Mo	Barabash 88	$e^+ X$	Burkhardt 85C	mult[charged]			
⁹⁶ Mo	Barabash 88	$e^- 2e^+ \bar{\nu}_\mu \nu_e$	Stoker 85	mult[charged]			
^{monopole}	Barabash 88	$e^- 2e^+ \bar{\nu}_\mu \nu_e$	Bellgardt 88	muonium	Janissen 89		
	Norman 87		Bertl 85	muonium	Huber 88		
	Barabash 89B			muonium	Marshall 88		
	Barabash 88			muonium	Ni 87		
	Norman 87			muonium	Beer 86		
μ^{++}							
	Decamp 90G						
	Kim 89B						

Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

mult[charged]

mult[jet]

mult[charged]	mult[charged ⁺]	mult[γ]	mult[hadron]
Stopa 87 Abe 86 Aguilarbenit 86C Ahn 86 Albrecht 86D Aleksan 86 Ainer 86C Atmarr 86B Appel 86 Arneodo 86E Arnison 86D Babintsev 86 Bajramov 86 Baldin 86 Balestra 86B Banerjee 86B Batyunya 86B Bell 86 Bell 86B Boos 86 Brick 86 Bumazhnikov 86 Dengler 86C Derrick 86 Derrick 86C Gomez 86 Holl 86 Kozlovsky 86 Kuhlen 86B Kutsidi 86 Naudet 86 Piragino 86B Sugano 86 Ukhanov 86 Ward 86B Adeva 85 Adeva 85C Aggarwal 85 Aggarwal 85B Aguilarbenit 85F Ahmad 85B Ajinenko 85 Akesson 85E Aleet 85 Allasia 85B Ainer 85 Ainer 85C Ainer 85D Althoff 85B Althoff 85C Ameev 85 Appel 85B Aston 85B Atkinson 85E Badier 85 Balestra 85 Banerjee 85 Banerjee 85B Batusov 85C Batyuna 85 Batyuna 85D Bernard 85 Boldea 85 Breakstone 85E Cerradini 85 Chakrabarti 85 Chapin 85 Dobrotin 85 Enyo 85 Enriquez 85 Feldman 85 Gan 85 Grishin 85C Hallinan 85 Jones 85 Sakuda 85 Savonayavarro 85 Venkataraman 85B Asai 84 Georgioupolou 84 Gritsaenko 84	Ajinenko 89 Bekmirzaev 89C Boos 88 Armutlijsky 87B	Chiba 89 Kawamura 89 Riles 89 Abdurakhimov 88B Chiba 88 Gladyszdiad 88 Gulkanyan 88C Navia 88 Ren 88 Ren 88B Ren 88C Riles 88 Abbott 87 Gulkanyan 87C Skwarnicki 87C Tannenbaum 87 Ainer 86C Ukhanov 86B Ward 86B Azimov 85B Blinov 85E Borisov 85 Borisov 85B Borisov 85C Burnett 85 Burnett 85D Chakrabarti 85 Dobrotin 85 Istmatova 85	Kim 88 Kim 88D Navia 88 Ren 88B Arneodo 87 Baldin 87 Behrend 87 Arneodo 86E Baily 86B Baldin 86B Grassler 86 Juric 86 Bazarov 85B Borisov 85B Yamamoto 85E
mult[charged ⁻]	Ajinenko 90B Agakishiev 89C Ajinienko 89 Alimov 89B Anikina 89 Bartke 89 Brick 89 Abe 88 Bekmirzaev 88C Boos 88 Grigalashvil 88 Armutlijsky 87B Baily 87D Fredriksson 87 Anikina 86D Dengler 86C	Genser 89 Jongejans 89 Saha 89 Shaw 89 Wittek 88 Rouse 87 Althoff 86B Antreasyan 86B Derrick 86C Althoff 85C Arneodo 85 Blinov 85E Rowson 85B	mult[hadron ⁺] Ukhanov 86B Ward 86B Azimov 85B Blinov 85E Borisov 85 Borisov 85B Borisov 85C Burnett 85 Burnett 85D Chakrabarti 85 Dobrotin 85 Istmatova 85
mult[charged-hadron]	Atwater 87	mult[grey]	mult[He]
mult[charged-meson]	Bannik 87B	Ahmad 90 Ajinenko 90B Artukov 90 Babaev 90 Brick 90 Gill 90 Tariq 90 Abduzhamilov 89 Adamovich 89C Adamovich 89D Ahmad 89 Ajinenko 89 Alimov 89B Ameeva 89 Andreeva 89 Bajramov 89 Brick 89 Lhote 89 Abduzhamilov 88B Abduzhamilov 88C Abe 88 Ammar 88 Andreeva 88 Boos 88 Khan 88 Abdurazakova 87 Abduzhamilov 87 Ammosov 87C Baily 87D Bannik 87 Bannik 87B Elnoughy 87B Fredriksson 87 Gulkanyan 87B Andreeva 86 Biswas 86 Boos 86C Ghosh 86 Holynski 86B Juric 86 Krasnov 86 Shivpuri 86 Andreeva 85C Boldea 85	Khan 89 Sengupta 89 Sengupta 89B Andreeva 88B Cai 87 Aggarwal 85B
mult[deuteron]	Inoue 85 Inoue 85B	Bougault 90 Anikina 89 Guaraldo 89B Doss 88 Strugalski 88 Burnett 85D Hufner 85 Waddington 85	mult[htrack]
mult[e ⁺]	Inoue 85 Inoue 85B	Babaev 90 Gill 90 Glagolev 89 Roman 89 Andreeva 88C Rameillo 88 Bannik 87 Gulkanyan 87C Anikina 85 Boldea 85	Antonchik 90 Gill 90 Takibaev 90 Abduzhamilov 89 Ahmad 89 Ameeva 89 Sengupta 89 Abduzhamilov 88C Adamovich 88B Adamovich 88D Andreeva 88B Atageldieva 88 Dubinina 88 Khan 88 Krasnov 88 Otterlund 88 Ramello 88 Singh 88B Takibaev 88 Tretyakova 88 Vokal 88 Abdurazakova 87 Fredriksson 87 Jain 87B Shivpuri 87B Boos 86C Jain 86
mult[e ⁻]	Inoue 85 Inoue 85B	Bougault 90 Anikina 89 Guaraldo 89B Doss 88 Strugalski 88 Burnett 85D Hufner 85 Waddington 85	mult[jet]
mult[η]	Abachi 88B	Babaev 90 Gill 90 Glagolev 89 Roman 89 Andreeva 88C Rameillo 88 Bannik 87 Gulkanyan 87C Anikina 85 Boldea 85	Abe 90 Abe 90C Watts 90 Abachi 89C Albabaj 89B Braunschweig 89H Breakstone 89 Feldman 89B Geer 89 Kamon 89 Sinervo 89 Stubenrauch 89 Adachi 88B Dzhaozhvili 88 Maki 88 Tao 88 Albabaj 87D Behrend 87 Summers 87 Baldin 86 Stubenrauch 86 Arnison 85B Atrashkevich 85
mult[frag]		Bhattacharje 89B Lund 89 Odyniec 89 Pitzl 89 Tannenbaum 89 Albabaj 88E Dzhaozhvili 88 Gladyszdiad 88	
mult[fragb]			
mult[fragt]	Akimienko 89 Grabec 88 Rabin 88 Bannik 87 Berdnikov 86 Anikina 85		

mult[jet]

mult[jet]	mult[p]	mult[π]	n
Levi 85 Savoyanavarro 85 Vuillemin 85 Yamamoto 85E	Miller 87B Tothacker 87 Abdinov 86 Doss 86 Pavlyak 86B Strugalski 86 Strugalski 86B Aggarwal 85C Ammosov 85C Azimov 85D Azimov 85E Istmatova 85B Machner 85 Strugalski 85 Strugalski 85B Vorobiev 85	Avery 85 Stringalski 85B	$\eta \bar{\nu}_e$ Krishna-wamy 86
mult[K$^+$]	Nagy 89	mult[shower]	$K^*(892)^0 \nu$ Park 85B
mult[K$^\pm$]	Alexopoulos 90 Pelzer 89		$K^*(892)^0 \bar{\nu}$ Berger 89 Hirata 89B Barloutaud 88 Bourdarios 88 Barloutaud 87
mult[K$^-$]			$K^*(892)^0 \nu$ Haines 86 $K^+ e^-$ Phillips 89
mult[K0]	Nagy 89		$K^+ \mu^-$ Phillips 89
	Nagy 89		$K^0 \nu$ Haines 86 $K^0 \bar{\nu}$ Park 85B
mult[kaon]	Barlag 89B	Alexopoulos 90	$K_S \bar{\nu}$ Hirata 89B Totoku 89B Barloutaud 88 Hirata 88D Barloutaud 87
mult[K$_S$]	Pelzer 89		meson ℓ Berger 89 $\mu^- \mu^+ \nu$ Bourdarios 88
mult[Λ]	Nagy 89 Pelzer 89		π^- Park 85 π^- Phillips 89 Haines 86 Park 85B
mult[$\bar{\Lambda}$]	Nagy 89 Pelzer 89		
mult[lepton]	Kim 88		
mult[meson]	Park 85B		
mult[μ]	Vashkevich 88 Berger 86C Szabelski 86 Bologna 85 Castellina 85	Alexopoulos 90 Alinov 89 Guaraldo 89B Guaraldo 89B Sedlik 88 Abdinov 87 Tothacker 87 Armutlijsky 87D Asaturyan 86 Albrecht 85D Bowcock 85	$\mu^- \mu^+ \nu$ Berger 89 Hirata 89B Barloutaud 88 Hirata 88D Barloutaud 87
mult[n]		mult[π^\pm]	π^- Berger 89C Bitter 89 Bressi 89 Nakamura 88 Krishnaswamy 86 Takita 86 Fidecaro 85 Park 85B
	Strugalski 88 Voronko 88 Dombsky 85	Alexopoulos 90 Alinov 89 Guaraldo 89B Guaraldo 89B Sedlik 88 Abdinov 87 Tothacker 87 Armutlijsky 87D Asaturyan 86 Breakstone 86C Hallman 85 Vuillemin 85	π^- Haines 86 Park 85B
	Tannenbaum 89 Sedlik 88 Arnold 87B Aggarwal 85B Angelis 85	mult[π^-]	$\omega \nu$ Seidel 88 $\omega \bar{\nu}$ Haines 86 Park 85B
mult[p]	Andreev 90B Agakishiev 89 Ammar 89 Bannikov 89 Degtyarenko 89 Guaraldo 89B Guy 89 Matsinos 89 Baatar 88 Baldin 88C Derado 88 Gulkanyan 88D Gustafsson 88 Okonov 88 Pluta 88 Strugalski 88 Strugalski 88C Abdinov 87 Agakishiev 87 Amelin 87 Armutlijsky 87C Bannikov 87B Boos 87 Fredriksson 87 Ghosh 87	Andreev 90B Baatar 90B Agakishiev 89 Agakishiev 89C Ailey 89 Anikina 89 Glagoyle 89 Gulkanyan 89 Batskovich 88 Gulkanyan 88C Okonov 88 Wittekk 88 Amelin 87 Gulkanyan 87C Asaturyan 86 Albrecht 85D Anikina 85 Azmakov 85E Bowcock 85 Istmatova 85B	$\omega \nu$ Berger 89 Hirata 89B Barloutaud 88 Bourdarios 88 Barloutaud 87
		mult[π^0]	$p e^- \bar{\nu}_e$ Mampe 89 Paul 89 Simpson 89 Simpson 89B Alfimenkov 88 Belomytsev 88 Klemt 88 Last 88 Spivak 88 Simpson 85
			$\pi^+ e^-$ Seidel 88 Haines 86 Park 85B
		mult[π]	$\pi^+ \mu^-$ Phillips 89 Seidel 88 Battistoni 86 Haines 86 Park 85B
			$\pi^- e^+$ Hirata 89B Totoku 89B Barloutaud 88 Bourdarios 88 Seidel 88 Barloutaud 87 Haines 86
			$\eta \bar{\nu}$

Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

n

n	$N(1700B)^+$	^{24}Na	neutral		
$\pi^- \mu^+$	Park 85B Hirata 89B Barloutaud 88 Bourdarios 88 Seidel 88 Barloutaud 87 Battistoni 86 Haines 86 Park 85B	$\Delta(1232P_{33})^{++} \pi^0 \pi^-$ $N(2100B)^+$ $\Delta(1232P_{33})^{++} \rho^-$ $n(\text{spect})$ Sedlak 88 Vapenikova 88 Ball 87 Bridges 86B Kitagaki 86 Mann 86 Sal 86 $p \omega$ Batyunya 86D	Amroyan 89 Kozma 89 Kozma 88B Aleklekt 87 Damdinsuren 87 Dropeksy 86 Kozma 86 Butsev 85 Dersch 85 Hufner 85 Michel 85		
$\pi^0 \nu$	Haines 86 Park 85B		Kozma 90 Kozma 88		
$\pi^0 \bar{\nu}$	Berger 89 Hirata 89B Totsuka 89B Barloutaud 88 Bourdarios 88 Barloutaud 87		Butsev 85 Hufner 85		
$\rho^+ e^-$	Seidel 88 Haines 86 Park 85B	$N^*(\text{unspec})^+$ $N_{5/2}^*(1380)^{++}$ $\Delta(1232P_{33})^{++} \pi^+$ $p 2\pi^+$ $N_{5/2}^*(1390)^{++}$ $Arefiev 87$ $N_{5/2}^*(1480)^{++}$ $Arefiev 90B$ $p 2\pi^+$ $N_{5/2}^*(1650)^{++}$ $Arefiev 87$ $\Delta(1232P_{33})^{++} \pi^+$ $p 2\pi^+$ $N_{5/2}^*(1760)^{++}$ $\Delta(1232P_{33})^{++} \pi^+$ $p 2\pi^+$ $N(1440B)^+$ Azhgirej 88	\bar{n} Berger 89C Boos 89 Kanazirski 89 Kopke 89 Castro 88 Nakamura 88 Burow 87 Fredriksson 87 Henrard 87 Kageyama 87 Batyunya 86 Bruckner 86 Cresti 86 Krishnaswamy 86 Fidecaro 85 Nakamura 85B Park 85B Tsukerman 85 Cardello 84 $\bar{NN}(I=0)$ Arefiev 87 $NN(I=1)$ Arefiev 86 $N(1440B)^0$ Alimov 88 $N(1440P_{11})$ Amelin 87 $N(1440P_{11})^+$ $p \pi^+ \pi^-$ Amelin 87 $N(1440P_{11})^0$ $p \pi^-$ Amelin 87 $N(1520B)^+$ Azhgirej 88 Batyunya 87F $N(1880F_{15})^+$ Azhgirej 88 $N(1880F_{15})^0$ Zhokin 89 $N(1700B)^+$ Batyunya 87F	^{90}Nb $^{92}\text{Nb}^*$ \bar{n} Berger 89C Boos 89 Kanazirski 89 Kopke 89 Castro 88 Nakamura 88 Burow 87 Fredriksson 87 Henrard 87 Kageyama 87 Batyunya 86 Bruckner 86 Cresti 86 Krishnaswamy 86 Fidecaro 85 Nakamura 85B Park 85B Tsukerman 85 Cardello 84 $\bar{NN}(I=0)$ Arefiev 87 $NN(I=1)$ Arefiev 86 ^{160}Nd $^{160}\text{Sm } 2e^-$ $^{160}\text{Sm } 2e^-$ $^{160}\text{Sm } 2e^-$ Ne Baroni 90 Aderholz 89 Marage 89 Ammosov 88C Avdechikov 87 Avdechikov 87B Avdechikov 87C Avdechikov 87E Avdechikov 87F Avdechikov 87G Avdechikov 87I Marage 87 Sangster 87 Ammosov 86C Ballagh 86 Baltay 86 Marage 86 ^{18}Ne $^{2\gamma}$ ^{24}Na Kozma 90B	2hadron (hadrons) Odaka 89 charged+ charged- (neutrals) Burchat 90 $e^- e^+$ Asanuma 90 Aulchenko 86 Blinov 86B Eichler 86 Mageras 86 Savage 86B neutralino Akrawy 90M Barklow 90 Decamp 90D neutral Kozma 88B Kozma 86 ^{57}Ni Kozma 88B Kozma 86 ^{58}Ni Bonin 86 ^{65}Ni Arakelyan 90 Wagner 85 Nit Avdechikov 87 Avdechikov 87B Avdechikov 87C Avdechikov 87E Avdechikov 87F Avdechikov 87G Avdechikov 87H Avdechikov 87I Sangster 87 Aggarwal 85B Alkhazov 85B Nit* $^{14}\text{Nit } e^- e^+$ Savage 86B $^{14}\text{Nit neutral}$ Savage 86B $^{15}\text{Nit } \gamma$ Seestrommorr 85 ^{13}Nit Goodman 85 ^{14}Nit Hardy 89 Savage 88C Hallin 86 Savage 86B Wharton 85 $^{14}\text{Nit}^*$ $^{14}\text{Nit axion}$ Hallin 86 $^{14}\text{Nit } e^- e^+$ Savage 88C $^{14}\text{Nit meson}^0$ Savage 88C ^{15}Nit Baroni 90 Ramello 88 Ardito 87 Redwine 86 Seestrommorr 85 Turley 85 ^{16}Nit Hasinoff 89 Hasinoff 88

$NN(2900)^1 H_6^{++}$

$NN(2900)^1 H_6^{++}$	nucleus	ν_μ	^{16}O
2p			Alkhazov 85B Glover 85B Lichtenstadt 85
Chuvilo 86			
deuteron π^+			
Chuvilo 86			
$NN(2900)^1 H_6^0$			$^{16}\text{O}^*$
deuteron π^-			^{16}O $e^- e^+$ Bini 89B Savage 88C
Chuvilo 86			^{16}O meson 0 Bini 89B Savage 88C
^{237}Np			^{18}O
Inzhechik 90			Lichtenstadt 85
Melnikov 89			
$^{237}\text{Np}^*$			odd-charged
$^{237}\text{Np } \gamma$			Tenner 88
Inzhechik 90			
Melnikov 89			
$N\phi(1950)$			$\Omega(2250)^-$
$\Delta(1232 P_{33})^+ \pi^-$			$\Xi(1530 P_{13})^0 K^-$ Aston 89
Amaglobeli 87			
$\Lambda K^+ \pi^-$			$\Omega(2470)^-$
Amaglobeli 87			$\Omega^- \pi^+ \pi^-$ Aston 89
ΛK^0			ω
Amaglobeli 87			Anjos 90 Hamann 90 Chiba 89 Kopke 89 Landsberg 89 Lockman 89 Miller 89 Nagy 89 Schindler 89 Takamatsu 89 Adie 88 Albrecht 88L Barish 88 Barloutaud 88 Bourdarios 88 Chiba 88 Coffman 88 Diekmann 88 Hitlin 88 Levy 88 Mir 88 Tok 88B Albrecht 87I Aldo 87B Barloutaud 87 Becker 87C Benayoun 87 Berger 87B Chiba 87B Fredriksson 87 Schindler 87 Atkinson 86 Avvakumov 86B Baltrusaitis 86 Bitukov 86B Haines 86 Stockhausen 86 Augustin 85C Augustin 85D Augustin 85E Baltrusaitis 85F Barkov 85 Berger 85D Blewitt 85 Coward 85 Dainton 85 Jeanmarie 85 Kolanoski 85 Park 85B Rosner 85E Schindler 85 Achasov 84F
$p K^0 K^-$			
Amaglobeli 87			
$\Sigma(1385 P_{13})^- K^+$			
Aleev 85B			
ν			
$e^- e^+ \nu$			
Oberauer 87			
$K^+ e^- X$			
Akerlof 88			
$\ell^- X$			
Wendt 87			
$\mu^+ e^- X$			
Akerlof 88			
$\nu \gamma$			
Chupp 89			
Kolb 89			
Vonfelitzsc 88			
Oberauer 87			
$\pi^+ e^- X$			
Akerlof 88			
ν^*			
$\nu \gamma$			
Decamp 90I			
$\bar{\nu}^*$			
Decamp 90I			
$\bar{\nu}$			
$K^- e^+ X$			
Akerlof 88			
$\mu^+ X$			
Berger 86B			
$\mu^- e^+ X$			
Akerlof 88			
$\pi^- e^+ X$			
Akerlof 88			
nucleon			
X			
Nakamura 88			
nucleus			
Baroni 90			
Geiregat 90			
Akchurin 89			
Davier 89			
Efendiev 89			
Gulkanyan 89			
Joyer 89			
Nagy 89			
Romano 89			
Baskov 88			
Cawata 88			
Dubovsky 88			
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Prokoshkin 87C			
Antipov 86D			
Grabsch 86			
Landsberg 86			
Petersen 86			
Reiner 86			
Berdnikov 85			
Bergsma 85B			
Bystricky 85			
Grace 85			
Michel 85			
Mordechai 85			
Smirnov 85			
Vorobiev 84C			
nucleus $2e^-$	$2\nu_e$		
Kirpichnikov 89			
Rosen 88			
Totsuka 88			
nucleus $2e^-$	ν_e	ν_μ	
Kirpichnikov 89			
Rosen 88			
Totsuka 88			
ν_e			
$0\nu_e$			
Totsuka 88			
ν			
Zacek 86			
$\bar{\nu}_e$			
Zdesenko 85			
ν_μ			
Raffelt 90			
Schaeffer 90			
Longuemare 89			
Suzuki 89			
Takita 89B			
Afonin 88B			
Ammosov 88D			
Anada 88			
Totsuka 88			
Cribier 87			
Ahrens 85B			
Blumer 85			
$\bar{\nu}_\mu$			
Lim 90			
ν_τ			
Talebzadeh 87			
$\bar{\nu}_\tau$			
Talebzadeh 87			
$\bar{\nu}_\mu$			
Longuemare 89			
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$\bar{\nu}$			
Bouchez 88			
ν_e			
Vidyakin 87			
Afonin 86			
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Zacek 85			
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Bergsma 88			
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Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

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Dolinsky 89B Aulchenko 86B	Apokin 86C Apokin 86D Aulchenko 86B Dolinsky 86 Landsberg 86	Bourdarios 88 Seidel 88 Barloutaud 87 Haines 86 Blewitt 85 Park 85B	Phillips 89
$\eta \gamma$	Dolinsky 89 Dolinsky 88B Aulchenko 86B Landsberg 86	$\eta \mu^+$	Hirata 89B Barloutaud 88 Seidel 88 Barloutaud 87 Haines 86 Blewitt 85 Park 85B
$\mu^- \mu^+$	Abreu 89 Albajar 88C	Bannikov 89B Prokoshkin 87C Landsberg 86 Landsberg 85	Hirata 89B Phillips 89 Barloutaud 88 Seidel 88 Barloutaud 87 Haines 86 Blewitt 85 Park 85B
$\pi^+ 2\pi^0 \pi^-$	Kurdadze 86	$\Omega^-(unspec)^-$	Hirata 89B Phillips 89 Barloutaud 88 Seidel 88 Barloutaud 87 Haines 86 Blewitt 85 Park 85B
$\pi^+ \pi^- \gamma$	Bitukov 87	$\Omega^- \pi^+ \pi^-$	Hirata 89B Phillips 89 Barloutaud 88 Seidel 88 Barloutaud 87 Haines 86 Blewitt 85 Park 85B
$\pi^+ \pi^-$	Banerjee 86C	$\Xi(1530 P_{13})^0 K^-$	Hirata 89B Phillips 89 Barloutaud 88 Seidel 88 Barloutaud 87 Haines 86 Blewitt 85 Park 85B
$\pi^+ \pi^0 \pi^-$	Albrecht 90E Agababyan 89 Anjos 89B Aston 89B Barkov 89 Berger 89 Busenitz 89 Dolinsky 89B Mailik 89B Phillips 89 Wittek 89 Ajaltouni 88B Albrecht 88P Albrecht 88S Aston 88G Augustin 88B Augustin 88C Batyunya 88B Bray 88 Falvard 88 Gan 88 Jouset 88 Landsberg 88 Sedlak 88 Seidel 88 Vasserman 88 Adamus 87B Adamus 87E Albrecht 87J Albrecht 87K Aleshin 87C Aleshin 87D Aulchenko 87 Aulchenko 87C Baringer 87 Barkov 87 Barkov 87C Batyunya 87E Bisello 87 Ferguson 87 Kolanoski 87 Lamm 87 Toki 87 Aleshin 86B Arneodo 86D Atkinson 86B Aulchenko 86B Aulchenko 86C Batyunya 86D Atkinson 85 Baltrusaitis 85G Chakrabarti 85	Aston 88E Astrom 87 Bannikov 89B Blewti 85 Biagi 86B ΛK^- Aston 89 Albrecht 88I Astrom 88E Klein 89C Luth 87 Biagi 85 $\Xi^- K^- 2\pi^+$ Klein 89C Luth 87 Biagi 85 $\omega_8(1670)$ $b_1(1235)^+ \pi^-$ $b_1(1235)^- \pi^+$ $\bar{\Lambda} +$ $\bar{\Lambda} K^+$ Marshall 89 Albrecht 88I Klein 88 Klein 87B Hartouni 85 p $2\pi^+ \mu^-$ 3ℓ $e^+ \gamma$ $e^- 2e^+$ ηe^+	Hirata 89B Phillips 89 Barloutaud 88 Bourdarios 88 Seidel 88 Barloutaud 87 Haines 86 Blewitt 85 Park 85B Hirata 89B Totsuka 89B Tototsuka 89B Barloutaud 88 Bourdarios 88 Hirata 88D Barloutaud 87 Krishnaswamy 86 Hirata 89B Barloutaud 88 Bourdarios 88 Seidel 88 Barloutaud 87 Haines 86 Blewitt 85 Park 85B Hirata 89B Tototsuka 89B Barloutaud 88 Bourdarios 88 Seidel 88 Barloutaud 87 Haines 86 Blewitt 85 Park 85B Hirata 89B Tototsuka 89B Barloutaud 88 Bourdarios 88 Seidel 88 Barloutaud 87 Haines 86 Blewitt 85 Park 85B Hirata 89B Phillips 89 Krishnaswamy 86 Hirata 89B Barloutaud 88 Bourdarios 88 Seidel 88 Barloutaud 87 Haines 86 Blewitt 85 Park 85B Hirata 89B Phillips 89 Krishnaswamy 86 Hirata 89B Barloutaud 88 Bourdarios 88 Seidel 88 Barloutaud 87 Haines 86 Blewitt 85 Park 85B Hirata 89B Phillips 89 Barloutaud 88 Bourdarios 88 Seidel 88 Barloutaud 87 Haines 86 Blewitt 85 Park 85B
$\pi^0 e^- e^+$	Dolinsky 89 Dolinsky 88 Aulchenko 87C Aulchenko 86C	Phillips 89 Park 85 Seidel 88 Haines 86 Blewitt 85 Park 85B	Phillips 89 Barloutaud 88 Bourdarios 88 Seidel 88 Barloutaud 87 Haines 86 Blewitt 85 Park 85B
$\pi^0 \gamma$	Alde 90 Alde 89 Berger 89 Dolinsky 89 Dolinsky 89B Hirata 89B Alde 88C Alde 86D	Barloutaud 88 Bourdarios 88 Barloutaud 87 Haines 86 Blewitt 85 Park 85B Hirata 89B Barloutaud 88	Phillips 89 Barloutaud 88 Bourdarios 88 Seidel 88 Barloutaud 87 Haines 86 Blewitt 85 Park 85B

Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

$\phi(1680)$

$\phi(1680)$
$K^*(892)^0 K^- \pi^+$
Atkinson 85F
$K^*(892)^0 K^+ \pi^-$
Atkinson 85F
$K^+ K^-$
Atkinson 85D

 $\phi_5(1850)$

Aston 88D
Aston 88I
Aston 88J
Aston 86B
$K^+ K_S \pi^-$
Aston 88D
Aston 88I
Aston 88J
$K_S K^- \pi^+$
Aston 88D
Aston 88I
Aston 88J

photino

Akesson 90B
Sakai 90
Adachi 89
Adachi 89B
Albajar 89B
Alliti 89
Decamp 89D
Sakai 89
Steele 89
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Gan 88
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Leclaire 87
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Ford 86
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Bartel 85F
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 γ goldstino

Abe 89F
Bartel 85C
γ higgsino
Abe 89F
Ansari 87D
γ sparticle
Behrend 87

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Korenchenko 87
$e^+ \nu_e \gamma$
Numao 89
Bay 86
Bryman 86
Piilonen 86
$e^+ \nu_e$ higgs
Egli 89
$e^+ \nu_e$ majoron
Britton 88
$e^+ \nu_e$ neutral
Britton 88
$e^+ \nu_e \nu \bar{\nu}$
Britton 88
$e^+ \nu_e \nu$
Picciotto 88
$e^+ \nu_e$
Numao 89
Bernardi 88
Picciotto 88
Azuelos 86
Bryman 86
Bryman 86B

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Bernardi 85
Britton 88
Egli 89
Egli 86
μ^+ heavy- ν_μ
Daum 87
$\mu^+ \nu_\mu \gamma$
Bryman 86
$\mu^+ \nu_\mu$
Numao 89
Bernardi 88
Britton 88
Daum 87
Bryman 86
Bryman 86B
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Andreev 85
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$\pi^0 e^+ \nu_e$
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McFarlane 85

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Pare 90
Abraamyan 89
Adler 89E
Alde 89
Amaglobeli 89
Apokin 89
B. nnikov 8+13
Boujemour 89
Busemann 8+
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Dolinsky 89B
Glavanakov 89
Abraamyan 88
Adels 88
Ajaltouni 8-
Alde 88B
Alde 88C
Alde 88E
Augustin 88C
Batusov 88
Bienlein 88
Bonner 88B
Boutemeur 8
Dolinsky 88B
Fujisaki 88
Gidal 88C
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Williams 88
Adler 87B
Alde 87C
Antreasyan 87
Asratyan 87.3
Aulchenko 87B
Banaigs 87
Berger 87B
Demarzo 87B
Glavanakov 87
Okrimenko 87
Alde 86B
Alde 86D
Althoff 86
Apokin 86B
Apokin 86C
Apokin 86D
Auge 86
Ballagh 86
Glavanakov 86
Landsberg 86
Ukhano 86B
Apel 85
Apel 85B
Atherton 85
Baranov 85
Chakrabarti 85
Landsberg

 π^0

Tsukerman 85
Aihara 84F
Borisov 84
3γ
McDonough 88
4γ
McDonough 88
Bo lotov 86
$e^- e^+ \gamma$
Abachi 89B
Landsberg 86
Landsberg 85
$e^- e^+$
Littenberg 89
Niebuhr 89
Hsiung 88
Landsberg 86
Landsberg 85
$\mu^+ e^-$
Littenberg 89
Campagnari 88
$\nu \bar{\nu}$
Littenberg 89
$\nu_e \bar{\nu}_e$
Hoffman 88
$\nu_\mu \bar{\nu}_\mu$
Hoffman 88
Dorenbosch 87
$\nu_\tau \bar{\nu}_\tau$
Hoffman 88
positronium γ
Afanasyev 90
Afanasyev 90B

 $\pi_2(1670)^-$ $\pi_2(1670)^0$ $\pi_2(1670)^+$ $\pi_2($

$\psi(2S)$

$\pi^+ \pi^0 \pi^-$	Mir 89 Toki 89
$\rho \pi$	Mir 89
$\rho^+ \pi^-$	Toki 89
$\pi^- \pi^+$	Toki 89
$\rho^0 \pi^0$	Toki 89

$\psi(3770)$	Alexander 90
$2\pi^0 \gamma$	Augustin 85E

 $\chi_{c0}(1P) \gamma$ $\chi_{c1}(1P) \gamma$ $\chi_{c2}(1P) \gamma$ $D^+ D^-$ $D^0 \bar{D}^0$ Pt $\psi(4115)$ Pt $\psi(4415)$ Pt $\psi(4415)$ Pt Pt

ρ^+ ρ^- ρ^0 ρ^0 ρ^0

Antipov 89
Bannikov 89B
Albajar 88C
Antipov 88
Antipov 88B
Antipov 88C

Dolinsky 89B
Aulchenko 87C
Kurdadze 86
Dolinsky 89
Vasserman 87B
Aulchenko 86B

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Albrecht 90E
Arefeev 90B
Bitukov 90
Abachi 89D
Adler 89D
Adler 89E
Agababyan 89
Aguilarbenit 89
Ajimenko 89B
Armstrong 89C
Armstrong 89E
Berger 89
Bitukov 89
Breakstone 89
Chen 89C
Coffman 89
Dieter 89
Joyner 89
Mallik 89B
Nakai 89
Phillips 89
Schubert 89
Toki 89
Wittek 89
Wormser 89B
Adler 88D
Aihara 88
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Lowe 86C
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Chen 85
Heppelman 85
Atkinson 84F

$\omega \pi^0$
 $\pi^+ 2\pi^0 \pi^-$
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 $\pi^+ \pi^-$

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Albrecht 90E
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Adler 89E
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Aguilarbenit 89
Ajimenko 89B
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 $a_2(1320)^-$ π^+

Atkinson 85C

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Ru

Kozma 90

 ^{100}Ru

Wasiliev 90

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Barabash 89D

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 ^{103}Ru

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 ^{28}S

Mordechai 85

 $^{28}\text{S}^*$

Mordechai 85

 ^{32}S

Schaller 85

 ^{34}S

Hardy 89

Schaller 85

 ^{36}S $e^- \bar{\nu}_e$

Altzizoglow 85

 ^{38}S

Apalikov 85

Simpson 89

 ^{39}S

Schaller 85

 Sb

Kozma 90

Kozma 88

 ^{116}Sb

Arakelyan 90

 ^{118}Sb

Arakelyan 90

 ^{120}Sb

Arakelyan 90

 ^{122}Sb

Arakelyan 90

 ^{124}Sb

Arakelyan 90

 Sc

Kozma 90

Kozma 88

 ^{42}Sc $e^+ \nu_e$

Hardy 89

 ^{43}Sc

Kozma 88B

Kozma 86

 ^{44}Sc

Kozma 88B

Alekklett 87

Kozma 86

Hufner 85

 ^{46}Sc

Kozma 88B

Alekklett 87

Kozma 86

Hufner 85

Michel 85

 ^{47}Sc

Kozma 88B

Kozma 86

Michel 85

 ^{48}Sc

Kozma 88B

Alekklett 87

Kozma 86

Anderson 85B

 Se

Kozma 90

Kozma 88

 Se^*

Morales 88

 ^{78}Se

Butsev 85

 ^{76}Se

Barabash 89B

Fisher 89

Vasenkov 89

Caldwell 88

Nakamura 88

Rosen 88

Vasenkov 88

Avignone 87

Caldwell 87

Fisher 87

Avignone 86B

Bellotti 86

Caldwell 86

Avignone 85

 ^{76}Se

Caldwell 85

Zdesenko 85

 ^{82}Se

Barabash 89B

Nakamura 88

Rosen 88

Elliott 87

Elliott 87B

 $^{82}\text{Kr} 2e^-$

Barabash 89B

Caldwell 88

Nakamura 88

Elliott 87

 $^{82}\text{Kr} 2e^-$

Barabash 89B

Nakamura 88

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Marti 85

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Kim 85

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Muraki 84

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Ammosov 87C

shower-

Ammosov 87C

Si

Si	$\Sigma(1660 P_{13})^+$ $\Lambda(1405 S_{01}) \pi^+$ $\Sigma(3170 B)^+$ $\pi^- X$	$\Sigma_c(2455)++$ $\Sigma_c(2455)^0$ $\Lambda_c^+ \pi^-$	$\bar{\Sigma}(1385 P_{13})^-$ $\bar{\Lambda} \pi^-$ $\bar{\Sigma}(1385 P_{13})^0$ $\bar{\Sigma}^+$ $\bar{\Sigma}^-$ $\bar{\Sigma}_c(2455) --$ $\bar{\Lambda}_c^- \pi^-$ $\bar{\Sigma}_c(2455)^0$ $\bar{\Lambda}_c^- \pi^+$
24Si	Baroni 90 Adeishvili 87 Avdeichikov 87C Rich 87 Vegni 86 Zajmidoroga 85	Hemingway 84 Aston 85	Jones 87B
24Si*	Mordechai 85	Σ^+	Aleev 89B Anjos 89 Bowcock 89 Klein 89C Albrecht 88H Klein 88 Batusov 87B Coteus 87 Cumalat 87B Jones 87B Voyvodic 86B
28Si	Mordechai 85	Dalitz 90 Barlag 89 Klein 89C Kopke 89 Marshall 89 Baller 88 Barlag 88C Candlin 88 Haba 88 Okusawa 88 Batusov 87B Bogolyubsky 87E Drutskoy 87 Forino 87 Bitsadze 86B Karnaukhov 86 Bitsadze 85B Hemingway 84 Koiso 84 Voyvodic 86B Cardello 84	Klein 89C Batusov 87B Bogolyubsky 87E Drutskoy 87B Forino 87 Bitsadze 86B Karnaukhov 86 Bitsadze 85B Hemingway 84 Koiso 84 Voyvodic 86B Cardello 84
30Si	Beltrami 85B	$n \pi^+$	Albrecht 88H Klein 88 Diesburg 87
Wichees	Wichees 87	$p \gamma$	Albrecht 88H Klein 88 Diesburg 87
$\Sigma(1385 P_{13})^+$	Frascaria 89 Klein 89C Kopke 89 Mattig 89 Bogolyubsky 88F Abachi 87D Frascaria 87 Prokoshkin 87C Aleeve 86 Bailly 86B Biagi 85 Bitsadze 85B Ajinenko 84C	$\Sigma_c(2510)++$ $\Lambda_c^+ \pi^+$	Kopke 89 Landsberg 89 Shoemaker 88
$\Lambda \pi^+$	Ajinenko 89E Braunschweig 89I Drutskoy 89 Albrecht 88I Henrard 87 Karnaukhov 87 Albrecht 86G Babintsev 86 Banerjee 86B Karnaukhov 86 Mikocki 86 Abe 85B Allasia 85D Aziz 85C	$\Sigma_c(2455)^0$ $\bar{\Lambda}_c^- \pi^+$	Henrard 87
$\Sigma^+ \pi^0$	Karnaukhov 86	$p \pi^0$	Bateson 89 Klein 88 Wilkinson 87 Biagi 85B
$\Sigma^0 \pi^+$	Karnaukhov 86	Σ^-	Diesburg 87
$\Sigma(1385 P_{13})^-$	Kopke 89 Bogolyubsky 88F Abachi 87D Aleeve 86 Bailly 86B Aleeve 85B Ajinenko 84C	Dalitz 90 Shahbazyan 90 Kopke 89 Marshall 89 Baller 88 Barlag 88C Diekmann 88 Okusawa 88 Shahbazyan 88 Bogolyubsky 87E Drutskoy 87 Karnaukhov 86 Hemingway 84 Koiso 84 Hsueh 88 Zapalac 86 Hsueh 85	Barnes 90
$\Lambda \pi^-$	Braunschweig 89I Albrecht 88I Henrard 87 Karnaukhov 87 Albrecht 86G Babintsev 86 Banerjee 86B Karnaukhov 86 Mikocki 86 Abe 85B Allasia 85D Aziz 85C	$n \pi^-$	Dalitz 90 Shahbazyan 90 Kopke 89 Marshall 89 Baller 88 Barlag 88C Diekmann 88 Okusawa 88 Shahbazyan 88 Bogolyubsky 87E Drutskoy 87 Karnaukhov 86 Hemingway 84 Koiso 84 Biagi 87D Zapalac 86 Wahl 85 Cardello 84
$\Sigma^- \pi^0$	Karnaukhov 86	$\Sigma_c(2455)^+$	Kopke 89 Bogolyubsky 88F Abachi 87D Aleeve 86 Bailly 86B Aleeve 85B Ajinenko 84C
$\Sigma^0 \pi^-$	Karnaukhov 86	$\Sigma_c(2455)^{++}$	Klein 89C Christenson 85
$\Sigma(1385 P_{13})^0$	Frascaria 89 Kopke 89	$\Lambda_c^+ \pi^+$	Aleeve 89B Anjos 89 Bowcock 89 Klein 89C Albrecht 88H Klein 88 Batusov 87 Batusov 87B Coteus 87 Cumalat 87B Diesburg 87
$\Lambda \pi^0$	Henrard 87	$\Sigma(1385 P_{13})^+$	Kopke 89 Albrecht 88I Aleeve 86
		$\bar{\Lambda} \pi^+$	Henrard 87 Mikocki 86

$\bar{\mu}^-$

$\bar{\mu}^-$							
	Behrend 87 Bartel 85D	s	Albrecht 89S Eno 89B Bartel 87 Pal 86	tachyon+	Perepelitsa 87	τ^+	
Sn	Petersen 86	\bar{s}	Abreu 90 Akrawy 90D Decamp 90 Albajar 89B Albrecht 89L Albrecht 89S Eno 89B Bartel 87 Pal 86	tachyon-	Perepelitsa 87		
$^{118}\text{Sn } \gamma$	Apokin 86D	\bar{q}		τ^+	Kichimi 88	τ^+	
^{118}Sn	Ullmann 85			$\tau^+ \gamma$	Decamp 90G Kamae 88		
^{116}Sn	Rapaport 85			$\tau^+ \gamma$	Akrawy 90G Adachi 89D Yamauchi 88 Bartel 86D Behrend 86		
^{116}Sn	Barabash 89B Danevich 89 Norman 87 Bonin 86	\bar{q}	Abreu 90E Dowell 88 Kamae 88 Kichimi 88 Albajar 87B Adeva 85	$\tau^+ -$	Decamp 90G Kamae 88		
$^{118}\text{Sn}^*$	Barabash 89C			$\tau^- \gamma$	Akrawy 90G Adachi 89D Yamauchi 88 Bartel 86D Behrend 86		
^{118}Sn	Ullmann 85	2hadron (hadrons)	Behrend 87	τ^+			
^{124}Sn		q gluino	Alitti 89 Plotnowbesch 88 Ansari 87D				
$^{124}\text{Te } 2e^- 2\nu_e$	Barabash 89B Rosen 88	g photino	Sakai 90 Adachi 89 Adachi 89B Alitti 89 Plotnowbesch 88 Takahashi 88 Ansari 87D				
$^{124}\text{Te } 2e^-$	majoron						
$^{124}\text{Te } 2e^-$	Barabash 89B Rosen 88 Norman 87						
$\bar{\nu}$	Fernandez 87C Ford 86 Bartel 85F	\bar{q}	Abreu 90E Sakai 90 Adachi 89 Alitti 89				
$\ell \nu$	Behrend 87	\bar{q} photino	Adachi 89B Takahashi 88				
ν photino	Albajar 89B	star					
$\bar{\nu}$			Boos 88				
$\bar{\nu}_e$	Akesson 90B Steele 89 Stubenrauch 89 Adeva 87 Arnison 85D	$\bar{\tau}^+$	Adachi 89 Akrawy 89E Yamauchi 88				
ν_e photino	Ansari 87D	τ^+ photino	Adachi 89B Decamp 89D Gan 88 Behrend 87				
$\bar{\nu}_e$	Akesson 90B Stubenrauch 89 Adeva 87 Arnison 85D	$\bar{\tau}^-$	Akrawy 89E Yamauchi 88				
ν_e photino	Ansari 87D	τ^- photino	Adachi 89 Adachi 89B Decamp 89D Gan 88 Behrend 87				
$\bar{\nu}_\mu$							
$\bar{\nu}_\mu$	Adeva 87	strange	Gilman 89 Nagy 89 Bogolyubsky 88B Garutchava 87 Bolonkin 86				
$\bar{\nu}_\mu$	Adeva 87						
sparticle	Barklow 90 Akrawy 89E Sakai 89 Yamauchi 88 Behrend 87	supernucleus	Batusov 85B				
s	Akrawy 90D Decamp 90 Albajar 89B Albrecht 89L	supernucleus γ	Norman 87B				
		Ta	Zajmidoroga 85				

Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

τ^+	τ^+	τ^+	τ^+
$2\pi^+ \pi^- (\pi^0's) \bar{\nu}_\tau$ Barish 88 $2\pi^+ \pi^0 \pi^- (\pi^0's) \bar{\nu}_\tau$ Behrend 89H Gan 88 $2\pi^+ \pi^0 \pi^- \bar{\nu}_\tau$ Matteuzzi 85 3charged (neutrals) Abachi 89B Behrend 89D Braunschweig 89F Hayes 89 Marshall 89 Adachi 88D Barish 88 Braunschweig 88D Gan 88 Adachi 87 Albrecht 87L Naroska 87 Lowe 86B Bartel 85L 3charged neutral (neutrals) Ford 87 Aihara 86I Akerlof 85B 3charged-hadron neutral (neutrals) Fernandez 85D $3\pi^+ 2\pi^- (\pi^0's) \bar{\nu}_\tau$ Behrend 89H $3\pi^+ 2\pi^- \bar{\nu}_\tau$ Barish 88 Abachi 87 Bylsma 87 Abachi 86 Beltrami 85 Burchat 85 $3\pi^+ \pi^0 2\pi^- \bar{\nu}_\tau$ Barish 88 Abachi 87 Bylsma 87 Abachi 86 Beltrami 85 Burchat 85 $4\pi^+ 3\pi^- \bar{\nu}_\tau (\gamma's)$ Bylsma 87 $4\pi^+ 3\pi^- \bar{\nu}_\tau$ Bylsma 87 5charged (neutrals) Behrend 89D Marshall 89 Barish 88 Gan 88 Naroska 87 Bartel 85L Beltrami 85 5charged-hadron neutral (neutrals) Fernandez 85D $5\pi^- \bar{\nu}_\tau$ Gan 88 7charged (neutrals) Bylsma 87 $a_1(1260)^+ \text{ neutral (neutrals)}$ Ford 87 $a_1(1260)^+ \bar{\nu}_\tau$ Ford 87 Skwarnicki 87B Ruckstuhl 86 charged (neutrals) Marshall 89 Abachi 89B Behrend 89D Braunschweig 89F Hayes 89 Adachi 88D Albrecht 88O Bacula 88 Bacula 88B Barish 88	Braunschweig 88D Gan 88 Abachi 87E Adachi 87 Albrecht 87L Naroska 87 Aihara 86I Lowe 86B Akerlof 85B Bartel 85L Beltrami 85 charged neutral Lowe 86C charged-hadron neutral (neutrals) Aihara 86I Fernandez 85D $e^+ \gamma$ Gan 88 Keh 88B Lowe 86B e+ goldstone Baltrusaitis 85J $e^+ \bar{\nu}_\tau \nu_e$ Abachi 89 Behrend 89H Hayes 89 Janssen 89 Kass 89 Kleinwort 89 Marshall 89 Albrecht 88C Albrecht 88P Amidei 88 Barish 88 Gan 88 Tschirhart 88 Albrecht 87C Albrecht 87I Barlow 87 Coffman 87 Csorna 87 Ford 87B Naroska 87 Stockhausen 87B Aihara 86I Bartel 86F Burchat 86B Lowe 86C $e^+ X$ Marshall 89 Klem 86 Behrends 85B $e^- 2e^+$ Gan 88 $\eta 2\pi^+ \pi^- \bar{\nu}_\tau$ Gan 88 Burchat 86B ηe^+ Keh 88B $\eta \pi^+ (\text{neutral})$ Abachi 87F $\eta \pi^+ (\pi^0's) \bar{\nu}_\tau$ Baringer 87 $\eta \pi^+ 2\pi^0 \bar{\nu}_\tau$ Gan 88 Skwarnicki 87B Burchat 86B Lowe 86C $\eta \pi^+ \bar{\nu}_\tau$ Barish 88 Gan 88 Coffman 87 Derrick 87B Gan 87B Skwarnicki 87B Stockhausen 87B Lowe 86C $\eta \pi^+ \pi^0 \bar{\nu}_\tau$ Gan 88	Baringer 87 Skwarnicki 87B Aihara 86G Burchat 86B Lowe 86C γX Aihara 86G $K^*(892)^+ \text{ neutral (neutrals)}$ Aihara 86I $K^*(892)^+ \bar{\nu}_\tau$ Abachi 89B Hayes 89 Gan 88 Tschirhart 88 $K^*(892)^0 e^+$ Gan 88 $K^*(892)^0 \mu^+$ Gan 88 $K^+ K^- \pi^+ \bar{\nu}_\tau$ Barish 88 Ruckstuhl 86 Mills 85 $K^+ \bar{K}^0 \bar{\nu}_\tau$ Barish 88 Gan 88 $K^+ \text{ neutral (neutrals)}$ Aihara 86I $K^+ \bar{\nu}_\tau (\gamma's)$ Albrecht 88P $K^+ \bar{\nu}_\tau + \rho^+ \bar{\nu}_\tau + \pi^+ \bar{\nu}_\tau + \mu^+$ $\bar{\nu}_\tau \nu_\mu +$ $e^+ \bar{\nu}_\tau \nu_e$ Albrecht 87T $K^+ \bar{\nu}_\tau$ Hayes 89 Albrecht 88C Barish 88 Gan 88 Albrecht 87C Albrecht 87I Csorna 87 Burchat 86B Lowe 86C $K^+ \pi (\pi^0's) \bar{\nu}_\tau$ Barish 88 $K^+ \pi^+ \pi^- \bar{\nu}_\tau$ Barish 88 $K^+ \pi^+ \pi^- (\pi^0's) \bar{\nu}_\tau$ Ruckstuhl 86 $K^+ \pi^- e^+$ Gan 88 $K^+ \pi^- \mu^+$ Gan 88 $K^+ \pi^0 \text{ neutral (neutrals)}$ Aihara 86I kaon $\pi \bar{\nu}_\tau$ Burchat 86B $\bar{K}^0 e^+$ Gan 88 $\bar{K}^0 \mu^+$ Gan 88 $e^+ 2\text{charged (neutrals)}$ Barlow 87 $\mu^+ e^- e^+$ Gan 88 $\mu^+ \text{ goldstone}$ Baltrusaitis 85J $\mu^+ \bar{\nu}_\tau \nu_\mu + e^+ \bar{\nu}_\tau \nu_e$ Ash 85B $\mu^+ \bar{\nu}_\tau \nu_\mu \gamma$ Wn 89 $\mu^+ \bar{\nu}_\tau \nu_\mu$ Hayes 89 Marshall 89 Albrecht 88C Albrecht 88P Barish 88 Gan 88 Albrecht 87C Albrecht 87I	Barlow 87 Coffman 87 Csorna 87 Ford 87B Naroska 87 Stockhausen 87B Aihara 86I Bartel 86F Burchat 86B Lowe 86B Lowe 86C Berger 85F $\mu^+ X$ Marshall 89 Adeva 86B Behrends 85B $\mu^- 2\mu^+$ Gan 88 $\mu^- \mu^+ e^+$ Gan 88 $\bar{\nu}_\tau (\gamma's) 5\text{charged-hadron}$ Behrend 89H $\bar{\nu}_\tau 2\gamma \text{ hadron}^+$ Behrend 89H $\bar{\nu}_\tau 3\text{charged (neutrals)}$ Ash 85B $\bar{\nu}_\tau 3\text{charged-hadron}$ Behrend 89H $\bar{\nu}_\tau 3\text{charged}$ Ruckstuhl 86 $\bar{\nu}_\tau 3\gamma (\gamma's) \text{ hadron}^+$ Behrend 89H $\bar{\nu}_\tau \gamma (\gamma's) 3\text{charged-hadron}$ Behrend 89H $\bar{\nu}_\tau \text{ hadron (hadrons)}$ Gladney 90 Talebzadeh 87 $\bar{\nu}_\tau \text{ hadron}^+$ Behrend 89H $\omega \pi^+ \bar{\nu}_\tau$ Barish 88 Gan 88 Baringer 87 $\pi^+ 2\pi^0 (\pi^0's) \bar{\nu}_\tau$ Aihara 86G Burchat 86B $\pi^+ 2\pi^0 \text{ neutral (neutrals)}$ Ford 87 $\pi^+ 2\pi^0 \bar{\nu}_\tau$ Behrend 89H Hayes 89 Barish 88 Gan 88 Ford 87 $\pi^+ 3\pi^0 (\pi^0's) \bar{\nu}_\tau$ Behrend 89H $\pi^+ 3\pi^0 \bar{\nu}_\tau$ Barish 88 Gan 88 Lowe 86C $\pi^+ \text{ neutral (neutrals)}$ Aihara 86I $\pi^+ \bar{\nu}_\tau (\gamma's)$ Albrecht 88P $\pi^+ \bar{\nu}_\tau 2\gamma$ Lowe 86C $\pi^+ \bar{\nu}_\tau 4\gamma$ Lowe 86C $\pi^+ \bar{\nu}_\tau \gamma$ Lowe 86C $\pi^+ \bar{\nu}_\tau$ Behrend 89H Hayes 89 Barish 88 Gan 88 Lowe 86C $\pi^+ \text{ neutral (neutrals)}$ Aihara 86I $\pi^+ \bar{\nu}_\tau (\gamma's)$ Albrecht 88P $\pi^+ \bar{\nu}_\tau 2\gamma$ Lowe 86C $\pi^+ \bar{\nu}_\tau 4\gamma$ Lowe 86C $\pi^+ \bar{\nu}_\tau \gamma$ Lowe 86C $\pi^+ \bar{\nu}_\tau$ Behrend 89H Hayes 89 Albrecht 88C Barish 88 Gan 88 Albrecht 87C Albrecht 87I Barlow 87 Csorna 87

τ^+ τ^+ τ^- τ^- τ^- τ^-

Ford 87B
Ford 87C
Naroska 87
Bartel 86F
Burchat 86B
Lowe 86C

 $\pi^+ \pi^- e^+$

Gan 88

 $\pi^+ \pi^- \mu^+$

Gan 88

 $\pi^+ \pi^0$ (neutrals)

Barish 88

 $\pi^+ \pi^0 \bar{\nu}_\tau$

Skwarnicki 87B

Burchat 86B

Lowe 86C

 $\pi^0 (\pi^0's) \bar{\nu}_\tau$ 3charged

Rückstuhl 86

 $\pi^0 (\pi^0's) \bar{\nu}_\tau$ hadron⁺

Berger 85F

 $\pi^0 5\pi \bar{\nu}_\tau$

Gan 88

 $\pi^0 e^+$

Gan 88

Keh 88B

Lowe 86B

 $\pi^0 \bar{\nu}_\tau$ 3charged

Rückstuhl 86

 $\rho^+ \eta \bar{\nu}_\tau$

Lowe 86C

 $\rho^+ \bar{\nu}_\tau$

Abachi 89B

Behrend 89H

Hayes 89

Albrecht 88O

Barish 88

Gan 88

Tschihart 88

Adler 87B

Albrecht 87C

Albrecht 87I

Csorna 87

Ford 87B

Skwarnicki 87B

Stockhausen 87B

Lowe 86C

 $\rho^0 e^+$

Gan 88

 $\rho^0 \mu^+$

Gan 88

 τ^\pm

Akravy 90I

Wu 87

Savoyavarro 85

Vuillemin 85

 $e^\pm 2\nu$

Albrecht 85C

 $K^\pm \nu$

Albrecht 85C

 $\mu^\pm 2\nu$

Albrecht 85C

 τ^-

Aarnio 90B

Abreu 90C

Abreu 90F

Adachi 90C

Adeva 90B

Akravy 90

Akravy 90D

Akravy 90E

Akravy 90G

Akravy 90J

Akravy 90K

Akravy 90N

Decamp 90

Decamp 90G

Kihlén 90

Nash 90

Abe 89P

Abrams 89

Abrams 89B

Abrams 89C

Abrams 89F

Adachi 89

Adachi 89B

Adachi 89D

Akrawy 89E

Albajar 89B

Burchat 89

Decamp 89B

Decamp 89C

Decamp 89D

Decamp 89G

Decamp 89H

Eno 89B

Felcini 89

Feldman 89

Feldman 89B

Hearty 89

Hegner 89

Kim 89E

Krahn 89

Maki 89

Metcalf 89

Nozaki 89

Ogawa 89

Sakai 89

Shaw 89

Stubenrauch 89

Weinstein 89

Adeva 88

Behrend 88C

Kamei 88

Kim 88B

Ko 88

Maki 88

Maki 88B

Masuda 88

Mcneil 88

Olsen 88

Ouldsdaa 88B

Rosenfeld 88

Sakuda 88

Salvini 88

Shirai 88

Sumiyoshi 88

Takahashi 88

Tao 88

Tsuchi 88

Unno 88

Yamauchi 88

Band 87

Bebek 87

Behrend 87

Behrend 87C

Cenci 87

Miayamoto 87

Sakai 87

Wu 87

Albrecht 86E

Bartel 86

Bartel 86D

Behrend 86

Brucker 86

Burchat 86

Heltsley 86

Perl 86

Saxon 86

Ushida 86C

Albrecht 85C

Bartel 85K

Fernandez 85C

Forden 85B

Gan 85

Goldhaber 85C

Kiesling 85

Koltick 85B

Marshall 85

Naroska 85

Vuillemin 85

Althoff 84R

(v's) charged

Keh 88B

(π⁰'s) ν_τ 3charged

Rückstuhl 86

(π⁰'s) ν_τ hadron⁺ 2hadron⁻

Berger 85F

0π⁰ ν_τ hadron⁻

Berger 85F

2e⁻ e⁺

Bowcock 90

Gan 88

Albrecht 87C

2η π⁻ (neutrals)

Abachi 87F

2η π⁻ ν_τ

Gan 88

Gan 88B

Skwarnicki 87B

Burchat 86B

Lowe 86C

2η π⁰ π⁻ ν_τ

Lowe 86C

2hadron (hadrons)

Dowell 88

Albajar 86

2μ⁻ e⁺

Bowcock 90

Albrecht 87C

2μ⁻ μ⁺

Bowcock 90

Gan 88

Albrecht 87C

2π⁺ 3π⁻ (π⁰'s) ν_τ

Behrend 89H

2π⁺ 3π⁻ ν_τ

Albrecht 88C

Barish 88

Abachi 87

Byslma 87

Abachi 86

Beltrami 85

Burchat 85

2π⁺ π⁰ 3π⁻ ν_τ

Barish 88

Abachi 87

Byslma 87

Abachi 86

Beltrami 85

Burchat 85

2π⁻ e⁺

Bowcock 90

Albrecht 87C

2π⁻ μ⁺

Bowcock 90

Albrecht 87C

2π⁰ π⁻ (π⁰'s) ν_τ

Aihara 86G

Aihara 86C

Burchat 86B

2π⁰ π⁻ neutral (neutrals)

Ford 87

Behrend 89H

2Behrend 89H

Hayes 89

Adachi 88D

Albrecht 88O

Bacala 88

Bacala 88B

Braunschweig 88D

Gan 88

Aihara 86I

Fernandez 85D

e⁻ γ

Janssen 90

Gan 88

Gan 88B

Keh 88B

Lowe 86B

e⁻ goldstone

Baltrusaitis 85J

e⁻ ν_τ ν_ε

Janssen 90

Schmidke 86

Bartel 85L

3charged neutral (neutrals)

Ford 87

Aihara 86I

Akerlof 85B

3charged-hadron neutral (neutrals)

Fernandez 85D

Byslma 87

Byslma 88H

Behrend 89H

Marshall 89

Gan 88

Gan 88B

Gan 87

Lowe 86C

5charged (neutrals)

Behrend 89D

Marshall 89

Hayes 89

Adachi 87L

Naroska 87

Aihara 86I

Ruckstuhl 86

charged (neutrals)

Behrend 89D

Marshall 89

Braunschweig 88F

Gan 88

Braunschweig 89F

Aihara 86I

Fernandez 85D

charged-hadron neutral (neutrals)

Aihara 86I

Fernandez 85D

	τ^-	τ^-	τ^-	τ^-
Abachi 89	Aihara 87G	$\mu^- \nu_\tau \bar{\nu}_\mu \gamma$	Wu 89	$\pi^+ \pi^0 2\pi^- \nu_\tau$
Behrend 89H	Yelton 86	$\mu^- \nu_\tau \bar{\nu}_\mu$	Hayes 89	Gan 88B
Hayes 89	Gan 88	$\mu^- \nu_\tau \bar{\nu}_\mu$	Hayes 89B	Albrecht 87I
Hayes 89B	Gan 88	$\mu^- \nu_\tau \bar{\nu}_\mu$	Marshall 89	Albrecht 87T
Janssen 89	Gan 88	$K^*(892)^0 e^-$	Stoker 89	Matteuzzi 85
Kass 89	Gan 88	$K^*(892)^0 \mu^-$	Gan 88	(neutrals) Aihara 86I
Kleinwort 89	Gan 88	$K^*(892)^0 e^-$	Barlow 87	$\pi^- \nu_\tau 2\gamma$ Lowe 86C
Marshall 89	Gan 88	$K^*(892)^0 \mu^-$	Coffinan 87	$\pi^- \nu_\tau 4\gamma$ Lowe 86C
Stoker 89	Gan 88	$K^*(892)^0 e^-$	Csorna 87	$\pi^- \nu_\tau 6\gamma$ Lowe 86C
Amidei 88	Gan 88	$K^+ K^- \pi^- \nu_\tau$	Ford 87B	$\pi^- \nu_\tau$ Behrend 89H
Barish 88	Gan 88	$K^+ K^- \pi^- \nu_\tau$	Naroska 87	Barlow 87
Gan 88	Tscherhart 88	$K^+ K^- \pi^- \nu_\tau$	Stockhausen 87B	Csorna 87
Barlow 87	Bowcock 90	$K^+ \pi^- e^-$	Aihara 86I	Ford 87B
Coffman 87	Bowcock 90	$K^+ \pi^- \mu^-$	Bartel 86F	Ford 87C
Csorna 87	Bowcock 90	$K^- \text{neutral}$ (neutrals)	Burchat 86B	Naroska 87
Ford 87B	Bowcock 90	$K^- \nu_\tau$ (neutrals)	Lowe 86B	Bartel 86F
Luth 87	Bowcock 90	$K^- \pi^- e^-$	Lowe 86C	Burchat 86B
Naroska 87	Bowcock 90	$K^- \pi^- \mu^-$	Berger 85F	Lowe 86C
Stockhausen 87B	Bowcock 90	$K^- \pi^- e^-$	$\mu^- X$ Behrend 89H	$\pi^0 (\pi^0's) \nu_\tau$ 3charged
Aihara 86I	Bowcock 90	$K^- \pi^- \mu^-$	$\nu_\tau (\gamma's)$ 5charged-hadron	Ruckstuhl 86
Bartel 86F	Bowcock 90	$K^- \pi^- e^-$	ν_τ hadron Behrend 89H	$\pi^0 (\pi^0's) \nu_\tau$ hadron
Burchat 86B	Bowcock 90	$K^- \pi^- \mu^-$	$\nu_\tau 2\gamma$ hadron Behrend 89H	$\pi^0 5\pi^- \nu_\tau$ Gan 88
Lowe 86B	Bowcock 90	$K^- \pi^- e^-$	$\nu_\tau 3\gamma$ (gamma's) hadron Behrend 89H	$\pi^0 e^-$ Janssen 90
Lowe 86C	Bowcock 90	$K^- \pi^- \mu^-$	$\nu_\tau \gamma$ (gamma's) 3charged-hadron Behrend 89H	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ 3charged
Ash 85B	Bowcock 90	$K^- \pi^- e^-$	ν_τ hadron (hadrons) Behrend 89H	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ hadron
Berger 85F	Bowcock 90	$K^- \pi^- \mu^-$	$\nu_\tau 3\gamma$ (gamma's) hadron Behrend 89H	$\pi^0 \pi^- \nu_\tau$ Gan 88
$e^- X$	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$\nu_\tau \gamma$ (gamma's) 3charged-hadron Behrend 89H	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Gan 88
Marshall 89	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	ν_τ hadron (hadrons) Behrend 89H	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Keh 88B
Gan 88B	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	ν_τ hadron (hadrons) Gladney 90	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Lowe 86B
Klem 86	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	ν_τ hadron (hadrons) Talebzadeh 87	$\pi^0 \nu_\tau$ 3charged Ruckstuhl 86
Behrends 85B	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	ν_τ hadron Behrend 89H	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Barish 88
$\eta 2\pi^0 \pi^- \nu_\tau$	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	ν_τ hadron Behrend 89H	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Stoker 89
Gan 88	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$\omega \nu_\tau X$ Behrend 89H	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Skwarnicki 87B
Gan 88B	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$\omega \pi^- \nu_\tau$ Albrecht 88P	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Burchat 86B
Skwarnicki 87B	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \nu_\tau$ Behrend 89H	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Lowe 86C
Burchat 86B	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 88P	$\pi^0 \pi^- \nu_\tau$ Albrecht 88O
Lowe 86C	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- \nu_\tau$ Barish 88
ηe^-	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- \nu_\tau$ Behrend 88
Janssen 90	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- \nu_\tau$ Gan 88
Gan 88B	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- \nu_\tau$ Gan 88
Keh 88B	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- \nu_\tau$ Gan 88
$\eta \nu_\tau X$	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- \nu_\tau$ Keh 88B
Albrecht 88P	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- \nu_\tau$ Lowe 86B
$\eta \pi^+ 2\pi^- \nu_\tau$	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- \nu_\tau$ Ruckstuhl 86
Gan 88	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Barish 88
Gan 88B	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Behrend 88
Burchat 86B	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Gan 88
$\eta \pi^- (\pi^0's) \nu_\tau$	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Keh 88B
Abachi 87F	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Lowe 86B
$\eta \pi^- (\pi^0's) \nu_\tau$	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Ruckstuhl 86
Baringer 87	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Berger 85F
$\eta \pi^- \nu_\tau$	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Gan 88
Hayes 89B	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Behrend 89H
Barish 88	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Barlow 87
Behrend 88	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Csorna 87
Gan 88	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Ford 87B
Gan 88B	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Gschmidke 86
Aihara 87G	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Behrend 85J
Coffman 87	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Barish 88
Gan 87B	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Hayes 89
Gan 87B	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Hayes 89B
Skwarnicki 87B	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Albrecht 88O
Stockhausen 87B	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Barish 88
Lowe 86C	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Gan 88
$\eta \pi^0 \pi^- \nu_\tau$	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Behrend 85J
Gan 88	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Barish 88
Gan 88B	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Hayes 89
Baringer 87	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Albrecht 88O
Skwarnicki 87B	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Gan 88
Aihara 86G	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Behrend 88
Burchat 86B	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Tschirhart 88
Lowe 86C	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Adler 87B
γX	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Csorna 87
Aihara 86G	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Ford 87B
$K^*(892)^- \text{neutral}$ (neutrals)	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Skwarnicki 87B
Aihara 86I	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Stockhausen 87B
$K^*(892)^- \nu_\tau$	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Lowe 86C
Abachi 89B	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\pi^0 \pi^- (\pi^0's) \nu_\tau$ Yelton 86
Hayes 89	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\rho^0 e^-$ Gan 88
Hayes 89B	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$\rho^0 \mu^-$ Albrecht 87C
Albrecht 88O	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	Tb Kozma 90
Gan 88	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$Kozma 90$
Tschirhart 88	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	^{140}Tb Aleksandrov 89
	$K^- \pi^- e^-$	$K^- \pi^- \mu^-$	$K^0 \pi^- \nu_\tau$ Albrecht 87C	$^4He X$ Aleksandrov 87B

Tc

Υ(10860)

Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

T(10860)

T(10860)	Besson 85 2hadron (hadrons) Lovelock 85
T(11020)	Voloshin 87 Besson 85

T(1S)

Albrecht 88D Albrow 88 Augustin 88C Thorndike 88 Bowcock 87 Gray 87 Lurz 87 Schindler 87 Voloshin 87 Baru 85 Faiciano 85 Gelphman 85 Mestayer 85 Nernst 85 Walk 85
2 γ (γ 's) Lowe 86B 2hadron (hadrons) Chen 89 Kaarsberg 89 Jakubowski 88

2jet Albrecht 86D
2K _S γ Toki 87
2p X Behrends 85
2p X Behrends 85
2 π^0 (π^0 's) γ (γ 's) Lowe 86B
2 π^0 γ neutral Leffler 86
2 π^0 neutral Leffler 86
3 γ (γ 's) Schutte 89 Schmitt 88
3 γ Fairfield 88
$\Delta(1232 P_{33})^{++}$ X Albrecht 87H
e ⁻ e ⁺ γ Fairfield 88 Bowcock 86 Mageras 86

e ⁻ e ⁺ Albrecht 87Q Skwarnicki 87 Albrecht 85C
η γ Schmitt 88 Lowe 86B
η X Albrecht 89G
$\eta(1440)$ γ Fulton 89B
η_b γ Franzini 87 Rosner 85E

f ₀ (1525) γ Albrecht 89J
f ₂ (1270) γ Albrecht 89J Fulton 89B Schmitt 88 Bean 86 Lowe 86B

T(1S)

f ₂ (1720) γ Albrecht 89J Fulton 89B Schmitt 88 Bean 86
f' ₂ (1525) γ Fulton 89B Bean 86

f ₄ (2220) γ Albrecht 89J Baru 89 Baru 87 Baru 86B Bean 86
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γ gluon Albrecht 87H
γ axion Albrecht 87H

γ gluonium Fairfield 88 Albrecht 86C Bowcock 86 Mageras 86
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γ gluonium Tuts 87
γ higgs Albrecht 89J Franzini 87 Albrecht 85C Albrecht 85L

γ neutral (neutrals) Franzini 87
γ neutral Franzini 87

γ neutral (neutrals) Franzini 87
γ unspec Lowe 86B

γ X Schutte 89 Schmitt 88
γ X Tuts 87

γ X Tuts 87
γ X Mageras 86

γ unspec Lowe 86B
γ X Lowe 86B

γ X Lowe 86B
γ X Bloom 85C

γ X Bloom 85C
γ X Koenigsmann 85

γ X Koenigsmann 85
γ X Lowe 85

γ X Lowe 85
γ X Rosner 85E

J/ ψ (1S) X Fulton 89 Maschmann 89
K ⁺ (892) ⁺ X Behrends 85

K ⁺ (892) ⁺ X Behrends 85
K ⁺ (892) ⁰ X Behrends 85

K ⁺ (892) ⁰ X Behrends 85
K ⁺ K ⁻ γ Behrends 85

K ⁺ K ⁻ γ Behrends 85
K ⁺ K ⁻ X Albrecht 88J Toki 87

K ⁺ K ⁻ X Albrecht 88J Toki 87
K ⁰ X Behrends 85

K ⁰ X Behrends 85
K ⁺ X Behrends 85

K ⁺ X Behrends 85
K ⁺ X Behrends 85

T(1S)

Albrecht 88I Fulton 89C Behrends 85
$\Lambda(1520 D_{0\bar{s}})$ X Albrecht 88Q

$\bar{\Lambda} K_S$ X Behrends 85
$\bar{\Lambda}$ X Behrends 85

meson ⁰ γ Behrends 85
$\mu^+ e^- \nu_\tau \bar{\nu}_\tau \nu_\mu \bar{\nu}_e \gamma$ Lowe 86B

$\mu^- e^+ \nu_\tau \bar{\nu}_\tau \nu_\mu \bar{\nu}_e \gamma$ Lowe 86B
$\mu^- \mu^+$ 2hadron (hadrons) Fulton 89

$\mu^- \mu^+$ Fulton 89
Liss 90

Mishra 90
Chen 89

Kaarsberg 89
Albrecht 87Q

Skwarnicki 87
Summers 87

Aljabar 86C
Brown 86

Grossmanhand 86
Albrecht 85C

Childers 85
Avery 85

Albrecht 88I
Behrends 85

Behrends 85
Albrecht 89J

Behrends 85
Behrends 85

Behrends 85
Albrecht 88G

Behrends 85
Behrends 85

Behrends 85
Albrecht 88I

Behrends 85
Albrecht 86G

Behrends 85
Albrecht 88I

Behrends 85
Lowe 86B

Behrends 85
Albrecht 85C

T(1S)

$\tau^- \tau^+$ Albrecht 85C
$\Lambda(1520 2\pi^0)$ X Leffler 86

X(2200) γ Baru 89
Albrecht 88B

$\Xi(1530 P_{13})^0$ X Albrecht 88G
Albrecht 86G

Ξ^- X Albrecht 88B
Albrecht 88G

Ξ^+ X Behrends 85
Behrends 85

T(2S)
Albrecht 88D

Albrow 88
Leffler 86

Falcianno 85
Kaarsberg 89

Jakubowski 88
Gelphman 85

η X Schindler 87
Albrecht 85H

$\chi_{b0}(1P)$ γ Skwarnicki 87
Albrecht 85H

$\chi_{b1}(1P)$ γ Schindler 8

$\Upsilon(2S)$ $\Upsilon(4S)$

$\Upsilon(2S)$	$\Upsilon(2S)$	$\Upsilon(4S)$	$\Upsilon(4S)$
$K^+ \text{ hadron (hadrons)}$	Schindler 87	Albrecht 87B	Schindler 87
$K^+ K^- \gamma$	Voloshin 87	Lovelock 85	Albrecht 85N
$K^+ K^- X$	Albrecht 86C	Albrecht 87P	Chen 85
$K^+ K^- X$	Bowcock 86	Bean 87B	
$K^- \text{ hadron (hadrons)}$	Albrecht 85C	Albrecht 87P	Albrecht 87O
$K^- \text{ hadron (hadrons)}$	Gelphman 85	Bean 87B	Albrecht 87P
$K^0 \text{ hadron (hadrons)}$	$\Upsilon(1S) \pi^+ \pi^-$	Albrecht 87P	Albrecht 87O
$K^0 \text{ hadron (hadrons)}$	Albrecht 87Q	Albrecht 87B	Albrecht 87P
$K^0 \text{ hadron (hadrons)}$	$\Upsilon(1S) \pi^0$	$\Xi(1530) P_{13}^0 X$	$\Xi(1530) P_{13}^0 X$
ΛX	Lurz 87	Albrecht 88I	Albrecht 87P
ΛX	$\Xi(1530) P_{13}^0 X$	Albrecht 88I	Albrecht 87O
$\Lambda(1520 D_{0s}) X$	Albrecht 89B	Albrecht 89B	charged X
$\Lambda(1520 D_{0s}) X$	Albrecht 88I	Albrecht 88I	Alexander 90
$\mu^- \mu^+ 2\gamma + e^- e^+ 2\gamma$	Albrow 88	Albrecht 88G	charm $X + \text{charm } X$
$\mu^- \mu^+ 2\gamma$	Falciano 85	Alam 87B	Gittelman 87
$\mu^- \mu^+ 4\gamma$	$2\mu^+ \text{ hadron (hadrons)}$	Albrecht 87D	$D^*(2010)^+ e^- X$
$\mu^- \mu^+$	Skwarnicki 85B	Albrecht 87G	$D^*(2010)^+ \mu^- X$
$\mu^- \mu^+$	Gelphman 85	Bartoletto 87	Albrecht 87O
$\mu^- \mu^+$	Kaarsberg 89	Bean 87	$\Xi(2010)^+ e^- X$
$\mu^- \mu^+$	Summers 87	Alam 86	$\Xi(2010)^+ \mu^- X$
$\mu^- \mu^+$	Albajar 86C	Bartoletto 86	Albrecht 87O
$\mu^- \mu^+$	Brown 86	Hans 86	$D^*(2010)^+ X +$
$\mu^- \mu^+$	Grossmanhand 86	Albrecht 85K	$D^*(2010)^- X$
$\Omega^- X$	Albrecht 85I	Albrecht 90D	$D^*(2010)^- e^+ X$
$p \text{ hadron (hadrons)}$	Albrecht 88I	Albrecht 90E	Albrecht 87O
$p \bar{p} \gamma$	Albrecht 89H	Bartoletto 96	$D^*(2010)^- \mu^+ X$
$\bar{p} \text{ hadron (hadrons)}$	Albrecht 89J	Weir 90	$D^0 \pi^+ X$
ϕX	Albrecht 89H	Alam 89	$D^0 \pi^- X$
$\pi^+ \text{ hadron (hadrons)}$	Albrecht 88K	Albrecht 89L	Albrecht 87O
$\pi^+ \pi^- e^- e^+ \gamma$	Albrecht 89H	Albrecht 89Q	$e^+ X$
$\pi^+ \pi^- e^- e^+$	Bowcock 86	Albrecht 89S	$e^\pm 2\gamma \text{ 3charged (neutrals)}$
$\pi^+ \pi^- e^- e^+$	Gelphman 85	Albrecht 89U	Lowe 86B
$\pi^+ \pi^- \gamma \text{ axion}$	Bowcock 86	Artuso 89	$e^\pm 2\gamma \text{ charged (neutrals)}$
$\pi^+ \pi^- \gamma$	Albrecht 89J	Avery 89B	Lowe 86B
$\pi^+ \pi^- \text{ meson} \gamma$	Bowcock 86	Bebek 89	$e^\pm \gamma \text{ 3charged (neutrals)}$
$\pi^+ \pi^- \mu^- \mu^+$	Gelphman 85	Bartoletto 89	Lowe 86B
$\pi^- \text{ hadron (hadrons)}$	Albrecht 89H	Danilov 89	$e^\pm \gamma \text{ charged (neutrals)}$
$\pi^0 X$	Albrecht 89G	Halling 89	Lowe 86B
$\Sigma(1385) P_{13}^+ X$	Albrecht 88I	Albrecht 88E	$e^\pm e^+ 4(\text{chargeds}) (\text{neutrals})$
$\Sigma(1385) P_{13}^- X$	Albrecht 88I	Albrecht 88M	Bean 87
$\Sigma^0 X$	Albrecht 88I	Albrecht 88T	$e^- X$
$\Upsilon(1S) 2\gamma$	Bloom 85C	Danilov 88	$J/\psi(1S) X$
$\Upsilon(1S) 2\gamma$	Walk 85	Thorndike 88	Maschmann 89
$\Upsilon(1S) 2\pi^0$	Albrecht 87Q	Albrecht 87B	$K^+ K^- \pi^- X$
$\Upsilon(1S) 2\pi^0$	Schindler 87	Albrecht 87P	Albrecht 87D
$\Upsilon(1S) \eta$	Lowe 86B	Artuso 89	$K^+ K^- X$
$\Upsilon(1S) \eta$	Gelphman 85	Avery 89B	Albrecht 87D
$\Upsilon(1S) \pi^+ \pi^-$	Albrecht 87Q	Bebek 89	$K^+ X$
$\Upsilon(1S) \pi^+ \pi^-$	Lurz 87	Bartoletto 89	Gittelman 87
$\Upsilon(1S) \pi^+ \pi^-$	Schindler 87	Danilov 89	$K^- X$
$\Upsilon(1S) \pi^+ \pi^-$	Albrecht 87Q	Drell 89	$K_S X$
$\Upsilon(1S) \pi^+ \pi^-$	Bowcock 87	Halling 89	$\Lambda X + \bar{\Lambda} X$
$\Upsilon(1S) \pi^+ \pi^-$	Gray 87	Albrecht 88E	Gittelman 87
$\Upsilon(1S) \pi^+ \pi^-$	Albrecht 87Q	Albrecht 88M	ΛX
$\Upsilon(1S) \pi^+ \pi^-$	Bowcock 87	Albrecht 88T	Gittelman 87
$\Upsilon(1S) \pi^+ \pi^-$	Gray 87	Artuso 89	Albrecht 89B
$\Upsilon(1S) \pi^+ \pi^-$	Albrecht 87Q	Avery 89B	Albrecht 88I
$\Upsilon(1S) \pi^+ \pi^-$	Schindler 87	Bebek 89	$\ell^+ \ell^-$
$\Upsilon(1S) \pi^+ \pi^-$	Albrecht 87Q	Bartoletto 89	Alexander 90
$\Upsilon(1S) \pi^+ \pi^-$	Bowcock 87	Danilov 89	$\mu^+ e^+ X$
$\Upsilon(1S) \pi^+ \pi^-$	Gray 87	Drell 89	Albrecht 87P
$\Upsilon(1S) \pi^+ \pi^-$	Albrecht 87Q	Halling 89	$\mu^+ e^- X$
$\Upsilon(1S) \pi^+ \pi^-$	Bowcock 87	Albrecht 88E	Albrecht 87P
$\Upsilon(1S) \pi^+ \pi^-$	Gray 87	Albrecht 88M	$\mu^+ X$
$\Upsilon(1S) \pi^+ \pi^-$	Albrecht 87Q	Albrecht 88T	Albrecht 87P
$\Upsilon(1S) \pi^+ \pi^-$	Bowcock 87	Artuso 89	Bean 87B
$\Upsilon(1S) \pi^+ \pi^-$	Gray 87	Avery 87	$\mu^- e^+ X$
$\Upsilon(1S) \pi^+ \pi^-$	Albrecht 87Q	Bean 87B	Albrecht 87P
$\Upsilon(1S) \pi^+ \pi^-$	Bowcock 87	Gittelman 87	Bean 87B
$\Upsilon(1S) \pi^+ \pi^-$	Gray 87	Gray 87	Albrecht 87P

Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

T(4S)	^{46}Va	W^+	W^-
$\mu^- \mu^+$ 2hadron (hadrons) Fulton 89	$^{46}\text{Ti} e^+ \nu_e$ Hardy 89	$\tau^+ \nu_\tau$ Arnison 85D	Cenci 87 Repellin 87
$\mu^- \mu^+$ 4(charged)s) (neutrals)	^{48}Va	$\tau^+ \nu_\tau$ Gladney 90 Albajar 89B Stubenrauch 89 Dowell 88 Tao 88 Cenci 87 Albajar 86	Albajar 86 Hanni 85 Levi 85
$\mu^- \mu^+ X$ Bean 87	kozma 88B kozma 86 Michel 85	$t \bar{b}$ Plithowbesch 88	heavy-lepton X Albajar 86B
$\mu^- X$ Albrecht 87P Bean 87B Alam 86 Haas 85	vee Batusov 89C Decamp 89C Drutskoy 87 Mikocki 86 Balestra 85	W^\pm Albajar 90C Alitti 90 Alitti 90B Alitti 90C Gladney 90 Watts 90 Abe 89Q Abe 89R Albajar 89B Albajar 89C Geer 89 Kamon 89 Kamon 89 Ansari 88 Dowell 88 Plithowbesch 88 Tao 88 Albajar 87 Prokoshkin 87C Albajar 86 Arnison 85B Savonavarro 85 Vuillemin 85	$\mu^- \bar{\nu}_\mu$ Abe 89R Albajar 89B Smith 89 Stubenrauch 89 Dowell 88 Tao 88 Albajar 87 Cenci 87 Prokoshkin 87C Albajar 86 Levi 85
mult[charged] (neutrals) Gittelman 87	W^+ Adachi 89E Mandelli 88	Alitti 90D Jenni 89	Gan 88 Ansari 87D Repellin 87
$\Omega^- X$ $p \bar{p} \pi^+ \pi^- X$ Albrecht 88I	Salvini 88 Sphicas 88	Alitti 90B Alitti 90C Watts 90 Abe 89B Abe 89Q Abe 89R	ν heavy-lepton- Gan 88
$p \bar{p} \pi^+ X$ Albrecht 88T	Albajar 87E	Albajar 87 Ansari 87C Richard 87 Rubbia 86	$\bar{\nu}$ heavy-lepton- Albajar 89B
$p \bar{p} \pi^- X$ Albrecht 88T	Ansari 87C	Albajar 89B Albajar 89C Geer 89 Kamon 89 Kamon 89 Ansari 88 Dowell 88 Plithowbesch 88 Tao 88 Albajar 87 Prokoshkin 87C Albajar 86 Arnison 85B Savonavarro 85 Vuillemin 85	ν heavy-lepton- Gan 88
$p \pi^- X$ Alam 87B	Richard 87	Albajar 87B Albajar 87 Ansari 88 Dowell 88 Plithowbesch 88 Tao 88 Albajar 87 Prokoshkin 87C Albajar 86 Arnison 85B Savonavarro 85 Vuillemin 85	$\bar{\nu}$ heavy-lepton- Albajar 89B
$p X + p X$ Gittelman 87	Rubbia 86	Albajar 87B Albajar 87 Ansari 87E Cenci 87 Repellin 87	ν heavy-lepton- Gan 88
$p X$ Alam 87B	Albajar 87	Albajar 87 Ansari 87E Cenci 87 Repellin 87	$\bar{\nu}_e e^-$ Gan 88
$\bar{p} \pi^+ X$ Alam 87B	Ansari 87E	Albajar 87 Ansari 88 Dowell 88 Plithowbesch 88 Tao 88 Albajar 87 Prokoshkin 87C Albajar 86 Arnison 85B Savonavarro 85 Vuillemin 85	$\pi^- \gamma$ Albajar 90C
$\bar{p} X$ Alam 87B	Geer 89	Albajar 87B Albajar 87 Ansari 87B Dowell 88 Plithowbesch 88 Tao 88 Albajar 87 Prokoshkin 87C Albajar 86 Arnison 85B Savonavarro 85 Vuillemin 85	$q \bar{q}$ Barbarogalti 89
$\psi(2S) X$ Alexander 90	Jenni 89	Albajar 87B Albajar 87 Ansari 87B Dowell 88 Plithowbesch 88 Tao 88 Albajar 87 Prokoshkin 87C Albajar 86 Arnison 85B Savonavarro 85 Vuillemin 85	$\bar{\nu}_e \bar{e}^-$ Albajar 89B
$\psi(3770) X$ Alexander 90	Albajar 87	Albajar 87B Albajar 87 Ansari 87E Cenci 87 Repellin 87	$\bar{\nu}_e \bar{e}^-$ Stubenrauch 89 Arnison 85D
$\Sigma(1385)_{P_1s}^0 X$ Albrecht 88I	Albrecht 88I	Albajar 87 Ansari 87E Cenci 87 Repellin 87	$\tau^- \bar{\nu}_\tau$ Gladney 90
$\Sigma(1385)_{P_1s}^- X$ Albrecht 88I	Albrecht 88I	Albajar 87 Ansari 87E Cenci 87 Repellin 87	Albajar 89B Stubenrauch 89
$\Sigma^0 X$ Albrecht 88I	Albrecht 88I	Albajar 87 Ansari 87E Cenci 87 Repellin 87	Albajar 89B Stubenrauch 89 Arnison 85D
$\tau^- \tau^+$ Lowe 86B	Albrecht 88I	Albajar 87 Ansari 87E Cenci 87 Repellin 87	$\pi^- \gamma$ Albajar 89B
$\Upsilon(1S)$ hadron (hadrons) Thorndike 88	Albrecht 88I	Albajar 87 Ansari 87E Cenci 87 Repellin 87	$q \bar{q}$ Barbarogalti 89
$\Xi(1530)_{P_1s}^0 X$ Albrecht 88I	Albrecht 88I	Albajar 87 Ansari 87E Cenci 87 Repellin 87	$\bar{\nu}_e \bar{e}^-$ Albajar 89B
$\Xi^- X$ Albrecht 89B	Levi 85	Albajar 87B Albajar 86B	$\bar{\nu}_e \bar{e}^-$ Stubenrauch 89
$\Xi^- X$ Albrecht 88I	Levi 85	Albajar 87B Albajar 86B	$\tau^- \bar{\nu}_\tau$ Gladney 90
$\Omega^- X$ Yoshida 89	heavy-lepton X Yoshida 89	Albajar 87B Albajar 87 Ansari 87D Dowell 88 Plithowbesch 88 Tao 88 Albajar 87 Prokoshkin 87C Albajar 86 Arnison 86C Levi 85	Albajar 89B Stubenrauch 89 Arnison 85D
$\mu^+ \mu_\mu$	Abe 89R Albajar 89B Smith 89 Stubenrauch 89 Dowell 88	Albajar 87B Albajar 87 Ansari 87D Dowell 88 Plithowbesch 88 Tao 88 Albajar 87 Prokoshkin 87C Albajar 86 Arnison 86C Levi 85	$\pi^- \gamma$ Albajar 89B Stubenrauch 89 Arnison 85D
$\mu^- \mu^+$	Albrecht 90D Albajar 89B Artuso 89B Eno 89B Kleinick 89 Miller 89 Behrends 87	Albajar 87B Albajar 87 Ansari 87D Dowell 88 Plithowbesch 88 Tao 88 Albajar 87 Prokoshkin 87C Albajar 86 Arnison 86C Levi 85	$q \bar{q}$ Barbarogalti 89
$\nu \bar{\nu}$	Albrecht 88I Voloshin 87	Albajar 87B Albajar 87 Ansari 87D Dowell 88 Plithowbesch 88 Tao 88 Albajar 87 Prokoshkin 87C Albajar 86 Arnison 86C Levi 85	$\bar{\nu}_e \bar{e}^-$ Albajar 89B Stubenrauch 89 Arnison 85D
u	Albrecht 90D Albajar 89B Artuso 89B Eno 89B Kleinick 89 Miller 89 Behrends 87	Albajar 87B Albajar 87 Ansari 87D Dowell 88 Plithowbesch 88 Tao 88 Albajar 87 Prokoshkin 87C Albajar 86 Arnison 86C Levi 85	ν heavy-lepton+ Albajar 89B
\bar{u}	Aubert 85E Aubert 85E	Albajar 87B Albajar 87 Ansari 87D Dowell 88 Plithowbesch 88 Tao 88 Albajar 87 Prokoshkin 87C Albajar 86 Arnison 86C Levi 85	$\bar{\nu}$ heavy-lepton+ Albajar 89B
ν_a	Albajar 89B Eno 89B	Albajar 87B Albajar 87 Ansari 87D Dowell 88 Plithowbesch 88 Tao 88 Albajar 87 Prokoshkin 87C Albajar 86 Arnison 86C Levi 85	$\nu_e e^+$ Gan 88
\bar{u}	Aubert 85E Aubert 85E	Albajar 87B Albajar 87 Ansari 87D Dowell 88 Plithowbesch 88 Tao 88 Albajar 87 Prokoshkin 87C Albajar 86 Arnison 86C Levi 85	$\nu_e e^+$ Gan 88
ν_a	Kozma 90 Kozma 88	Albajar 87B Albajar 87 Ansari 87D Dowell 88 Plithowbesch 88 Tao 88 Albajar 87 Prokoshkin 87C Albajar 86 Arnison 86C Levi 85	$\nu_e e^+$ Gan 88
$wino$			

$\Xi_c(2460)^0$

wino-

wino-	$X(3100)^0$	$\Xi(1530 P_{13})^0$	$\Xi_c(2460)$	
	Bartel 85F $e^- \bar{\nu}_e$ photino Decamp 89D	Aleev 86C $\bar{p} \Lambda 2\pi^+ \pi^-$ Augustin 88C $\bar{p} \Lambda \pi^+$ Bourquin 86 Xe	Albrecht 88I Klein 88 Henrard 87 Klein 87 Albrecht 86G Aston 85	
	Akesson 90B Adeva 87 Ansari 87D	Kozma 90 Kozma 88 Strugalski 88B		
	$\mu^- \bar{\nu}_\mu$ photino Decamp 89D		$\Xi(1690)^-$	
	$\mu^- \bar{\nu}_\mu$ Adeva 87		ΛK^- Biagi 87	
	$\tau^- \bar{\nu}_\tau$ photino Decamp 89D		$\Xi(1820 D_{13})^-$	
W^+	Stubenrauch 89		$\Xi(1820 D_{13})^0 \pi^-$ Biagi 87	
2jet	Alitti 90D	Barabash 89B Barabash 90 Barabash 89 Barabash 89B	$\Xi(1820 D_{13})^0$ Aston 85	
$e^+ \nu_e$	Albajar 89B Ansari 87D	Caldwell 88	$\Xi^- \pi^+ \pi^-$ Biagi 87	
W^\pm	Geer 89 Ansari 87D	Barabash 89B Caldwell 88 Rosen 88	$\Xi(1820 D_{13})^0$ Biagi 87	
W^-	Stubenrauch 89		$\Lambda \bar{K}^0$ Biagi 87B	
2jet	Alitti 90D		$\Sigma^0 \bar{K}^0$ Biagi 87B	
$e^- \bar{\nu}_e$	Albajar 89B Ansari 87D		$\Xi(1950)^0$	
W_t	Davier 89		$\Lambda \bar{K}^0$ Biagi 87B	
$X(1700)$			$\Sigma^0 \bar{K}^0$ Biagi 87B	
$K^+ K^-$	Falvard 88		$\Xi^*(unspec)$	
$K^0 \bar{K}^0$	Falvard 88		$\Xi(1530 P_{13})^0 K^-$ Biagi 86B	
$X(1935)^0$	Bruckner 87		$\Xi^- K^- \pi^+$ Biagi 86B	
$p \bar{p}$	Sapozhnikov 86		Ξ^-	
$X(2200)$			Alam 89B Albrecht 89B Albrecht 89E Ansorge 89B Klein 89C Kopke 89 Marshall 89 Klein 88 Abachi 87D Klein 87 Luth 87 Aleev 86 Baker 86 Aston 85 Aston 85B Behrends 85 Biagi 85 Mestayer 85	
2 ϕ	Baru 89 Baru 87			
$K \bar{K}$	Toki 88B			
$K^+ K^-$	Baru 89 Baru 87			
$\pi^+ \pi^-$	Sculli 87			
$X(3100)$	$\bar{p} \Lambda 2\pi^- (\pi^{'})$ Sculli 87			
$\bar{p} \Lambda 2\pi^- (\pi^{'})$	Augustin 88C			
$X(3100)^+$				
$\bar{p} \Lambda 2\pi^+$	Aleev 86C			
	Augustin 88C Bourquin 86	Kopke 89 $\Xi^0 \pi^-$ Henrard 87 Schneider 90		
$X(3100)^-$				
$\bar{p} \Lambda \pi^+ \pi^-$	Aleev 86C			
	Augustin 88C Bourquin 86	Albrecht 89B Kopke 89 Mattig 89 Aston 87 Aleev 86 Biagi 86B Aston 85B		
$X(3100)^{--}$				
$\bar{p} \Lambda \pi^-$	Augustin 88C	$\Xi(1530 P_{13})^0$ Schneider 90 $\Xi^- \pi^+$ Aston 89		
			$\pi^- \gamma X$	
			Biagi 87D $\Sigma^- \gamma$ Biagi 87D $\Xi^- \pi^+ \pi^-$ Biagi 87	
				$\Xi_c(2460)^-$
				$\Xi_c(2460)^0$
				$\Xi_c(2460)^0$
				$\Xi_c(2460)^0$
				$\Xi^+ \pi^-$ Avery 88

Entries in order of the equivalent English spelling. Certain chemical symbols for nuclei have been changed to avoid ambiguity with particle names (see the Particle Vocabulary). See the legend on page 297.

Ξ^0	Schneider 90 Pelzer 89 Fredriksson 87 Beretvas 86 Cardello 84	Z^0	Barklow 90 Akravy 90F	Z^0	Decamp 90G Gau 88	Z^0	heavy-lepton ⁰ heavy-lepton ⁰ Akravy 90I Decamp 89E
$\Lambda \pi^0$	Bensinger 88	2γ	Aarnio 90 Adeva 90 Akravy 90C Akravy 90E Akravy 90K Decamp 90F Kuhlen 90 Nash 90	$e^+ X$	Decamp 90C	$heavy-lepton^0 X$	Weinstein 89 Decamp 89C
$\Sigma^0 \gamma$	Bensinger 88	2hadron (hadrons)	Aarnio 90 Adeva 90 Akravy 90C Akravy 90E Akravy 90K Decamp 90F Kuhlen 90 Nash 90	$e^\pm e^\pm$	Appel 86	$higgs^+ higgs^-$	Abreu 90 Akravy 90D Decamp 90
$\Xi(1530 P_{13})^+$	Kopke 89		Aarnio 90 Adeva 90 Akravy 90C Akravy 90E Akravy 90K Decamp 90F Kuhlen 90 Nash 90	$e^\pm e^\pm$	Akravy 90I		
$\Xi(1530 P_{13})^0$	Albrecht 881		Aarnio 90 Adeva 90 Akravy 90C Akravy 90E Akravy 90K Decamp 90F Kuhlen 90 Nash 90	$e^- e^+ \gamma$	Decamp 90G Gau 88		
Ξ^+	Alam 89B Kopke 89 Marshall 89 Albrecht 881 Klein 88 Henrard 87 Klein 87 Alev 86 Behrends 85 Mestayer 85 Aher 84B		Abrams 89B Abrams 89C Adeva 89 Akravy 89 Akravy 89B Akravy 89C Burchat 89 Decamp 89 Decamp 89B Decamp 89G Feldman 89 Feldman 89B Hearty 89 Komamiya 89C Kral 89 Krauss 89 Weinstein 89	$e^- e^+ higgs$	Appel 86	$\mu^+ \mu^-$	Abrams 89F Akravy 90G Decamp 90G
$\bar{\Lambda} \pi^+$	Avery 88 Kennett 87B Naroska 87 Mikocki 86 Abe 85B Cardello 84		Abreu 90F Akravy 90J Akravy 90N Decamp 90E Decamp 89H Decamp 89C	$e^- e^+$	Aarnio 90B Adeva 90C Akravy 90 Akravy 90E Akravy 90K Aliiti 90B Aliiti 90C Kuhlen 90 Watts 90	$\mu^+ \mu^-$	Akravy 90G Decamp 90G
Ξ^0	Kopke 89 Pelzer 89 Beretvas 86	2higgs	Abreu 90C Akravy 90N Komamiya 90 Decamp 89H Bartel 85E		Aarnio 89 Abe 89Q Abe 89R Abe 89T Abrams 89C Adeva 89 Akravy 89 Akravy 89E Albajar 89B Burchat 89 Decamp 89 Decamp 89B Decamp 89G	$\mu^+ \mu^-$	Akravy 90G Decamp 90G
$\bar{\Lambda} \pi^0$	Henrard 87	2higginino	Bartel 85E		Geer 89 Jenni 89 Kamon 89 Stubenrauch 89 Weinstein 89 Plotnowbesch 88	$\mu^- \mu^+$	Abreu 90F Akravy 90J Akravy 90N Decamp 90E Decamp 90H Decamp 89C
$Y^*(\text{unspec})$	Bolonkin 89 Bityukov 85C	2jet	Alitti 90D Akravy 89C Akravy 89E Ansari 87B		Tao 88 Albajar 87 Ansari 87E Cenci 87 Repelin 87 Appel 86		Aarnio 90B Adeva 90B Adeva 90C Akravy 90 Akravy 90E Akravy 90K Kuhlen 90 Nash 9C Abe 89R Abe 89T Abrams 89C Adeva 89 Akravy 89E Albajar 89B Burchat 89 Decamp 89B Decamp 89G
$Y^*(\text{unspec})^0$	Bolonkin 88	2longlived	Soderstrom 90 Jung 89		Stabenrauch 86 Arnison 85D Levi 85		Aarnio 90B Adeva 90B Adeva 90C Akravy 90 Akravy 90E Akravy 90K Kuhlen 90 Nash 9C Abe 89R Abe 89T Abrams 89C Adeva 89 Akravy 89E Albajar 89B Burchat 89 Decamp 89B Decamp 89G
Y_b	Kozma 90 Kozma 88	2neutralino	Akravy 90M Barklow 90 Decamp 90D				
Y_t	Kozma 90	2sparticle	Barklow 90 Akravy 89E				
ΞY_t	Butsev 85	3γ	Akravy 90F				
ΞY_t	Butsev 85	3jet	Akravy 89C				
ΞY_t	Butsev 85	4jet	Akravy 89C				
ΞY_t	Kozma 90 Kozma 88 Butsev 85	5jet	Akravy 89C				
ΞY_t	Butsev 85	$\bar{b} b$	Akravy 89C				
ΞY_t	Butsev 85	$\Xi' X$	Akravy 90D Decamp 90C Kral 89				
ΞY_t	Butsev 85	$\Xi' \bar{b}'$	Weinstein 89				
Z^0	Aliiti 90 Burchat 90 Nash 89 Salvini 88 Ansari 87C Richard 87 Rubbia 86 Vuillemin 85	$\text{charged-hadron } X$	Abreu 90B Akravy 89B	$e^- X$	Decamp 90C	$\mu^- X$	Decamp 90C
$2\text{charged (charged)}$ (neutrals)	Komamiya 90		Akravy 90L Komamiya 89C Weinstein 89	$\eta \gamma$	Akravy 90F Decamp 90B	$\text{mult}[\text{charged}]$ (neutrals)	Decamp 90C
$2\text{charged-hadron (hadrons)}$	Decamp 90F	$\bar{c} c$	Decamp 90C	$\eta' \gamma$	Akravy 90B	$\text{mult}[\text{jet}]$	Decamp 90D
		$e^{--} e^{++}$	Akravy 90G Decamp 90G	$\gamma \gamma$	Decamp 90B		Feldman 89B
		$e^+ e^{--}$	Akravy 90G	$\gamma \gamma$	Akravy 90H		neutral (neutrals) 2jet
				$\gamma \gamma$	Akravy 90M		Abreu 90E
				$\gamma \text{ hadron (hadrons)}$	Akravy 90H		
				$\text{heavy-lepton}^+ X$	Akravy 90B		
				$\text{heavy-lepton}^- X$	Akravy 90B		
				$\text{heavy-lepton}^+ \text{heavy-lepton}^-$	Soderstrom 90 Akravy 89D Decamp 89E		
				$\text{heavy-lepton}^- X$	Akravy 90B		

Z^0	
ν heavy-lepton ⁰	Akrawy 90I
$\nu \bar{\nu}^*$	Decamp 90I
$\nu \bar{\nu}$ higgs	Abreu 90F Akrawy 90J Akrawy 90N Decamp 90E
$\nu \bar{\nu}$ jet	Decamp 89C
$\nu \bar{\nu}$	Decamp 89G Jung 89 Albajar 86B
$\nu^* \bar{\nu}^*$	Decamp 90I
$\bar{\nu}$ heavy-lepton ⁰	Akrawy 90I
$\bar{\nu} \nu^*$	Decamp 90I
$\pi^0 \gamma$	Akrawy 90F Decamp 90B
$q \bar{q}$ higgs	Abreu 90F
$q \bar{q}$	Decamp 89E Meier 89 Ansari 87B Cenci 87 Repelin 87
$e^- e^+$	Akesson 90B Adeva 89B Akrawy 89E Albajar 89B Decamp 89D Ansari 87D
$\bar{e}^+ \bar{e}^-$	Soderstrom 90 Decamp 89D
$\mu^- \bar{\mu}^+$	Adeva 89B Akrawy 89E Decamp 89D
$\bar{q} \bar{q}$	Abreu 90E
$\tau^- \tau^+$	Akrawy 89E Decamp 89D
$\tau^+ \tau^-$	Akrawy 90G Decamp 90G
$\tau^\pm X$	Akrawy 90I
$\tau^- \tau^+$	Akrawy 90G Decamp 90G
$\tau^- \tau^+ + \mu^- \mu^+ +$ 2hadron (hadrons)	Abrams 89B
$\tau^- \tau^+ \text{ higgs}$	Abreu 90F Decamp 89C
$\tau^- \tau^+$	Aarnio 90B Adeva 90B Akrawy 90 Akrawy 90E Akrawy 90K Kuhlen 90 Nash 90 Abrams 89C Akrawy 89E Burchat 89 Decamp 89B Decamp 89C Feldman 89
Z^0	
Feldman 89B Hearty 89 Trauss 89 Weinstein 89	
technipion ⁺	Akrawy 90D
top X	Weinstein 89
top top	Decamp 89E
$t \bar{t}$	Abreu 90B Abrams 89F Akrawy 89B Decamp 89E
wino ⁻ wino ⁺	Adeva 89B Decamp 89D Ansari 87D
Zn	
2ℓ higgsino	Behrend 87
$q \bar{q}$ higgsino	Behrend 87
Zn	
	Kozma 90 Kozma 88
^{62}Zn	Arakelyan 90
^{63}Zn	Arakelyan 90
^{65}Zn	Kozma 88B
^{72}Zn	Butsev 85 Wagner 85
Z'	
	Geer 89 Kim 89E Stubenrauch 89
2jet	Alitti 90D
$e^- e^+$	Albajar 89B Ansari 87D
Zr	
	Kozma 90
^{88}Zr	Butsev 85
^{89}Zr	Butsev 85 Hufner 85
^{90}Zr	Lee 88 Phan 85
^{94}Zr	
$^{94}\text{Mo } 2e^- 2\bar{\nu}_e$	Barabash 88
$^{94}\text{Mo } 2e^-$	Barabash 88 Norman 87
^{95}Zr	
$^{96}\text{Mo } 2e^- 2\bar{\nu}_e$	Barabash 89B Barabash 88
$^{96}\text{Mo } 2e^-$	majoron Barabash 89B
$^{98}\text{Mo } 2e^-$	Barabash 89B Barabash 88 Norman 87

This index lists papers by the accelerator, the experiment number, and the detector used, ordered alphabetically. The Accelerator Vocabulary and the Detector Vocabulary list all the facilities used by papers indexed in this book. A question mark indicates that the information is missing, usually because it was not given in the paper. A dash mark indicates that the position cannot be filled in.

Illustrative Key

Accelerator: see the *Accelerator Vocabulary* for definitions.

ANL	
ANL-E-412	
DBC-12FT	Mann 86
ANL-E-435	
CNTR	Auer 86
SPEC	Auer 86B
WIRE	Auer 86
ANL-E-441	
EMS	Finley 85
ANL-E-447	
SPEC	Auer 88
ANL-E-451	
EMS	Wicklund 85
	Wicklund 87

Detector: see the *Detector Vocabulary* for definitions.

BNL	
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MPS	Bensinger 85
BNL-701	
COMB	Franklin 87
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COMB	Snow 85
BNL-723	
SPEC	Gall 88
	Hertzog 88
BNL-726	
WIRE	Christenson 85
BNL-732	
CALO	Chiang 86

Document ID: see the *ID/Reference/Title Index* for the full reference.

Experiment: the experiment's number, where known.

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ANIK-MEA		BNL-772 SPEC	Daftari 87 Bridges 86 Bridges 86B	Clarke 86 Ghosh 89B Parkin 86 Kouso 84 Hoffmann 88 Heppelmann 89
ANL		BNL-773 SPEC	Chrien 86	Carroll 88 Heppelmann 89
ANL-E-412	Mann 86	BNL-774 SPEC	Chrien 86	Carroll 88
DBC-12FT		BNL-775 CALO	Ahrens 87 Ahrens 87B	
ANL-E-435	Auer 86	BNL-776 COMB	Blumenfeld 89 Krizmanic 89	
SPEC	Auer 86B	BNL-777 CNTR	Lide 89	
ANL-E-441		SPEC	Lubatti 89 Campagnari 88	
EMS	Finley 85	Baker 87		
ANL-E-447		BNL-778 SPEC	Mahi 88	CNTR 85 WIRE 85
SPEC	Auer 88	BNL-780 WIRE	Sangster 87	Arends 85 Arends 85
ANL-E-451		BNL-781 SPEC	Schaffner 89	
EMS	Wicklund 87	BNL-782 DAS	Greenlee 88	
?	Wicklund 85	BNL-783 SAS	Jastrzembski 88	
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		BNL-785 WIRE	Khaiari 89	CERN-R-110 SPEC
BNL		BNL-786 SAS	Saroff 90	CERN-R-209 COMB
BNL-673-593	Bensinger 85	BNL-787 SPEC	Atiya 90	CERN-R-210 COMB
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BNL-701	Franklin 87	BNL-789 WIRE	Selen 89	CERN-R-416 SFM
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	Ahrens 87C		Tannenbaum 88	
	Abe 86B		Abbott 87	
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	Ahrens 86			
	Ahrens 85			
	Ahrens 85B			
BNL-737	Kitagaki 86			
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BNL-742	Fickinger 86B			
WIRE	Ashford 85			
	Ashford 85B			
BNL-744				
COMB	Dukes 87			
	Sullivan 87			
BNL-747				
MPS	Etkin 88			
	Longacre 87			
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	Etkin 85			
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?
CALO
CNTR
EMUL

PLASTIC

MANY
PLASTIC

CESR
CESR-CLEO
CLEO

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Longuemare 89

Perdereau 89
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Bionta 88
Bionta 87B

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DESY-DORIS-II

COSM	COSM	COSM-SN1987A									
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—	Allison 89 Allison 89B Kochcocki 89 Price 85	PION	Avakyan 89B Avakyan 89C Avakyan 86 Avakyan 85C Avakyan 85D Avakyan 85E Avakyan 85F Akopova 86	MANY	Tanimori 89 Bond 88B Vanderwelde 89 Anada 88 Arpapella 88B Barbieri 88B Lattimer 88 Turner 88 Arnett 87 Goldman 87C Krivoruchenko 87 Mayle 87 Chupp 89 Kolb 89 Gaisser 89						
BAKSAN	Bakatanov 88 Alekseev 87 Andreev 86 Bakatanov 85 Budko 85B Yock 86 Dzhaoishvili 90 Aglamazov 85 Alibekov 85 CNTR	PLASTIC SEMI	Ahlen 88 Ahlen 87 Avignone 87B Rich 87 Grigorov 90 Grigorov 89B Grigorov 89C Ivanenko 89 Ivanenko 88B Ivanenko 87 Ivanenko 86 Dyakonov 89 Dubovsky 88 Vashkevich 88 Barkalov 87 Incandela 86 Atrashkevich 85 Krasilnikov 85 Miner 85 Tsagava 85 Bazarov 85B Miner 85 Ashitkov 85	SOKOL	UNDERGROUND-KAMIOKA-II KAMIOKANDE-II	Hirata 90 Hirata 90B Hirata 89 Hirata 89B Hirata 89C Hirata 89D Suzuki 89 Totsuka 89B Hirata 88C Hirata 88E Hirata 87B					
BBR CALO	Domogatsky 89 Efimov 89 Zatsepin 89 Barish 87 Cribier 87 Cromar 86 Dawson 86 Hara 86 Nieminen 85 Nieminen 85 Dzhaoishvili 88 Dzhaoishvili 88B Dzhaoishvili 87 COMB	SPEC	SPRK	WIRE	KAMIOKANDE-II MANY	Lim 90 Arpesella 88B Caldwell 88B					
COVER CYGNUS DEIS	Asatiani 85 Azimov 85B Berdzenishvili 85 Nikolsky 85 Alekseenko 86 Dingus 88 Alkofer 85 Alkofer 85B EMUL	?	COSM-CYGNUS-X-3	SPEC	DARE-NINA	Vapenikova 88					
FLYSEYE MANY	Chilingarian 88 Gladyaszdzia 88 Navia 86 Ren 88 Ren 88B Ren 88C Atwater 87 Borisov 87B Burnett 87 Cai 87B Chernavskaya 87 Burnett 86 Alibekov 85 Borisov 85 Borisov 85B Borisov 85C Borisov 85D Burnett 85 Burnett 85D Dobrotin 85 Kanevsky 85 Baltrusaitis 85 Baltrusaitis 85C Basdevant 90 Fayet 89 Totzuka 89 Arpesella 88B Nakamura 88 Suzuki 88 Rich 87B Mussel 86 Krasilnikov 85B Linsley 84 Efimov 89 Bermon 90 Ghosh 90C	CNTR FLYSEYE MANY PION SPEC	UNDERGROUND-KAMIOKA-I KAMIOKANDE-I UNDERGROUND-KAMIOKA-II KAMIOKANDE-II UNDERGROUND-MACRO MACRO UNDERGROUND-NUSEX NUSEX UNDERGROUND-SOUDAN-I SOUDAN-I	CYGNUS	EPOS	ORANGE	DARM-LINAC	DESY	DESY-094	WAS	Bodenkamp 85
OSPK OTHER	Haines 90 Dingus 88B	CNTR FLYSEYE MANY PION SPEC	Oyama 87 Oyama 88 Bellotti 89G Battistoni 86B Johns 89 Lawrence 89 Cassiday 89 Cassiday 89B Bonnetbidaud 88 Av. K. an 88B K. I. o. v. 87 Kirov 85	DESY-DORIS-II	DESY-DORIS-ARGUS	ARGUS	Albrecht 90 Albrecht 90B Albrecht 90D Albrecht 90E Degtyarenko 90 Albrecht 89 Albrecht 89B Albrecht 89C Albrecht 89E Albrecht 89F Albrecht 89G Albrecht 89H Albrecht 89I Albrecht 89J Albrecht 89K Albrecht 89L Albrecht 89N Albrecht 89O Albrecht 89P Albrecht 89Q Albrecht 89R Albrecht 89S Albrecht 89T Albrecht 89U Albrecht 89V Albrecht 89W Albrecht 89X Danilov 89 Degtyarenko 89 Harder 89 Albrecht 88C Albrecht 88D				
COSM-SN1987A	MANY	UNDERGROUND-IMB IMB UNDERGROUND-KAMIOKA-II KAMIOKANDE-II	Haines 90 Dingus 88B	COSM-HERCULES-X-1	CYGNUS	COSM-LMC-X-4	DESY-DORIS-II	DESY-DORIS-ARGUS	ARGUS	Albrecht 90 Albrecht 90B Albrecht 90D Albrecht 90E Degtyarenko 90 Albrecht 89 Albrecht 89B Albrecht 89C Albrecht 89E Albrecht 89F Albrecht 89G Albrecht 89H Albrecht 89I Albrecht 89J Albrecht 89K Albrecht 89L Albrecht 89N Albrecht 89O Albrecht 89P Albrecht 89Q Albrecht 89R Albrecht 89S Albrecht 89T Albrecht 89U Albrecht 89V Albrecht 89W Albrecht 89X Danilov 89 Degtyarenko 89 Harder 89 Albrecht 88C Albrecht 88D	

Entries in order of accelerator code, then experiment number, then detector code, as given in Accelerator and Detector Vocabularies. See the legend on page 359.

DESY-DORIS-II

DESY-DORIS-II

Albrecht	88E
Albrecht	88F
Albrecht	88G
Albrecht	88H
Albrecht	88I
Albrecht	88J
Albrecht	88K
Albrecht	88L
Albrecht	88M
Albrecht	88N
Albrecht	88O
Albrecht	88P
Albrecht	88Q
Albrecht	88R
Albrecht	88S
Albrecht	88T
Danilov	88
Albrecht	87B
Albrecht	87C
Albrecht	87D
Albrecht	87E
Albrecht	87F
Albrecht	87G
Albrecht	87H
Albrecht	87I
Albrecht	87J
Albrecht	87K
Albrecht	87L
Albrecht	87M
Albrecht	87N
Albrecht	87O
Albrecht	87P
Albrecht	87Q
Albrecht	87R
Albrecht	87S
Albrecht	87T
Albrecht	86
Albrecht	86B
Albrecht	86C
Albrecht	86D
Albrecht	86E
Albrecht	86F
Albrecht	86G
Albrecht	85
Albrecht	85B
Albrecht	85C
Albrecht	85D
Albrecht	85E
Albrecht	85F
Albrecht	85G
Albrecht	85H
Albrecht	85I
Albrecht	85J
Albrecht	85K
Albrecht	85L
Albrecht	85M
Albrecht	85N
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DESY-DORIS-CRYSTAL-BALL	
CRYS-BALL	Marsiske 90
Janssen	89
Maschmann	89
Schutte	89
Wachs	89
Bienlein	88
Fairfield	88
Jakubowski	88
Keh	88B
Schmitt	88
Williams	88
Antreasyan	87
Lurz	87
Skwarnicki	87
Skwarnicki	87B
Antreasyan	86
Leffler	86
Lowe	86
Lowe	86B
Lowe	86C
Gelphman	85
Ironi	85
Lowe	85
Nernst	85
Skwarnicki	85B

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CELLO

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Behrend	89B
Behrend	89C
Behrend	89D
Behrend	89E
Behrend	89F
Behrend	89G
Behrend	89H
Behrend	89I
Behrend	89J
Feindt	89
Kroha	89B
Behrend	88
Behrend	88B
Behrend	88C
Behrend	88D
Behrend	88E
Behrend	88F
Behrend	88G
Behrend	87
Behrend	87B
Behrend	87C
Behrend	87D
Behrend	87E
Aleksan	86
Behrend	86
Behrend	86B
Behrend	86C
Behrend	86D
Behrend	85
Behrend	85B
Elsen	90
Greenshaw	89
Hegner	89
Hill	89
Kleinwort	89
Pitzl	89
Bethke	88
Ouldsada	88
Bartel	87
Bartel	87B
Bartel	87C
Naroska	87
Bartel	86
Bartel	86B
Bartel	86C
Bartel	86D
Bartel	86E
Bartel	86F
Bartel	86G
Bartel	86H
Kuhlen	86B
Bartel	85
Bartel	85B
Bartel	85C
Bartel	85D
Bartel	85E
Bartel	85F
Bartel	85G
Bartel	85H
Bartel	85J
Bartel	85K
Bartel	85L
Bartel	85M
Bartel	84G

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JADE

Elsen	90
Greenshaw	89
Hegner	89
Hill	89
Kleinwort	89
Pitzl	89
Bethke	88
Ouldsada	88
Bartel	87
Bartel	87B
Bartel	87C
Naroska	87
Bartel	86
Bartel	86B
Bartel	86C
Bartel	86D
Bartel	86E
Bartel	86F
Bartel	86G
Bartel	86H
Kuhlen	86B
Bartel	85
Bartel	85B
Bartel	85C
Bartel	85D
Bartel	85E
Bartel	85F
Bartel	85G
Bartel	85H
Bartel	85J
Bartel	85K
Bartel	85L
Bartel	85M
Bartel	84G

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Adeva	87
Adeva	86
Adeva	86B
Adeva	86C
Adeva	85
Adeva	85B
Adeva	85C
Ouldsada	89
Berger	88
Berger	88B
Ferrarotto	88
Berger	87

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Berger	87C
Berger	86
Berger	85
Berger	85B
Berger	85C
Berger	85D
Berger	85E
Berger	85F
Berger	85G
Berger	85H
Braunschweig	90
Braunschweig	90B
Braunschweig	89
Braunschweig	89B
Braunschweig	89C
Braunschweig	89D
Braunschweig	89E
Braunschweig	89F
Braunschweig	89G
Braunschweig	88
Braunschweig	88B
Braunschweig	88C
Braunschweig	88D
Braunschweig	88E
Braunschweig	88F
Braunschweig	88G
Braunschweig	87
Braunschweig	87B
Aithoff	86
Aithoff	86B
Aithoff	86C
Aithoff	86D
Aithoff	86
Aithoff	85
Aithoff	85B
Aithoff	85D
Aithoff	85E
Aithoff	85F
Aithoff	84R
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Ouldsada	88B
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Kolanoski	86
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Venkataraman	85B

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Baker	89
Baker	86
Baltay	86
Brucker	86
Baker	85
Baker	85B
Baker	85C
Brucker	85
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SPEC	
FINAL-087A	
COMB	
FINAL-138	
HBC-301N	
FINAL-180	
HLBC-15FT	
Lamm	87
Hartouni	85
Okusawa	88
Ammosov	88
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Ammosov	87
Ammosov	87B
Ammosov	87F
Arsatyan	87
Arsatyan	87B
Arsatyan	87C
Ammosov	86
Ammosov	86B

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Ammosov 86C	FNAL-568	Juric 86
Ammosov 86D	EMUL	Brick 90
Ammosov 86E	FNAL-570	Brick 89
Ammosov 86F	HBC-30IN-HYB	Fuess 87
Ammosov 86G		Brick 86
Arsarayan 86	FNAL-574	
Arsarayan 86B	EMUL	Holynski 86
Arsarayan 85		Babecki 85
Arsarayan 85B	FNAL-580	
Ammosov 84G	FMPS	Joyner 89
Ammosov 84H		Arenton 86
FNAL-203A	Meyers 86	Mitkocki 86
MMS		
FNAL-272	Huston 86	
COMB	Zielinsky 86	
FNAL-326	FNAL-584	
COMB	SPEC	Bernstein 88
FNAL-350	FNAL-591	
CNTR	SPEC	Bujak 85
FNAL-380	FNAL-594	
HLBC-15FT	CALO	Bofill 87
FNAL-381		Bogert 86
SPEC		Mukherjee 86
FNAL-385	FNAL-597	Bogert 85
EMUL	HBC-30IN-HYB	Bogert 85B
FNAL-401		Toothacker 87
SPEC		Biswas 86
FNAL-439	FNAL-609	
SPEC	CALO	Moore 90
FNAL-495		Miettinen 88
SPEC		Nelson 87
FNAL-497		Naudet 86
WIRE		Arenton 85
		Arenton 85B
FNAL-515	FNAL-610	
SPEC	CYCLOPS	Budd 85
FNAL-516	FNAL-612	
TPS	TREAD	Chapin 85
FNAL-531	FNAL-613	
COMB	CALO	Duffy 88
		Duffy 86
		Duffy 85
	FNAL-615	Romanowski 85
	SPEC	
FNAL-533		Conway 89
SPEC		Heinrich 89
FNAL-537	Anassontzis 87	Biino 87
SPEC	Katsanevas 87	Alexander 86
	Anassontzis 85	Louis 86
	FNAL-616	Palestini 85
	LAB-E	
FNAL-545		Reutens 90
DBC-15FT	Cole 88	Mishra 89
	Hanlon 85	Lang 87
FNAL-546		Mishra 87
HLBC-15FT-HYB	Ballagh 89	Reutens 85
	Ballagh 86	
FNAL-555	FNAL-617	
SPEC	SPEC	Woods 88
		Carlsmith 87
		Carlsmith 86
		Bernstein 85
		Cupal 85
FNAL-557	FNAL-619	
FMPS	SPEC	Petersen 86
	FNAL-620	
	WIRE	Wah 85
FNAL-564	FNAL-623	
HLBC-15FT-HYB	FMPS	Davenport 86
		Green 86
		Torres 85
		Georgioupolou 84
FNAL-565	FNAL-630	
HBC-30IN-HYB	STRC	Tzeng 85
	FNAL-650	
	SPEC	Fitch 86
	FNAL-663	
	SPEC	Gourlay 86
	FNAL-673	
	CCM	Bauer 85
	FNAL-701	
	LAB-E	Stockdale 85
	FNAL-715	
	COMB	Trost 89

Entries in order of accelerator code, then experiment number, then detector code, as given in Accelerator and Detector Vocabularies. See the legend on page 359.

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FNAL-400	Shipbaugh 88B	HBC-LEBC-HYB	Ainmar 87 Ainmar 86B Ammar 88B Ammar 87 Ammar 86B		Aleshin 87 Aleshin 87C Aleshin 87D Andryakov 87 Drutskoy 87B Drutskoy 87B Mikhajlichen 87 Perepelitsa 87 Aleshin 86 Aleshin 86B Aleshin 85 Arutyunyan 85 Aleshin 84
SPEC	Coteus 87 Coteus 87B Cumalat 87 Cumalat 87B Diesburg 87 Filaseta 87B Shipbaugh 87	FNAL-744 LAB-E	Foudas 88 Foudas 88B Schummi 88 Merritt 87 Merritt 87B		Vorobiev 89B Vorobiev 88D Vorobiev 86B Bayukov 85C Bayukov 85D Bayukov 85E Bayukov 85F Gavrilov 85B Vorobiev 85B
FNAL-508	Abduzhamilov 89 Abduzhamilov 88B Abduzhamilov 88C Barbier 88 Abdurazakova 87 Abduzhamilov 87	FNAL-745 HLBC-1M FNAL-747 OTHER	Kitagaki 88 Shivpuri 87B Matis 88 Matis 86	ITEP-E-771 BAS	Arefiev 87 Arefiev 86 Arefiev 86B
EMUL	Sliwa 83	FNAL-750 EMUL	Jain 87B Jain 86		
FNAL-516	Gomez 86	FNAL-751 EMUL	Mishra 89B	ITEP-E-781 TISS-3	Abdullin 90 Abdullin 89 Abdullin 89B Abdullin 89C Abdullin 89D Abdullin 89E Abdullin 89F Abdullin 89G Abdullin 88 Abdullin 88B Abdullin 88C Abdullin 88D
TPS	Gomez 86B	FNAL-770 LAB-E	Bross 89	ITEP-E-782 HBC-80CM	Blinov 88 Abdullin 87 Blinov 87B Blinov 86 Blinov 85 Blinov 85D Blinov 84B
FNAL-557	Akchurin 89	FNAL-774 SPEC	Mishra 90 Guo 89 Kaplan 89		
FMPS	Underwood 89	?			
FNAL-581-704	Akchurin 89				
CALO	Underwood 89				
SPEC	Akchurin 89				
Underwood 89					
FNAL-605	Brown 89				
SPEC	Jaffe 89				
	Yoshida 89				
	Jaffe 88				
	Brown 86				
	Brown 86B				
	Crittenden 86				
	Hsiung 85				
FNAL-621	Grossman 87				
WIRE					
FNAL-632					
HLBC-15FT-HYB					
FNAL-672	Aderholz 89				
FMPS	Kartik 90				
	Stewart 90				
	De 89				
	Gomez 86				
FNAL-691	Anjos 90				
TPS	Anjos 90B				
	Anjos 89				
	Anjos 89B				
	Anjos 89C				
	Anjos 88				
	Anjos 88B				
	Anjos 88C				
	Anjos 88D				
	Anjos 88E				
	Anjos 88F				
	Anjos 88G				
	Anjos 87				
	Anjos 87B				
	Anjos 87C				
	Anjos 87D				
	Raab 87				
	Anjos 86				
	Sokoloff 86				
	Bhadra 85				
FNAL-704	Bonner 88B	ITEP-E-741 HLBC-1M ITEP-E-761 HLBC-1M	Vorobiev 84C		Vlasov 90 Vorobiev 90 Vorobiev 89B Bayukov 89 Bayukov 89B Bayukov 89C Vlasov 89 Vlasov 89B Vorobiev 89C Vorobiev 88 Vorobiev 88C Vorobiev 88 Vorobiev 88
SPEC					
FNAL-706					
FMPS					
FNAL-711	De 89				
CALO	Streets 89				
SPEC	Streets 89				
FNAL-723					
OTHER					
FNAL-731	Reiner 86				
SPEC	Patterson 90				
	Yamanaka 90				
	Papadimitriou 89				
	Winstein 89				
	Yamanaka 89				
	Gibbons 88				
	Hsiung 88				
FNAL-743	Ammar 88B	ITEP-E-762 MTS	Abramov 89B Abramov 88 Abramov 87 Abramov 86 Barmin 88C Barmin 85	ITEP-E-813 BAS	Vorobiev 88 Vorobiev 88E Vorobiev 87B Vorobiev 87C Bayukov 86 Vlasov 86 Vorobiev 86
FMPS		ITEP-E-763 HBC-2M	Andryakov 89 Brovkina 89 Drutskoy 89 Drutskoy 88 Perepelitsa 88		

ITEP

ITEP
 ITEL-E-814
 HLBC-1M
 ITEL-E-822
 SPEC
 ITEL-E-823
 CNTR
 ITEL-E-831
 SPEC

ITEP-E-842

FAS-1

ITEP-E-851

HLBC-1M

?

CNTR

EMUL

HEBC-80CM

HLBC-105CM

HLBC-180LIT

HLBC-2M

OSPK

SPEC

HLBC-180LIT

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Bayukov 85B

Barmin 89B

Alekseev 88

Afanashev 88

Sibirtsev 90

Safronov 88

Safronov 88B

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 MASPIC
 JINR-E-86-03
 ALPHA-POLIS
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 SERP-E-017
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JINR
 HLBC-1M

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 Troyan 88
 Zelinski 88
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 Besliu 86
 Dolidze 86
 Dzhincharadz 86
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 Glagolev 85
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 Abdinov 87
 Arakelyan 87
 Gulkanyan 87
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 Agababayev 85B
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 Baatar 90
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 Gulkanyan 87D
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 Kopylova 87
 Agakishiev 86B
 Armutlijsky 86
 Armutlijsky 86B
 Armutlijsky 86C

Balea 86
 Bekmiraev 86
 Bialkowska 86
 Grishin 86B
 Kopylova 86
 Kopylova 86E
 Kutsidi 86
 Simich 86
 Agakishiev 85
 Akhababian 85
 Ameev 85
 Armutlijsky 85

Abraamyan 89

JINR	KEK-PS	KEK-TRISTAN	
HILBC-55CM	Armutlijsky 85B Balea 85 Bartek 85 Bekmirzayev 85 Boldea 85 Cheplakov 85 Gasparian 85 Gazdzicki 85 Jovchev 85 Agakishiev 84B Agakishiev 84E Armutlijsky 84 Gasparian 84B Shahbazyan 90 Kechechyan 89 Shahbazyan 88 Artykov 86B Istmatova 85B Golubeva 90 Golubeva 89 Baldin 88 Kurepin 88 Kozma 90 Kozma 90B Abraamyan 89 Damdinsuren 89 Damdinsuren 89B Kozma 89 Kozma 89B Kozma 89C Abraamyan 88 Damdinsuren 88B Kozma 88 Kozma 88B Damdinsuren 87 Kozma 87 Kozma 86 Kozma 86B Grabez 88 Abdurakhimov 89 Agakishiev 89 Anikina 89 Abdurakhimov 88 Okonov 88 Anikina 86B Anikina 86D Anikina 85 Anikina 85B Arkhipov 88 Damdinsuren 88 Arkhipov 87 Korenchenko 87 Arkhipov 85 Butsev 85 Haysak 85 Angelesci 90 Balestra 86 Gazdzicki 85 Balestra 84	Oinori 89 Chiba 88 Chiba 87 Chiba 87B KEK-074A WAS KEK-080 HBC-1M KEK-081 TELAS KEK-090 FANCY KEK-092 TELAS KEK-099 SAS KEK-104 SPEC WIRe KEK-117 DAS KEK-121 SUPERBENKEI KEK-125 CNTR KEK-131 SPEC KEK-132 FANCY KEK-133 FANCY KEK-135 SUPERBENKEI KEK-136 SPEC KEK-137 DAS KEK-157 FANCY KEK-159 CNTR KEK-174 CNTR SPEC	Adachi 90B Adachi 90C Abe 89K Adachi 89 Adachi 89B Adachi 89C Adachi 89D Adachi 89E Adachi 88 Adachi 88B Adachi 88C Adachi 88D Masuda 88 Sugahara 88 Takahashi 88 Yamauchi 88 Adachi 87 Miyamoto 87 KEK-TE-003 AMY
KASPI		Sakai 90 Stuart 90 Zheng 90 Bodek 89 Eno 89 Eno 89L Eno 89C Ho 89 Kim 89B Kim 89C Kim 89E Kim 89F Kim 89G Kumita 89 Kumita 89B Kurhara 89	
PHOTON		Li 89 Li 89B Low 89 Mori 89 Mori 89B Myung 89 Park 89 Park 89B Sagawa 89 Sakai 89 Sasaki 89 Shaw 89 Bacala 88 Bacala 88B Eno 88 Kim 88 Kim 88C Kim 88D Ko 88 Maki 88 Mori 88 Myung 88 Park 88 Rosen 88 Sagawa 88 Sasaki 88 Son 88 Igarashi 87 Sakai 87	
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SPEC		KEK-TE-001 VENUS	
STRC		KEK-TE-004 SHIP	
JINR-600		MANY	
CNTR HBC-25CM SPEC	Akimov 89 Balandin 85 Akimov 89	Kinoshita 89B Kinoshita 88B Kinoshita 88C	
KEK-PF-LINAC		KHAR	
KEK-PF-000 WAS	Konaka 86	CNTR	
KEK-PS		Adeishvili 87	
KEK-019 WIRe	Minowa 87 Suzuki 87		
KEK-033 SAS	Iwasaki 85B		
KEK-049 DAS	Abe 87B Abe 86C		
KEK-062 HBC-1M KEK-064 SUPERBENKEI	Miyano 88 Inagaki 89B Takamatsu 89		
KEK-068 SAS	Chiba 89		
	KEK-TE-002 TOPAZ		
	Adachi 90		

KHAR		LAMPF		LBL-BEVALAC	
COMB DAS SPEC	Akhimerov 87	Mokhtari 86	Mangotra 85		
	Zybalov 90	Mokhtari 86B	Waddington 85		
	Zybalov 90B	Mokhtari 85	Brechtmann 88		
	Zybalov 88	Fitzgerald 86	Ohashi 86		
	Bratashevsky 87	Seestrommorr 85	Bock 89		
	Bratashevsky 87B	Nath 89	Bock 89B		
	Bratashevsky 88	Piilonen 86	Gutbrot 89		
	Bratashevsky 88B	Ni 87	Dose 88		
	Bratashevsky 86C	CNTR	Dose 87		
	Bratashevsky 85	EPICS	SPEC		
LAMPF	Bratashevsky 85B	?	Kobayashi 89		
	Gorbenko 85	Schutt 88	Kobayashi 89B		
	Belyaev 86B	Shypit 88	Kobayashi 89C		
	Kuplennikov 90	Dropesky 86	Schretzer 89		
	Ganenko 89	Ohkubo 85	Brady 88		
	Dementy 88	Wharton 85	Chacon 88		
	Ganenko 88	Holtkamp 85	Kobayashi 88		
	Esaulov 87	Mordechai 85	Tanihata 88		
	Belyaev 86	Ullmann 85	Tanihata 86		
	Esaulov 86	Hoistad 86	Hallman 85		
Tonapetyan 85B		Adams 89	Tanihata 85		
Mcfarlane 85		Barlow 88	Miake 84		
Allen 89		Rees 86	Harris 87		
Allen 85B		Williams 89B			
Ungricht 85		Hicks 85			
Barlett 85		Peng 89			
Bolton 88		EPICS			
Mcdonough 88		Pi0SPEC			
Goldman 87		SPEC			
Bolton 86					
Grosnick 86					
Hogan 86					
Glass 85B					
Pillai 88					
Gazzaly 87					
Paulette 87					
LAHRS					
Tanaka 87					
Rahbar 87					
Sun 85					
Dombeck 87					
Durkin 88					
Chalmers 85					
Adams 87					
Riley 87					
Hollas 85					
Garnett 89					
Ditzler 87					
Ashery 88					
Kinney 86					
Yuan 86					
Harper 85					
Seth 85					
Kim 90					
Kim 89					
Kim 89D					
Wightman 87					
Kim 86					
Barlow 89					
Seftor 89					
Wightman 88					
Seftor 87					
EMUL					
Antonchik 90					
Antonchik 90B					
Gil 90					
Abdurazakova 88					
Cai 87					
Judek 86					
Kim 86C					
Aggarwal 85B					
Bhanja 85					
M. C. 85					
CNTR					
SPEC					
LENI-SC-021					
LENI-SC-029					
LENI-SC-042					
LENI-SC-052					
LENI-SC-056					
LENI-SC-062					
LENI-SC-063					
LENI-SC-066					
LENI-SC-074					
LENI-SC-085					
LENI-SC-086					
LENI-SC-087					
LENI-SC-088					
LENI-SC-097					
CNTR					

Entries in order of accelerator code, then experiment number, then detector code, as given in Accelerator and Detector Vocabularies. See the legend on page 359.

LENI

MIT-BLA

LENI	MANY	MANY
LENI-SC-108 DBC-35CM	Andreev 88 Andreev 88B Andreev 87B Andreev 87C Andreev 85 Andreev 84	Augustin 88C Barish 88 Bertini 88B Bethke 88B Chan 88 Desantic 88 Dickmann 88 Franklin 88
?	Gavrin 89 Baturin 88	Gan 88 Gan 88B
CNTR	Filatov 88	Gidal 88C
EMUL	Mitropoliskii 87	Grivaz 88
MEGA	Amelin 90	Hithin 88
SPEC	Aleksandrov 89	Hoffman 88
	Gornov 88	Kamae 88
	Abaev 87	Levy 88
	Aleksandrov 87B	Liu 88
	Gornov 87	Purohit 88
	Gornov 87B	Salvini 88
	Gornov 86B	Schmitz 88
SPRK	Vovchenko 86	Sedlak 88
	Vovchenko 85	Sugahara 88B
LVLN-CYC		
OTHER	Michel 85	Sulyaev 88
MANY		
CERN-EMU-001		Thorndike 88
EMUL	Adamovich 90	Toki 88B
?		Totsuka 88
MANY	Landsberg 89	Amaglobeli 87
	Zielinsky 88	Arndt 87
EMUL	Takibaev 90	Baldin 87
	Adamovich 89B	Bayman 87
	Adamovich 89E	Berger 87B
	Kumar 89	Bystriky 87
	May 89B	Couchot 87
	Atageldieva 88	Danilov 87
	Jain 88B	Davier 87
	Otterlund 88	Fredriksson 87
	Holynski 86B	Gittelman 87
	Kim 85	Grah 87
MANY	Bagdasaryan 90	Hofmann 87
	Chliapnikov 90	Hofmann 87B
	Aliev 89	Kolanoski 87
	Artuso 89B	Luth 87
	Barbarogalati 89	Prokoshkin 8
	Bartke 89	Prokoshkin 87C
	Bethke 89B	Richard 87
	Buschbeck 89	Schindler 87
	Eggert 89	Schurman 87
	Fayard 89	Siksin 87
	Franzini 89	Stirling 87
	Gilman 89	Stock 87
	Guaraldo 89	Tannenbaum 87
	Guaraldo 89B	Toki 87
	Hayes 89	Voloshin 87
	Hayes 89B	Wu 87
	Hohler 89	Abdinov 86D
	Holder 89	Azimov 86
	Itep 89	Baldin 86
	Jenni 89	Baldin 86B
	Kass 89	Barate 86C
	Klein 89C	Berger 86B
	Kopke 89	Boehm 86
	Krauss 89	Bogolyubsky 86F
	Lach 89	Boos 86
	Lhote 89	Boschitz 86
	Littenberg 89	Bystriky 86D
	London 89	Chuvilo 86
	Marshall 89	Dabrowski 86
	Maruyama 89	Diemoz 86
	Mattig 89	Fearing 86
	Murtash 89	Ferhel 86
	Panagioutou 89	Gal 86B
	Peyaud 89	Hicks 86
	Piccolo 89	Konigsman 86
	Schindler 89	Lancron 86B
	Tannenbaum 89	Landsberg 86
		Lechanoine 86
		Lehar 86
		Marx 86
		Mermaz 86
		Mukhopadhyay 86
		Ohsshima 86
		Piragino 86B
		Redwine 86
		Roberts 86
		Sapozhnikov 86
MANZ-LINAC		
		CNTR
		Rose 90
		Hiel 89
		Spann 89
SPEC		Koch 89
		Ottermann 85
		Roehrich 85
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		AHEAD
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		Turley 85
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		Beise 89
		WIRE

MSU-CYC	NONE	NONE
CNTR Beard 85B	OSPK OTHER	SYSTEMA-II TRAD UCL-TPC
MUNT		Wasiliev 90 Vandyck 86 Elliott 87 Elliott 87B Elliott 86 Artemiev 89 Ajnudtinov 88
CNTR Novikov 90		WIRE
NBS-LINAC		
SPEC Dodge 85		NOVO-VEPP-2M
NONE		NOVO-CMD CMD
ITEP-E-783		Barkov 89 Barkov 88 Barkov 87 Barkov 87B Barkov 87C Barkov 85 Barkov 85B
SPEC		
Boris 87		Bukin 89 Dolinsky 89 Dolinsky 89B Dolinsky 88 Dolinsky 88B Druzhinin 88 Vasserman 88 Vorobiev 88C Aulchenko 87 Aulchenko 87B Aulchenko 87C Aulchenko 87B Golubev 87 Vasserman 87B Aulchenko 86 Aulchenko 86B Aulchenko 86C Dolinsky 86 Druzhinin 86 Golubev 86 Vasserman 86 Vasserman 86B Dolinsky 85 Druzhinin 85 Golubev 85 Druzhinin 84
Boris 87B		
Boris 85		
ITEP-E-861		
SEMI Vasenko 89		
Vasenko 88		
UNDERGROUND-2BETA-GS		
2BETA-GS Bellotti 89		
UNDERGROUND-FREJUS		
FREJUS Berger 89		
Berger 89C		
Bourdarios 88		
Bareyre 86		
Deuzer 85		
Ernwein 85		
UNDERGROUND-HPW		
HPW Phillips 89		
Schwartz 88		
UNDERGROUND-IMB		
IMB Seidel 88		
Haines 86		
Blewitt 85		
Blewitt 85D		
Park 85		
Park 85B		
UNDERGROUND-KAMIOKA-I		
KAMIOKANDE-I Ejiri 89		
Takita 86		
Koshiba 85B		
UNDERGROUND-KGF		
KGF Krishnaswamy 86		
UNDERGROUND-NUSEX		
NUSEX Battistoni 86		
UNDERGROUND-SOUDAN-II		
SOUDAN-II Allison 89		
Kochcocki 89		
BAKSAN		
CNTR Barabanov 86		
Asanuma 90		
Barabash 90		
Inzhechik 90		
Tsuchiaki 90		
Barabash 89		
Melnikov 89		
Minowa 89		
Norman 89		
Simpson 89		
Simpson 89B		
You 89		
Rosen 88		
Barabash 87		
Norman 87		
Shepke 87		
Wimmersperg 87		
Sromnicki 86		
Yasuzni 86		
Grotz 85		
Simpson 85		
Milner 87		
Lorenz 88		
Barabash 88		
Barabash 89B		
Kirpichnikov 89		
Arpeselli 88B		
Barloutaud 88		
Caldwell 88		
Nakamura 88		
Avignone 87		
Barloutaud 87		
Rich 87B		
Hallin 86		
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	PLASTIC SEMI	
	SPEC	
	SYSTEMA-1	

Entries in order of accelerator code, then experiment number, then detector code, as given in Accelerator and Detector Vocabularies. See the legend on page 359.

ORSA-DCI

SACL-SATURNE-II

ORSA-DCI

	PSI	REACTOR
	SIN-R-85-14 SINDRUM-I SIN-R-85-16 SINDRUM SIN-Z-75-02 WIRE SIN-Z-80-01 SPEC ?	Niebuhr 89 Egli 89 Egli 86 Kistryn 87 Kistryn 89 Binz 89 Binz 89B Meyer 88 Doerr 86 Tacik 86 Delata 85 Schaller 85 Goetz 85 Phan 85 Germond 85C Arvieux 84C Meyer 88 Doerr 86
	CNTR	
	SPEC	
	SUSI	
	WIRE	
	REACTOR	
	CNTR	Vidyakin 90 Bitter 89 Mampe 89 Paul 89 Tsertos 89 Tsertos 89B Vesua 89 Vidyakin 89 Vidyakin 89B Alfimenkov 88 Belomytsev 88 Spivak 88 Tsertos 88 Tsertos 88B Oberauer 87 Vidyakin 87 Koch 86 Kosvintsev 86 Avenier 85 Abov 89 Bouchet 88 Mikaelyan 88 Nakanura 88 Borzakov 87 Borisov 87 Ananiev 83 Kopeikin 90 Vershinsky 90 Afonin 88 Afonin 88B Ketov 88 Afonin 87 Afonin 87B Afonin 87C Afonin 86 Ketov 86 Ketov 86B Afonin 85 Afonin 85C Afonin 85 Belenky 85 Bressi 89 Baumann 88 Boucher 88 Dandinsuren 88 Klemt 88 Kozhuharov 88 Last 88 Bondarenko 87 Bondarenko 87B Enghardt 87 Altarev 86 Bopp 86 Derbin 86 Greene 86 Zacek 86B Fidecaro 85 Bitter 89 Ermakov 86C
PSI		
SIN-R-71-07 WIRE	Hausammann 89 Onel 89 Aprile 86	
SIN-R-72-02 SPEC	Franz 88 Grundies 85	
SIN-R-74-05 CNTR	Burkhardt 85B Burkhardt 85C	
SIN-R-78-02 CNTR	Crawford 88 Crawford 86	
SIN-R-78-09 CNTR	Beltrami 85B Deboer 85 Ruckstuhl 85B	
SIN-R-78-13-1 SINDRUM SIN-R-78-18 SPEC	Bay 86 Mathie 85 Ottermann 85B	
SIN-R-79-05 CNTR	Backenstoss 85 Backenstoss 85B	
SIN-R-80-01 CNTR SIN-R-80-06 SINDRUM	Lang 85B Bellgardt 88 Bertl 85	
SIN-R-80-10 CNTR	Buchle 89 Franz 89 Buchle 88 Ero 87 Franz 85	
SIN-R-80-11 CNTR SIN-R-81-01 SPEC SIN-R-81-06 OSPK	Daum 87 Bovet 84	
SIN-R-82-01 SPEC SIN-R-82-04 SINDRUM SIN-R-82-10 CNTR	Faissner 89 Faissner 88 Deleenerrosi 86 Eichler 86 Jeckelmann 86B	
SIN-R-82-17 WIRE	Wiedner 89 Wiedner 87	
SIN-R-83-29 WIRE	Beltrami 87 Beltrami 87B	
	STRC	
	WIRE	

SACL-SATURNE-II

SERP

SACL-SATURNE-II	SERP	SERP	SERP
SACLAY-144 COMB SACLAY-95 SPES-I-V ?	Lehar 87 Banaigs 86B	SERP-E-102 HYPERON	SERP-E-138 HBC-MIRA
DIogene	Bastid 89 Gosset 89 Lhote 87 Bonin 86	Akimenko 90B Akimenko 89C Akimenko 89 Bitsadze 86 Bitsadze 86B Akimenko 85 Bitsadze 85 Bitsadze 85B	Bogolyubsky 89B Bogolyubsky 89D Bravina 89 Babintsev 88 Bogolyubsky 88 Bogolyubsky 88B Bogolyubsky 88C Bogolyubsky 88E Bogolyubsky 88F Bogolyubsky 88G Chekulayev 88B Smirnova 88 Bogolyubsky 87 Bogolyubsky 87B Bogolyubsky 87C Bogolyubsky 87D Bogolyubsky 87E Babintsev 86 Babintsev 86B Bogolyubsky 86 Bogolyubsky 86B Bogolyubsky 86C Bogolyubsky 86D Bogolyubsky 86E Bogolyubsky 86G Bogolyubsky 86H Bumazhnov 86 Kozlovsky 86 Bogolyubsky 84B
MANY	Garcon 86B	SERP-E-104 BIS	Aleev 86 Aleev 85B
SERP		SERP-E-105 RISK	Gabunia 90 Bannikov 89 Gabunia 89 Bannikov 88 Barwolff 88 Boos 88 Boos 87 Boos 87B Barwolff 85
SERP-E-017 HLBC-2M	Baatar 90B Baatar 89 Baatar 89B Baatar 88 Baatar 88B Baldin 88C Agakishiev 87B Agakishiev 87C Anoshkin 87 Armutlijsky 87C Baatar 87 Baatar 87B Kopylova 86B Baatar 85 Grishin 85 Grishin 85B Grishin 85C	SERP-E-107 HLBC-SKAT	Brunner 89 Grabosch 89 Ammosov 88B Ammosov 88D Ammosov 88E Ammosov 88F Ammosov 87D Ammosov 87E Ammosov 86H Ammosov 86I Grabosch 86 Grabosch 86B Grabosch 86D Ammosov 85 Ammosov 85B Ammosov 85C Ammosov 85D Baranov 85
SERP-E-040 SPEC-6M SERP-E-044 HBC-MIRA SERP-E-045 OSPK	Bolonkin 86 Boos 88C Belikov 85 Belikov 83B	SERP-E-112 PROZA	Apopkin 89B Apopkin 88 Apopkin 86B Apopkin 86C Apopkin 86D Avvakumov 86 Avvakumov 86B Apopkin 85B Avvakumov 84 Borisov 84
SERP-E-070 BIS	Silvestrov 87 Silvestrov 86	SERP-E-115 ISTRAN	Bolotov 88 Bolotov 87 Bolotov 86 Bolotov 86B Bolotov 85 Bolotov 85B Bolotov 85C
SERP-E-072 NICE	Apel 85 Apel 85B	SERP-E-119 SPEC	Afanasyev 90 Af.nasyev 90B
SERP-E-077 HBC-MIRA	Babintsev 86B Ma 86 Ukhanov 86 Babintsev 85 Patalakha 85 Bogolyubsky 84D	SERP-E-115 ISTRAN	Bolotov 88 Bolotov 87 Bolotov 86 Bolotov 86B Bolotov 85 Bolotov 85B Bolotov 85C
SERP-E-078 HBC-MIRA SERP-E-080 MIS	Ajinenko 86C Antipov 89C Efendiev 89 Ananieva 86 Vegni 86 Zajimidoroga 85 Bellini 84	SERP-E-122 HBC-MIRA	Bogolyubsky 87D Bravina 86
SERP-E-083 HBC-LUDMILA	Batyunya 89 Boos 89 Kanazirski 89 Zlatanov 89 Andreev 87 Batyunya 87E Batyunya 87F Kanazirski 87 Batyunya 86 Batyunya 86C Batyunya 86D Batyunya 85 Batyunya 85C Batyunya 85D Boos 85	SERP-E-133 HBC-MIRA	Ajinenko 87B Garutchava 87 Garutchava 87B Gerdyukov 87 Ajinenko 86B Gerdyukov 86 Gerdyukov 86B Tomaradze 86 Ajinenko 85 Knyazev 85 Ajinenko 84 Ajinenko 84B Ajinenko 84C Ajinenko 83B
SERP-E-100 FODS	Abramov 86 Abramov 86B Abramov 84 Abramov 84C Abramov 84D Abramov 84E	SERP-E-135 SIGMA	Aleev 89 Aleev 88D Aleev 88E Aleev 88F Aleev 87 Aleev 86B Aleev 85 Aleev 84C
		SERP-E-136 SPEC	Barkov 85C Aleev 89 Aleev 88D Aleev 88E Aleev 88F Aleev 87 Aleev 86B Aleev 85 Aleev 84C
		SERP-E-147 MIS	Bolonkin 89 Bolonkin 88 Balashin 87 Bolonkin 87 Balashin 81

Entries in order of accelerator code, then experiment number, then detector code, as given in Accelerator and Detector Vocabularies. See the legend on page 359.

SERP**SERP-E-148****SIGMA**

Antipov 89
Antipov 89B
Antipov 88
Antipov 88B
Antipov 87
Antipov 87B

SERP-E-149**PROZA-M**

Amaglobeli 89
Apokin 89
Apokin 88B
Apokin 88C
Apokin 86

SERP-E-150**HBC-MIRA****SERP-E-151****RISK**

Bogolyubsky 87E

SERP-E-153**SPEC**

Belyaev 89
Belyaev 89B
Belyaev 89C
Belyaev 88
Belyaev 88B
Belyaev 88C
Belyaev 88D
Belyaev 85

SERP-E-157**MIS**

Cassata 88
Albini 85
Vishnyakov 85

SERP-E-159**BIS-2M**

Aleev 89B
Aleev 89C
Verko 89
Aleev 88
Aleev 88B
Aleev 88C
Krashev 88
Aleev 87B
Aleev 86C

SERP-E-163**GAMS-2000****SERP-E-170****CASCADE****SERP-P-156****HLBC-SKAT****?****EMUL**

Alde 86B
Baskov 88
Belikov 89
Bhattacharjee 89
Lyukov 89
Rabin 88
Takibaev 88
Rabin 86
Abensemova 85
Azimov 85
Batusov 85
Batusov 85B
Rabin 85
Andreev 90B

HBC-LUDMILA-TST**SIEG-BEVALAC****EMUL**

Drechsel 85

SLAC**SLAC-BC-067****HBC-40IN-HYB**

Ferguson 87
Clark 85

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CNTR	Agababyan 89B Bagdasaryan 88 Aivazyan 86 Aivazyan 86B Asaturyan 86C Bagdasaryan 85 Bagdasaryan 85B
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We list here the particle names, ordered by English spelling. The first column gives the usual particle symbol, the second gives the English spelling, and the third gives a brief definition. The English spelling is the "computer name," the version to be used in searching our computer databases.

In the indices, the order of the charge states is $\pi^{++}, \pi^+, \pi^0, \pi^-, \pi^-$. For antiparticles, we use the actual charge of the antiparticle, as in $\bar{\Delta}^{++}$. All antiparticles are spelled with the suffix "BAR" appended to the English portion of the names, as "PBAR" for p , "DELTABAR(1900S₃₁)⁰" for $\bar{\Delta}(1900S_{31})^0$, and "CHARMBAR" for charm, unless the antiparticle has a common name of its own, as in " K^+ ".

We use the chemical symbols for nuclei except in a few cases where an ambiguity with a particle name exists. For example, we use "KK" for potassium to avoid confusion with the K meson, and "Nit" for nitrogen to avoid confusion with the neutron and with nickel.

The names we use in writing any reaction are based on those used by the authors of the paper. For example, one paper might refer to π^+ , π^- , and π^0 particles while another just uses a π to mean all three.

Most of our particle names are obvious. A few general rules are given in the Introduction. Some of the particle names represent a group of particles whose exact number is not known; for example, " $\pi^+ s$ " (meaning two or more π^+ particles), "inelastic," ">3 charged," and so on. Names like these are treated as a single particle name in the Reaction Momentum Index, where the reaction final states are ordered by increasing multiplicity. We do give the exact number of particles when it is known, *e.g.*, " $3\pi^+$," "2charm," and these are treated as the stated number of particles.

PARTICLE NAME	COMPUTER NAME	EXPLANATION
(blacks)	(BLACKS)	Zero or more black tracks, usually in emulsions
(charged-hadrons)	(CHARGED-HADRONS)	Zero or more charged hadrons
(chargeds)	(CHARGEDS)	Zero or more charged particles plus possible neutrals
(fragb)	(FRAGB)	Zero or one beam fragment
(fragbs)	(FRAGBS)	Zero or more beam fragments
(frags)	(FRAGS)	Zero or more nuclear fragments
(γ 's)	(GAMMAS)	Zero or more γ 's
(greys)	(GREYS)	Zero or more grey tracks, usually in emulsions
(hadrons)	(HADRONS)	Zero or more hadrons
(jets)	(JETS)	Zero or more jets
(K^\pm 's)	(K+-S)	Zero or more K^\pm 's
(kaons)	(KAONS)	Zero or more unspecified kaons
(leptons)	(LEPTONS)	Zero or more unspecified leptons
(μ 's)	(MUONS)	Zero or more muons
(neutrals)	(NEUTRALS)	Zero or more neutral particles
(n 's)	(NS)	Zero or more neutrons
(nucleons)	(NUCLEONS)	Zero or more unspecified nucleons
(ν 's)	(NUS)	Zero or more unspecified neutrinos
(π^\pm 's)	(PI+-S)	Zero or more π^\pm 's
(π^0 's)	(PIOS)	Zero or more π^0 's
(π 's)	(PIONS)	Zero or more pions
(p 's)	(PROTONS)	Zero or more protons
0 fragb	OFRAGB	Exactly zero beam fragments
0 γ	OGAMMA	Exactly zero γ 's
0 track	0TRACK	Exactly zero heavy tracks
0 jet	OJET	Exactly zero jets
0 K_S	OKS	Exactly zero K_S 's
0 Λ	OLAMBDA	Exactly zero Λ 's
0 $\bar{\Lambda}$	OLAMBDABAR	Exactly zero $\bar{\Lambda}$'s
0 μ^\pm	OMU+-	Exactly zero muons
0 ν_e	ONUE	Exactly zero ν_e 's
0 $\bar{\nu}_e$	ONUEBAR	Exactly zero $\bar{\nu}_e$'s
0 ν_μ	ONUMU	Exactly zero ν_μ 's
0 $\bar{\nu}_\mu$	ONUMUBAR	Exactly zero $\bar{\nu}_\mu$'s
0 p	OP	Exactly zero protons
0 π	OPI	Exactly zero pions
0 π^+	OPI+	Exactly zero π^+ 's
0 π^\pm	OPI+-	Exactly zero π^+ 's and π^- 's
0 π^-	OPI-	Exactly zero π^- 's
0 π^0	OPIO	Exactly zero π^0 's
0 strange	OSTRANGE	Exactly zero strange particles
0 vee	OVEE	Exactly zero neutral strange particle decays
$a_0(980)$	A0(980)	
$a_0(980)^+$	A0(980)+	Was $\delta(980)$
$a_0(980)^-$	A0(980)-	Was $\delta(980)$
$a_0(980)^0$	A0(980)0	Was $\delta(980)$
$a_1(1260)$	A1(1260)	
$a_1(1260)^+$	A1(1260)+	
$a_1(1260)^-$	A1(1260)-	
$a_1(1260)^0$	A1(1260)0	
$a_2(1320)$	A2(1320)	
$a_2(1320)^+$	A2(1320)+	
$a_2(1320)^-$	A2(1320)-	
$a_2(1320)^0$	A2(1320)0	
$a_3(2050)^-$	A3(2050)-	3π state
$a_5(1790)^+$	A5(1790)-	
Ac	AC	Actinium nucleus
Ag	AG	Silver nucleus
$^{108}\text{Ag}^*$	AG*	Excited silver nucleus
$^{104}\text{Ag}^*$	AG104	Silver-104 radioactive isotope
$^{105}\text{Ag}^*$	AG104*	Excited silver-104 radioactive isotope
^{108}Ag	AG105	Silver-105 radioactive isotope
^{111}Ag	AG108	Silver-108 nucleus
Al	AL	Aluminum nucleus
Al^*	AL*	Excited aluminum nucleus
^{26}Al	AL26	Aluminum-26 nucleus

²⁷Al

11 Bor

PARTICLE NAME	COMPUTER NAME	EXPLANATION
²⁷ Al	AL27	Aluminum-27 nucleus
²⁴¹ Am	AM241	Americium-241 nucleus
annihil	ANNIHIL	Pure annihilation final state in nucleon-antinucleon scattering
anomalon	ANOMALON	Anomalous nuclear fragment
Ar	AR	Argon nucleus
³² Ar	AR32	Argon-32 nucleus
³² Ar*	AR32*	Excited argon-32 nucleus
³⁷ Ar	AR37	Argon-37 nucleus
³⁸ Ar	AR38	Argon-38 nucleus
⁴⁰ Ar	AR40	Argon-40 nucleus
⁴¹ Ar	AR41	Argon-41 radioactive isotope
As	AS	Arsenic nucleus
⁷⁵ As	AS71	Arsenic-71 radioactive isotope
⁷² As	AS72	Arsenic-72 radioactive isotope
⁷⁷ As	AS77	Arsenic-77 nucleus
Cs(atom)	ATOM(CS)	Cesium atom
Au	AU	Gold nucleus
¹⁹⁶ Au	AU196	Gold-196 nucleus
¹⁹⁷ Au	AU197	Gold-197 nucleus
axigluon	AXIGLUON	Hypothesized light Higgs scalar boson
axion	AXION	<i>B</i> (5270) bottom meson
<i>B</i>	B	Meson of unspecified mass with antibeauty quark
<i>B</i> (unspec)	B(UNSPEC)	Excited bottom meson
<i>B</i> *	B*	Vector beauty meson
<i>B</i> * (unspec)	B*(UNSPEC)	
<i>B</i> *+	B*+	
<i>B</i> *-	B*-	
<i>B</i> *0	B*0	
<i>B</i> *0	B*BARO	
<i>B</i> +	B+	<i>B</i> (5270) ⁺ bottom meson
<i>B</i> -	B-	<i>B</i> (5270) ⁻ bottom meson
<i>B</i> S	B/S	Beauty-antistrange meson
<i>B</i> S	B/SBAR	Antistrange-strange meson
<i>B</i> 0	B0	<i>B</i> (5270) ⁰ bottom meson
<i>b</i> ₁ (1235)+	B1(1235)+	"Buddha" meson
<i>t</i> ₁ (1235)-	B1(1235)-	"Buddha" meson
<i>b</i> ₁ (1235)0	B1(1235)0	"Buddha" meson
Ba	BA	Barium nucleus
¹²⁸ Ba	BA128	Barium-128 nucleus
¹³¹ Ba	BA131	Barium-131 nucleus
¹³⁴ Ba	BA134	Barium-134 nucleus
¹³⁶ Ba	BA136	Barium-136 nucleus
¹³⁸ Ba	BA138	Barium-138 nucleus
¹⁴⁰ Ba	BA140	Barium-140 nucleus
baryon	BARYON	Unspecified baryon
baryon	BARYONBAR	Unspecified antibaryon
baryonium	BARYONIUM	Unspecified nucleon-antinucleon particle
baryonium(<i>S</i> = +1)	BARYONIUM(<i>S</i> = +1)	Strange mesons that couple predominately to baryon-antibaryon
baryonium(<i>S</i> = -1)	BARYONIUM(<i>S</i> = -1)	Strange mesons that couple predominately to baryon-antibaryon
<i>B</i>	BBAR	<i>B</i> (5270) antibottom meson
<i>B</i> (unspec)	BBAR(UNSPEC)	Meson of unspecified mass with beauty quark
<i>B</i> 0	BBAR0	<i>B</i> (5270) ⁰ antibottom meson
Be	BE	Beryllium nucleus
¹⁰ Be	BE10	Beryllium-10 nucleus
¹⁰ Be _s	BE10/SS	Beryllium-10 hypernucleus with strangeness = -2
¹¹ Be	BE11	Beryllium-11 nucleus
¹² Be	BE12	Beryllium-12 nucleus
¹⁴ Be	BE14	Beryllium-14 nucleus
⁷ Be	BE7	Beryllium-7 nucleus
⁸ Be	BE8	Beryllium-8 nucleus
⁸ Be*	BE8*	Excited beryllium-8 nucleus
⁹ Be	BE9	Beryllium-9 nucleus
⁹ Be _s	BE9/S	Beryllium-9 hypernucleus with strangeness = -1
Bi	BI	Bismuth nucleus
²⁰² Bi	BI202	Bismuth-202 radioactive isotope
²⁰³ Bi	BI203	Bismuth-203 radioactive isotope
²⁰⁴ Bi	BI204	Bismuth-204 radioactive isotope
²⁰⁶ Bi	BI206	Bismuth-206 radioactive isotope
²⁰⁹ Bi	BI209	Bismuth-209 nucleus
black	BLACK	Heavily ionizing track in emulsions
Bor	BOR	Boron nucleus - note name is not same as chemical symbol
¹⁰ Bor	BOR10	Boron-10 nucleus - note name is not same as chemical symbol
¹⁰ Bor*	BOR10*	Excited boron-10 nucleus - note name is not same as chemical symbol
¹¹ Bor	BOR11	Boron-11 nucleus - note name is not same as chemical symbol

Entries in order of the equivalent English spelling of the particle name.

† Particle not listed in 1990 Review of Particle Properties. Name may not conform to naming conventions.

PARTICLE NAME	COMPUTER NAME	EXPLANATION
¹¹ Bor*	BOR11*	Excited boron-11 nucleus - note name is not same as chemical symbol
¹² Bor	BOR12	Boron-12 nucleus - note name is not same as chemical symbol
¹³ Bor	BOR13	Boron-13 nucleus - note name is not same as chemical symbol
¹⁴ Bor	BOR14	Boron-14 nucleus - note name is not same as chemical symbol
¹⁵ Bor	BOR15	Boron-15 nucleus - note name is not same as chemical symbol
⁸ Bor	BOR8	Boron-8 nucleus - note name is not same as chemical symbol
⁹ Bor	BOR9	Boron-9 nucleus - note name is not same as chemical symbol
bottom	BOTTOM	Unspecified particle with naked bottom
bottom	BOTTOMBAR	Unspecified particle with naked antibottom
b	BD	Bottom quark
b'	BOBAR	Antibottom quark
b'	BOPRIME	Bottom quark of fourth generation
b'	BOPRIMEBAR	Antibottom quark of fourth generation
Br	BR	Bromine nucleus
⁷⁵ Br	BR75	Bromine-75 radioactive isotope
⁷⁶ Br	BR76	Bromine-76 radioactive isotope
⁷⁷ Br	BR77	Bromine-77 radioactive isotope
⁸¹ Br	BR81	Bromine-81 radioactive isotope
C	C	Carbon nucleus
C(1480)+	C(1480)	Meson decaying into $\phi\pi^+$
C(1480)+	C(1480)+	Meson decaying into $\phi\pi^+$
C(1480)-	C(1480)-	Meson decaying into $\phi\pi^-$
C(1480)0	C(1480)0	Meson decaying into $\phi\pi^0$
C*	C*	Excited carbon nucleus
C _S	C/S	Carbon hypernucleus with strangeness=-1
¹⁰ C	C10	Carbon-10 nucleus
¹¹ C	C11	Carbon-11 nucleus
¹² C	C12	Carbon-12 nucleus
¹² C*	C12*	Excited carbon-12 nucleus
¹³ C	C13	Carbon-13 nucleus
¹³ C*	C13*	Excited carbon-13 nucleus
¹⁴ C	C14	Carbon-14 nucleus
Ca	CA	Calcium nucleus
Ca*	CA*	Excited calcium nucleus
⁴⁰ Ca	CA40	Calcium-40 nucleus
⁴² Ca	CA42	Calcium-42 nucleus
⁴⁴ Ca	CA44	Calcium-44 nucleus
⁴⁷ Ca	CA47	Calcium-47 nucleus
⁴⁸ Ca	CA48	Calcium-48 nucleus
Cd	CD	Cadmium nucleus
¹⁰⁰ Cd	CD100	Cadmium-100 nucleus
¹¹² Cd	CD112	Cadmium-112 nucleus
¹¹³ Cd	CD113	Cadmium-113 nucleus
¹¹⁴ Cd	CD114	Cadmium-114 nucleus
¹¹⁶ Cd	CD116	Cadmium-116 nucleus
Ce	CE	Cerium nucleus
Ce*	CE*	Excited cerium nucleus
¹³² Ce	CE132	Cerium-132 radioactive isotope
¹³³ Ce	CE133	Cerium-133 radioactive isotope
¹³⁹ Ce	CE139	Cerium-139 nucleus
¹⁴⁰ Ce	CE140	Cerium-140 nucleus
centauro	CENTAURO	Final state with 50 or more charged particles and no π^0 's
charged	CHARGED	Unspecified charged particle
charged+	CHARGED+	Positive particle of unspecified type
charged-	CHARGED-	Negative particle of unspecified type
charged-hadron	CHARGED-HADRON	Unspecified charged hadron
charged-lepton	CHARGED-LEPTON	Unspecified charged lepton
charged-meson	CHARGED-MESON	Unspecified charged meson
chargino	CHARGINO	Mixture of wino and charged higgsino
chargino+	CHARGINO+	Mixture of wino and charged higgsino
chargino-	CHARGINO-	Mixture of wino and charged higgsino
charm	CHARM	HPWF's Y-particle, mass 2-4 GeV, probably hadron
charm	CHARMBAR	Unspecified anticharmed particle
charmed-meson	CHARMED-MESON	Unspecified charmed meson
charmed-meson	CHARMED-MESONBAR	Unspecified anticharmed meson
charmed-nucleus	CHARMED-NUCLEUS	Unspecified charmed nucleus
x(unspec)	CHI (UNSPEC)	Unspecified radiative decay product of $\psi(2S)$
x _b (unspec)	CHI/B(UNSPEC)	Bottomonium meson
x _{b0} (1P)	CHI/BO(1P)	Bottomonium meson
x _{b0} (2P)	CHI/BO(2P)	Bottomonium meson
x _{b1} (1P)	CHI/B1(1P)	Bottomonium meson
x _{b1} (2P)	CHI/B1(2P)	Bottomonium meson
x _{b2} (1P)	CHI/B2(1P)	Bottomonium meson
x _{b2} (2P)	CHI/B2(2P)	Bottomonium meson
x _c (3455)†	CHI/C(3455)	Radiative decay product of $\psi(2S)$

$D_2^*(2460)^-$ $\chi_c(\text{unspec})$

<u>PARTICLE NAME</u>	<u>COMPUTER NAME</u>	<u>EXPLANATION</u>
$\chi_c(\text{unspec})$	CHI/C(UNSPEC)	Unspecified radiative decay product of any ψ meson
$\chi_{c0}(1P)$	CHI/C0(1P)	Particle observed in $e^+e^- \rightarrow \mu^+\mu^-2\gamma$
$\chi_{c1}(1P)$	CHI/C1(1P)	Observed in $e^+e^-2\gamma$ final state
$\chi_{c2}(1P)$	CHI/C2(1P)	Charmonium meson
Cl	CL	Chlorine nucleus
^{34}Cl	CL34	Chlorine-34 nucleus
$^{34}\text{Cl}^*$	CL34*	Excited chlorine-34 radioactive isotope
^{35}Cl	CL35	Chlorine-35 nucleus
^{36}Cl	CL36	Chlorine-36 nucleus
^{37}Cl	CL37	Chlorine-37 nucleus
Cm	CM	Curium nucleus
Co	CO	Cobalt nucleus
^{54}Co	CD54	Cobalt-54 nucleus
^{55}Co	CD55	Cobalt-55 nucleus
^{56}Co	CD56	Cobalt-56 nucleus
^{57}Co	CD57	Cobalt-57 nucleus
^{58}Co	CD58	Cobalt-58 nucleus
^{59}Co	CD59	Cobalt-59 nucleus
^{60}Co	CD60	Cobalt-60 nucleus
^{61}Co	CD61	Cobalt-61 nucleus
^{62}Co	CD62	Cobalt-62 nucleus
c	CQ	Charmed quark
\bar{c}	CQBAR	Anticharmed quark
Cr	CR	Chromium nucleus
^{48}Cr	CR48	Chromium-48 nucleus
^{50}Cr	CR50	Chromium-50 nucleus
^{51}Cr	CR51	Chromium-51 nucleus
^{133}Cs	CS133	Cesium-133 nucleus
Cu	CU	Copper nucleus
Cu^*	CU*	Excited copper nucleus
^{60}Cu	CU60	Copper-60 nucleus
^{61}Cu	CU61	Copper-61 nucleus
^{63}Cu	CU63	Copper-63 nucleus
^{64}Cu	CU64	Copper-64 nucleus
^{65}Cu	CU65	Copper-65 nucleus
$^{65}\text{Cu}^*$	CU65*	Excited copper-65 nucleus
^{67}Cu	CU67	Copper-67 nucleus
D	D	D^+ or D^0 charmed meson
$D(\text{unspec})$	D(UNSPEC)	Unspecified charmed nonstrange meson
$D^*(2010)$	D*(2010)	Excited charmed nonstrange meson
$D^*(2010)^+$	D*(2010)+	Excited charmed nonstrange meson
$D^*(2010)^\pm$	D*(2010)++	Excited charmed nonstrange meson
$D^*(2010)^-$	D*(2010)-	Excited charmed nonstrange meson
$D^*(2010)^0$	D*(2010)0	Excited charmed nonstrange meson
$D^*(2150)^0$	D*(2150)0	Excited charmed nonstrange meson
$D^*(2300)^0$	D*(2300)0	Excited charmed nonstrange meson
$D^*(2010)^0$	D*BAR(2010)0	Excited anticharmed nonstrange meson
$\overline{D}^*(2150)^0$	D*BAR(2150)0	Excited anticharmed nonstrange meson
D^+	D+	$D(1869)^+$ charmed nonstrange meson
D^\pm	D+-	$D(1869)^+$ or $D(1869)^-$ charmed nonstrange meson
D^-	D-	$D(1869)^-$ charmed nonstrange meson
$D_S(\text{unspec})^+$	D/S(UNSPEC)+	Unspecified charmed positive strange meson
D_S^*	D/S*	Was $F^*(2140)$. Excited charmed strange meson
$D_S^*(2547)^+\dagger$	D/S*(2547)+	
$D_S^*(2547)^-\dagger$	D/S*(2847)-	
$D_S^*(2790)^+$	D/S*(2790)+	
D_S^{*+}	D/S**+	Was $F^*(2140)$. Excited charmed strange meson
D_S^{*-}	D/S*-	Was $F^*(2140)$. Excited charmed strange meson
D_S^+	D/S+	Was F . $D_S(1971)^+$ charmed strange meson
D_S^\pm	D/S+-	Was F . $D_S(1971)^+$ or $D_S(1971)^-$ charmed strange meson
D_S^-	D/S-	Was F . $D_S(1971)^-$ charmed strange meson
D^0	D0	$D(1865)^0$ charmed nonstrange meson
$D_1(2420)^+$	D1(2420)+	
$D_1(2420)^-$	D1(2420)-	
$D_1(2420)^0$	D1(2420)0	
$\overline{D}_1(2420)^0$	D1BAR(2420)0	
$D_2^*(2460)^+$	D2*(2460)+	
$D_2^*(2460)^-$	D2*(2460)-	

Entries in order of the equivalent English spelling of the particle name.

† Particle not listed in 1990 Review of Particle Properties. Name may not conform to naming conventions.

$D_2^*(2460)^0$ $f_2'(1525)$

PARTICLE NAME	COMPUTER NAME	EXPLANATION
$D_2^*(2460)^0$	D2*(2460)0	
$\overline{D}_2^*(2460)^0$	D2*BAR(2460)0	
\overline{D}	DBAR	D^- or \overline{D}^0 charmed meson
\overline{D} (unspec)	DBAR(UNSPEC)	Unspecified anticharmed nonstrange meson
\overline{D}^0	DBAR0	$\overline{D}(1865)^0$ anticharmed nonstrange meson
D (unspec)	DC	D or \overline{D} charmed meson
DD	DD	Unspecified diffraction dissociation final state
$\Delta(1232 P_{33})$	DELTA(1232P33)	
$\Delta(1232 P_{33})^+$	DELTA(1232P33)+	
$\Delta(1232 P_{33})^{++}$	DELTA(1232P33)++	
$\Delta(1232 P_{33})^-$	DELTA(1232P33)-	
$\Delta(1232 P_{33})^0$	DELTA(1232P33)0	
$\Delta(1620 S_{31})^-$	DELTA(1620S31)-	
$\Delta(1700 D_{33})^-$	DELTA(1700D33)-	
$\Delta(1950 B)^{++\dagger}$	DELTA(1950B)++	Bump in production experiment
$\overline{\Delta}(1232 P_{33})^{--}$	DELTABAR(1232P33)--	
$\overline{\Delta}(1232 P_{33})^0$	DELTABAR(1232P33)0	
$\overline{\Delta}(1950 B)^{--\dagger}$	DELTABAR(1950B)--	Bump in production experiment
demon	DEMON	Exotic 6-quark deuteron-like state
deuteron	DEUT	Deuteron
dibaryon	DEUTBAR	Antideuteron
dibaryon	DIBARYON	Dibaryon resonance
dibaryon ($S = -1$)	DIBARYON(S=-1)	Unspecified $S = -1$ dibaryon resonance
dibaryon ($S = -2$)	DIBARYON(S=-2)	Unspecified $S = -2$ dibaryon resonance
\overline{d}	DQ	Down quark
\overline{d}	DOBAR	Antidown quark
Dy	DY	Dysprosium nucleus
^{157}Dy	DY157	Dysprosium-157 radioactive isotope
^{163}Dy	DY163	Dysprosium-163 radioactive isotope
$^{163}\text{Dy}^*$	DY163*	Excited dysprosium-163 radioact.ve isotope
$e^{\star+}$	E**+	Excited positron
$e^{\star\pm}$	E**-	Excited positron or electron
$e^{\star-}$	E*-	Excited electron
e^+	E+	Positron
e^\pm	E+-	Positron or electron
e^-	E-	Electron
e -color \pm	E-COLOR+-	Colored electron of unspecified charge
η	ETA	$\eta(549)$ meson
$\eta(1295)$	ETA(1295)	
$\eta(1440)$	ETA(1440)	Was $\epsilon(1440)$ - glueball candidate
η_b	ETA/B	Lowest mass $J^P = 0^- bb$ state
$\eta_c(1S)$	ETA/C(1S)	Charmonium meson
η'	ETAPRIME(958)	$\eta'(958)$ meson
Eu	EU	Europium nucleus
even-charged	EVEN-CHARGED	An even number of charged particles
exotic	EXOTIC	Unspecified particle which cannot be fit into $q\bar{q}$ or qqq model
exotic-meson	EXOTIC-MESON	Reported manifestly exotic $\Lambda\Delta$ meson
exotic-nucleon	EXOTIC-NUCLEON	Cannot be formed of qqq
$f_0(1240)$	F0(1240)	Was $gs(1240)$
$f_0(1400)$	F0(1400)	Was $\epsilon(1300)$. $\pi\pi$ S-wave (near 1300 MeV)
$f_0(1525)$	F0(1525)	
$f_0(1590)$	F0(1590)	
$f_0(1750)$	F0(1750)	Was $S(1730)$
$f_0(700)\dagger$	F0(700)	Was $\epsilon(700)$. $\pi\pi$ S-wave (near 700 MeV)
$f_0(975)$	F0(975)	$I = 1$, S-wave $K\bar{K}$ enhancement
$f_1(1285)$	F1(1285)	Was $D(1285)$
$f_1(1420)$	F1(1420)	Was $E(1420)$
$f_1(1510)$	F1(1510)	Was $D(1530)$
$f_2(1270)$	F2(1270)	
$f_2(1720)$	F2(1720)	Was $\theta(1690)$ - glueball candidate
$f_2(1810)$	F2(1810)	
$f_2(2010)$	F2(2010)	Glueball candidate
$f_2(2300)$	F2(2300)	Was $g_T(2320)$
$f_2(2340)$	F2(2340)	
$f_2'(1525)$	F2PRIME(1525)	

*f₄(2050)*higgs[±]

PARTICLE NAME	COMPUTER NAME	EXPLANATION
<i>f₄(2050)</i>	F4(2050)	Was $h(2030)$. $I = 0$, $J^P = 4^+$ meson resonance
<i>f₄(2220)</i>	F4(2220)	Was $\xi(2220)$. Meson seen in $J/\psi(1S)$ decays
familon	FAMILON	Massless axion-like Nambu-Goldstone boson
Fe	FE	Iron nucleus
Fe*	FE*	Excited iron nucleus
⁵² Fe	FE52	Iron-52 nucleus
⁵³ Fe	FE53	Iron-53 nucleus
⁵⁴ Fe	FE54	Iron-54 nucleus
⁵⁶ Fe	FE56	Iron-56 nucleus
⁵⁷ Fe	FE57	Iron-57 nucleus
⁵⁹ Fe	FE59	Iron-59 nucleus
⁶¹ Fe	FE61	Iron-61 nucleus
fireball	FIREBALL	
Fl	FL	Fluorine nucleus - note name is not same as chemical symbol
¹⁸ Fl	FL18	Fluorine-18 nucleus - note name is not same as chemical symbol
¹⁹ Fl	FL19	Fluorine-19 nucleus - note name is not same as chemical symbol
frag	FRAG	Nuclear fragment
fragb	FRAGB	Fragment of beam
fragt	FRACT	Fragment of target
Ga	GA	Gallium nucleus
⁷¹ Ga	GA71	Gallium-71 nucleus
γ	GAMMA	Photon
gaugino	GAUGINO	Spin-1/2 supersymmetric partner of any gauge boson
Gd	GD	Gadolinium nucleus
¹⁴⁶ Gd	GD146	Gadolinium-146 nucleus
Ge	GE	Germanium nucleus
⁷⁰ Ge	GE70	Germanium-70 nucleus
⁷¹ Ge	GE71	Germanium-71 nucleus
⁷² Ge	GE72	Germanium-72 nucleus
⁷⁶ Ge	GE76	Germanium-76 nucleus
glueball	GLUEBALL	Unspecified glueball
gluinum	GLUINIUM	Bound state of gluinos
gluino	GLUINO	Spin-1/2 supersymmetric partner of the gluon
gluon	GLUON	
goldstino	GOLDSTINO	Supersymmetric partner of the Goldstone boson
goldstone	GOLDSTONE	Goldstone boson
gravitino	GRAVITINO	Spin-3/2 supersymmetric partner of graviton
grey	GREY	Emulsion track reported as grey (mostly protons in the range 30-400 MeV/c)
$h_1(1170)$	H1(1170)	
$h_1(1380)$	H1(1380)	
³ H _S	H3/S	Hypernucleus with Λ instead of neutron
⁴ H	H4	Hydrogen-4 nucleus
⁴ H _S	H4/S	Hypernucleus with Λ instead of neutron
⁵ H	H5	Hydrogen-5 nucleus
hadron	HADRON	Unspecified hadron
nadron(s)	HADRON(S)	One or more unspecified hadrons
hadron ⁺	HADRON ⁺	Unspecified positive hadron
hadron ⁻	HADRON ⁻	Unspecified negative hadron
He	HE	Helium nucleus
He*	HE*	Excited helium nucleus
³ He	HE3	Helium-3 nucleus
³ He	HE3BAR	Antihelium-3 nucleus
⁴ He	HE4	Helium-4 nucleus
⁵ He	HE5	Helium-5 nucleus
⁵ Hes	HE5/S	Helium-5 hypernucleus with strangeness=-1
⁶ He	HE6	Helium-6 nucleus
⁶ Hess	HE6/SS	Helium-6 hypernucleus with strangeness=-2
⁸ He	HE8	Helium-8 nucleus
heavy-e	HEAVY-E	Unspecified heavy electron
heavy-lepton	HEAVY-LEPTON	Unspecified heavy lepton
heavy-lepton ⁺	HEAVY-LEPTON ⁺	Unspecified positive heavy lepton
heavy-lepton \pm	HEAVY-LEPTON \pm	Unspecified charged heavy lepton
heavy-lepton ⁻	HEAVY-LEPTON ⁻	Unspecified negative heavy lepton
heavy-lepton 0	HEAVY-LEPTON 0	Unspecified neutral heavy lepton
heavy-lepton 0	HEAVY-LEPTONBARD	Unspecified heavy lepton
heavy- ν	HEAVY-NU	Unspecified heavy neutrino
heavy- ν_e	HEAVY-NUE	Unspecified heavy electron neutrino
heavy- ν_μ	HEAVY-NUMU	Unspecified heavy muon neutrino
Hf	HF	Hafnium nucleus
¹⁷³ Hf	HF173	Hafnium-173 radioactive isotope
Hg	HG	Mercury nucleus
¹⁹⁸ Hg	HG196	Mercury-196 nucleus
higgs	HIGGS	Higgs boson
higgs ⁺	HIGGS ⁺	Positive Higgs boson
higgs \pm	HIGGS \pm	Charged Higgs of unspecified charge

Entries in order of the equivalent English spelling of the particle name.

† Particle not listed in 1990 Review of Particle Properties. Name may not conform to naming conventions.

higgs-

 $K_3^*(1780)^0$

PARTICLE NAME	COMPUTER NAME	EXPLANATION
higgs-	HIGGS-	Negative Higgs boson
higgssino	HIGGSINO	Spin-1/2 supersymmetric partner of any Higgs boson
^{161}Ho	HO	Holmium nucleus
^{163}Ho	HO163	Holmium-163 nucleus
^{165}Ho	HO165	Holmium-165 nucleus
htrack	HTRACK	Heavy tracks (black or grey) in emulsion
hypernucleus	HYPERNUCLEUS	Unspecified hypernucleus, generally containing more than two baryons
hyperon	HYPERON	Unspecified hyperon
$\bar{\Lambda}_1$	HYPERONBAR	Unspecified antihyperon
^{119}I	I119	Iodine-119 radioactive isotope
^{120}I	I120	Iodine-120 radioactive isotope
^{121}I	I121	Iodine-121 radioactive isotope
^{125}I	I125	Iodine-125 radioactive isotope
^{127}I	I127	Iodine-127 radioactive isotope
In	IN	Indium nucleus
^{115}In	IN115	Indium-115 nucleus
$^{116}\text{In}^*$	IN116*	Excited indium-116 radioactive isotope
inelastic	INELASTIC	Same as X, (ANYTHING), except elastic excluded
^{186}Ir	IR186	Iridium-186 radioactive isotope
$J/\psi(1S)$	J/PSI(1S)	
jet	JET	One or more jets
K	K	K meson
$K^*(1370)^+$	K*(1370)+	
$K^*(1370)^-$	K*(1370)-	
$K^*(1680)^+$	K*(1680)+	
$K^*(1680)^-$	K*(1680)-	
$K^*(1680)^0$	K*(1680)0	
$K^*(892)$	K*(892)	
$K^*(892)^+$	K*(892)+	
$K^*(892)^{\pm}$	K*(892)+-	
$K^*(892)^-$	K*(892)-	
$K^*(892)^0$	K*(892)0	
$K^*(\text{unspec})$	K*(UNSPEC)	Unspecified K^*
$K^*(\text{unspec})^+$	K*(UNSPEC)+	Unspecified K^{*+}
$K^*(\text{unspec})^-$	K*(UNSPEC)-	Unspecified K^{*-}
$K^*(\text{unspec})^0$	K*(UNSPEC)0	Unspecified K^{*0}
$\bar{K}^*(1370)^0$	K*BAR(1370)0	
$\bar{K}^*(1680)^0$	K*BAR(1680)0	
$\bar{K}^*(892)$	K*BAR(892)	
$\bar{K}^*(892)^0$	K*BAR(892)0	
$\bar{K}^*(\text{unspec})^0$	K*BAR(UNSPEC)0	Unspecified \bar{K}^{*0}
K^+	K+	Ordinary K^+ meson
K^\pm	K+-	Ordinary K^+ or K^- meson
K^-	K-	Ordinary K^- meson
K^0	K0	Ordinary K^0 meson
$K_0^*(1950)^-$	K0*(1950)-	
$\bar{K}_0^*(1430)^0$	K0*BAR(1430)0	Was $\kappa(1350)$. Claimed different than $K^*(1430)$
$\bar{K}_0^*(1950)^0$	K0*BAR(1950)0	
$K_1(1270)^+$	K1(1270)+	Was $Q(1280)^+$
$K_1(1270)^-$	K1(1270)-	Was $Q(1280)^-$
$K_1(1270)^0$	K1(1270)0	Was $Q(1280)^0$
$K_1(1400)^+$	K1(1400)+	Was $Q(1400)^+$
$K_1(1400)^-$	K1(1400)-	Was $Q(1400)^-$
$K_1(1400)^0$	K1(1400)0	Was $Q(1400)^0$
$K_1(1270)^0$	K1BAR(1270)0	Was $\bar{Q}_1(1280)^0$
$K_1(1400)^0$	K1BAR(1400)0	Was $\bar{Q}_1(1400)^0$
$K_2^*(1430)^+$	K2*(1430)+	
$K_2^*(1430)^-$	K2*(1430)-	
$K_2^*(1430)^0$	K2*(1430)0	
$K_2^*(1430)^0$	K2*BAR(1430)0	
$K_2^*(1980)^0$	K2*BAR(1980)0	
$K_3^*(1780)^+$	K3*(1780)+	
$K_3^*(1780)^-$	K3*(1780)-	
$K_3^*(1780)^0$	K3*(1780)0	
$K_3^*(1780)^0$	K3*BAR(1780)0	

$K_4^*(2045)^+$

PARTICLE NAME	COMPUTER NAME	EXPLANATION
$K_4^*(2045)^+$	$K4^*(2045)^+$	
$K_4^*(2045)^-$	$K4^*(2045)^-$	
$K_4^*(2045)^0$	$K4^*(2045)^0$	
$K_4^*(2045)^0$	$K4^*BAR(2045)0$	
$K_5^*(2380)^0$	$K5^*BAR(2380)0$	
kaon	KAON	Kaon or antikaon of unspecified charge
K^-	KBAR	K^- or \bar{K}^0 meson
K^0	KBARO	Ordinary K^0 meson
kink ⁺	KINK+	Positive kinking track observed in track detector
kink ⁻	KINK-	Negative kinking track observed in track detector
KK	KK	Potassium nucleus – note name is not same as chemical symbol
$KK(L=0)$	$KK(L=0)$	Potassium-38 nucleus – note name is not same as chemical symbol
^{38}KK	KK38	Potassium-40 nucleus – note name is not same as chemical symbol
^{40}KK	KK40	Potassium-42 nucleus – note name is not same as chemical symbol
^{42}KK	KK42	Potassium-43 nucleus – note name is not same as chemical symbol
^{43}KK	KK43	Potassium-47 nucleus – note name is not same as chemical symbol
^{47}KK	KK47	Potassium-47 nucleus – note name is not same as chemical symbol
K_L	KL	K_{long} , neutral K meson
K_r	KR	Krypton nucleus
^{77}Kr	KR77	Krypton-77 radioactive isotope
^{81}Kr	KR81	Krypton-81 nucleus
^{82}Kr	KR82	Krypton-82 nucleus
^{84}Kr	KR84	Krypton-84 nucleus
$^{85}Kr^*$	KR85*	Excited krypton-85 radioactive isotope
^{88}Kr	KR88	Krypton-88 nucleus
K_S	KS	K_{short} , neutral K meson
La	LA	Lanthanum nucleus
^{131}La	LA131	Lanthanum-131 nucleus
^{132}La	LA132	Lanthanum-132 radioactive isotope
^{139}La	LA139	Lanthanum-139 nucleus
Λ	LAMBDA	Ordinary Λ hyperon
$\Lambda(1405 S_0)$	LAMBDA(1405S01)	
$\Lambda(1520 D_0)$	LAMBDA(1520D03)	
$\Lambda N(2130\ ^3S_1)^+\dagger$	LAMBDA-N(2130/3S1)+	
Λ_c^+	LAMBDA/C+	$S = -1$ dibaryon resonance
$\bar{\Lambda}_c^-$	LAMBDA/CBAR-	$\Lambda_c(2281)^+ I = 0$ charmed baryon
$\bar{\Lambda}$	LAMBDABAR	$\bar{\Lambda}_c(2281) I = 0$ charmed antibaryon
lepton-quark	LEPTON-QUARK	Ordinary $\bar{\Lambda}$ antihyperon
e	LEPTON	Unspecified lepton
e^+	LEPTON+	Unspecified positive lepton
e^\pm	LEPTON+-	Unspecified charged lepton
e^-	LEPTON-	Unspecified negative lepton
lepton-colored	LEPTON-COLOR	Unspecified lepton carrying color
e^0	LEPTONO	Unspecified neutral lepton
\bar{e}^0	LEPTONBARO	Unspecified neutral antilepton
Li	LI	Lithium nucleus
Li^*	LI*	Excited lithium nucleus
^{10}Li	LI10	Lithium-10 nucleus
^{11}Li	LI11	Lithium-11 nucleus
^{6}Li	LI6	Lithium-6 nucleus
$^{6}Li^*$	LI6*	Excited lithium-6 nucleus
^{7}Li	LI7	Lithium-7 nucleus
$^{7}_{\Lambda}Li$	LI7/S	Hypernucleus with Λ instead of neutron
^{8}Li	LI8	Lithium-8 nucleus
^{9}Li	LI9	Lithium-9 nucleus
$^{9}_{\Lambda}Li$	LI9/S	Hypernucleus with Λ instead of neutron
longlived	LONGLIVED	Unspecified particle stable under strong and electromagnetic decay
Lu	LU	Lutetium nucleus
majoron	MAJORON	Hypothetical neutral, spinless, light or massless, penetrating particle. Predicted in some models in which lepton charge conservation is spontaneously broken
meson	MESON	Unspecified meson
meson ⁻	MESON-	Unspecified negative meson
meson ⁰	MESONO	Unspecified neutral meson
Mg	MG	Magnesium nucleus
^{24}Mg	MG24	Magnesium-24 nucleus
^{25}Mg	MG25	Magnesium-25 nucleus
^{26}Mg	MG26	Magnesium-26 nucleus
^{27}Mg	MG27	Magnesium-27 nucleus
^{28}Mg	MG28	Magnesium-28 nucleus
Mn	MN	Manganese nucleus
^{50}Mn	MN50	Manganese-50 nucleus
^{52}Mn	MN52	Manganese-52 nucleus
^{54}Mn	MN54	Manganese-54 nucleus
^{55}Mn	MN55	Manganese-55 nucleus

Entries in \dagger refer to the equivalent English spelling of the particle name. \dagger Particles listed in 1990 Review of Particle Properties. Name may not conform to naming conventions.

PARTICLE NAME	COMPUTER NAME	EXPLANATION
⁵⁶ Mn	MN56	Manganese-56 nucleus
Mo	MO	Molybdenum nucleus
¹⁰⁰ Mo	MO100	Molybdenum-100 nucleus
⁹⁰ Mo	MO90	Molybdenum-90 radioactive isotope
⁹³ Mo*	MO93*	Excited molybdenum-90 radioactive isotope
⁹³ Mo ⁺	MO93*	Excited molybdenum-93 radioactive isotope
⁹⁴ Mo	MO94	Molybdenum-94 nucleus
⁹⁶ Mo	MO96	Molybdenum-96 nucleus
⁹⁸ Mo	MO98	Molybdenum-98 nucleus
monopole	MONOPOLE	Magnetic monopole
$\mu^+ +$	MU**+	Excited μ^+
$\mu^- \pm$	MU**-	Excited charged muon
$\mu^- -$	MU+-	Excited μ^-
$\mu^+ +$	MU+	Ordinary μ^+ lepton
$\mu^\pm \pm$	MU+-	Ordinary charged muon
$\mu^- -$	MU-	Ordinary μ^- lepton
muonium	MUEATOM	$\mu^+ e^-$ atom
muonium	MUEATOMBAR	$\mu^- e^+$ atom
mult[black]	MULT(BLACK)	Multiplicity distribution for black track
mult[charged]	MULT(CHARGED)	Multiplicity distribution for unspecified charged particle
mult[charged ⁺]	MULT(CHARGED+)	Multiplicity distribution for unspecified positive particle
mult[charged ⁻]	MULT(CHARGED-)	Multiplicity distribution for unspecified negative particle
mult[charged-hadron]	MULT(CHARGED-HADRON)	Multiplicity distribution for unspecified charged hadron
mult[charged-meson]	MULT(CHARGED-MESON)	Multiplicity distribution for unspecified charged meson
mult[deuteron]	MULT(DEUTERON)	Multiplicity distribution for deuteron
mult[e ⁺]	MULT(E+)	Multiplicity distribution for positron
mult[e ⁻]	MULT(E-)	Multiplicity distribution for electron
mult[η]	MULT(ETA)	Multiplicity distribution for η (549)
mult[frag]	MULT(FRAG)	Multiplicity distribution for nuclear fragment
mult[fragb]	MULT(FRAGB)	Multiplicity distribution for beam fragment
mult[fragt]	MULT(FRAGT)	Multiplicity distribution for target fragment
mult[γ]	MULT(GAMMA)	Multiplicity distribution for γ
mult[grey]	MULT(GREY)	Multiplicity distribution for grey track
mult[hadron]	MULT(HADRON)	Multiplicity distribution for unspecified hadron
mult[hadron ⁺]	MULT(HADRON+)	Multiplicity distribution for unspecified positive hadron
mult[hadron ⁻]	MULT(HADRON-)	Multiplicity distribution for unspecified negative hadron
mult[hadron ⁰]	MULT(HADRON0)	Multiplicity distribution for unspecified neutral hadron
mult[He]	MULT(HE)	Multiplicity distribution for helium nucleus
mult[htrack]	MULT(HTRACK)	Multiplicity distribution for heavy tracks (black or grey) in emulsion
mult[jet]	MULT(JET)	Multiplicity distribution for jet
mult[K ⁺]	MULT(K+)	Multiplicity distribution for K^+
mult[K [±]]	MULT(K+-)	Multiplicity distribution for K^+ or K^-
mult[K ⁻]	MULT(K-)	Multiplicity distribution for K^-
mult[K ⁰]	MULT(K0)	Multiplicity distribution for K^0
mult[kaon]	MULT(KAON)	Multiplicity distribution for kaon of unspecified charge
mult[K _S]	MULT(KS)	Multiplicity distribution for K_S
mult[Λ]	MULT(LAMBDA)	Multiplicity distribution for Λ
mult[Λ̄]	MULT(LAMBDA BAR)	Multiplicity distribution for $\bar{\Lambda}$
mult[lepton]	MULT(LEPTON)	Multiplicity distribution for unspecified lepton
mult[meson]	MULT(MESON)	Multiplicity distribution for unspecified meson
mult[μ]	MULT(MUON)	Multiplicity distribution for muon of unspecified charge
mult[n]	MULT(N)	Multiplicity distribution for neutron
mult[neutral]	MULT(NEUTRAL)	Multiplicity distribution for unspecified neutral particle
mult[p]	MULT(P)	Multiplicity distribution for proton
mult[\bar{p}]	MULT(PBAR)	Multiplicity distribution for antiproton
mult[π^+]	MULT(PI+)	Multiplicity distribution for π^+
mult[π^\pm]	MULT(PI+-)	Multiplicity distribution for π^+ or π^-
mult[π^-]	MULT(PI-)	Multiplicity distribution for π^-
mult[π^0]	MULT(PIO)	Multiplicity distribution for π^0
mult[π]	MULT(PION)	Multiplicity distribution for pion of unspecified charge
mult[shower]	MULT(SHOWER)	Multiplicity distribution for shower track
mult[strange]	MULT(STRANGE)	Multiplicity distribution for unspecified strange particle
n	N	Neutron
N(1440B) ⁺ †	N(1440B)+	Bump in production experiment

$N(1440\,B)^0$ $\bar{\nu}_\mu$

PARTICLE NAME	COMPUTER NAME	EXPLANATION
$N(1440\,B)^0$ †	N(1440B)0	Bump in production experiment
$N(1440\,P_{11})$	N(1440P11)	
$N(1440\,P_{11})^+$	N(1440P11)+	
$N(1440\,P_{11})^0$	N(1440P11)0	
$N(1520\,B)^+ \dagger$	N(1520B)+	Bump in production experiment
$N(1680\,F_{15})^+$	N(1680F15)+	
$N(1680\,F_{15})^0$	N(1680F15)0	
$N(1700\,B)^+ \dagger$	N(1700B)+	Bump in production experiment
$N(2100\,B)^+ \dagger$	N(2100B)+	
$n(\text{spect})$	N(SPECT)	Spectator neutron
$N^*(\text{unspec})^+$	N*(UNSPEC)+	$I = \text{unspecified}$, $S = 0$ baryon of unspecified mass
$N_{5/2}^*(1380)^{+++} \dagger$	N*5/2(1380)+++	Exotic baryon
$N_{5/2}^*(1390)^{+++} \dagger$	N*5/2(1390)+++	$I = 5/2$ nonstrange baryon (exotic)
$N_{5/2}^*(1480)^{+++} \dagger$	N*5/2(1480)+++	$I = 5/2$ nonstrange baryon (exotic)
$N_{5/2}^*(1650)^{+++} \dagger$	N*5/2(1650)+++	$I = 5/2$, $S = 0$ baryon (exotic)
$N_{5/2}^*(1760)^{+++} \dagger$	N*5/2(1760)+++	Exotic baryon
$N_{5/2}^*(2070)^{+++} \dagger$	N*5/2(2070)+++	Exotic baryon
$N_{5/2}^*(\text{unspec})^{+++} \dagger$	N*5/2(UNSPEC)+++	Unspecified $I = 5/2$, $S = 0$ baryon
Na	NA	Sodium nucleus
^{23}Na	NA23	Sodium-23 nucleus
^{24}Na	NA24	Sodium-24 nucleus
Nb	NB	Niobium nucleus
^{90}Nb	NB90	Niobium-90 nucleus
$^{92}\text{Nb}^*$	NB92*	Excited niobium-92 radioactive isotope
^{93}Nb	NB93	Niobium-93 nucleus
\bar{n}	NBAR	Antineutron
$\bar{N}N(I=0)$	NBARN(I=0)	$\bar{N}N$ $I = 0$ initial state (and elastic final state)
$\bar{N}N(I=1)$	NBARN(I=1)	$\bar{N}N$ $I = 1$ initial state (and elastic final state)
Nd	ND	Neodymium nucleus
^{150}Nd	ND150	Neodymium-150 nucleus
Ne	NE	Neon nucleus
^{18}Ne	NE18	Neon-18 nucleus
^{20}Ne	NE20	Neon-20 nucleus
^{22}Ne	NE22	Neon-22 nucleus
neutral	NEUTRAL	Unspecified neutral particle
neutralino	NEUTRALINO	Any supersymmetric partner of an ordinary neutral particle
Ni	NI	Nickel nucleus
^{56}Ni	NI56	Nickel-56 nucleus
^{57}Ni	NI57	Nickel-57 nucleus
^{58}Ni	NI58	Nickel-58 nucleus
^{60}Ni	NI60	Nickel-60 nucleus
^{61}Ni	NI61	Nickel-61 nucleus
^{62}Ni	NI62	Nickel-62 nucleus
^{64}Ni	NI64	Nickel-64 nucleus
^{65}Ni	NI65	Nickel-65 nucleus
^{66}Ni	NI66	Nickel-66 nucleus
Nit	NIT	Nitrogen nucleus – note name is not same as chemical symbol
Nit*	NIT*	Excited nitrogen nucleus – note name is not same as chemical symbol
^{13}Nit	NIT13	Nitrogen-13 nucleus – note name is not same as chemical symbol
^{14}Nit	NIT14	Nitrogen-14 nucleus – note name is not same as chemical symbol
$^{14}\text{Nit}^*$	NIT14*	Excited nitrogen-14 nucleus – note name is not same as chemical symbol
^{15}Nit	NIT15	Nitrogen-15 nucleus – note name is not same as chemical symbol
^{16}Nit	NIT16	Nitrogen-16 nucleus – note name is not same as chemical symbol
$NN(2900)^1H_6^{++} \dagger$	NN(2900/1H6)++	Dibaryon resonance
$NN(2900)^1H_6^0 \dagger$	NN(2900/1H6)0	Dibaryon resonance
nonres	NOMRES	Unspecified nonresonant state
^{237}Np	NP237	Neptunium-237 nucleus
$^{237}\text{Np}^*$	NP237*	Excited neptunium-237 nucleus
$N\phi(1950)^\dagger$	NPHI(1950)0	Reported baryon with $s\bar{s}$ and 3 other quarks
ν	NU	Unspecified neutrino or antineutrino
ν^*	NU*	Excited generic neutrino. Different with heavy-lepton^0
ν^*	NU+BAR	Excited generic anti-neutrino. Different with heavy-lepton^0
$\bar{\nu}$	NUBAR	Unspecified antineutrino
nuclearite	NUCLEARITE	Proposed new form of strange hadronic matter. Quark nuggets.
nucleon	NUCLEON	Unspecified nucleon
nucleus	NUCLEUS	Unspecified nucleus
ν_e	NUE	Electron neutrino
$\bar{\nu}_e$	NUEBAR	Antielectron neutrino
ν_μ	NUMU	Muon neutrino
$\bar{\nu}_\mu$	NUMUBAR	An- μ on neutrino

Entries in order of the equivalent English spelling of the particle name.

† Particle not listed in 1990 Review of Particle Properties. Name may not conform to naming conventions.

PARTICLE NAME	COMPUTER NAME	EXPLANATION
ν_τ	NUTAU	τ neutrino
$\bar{\nu}_\tau$	NUTAUBAR	Anti- τ neutrino
O	O	Oxygen nucleus
O_S	O/S	Oxygen hypernucleus
^{12}O	O12	Oxygen-12 nucleus
$^{12}\text{O}^*$	O12*	Excited oxygen-12 nucleus
^{14}O	O14	Oxygen-14 nucleus
^{15}O	O15	Oxygen-15 nucleus
^{16}O	O16	Oxygen-16 nucleus
$^{16}\text{O}^*$	O16*	Excited oxygen-16 nucleus
^{17}O	O17	Oxygen-17 nucleus
^{18}O	O18	Oxygen-18 nucleus
odd-charged	ODD-CHARGED	An odd number of charged particles
$\Omega(2250)^-$	OMEGA(2250)-	
$\Omega(2470)^-$	OMEGA(2470)-	
ω	OMEGA(783)	
$\Omega^*(\text{unspec})^-$	OMEGA*(UNSPEC)-	$I = \text{unspecified}, S = -3$ baryon of unspecified mass
Ω^-	OMEGA-	Ordinary Ω^- hyperon
Ω_c	OMEGA/C	$\Omega_c(2740)^0 I = 0$ charmed doubly strange baryon
$w_3(1670)$	OMEGA3(1670)	
$\bar{\Omega}^+$	OMEGABAR+	Ordinary $\bar{\Omega}^+$ antihyperon
p	P	Proton
$p(\text{spect})$	P(SPECT)	Spectator proton
p^\pm	P+-	Proton or antiproton
Pb	PB	Lead nucleus
Pb^*	PB*	Excited lead nucleus
^{198}Pb	PB198	Lead-198 radioactive isotope
^{199}Pb	PB199	Lead-199 radioactive isotope
^{200}Pb	PB200	Lead-200 radioactive isotope
^{201}Pb	PB201	Lead-201 radioactive isotope
^{202}Pb	PB202	Lead-202 radioactive isotope
$^{202}\text{Pb}^*$	PB202*	Excited lead-202 radioactive isotope
^{203}Pb	PB203	Lead-203 radioactive isotope
$^{204}\text{Pb}^-$	PB204*	Excited lead-204 radioactive isotope
^{207}Pb	PB207	Lead-207 nucleus
^{208}Pb	PB208	Lead-208 nucleus
\bar{p}	PBAR	Antiproton
$\bar{p}(\text{spect})$	PBAR(SPECT)	Spectator antiproton
Pd	PD	
^{100}Pd	PD100	Palladium nucleus
Ph	PH	Palladium-100 radioactive isotope
^{30}Ph	PH30	Phosphorus nucleus - note name is not same as chemical symbol
ϕ	PHI(1020)	Phosphorus-30 nucleus - note name is not same as chemical symbol
$\phi(1680)$	PHI(1680)	
$\phi_3(1850)$	PHI3(1850)	
photino	PHOTINO	Bump in K^+K^- mass
π	PI	Spin-1/2 supersymmetric partner of the photon
π^+	PI+	Pion of unspecified charge
π^\pm	PI+-	Ordinary π^+ meson
π^\pm	PI-	Ordinary π^- meson
π^-	PI0	Ordinary π^0 meson
$\pi_2(1670)^-$	PI2(1670)-	Was $A(1680)^-$
$\pi_2(1670)^0$	PI2(1670)0	Was $A(1680)^0$
atom($\pi\mu$)	PIMUATOM	$\pi\mu$ coulomb bound state
$\pi\pi(L=0)$	PIPI(L=0)	$\pi\pi$ S-wave state
pomeron	POMERON	
positronium	POSITRIONIUM	
positronium*	POSITRIONIUM*	
Pr	PR	
$^{138}\text{Pr}^*$	PR138*	Excited praseodymium-138 radioactive isotope
$\psi(2S)$	PSI(2S)	
$\psi(3770)$	PSI(3770)	
$\psi(4040)$	PSI(4040)	
$\psi(4160)$	PSI(4160)	
$\psi(4415)$	PSI(4415)	
Pt	PT	Platinum nucleus
^{196}Pt	PT196	Platinum-196 nucleus
^{239}Pu	PU239	Plutonium-238 nucleus
q	QUARK	Quark of charge 2/3
q^*	QUARK*	Excited quark
\bar{q}^*	QUARK*BAR	Excited antiquark

PARTICLE NAME	COMPUTER NAME	EXPLANATION
\bar{q}	QUARKBAR	Antiquark of charge 2/3
Rb	RB	Rubidium nucleus
$^{81}\text{Rb}^*$	RB81*	Rubidium-81 radioactive isotope
Re	RE	Excited rubidium-81 radioactive isotope
Rb	RH	Rhenium nucleus
$\rho(1450)^0$	RHO(1450)0	Rhodium nucleus
$\rho(1700)$	RHO(1700)	
$\rho(1700)^0$	RHO(1700)0	
ρ	RHO(770)	
ρ^+	RHO(770)+	
ρ^-	RHO(770)-	
ρ^0	RHO(770)0	
$\rho_3(1690)^0$	RHO3(1690)0	Was $g(1690)$
Ru	RU	Ruthenium nucleus
^{100}Ru	RU100	Ruthenium-100 nucleus
$^{100}\text{Ru}^*$	RU100*	Excited ruthenium-100 nucleus
^{103}Ru	RU103	Ruthenium-103 radioactive isotope
S	S	Sulfur nucleus
^{28}S	S28	Sulfur-28 nucleus
$^{28}\text{S}^*$	S28*	Excited sulfur-28 nucleus
^{32}S	S32	Sulfur-32 nucleus
^{34}S	S34	Sulfur-34 nucleus
^{35}S	S35	Sulfur-35 nucleus
^{36}S	S36	Sulfur-36 nucleus
Sb	SB	Antimony nucleus
^{116}Sb	SB116	Antimony-116 nucleus
^{118}Sb	SB118	Antimony-118 nucleus
^{120}Sb	SB120	Antimony-120 nucleus
^{122}Sb	SB122	Antimony-122 nucleus
^{124}Sb	SB124	Antimony-124 nucleus
Sc	SC	Scandium nucleus
^{42}Sc	SC42	Scandium-42 nucleus
^{43}Sc	SC43	Scandium-43 nucleus
^{44}Sc	SC44	Scandium-44 nucleus
^{45}Sc	SC45	Scandium-45 nucleus
^{46}Sc	SC46	Scandium-46 nucleus
^{47}Sc	SC47	Scandium-47 nucleus
^{48}Sc	SC48	Scandium-48 nucleus
Se	SE	Selenium nucleus
$^{76}\text{Se}^*$	SE*	Excited selenium nucleus
^{73}Se	SET3	Selenium-73 radioactive isotope
^{76}Se	SET6	Selenium-76 nucleus
^{82}Se	SE82	Selenium-82 nucleus
^{88}Se	SE88	Selenium-88 nucleus
\tilde{e}	SELECTRON	Spin-0 supersymmetric partner of the positron or electron
\tilde{e}^+	SELECTRON+	Spin-0 supersymmetric partner of the positron
\tilde{e}^-	SELECTRON-	Spin-0 supersymmetric partner of the electron
shower	SHOWER	Shower track
shower ⁺	SHOWER+	Positive shower track
shower ⁻	SHOWER-	Negative shower track
Si	SI	Silicon nucleus
^{24}Si	SI24	Silicon-24 nucleus
$^{24}\text{Si}^*$	SI24*	Excited silicon-24 nucleus
^{28}Si	SI28	Silicon-28 nucleus
^{30}Si	SI30	Silicon-30 nucleus
Σ	SIGMA	Ordinary Σ hyperon
$\Sigma(1385 P_{13})^+$	SIGMA(1385P13)+	
$\Sigma(1385 P_{13})^-$	SIGMA(1385P13)-	
$\Sigma(1385 P_{13})^0$	SIGMA(1385P13)0	
$\Sigma(1660 P_{11})^+$	SIGMA(1660P11)+	
$\Sigma(3170 B)^+$	SIGMA(3170B)+	Bump in production experiment
Σ^+	SIGMA+	Ordinary Σ^+ hyperon
Σ^-	SIGMA-	Ordinary Σ^- hyperon
$\Sigma_c(2455)^+$	SIGMA/C(2455)+	$I = 1$ charmed baryon
$\Sigma_c(2455)^{++}$	SIGMA/C(2455)++	$I = 1$ charmed baryon
$\Sigma_c(2455)^0$	SIGMA/C(2455)0	$I = 1$ charmed baryon
$\Sigma_c(2510)^{++\dagger}$	SIGMA/C(2510)++	Charmed baryon
$\Sigma_c(2455)^{--}$	SIGMA/CBAR(2455)--	$I = 1$ charmed antibaryon
$\Sigma_c(2455)^0$	SIGMA/CBAR(2455)0	$I = 1$ charmed antibaryon
Σ^0	SIGMA0	Ordinary Σ^0 hyperon
$\Xi(1385 P_{13})^+$	SIGMABAR(1385P13)+	

Entries in order of the equivalent English spelling of the particle name.

† Particle not listed in 1990 Review of Particle Properties. Name may not conform to naming conventions.

$\Sigma(1385 P_{13})^-$

198 Ti*

PARTICLE NAME	COMPUTER NAME	EXPLANATION
$\Sigma(1385 P_{13})^-$	SIGMABAR(1385P13)-	
$\Sigma(1385 P_{13})^0$	SIGMABAR(1385P13)0	
Σ^+	SIGMABAR+	Ordinary Σ^+ antihyperon
Σ^-	SIGMABAR-	Ordinary Σ^- antihyperon
Σ^0	SIGMABAR0	Ordinary Σ^0 antihyperon
$\tilde{\epsilon}$	SLEPTON	Spin-0 supersymmetric lepton partner
$\tilde{\epsilon}^+$	SLEPTON+	Positive spin-0 supersymmetric lepton partner
$\tilde{\epsilon}^-$	SLEPTON-	Negative spin-0 supersymmetric lepton partner
Sm	SM	Samarium nucleus
$^{150}_{\Lambda} Sm$	SM150	Samarium-150 nucleus
$^{152}_{\Lambda} Sm$	SM152	Samarium-152 nucleus
$^{152}_{\mu} Sm^*$	SM152*	Excited samarium-152 nucleus
$\tilde{\mu}^+$	SMUDN+	Spin-0 supersymmetric partner of μ^+
$\tilde{\mu}^-$	SMUON-	Spin-0 supersymmetric partner of μ^-
Sn	SN	Tin nucleus
Sn^*	SN*	Excited tin nucleus
$^{112}_{\Lambda} Sn$	SN112	Tin-112 nucleus
$^{115}_{\Lambda} Sn$	SN115	Tin-115 nucleus
$^{116}_{\Lambda} Sn$	SN116	Tin-116 nucleus
$^{116}_{\Lambda} Sn^*$	SN116*	Excited tin-116 nucleus
$^{118}_{\Lambda} Sn$	SN118	Tin-118 nucleus
$^{120}_{\Lambda} Sn$	SN120	Tin-120 nucleus
$^{122}_{\Lambda} Sn$	SN122	Tin-122 nucleus
$^{124}_{\Lambda} Sn$	SN124	Tin-124 nucleus
$\bar{\nu}$	SNNU	Spin-0 supersymmetric partner of the neutrino
$\bar{\nu}$	SNubar	Spin-0 supersymmetric partner of the antineutrino
$\bar{\nu}_e$	SNUEBAR	Spin-0 supersymmetric partner of the ν_e
$\bar{\nu}_\mu$	SNUMU	Spin-0 supersymmetric partner of the ν_μ
$\bar{\nu}_\mu$	SNUMUBAR	Spin-0 supersymmetric partner of the $\bar{\nu}_\mu$
sparticle	SPARTICLE	Supersymmetric partner of any ordinary particle
s	SQ	Strange quark
\bar{s}	SQBAR	Antistrange quark
q	SQUARK	Spin-0 supersymmetric quark partner
\bar{q}	SQUARKBAR	Spin-0 supersymmetric antiquark partner
star	STAR	High charged multiplicity final state
τ^+	STAU+	Spin-0 supersymmetric partner of τ^+ lepton
τ^-	STAU-	Spin-0 supersymmetric partner of τ^- lepton
strange	STRANGE	Unspecified strange particle
supernucleus	SUPERNUCLEUS	Super heavy nucleus
Ta	TA	Tantalum nucleus
$^{181}_{\Lambda} Ta$	TA181	Tantalum-181 nucleus
tachyon $^+$	TACHYON+	
tachyon $-$	TACHYON-	
τ^*	TAU*	Excited τ of unspecified charge
$\tau^+ +$	TAU $^+ +$	Excited τ^+
$\tau^- -$	TAU $^- -$	Excited τ^-
τ^+	TAU $^+$	Ordinary τ^+ lepton
τ^\pm	TAU $^\pm$	Ordinary τ lepton of unspecified charge
τ^-	TAU $^-$	Ordinary τ^- lepton
Tb	TB	Terbium nucleus
$^{149}_{\Lambda} Tb$	TB149	Terbium-149 nucleus
$^{159}_{\Lambda} Tb$	TB159	Terbium-159 nucleus
Tc	TC	Technetium nucleus
$^{93}_{\Lambda} Tc$	TC93	Technetium-93 radioactive isotope
$^{93}_{\Lambda} Tc^*$	TC93*	Excited technetium-93 radioactive isotope
$^{94}_{\Lambda} Tc$	TC94	Technetium-94 radioactive isotope
$^{94}_{\Lambda} Tc^*$	TC94*	Excited technetium-94 radioactive isotope
$^{95}_{\Lambda} Tc$	TC95	Technetium-95 radioactive isotope
$^{98}_{\Lambda} Tc$	TC98	Technetium-98 nucleus
Te	TE	Tellurium nucleus
$^{117}_{\Lambda} Te$	TE117	Tellurium-117 radioactive isotope
$^{124}_{\Lambda} Te$	TE124	Tellurium-124 nucleus
$^{125}_{\Lambda} Te$	TE125	Tellurium-125 nucleus
$^{128}_{\Lambda} Te$	TE128	Tellurium-128 nucleus
$^{130}_{\Lambda} Te$	TE130	Tellurium-130 nucleus
technipion $^+$	TECHNIPION+	Positive technicolor pion
technipion $-$	TECHNIPION-	Negative technicolor pion
Th	TH	Thorium nucleus
$^{232}_{\Lambda} Th$	TH232	Thorium-232 nucleus
Ti	TI	Titanium nucleus
$^{40}_{\Lambda} Ti$	TI40	Titanium-40 nucleus
$^{40}_{\Lambda} Ti^*$	TI40*	Excited titanium-40 nucleus
$^{46}_{\Lambda} Ti$	TI46	Titanium-46 nucleus
$^{48}_{\Lambda} Ti$	TI48	Titanium-48 nucleus
$^{198}_{\Lambda} Ti$	TI198	Thallium-198 radioactive isotope
$^{198}_{\Lambda} Ti^*$	TI198*	Excited thallium-198 radioactive isotope

^{200}Tl $\Xi_c(2460)^-$

PARTICLE NAME	COMPUTER NAME	EXPLANATION
^{200}Tl	TL200	Thallium-200 radioactive isotope
Tm	TM	Thulium nucleus
top	TOP	Unspecified particle with naked top
top	TOPBAR	Unspecified particle with naked antitop
toponium	TOPONIUM	Unspecified top-antitop state
t	TQ	Top quark
\bar{t}	TQBAR	Antitop quark
tribaryon	TRIBARYON	Reported 3-baryon state
^3H	TRITIUM	Tritium nucleus
tritium	TRITIUMBAR	Antitritium nucleus
U	U	Uranium nucleus
^{233}U	U233	Uranium-233 nucleus
^{235}U	U235	Uranium-235 nucleus
^{238}U	U238	Uranium-238 nucleus
unspec	UNSPEC	Particle of unspecified type
T(10860)	UPSI(10860)	
T(11020)	UPSI(11020)	
T(1S)	UPSI(1S)	
T(2S)	UPSI(2S)	
T(3S)	UPSI(3S)	
T(4S)	UPSI(4S)	
T(unspec)	UPSI(UNSPEC)	Unspecified T particle
u	UQ	Up quark
\bar{u}	UQBAR	Antiuquark
Va	VA	Vanadium nucleus - note name is not same as chemical symbol
^{46}Va	VA46	Vanadium-46 nucleus - note name is not same as chemical symbol
^{48}Va	VA48	Vanadium-48 nucleus - note name is not same as chemical symbol
vee	VEE	Unspecified neutral strange particle decay
W^+	W+	Positive weak gauge boson
W^\pm	W+-	Positive or negative weak gauge boson
W^-	W-	Negative weak gauge boson
wino	WINO	Spin-1/2 SUSY partner of the W^\pm
wino ⁺	WINO+	Spin-1/2 supersymmetric partner of the W^+
wino ⁻	WINO-	Spin-1/2 supersymmetric partner of the W^-
W'^+	WPRIME+	Additional positive W -boson
W'^\pm	WPRIME+-	Additional charged W -boson
W'^-	WPRIME-	Additional negative W -boson
Wt	WT	Tungsten nucleus - note name is not same as chemical symbol
^{184}Wt	WT184	Tungsten-184 nucleus - note name is not same as chemical symbol
X	X	For use in inclusive reactions. Also for total cross-section data, as in $K^- p \rightarrow X$
X(1700)	X(1700)	
$X(1935)^0$	X(1935)0	Was $S(1935)^0$
X(2200)	X(2200)	
X(3100)	X(3100)	
$X(3100)^+$	X(3100)+	Exotic meson possibly seen in $\Lambda\bar{p}$ plus pions
$X(3100)^-$	X(3100)-	Exotic meson possibly seen in $\Lambda\bar{p}$ plus pions
$X(3100)^{--}$	X(3100)--	Exotic meson possibly seen in $\Lambda\bar{p}$ plus pions
$X(3100)^0$	X(3100)0	Exotic meson possibly seen in $\Lambda\bar{p}$ plus pions
Xe	XE	Xenon nucleus
^{124}Xe	XE124	Xenon-124 nucleus
^{128}Xe	XE128	Xenon-128 nucleus
^{130}Xe	XE130	Xenon-130 nucleus
^{131}Xe	XE131	Xenon-131 nucleus
^{134}Xe	XE134	Xenon-134 nucleus
^{136}Xe	XE136	Xenon-136 nucleus
Ξ	XI	Ordinary Ξ hyperon
$\Xi(1530 P_{13})^-$	XI(1530P13)-	
$\Xi(1530 P_{13})^0$	XI(1530P13)0	
$\Xi(1690)^-$	XI(1690)-	
$\Xi(1820 D_{13})^-$	XI(1820D13)-	
$\Xi(1820 D_{13})^0$	XI(1820D13)0	
$\Xi(1950)^0$	XI(1950)0	
$\Xi^*(unspec)$	XI*(UNSPEC)	$I = \text{unspecified}, S = -2$ baryon of unspecified mass
Ξ^-	XI-	Ordinary Ξ^- hyperon
$\Xi_c(2460)$	XI/C(2460)	Baryon with quark content usc
$\Xi_c(2460)^+$	XI/C(2460)+	Charmed strange baryon
$\Xi_c(2460)^0$	XI/C(2460)0	Charmed strange baryon
$\Xi_c(2460)^-$	XI/CBAR(2460)-	Baryon with quark content usc

Entries in order of the equivalent English spelling of the particle name.

† Particle not listed in 1990 Review of Particle Properties. Name may not conform to naming conventions.

$\Xi_c(2460)^0$ ^{96}Zr

PARTICLE NAME	COMPUTER NAME	EXPLANATION
$\Xi_c(2460)^0$	XI/CBAR(2460)0	Charmed strange antibaryon
Ξ^0	XIO	Ordinary Ξ^0 hyperon
$\Xi(1530 P_{13})^+$	XIBAR(1530P13)+	Ordinary Ξ^+ antihyperon
$\Xi(1530 P_{13})^0$	XIBAR(1530P13)0	Ordinary Ξ^0 antihyperon
Ξ^+	XIBAR+	Ordinary Ξ^+ antihyperon
Ξ^-	XIBARO	Ordinary Ξ^- antihyperon
$Y^*(\text{unspec})$	Y*(UNSPEC)	$I = \text{unspecified}, S = -1$ baryon of unspecified mass
$Y^*(\text{unspec})^0$	Y*(UNSPEC)0	$I = \text{unspecified}, S = -1$ baryon of unspecified mass
Y_b	YB	Ytterbium nucleus
Y_t	YT	Yttrium nucleus – note name is not same as chemical symbol
$^{84}Y_t$	YT84	Yttrium-84 radioactive isotope – note name is not same as chemical symbol
$^{86}Y_t$	YT86	Yttrium-86 radioactive isotope – note name is not same as chemical symbol
$^{87}Y_t$	YT87	Yttrium-87 radioactive isotope – note name is not same as chemical symbol
$^{87}Y_t^*$	YT87*	Excited yttrium-87 radioactive isotope – note name is not same as chemical symbol
$^{89}Y_t$	YT89	Yttrium-89 nucleus – note name is not same as chemical symbol
Z^0	Z	Neutral weak gauge boson
zino	ZINO	Spin-1/2 supersymmetric partner of the Z^0
Z_n	ZN	Zinc nucleus
$^{62}Z_n$	ZN62	Zinc-62 nucleus
$^{63}Z_n$	ZN63	Zinc-63 nucleus
$^{65}Z_n$	ZN65	Zinc-65 nucleus
$^{72}Z_n$	ZN72	Zinc-72 nucleus
Z'	ZPRIME	Additional Z-boson
Z_r	ZR	Zirconium nucleus
$^{86}Z_r$	ZR86	Zirconium-86 radioactive isotope
$^{89}Z_r$	ZR89	Zirconium-89 radioactive isotope
$^{90}Z_r$	ZR90	Zirconium-90 nucleus
$^{92}Z_r$	ZR92	Zirconium-92 nucleus
$^{94}Z_r$	ZR94	Zirconium-94 nucleus
$^{96}Z_r$	ZR96	Zirconium-96 nucleus

Our names for accelerators are collected below. In most cases, the name is simply an abbreviation of the name of the institution at which the accelerator is located. Where there is more than one accelerator at the same institution, an appropriate modifier is appended, as in CERN-SPS.

For a cosmic ray experiment, we use COSM as the accelerator name, sometimes combined with a specification of the source of the rays.

We use NONE for certain cases, such as proton decay experiments, in which no particle beam is used. We use MANY for certain rapporteur talks or other papers surveying a number of experiments at several (often unspecified) accelerators.

Energies listed are the approximate maximum energies of the circulating beams.

ACCELERATOR

AERE-HELIOS-NS

ANIK-MEA

ANL

BNL

BONN

BONN-500

CERN-ISR

CERN-LEAR

CERN-LEP

CERN-PBAR/P

CERN-PS

CERN-SC

CERN-SPS

CESR

CIT-PELLETRO

COSM

COSM-CYGNUS-X-3

COSM-HERCULES-X-1

COSM-LMC-X-4

COSM-SN1987A

COSM-SUN

DARE-NINA

DARM-LINAC

DESY

DESY-DORIS-II

DESY-PETRA

DGSI

FNAL

FNAL-COLLIDER

FNAL-TEV

FRAS-ADONE

GANIL

IND-CYC

INRU-240

ITEP

JINR

JINR-600

KEK-PF-LINAC

KEK-PS

KEK-TRISTAN

KHAR

LAMPF

LASER

LBL-BEVALAC

LBL-CYC-184IN

LEBD-650

LEBD-PAHRA

LENI

LVLN-CYC

MANY

MANZ-LINAC

MIT-BLA

MSU-CYC

MUNT

NBS-LINAC

NONE

NOVO-VEPP-2M

NOVO-VEPP-4

ORSA

ORSA-CYC

ORSA-DCI

PSI

REACTOR

SAAC-CYC

SACL

SACL-LINAC

SACL-SATURNE-II

SERP

SIEG-BEVALAC

SLAC

SLAC-NPI

SLAC-PEP

SLAC-SLC

SLAC-SPEAR

TMSK

TOKY

TRIUMF

VAN-DE-GRAAFF

YERE-ARUS

EXPLANATION

HELIOS neutron source at Harwell

MEA e^- linac at NIKHEFArgonne (ZGS) proton synchrotron (12.7 GeV/c p_{lab})Brookhaven (AGS) proton synchrotron (33 GeV/c p_{lab})Bonn electron synchrotron (2.5 GeV/c p_{lab})Bonn electron synchrotron (500 MeV/c p_{lab})CERN proton-proton collider (62 GeV E_{cm})

CERN low-energy antiproton ring

CERN large electron-positron collider (120 GeV E_{cm})CERN $\bar{p}p$ collider (540 GeV E_{cm})CERN proton synchrotron (28 GeV/c p_{lab})CERN synchrocyclotron (600 MeV T_{lab})CERN super proton synchrotron (450 GeV/c p_{lab})Cornell electron-positron storage ring (12 GeV E_{cm})

California Institute of Technology 3-MeV Pelletron accelerator

Cosmic rays

Local source of cosmic ray particles from direction of Cygnus X-3

Local source of cosmic ray particles from direction of Hercules X-1

Local source of cosmic ray particles from direction of LMC-X-4

Local source of cosmic ray particles from direction of SN 1987A

Local source of cosmic ray particles from direction of the Sun

Daresbury electron synchrotron (5.2 GeV/c p_{lab})Darmstadt 65 MeV/c p_{lab} linacHamburg Deutches electron synchrotron (7.5 GeV/c p_{lab})DESY DORIS upgraded in 1977 (11.2 GeV E_{cm})DESY electron-positron collider (40 GeV E_{cm})

Darmstadt heavy ion facility

FNAL proton synchrotron (500 GeV/c p_{lab})FNAL $\bar{p}p$ collider (2000 GeV E_{cm})

FNAL fixed target machine (1000 GeV)

Frascati electron-positron ring (3 GeV E_{cm})

Two coupled isochronous cyclotrons for heavy ions

Indiana University cyclotron facility

Cyclotron of Institute for Nuclear Research, Academy of Science Ukr. SSR

ITEP Moscow proton synchrotron (7 GeV/c p_{lab})JINR Dubna proton synchrotron (10 GeV/c p_{lab})JINR Dubna synchrocyclotron (600 MeV T_{lab})

KEK electron linac (2.5 GeV) for photon factory and TRISTAN

KEK proton synchrotron (12 GeV p_{lab})KEK electron-positron collider (64 GeV E_{cm})Electron linear accelerator (2 GeV p_{lab}) at Kharkov Physico-Technical Inst., Ukr. Acad. Sci.

Los Alamos meson/proton factory

Laser as a source of γ 's

Tandem combination of LBL-HILAC and Bevatron. Accelerates ions up to Fe (2.1 GeV/nucleon for charge/mass = 0.5, 4.9 for protons)

LBL-184inch cyclotron (934 MeV for 4 He). Shut down in 1987Lebedev Physics Inst. synchrotron (650 MeV/c p_{lab})

Lebedev Physics Inst. 1.2 GeV electron synchrotron

Leningrad Inst. of Nucl. Phys. synchrocyclotron (1 GeV T_{lab})

Isochronous cyclotron at University of Louvain

Used (rarely) for reviews and compilations

Electron LINAC at Mainz (300 MeV/c p_{lab})MIT electron LINAC (780 MeV E_{lab})

Michigan State Univ. superconducting cyclotron to 40 MeV

Accelerator of the Munich Technical University (Munich, FRG)

Linear 100 MeV accelerator

No accelerator used

Electron-positron storage ring at Novosibirsk (1.4 GeV E_{cm})Electron-positron ring at Novosibirsk, also a synchrotron radiation source (7-10.4 GeV E_{cm})Orsay electron linear accelerator (2 GeV/c p_{lab})Orsay synchrocyclotron (150 MeV/c p_{lab})Orsay electron-positron storage ring (3.4 GeV E_{cm})Schweizerische Inst. für Nuklearforschung (590 MeV T_{lab})

General nuclear reactor

National Accelerator Center Cyclotron, South Africa

Saclay (Saturne) proton synchrotron (3 GeV/c p_{lab})

Saclay electron LINAC

Saclay proton, deuteron, alpha accelerator (2.55 GeV T_{lab})IHEP Serpukhov proton synchrotron (76 GeV/c p_{lab})

Accelerator at Siegen Univ. (FRG)

Stanford electron linear accelerator (40 GeV/c p_{lab})

Stanford nuclear physics injector

Stanford electron-positron ring (30 GeV E_{cm})Stanford linear electron-positron collider (100 GeV E_{cm})Stanford electron-positron ring (8.4 GeV E_{cm})Tomsk electron synchrotron (1.5 GeV/c p_{lab})INS Tokyo electron synchrotron (1.3 GeV/c p_{lab})Canadian TRIangle University Meson Facility (520 MeV T_{lab})

General Van-de-Graaff accelerator

Yerevan (ARUS) electron synchrotron (6.1 GeV/c p_{lab})

Here we list detectors and the laboratories at which they are used. The Particle Data Group publication, G. Gidal *et al.*, "Major Detectors in Elementary Particle Physics," LBL-91 Supplement (1985), contains a description and a diagram of about 50 of the largest detectors.

Bubble chamber detector names indicate the fill [we distinguish hydrogen (HBC), deuterium (DBC), helium (HEBC), and heavy liquids (HLBC)], then the chamber name (which is usually simply its size), and finally any qualifiers. The qualifiers are HYB for a predominantly hybrid mode of operation, RAP for a rapid-cycling chamber, and TST for a chamber containing a track-sensitive target. When more than one qualifier is appropriate, we use the one most important to the data at hand.

2-GAMMA

FREJUS

<u>DETECTOR</u>	<u>ACCELERATOR</u>	<u>EXPLANATION</u>
2-GAMMA	SLAC-PEP	System of forward detectors for studying mainly the $2-\gamma$ process
2BETA-GS	UNDERGROUND	Underground experiment on double β decay at the Gran Sasso National Laboratory, L'Aquila, Italy
ACCMOR	CERN-SPS	Large aperture forward magnetic spectrometer
AFS	CERN-ISR	Axial field spectrometer
AHEAD	MIT-BLA	Alberta high efficiency analyzer for deuterons
ALEPH	CERN-LEP	LEP detector
ALPHA-POLIS	JINR	High resolution lepton detector
AMY	KEK-TRISTAN	Anomalous single photon detector
ARGUS	DESY-DORIS	Antiproton stop experiment with trigger on initial x rays
ASP	SLAC-PEP	Spectrometer without magnetic field
ASTERIX	CERN-PS	Cosmic-ray facility at the Black Birch Range in New Zealand
BAKSAN	UNDERGROUND	JINR spectrometer, now at IHEP, Serpukhov
BAS	ITEP	Upgrade of BIS
BBR	COSM	Modification of BIS-2
BIS	SERP	Magnetic spectrometer at LEAR
BIS-2	SERP	Calorimeter
BIS-2M	SERP	Single crystal target, goniometer, magnetic spectrometer
CALLIOPE	CERN-LEAR	Chicago cyclotron magnet spectrometer
CALO	many	Collider detector at Fermilab
CASCADE	SERP	CERN-Dortmund-Heidelberg-Saclay-Bologna neutrino detector at SPS (135 tons)
CCM	FNAL-TEV	Cloud chamber
CDF	FNAL-COLLIDER	Counters (no chambers)
CDHS	CERN-SPS	Combinations of different types of detectors. Can include a hybrid system involving a bubble chamber, if the bubble chamber is a minor part of the system
CELLO	DESY-PETRA	Showr detector at Baksan
CERN-MUNICH	CERN-PS	Crystal ball
CHARM	CERN-SPS	Crystal array detector
CLEO	CESR	High resolution calorimeter
CLOUD	many	Upgraded CUSB detector
CMD	NOVO-VEPP-2M	An air-shower array located around the end station of the LAMPF accelerator in Los Alamos.
CNTR	many	Uses the LAMPF-225 neutrino detector as a muon detector, with an effective area for muon detection of about 44 m^2 .
COMB	many	Double arm spectrometer
COVER	COSM	Deuterium bubble chamber
CRYSBALL	SLAC-SPEAR	Deuterium bubble chamber
CRYSB-BOX	LAMPF	Deuterium bubble chamber
CUSB	CESR	Deuterium bubble chamber
CUSB-II	CESR	Deuterium bubble chamber
CYCLOPS	FNAL	Deuterium bubble chamber
CYGNUS	COSM	Deuterium bubble chamber
DAS	many	Cosmic ray muon spectrometer
DBC-12FT	ANL	Double-arm magnetic spectrometer
DBC-15FT	FNAL	Deuterium bubble chamber
DBC-2M	ITEP,CERN-PS	Deuterium bubble chamber
DBC-30IN	ANL,BNL,FNAL,LBL	Deuterium bubble chamber
DBC-30IN-HYB	FNAL	Deuterium bubble chamber
DBC-35CM	SACL	Deuterium bubble chamber
DBC-40IN-HYB	SLAC	Deuterium bubble chamber
DBC-7FT	BNL	Deuterium bubble chamber
DBC-80IN	BNL	Deuterium bubble chamber
DBC-BEBC	CERN-PS	Deuterium bubble chamber
DEIS	COSM	Deuteron bubble chamber
DELCO	SLAC-PEP	Pictorial drift chamber
DELOS	PSI	Double-arm magnetic spectrometer
DELPHI	CERN-LEP	Double arm spectrometer
DEUTRON-2	YERE	Magnetic detector at Orsay
DIogene	SACL-SATURNE-II	Detecteur magnétique no. 2
DISC	JINR	Extended air shower detector on top of the Gran Sasso Mt., at the Gran Sasso National Laboratory, L'Aquila, Italy
DISC-3	JINR	European hybrid spectrometer
DLS	LBL-BEVALAC	Electron spectrometer
DM1	ORSA-DCI	Effective mass spectrometer
DM2	ORSA-DCI	Emulsion. Also used for detectors like PLASTIC where tracks are "frozen" in a solid medium
EAS-TOP	COSM	Energetic pion spectrometer and detection system
EHS	CERN-SPS	Electron-positron solenoid spectrometer
ELSSY	MIT-BLA	Forward and cylindrical detector system, large acceptance spectrometer covering both projectile and target regions
EMC	CERN-SPS	FLY'S EYE cosmic ray detector
EMS	ANL	Multiparticle spectrometer at Fermilab
EMUL	many	Double-arm spectrometer
EPICS	LAMPF	Proton decay experiment, tracking calorimeter in the Alps
EPOS	DARM-LINAC	
FANCY	KEK-PS	
FAS-1	ITEP	
FLYSEYE	COSM	
FMPS	FNAL	
FODS	SERP	
FREJUS	UNDERGROUND	

DETECTOR	ACCELERATOR	EXPLANATION
GAMS-2000	SERP	Hodoscope gamma-spectrometer
GAMS-4000	CERN-SPS	Hodoscope gamma-spectrometer
GIBS	JINR	Combination of scintillator counters and streamer chamber
HBC-1.2M	CERN-PS,KEK,JINR	Hydrogen bubble chamber
HBC-25CM	JINR,ITEP,JINR	Hydrogen bubble chamber
HBC-2M	ITEP,CERN-PS	Hydrogen bubble chamber
HBC-30IN	ANL,BNL,FNAL,LBL	Hydrogen bubble chamber
HBC-30IN-HYB	FNAL	Hydrogen bubble chamber
HBC-40IN-HYB	RHELSLAC	Hydrogen bubble chamber
HBC-80CM	ITEP,DESY,CERN-PS	Hydrogen bubble chamber
HBC-81CM	SACL	Hydrogen bubble chamber
HBC-BEBC	CERN-PS	Hydrogen bubble chamber
HBC-BEBC-HYB	CERN-SPS	Little European bubble chamber with hybrid system
HBC-LEBC-HYB	CERN-SPS	Little European Bubble Chamber made of lexan
HBC-LEBC-RAP	CERN-SPS	Also known as DUBNA chamber, but at Serpukhov
HBC-LUDMILA	SERP	Also known as DUBNA chamber, but at Serpukhov
HBC-LUDMILA-TST	SERP	4.5m x 1.6m x 1.1m cold chamber
HBC-MIRA	SERP	
HEBC-50CM	ANL,ANL	Northwestern 50-cm helium bubble chamber at ANL
IEBC-80CM	ITEP	
HELIOS	CERN-SPS	
HLBC-105CM	ITEP	Heavy-liquid bubble chamber
HLBC-15FT	FNAL	Heavy-liquid bubble chamber
HLBC-15FT-HYB	FNAL	Heavy-liquid bubble chamber
HLBC-180LIT	ITEP	Heavy-liquid bubble chamber
HLBC-1.2M	CERN-PS,JINR	Heavy-liquid bubble chamber
HLBC-2M	SERP,JINR	180-liter propane chamber
HLBC-30IN	FNAL	Heavy-liquid bubble chamber
HLBC-55CM	JINR	Propane or xenon chamber
HLBC-BEBC	CERN-PS	Heavy-liquid bubble chamber
HLBC-BEBC-HYB	CERN-PS	Heavy-liquid bubble chamber
HLBC-DIANA	ITEP	Heavy-liquid bubble chamber
HLBC-HOBC-HYB	CERN-SPS	Heavy-liquid bubble chamber
HLBC-SKAT	SERP	4.5m x 1.6m warm chambers
HPW	BNL	Harvard-Penn-Wisconsin neutrino detector at BNL
HRS	SLAC-PEP	High resolution spectrometer
HRSF	LAMPF	High resolution spectrometer facility
HYPERON	SERP	Single arm magnetic spectrometer with big spark and proportional chambers and gas hodoscope counter
IKAR	SACL-SATURNE-II	Many electrodes ionization chamber
IMB	UNDERGROUND	Irvine-Michigan-Brookhaven nucleon decay detector, Ohio
ISTRAD	SERP	
ISTRAD-3	ITEP	
JADE	DESY-PETRA	
JANUS	LAMPF	Proton polarimeter
JETSET	CERN-LEAR	compact general purpose detector
KAMIOKANDE-I	UNDERGROUND	Kamioka nucleon decay detector
KAMIOKANDE-II	UNDERGROUND	Kamioka nucleon decay detector, stage-2
KASPI	JINR	Channel and π -meson spectrometer with final particle energy up to 1 GeV
KGF	UNDERGROUND	
L3	CERN-LEP	LEP detector
LAB-E	FNAL	1100-ton target-calorimeter muon-spectrometer detector for neutrino physics
LAERS	LAMPF	High resolution proton spectrometer
LAS	LAMPF	
LASS	SLAC	
LEPTON-F	SERP	Large aperture solenoid spectrometer
LSD	UNDERGROUND	
MAC	SLAC-PEP	Magnetic calorimeter
MACRO	UNDERGROUND	Large area detector
MANY	many	Many different detectors
MARK-II	SLAC-SPEAR	
MARK-III	SLAC-SPEAR	
MARK-J	DESY-PETRA	
MASIC	JINR	SLAC-SPEAR spectrometer system (not related to MARK-II)
MD-1	NOVO-VEPP-4	
MEGA	LAMPF	Array of electron and photon spectrometers
MIS	SERP	Multiparticle spectrometer
MMS	FNAL	Multimillion spectrometer with hadron calorimeter
MPS	BNL	Multiparticle spectrometer
MPS-II	BNL	Updated BNL MPS
MRS	TRIUMF	Medium resolution spectrometer
MTS	ITEP	3-m magnetic spectrometer with spark chambers
ND	VEPP-2M	Neutral detector at VEPP-2M
NICE	SERP	Nonmagnetic precision spectrometer at Serpukhov
NUSEX	UNDERGROUND	NUSEX nucleon decay detector, Mont Blanc tunnel
OLYA	NOVO-VEPP-4	
OMEGA	CERN-SPS	
OMEGAPRIME	CERN-SPS	
OMICRON	CERN-SC	
OPAL	CERN-LEP	LEP detector

DETECTOR	ACCELERATOR	EXPLANATION
ORANGE	DARM-LINAC	Beta spectrometer
OSPK	many	Optical spark chamber
OTHER	many	Rare nonelectronic detectors (e.g. moon, ocean floor)
PHOTON	many	Photon spectrometer
PIOSPEC	LAMPF	Los Alamos π^0 spectrometer
PION	COSM	Hadronic calorimeter with pion-proton identification
PLASTIC	many	Lexan or other such material in which tracks are frozen (except emulsion)
PLASTIC-BALL	LBL-BEVALAC	Plastic ball detector
PLUTO	DESY-DORIS	Superconducting solenoid spectrometer
PROZA	SERP	Polarized proton target with frozen polarization, gamma spectrometer, neutron detector
PROZA-M	SERP	Modified PROZA
RISK	SERP	4.7x0.9 x 0.8 m ³ streamer chamber in magnetic field
RMS	RHEL	Magnetic spectrometer facility
RONS	REACTOR	Rovno neutrino spectrometer at Rovno AES
SAC-600	SACL-LINAC	High resolution electron scattering detector
SAC-900	SACLAY-LINAC	High resolution electron scattering detector
SAS	many	Single arm spectrometer
SEMI	many	Semiconductor detector
SFM	CERN-PS	Split field magnet
SHIP	KEK-TRISTAN	Detector for search for highly ionizing particles
SIGMA	SERP	CERN-IHEP magnetic spectrometer at Serpukhov
SINDRUM	PSI	Large-solid-angle magnetic detector
SINDRUM-I	PSI	
SKM-200	JINR	2-m neon filled streamer chamber
SLAC-8GeV	SLAC	8-GeV spectrometer
SMM-GRS	COSM	Gamma ray spectrometer of the solar maximum mission satellite facility
SOKOL	COSM	
SOUDAN-I	UNDERGROUND	
SOUDAN-II	UNDERGROUND	
SPASE	COSM	South Pole air shower experiment
SPEC	many	General spectrometer system not fitting one of the others or where specific type not given
SPEC-6M	SERP	6-m spectrometer
SPES-I	SACL-SATURNE-II	High resolution spectrometer
SPES-II	CERN-LEAR	High resolution spectrometer
SPES-III	SLAC-SATURNE-II	Saclay Saturne spectrometer
SPES-IV	SACL-SATURNE-II	High resolution spectrometer
SPIN	ITEP	
SPRK	many	Spark chamber of unspecified type (use WIRE or OSPK, if possible)
STRC	many	Streamer chamber
SUPERBENKEI	KEK	Superconducting spectrometer system
SUSI	PSI	Pion spectrometer
SYSTEMA-I	COSM	Scintillator-ionization spectrometer of two electrons with multidimensional analysis
SYSTEMA-II	COSM	
TAGX	TOKY	Large-aperture spectrometer system
TASSO	DESY-PETRA	
TELAS	KEK	KEK target-embodied large-aperture spectrometer
TISS-3	ITEP	
TOPAZ	KEK-TRISTAN	Solenoidal spectrometer with time projection chamber
TPC	SLAC-PEP	Time projection chamber
TPS	FNAL	Tagged photon spectrometer
TRAD	many	A general transition radiation detector
TREAD	FNAL	Recoil energy and angle detector with mini-time projection chamber
TRIUMF-TPC	TRIUMF	Time projection chamber
UA1	CERN-PBAR/P	
UA2	CERN-PBAR/P	
UA4	CERN-PBAR/P	
UA5	CERN-PBAR/P	
UCI-TPC	NONE	
VENUS	KEK-TRISTAN	Versatile economical and novel universal spectrometer
WAS	many	Wide angle spectrometer
WIRE	many	Wire chambers (proportional wire chambers, drift chambers). Includes all nonoptical spark chambers

The symbols used to indicate what quantities are measured in an experiment are listed here. They are used in the Reaction/Momentum/Data Descriptor Index.

DATA DESCRIPTOR	EXPLANATION
A-DEP	Atomic number dependence
AMP	Amplitudes not decomposed into states of definite angular momentum: Re/Im ratio, helicity amplitude, etc.
ANG	Angular distributions between particles in the final state. Includes also angular distributions involving decay products of particles listed in the reaction, even though those decay products are not themselves explicitly listed. Includes angles used to study the decay of a system in the final state, even though the coordinate system axes may be defined with respect to the incident particles (e.g., Jackson angles, etc.). Also the equivalent, expressed as moments, etc.
ANGP	Production angular distributions of one or more of the outgoing particles relative to one of the incident particles. Also the equivalent, expressed as moments or polynomial expansion coefficients. Also invariant cross sections as a function of production angle or t . By convention, does not include rapidity or its approximation (see P)
ASYM	Asymmetry in scattering off a polarized target and/or with a polarized beam (with exception of special case noted under POL)
COL	Collective variables (sphericity, thrust, etc.)
CONST	Physical constant (Fermi constant, Weinberg angle, etc.). Used to express that model parameters are extracted from data
COR	General correlator (on momentum, rapidity, etc.)
CS	Cross section, cross section ratio, or cross section upper limit. Can also be listed for very rare reactions whose existence is being established, even though the number of events has not been converted to a cross section. Does not include parametrizations of the cross section, e.g. as a function of energy
DME	Density matrix elements, including joint density matrix elements
ET	Transverse energy
FLUX	Cosmic-ray particle flux
MANY	For rare cases when there are many types of data measured
MASS	Mass spectrum, or invariant cross section as a function of mass
MULT	Multiplicity distribution, its average, ratio or moments
P	Any function of outgoing momentum or energy not included in any others. Includes rapidity and Feynman scaling variables
POL	Final state spin polarization measurement, including Wolfenstein spin rotation parameters, and measurements of the asymmetry off a polarized target when it is equal to the final state polarization
PT	Transverse momentum spectrum, or invariant cross section as a function of above. Does not include a momentum transfer spectrum (see ANGP). Includes transverse mass, unless the particle mass is also variable
PWA	Partial wave amplitudes, including formation partial waves and production partial waves. Any attempt to measure amplitudes of definite angular momentum. Includes scattering length and effective range
QNC	Test of quantum-number conservation