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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 $F^\pm$ became the $D_s^\pm$. None of the lightest pseudoscalar or vector meson names changed, nor did those of the $c\bar{c}$ or $b\bar{b}$ mesons (we do, however, now use χ_c for the $c\bar{c}$ 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, $PC = -+$, $+-$, $--$, and $++$; 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.

	J^{PC}			
	0^{-+}	1^{+-}	0^{--}	0^{++}
	2^{-+}	3^{+-}	2^{--}	1^{++}
	$\vdots$	$\vdots$	$\vdots$	$\vdots$
	${}^{2S+1}L_J$			
$q\bar{q}$ content	${}^1\text{even}_J$	${}^1\text{odd}_J$	${}^3\text{even}_J$	${}^3\text{odd}_J$
$u\bar{d}$, $d\bar{u}$, $d\bar{d} - u\bar{u}$	π	b	ρ	a
$s\bar{s}$, $d\bar{d} + u\bar{u}$	η, η'	h, h'	ω, ϕ	f, f'
$c\bar{c}$	η_c	h_c	$\psi^{\ddagger}$	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 $J^{PC} = 0^{--}, 0^{+-}, 1^{-+}, 2^{+-}, 3^{-+}, \cdots$, 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:

$$s \to \overline{K} \qquad c \to D \qquad b \to \overline{B} \qquad t \to T\ .$$

- 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, $J^P = 0^+, 1^-, 2^+, \ldots$, 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.
    - "0γ" 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 $\pi^- p \to \pi^+\pi^+\pi^-\pi^-\pi^- p$ appears as $\pi^- p \to p\, 2\pi^+\, 3\pi^-$.

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`
  `LISt,AC,RE,SC.` (for individual data elements)
- Or for an attractive listing, type:
  `DOcument then 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 bibliographic 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 edition[1] 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 ZO
(response)
tell QSPIRES@SLACVM AND DATE 1988
(response)
```

To receive the search result on your screen ($\leq$ 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 QSPI@SLACVM for questions about node registration.

6.4 SPIRES 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 (L00HTP@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 call 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).

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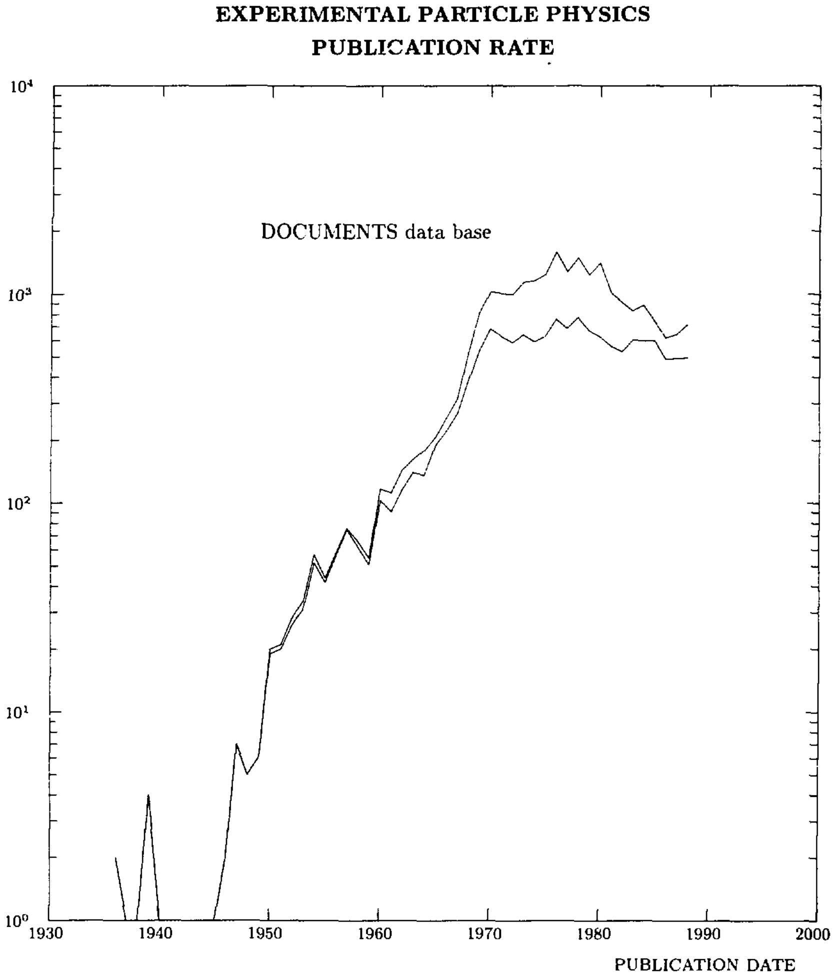

Fig. 1. The number of experimental papers produced each year. The lower curve gives the number of journal papers, and thus doesn't include unpublished preprints.

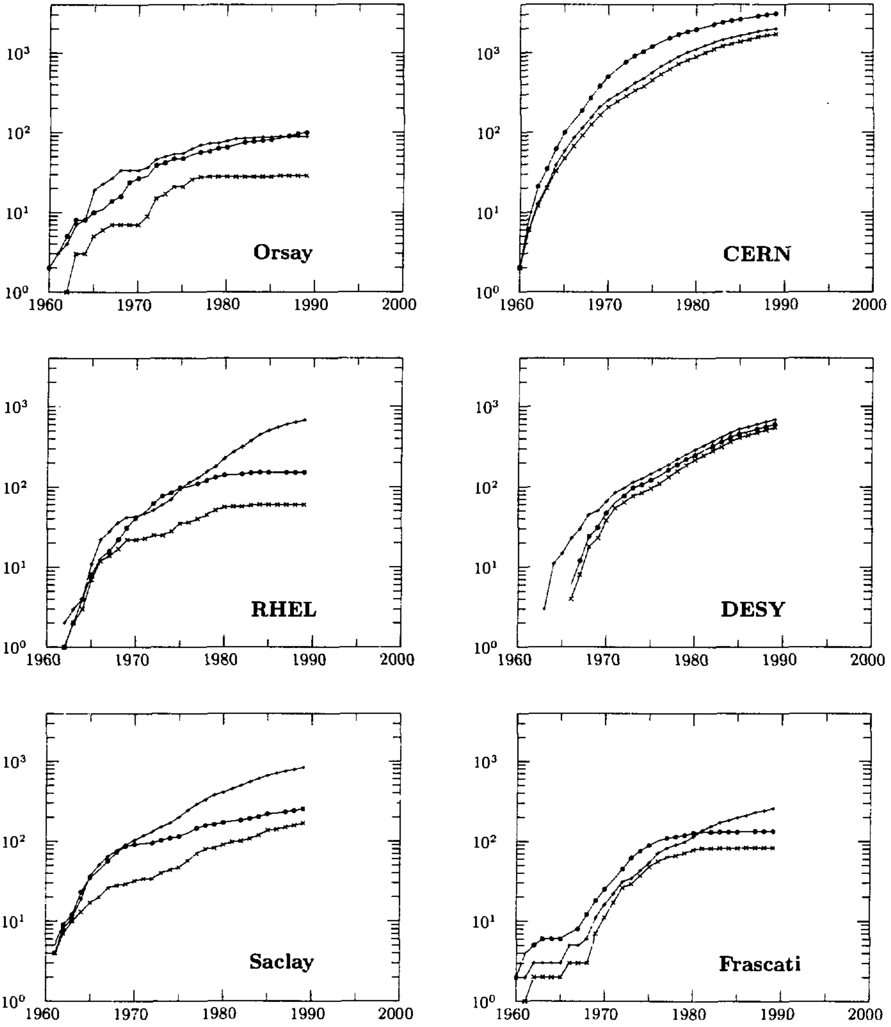

Fig. 2. The cumulative number of papers from major European accelerator laboratories. A + indicates papers with authors from the laboratory, a • indicates papers on data taken at an accelerator at that laboratory, and an × indicates papers both with authors from the laboratory and data from its accelerator(s).

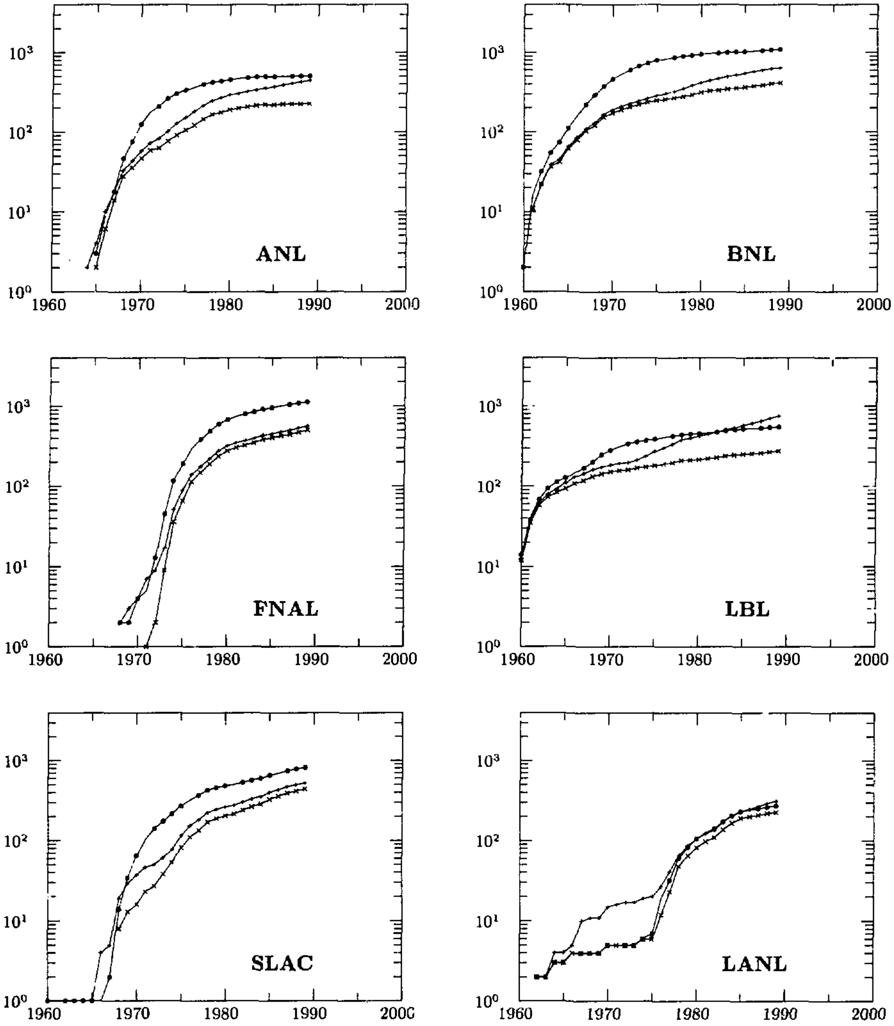

Fig. 3. The cumulative number of papers from major USA accelerator laboratories. A + indicates papers with authors from the laboratory, a • indicates papers on data taken at an accelerator at that laboratory, and an × indicates papers both with authors from the laboratory and data from its accelerator(s).

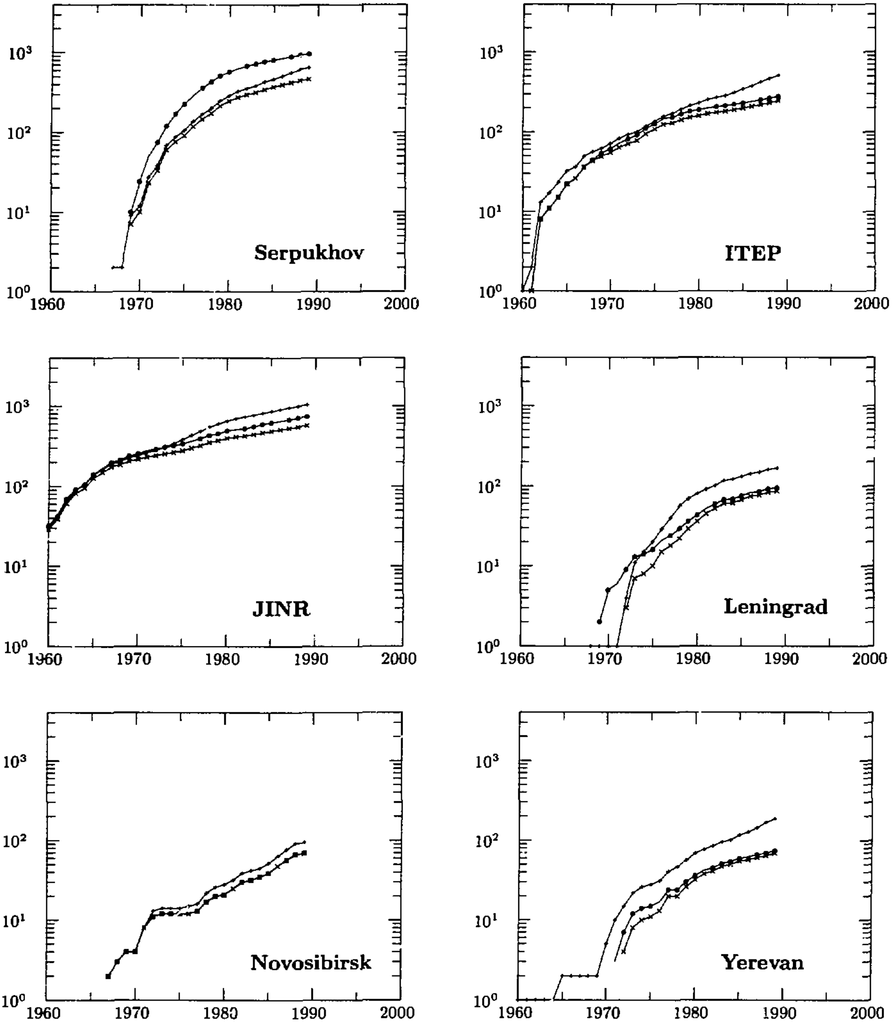

Fig. 4. The cumulative number of papers from major USSR accelerator laboratories. A + indicates papers with authors from the laboratory, a • indicates papers on data taken at an accelerator at that laboratory, and an × indicates papers both with authors from the laboratory and data from its accelerator(s).

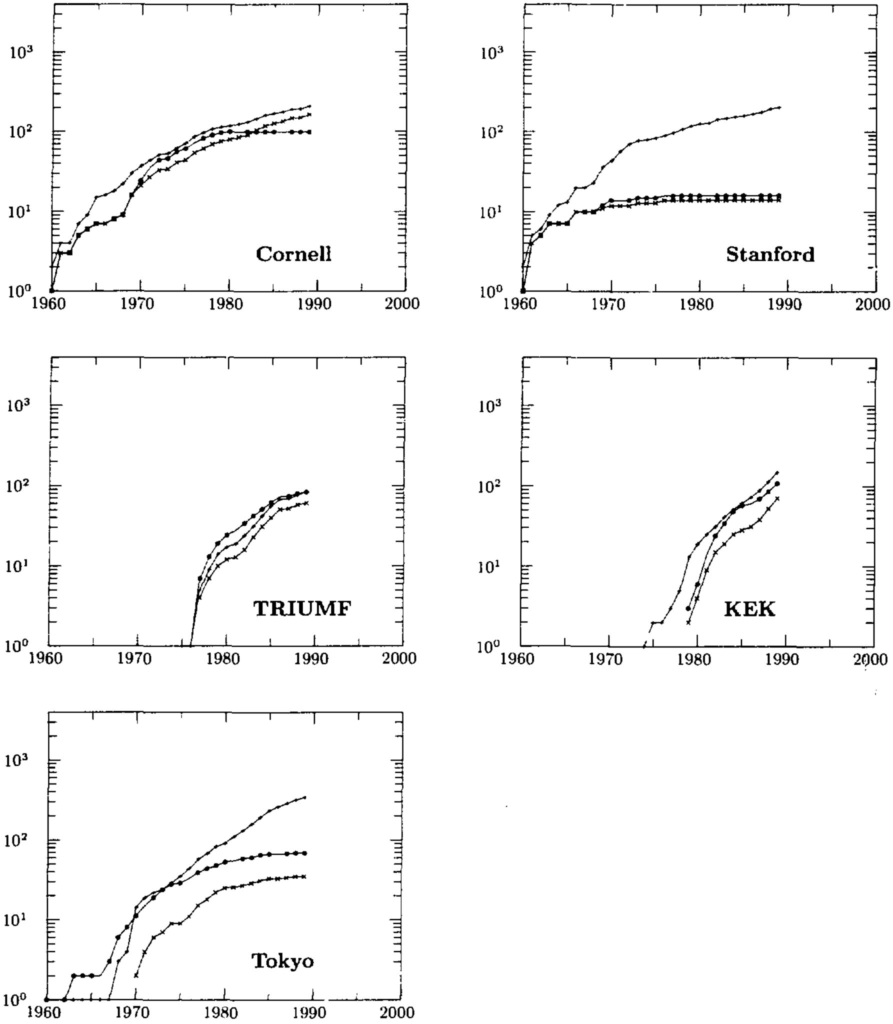

Fig. 5. The cumulative number of papers from some USA, Canadian, and Japanese accelerator laboratories. A + indicates papers with authors from the laboratory, a • indicates papers on data taken at an accelerator at that laboratory, and an × indicates papers both with authors from the laboratory and data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

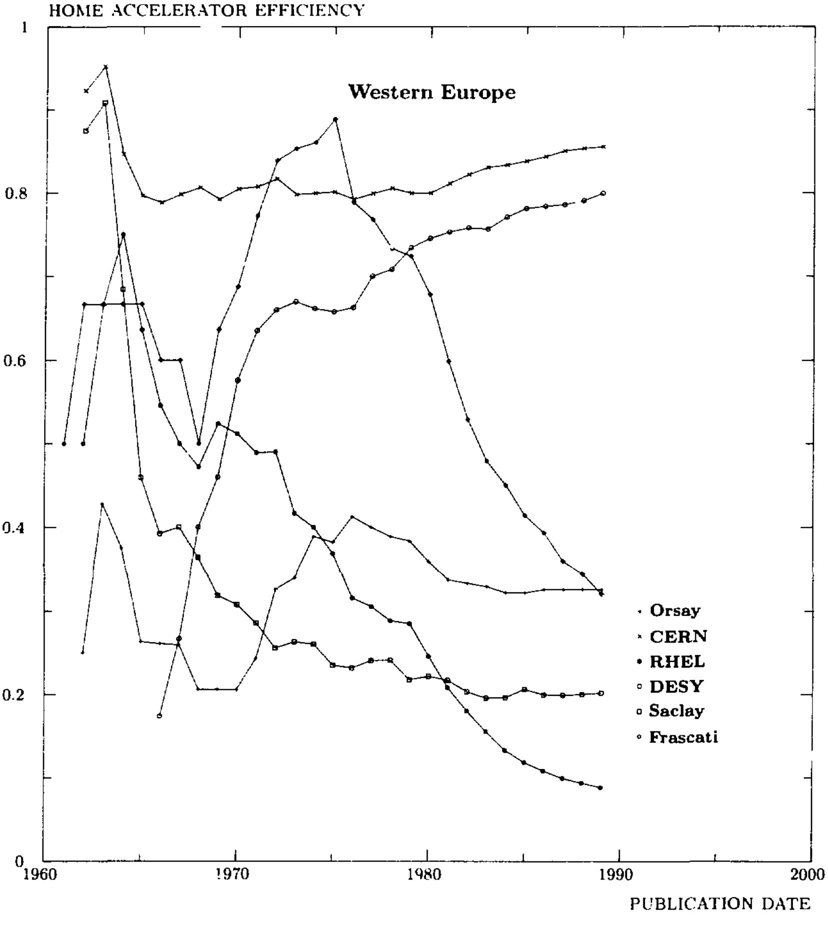

Fig. 6. The fraction of all the experimental papers with authors from a given laboratory that present data taken at an accelerator at that laboratory.

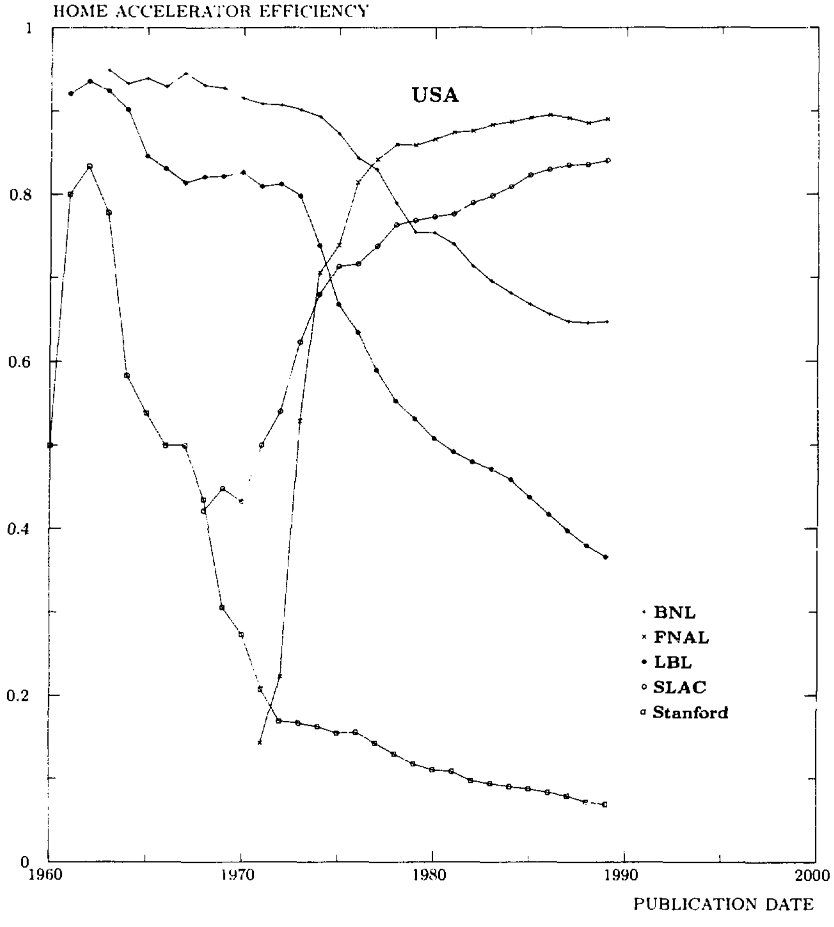

Fig. 7. The fraction of all the experimental papers with authors from a given laboratory that present data taken at an accelerator at that laboratory.

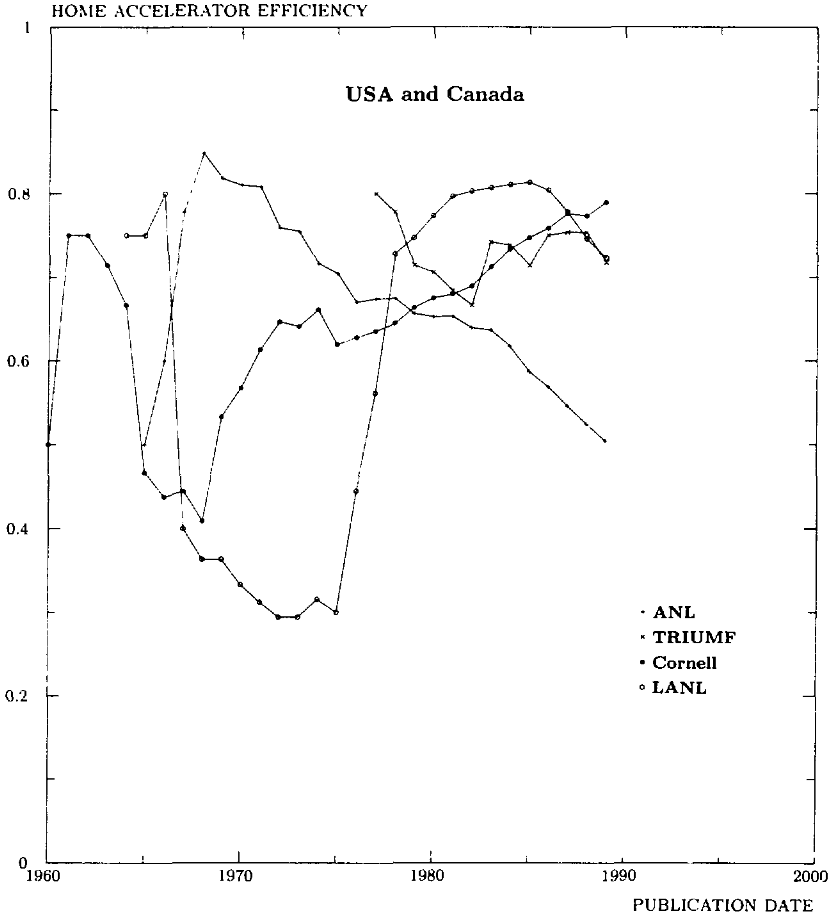

Fig. 8. The fraction of all the experimental papers with authors from a given laboratory that present data taken at an accelerator at that laboratory.

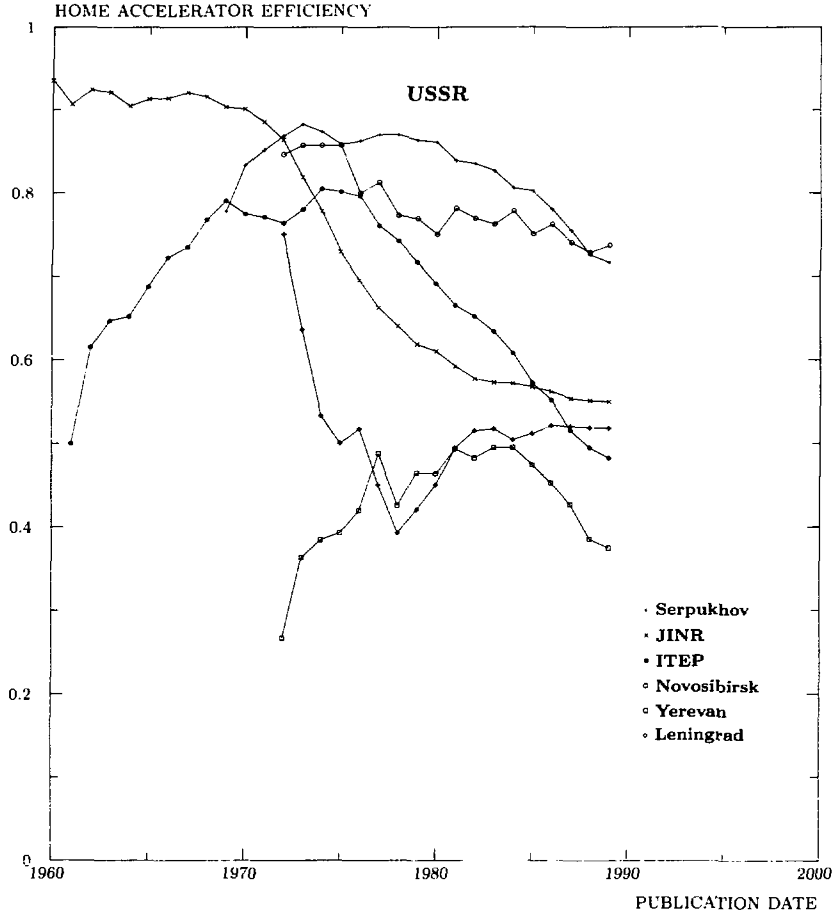

Fig. 9. The fraction of all the experimental papers with authors from a given laboratory that present data taken at an accelerator at that laboratory.

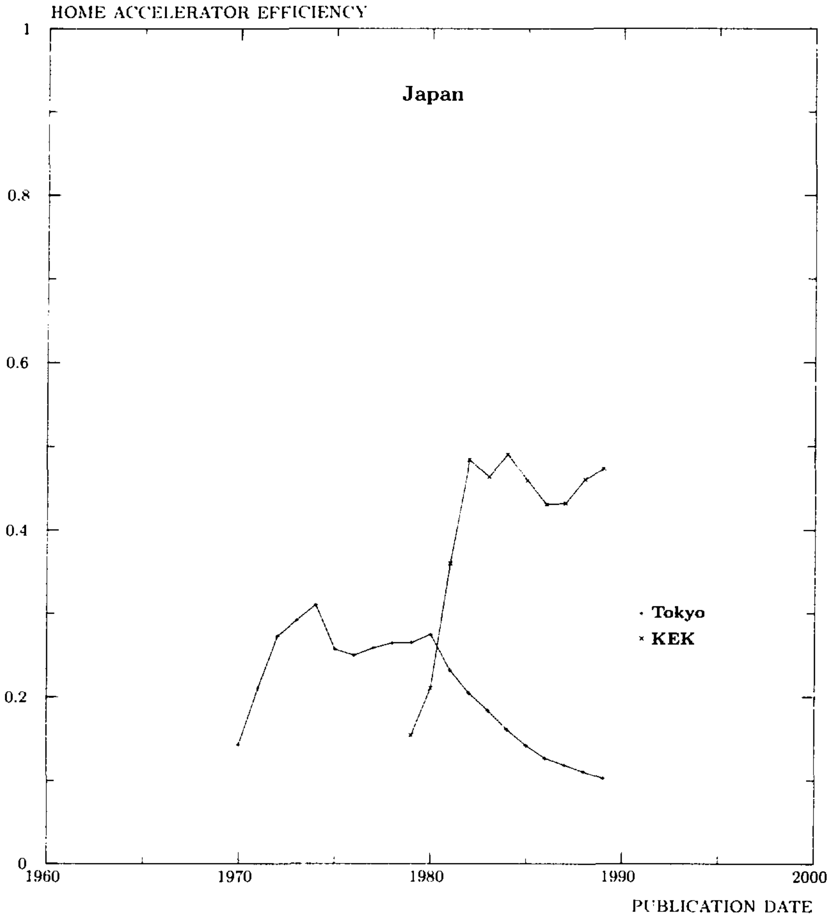

Fig. 10. The fraction of all the experimental papers with authors from a given laboratory that present data taken at an accelerator at that laboratory.

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.	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**
Primary Reference: the journal reference for this paper, if the paper was published.	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}Fl and ^{24}Na from Al and Si with Fast Pions**
Additional References: the preprint number (occasionally there is more than one).	Druzhinin 88	Z. Phys. C37:1,1988; NOVO-87-52; **Search for Rare Radiative Decays of the ϕ Meson at VEPP−2M**
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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.

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

$p\,p$	
(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

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

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

γ Be

145 (50.05) Anjos 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
0.22 – 0.45 (11.41 – 11.63)
Arends 85
0.3 – 0.44 (11.48 – 11.62)
Belousov 88
0.34 – 0.58 (11.52 – 11.75)
Maruyama 89
1.5 – 4.5 (12.6 – 15.03)
Avakyan 89
Alanakyan 88
Alanakyan 87
Avakyan 85B
Alanakyan 84
1.6 (12.69) Bratashevsky 87D

γ ^{16}O

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 ^{24}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
1.5 – 4.5 (26.59 – 29.29)
Avakyan 90
Alanakyan 87

γ ^{27}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 ^{28}Si

0.4 (26.48) Tonapetyan 85B

γ Si

70 – 225 (65.93 – 111.6)
Klein 89C
Amendolia 87B

γ S

1.5 – 4.5 (31.33 – 34.07)
Alanakyan 87

γ ^{40}Ca

0.168 (37.43) Koch 89
0.4 (37.66) Tonapetyan 85B

γ Ca

0.1379 – 0.1699 (37.47 – 37.5)
Jammes 89

γ Ti

0.8 – 1.8 (45.41 – 46.39)
Delima 90B
Delima 89

γ ^{48}Ti

< 0.5 (< 45.21)
Stenz 86

γ Cr

1.5 – 4.5 (49.91 – 52.74)
Alanakyan 87

γ ^{54}Fe

0.4 (50.7) Tonapetyan 85B

γ Fe

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

γ ^{56}Fe

0.4 (52.56) Tonapetyan 85B

γ Co

0.8 – 1.8 (55.69 – 56.67)
Delima 90B

γ ^{59}Co

0.8 – 1.8 (55.75 – 56.73)
Delima 89

γ ^{60}Ni

1.5 – 4.5 (57.37 – 60.22)
Arakelyan 90
Arakelyan 86

γ ^{61}Ni

1.5 – 4.5 (58.3 – 61.16)
Arakelyan 90
Arakelyan 86

γ ^{62}Ni

1.5 – 4.5 (59.23 – 62.09)
Arakelyan 90
Arakelyan 86

γ Cu

0.22 – 0.45 (59.42 – 59.65)
Arends 85
0.5 – 3.3 (59.69 – 62.41)
Arakelyan 89D
1.5 – 4.5 (60.68 – 63.54)
Avakyan 85B
Alanakyan 84
1.6 (60.78) Bratashevsky 87D
4 (63.07) Amroyan 89

γ ^{65}Cu

1.5 – 4.5 (62.03 – 64.89)
Arakelyan 90

γ Ge

70 – 225 (118.5 – 187.1)
Klein 89C
Amendolia 87
Amendolia 87B

γ Zr

0.8 – 1.8 (85.77 – 86.75)
Delima 90B
Delima 89

γ Nb

0.8 – 1.8 (87.34 – 88.32)
Delima 90B
4.5 (90.93) Amroyan 89

γ ^{93}Nb

0.4 (87.33) Tonapetyan 85B

γ Ag

0.8 – 1.8 (101.3 – 102.3)
Delima 90B
1.5 – 4.5 (102 – 104.9)
Amroyan 88
2.9 – 4.5 (103.3 – 104.9)
Amroyan 89

γ In

0.8 – 1.8 (107.7 – 108.7)
Delima 90B

γ ^{116}Sn

1.5 – 4.5 (109.5 – 112.5)
Arakelyan 90

γ Sn

0.22 – 0.45 (110.8 – 111)
Arends 85
1.5 – 4.5 (112 – 115)
Avakyan 89
Avakyan 85B

γ ^{120}Sn

1.5 – 4.5 (113.3 – 116.2)
Arakelyan 90

γ ^{122}Sn

1.5 – 4.5 (115.1 – 118.1)
Arakelyan 90

γ ^{124}Sn

1.5 – 4.5 (117 – 119.9)
Arakelyan 90

γ Xe

0.025 – 2.5 (122.3 – 124.8)
Strugalski 88B

γ Cs(atom)

$0.4 \cdot 10^{-9}$ (132.9)
Gilbert 86B
Gilbert 85

γ Nd

0.8 – 1.8 (135.2 – 136.1)
Delima 90B

γ Sm

0.8 – 1.8 (140.8 – 141.8)
Delima 90B

γ Ta

0.8 – 1.8 (169.3 – 170.3)
Delima 90B
4 (172.5) Amroyan 89

γ ^{181}Ta

0.4 (169) Tonapetyan 85B

γ ^{207}Pb

0.4 (193.2) Tonapetyan 85B

γ Pb

0.22 – 0.45 (193.2 – 193.5)
Arends 85
0.5 – 3.3 (193.5 – 196.3)
Arakelyan 89D
1.5 – 4.5 (194.5 – 137.5)
Avakyan 90
Avakyan 85B
Alanakyan 84
80 – 190 (261 – 332.6)
Sokoloff 86

γ ^{208}Pb

< 0.5 (< 194.2)
Stenz 86

γ ^{209}Bi

0.4 (195.1) Tonapetyan 85B

γ ^{235}U

0.15 – 4.32 (219 – 223.2)
Arakelyan 89
Arakelyan 89C

γ ^{238}U

0.15 – 3.55 (221.8 – 225.2)
Arakelyan 89E
0.15 – 4.32 (221.8 – 226)
Arakelyan 89
Arakelyan 89C
0.4 (222.1) Tonapetyan 85B

γ nucleus

0.1 – 0.53 Arends 88
0.187 – 0.427 Maruyama 89
4.1 – 185 Fredriksson 87
13 – 25 Baskov 88
20 – 70 Forino 87
100 – 10^3 Zatsepin 89
900 – 10^4 Bakatanov 88
> 10^3 Bond 89
> $5 \cdot 10^4$ Haines 90
Dingus 88
Dingus 88B
$75 \cdot 10^3$ Tanimori 89
> 10^5 Bond 88B

γ

> 0.0002 Hirata 89B
< 0.005 Bonnetbidaud 88
0.1 – 10^{11} Baltrusaitis 85C
25 – 440 Hirata 88E
> 10^3 Bond 89
> $5 \cdot 10^4$ Gaisser 89
> 10^5 Cassiday 89B
Bond 88B
? Vonfeilitzsc 88

ν p

5 – 150 (3.204 – 16.8)
Allen 85
10 – 260 (4.432 – 22.11)
Jongejans 89
30 – 300 (7.562 – 23.75)
Klein 89C
200 (19.4) Berger 86B

ν n

10 – 260 (4.436 – 22.12)
Jongejans 89

ν deuteron

10 – 100 (6.405 – 19.46)
Matsinos 89
< 200 (< 27.45)
Nachtmann 85
200 (27.45) Berger 86B

ν Ne

10 – 100 (27 – 64.11)
Matsinos 89
50 (47.24) Ammar 89B

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 Fe

10 – 260 (61.21 – 172.5)	Berge 89
< 200 (< 153.3)	Nachtmann 85

ν nucleus

10 – 200	Grassler 86
50	Ammar 89B

ν

0.007 – 0.011	Dadykin 87
0.012 – 0.02	Alekseev 87
0.2 – 2.6	Aglietta 89
(19.4)	Klein 89B
?	Losecco 89

$\bar{\nu}$ p

5 – 150 (3.204 – 16.8)	Allen 85

$\bar{\nu}$ deuteron

10 – 100 (6.405 – 19.46)	Matsinos 89
200 (27.45)	Berger 86B

$\bar{\nu}$ Ne

10 – 100 (27 – 64.11)	Matsinos 89
10 – 200 (27 – 88.7)	Fredriksson 87

$\bar{\nu}$ Fe

10 – 260 (61.21 – 172.5)	Berge 89

$\bar{\nu}$ nucleus

10 – 200	Grassler 86

ν_e e^-

0.0002 – 0.007	Hirata 89
< 0.004 (< 0.0021)	Derbin 86
0.005 – 0.05 (0.0023 – 0.0072)	Hirata 88F
	Hirata 87C
	Krivoruchenk 87
< 0.02 (< 0.0045)	Nakamura 88
0.02 – 0.053 (0.0045 – 0.0074)	Allen 85B
< 0.053 (< 0.0074)	Allen 89
?	Raffelt 90
	Suzuki 89
	Totsuka 89B

ν_e n

> 0.2 (> 1.122)	Allison 89B
1.5 (1.924)	Lile 89
< 4 (< 2.898)	Ahrens 87
< 12 (< 4.841)	Ahrens 86
	Ahrens 85B

ν_e nucleon

3 – 30 (2.554 – 7.569)	Ammosov 88D
< 7 (< 3.747)	Blumenfeld 89
10 – 160 (4.437 – 17.37)	Allaby 86
10 – 260 (4.437 – 22.13)	Dorenbosch 86

ν_e C

0.05 – 0.3 (11.24 – 11.48)	Dombeck 87

ν_e ^{37}Cl

> 0.0005 (> 34.47)	Cribier 87
< 0.02 (< 34.48)	Nakamura 88

ν_e nucleus

0.02 – 0.06	Gajewski 89
0.1 – 1.1	Suzuki 88
0.2 – 20	Berger 89B
	Perdereau 89
	Longuemare 88
0.4 – 2	Nakamura 88
0.5 – 19	Angelini 86
1 – 13	Bergsma 88
10 – 100	Ushida 86C

ν_e

> 0.0002	Hirata 89B
	Hirata 89C
	Hirata 87B
0.0002 – 0.007	Hirata 89
0.005 – 0.05	Alekseev 88C
	Hirata 88F
	Hirata 87C
> 0.007	Hirata 90
> 0.0075	Hirata 90B
> 0.0076	Takita 89B
0.02 – 0.05	Bionta 87C
< 0.05	Arpesella 88B
0.05 – 0.1	Hirata 89D
	Hirata 88B
	Hirata 88C
	Hirata 88E
> 1.7	Oyama 87B
?	Lim 90
	Schaeffer 90
	Longuemare 89
	Suzuki 89
	Totsuka 89B

$\bar{\nu}_e$ e^-

0.002 – 0.009 (0.0015 – 0.0031)	Ketov 88
	Ketov 86B
0.004 – 0.01 (0.0021 – 0.0032)	Vidyakin 89B

$\bar{\nu}_e$ p

0.002 – 0.009 (0.9403 – 0.9472)	Kopeikin 90
	Vershinsky 90
	Afonin 88
	Afonin 88B
	Ketov 88
	Mikaelyan 88
	Afonin 87
	Afonin 87B
	Afonin 87C
	Afonin 85
	Afonin 85B
	Afonin 85C
	Belenky 85
0.004 – 0.01 (0.9423 – 0.9482)	Vidyakin 87
0.005 – 0.05 (0.9433 – 0.987)	Hirata 88F
	Hirata 87C
	Krivoruchenk 87
< 0.008 (< 0.9462)	Zacek 86B
	Zacek 85
< 0.01 (< 0.9482)	Bouchez 88
	Zacek 86
< 0.053 (< 0.9899)	Durkin 88
0.2 – 2 (1.121 – 2.153)	Losecco 87
1.5 (1.922)	Krizmanic 89
?	Raffelt 90

$\bar{\nu}_e$ deuteron

0.002 – 0.009 (1.878 – 1.885)	Vershinsky 90
	Ketov 88
0.004 – 0.01 (1.88 – 1.886)	Vidyakin 90
	Vidyakin 89

$\bar{\nu}_e$ nucleus

0.1 – 1.1	Suzuki 88
0.2 – 20	Berger 89B
	Perdereau 89
	Longuemare 88
0.4 – 2	Nakamura 88
1 – 13	Bergsma 88
10 – 100	Ushida 86C

$\bar{\nu}_e$

> 0.0002	Hirata 89B
	Hirata 89C
	Hirata 87B
0.0002 – 0.007	Hirata 89
0.002 – 0.009	Ketov 88
0.005 – 0.05	Alekseev 88C
	Hirata 88F
	Hirata 87C
> 0.0076	Takita 89B
0.01	Bellotti 89C
0.017 – 0.0191	Sato 87
0.019 – 0.035	Zhang 88
0.02 – 0.05	Bionta 87C
< 0.05	Arpesella 88B
0.05 – 0.1	Hirata 89D
	Hirata 88B
	Hirata 88C
	Hirata 88E
> 1.7	Oyama 87B
?	Schaeffer 90
	Longuemare 89
	Suzuki 89
(0.9423 – 0.9482)	Totsuka 89B

ν_μ e^-

1.27 (0.036)	Abe 89E
1.5 (0.0392)	Abe 86D
	Ahrens 85
10 – 160 (0.1011 – 0.4044)	Dorenbosch 89
	Geiregat 89
10 – 200 (0.1011 – 0.4521)	Baker 89
15 – 600 (0.1238 – 0.7831)	Mishra 89B
< 200 (< 0.4521)	Klein 84B

ν_μ p

0.2 – 5 (1.121 – 3.204)	Kitagaki 86
3 – 30 (2.551 – 7.562)	Brunner 89
	Grabosch 89
5 – 150 (3.204 – 16.8)	Bosetti 90
	Jones 90
	Jones 89B
	Jones 89C
	Jones 87
	Jones 87B
	Jones 86
	Jones 85
	Jones 85B
10 – 100 (4.432 – 13.73)	Aderholz 86
10 – 200 (4.432 – 19.4)	Batusov 88C
10 – 260 (4.432 – 22.11)	Jongejans 89
	Allasia 88C
	Allasia 85B
	Allasia 85C
	Allasia 85D
10 – 300 (4.432 – 23.75)	Guy 89
< 12 (< 4.837)	Ahrens 87C
	Abe 86B
< 200 (< 19.4)	Schmitz 88

ν_μ n

> 0.15 (> 1.079)	Allison 89B
0.2 – 5 (1.122 – 3.206)	Kitagaki 86
1.5 (1.924)	Lile 89
3 – 30 (2.553 – 7.567)	Brunner 89
	Grabosch 89
	Grabosch 86D
	Belikov 85
	Belikov 83B
< 4 (< 2.898)	Ahrens 87
10 – 260 (4.436 – 22.12)	Jongejans 89
	Allasia 88C
	Allasia 85B
	Allasia 85C
	Allasia 85D
< 12 (< 4.841)	Ahrens 86
	Ahrens 85B
< 200 (< 19.41)	Schmitz 88

ν_μ nucleon

3 – 30 (2.554 – 7.569)	Ammosov 88B
	Ammosov 88D
	Ammosov 88E
	Ammosov 87D
	Ammosov 87E
	Ammosov 86H
	Ammosov 86I
	Ammosov 85
	Ammosov 85B
< 7 (< 3.747)	Blumenfeld 89
10 – 100 (4.437 – 13.74)	Varvell 87
10 – 160 (4.437 – 17.37)	Blondel 90
	Allaby 89
	Allaby 88
	Allaby 88C
	Allaby 87
	Berge 87
	Allaby 86
	Allaby 86B
	Abramowicz 85
10 – 200 (4.437 – 19.41)	Ammosov 88
	Ushida 88
	Ushida 88B
	Ammosov 87B
	Asratyan 87C
	Ammosov 86G
	Diemoz 86
10 – 230 (4.437 – 20.82)	Mishra 89
10 – 260 (4.437 – 22.13)	Bergsma 84C
30 – 230 (7.569 – 20.82)	Reutens 90
	Lang 87
	Mishra 87
30 – 600 (7.569 – 33.6)	Foudas 88B
60 – 90 (10.66 – 13.04)	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_μ deuteron

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

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

< 400	Talebzadeh 87

$\bar{\nu}_\tau$ nucleus

< 400	Talebzadeh 87

$e^- \gamma$

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
?	Ouldsaada 88B
	Toki 88B
	Berger 87B
	Kolanoski 86
	Landsberg 85

$e^- e^-$

0.85 – 2 (0.0295 – 0.0452)	Brefeld 84
100.2 – 1184 (0.32 – 1.1)	Salvini 88

$e^- p$

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

$e^- n$

4.6 (3.087)	Vapenikova 88

e^- nucleon

1 – 400 (1.662 – 27.44)	Berger 86B
1.5 (1.924)	Davier 86
20 (6.204)	Bjorken 88

e^- deuteron

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)	Esaulov 87
	Esaulov 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

e^- deuteron

1 – 400 (2.696 – 38.78)	Berger 86B
1.465 – 1.57 (3.002 – 3.067)	Breuker 85
2 (3.32)	Meyer 88B
2.5 (3.591)	Schablitzky 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

$e^- {}^3H$

0.1905 – 0.6855 (2.979 – 3.412)	Juster 85
?	Beck 87

$e^- {}^3He$

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

$e^- {}^4He$

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)	Kuplennikov 90
?	Day 87

e^- He

0.1055 – 0.3205 (3.832 – 4.036)	Ottermann 85
8 (8.576)	Gomez 85

$e^- {}^6Li$

1.54 – 2 (6.961 – 7.321)	Bagdasaryan 85

$e^- {}^9Be$

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^- Be

1.54 – 2 (9.815 – 10.2)	Bagdasaryan 85
2 – 4.5 (10.2 – 12.08)	Aivazyan 86
	Aivazyan 86B

$e^- {}^{12}C$

0.69 (11.85)	Kalantarnaye 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

e^- C

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

$e^- {}^{13}C$

?	Hicks 86

$e^- {}^{14}Nit$

0.1735 (13.21)	Roehrich 85
(11.94)	Hicks 86

e^- Al

0.78 (25.9)	Geesaman 89
2 – 4.5 (27.06 – 29.29)	Aivazyan 86
	Aivazyan 86B
8 (32.15)	Gomez 85

$e^- {}^{27}Al$

?	Day 87

$e^- {}^{28}Si$

1.54 – 2 (27.58 – 28.01)	Bagdasaryan 85
	Bagdasaryan 85B

e^- Si

0.76 (26.91)	Adeishvili 87

$e^- {}^{40}Ca$

0.12 – 0.695 (37.38 – 37.95)	Meziani 85

$e^- {}^{48}Ca$

0.12 – 0.695 (44.83 – 45.4)	Meziani 85
0.2405 (44.95)	Wise 85

e^- Fe

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
8 (59.49)	Gomez 85

$e^- {}^{56}Fe$

0.12 – 0.695 (52.28 – 52.85)	Meziani 85
?	Day 87

e^- Ni

0.78 (55.46)	Geesaman 89
2 – 4.5 (56.65 – 59.02)	Aivazyan 86
	Aivazyan 86B

e^- Cu

2 – 4.5 (61.16 – 63.54)	Aivazyan 86
	Aivazyan 86B
9 – 22.4 (67.6 – 78.46)	Riordan 87

e^- Ge

150 (157.7)	Belkacem 85

$e^- {}^{90}Zr$

0.0205 – 0.1305 (83.86 – 83.97)	Dodge 85

$e^- {}^{92}Zr$

0.0205 – 0.1005 (85.72 – 85.8)	Dodge 85

e^- Ag

2 – 4.5 (102.5 – 104.9)	Aivazyan 86
	Aivazyan 86B

$e^- {}^{163}Ho$

0 (151.8)	Yasumi 86

$e^- {}^{163}Ho$

	Yasumi 85

e^- Ta

0.78 (169.3)	Geesaman 89

e^- Wt

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^- Au

2 – 4.5 (185.5 – 187.9)	Aivazyan 86
	Aivazyan 86B
3.75 – 19.5 (187.2 – 202)	Dasu 88
	Dasu 87
	Dasu 87B
8 (191.3)	Gomez 85

$e^- {}^{197}Au$

?	Day 87

$e^- {}^{235}U$

1.33 – 4.32 (220.2 – 223.2)	Arakelyan 89
	Arakelyan 89C

$e^- {}^{238}U$

1.33 – 4.32 (223 – 226)	Arakelyan 89
	Arakelyan 89C

e^- nucleus

0.96 – 1.5	Sealock 89
1.501 – 16	Fredriksson 87
1.6	Davier 89
275	Bross 89
?	Davier 87

$e^+ \gamma$

5	Blinov 87
(14 – 28)	Bonneaud 86
14.5	Aihara 88D
	Aihara 88E
	Gidal 88
	Gidal 88B
	Aihara 86J
	Boyer 86
17.4	Berger 88B
17.5	Berger 85B
18.3	Bartel 87B
?	Kolanoski 86
	Landsberg 85

$e^+ e^-$

0 (0.001)	Atoyan 90
	Gninenko 89
	Ivanov 87
	Chang 85
0.0002 – 0.0007 (0.0011 – 0.0012)	Minowa 89
< 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)	Connell 88
0.002 – 0.0029 (0.0016 – 0.0019)	Lorenz 88
0.0022 – 0.0024 (0.0017 – 0.0017)	Tsertos 89

$e^+ e^-$

< 0.0056 (< 0.0025)
Klinken 88
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
Leclaire 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 – 626.2 (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)
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Druzhinin 86
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1603 – 1918 (1.28 – 1.4)
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1654 (1.3) Vasserman 87C
(1.35 – 2.4) Bisello 89B
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(1.4 – 2) Courau 86
(1.4 – 2.2) Luca 85
(1.9 – 2.4) Castro 88
(2.236 – 44.72)
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(< 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
(3.6) Blinov 88B
Blinov 86B
Blinov 85C
(3.77) Coffman 87
(3.87 – 4.5) Osterheld 86

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(4.14) Bai 90
Adler 89B
Alder 89
Pitman 89
Toki 89B
Adler 88C
Blaylock 87
Stockdale 87
Wasserbaech 87
Schindler 86
Toki 86
(4.5 – 6.8) Klein 89C
(4.7 – 5.3) Albrecht 89F
Albrecht 88N
Albrecht 88R
Albrecht 87J
(5 – 7.4) Edwards 89
(6 – 23.39) Hill 89
(7 – 42) Bigi 84
(7.2 – 10) Blinov 85B
(7.2 – 10.4) Blinov 87C
(7.6 – 10.6) Baru 86
Blinov 86C
(7.7 – 47) Stirling 87
(9 – 29) Gidal 88C
(9.3 – 10.6) Albrecht 87L
(9.388 – 9.479)
Jakubowski 88
(9.4 – 10.5) Albrecht 89W
Kaarsberg 89
(9.4 – 10.6) 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
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Albrecht 85
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Albrecht 85D
Albrecht 85E
Albrecht 85G
(9.4 – 35) Berger 85
(9.44 – 10.6) Gray 87
(9.45 – 10.57) Cassel 85
(9.46) Blinov 85E
(9.46 – 51.7) Wu 87
(9.5 – 10.5) Albrecht 89R
(9.5 – 10.65) Maschmann 89
(9.8 – 10.3) Janssen 89
(9.8 – 10.6) Lowe 86C
(9.98) Albrecht 89H
(10) 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
Bienlein 88
Albrecht 87M
Antreasyan 87
Grab 87
Albrecht 86B
Albrecht 86E

$e^+ e^-$

Albrecht 86F
Albrecht 86G
Albrecht 85F
Albrecht 85J
(10 – 44.8) Saxon 86
(10 – 45) Mattig 89
Naroska 87
(10 – 52) Hofmann 87
(10 – 60) Kass 89
(10.02) Irion 85
Albrecht 86
(10.1 – 10.4) Albrecht 87F
(10.2) Keh 88B
Lurz 87
Skwarnicki 87
(10.2 – 10.5) Albrecht 89N
(10.3 – 10.5) Bowcock 88
(10.3 – 10.6) Haas 88
(10.34 – 11.18)
Csorna 87
Behrends 85B
(10.36 – 10.86)
Bowcock 90
(10.38 – 10.58)
Csorna 85
(10.5) Alexander 89
Bowcock 89
Bowcock 89B
Chen 89B
Avery 88
Baringer 87
Bebek 87
Haas 86
(10.5 – 10.65) Wachs 89
(10.5 – 10.7) *Alam 89B*
(10.5 – 10.85) Bowcock 85
(10.5 – 11.2) Besson 85
(10.52 – 10.58)
Bortoletto 88
(10.52 – 10.86)
Chen 89C
Jensen 89
(10.57 – 10.58)
Bartoletto 86
(10.58) Bebek 86
Miller 89
Schubert 89
Bebek 87B
Csorna 87B
Heltsley 86
(10.6) Gentile 87
(10.6 – 11.2) Haas 85
(10.62 – 11.25)
Han 85
(10.76) Alam 87
(12 – 41.5) Braunschweig 88C
(12 – 43.5) Braunschweig 89H
(12 – 46) Bartel 84G
(12 – 46.8) Braunschweig 89J
Braunschweig 89K
Braunschweig 88B
Braunschweig 87
(12 – 48.6) Marshall 85
(13.9 – 43.1) Althoff 84R
(14 – 22.5) Bartel 85
(14 – 33) *Althoff 85B*
(14 – 35) Roberts 86
(14 – 36) Althoff 86D
(14 – 43) Barreiro 85B
(14 – 43.7) Braunschweig 90
(14 – 44) Ouldsaada 88B
Bartel 86H
(14 – 44.6) Adeva 85B
(14 – 45) Hayes 89B
(14 – 46) Braunschweig 88G
(14 – 46.1) Adeva 88
(14 – 46.8) Behrend 89C
Behrend 89D
Braunschweig 89D
Behrend 88
Behrend 87D
Adeva 86B
Behrend 85B
(14 – 47) Adeva 86C

$e^+ e^-$

Bartel 85F
(15 – 45) Gan 88
(17) Althoff 86
(17 – 17.5) Braunschweig 90B
(17 – 34) *Collins 85E*
(17.3) Bartel 85B
(17.5) Behrend 88E
Althoff 85D
(22 – 38) Braunschweig 89E
(22 – 46.7) Bethke 88
(22 – 46.78) Adeva 85C
(22 – 56) *Bethke 88B*
(27) Aihara 86B
(27 – 37) Bartel 85E
(28 – 46 8) Braunschweig 89G
(29) 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
Hurst 89
Klein 89
Komamiya 89
Komamiya 89B
Ong 89
Petradza 89
Porter 89
Riles 89
Riles 89B
Roe 89
Roe 89B
Snyder 89
Steele 89
Wagner 89B
Weir 89
Wu 89
Abachi 88
Abachi 88B
Abachi 88C
Aihara 88
Aihara 88B
Aihara 88C
Aihara 88E
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Band 88
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Gidal 88B
Hearty 88
Karlen 88B
Karlen 88C
Klein 88
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Ong 88
Ong 88B
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Wormser 88B
Abachi 87
Abachi 87B
Abachi 87C
Abachi 87D
Abachi 87E
Abachi 87F
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Aihara 87C
Aihara 87D

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.

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 $p_{\rm lab}$ in GeV/c; then $E_{\rm cm}$ in GeV follows in parentheses. For certain initial states only E_{cm} (in parentheses) is given. See the legend on page 123.

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.

π^- C

	Baldin 85
	Baldin 85B
	Beshliu 85
	Grishin 85B
	Vishnyakov 85
	Zajmidoroga 85
	Bellini 84
200 (67.83)	Badier 85C
	Badier 85E
	Badier 85F
	Bardadinotwi 85
530 (109.5)	Kartik 90
	De 89

π^- ^{14}C

0.1283 (13.23)	Mishra 85
0.2696 (13.34)	Holtkamp 85

π^- ^{15}Nit

0.2696 (14.27)	Seestrommorr 85

π^- ^{16}O

0.2189 – 0.3851 (15.16 – 15.3)	Wood 85
0.3583 (15.28)	Redwine 86

π^- O

0.2875 – 0.353 (15.22 – 15.28)	Gram 89
1.5 (16.34)	Burgov 87

π^- ^{18}O

0.3583 (17.15)	Redwine 86

π^- Fl

5 (22.14)	Bayukov 85D

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)	Tkaczyk 86

π^- ^{24}Mg

100 (70.51)	Biswas 86

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^- ^{27}Al

0.1283 – 0.6242 (25.34 – 25.78)	Dropesky 86

π^- Si

0 (26.3)	Gornov 88

π^- Si

	Gornov 87B
	Gornov 86B
0.1283 – 0.6242 (26.35 – 26.79)	Dropesky 86
40 (52.7)	Vegni 86
	Zajmidoroga 85
	Bellini 84
200 (105.6)	Barlag 88
	Barlag 87

π^- S

40 (57.28)	Boos 88

π^- Cl

530 (197.1)	De 89

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^- Ca

0.2875 – 0.353 (37.65 – 37.71)	Gram 89

π^- ^{45}Sc

0.1947 – 0.4168 (42.14 – 42.34)	Ohkubo 85

π^- Ti

40 (74.57)	Zajmidoroga 85
	Bellini 84

π^- ^{48}Ca

0.1947 – 0.4168 (44.95 – 45.15)	Ohkubo 85

π^- Fe

1.26 – 2.5 (53.27 – 54.47)	Kuzichev 89
40 (82.87)	Antipov 86
	Antipov 86B
	Antipov 85
	Antipov 85B
	Antipov 85C
320 (189.7)	Cobbaert 88B
	Cobbaert 87B

π^- ^{58}Ni

5 (58.82)	Bayukov 85D
	Gavrilov 85B

π^- Ni

5 (59.48)	Bayukov 85D

π^- Cu

0 (59.34)	Gornov 88
	Gornov 87B
	Gornov 86B
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
2.5 (61.65)	Bayukov 85
3 (62.13)	Vorobiev 88E
5 (64)	Bayukov 85D
30 (84)	Beusch 86
	Abreu 85
38 (89.46)	Barwolff 88
	Barwolff 85

π^- Cu

39.1 (90.19)	Apokin 86D
40 (90.77)	Gabunia 90
	Bannikov 89
	Gabunia 89
	Boos 88
	Ananieva 86
	Albini 85
	Antipov 85
	Vishnyakov 85
	Zajmidoroga 85
	Bellini 84
50 (97.08)	Antipov 89
	Antipov 88
	Antipov 88B
	Antipov 86C
125 (135.3)	Katsanevas 87
200 (164.9)	Capraro 87
230 (175.3)	Barlag 90
	Barlag 90B
	Barlag 90C
	Barlag 90D
	Barlag 89
	Barlag 89B
	Barlag 89C
	Klein 89C
	Barlag 88B
	Barlag 88C
	Barlag 88D
	Barlag 86
530 (257.4)	Kartik 90
	De 89

π^- ^{64}Ni

5 (64.42)	Bayukov 85D
	Gavrilov 85B

π^- Zn

5 (65.71)	Bayukov 85D

π^- Ge

0 (67.76)	Gornov 88
	Gornov 87B
	Gornov 86B

π^- Zr

0.2707 (85.28)	Marx 86

π^- Rh

0.2875 – 0.353 (96.18 – 96.24)	Gram 89

π^- Ag

40 (134.7)	Zajmidoroga 85
	Bellini 84

π^- ^{108}Ag

100 (173.9)	Biswas 86

π^- ^{112}Sn

5 (109.2)	Bayukov 85D
	Gavrilov 85B

π^- Cd

1.2 – 5 (105.9 – 109.6)	Vorobiev 89C
	Vorobiev 87B
1.26 – 2.5 (106 – 107.2)	Kuzichev 89
3 (107.7)	Vorobiev 88E
	Vorobiev 86

π^- In

5 (111.8)	Bayukov 85D

π^- ^{118}Sn

0.2306 (110.2)	Ullmann 85

π^- Sn

5 (115.5)	Bayukov 85D
30 (137.3)	Beusch 86
	Abreu 85
39.1 (144.5)	Apokin 86D
225 (248.9)	Greenlee 85

π^- ^{124}Sn

5 (120.4)	Bayukov 85D
	Gavrilov 85B

π^- ^{131}Xe

3.5 (125.5)	Pavlyak 86
	Pavlyak 86B

π^- Xe

0 (122.4)	Barmin 89
2.34 – 9 (124.6 – 131)	Strugalski 88
3.5 (125.8)	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
9 (131)	Fredriksson 87

π^- Ta

9.4 (177.7)	Agakishiev 87C
40 (204.7)	Zajmidoroga 85
	Bellini 84

π^- Wt

80 (238.2)	Palestini 85
125 (268.6)	Anassontzis 87
	Katsanevas 87
140 – 286 (278 – 356.8)	Bordalo 88
	Guanziroli 88
	Bordalo 87
	Bordalo 87B
	Richard 87
194 (309.5)	Falciano 86
	Betev 85
	Betev 85B
	Ereditato 85
	Falciano 85
225 (326.2)	Grab 87
	Louis 86
250 (339.1)	Heinrich 89
252 (340.1)	Conway 89
	Biino 87
263 (345.6)	Alexander 86
286 (356.8)	Grossmanhand 86
300 (363.4)	Badier 85

π^- ^{197}Au

0.1426 – 0.1947 (184.5 – 184.6)	Hicks 85
100 (266.2)	Biswas 86

π^- Pb

0.2707 (193.3)	Marx 86
0.2875 – 0.353 (193.3 – 193.4)	Gram 89
0.6 (193.6)	Golubeva 89
1.2 – 5 (194.2 – 197.9)	Vorobiev 89C
	Vorobiev 87B
1.26 – 2.5 (194.3 – 195.5)	Kuzichev 89
1.4 – 5 (194.4 – 197.9)	Bayukov 85C
	Bayukov 85E
	Bayukov 85F
1.5 (194.5)	Burgov 87
	Buklej 86
3 (196)	Vorobiev 88E
	Vorobiev 85B
5 (197.9)	Vorobiev 89B
	Vorobiev 88D
	Vorobiev 86B
30 (221)	Beusch 86
	Abreu 85
38 (227.9)	Barwolff 88

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K^- p

0 (1.432)	Hessey 89 Whitehouse 89
0.68 (1.643)	Gall 88 Hertzog 88
0.688 – 0.833 (1.647 – 1.715)	Koiso 84
3.93 – 176 (2.925 – 18.2)	Panagiotou 89
4.2 (3.01)	Hemingway 84
5 (3.248)	Bensinger 85
8 – 12 (4.021 – 4.864)	Armstrong 87C Armstrong 86F
9.9 (4.441)	Baller 88
11 (4.668)	Aston 89 Aston 89B Aston 88 Aston 88B Aston 88C Aston 88D Aston 88E Aston 88F Aston 88G Aston 88H Aston 88I Aston 88J Augustin 88C Bird 88 Toki 88B Aston 87 Aston 87B Aston 86 Aston 86B Sinervo 86 Aston 85 Aston 85B
12 – 16 (4.864 – 5.582)	Armstrong 85
20 (6.218)	Asad 85
32.1 (7.834)	Babintsev 86B Ma 86 Ukhanov 86 Patalakha 85 Bogolyubsky 84D
32.5 (7.882)	Landsberg 88 Bityukov 86B Bityukov 85C
40 (8.729)	Amaglobeli 89 Apokin 89 Bolonkin 89 Apokin 88B Bolonkin 88 Antipov 87B Bolonkin 86
58 (10.49)	Paub 85
80 – 140 (12.3 – 16.24)	Apsimon 90 Apsimon 89
110 (14.41)	Tannenbaum 89 Banerjee 86 Banerjee 86B Haupt 85
176 (18.2)	Gourlay 86
200 (19.4)	Becker 87
(12.67)	Chliapnikov 90
(16.64)	Hitlin 88

K^- n

32.5 (7.887)	Bityukov 87

K^- nucleon

32.5 (7.889)	Landsberg 87

K^- deuteron

0.92 – 1.4 (2.771 – 3.055)	Pigot 85
40 (12.4)	Amaglobeli 89 Apokin 89 Apokin 88C

K^- ^{4}He

< 0.3 (< 4.293)	Dalitz J

K^- Li

40 (23.65)	Boos 88

K^- ^{9}Be

?	Pniewski 85

K^- Be

38 (26.62)	Efendiev 89
40 (27.25)	Antipov 89C Antipov 87
100 (41.83)	Dijkstra 86C Dijkstra 86D
100 – 175 (41.83 – 54.85)	Dijkstra 86

K^- ^{9}Bor

?	Pniewski 85

K^- ^{12}C

0 (11.67)	Gal 86B Yamazaki 85
0.45 (11.84)	Bertini 84
0.8 (12.09)	Grace 85
0.9195 (12.19)	Yamazaki 86
450 (100.9)	Dabrowski 86

K^- C

1.6 – 1.8 (12.76 – 12.93)	Afanasyev 88
40 (31.95)	Boos 88

K^- ^{16}O

0.45 (15.56)	Bertini 84

K^- Al

1.6 – 1.8 (26.76 – 26.94)	Afanasyev 88
38 (50.42)	Efendiev 89

K^- Si

200 (105.6)	Barlag 88 Barlag 87

K^- S

40 (57.28)	Boos 88

K^- Ti

1.6 – 1.8 (46.27 – 46.45)	Afanasyev 88

K^- Cu

38 (89.46)	Efendiev 89
40 (90.78)	Antipov 89C Boos 88
230 (175.3)	Barlag 90D

K^- Ag

38 (133.2)	Efendiev 89
40 (134.7)	Antipov 89C

K^- Cd

1.6 – 1.8 (106.4 – 106.6)	Afanasyev 88

K^- Wt

0 (171.8)	Gall 88
6 (177.2)	Bensinger 88

K^- Pb

0 (193.5)	Gall 88
38 (227.9)	Efendiev 89
40 (229.6)	Antipov 89C Boos 88

K^- nucleus

1.5	May 89B
5 – 300	Fredriksson 87
13.3	Prokoshkin 87C
38	Efendiev 89
40	Boos 88

K^+ p

< 3 (< 2.613)	Arndt 84

K^+ p

8.2 – 70 (4.067 – 11.51)	Panagiotou 89
9.9 (4.441)	Baller 88
13 (5.053)	Frame 86
32.1 (7.834)	Ajinenko 87B Garutchava 87 Garutchava 87B Gerdyukov 87 Ajinenko 86B Ajinenko 86C Gerdyukov 86 Gerdyukov 86B Tomaradze 86 Ajinenko 85 Knyazev 85 Ajinenko 84 Ajinenko 84B Ajinenko 84C Ajinenko 83B
50 (9.745)	Asad 85
70 (11.51)	Dewolf 86 Ronjin 86 Kubic 85 Gritsaenko 84
80 – 140 (12.3 – 16.24)	Apsimon 90 Apsimon 89
120 (15.04)	Dijkstra 86D
147 (16.64)	Fuess 87 Brick 86
200 (19.4)	Brick 90 Brick 89 Becker 87
250 (21.69)	Ajinenko 90 Agababyan 89 Aivazyan 89 Ajinenko 89B Ajinenko 89C Ajinenko 89D Ajinenko 89E Buschbeck 89 Adamus 88 Adamus 88F Adamus 88G Aivazyan 88 Grassler 88 Adamus 87 Adamus 87C Adamus 87D Adamus 87E Ajinenko 87 Adamus 86B Adamus 86C
?	Chliapnikov 90

K^+ n

5.98 – 11.85 (3.522 – 4.839)	Delesquen 89

K^+ deuteron

10.5 (6.572)	Akimenko 85

K^+ Be

11.2 (16.09)	Akimenko 90B Akimenko 90C
120 (45.67)	Dijkstra 86C
120 – 200 (45.67 – 58.56)	Dijkstra 86

K^+ C

1.6 – 1.8 (12.76 – 12.93)	Afanasyev 88
200 (67.83)	Badier 85E

K^+ Mg

200 (97.82)	Brick 90 Brick 89

K^+ Al

1.6 – 1.8 (26.76 – 26.94)	Afanasyev 88
250 (114.9)	Ajinenko 90B Ajinenko 89

K^+ Ti

1.6 – 1.8 (46.27 – 46.45)	Afanasyev 88

K^+ Cu

11.2 (69.51)	Akimenko 90B Akimenko 90C

K^+ Ag

200 (224.3)	Brick 90 Brick 89

K^+ Cd

1.6 – 1.8 (106.4 – 106.6)	Afanasyev 88

K^+ Xe

0.56 – 0.81 (123.1 – 123.3)	Barmin 89B
0.85 (123.3)	Barmin 86B Barmin 86C Barmin 85

K^+ Au

200 (327.2)	Brick 90 Brick 89
250 (354.1)	Ajinenko 90B Ajinenko 89

K^+ Pb

11.2 (203.9)	Akimenko 90B Akimenko 90C
200 (338.3)	Akesson 88B

K^+ nucleus

0.3811	Smirnov 85
0.6	Berdnikov 86 Berdnikov 85
5 – 300	Fredriksson 87
10.5	Bitsadze 85

K_L γ

60 – 200 (0.4977)	Carlsmith 87

K_L deuteron

10 – 50 (6.428 – 13.83)	Silvestrov 87 Silvestrov 86

K_L C

1.6 – 7.4 (12.76 – 17.07)	Berezin 86
75 – 200 (42.47 – 67.83)	Lamm 87
80 – 280 (43.77 – 79.94)	Hartouni 85

K_L Al

1.6 – 7.4 (26.76 – 31.7)	Berezin 86

K_L Cu

1.6 – 7.4 (60.85 – 66.2)	Balats 87 Berezin 86
60 – 200 (103 – 164.9)	Carlsmith 87
100 – 200 (123.9 – 164.9)	Carlsmith 86

K_L Sn

1.6 – 7.4 (112.2 – 117.7)	Berezin 86

K_L Pb

1.6 – 7.4 (194.7 – 200.3)	Berezin 86
60 – 200 (245.8 – 338.3)	Carlsmith 87
100 – 200 (275.4 – 338.3)	Carlsmith 86

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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 p

	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
?	Chliapnikov 90

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
100 – 300 (13.77 – 23.78)	Bhattacharje 89B
300 (23.78)	Alimov 89B
	Artykov 86
	Azimov 85E
400 (27.45)	Bhattacharje 90
	Bhattacharje 89C

p nucleon

1.09 (2.114)	Berezhnoj 85
1.696 – 5.762 (2.325 – 3.569)	Naudet 88B
2 – 400 (2.433 – 27.45)	Boos 86
70 (11.55)	Belikov 89
	Sviridov 88
200 – 360 (19.44 – 26.05)	Cobbaert 87
300 (23.79)	Artykov 90
	Alimov 89B
400 (27.45)	Virodov 89
	Davenport 86
	Green 86
	Aziz 85
	Badier 85B
	Georgiopoulo 84
800 (38.8)	Abduzhamilov 89
808.1 (39)	Albrow 88

p deuteron

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)	Vanoers 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

p deuteron

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 88
	Andreev 87C
1.463 (3.304)	Barlett 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)	Nagae 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

p ^{3}He

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

p ^{4}He

46 – 400 (18.91 – 54.73)	Gorshkova 85
1196 (94.5)	Fredriksson 87
(124)	Fischer 88
(157.5)	Akesson 89
(220)	Tannenbaum 89

p He

< 0.3104 (< 4.706)	Donoghue 84D
0.3126 (4.707)	Lang 85B
1.337 – 1.686 (5.192 – 5.401)	Dobrovolsky 88
	Velichko 85
1.696 (5.407)	Alkhazov 85
	Belostotsky 84
4.2 (6.846)	Bartke 85
400 (54.75)	Miettinen 88
530.3 – 1037 (63 – 88)	Akesson 85F
966.9 (85)	Bell 85D
1037 (88)	Richard 87

p ^{6}Li

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

p ^{6}Li

	Gavrilov 85B

p Li

1.696 (8.23)	Baturin 86
	Baturin 85
3.9 (9.723)	Nakai 89
6 – 10 (11.01 – 13.14)	Heppelmann 89
	Carroll 88

p ^{7}Li

0.0287 – 0.044 (7.459 – 7.459)	Savage 88C
1.35 – 3.75 (8.052 – 9.685)	Gachurin 85
1.696 (8.286)	Baturin 87
2 (8.497)	Dukhovskoy 87
7.5 (11.91)	Bayukov 85D
	Gavrilov 85B

p ^{9}Be

1.282 (9.889)	Hoistad 86
1.696 (10.18)	Baturin 87
2 (10.4)	Dukhovskoy 87

p Be

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
	Abrosimov 85B
1.696 (10.19)	Alkhazov 85B
	Baturin 85
	Belostotsky 84
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)	Letessiersel 89
	Letessiersel 89B
	Roche 88B
	Roche 88C
6.37 – 8.08 (13.4 – 14.42)	Arefiev 85
7.5 (14.08)	Bayukov 85D
	Bayukov 85F
	Vorobiev 85B
10.1 (15.55)	Safronov 88B
	Sibirtsev 88
	Voronin 88
	Vorontsov 88B
10.14 (15.57)	Boyarinov 89
	Boyarinov 88
	Boyarinov 88B
	Boyarinov 88C
	Boyarinov 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

p Be

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
	Sullivan 87
70 (35.31)	Abramov 86
	Abramov 84D
100 – 200 (41.84 – 58.56)	Dijkstra 86
120 (45.67)	Dijkstra 86C
	Bailey 85B
200 – 250 (58.56 – 65.34)	Bauer 85
300 (71.47)	Rutherfoord 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
450 (87.33)	Barr 90C
	Burkhardt 87
450 – 800 (87.33 – 116.2)	Fayard 89
450.9 (87.42)	Schukraft 88B
800 (116.2)	Patterson 90
	Stewart 90
	Yamanaka 90
	Streets 89
	Tannenbaum 89
	Winstein 89
	Yamanaka 89
	Yoshida 89
	Gibbons 88
	Gomez 86
	Gomez 86B

p ^{10}Bor

0.6444 – 0.7453 (10.44 – 10.49)	Ziegler 85
1.696 (11.13)	Baturin 87
7.5 (15.12)	Bayukov 85D
	Gavrilov 85B

p ^{11}Bor

1.696 (12.07)	Baturin 87
	Alkhazov 85B
7.5 (16.15)	Bayukov 85D
	Gavrilov 85B

p ^{12}C

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)	Digiacomo 85
1.35 – 3.75 (12.75 – 14.57)	Gachurin 85
1.696 (13.01)	Baturin 87
	Alkhazov 85B
4.2 (14.9)	Bekmirzaev 87E
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

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.

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^{8}Li C
11.58 (22.11) Tanihata 86

^{8}Li Al
11.58 (37.14) Tanihata 86

^{8}Bor Be
11.58 (18.9) Tanihata 88

^{8}Bor C
11.58 (22.11) Tanihata 88

^{8}Bor Al
11.58 (37.14) Tanihata 88

^{9}Li Be
13.03 (20.02) Tanihata 86

^{9}Li C
13.03 (23.28) Tanihata 86

^{9}Li Al
13.03 (38.48) Tanihata 86

^{9}Li nucleus
13.14 Kobayashi 89C

Be Be
13.04 (20.03) Tanihata 86

Be C
13.04 (23.29) Tanihata 86

Be Al
13.04 (38.49) Tanihata 86

Be nucleus
1808 Baroni 90

^{10}Be Be
14.48 (21.13) Tanihata 86

^{10}Be C
14.48 (24.44) Tanihata 86

^{10}Be Al
14.48 (39.8) Tanihata 86

Bor nucleus
2010 Baroni 90

^{11}Bor C
16.06 (25.62) Kobayashi 89B

^{11}Li Be
15.92 (22.21) Kobayashi 89
Tanihata 86

^{11}Li C
15.92 (25.57) Kobayashi 89
Kobayashi 88
Tanihata 86

^{11}Li Al
15.92 (41.09) Kobayashi 89
Tanihata 86

^{11}Li Cu
15.92 (76.49) Kobayashi 89

^{11}Li Pb
15.92 (211.3) Kobayashi 89
Kobayashi 88

^{11}Li nucleus
16.06 Kobayashi 89C

^{11}Be Be
15.93 (22.21) Tanihata 88

^{11}Be C
15.93 (25.57) Tanihata 88

^{11}Be Al
15.93 (41.09) Tanihata 88

^{11}Be nucleus
16.06 Kobayashi 89C

^{12}Be Be
17.37 (23.29) Tanihata 88

^{12}Be C
17.37 (26.69) Tanihata 88

^{12}Be Al
17.37 (42.37) Tanihata 88

^{12}C *p*
4.5 (12.19) Khan 89
51.99 (15.02) Bogdanov 88
54 (15.14) Khan 88
Gazdzicki 85

^{12}C ^{12}C
0.8196 – 2.607 (22.37 – 22.51)
Dubar 89
4.883 (22.86) Kristiansson 85
5.874 – 7.709 (23.07 – 23.53)
Mermaz 86
34.62 (32.61) Roche 84
50.76 (37.58) Bayman 87
53.83 (38.46) Kozma 89B

^{12}C C
18 (26.91) Gazdzicki 85
41.73 (34.88) Adyasevich 87B
Adyasevich 85C
50.4 (37.49) Grigalashvil 88
53.83 (38.48) Kurepin 88
54 (38.52) Anikina 89
Anikina 86B
Anikina 85
Anikina 85C

^{12}C Ne
54 (50.5) Abdurakhimov 88
Anikina 86B
Anikina 85
Gazdzicki 85

^{12}C Al
54 (59.4) Anikina 85C

^{12}C ^{27}Al
0.8196 – 2.607 (36.35 – 36.54)
Dubar 89
53.83 (59.35) Damdinsuren 87

^{12}C Si
54 (60.79) Anikina 86B

^{12}C ^{55}Mn
53.83 (91.52) Kozma 90B
Kozma 88B

^{12}C Ni
53.83 (95.55) Kozma 88B

^{12}C ^{59}Co
53.83 (95.86) Kozma 90B
Kozma 88B

^{12}C Cu
41.73 (93.51) Adyasevich 87B
Adyasevich 85C
53.83 (100.7) Baldin 88
Kozma 88B
53.95 (100.8) Abdurakhimov 89
54 (100.8) Abdurakhimov 88
Anikina 86B
Anikina 85
Anikina 85C

^{12}C ^{64}Cu
53.83 (101.2) Kozma 90B

^{12}C ^{89}Yt
0.8196 – 2.607 (94.11 – 94.34)
Dubar 89

^{12}C Zr
54 (129.3) Anikina 86B

^{12}C Ag
53.83 (145.8) Kozma 90

^{12}C ^{108}Ag
53.83 (146) Kozma 90B

^{12}C Sn
41.73 (148) Adyasevich 87B
Adyasevich 85C

^{12}C Ta
50.4 (214.3) Boldea 85
53.83 (217) Kozma 89

^{12}C ^{181}Ta
53.83 (217) Kozma 90B
Damdinsuren 88

^{12}C Au
25 (209.4) Hufner 85

^{12}C ^{197}Au
53.83 (233.2) Kozma 90
Kozma 90B
Damdinsuren 88B
Kozma 88

^{12}C Pb
34.62 (226.8) Roche 84
41.73 (232.5) Adyasevich 88B
Lebedev 88
Adyasevich 87B
Adyasevich 85C
53.83 (242.1) Damdinsuren 89
Kurepin 88
54 (242.2) Krasnov 88
Anikina 86B
Anikina 85
Anikina 85C

^{12}C ^{208}Pb
5.874 – 7.709 (206.3 – 207.2)
Mermaz 86
11.42 – 34.62 (209.4 – 227.5)
Hallman 85

^{12}C ^{232}Th
53.83 (265.7) Kozma 90B
Kozma 89C

^{12}C ^{238}U
53.83 (271.4) Kozma 89C

^{12}C U
53.83 (271.4) Kozma 90B

^{12}C nucleus
4.5 Ghosh 90
Ghosh 89C
Khan 89
39.63 – 64.21 Abdurazakova 88
49.2 Andreeva 86B
50.4 Grishin 88B
Shahbazyan 88
53.95 Bayman 87
54 Babaev 90
Ghosh 90B
Ghosh 89D
Elnadi 88
Khan 88
Vokal 88
Ghosh 87
Anikina 86D
Ghosh 86
Leskin 86
Ghosh 85
90.2 – 99 Antonchik 87

^{12}Bor Be
17.38 (23.29) Tanihata 88

^{12}Bor C
17.38 (26.7) Tanihata 88

^{12}Bor Al
17.38 (42.37) Tanihata 88

C *p*
50.4 (14.93) Bekmirzaev 88C
Agakishiev 85

C C
4.2 (22.75) Gulkanyan 88D
Lyubimov 88
17.52 (26.75) Stock 87
Hamagaki 85
17.52 – 53.22 (26.75 – 38.31)
Schurman 87
27.6 (30.28) Grigalashvil 88
41.73 (34.89) Adyasevich 85
50.4 (37.49) Baatar 90
Agakishiev 89
Agakishiev 89B
Agakishiev 89C
Panagiotou 89
Angelov 88
Baldin 88C
Bekmirzaev 88C
Gulkanyan 88
Gulkanyan 88B
Gulkanyan 88C
Kanarek 88
Mekhtiev 88
Pluta 88B
Zielinsky 88
Armutlijsky 87C
Grishin 87
Gulkanyan 87C
Iovchev 87
Agakishiev 86B
Armutlijsky 86B
Armutlijsky 86C
Bialkowska 86
Simich 86
Agakishiev 85
Ameev 85
Armutlijsky 85
Cheplakov 85
Agakishiev 84B
Agakishiev 84E
Armutlijsky 84
54 (38.53) Anikina 85B

C Ne
17.74 (35.58) Stock 87
54 (50.5) Anikina 85B

C Si
17.74 (43.67) Stock 87

C Cu
17.74 (78.18) Stock 87
54 (100.8) Anikina 86C
Anikina 85B

C Zr
17.74 (104.5) Stock 87
54 (129.3) Anikina 85B

C Sn
41.73 (148) Adyasevich 85

C Ta
4.2 (180.5) Gulkanyan 88D
27.6 (196.4) Grigalashvil 88
50.4 (214.3) Armutlijsky 89
Panagiotou 89
Batskovich 88
Gulkanyan 88B
Gulkanyan 88C
Mekhtiev 88
Gulkanyan 87B
Gulkanyan 87D

C Ta

	Iovchev 87
	Bialkowska 86
	Kutsidi 86
	Armutlijsky 85
	Gasparyan 85
	Jovchev 85
	Gasparyan 84B

C Pb

17.74 (213.2)	Stock 87
41.73 (232.5)	Adyasevich 89
	Adyasevich 85
54 (242.2)	Anikina 86C
	Anikina 85B
(> 2643)	Burnett 86

C nucleus

11.42 – 38.39	Stock 87
23.01	Antonchik 90B
53.96	Okonov 88
2411	Baroni 90

^{13}Bor Be

18.82 (24.35)	Tanihata 88

^{13}Bor C

18.82 (27.8)	Tanihata 88

^{13}Bor Al

18.82 (43.63)	Tanihata 88

^{14}Bor Be

19.3 (25.1)	Tanihata 88

^{14}Bor C

19.3 (28.55)	Tanihata 88

^{14}Bor Al

19.3 (44.39)	Tanihata 88

^{14}Be C

20.27 (28.89)	Tanihata 88

^{14}Nit Cu

3.863 (72.7)	Beard 85B

^{14}Nit nucleus

39.63 – 64.21	Abdurazakova 88
40.6	Babaev 90

Nit nucleus

2813	Baroni 90

^{15}Bor Be

20.76 (26.17)	Tanihata 88

^{15}Bor C

20.76 (29.65)	Tanihata 88

^{15}Bor Al

20.76 (45.64)	Tanihata 88

^{16}O p

46.15 (17.72)	Bartke 89
62.76 (18.55)	Glagolev 89
(45.3 – 79.09)	Brechtmann 88B

^{16}O He

(86.63 – 155.6)	Pugh 88

^{16}O ^{12}C

10 (27.35)	Hufner 85

^{16}O C

72 (44.64)	Anikina 85
232 (74.49)	Remsberg 88
(148.9 – 268.9)	Tannenbaum 89
	Albrecht 88
	Brechtmann 88B
	Lohner 88
	Lund 88
	Otterlund 88B
	Sorensen 88
	Albrecht 87
(268.9)	Albrecht 89D
	Albrecht 88B
	Franz 88B
	Heck 88
	Schmidt 88
	Schmidt 87

^{16}O Ne

72 (57.77)	.bdurakhimov 88
	Anikina 86B
	Anikina 85
	Gazdzicki 85
(192.9 – 348.4)	Pugh 88

^{16}O Al

(223.3 – 403.1)	Akesson 89B
	Tannenbaum 89
	Akesson 88
	Brechtmann 88B
	Corriveau 88
(403.1)	Odyniec 89
	Barnes 88
	Pugh 88

^{16}O ^{27}Al

0.946 (40.07)	Dubar 89

^{16}O Cu

14.5 (78.66)	Tannenbaum 89
72 (111.5)	Anikina 85
232 (176.8)	Remsberg 88
	Tannenbaum 88
	Abbott 37
246.5 (181.5)	Tannenbaum 87
974.8 (345.2)	Heck 88
(345.2 – 620)	Albrecht 90C
	Albrecht 88
	Bamberger 88
	Brechtmann 88B
	Lund 88
	Otterlund 88B
	Pugh 88
	Sorensen 88
	Albrecht 87
(620)	Odyniec 89
	Sonderegger 89
	Franz 88B
	Schmidt 88
	Schmidt 87

^{16}O Ag

974.8 (454.1)	Heck 88
(454.1 – 810.2)	Albrecht 90C
	Akesson 89B
	Tannenbaum 89
	Akesson 88
	Albrecht 88
	Brechtmann 88B
	Corriveau 88
	Lund 88
	Otterlund 88B
	Sorensen 88
	Albrecht 87
(810.2)	Odyniec 89
	Franz 88B
	Pugh 88
	Schmidt 88
	Schmidt 87

^{16}O Wt

(602.9 – 1063)	Akesson 89B
	Tannenbaum 89
	Akesson 88
	Corriveau 88
(1063)	Akesson 89D
	Akesson 89E
	Bartels 88
	Schukraft 88
	Schukraft 88B

^{16}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)	Strobele 88
(625.8 – 1102)	Bamberger 89
	Albrecht 88
	Bamberger 88B
	Lohner 88
	Lund 88
	Otterlund 88B
	Pugh 88
	Sorensen 88
	Vesztergombi 88
	Albrecht 87
(1102)	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

^{16}O ^{197}Au

(627.4 – 1104)	Hill 88

^{16}O Hg

231.5 (349)	Shaw 87
974.8 – 1935 (632 – 870.8)	Calloway 89

^{16}O Pb

72 (256.6)	Anikina 86B
	Anikina 85
(364.4 – 1131)	Hoffmann 88
(643.3 – 1131)	Barnes 88
	Brechtmann 88B
(1131)	Odyniec 89
	Pugh 89
	Tannenbaum 89
	Bussiere 88
	Gerbier 87
	Tannenbaum 87
	Bamberger 86

^{16}O ^{238}U

974.8 (694)	Sonderegger 88
(694 – 1214)	Aleklett 87

^{16}O U

(1215)	Baglin 89
	London 89
	Sonderegger 89

^{16}O nucleus

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
	Bayman 87
46.15 – 3215	Adamovich 90
	Adamovich 89B
	Adamovich 89D
72	Anikina 86D
	Avdejchikov 85
90.2 – 99	Antonchik 87
232	Remsberg 88
	Tannenbaum 88
	Abbott 87
246.5	Tannenbaum 87
248.1 – 974.8	Adamovich 88D
248.1 – 3215	.damovich 89E
	Barbier 88B
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
3215	Akesson 90
	Baroni 90
	Jain 90B
	Adamovich 89C
	Aoki 89
	Holynski 89
	Romano 89
	Adamovich 88
	Ramello 88
	Singh 88B
	Stenlund 88
	Tretyakova 88
	Jain 87

O C

(148.9 – 268.9)	Ritter 88

O Ne

70.95 (57.44)	Stock 87
72 (57.77)	Anikina 85B

O Cu

(345.2 – 620)	Ritter 88

O Ag

(454.1 – 810.2)	Ritter 88

O Wt

(1063)	Ritter 88

O Au

(625.8 – 1102)	Ritter 88

O Pb

70.95 (255.9)	Stock 87
72 (256.6)	Panagiotou 89
	Anikina 85B

O U

(1212)	Abreu 89

O nucleus

30.67	Antonchik 90B
71.94	Okonov 88

Fl C

79.8 (47.62)	Grigalashvil 88

^{19}Fl C

76 (46.74)	Golovin 88

^{19}Fl Mg

85.5 (69.13)	Anikina 89

^{19}Fl Al

76 (69.77)	Golovin 88

^{19}Fl Cu

76 (114.3)	Golovin 88

^{19}Fl 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.

Ti Pb	
1973 (895.1)	Burnett 87
(4264)	Burnett 86
Ti nucleus	
1315	Burnett 87
^{48}Sc Be	
9.2 (53.25)	Hufner 85
Va Pb	
(5384)	Burnett 86
Fe Pb	
(4612 – 6519)	Burnett 85D
Fe nucleus	
105.9	Antonchik 90B
153.4	Jain 85
$825 - 11 \cdot 10^3$	Gagarin 89
2970	Burnett 87
Fe	
$> 10^7$	Chilingarian 88
^{56}Fe C	
148.6 (79.81)	Kim 86C
^{56}Fe Fe	
137.8 (144.1)	Chacon 88
^{56}Fe Br	
100.8 (158.6)	Antonchik 85
^{56}Fe ^{108}Ag	
100.8 (188.9)	Antonchik 85
^{56}Fe ^{197}Au	
79.64 (268)	Bartke 89
^{56}Fe Pb	
148.6 (317.4)	Kim 86C
^{56}Fe nucleus	
39.63 – 64.21	Abdurazakova 88
95.2	Drechsel 85
137.8	Mangotra 85
137.8 – 155.7	Bayman 87
140	Babaev 90
148.6	Ohashi 86
184.9	Azimov 85G
Kr Ag	
23.87 (180.5)	Bougault 90
Kr Au	
23.87 (264)	Bougault 90
Kr Th	
23.87 (296.8)	Bougault 90
Kr nucleus	
188.7	Jain 85
^{84}Kr nucleus	
179.5	Cai 87
190.5	Bayman 87
Nb Nb	
50.78 – 118 (179.9 – 200.8)	Doss 88
50.78 – 161.4 (179.9 – 216.1)	Gustafsson 88
	Doss 86
118 (200.8)	Bock 89
	Bock 89B
La La	
155.8 – 288 (293.1 – 339.4)	Lhote 89
^{139}La C	
266.5 (153.4)	Brady 88

^{139}La ^{139}La	
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
^{139}La ^{197}Au	
275.7 (403.8)	Hill 88
^{139}La nucleus	
266.5	Gill 90
^{165}Ho ^{20}Ne	
4.366 (172.3)	Machner 85
Au Au	
108.2 – 251.8 (381.4 – 426.2)	Doss 88
108.2 – 287.5 (381.4 – 438.7)	Gustafsson 88
	Doss 87
	Doss 86
187.4 (404.4)	Gutbrod 89
251.8 (426.2)	Bock 89
	Bock 89B
^{197}Au nucleus	
332.7	Waddington 85
^{232}Th ^{232}Th	
24.05 – 24.42 (432.9 – 432.9)	Danzmann 89
Th Th	
0.0058 (432.3)	Cowan 86
Th Cm	
0.0058 (463.1)	Cowan 86
^{238}U ^{181}Ta	
24.93 – 25.99 (390.9 – 391)	Bokemeyer 88
25.06 – 25.48 (390.9 – 390.9)	Bokemeyer 89
^{238}U ^{232}Th	
24.89 – 25.31 (438.5 – 438.5	Danzmann 89
24.91 – 24.99 (438.5 – 438.	Bokemeyer 8
	Bokemeyer 8
^{238}U ^{238}U	
24.99 (444.1)	Bokemeyer 88
25.1 (444.1)	Danzmann 89
U Pb	
24.99 (415.4)	Koenig 89
U Th	
0.0058 (437.9)	Cowan 86
U U	
24.99 (444.2)	Koenig 89
U Cm	
(444.2)	Davier 87
axion nucleus	
?	Depanfilis 87
neutral	
$> 5 \cdot 10^5$	Cassiday 89
	Lawrence 89
photino	
< 100	Perdereau 89B
$10^3 - 10^6$	Fayet 89
?	Schwartz 88
pomeron pomeron	
(0.3 – 5)	Breakstone 89B
	Breakstone 88C

hadron$^+$ Pb	
200	Akesson 88B
charged nucleus	
$3 \cdot 10^3 - 5 \cdot 10^4$	Dobrotin 85
charged	
$> 10^3$	Grigorov 89C
$10^3 - 10^5$	Ivanenko 89
frag nucleus	
< 90	Andreeva 86B
fragb nucleus	
4.5	Khan 89
< 148	Ohashi 86
hadron *p*	
$6 - 2 \cdot 10^3$	Prokoshkin 87C
hadron C	
$100 - 2 \cdot 10^3$	Dzhaoshvili 88
hadron Pb	
$5 \cdot 10^3 - 10^4$	Kanevsky 85
hadron nucleus	
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
?	Barkalov 87
hadron	
$> 10^3$	Avakyan 88B
?	Nikolsky 85
hypernucleus nucleus	
< 90	Andreeva 86B
longlived	
> 4.5	Yock 86
monopole nucleon	
0	Park 85B
monopole	
?	Bellotti 89H
	Bartelt 87
	Aglietta 86B
	Battistoni 86C
	Musset 86
mult[μ]	
$1 - 10^3$	Bellotti 89F
nuclearite	
?	Liu 88B
nucleus Pb	
960 – 3840	Burnett 87
nucleus nucleus	
> 1	Budko 85B
4.2 – 50.4	Angelov 88
12 – 3200	Bartke 89
48 – 64	Agakishiev 89
960 – 3840	Burnett 87
$> 10^3$	Burnett 86
$10^3 - 10^5$	Kawamura 89
$4 \cdot 10^3 - 5 \cdot 10^5$	Azimov 85B
$> 10^5$	Burnett 85
$< 10^9$	Szabelski 86
nucleus	
> 1	Budko 85B
1.8 – 2.8	Akopova 86
4 – 126	Bakatanov 85
$10^3 - 10^5$	Ivanenko 89
$> 2 \cdot 10^3$	Ivanenko 88B
$> 10^5$	Burnett 85

nucleus	
$5 \cdot 10^6 - 2 \cdot 10^6$	Inoue 85
?	Perelygin 85
shower Pb	
> 300	Alibekov 85
shower nucleus	
< 45	Judek 86
shower	
$6 \cdot 10^5$	Kirov 85
10^6	Kulikov 87
?	Nikolsky 85
unspec C	
400	Dzhaoshvili 88B
	Dzhaoshvili 87
unspec Si	
?	Rich 87
unspec nucleus	
$5 - 5 \cdot 10^3$	Asatiani 85
> 10	Vashkevich 88
> 100	Avakyan 85
100 – 500	Calicchio 87
$100 - 5 \cdot 10^5$	Bonnetbidaud 88
300 – 1600	Avakyan 85F
$> 10^3$	Oyama 86
10^3	Marshak 85B
$10^3 - 10^6$	Battistoni 85
	Marshak 85
$2 \cdot 10^3$	Navia 88
$> 3 \cdot 10^3$	Berger 86C
10^4	Bartelt 85
$10^4 - 10^7$	Bologna 85
$> 25 \cdot 10^3$	Borisov 85C
$> 5 \cdot 10^4$	Dingus 88
	Borisov 85B
$> 10^5$	Alekseenko 86
$< 10^5$	Krishnaswamy 86
10^5	Castellina 85
$10^5 - 10^6$	Ren 88
	Ren 88B
	Ren 88C
$10^5 - 10^8$	Bellotti 89E
$> 642 \cdot 10^3$	Borisov 87B
10^6	Gladyszdziad 88
$10^6 - 10^{10}$	Dyakonov 89
$5 \cdot 10^6 - 2 \cdot 10^6$	Inoue 85
$6 \cdot 10^6 - 2 \cdot 10^8$	Inoue 85B
$> 2 \cdot 10^7$	Borisov 85
$10^6 - 10^{11}$	Krasilnikov 85
?	Alibekov 85
	Atrashkevich 85
unspec unspec	
300 – 1600	Avakyan 85F
$> 7 \cdot 10^3$	Allkofer 85
$< 10^4$	Allkofer 85B
unspec	
10^{16}	Krasilnikov 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.

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/ψ 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	cs
	Anjos 87C	-
$D^*(2010)^0$ X		
20	Abe 86	cs
$\bar{D}^*(2010)^0$ X		
20	Abe 86	cs
$D^*(2010)^+$ X		
20	Abe 86	cs
(40 – 160)	Sliwa 83	angp, cs, pt
$D^*(2010)^-$ X		
20	Abe 86	cs

$\gamma\,\gamma$

$q\,\bar{q}$		
(< 34.7)	Berger 85H	-
2jet		
(< 34.7)	Berger 85H	-
?	Kolanoski 86	cs
$2\pi^+$ X		
(5)	Juricic 88	ang, p
$2\pi^-$ X		
(5)	Juricic 88	ang, p
$D^0\,\overline{D}^0$ X		
?	Braunschweig 90B	cs
$3\pi^0$		
?	Bienlein 88	mass
$\pi^+\,\pi^0\,\pi^-$		
?	Behrend 89G	mass
$\eta\,2\pi^0$		
?	Bienlein 88	mass
$\rho^+\,\pi^0\,\pi^- + \rho^-\,\pi^+\,\pi^0$		
(0.7 – 3.4)	Albrecht 89F	cs
$\rho^0\,\pi^+\,\pi^-$		
(1 – 3.2)	Berger 88B	ang, angp, cs
(1 – 3.5)	Levy 88	cs
(1.2 – 3.6)	Aihara 88	cs
$\phi\,\pi^+\,\pi^-$		
(1.6 – 3.6)	Albrecht 87S	cs
(1.7 – 3.7)	Aihara 85D	cs
(1.8 – 4)	Aihara 88	cs
(2.5 – 5)	Althoff 86D	cs
$K^*(892)^0\,K^-\,\pi^+$		
(1.6 – 3.6)	Albrecht 87S	cs
(2.5 – 5)	Althoff 86D	cs
?	Aihara 85D	–
$\overline{K}^*(892)^0\,K^+\,\pi^-$		
(1.6 – 3.6)	Albrecht 87S	cs
(2.5 – 5)	Althoff 86D	cs
$K^*(892)^0\,K^-\,\pi^+ + \overline{K}^*(892)^0\,K^+\,\pi^-$		
(1.8 – 4)	Aihara 88	cs
$K^+\,K_S\,\pi^-$		
(1.2 – 3.5)	Althoff 85D	cs
(1.3 – 3.4)	Berger 86	mass
$K_S\,K^-\,\pi^+$		
(1.2 – 3.5)	Althoff 85D	cs
(1.3 – 3.4)	Berger 86	mass
$K^+\,K_S\,\pi^- + K_S\,K^-\,\pi^+$		
(1.25 – 2.5)	Aihara 86C	cs
$p\,\bar{p}\,\pi^0$		
(2 – 2.9)	Albrecht 88R	cs
$p\,\overline{\Delta}(1232\,P_{33})^{--}\,\pi^+ + \bar{p}\,\Delta(1232\,P_{33})^{++}\,\pi^-$		
(2.5 – 3.5)	Albrecht 88R	cs
(jets) 2jet		
(1 – 20)	Roberts 86	angp, cs, p, pt
(< 34.5)	Berger 87	p, pt
?	Kolanoski 87	cs, pt
2hadron (hadrons)		
(0.5 – 4.5)	Baru 86	cs
(1 – 20)	Roberts 86	angp, cs, p, pt
(2 – 20)	Bintinger 85	cs
$3\pi^+$ X		
(5)	Juricic 88	ang, p
$3\pi^-$ X		
(5)	Juricic 88	ang, p
$\pi^+\,2\pi^0\,\pi^-$		
(0.7 – 3.4)	Albrecht 89F	cs
(1.35 – 2.85)	Behrend 89	mass
$2\pi^+\,2\pi^-$		
(1 – 3.2)	Berger 88B	ang, angp, cs

$\gamma\,\gamma$

$2\pi^+\,2\pi^-$		
(1.2 – 2.4)	Berger 87B	cs
(1.2 – 3.6)	Aihara 88	cs, mass
$\omega\,\pi^+\,\pi^0\,\pi^-$		
(1.4 – 3.5)	Albrecht 87K	cs
$2\rho\,2\pi$		
(1.2 – 2.4)	Berger 87B	cs
$K^+\,K^-\,\pi^+\,\pi^-$		
(1.5 – 3.7)	Berger 87B	cs
(1.6 – 3.6)	Albrecht 87S	cs, mass
(1.8 – 3.6)	Aihara 88	ang, angp
(1.8 – 4)	Aihara 88	cs, mass
(2.5 – 5)	Althoff 86D	cs
?	Barlow 87	-
	Aihara 85D	-
$2K^+\,2K^-$		
(1.9 – 3.4)	Albrecht 88L	cs, mass, pt
(3 – 5)	Aihara 88	mass
$K^+\,K_S\,\pi^0\,\pi^-$		
(1.5 – 2.7)	Albrecht 88N	cs
$K_S\,K^-\,\pi^+\,\pi^0$		
(1.5 – 2.7)	Albrecht 88N	cs
$2K_S\,\pi^+\,\pi^-$		
(1.5 – 2.7)	Albrecht 88N	cs
$p\,\bar{p}\,\pi^+\,\pi^-$		
(2 – 2.8)	Aihara 87E	angp, cs, pt
(2.5 – 4)	Albrecht 88R	cs
(2.5 – 5.5)	Aihara 89	cs, mass
$2\pi^+\,\pi^0\,2\pi^-$		
(1 – 3.3)	Albrecht 87J	cs
(1.5 – 4)	Berger 87B	cs
(1.6 – 2.5)	Berger 85D	cs, mass
$K^+\,K^-\,\pi^+\,\pi^0\,\pi^-$		
(1.9 – 3.4)	Albrecht 88L	cs, mass, pt
$p\,\bar{p}\,\pi^+\,\pi^0\,\pi^-$		
(2.5 – 4)	Albrecht 88R	cs
$2\pi^+\,2\pi^-$ neutral (neutrals)		
(1.6 – 2.5)	Berger 85D	cs, mass
$2\pi^+\,2\pi^0\,2\pi^-$		
(1.4 – 3.5)	Albrecht 87K	cs
$3\pi^+\,3\pi^-$		
(1 – 7)	Levy 88	cs

$\gamma\,\pi^-$

$\pi^-\,\gamma$		
0.11 – 0.59	Antipov 86D	cs
$\pi^0\,\pi^-$		
0.2526 – 0.5034	Antipov 86	angp
	Antipov 86B	cs
	Antipov 85C	cs

$\gamma\,p$

X		
6 – 200	Prokoshkin 87C	cs
charged X		
20	Butler 86	-
50 – 70	Atkinson 85E	pt
65 – 175	Apsimon 89	angp, cs, pt
mult[charged] X		
20	Abe 86	angp
neutral X		
20	Butler 86	
mult[charged] (neutrals)		
50 – 70	Atkinson 85E	col. mult
γ X		
50 – 150	Auge 86B	pt
$\pi^\pm$ X		
100 – 170	Holzkamp 88	p

$\gamma\,p$

ϕ X		
20 – 70	Atkinson 85B	cs, p, pt
$\rho(1700)^0$ X		
75 – 148	Chapin 85	angp, mass
$J/\psi(1S)$ X		
35 – 185	Barate 86C	cs
60 – 200	Aubert 84C	cs
80 – 190	Sokoloff 86	a-dep, angp, cs
D^0 X		
20	Butler 86	–
$\overline{D}^0$ X		
20	Butler 86	–
$D^\pm$ X		
20	Butler 86	–
D^+ X		
20	Abe 86	angp, asym, p, pt
80 – 230	Anjos 89B	cs
D^- X		
20	Abe 86	angp, asym, p, pt
D_S^- X		
80 – 230	Anjos 89B	cs
D_S^+ X		
80 – 230	Anjos 89B	cs
	Anjos 87C	–
$D^*(2010)^0$ X		
20	Abe 86	cs
$\overline{D}^*(2010)^0$ X		
20	Abe 86	cs
$D^*(2010)^+$ X		
20	Abe 86	cs
40 – 160	Sliwa 83	angp, cs, pt
$D^*(2010)^-$ X		
20	Abe 86	cs
20 – 70	Adamovich 86B	cs
40 – 160	Sliwa 83	angp, cs, pt
$K^*(892)^0$ X		
20 – 70	Atkinson 85B	cs, p, pt
$\overline{K}^*(892)^0$ X		
20 – 70	Atkinson 85B	cs, p, pt
$K_2^*(1430)^0$ X		
20 – 70	Atkinson 85B	cs, p, pt
$\overline{K}_2^*(1430)^0$ X		
20 – 70	Atkinson 85B	cs, p, pt
$K^\pm$ X		
100 – 170	Holzkamp 88	p
K_S X		
20	Abe 85B	cs, p
p X		
75 – 148	Chapin 85	angp, mass
Λ_c^+ X		
40 – 160	Sliwa 83	cs
Λ X		
20	Abe 85B	cs, p
$\overline{\Lambda}$ X		
20	Abe 85B	cs, p
Λ X + K^0 X		
20	Butler 86	–
Σ^0 X		
20	Abe 85B	cs
$\Sigma(1385\,P_{13})^+$ X		
20	Abe 85B	cs
$\Sigma(1385\,P_{13})^-$ X		
20	Abe 85B	cs
Ξ^- X		
20	Abe 85B	cs, p
$\overline{\Xi}^+$ X		
20	Abe 85B	cs, 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.

$\gamma\ p$

Ω^- X		
20	Abe 85B	cs
charm X		
20	Butler 86	
20 – 70	Adamovich 86B	ang, cs, p, pt
35 – 185	Barate 86C	cs
axion X		
20	Ackleh 89	cs
bottom X		
35 – 185	Barate 86C	cs
hadron X		
65 – 175	Rotscheidt 88	p, pt
jet X		
50 – 70	Atkinson 85E	pt
DD $< \phi >$ X		
20 – 70	Atkinson 85B	cs
$p\ \gamma$		
0.9 – 1.15	Ishii 85	angp
$p\ \pi^0$		
0.137 – 0.155	Argan 88	amp, cs
0.147 – 0.152	Mazzucato 86	angp, cs, p
0.45 – 0.7	Bratashevsky 86C	pol
0.58 – 1.26	Bratashevsky 85B	pol
0.7 – 1.6	Bagdasaryan 90	angp, cs, p, pol
0.73 – 1.066	Avakyan 88C	pol
0.768 – 1.192	Bratashevsky 87	angp, pol
0.9 – 1.35	Agababyan 89B	pol
0.9 – 1.5	Asaturyan 86C	pol
0.9 – 1.65	Sirunyan 88	asym
1 – 1.1	Meyer 88B	asym
1 – 10	Avakyan 87B	angp, p, pol
1.125 – 1.3	Bratashevsky 85	pol
$n\ \pi^+$		
0.32	Belyaev 86	pol
0.7 – 0.85	Meyer 88B	asym
0.9 – 1.65	Sirunyan 88	asym
$\Delta(1232\,P_{33})^{++}\ \pi^-$		
3.5	Dainton 85	angp
$p\ \eta$		
1.39 – 1.8	Sirunyan 88	asym
$p\ \rho$		
20	Brau 88	angp
$p\ \rho^0$		
6 – 200	Prokoshkin 87C	cs
20	Odell 86	angp, asym
60 – 170	Soldnerrembo 87	amp, angp, cs
65 – 175	Dieter 89	cs, p, pt
$p\ \omega$		
3.5 – 4.7	Dainton 85	angp
60 – 225	Busennitz 89	angp, cs
$p\ \phi$		
2.8 – 4.8	Dainton 85	angp
35 – 165	Busennitz 89	angp, cs
$p\ b_1(1235)^0$		
20	Brau 88	-
$p\ \omega_3(1670)$		
20 – 70	Atkinson 86B	cs
$p\ \phi(1680)$		
20 – 70	Atkinson 85D	angp, cs
	Atkinson 85F	mass
$p\ \rho_3(1690)^0$		
20 – 70	Atkinson 85C	cs
$p\ \rho(1700)^0$		
20 – 70	Atkinson 85C	cs
	Atkinson 84F	
60 – 170	Soldnerrembo 87	cs
$p\ J/\psi(1S)$		
80 – 190	Sokoloff 86	a-dep, cs
p baryonium		
4.9 – 6.6	Bodenkamp 85	cs

$\gamma\ p$

$\Lambda\ K^+$		
1.1 – 1.3	Meyer 88B	amp, asym, pwa
$\Lambda(1520\,D_{03})\ K^+$		
2.9 – 4.7	Dainton 85	angp, cs
p meson^0		
4.9 – 6.6	Bodenkamp 85	cs
20 – 70	Atkinson 86	cs
	Atkinson 86B	cs
	Atkinson 85D	angp, cs
DD $< \eta\ \pi^+\ \pi^- >$ p		
20 – 70	Atkinson 85C	angp, cs, mass, pwa
charged (chargeds) (neutrals)		
65 – 175	Apsimon 90	col, pt
$\mu^-\ \mu^+$ X		
80 – 190	Sokoloff 86	angp, mass
$\eta\ \pi^+$ X		
80 – 230	Anjos 89B	mass
$\omega\ \pi^+$ X		
80 – 230	Anjos 89B	mass
$\phi\ \pi^+$ X		
80 – 230	Anjos 87C	mass
145	Anjos 90C	mass
$D^0\ \pi^+$ X		
20	Abe 86	mass
20 – 70	Adamovich 86B	ang, cs, mass, p, pt
$\overline{D}^0\ \pi^-$ X		
20	Abe 86	mass
20 – 70	Adamovich 86B	ang, cs, mass, p, pt
$D^0\ \overline{D}^0$ X		
20	Abe 86	cs
20 – 70	Adamovich 86B	ang, cs, p, pt
$D^+\ \overline{D}^0$ X		
20 – 70	Adamovich 86B	ang, cs, p, pt
$\overline{D}^0\ D^-$ X		
20 – 70	Adamovich 86B	ang, cs, p, pt
$D^+\ D^-$ X		
20	Abe 86	cs
20 – 70	Adamovich 86B	ang, cs, p, pt
$D_S^+\ D^-$ X		
20 – 70	Adamovich 86B	ang, cs, p, pt
$D^*(2010)^0\ \overline{D}^0$ X		
20	Abe 86	cs
$D^*(2010)^+\ \overline{D}^0$ X		
20	Abe 86	cs
$K^+\ \pi^-$ X		
20 – 70	Atkinson 85B	mass, p
$K^-\ \pi^+$ X		
20 – 70	Atkinson 85B	mass, p
$K^+\ \phi$ X		
20 – 70	Atkinson 85B	cs, p
$K^-\ \phi$ X		
20 – 70	Atkinson 85B	cs, p
$K^+\ K^-$ X		
20 – 70	Atkinson 85B	mass, p
$\overline{K}^*(892)^0\ K^+$ X		
80 – 230	Anjos 87C	mass
$2K_S$ X		
20	Abe 85B	cs
p mult[charged] X		
75 – 148	Chapin 85	mult
$\Lambda_c^+\ \pi^+$ X		
20 – 70	Adamovich 86B	mass

$\gamma\ p$

$\Lambda_c^+\ \overline{D}^0$ X		
20 – 70	Adamovich 86B	ang, cs, p, pt
$\Lambda_c^+\ D^-$ X		
20 – 70	Adamovich 86B	ang, cs, p, pt
$\Lambda\ \gamma$ X		
20	Abe 85B	mass
$\Lambda\ \pi^+$ X		
20	Abe 85B	mass
$\Lambda\ \pi^-$ X		
20	Abe 85B	mass, mass
$\overline{\Lambda}\ \pi^+$ X		
20	Abe 85B	mass
$\Lambda\ K^-$ X		
20	Abe 85B	mass
Λ_c^+ $\overline{\text{charmed-meson}}$ X		
20	Abe 86	cs
$\Lambda\ K_S$ X		
20	Abe 85B	cs
$\overline{\Lambda}\ K_S$ X		
20	Abe 85B	cs
$p\ \Lambda$ X		
40 – 160	Kennett 87B	angp, cs
$p\ \overline{\Lambda}$ X		
40 – 160	Kennett 87B	angp, cs
$p\ \Lambda$ X + $p\ \overline{\Lambda}$ X		
40 – 160	Kennett 87B	p
$\Lambda\ \overline{\Lambda}$ X		
20	Abe 85B	cs
$p\ \Xi^-$ X		
40 – 160	Kennett 87B	angp, cs
$p\ \overline{\Xi}^+$ X		
40 – 160	Kennett 87B	angp, cs
$p\ \Xi^-$ X + $p\ \overline{\Xi}^+$ X		
40 – 160	Kennett 87B	p
meson mult{charged} (neutrals)		
60 – 170	Korsgen 88	mult, p
p charged$^+$ charged$^-$		
20	Odell 86	angp, asym
$n\ \pi^+\ \pi^0$		
0.38 – 0.7	Aibergenov 86	angp
$p\ \pi^+\ \pi^-$		
1.44 – 4.7	Dainton 85	cs
2.8 – 4.8	Dainton 85	dme, mass
60 – 170	Soldnerrembo 87	mass
65 – 175	Dieter 89	mass
$p\ \omega\ \pi^0$		
20	Brau 88	ang, angp, cs
$p\ \rho^0\ \eta$		
20 – 70	Atkinson 86	cs
	Atkinson 85C	cs, mass, pwa
$p\ \omega\ \eta$		
20 – 70	Atkinson 86	cs, mass, p
$p\ b_1(1235)^+\ \pi^-$		
20 – 70	Atkinson 86B	mass
$p\ b_1(1235)^-\ \pi^+$		
20 – 70	Atkinson 86B	mass
$p\ a_2(1320)^+\ \pi^-$		
20 – 70	Atkinson 85C	cs, mass, pwa
$p\ a_2(1320)^-\ \pi^+$		
20 – 70	Atkinson 85C	cs, mass, pwa
$p\ K^+\ K^-$		
2.8 – 4.7	Dainton 85	cs
2.8 – 4.8	Dainton 85	dme, mass
20 – 70	Atkinson 85D	ang, cs, mass

$\gamma\ p$

$p\ K^+\ K^-$		
35 – 165	Busennitz 89	mass
$2p\ \bar{p}$		
4.7	Dainton 85	cs
4.9 – 6.6	Bodenkamp 85	cs, mass
60 – 225	Busennitz 89	mass
K_S hadron (hadrons)		
40 – 170	Bhadra 85	cs, mass, p
Λ hadron (hadrons)		
40 – 170	Bhadra 85	cs, mass, p
2hadron (hadrons)		
0.3 – 30	Dainton 85	cs
40 – 170	Bhadra 85	cs, mass, p
$\phi\ e^+\ \nu_e$ X		
145	Anjos 90C	mass
$\phi\ \pi^+\ \pi^0$ X		
80 – 230	Anjos 89B	mass
$K^+\ K^-\ \pi^+$ X		
80 – 230	Anjos 87C	mass
$K^+\ 2K^-$ X		
20 – 70	Atkinson 85B	mass, p
$2K^+\ K^-$ X		
20 – 70	Atkinson 85B	mass, p
$p\ \pi^+\ \pi^-$ X		
20	Brau 88	mass
$p\ \bar{p}\ \pi^+$ X		
40 – 160	Kennett 87B	mass
$2p\ \pi^-$ X		
40 – 160	Kennett 87B	mass
$p\ \pi^+\ \pi^-$ (neutrals)		
1.44 – 4.7	Dainton 85	cs
$p\ \pi^+\ \pi^0\ \pi^-$		
1.44 – 4.7	Dainton 85	cs
60 – 225	Busennitz 89	mass
$n\ 2\pi^+\ \pi^-$		
1.44 – 4.7	Dainton 85	cs
$p\ \eta\ \pi^+\ \pi^-$		
20 – 70	Atkinson 85C	angp. cs, mass, pwa
$p\ \omega\ \pi^+\ \pi^-$		
20 – 70	Atkinson 86B	mass
$p\ \phi\ \pi^+\ \pi^-$		
20 – 70	Atkinson 85F	mass
$p\ 2\rho^0\ \pi^0$		
20 – 70	Atkinson 88	mass
$p\ \rho^+\ \rho^0\ \pi^-$		
20 – 70	Atkinson 88	mass
$p\ \rho^0\ \rho^-\ \pi^+$		
20 – 70	Atkinson 88	mass
$p\ \omega\ \rho^+\ \pi^- + p\ \omega\ \rho^-\ \pi^+$		
20 – 70	Atkinson 85	mass
$p\ K^*(892)^0\ K^-\ \pi^+$		
20 – 70	Atkinson 85F	mass
$p\ \overline{K}^*(892)^0\ K^+\ \pi^-$		
20 – 70	Atkinson 85F	mass
DD $< \rho^0 >$ $p\ \pi^+\ \pi^-$		
15 – 20	Abe 85	angp. dme
$\overline{\Lambda}$ 2hadron (hadrons)		
40 – 170	Bhadra 85	cs, mass. p
$2\pi^+\ \pi^0\ \pi^-$ X		
80 – 230	Anjos 89B	mass
$K^+\ K^-\ \pi^+\ \pi^0$ X		
80 – 230	Anjos 89B	mass
$p\ \pi^+\ \pi^0\ \pi^-$ X		
20	Brau 88	mass
$p\ \bar{p}\ 2\pi^+$ X		
40 – 160	Kennett 87B	mass
$2p\ 2\pi^-$ X		
40 – 160	Kennett 87B	mass

$\gamma\ p$

$n\ 2\pi^+\ \pi^-$ (neutrals)		
1.44 – 4.7	Dainton 85	cs
$p\ \pi^+\ \pi^-\ 2\gamma$		
60 – 225	Busennitz 89	mass
$p\ \pi^+\ 2\pi^0\ \pi^-$		
20	Brau 88	mass
20 – 70	Atkinson 84F	mass
$p\ 2\pi^+\ 2\pi^-$		
2.8 – 4.7	Dainton 85	cs
15 – 20	Abe 85	mass
$p\ \eta\ \pi^+\ \pi^0\ \pi^-$		
20 – 70	Atkinson 86	mass. p
$p\ \rho^0\ \pi^+\ \pi^0\ \pi^-$		
20 – 70	Atkinson 88	mass
$p\ \rho^+\ \pi^+\ 2\pi^-$		
20 – 70	Atkinson 88	mass
$p\ \rho^-\ 2\pi^+\ \pi^-$		
20 – 70	Atkinson 88	mass
$p\ \omega\ \pi^+\ \pi^0\ \pi^-$		
20 – 70	Atkinson 85	mass
$p\ K^+\ K^-\ \pi^+\ \pi^-$		
2.8 – 4.7	Dainton 85	cs
20 – 70	Atkinson 85F	ang, cs, mass
$p\ 2\pi^+\ 2\pi^-$ (neutrals)		
2.8 – 4.7	Dainton 85	cs
$p\ 2\pi^+\ \pi^0\ 2\pi^-$		
2.8 – 4.7	Dainton 85	cs
20 – 70	Atkinson 88	mass
	Atkinson 86B	mass
$n\ 3\pi^+\ 2\pi^-$		
2.8 – 4.7	Dainton 85	cs
$n\ 3\pi^+\ 2\pi^-$ (neutrals)		
2.8 – 4.7	Dainton 85	cs
$p\ \pi^+\ \pi^-\ 4\gamma$		
20 – 70	Atkinson 86	mass, p
$p\ 3\pi^+\ 3\pi^-$		
2.8 – 4.7	Dainton 85	cs
$p\ 3\pi^+\ 3\pi^-$ (neutrals)		
4.7	Dainton 85	cs
$p\ 3\pi^+\ \pi^0\ 3\pi^-$		
4.7	Dainton 85	cs
$n\ 4\pi^+\ 3\pi^-$ (neutrals)		
4.7	Dainton 85	cs
$n\ 4\pi^+\ \pi^0\ 3\pi^-$		
4.7	Dainton 85	cs

$\gamma\ n$

$p\ \pi^-$		
0.5 – 2.2	Meyer 88B	asym
0.7 – 0.85	Meyer 88B	asym
0.9 – 1.65	Adamyan 84C	angp, asym

γ nucleon

π^0 X		
50 – 150	Auge 86	p, pt
π^+ X		
50 – 150	Barate 86	p, pt
π^- X		
50 – 150	Barate 86	p, pt
D^0 X		
50 – 150	Alvarez 90	
	Alvarez 90C	
	Wormser 89	cs
	Roudeau 88	cs
100	Wormser 89B	
D^+ X		
50 – 150	Alvarez 90	
	Alvarez 90C	
	Wormser 89	cs
	Roudeau 88	cs
100	Wormser 89B	

γ nucleon

D_S^- X		
50 – 150	Wormser 89	cs
D_S^+ X		
50 – 150	Alvarez 90	–
	Alvarez 90C	–
	Wormser 89	cs
	Roudeau 88	cs
100	Wormser 89B	–
$D^*(2010)^+$ X		
50 – 150	Wormser 89	cs
$D_1(2420)^0$ X + $\overline{D}_1(2420)^0$ X		
50 – 150	Roudeau 88	–
charmed-meson X		
50 – 150	Wormser 89	cs, pt
	Roudeau 88	cs, pt
$\overline{\text{charmed-meson}}$ X		
50 – 150	Wormser 89	cs, pt
	Roudeau 88	cs, pt
Λ_c^+ X		
20 – 70	Klein 89C	–
50 – 150	Alvarez 90	–
	Alvarez 90B	–
	Wormser 89	cs
	Roudeau 88	cs
80 – 230	Anjos 89C	–
$\overline{\Lambda}_c^-$ X		
50 – 150	Alvarez 90B	–
80 – 230	Anjos 89C	–
charm X		
145	Purohit 88	cs
nucleon ϕ		
45 – 85	Busennitz 89	angp, cs
nucleon $\chi_{c1}(1P)$		
50 – 150	Barate 86B	cs
nucleon $\chi_{c2}(1P)$		
50 – 150	Barate 86B	cs
$D^0\ \gamma$ X		
100	Wormser 89B	–
$D^0\ \overline{D}^0$ X		
20 – 70	Adamovich 86E	–
$D^+\ D^-$ X		
20 – 70	Adamovich 86E	–
$K^-\ \pi^+$ X		
50 – 150	Alvarez 90	mass
	Alvarez 90C	mass
100	Wormser 89B	mass
$\Lambda_c^+\ \overline{D}^0$ X		
20 – 70	Adamovich 86E	–
$\Lambda_c^+\ D^-$ X		
20 – 70	Adamovich 86E	–
charm $\overline{\text{charm}}$ X		
40 – 240	Aubert 86C	cs
50 – 150	Wormser 89	cs, pt
	Roudeau 88	cs, pt
80 – 170	Arneodo 86F	cs
$K^-\ \pi^+\ \pi^0$ X		
100	Wormser 89B	mass
$K^-\ 2\pi^+$ X		
50 – 150	Alvarez 90	mass
	Alvarez 90C	mass
100	Wormser 89B	mass
$K^+\ K^-\ \pi^+$ X		
50 – 150	Alvarez 90C	mass
$p\ K^-\ \pi^+$ X		
50 – 150	Alvarez 90	mass
	Alvarez 90B	mass
$\bar{p}\ K^+\ \pi^-$ X		
50 – 150	Alvarez 90B	mass
$K^+\ K^-\ \pi^+\ \pi^0$ X		
50 – 150	Alvarez 90C	mass
$\Lambda\ 2\pi^+\ \pi^-$ X		
80 – 230	Anjos 89C	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.

γ nucleon

$p\ \overline{K}^0\ \pi^+\ \pi^-$ X		
80 – 230	Anjos 89C	mass
$K^+\ K^-\ 2\pi^+\ \pi^-$ X		
50 – 150	Alvarez 90C	mass

γ deuteron

$J/\psi(1S)$ X		
60 – 200	Aubert 84C	cs
p X		
1.5 – 4.5	Avakyan 90	p, pol
1.6	Bratashevsky 87D	pol
$p\ n$		
0.01 – 1	Desantics 88	cs
0.0147 – 0.074	Barnabei 86	cs
0.03 – 0.1	Ganenko 89	angp, p
0.1 – 0.21	Desantics 88	angp
0.1 – 0.255	Desantics 86	angp
0.187 – 0.427	Maruyama 89	
0.3 – 0.34	Fearing 86	angp
0.3 – 0.5	Bratashevsky 86B	pol
0.3 – 1	Adamyan 88	asym
0.4 – 0.8	Galumyan 88	asym, pol
	Adamyan 86	asym
	Agababyan 85C	angp, asym, pol
0.45 – 0.65	Althoff 89	asym
	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
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
	Adamyan 88	asym
0.5 – 1	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	Zielinsky 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}He

π^+ X		
0.35	Ganenko 88	angp, asym, p
π^- X		
0.35	Ganenko 88	angp, asym, p
p X		
0.06 – 0.35	Ganenko 88	angp, asym, p
0.35	Zybalov 88	pol
deuteron p		
0.09 – 0.35	Belyaev 86B	angp, asym, pol
0.2	Gorbenko 85	pol
^{3}He π^0		
0.137 – 0.155	Argan 88	amp, cs

γ ^{3}He

$2p\ n$		
0.275 – 0.474	Audit 89	angp

γ ^{4}He

X		
2.3 – 3.3	Aleksanyan 86	cs
π^- X		
0.35	Ganenko 88	angp, asym, p
p X		
0.06 – 0.35	Ganenko 88	angp, asym, p
0.17 – 0.45	Maruyama 89	p
	Endo 88	p
0.35	Zybalov 88	pol
n X		
0.17 – 0.45	Maruyama 89	p
	Endo 88	p
^{4}He γ		
2.3 – 3.3	Aleksanyan 86	angp
^{4}He π^0		
0.137 – 0.155	Argan 88	amp, cs
$p\ n$ X		
0.17 – 0.45	Maruyama 89	angp, cor
	Endo 88	angp, cor
0.45 – 0.55	Adamyan 88	asym
deuteron $p\ n$		
0.17 – 0.45	Maruyama 89	cs
	Endo 88	cs
$2p\ 2n$		
0.17 – 0.45	Maruyama 89	cs
	Endo 88	cs

γ He

π^0 X		
0.1379 – 0.1699	Jammes 89	cs
p X		
0.187 – 0.427	Maruyama 89	angp, cs, p
He π^0		
0.19 – 0.43	Ananin 85	angp
0.29	Redwine 86	angp

γ ^{6}Li

γ X		
50 – 150	Astbury 85	pt
π^0 X		
0.137 – 0.147	Glavanakov 89	a-dep, cs
$J/\psi(1S)$ X		
50 – 150	Barate 86B	cs, p, pt
$\chi_{c1}(1P)$ X		
50 – 150	Barate 86B	cs
$\chi_{c2}(1P)$ X		
50 – 150	Barate 86B	cs
$\psi(2S)$ X		
50 – 150	Barate 86B	
p X		
< 0.6	Zybalov 90B	a-dep, angp, pol
^{6}Li* π^0		
0.5	Naumenko 89	cs
$\mu^-\ \mu^+$ X		
50 – 150	Barate 86B	mass
$p\ n$ X		
0.3 – 1	Adamyan 88	asym
^{6}Li $\pi^0\ \gamma$		
0.5	Naumenko 89	p
$J/\psi(1S)$ $0\pi^0$ fragt (neutrals)		
50 – 150	Barate 86B	cs, pt
$\pi^+\ \pi^-\ \mu^-\ \mu^+$ X		
50 – 150	Barate 86B	mass

γ Li

π^0 X		
0.137 – 0.147	Glavanakov 87	cs
	Glavanakov 86	cs
p X		
1.6	Bratashevsky 87D	pol

γ ^{9}Be

π^0 X		
0.137 – 0.147	Glavanakov 89	a-dep, cs
π^+ X		
< 0.5	Stenz 86	p
π^- X		
< 0.5	Stenz 86	p
p X		
< 0.6	Zybalov 90B	a-dep, angp, pol

γ Be

π^0 X		
0.2 – 0.6	Arakelyan 85	cs
0.22 – 0.45	Arends 85	cs
$J/\psi(1S)$ 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	cs, p, pt
	Anjos 87D	mass
	Grab 87	–
	Raab 87	–
	Anjos 86	–
90 – 260	Anjos 90	–
$\overline{D}^0$ X		
80 – 230	Anjos 88B	–
	Anjos 88C	cs, p, pt
	Anjos 87	cs, p, pt
	Raab 87	-
D^+ X		
80 -- 230	Anjos 88	–
	Anjos 88C	cs, p, pt
	Anjos 88E	–
	Anjos 88G	–
	Anjos 87	cs, p, pt
	Anjos 87D	mass
	Raab 87	–
	Anjos 86	–
90 – 260	Anjos 90	–
145	Anjos 90C	–
?	Anjos 88D	–
D^- X		
80 – 230	Anjos 88C	cs, p, pt
	Anjos 88E	–
	Anjos 88G	–
	Anjos 87	cs, p, pt
	Raab 87	–
?	Anjos 88D	–
D_S^- X		
80 – 230	Anjos 88C	cs, p, pt
	Anjos 88G	–
	Raab 87	–
?	Anjos 88D	–
D_S^+ X		
80 – 230	Anjos 88C	cs, p, pt
	Anjos 88G	–
	Raab 87	–
145	Anjos 90C	–
?	Anjos 88D	–
$D^*(2010)^+$ X		
80 – 230	Anjos 88	–
	Anjos 88B	–
	Anjos 87	cs
	Anjos 86	
$D^*(2010)^-$ X		
80 – 230	Anjos 88B	
	Anjos 87	cs

γ Be

$D_1(2420)^0$ X		
80 – 230	Anjos 88F	
$\overline{D}_1(2420)^0$ X		
80 – 230	Anjos 88F	
p X		
0.187 – 0.427	Maruyama 89	angp, cs, p
Λ_c^+ X		
80 – 230	Anjos 88C	cs, p, pt
	Anjos 87B	
100 – 200	Klein 89C	
$\overline{\Lambda}_c^-$ X		
80 – 230	Anjos 88C	cs, p, pt
$\Sigma_c(2455)^0$ X		
80 – 230	Anjos 89	cs
$\Sigma_c(2455)^{++}$ X		
80 – 230	Anjos 89	cs
Be π^0		
0.2 – 0.9	Ananikyan 87	cs
Be $J/\psi(1S)$		
80 – 190	Sokoloff 86	a-dep, cs
e^- e^+ X		
80 – 230	Anjos 87D	mass
	Grab 87	mass
μ^+ e^- X		
80 – 230	Anjos 87D	mass
	Grab 87	mass
μ^- e^+ X		
80 – 230	Anjos 87D	mass
	Grab 87	mass
μ^- μ^+ X		
80 – 190	Sokoloff 86	angp, mass
80 – 230	Anjos 87D	mass
	Grab 87	mass
ϕ π^+ X		
80 – 230	Anjos 88G	mass
	Raab 87	mass
ϕ π^- X		
80 – 230	Anjos 88G	mass
	Raab 87	mass
D^0 π^+ X		
80 – 230	Anjos 88	mass
	Anjos 86	mass
D^+ π^- X		
80 – 230	Anjos 88F	mass
D^- π^+ X		
80 – 230	Anjos 88F	mass
$D^*(2010)^+$ π^- X		
80 – 230	Anjos 88F	mass
$D^*(2010)^-$ π^+ X		
80 – 230	Anjos 88F	mass
K^+ π^- X		
80 – 230	Anjos 87	mass
K^- π^+ X		
80 – 230	Anjos 88	mass
	Anjos 87	mass
	Anjos 86	mass
K^0 π^+ X		
80 – 230	Anjos 87D	mass
$\overline{K}^*(892)^0$ η X		
80 – 230	Anjos 90	mass
$\overline{K}^*(892)^0$ ω X		
80 – 230	Anjos 90	mass
$K^*(892)^0$ K^- X		
80 – 230	Anjos 88G	mass
	Raab 87	mass
$\overline{K}^*(892)^0$ K^+ X		
80 – 230	Anjos 88G	mass
	Raab 87	mass
2hadron (hadrons)		
0.2 – 0.9	Ananikyan 87	cs

γ Be

2hadron (hadrons)		
	Arakelyan 85	cs
π^+ μ^+ e^- X		
80 – 230	Anjos 87D	mass
	Grab 87	mass
π^+ μ^- e^+ X		
80 – 230	Anjos 87D	mass
	Grab 87	mass
$2\pi^+$ π^- X		
80 – 230	Anjos 88D	mass
π^+ $2\pi^-$ X		
80 – 230	Anjos 88D	mass
K^+ π^- e^- X		
80 – 230	Anjos 88B	ang, angp, mass
	Anjos 88E	ang, angp, mass
K^- π^+ e^+ X		
80 – 230	Anjos 88B	ang, angp, mass
	Anjos 88E	ang, angp, mass
K^+ $2\pi^-$ X		
80 – 230	Anjos 88D	mass
	Anjos 87	mass
K^- $2\pi^+$ X		
80 – 230	Anjos 88	mass
	Anjos 88D	mass
	Anjos 87D	mass
	Anjos 86	mass
$\overline{K}^*(892)^0$ e^+ ν_e X		
145	Anjos 90C	mass
K^+ K^- π^+ X		
80 – 230	Anjos 88G	mass
K^+ K^- π^- X		
80 – 230	Anjos 88G	mass
p K^- π^+ X		
80 – 230	Anjos 87B	mass
K^+ π^+ $2\pi^-$ X		
80 – 230	Anjos 88F	mass
	Anjos 87	mass
	Raab 87	mass
K^- $2\pi^+$ π^- X		
80 – 230	Anjos 88	mass
	Anjos 88F	mass
	Anjos 87	mass
	Raab 87	mass
	Anjos 86	mass
p K^- $2\pi^+$ X		
80 – 230	Anjos 89	mass
p K^- π^+ π^- X		
80 – 230	Anjos 89	mass
$2\pi^+$ $3\pi^-$ X		
80 – 230	Anjos 88D	mass
$3\pi^+$ $2\pi^-$ X		
80 – 230	Anjos 88D	mass
K^- $2\pi^+$ π^0 π^- X		
80 – 230	Anjos 90	mass
K^- $3\pi^+$ π^- X		
80 – 230	Anjos 90	mass
$\overline{K}^0$ $2\pi^+$ $2\pi^-$ X		
80 – 230	Anjos 90	mass
K^+ K^- $2\pi^+$ π^- X		
80 – 230	Anjos 88G	mass
K^+ K^- π^+ $2\pi^-$ X		
80 – 230	Anjos 88G	mass
K^+ $2\pi^+$ $3\pi^-$ X		
80 – 230	Anjos 88F	mass
K^- $3\pi^+$ $2\pi^-$ X		
80 – 230	Anjos 88F	mass

γ ^{11}Bor

^{11}C π^-		
1.5 – 4.5	Arakelyan 90	cs

γ ^{12}C

π^0 X		
0.137 – 0.147	Glavanakov 89	a-dep, cs
$\pi^\pm$ X		
0.4	Tonapetyan 85B	a-dep, angp
π^+ X		
< 0.5	Stenz 86	p
π^- X		
< 0.5	Stenz 86	p
p X		
< 0.6	Zybalov 90B	a-dep, angp, pol
^{12}C* π^0		
0.5	Naumenko 89	cs
^{12}C π^0 γ		
0.5	Naumenko 89	p

γ C

π^0 X		
0.137 – 0.147	Glavanakov 87	cs
	Glavanakov 86	cs
0.1379 – 0.1699	Jammes 89	cs
0.2 – 0.6	Arakelyan 85	cs
0.22 – 0.45	Arends 85	cs
0.3 – 0.44	Belousov 88	angp
p X		
0.187 – 0.427	Maruyama 89	angp, cs, p
0.34 – 0.58	Maruyama 89	angp, cs, p
1.5 – 4.5	Avakyan 89	pol
	Alanakyan 88	p
	Avakyan 85B	a-dep, asym, p
	Alanakyan 84	p, pt
1.6	Bratashevsky 87D	pol
C π^0		
0.2 – 0.9	Ananikyan 87	cs
p π X		
1.5 – 4.5	Alanakyan 88	p
2p X		
1.5 – 4.5	Alanakyan 88	p
2p X + p π X		
1.5 – 4.5	Alanakyan 87	ang
2hadron (hadrons)		
0.2 – 0.9	Ananikyan 87	cs
	Arakelyan 85	cs

γ ^{16}O

π^0 X		
0.137 – 0.147	Glavanakov 89	a-dep, cs
π^+ X		
< 0.5	Stenz 86	p
π^- X		
< 0.5	Stenz 86	p
^{15}Nit p		
0.196	Turley 85	angp
^{16}O n		
0.15 – 0.25	Beise 89	angp

γ O

π^0 X		
0.2 – 0.6	Arakelyan 85	cs
2hadron (hadrons)		
0.2 – 0.9	Arakelyan 85	cs

γ ^{24}Mg

$\pi^\pm$ X		
0.4	Tonapetyan 85B	a-dep, angp

γ Al

(frags)		
0.8 – 1.8	Delima 90B	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.

γ Al

mult[charged] X			
	0.5 – 3.3	Arakelyan 89D	mult
π^0 X			
	0.2 – 0.6	Arakelyan 85	cs
	0.22 – 0.45	Arends 85	cs
p X			
	1.5 – 4.5	Avakyan 90	p, pol
$2p$ X + $p\,\pi$ X			
	1.5 – 4.5	Alanakyan 87	ang
2hadron (hadrons)			
	0.2 – 0.9	Arakelyan 85	cs

γ ^{27}Al

$\pi^\pm$ X			
	0.4	Tonapetyan 85B	a-dep, angp
p X			
	< 0.6	Zybalov 90B	a-dep, angp, pol
^{27}Mg π^+			
	1.5 – 4.5	Arakelyan 90	cs
2fragt X			
	0.8 – 1.8	Delima 89	angp, cs, p
3fragt X			
	0.8 – 1.8	Delima 89	angp, cs, p

γ ^{28}Si

$\pi^\pm$ X			
	0.4	Tonapetyan 85B	a-dep, angp

γ Si

Λ_c^+ X			
	70 – 225	Klein 89C	
		Amendolia 87B	
$p\,K^-\,\pi^+\,\pi^0$ X			
	70 – 225	Amendolia 87B	mass

γ S

$2p$ X + $p\,\pi$ X			
	1.5 – 4.5	Alanakyan 87	ang

γ ^{40}Ca

π^0 X			
	0.168	Koch 89	angp, cs
$\pi^\pm$ X			
	0.4	Tonapetyan 85B	a-dep, angp
^{40}Ca π^0			
	0.168	Koch 89	angp, cs
Ca* π^0			
	0.168	Koch 89	angp, cs

γ Ca

π^0 X			
	0.1379 – 0.1699	Jammes 89	cs

γ Ti

(frags)			
	0.8 – 1.8	Delima 90B	cs
2fragt X			
	0.8 – 1.8	Delima 89	angp, cs, p
3fragt X			
	0.8 – 1.8	Delima 89	angp, cs, p

γ ^{48}Ti

π^+ X			
	< 0.5	Stenz 86	p
π^- X			
	< 0.5	Stenz 86	p

γ Cr

$2p$ X + $p\,\pi$ X			
	1.5 – 4.5	Alanakyan 87	ang

γ ^{54}Fe

$\pi^\pm$ X			
	0.4	Tonapetyan 85B	a-dep, angp

γ Fe

X			
	(197.8 – 614.2)	Aglamazov 85	cs
$J/\psi(1S)$ X			
	60 – 200	Aubert 84C	cs
	80 – 190	Sokoloff 86	a-dep, angp, cs
Fe $J/\psi(1S)$			
	80 – 190	Sokoloff 86	a-dep, cs
$\mu^-\,\mu^+$ X			
	80 – 190	Sokoloff 86	angp, mass

γ ^{56}Fe

$\pi^\pm$ X			
	0.4	Tonapetyan 85B	a-dep, angp

γ Co

(frags)			
	0.8 – 1.8	Delima 90B	cs

γ ^{59}Co

2fragt X			
	0.8 – 1.8	Delima 89	angp, cs, p
3fragt X			
	0.8 – 1.8	Delima 89	angp, cs, p

γ ^{60}Ni

fragt X			
	1.5 – 4.5	Arakelyan 86	cs
^{60}Cu π^-			
	1.5 – 4.5	Arakelyan 90	cs
^{59}Fe $p\,\pi^+$			
	1.5 – 4.5	Arakelyan 90	cs

γ ^{61}Ni

fragt X			
	1.5 – 4.5	Arakelyan 86	cs
^{61}Co π^+			
	1.5 – 4.5	Arakelyan 90	cs
^{61}Cu π^-			
	1.5 – 4.5	Arakelyan 90	cs

γ ^{62}Ni

fragt X			
	1.5 – 4.5	Arakelyan 86	cs
^{62}Co π^+			
	1.5 – 4.5	Arakelyan 90	cs
^{61}Fe $p\,\pi^+$			
	1.5 – 4.5	Arakelyan 90	cs

γ Cu

mult[charged] X			
	0.5 – 3.3	Arakelyan 89D	mult
^{7}Be X			
	4	Amroyan 89	cs
^{24}Na X			
	0.6 – 5	Amroyan 89	cs
π^0 X			
	0.22 – 0.45	Arends 85	cs
p X			
	1.5 – 4.5	Avakyan 85B	a-dep, asym, p
		Alanakyan 84	p, pt

γ Cu

p X			
	1.6	Bratashevsky 87D	pol

γ ^{65}Cu

^{65}Ni π^+			
	1.5 – 4.5	Arakelyan 90	cs
^{63}Zn $2n\,\pi^-$			
	1.5 – 4.5	Arakelyan 90	cs
^{62}Zn $3n\,\pi^-$			
	1.5 – 4.5	Arakelyan 90	cs

γ Ge

D^0 X			
	70 – 225	Amendolia 87	–
$\bar{D}^0$ X			
	70 – 225	Amendolia 87	–
Λ_c^+ X			
	70 – 225	Klein 89C	–
		Amendolia 87B	–
$p\,K^-\,\pi^+\,\pi^0$ X			
	70 – 225	Amendolia 87B	mass

γ Zr

(frags)			
	0.8 – 1.8	Delima 90B	cs
2fragt X			
	0.8 – 1.8	Delima 89	angp, cs, p
3fragt X			
	0.8 – 1.8	Delima 89	angp, cs, p

γ Nb

(frags)			
	0.8 – 1.8	Delima 90B	cs
^{7}Be X			
	4.5	Amroyan 89	cs
^{24}Na X			
	4.5	Amroyan 89	cs

γ ^{93}Nb

$\pi^\pm$ X			
	0.4	Tonapetyan 85B	a-dep, angp

γ Ag

(frags)			
	0.8 – 1.8	Delima 90B	cs
^{7}Be X			
	2.9 – 4.5	Amroyan 89	cs
^{24}Na X			
	0.78 – 4.5	Amroyan 89	cs
fragt X			
	1.5 – 4.5	Amroyan 88	cs

γ In

(frags)			
	0.8 – 1.8	Delima 90B	cs

γ ^{116}Sn

^{116}In* π^+			
	1.5 – 4.5	Arakelyan 90	cs
^{116}Sb π^-			
	1.5 – 4.5	Arakelyan 90	cs

γ Sn

π^0 X			
	0.22 – 0.45	Arends 85	cs
p X			
	1.5 – 4.5	Avakyan 89	pol
		Avakyan 85B	a-dep, asym, p

γ ^{120}Sn

^{120}Sb π^-			
	1.5 – 4.5	Arakelyan 90	cs

$\gamma\ ^{120}$Sn

^{118}Sb $2n\ \pi^-$			
	1.5 – 4.5	Arakelyan 90	cs

$\gamma\ ^{122}$Sn

^{122}Sb π^-			
	1.5 – 4.5	Arakelyan 90	cs

$\gamma\ ^{124}$Sn

^{124}Sb π^-			
	1.5 – 4.5	Arakelyan 90	cs
^{120}Sb $4n\ \pi^-$			
	1.5 – 4.5	Arakelyan 90	cs

γ Xe

Xe $e^-\ e^+$			
	0.025 – 2.5	Strugalski 88B	cs

γ Cs(atom)

Cs(atom) γ			
	$0.4 \cdot 10^{-9}$	Gilbert 86B	pol, qnc
		Gilbert 85	pol, qnc

γ Nd

(frags)			
	0.8 – 1.8	Delima 90B	cs

γ Sm

(frags)			
	0.8 – 1.8	Delima 90B	cs

γ Ta

(frags)			
	0.8 – 1.8	Delima 90B	cs
^{7}Be X			
	4	Amroyan 89	cs
^{24}Na X			
	2.9 – 4.5	Amroyan 89	cs

$\gamma\ ^{181}$Ta

$\pi^\pm$ X			
	0.4	Tonapetyan 85B	a-dep, angp

$\gamma\ ^{207}$Pb

$\pi^\pm$ X			
	0.4	Tonapetyan 85B	a-dep, angp

γ Pb

mult[charged] X			
	0.5 – 3.3	Arakelyan 89D	mult
π^0 X			
	0.22 – 0.45	Arends 85	cs
$J/\psi(1S)$ X			
	80 – 190	Sokoloff 86	a-dep, angp, cs
p X			
	1.5 – 4.5	Avakyan 90	p, pol
		Avakyan 85B	a-dep, asym, p
		Alanakyan 84	p, pt
Pb $J/\psi(1S)$			
	80 – 190	Sokoloff 86	a-dep, cs
$\mu^-\ \mu^+$ X			
	80 – 190	Sokoloff 86	angp, mass

$\gamma\ ^{208}$Pb

π^+ X			
	< 0.5	Stenz 86	p
π^- X			
	< 0.5	Stenz 86	p

$\gamma\ ^{209}$Bi

$\pi^\pm$ X			
	0.4	Tonapetyan 85B	a-dep, angp

$\gamma\ ^{235}$U

fragt X			
	0.15 – 4.32	Arakelyan 89	cs
		Arakelyan 89C	cs

$\gamma\ ^{238}$U

X			
	0.15 – 3.55	Arakelyan 89E	cs
$\pi^\pm$ X			
	0.4	Tonapetyan 85B	a-dep, angp
fragt X			
	0.15 – 4.32	Arakelyan 89	cs
		Arakelyan 89C	cs

γ nucleus

X			
	0.1 – 0.53	Arends 88	cs
	$100 - 10^3$	Zatsepin 89	cs
	$> 10^3$	Bond 89	cs
	$75 \cdot 10^3$	Tanimori 89	flux
	$> 10^5$	Bond 88B	cs
inelastic			
	4.1 – 185	Fredriksson 87	a-dep, cs
	$900 - 10^4$	Bakatanov 88	cs
$\mu^\pm$ X			
	$> 5 \cdot 10^4$	Dingus 88	cs
		Dingus 88B	cs
π^0 X			
	0.23 – 0.45	Arends 88	angp, cs
π^+ X			
	0.2 – 0.4	Arends 88	p
π^- X			
	0.2 – 0.4	Arends 88	p
p X			
	0.187 – 0.427	Maruyama 89	angp, cs, p
	0.2 – 0.4	Arends 88	p
fragt X			
	0.1 – 7.4	Fredriksson 87	cs
shower X			
	$> 5 \cdot 10^4$	Haines 90	cs
		Dingus 88	cs
		Dingus 88B	cs
$\Lambda_c^+\ \bar{D}^0$ X			
	20 – 70	Forino 87	cs
$\Lambda_c^+\ D^-$ X			
	20 – 70	Forino 87	cs
nucleus $e^-\ e^+$			
	13 – 25	Baskov 88	ang, p

$\nu\ p$

μ^- X			
	200	Berger 86B	angp, cs
$\Sigma_c(2455)^+\ \mu^-$ X			
	30 – 300	Klein 89C	
$\Lambda(1520\,D_{03})\ \mu^-$ X			
	5 – 150	Allen 85	p
$p\ \pi^+\ \mu^-$			
	5 – 150	Allen 85	p
$p\ K^+\ \mu^-$			
	5 – 150	Allen 85	p
ν charged-hadron (charged-hadrons) (neutrals)			
	10 – 260	Jongejans 89	mult, p

$\nu\ n$

ν (charged-hadrons) (neutrals)			
	10 – 260	Jongejans 89	mult, p

ν deuteron

ν X			
	200	Berger 86B	angp, cs
μ^- X			
	< 200	Nachtmann 85	angp, p
$\pi^+\ \mu^-$ X			
	10 – 100	Matsinos 89	angp, p, pt
$\pi^-\ \mu^-$ X			
	10 – 100	Matsinos 89	angp, p, pt
$p\ \mu^-$ X			
	10 – 100	Matsinos 89	angp, p, pt

ν Ne

black X			
	50	Ammar 89B	mult
grey X			
	50	Ammar 89B	mult
shower X			
	50	Ammar 89B	mult
$\pi^+\ \mu^-$ X			
	10 – 100	Matsinos 89	angp, p, pt
$\pi^-\ \mu^-$ X			
	10 – 100	Matsinos 89	angp, p, pt
$p\ \mu^-$ X			
	10 – 100	Matsinos 89	angp, p, pt
p mult[p] μ^- X			
	10 – 100	Matsinos 89	angp, mult

ν Fe

μ^- X			
	10 – 260	Berge 89	p
	< 200	Nachtmann 85	angp, p

ν nucleus

e^+ X			
	10 – 200	Grassler 86	cs
μ^+ X			
	10 – 200	Grassler 86	cs
black X			
	50	Ammar 89B	mult
grey X			
	50	Ammar 89B	mult
mult[hadron] X			
	10 – 200	Grassler 86	cs
shower X			
	50	Ammar 89B	mult

$\bar{\nu}\ p$

$\Lambda(1520\,D_{03})\ \mu^+$ X			
	5 – 150	Allen 85	p
$p\ \pi^-\ \mu^+$			
	5 – 150	Allen 85	p
$p\ K^-\ \mu^+$			
	5 – 150	Allen 85	p

$\bar{\nu}$ deuteron

$\bar{\nu}$ X			
	200	Berger 86B	angp, cs
$\pi^+\ \mu^+$ X			
	10 – 100	Matsinos 89	angp, p, pt
$\pi^-\ \mu^+$ X			
	10 – 100	Matsinos 89	angp, p, pt
$p\ \mu^+$ X			
	10 – 100	Matsinos 89	angp, p, pt

$\bar{\nu}$ Ne

charged X			
	10 – 200	Fredriksson 87	angp, mult, p
charged$^-$ X			
	10 – 200	Fredriksson 87	angp, 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.

$\nu_\mu\ p$

$p\ \pi^+\ \mu^-$		
0.2 – 5	Kitagaki 86	ang, cs, mass, p, pwa
3 – 30	Grabosch 89	angp, cs, mass
5 – 150	Jones 89B	p
< 30	Schmitz 88	cs
$p\ D_S^*(2790)^+\ \mu^-$		
10 – 200	Batusov 88C	–
$\pi^\pm\ \mu^-$ hadron(s)		
5 – 150	Jones 90	mult, p
$\pi^+\ \mu^-$ hadron(s)		
5 – 150	Jones 90	mult, p
$\pi^-\ \mu^-$ hadron(s)		
5 – 150	Jones 90	mult, p
μ^- hadron$^+$ hadron(s)		
5 – 150	Jones 90	mult, p
μ^- hadron$^-$ hadron(s)		
5 – 150	Jones 90	mult, p
μ^- hadron$^+$ hadron(s) +		
μ^- hadron$^-$ hadron(s)		
5 – 150	Jones 90	mult, p
p (p's) μ^- X		
10 – 300	Guy 89	cs, mult, p
$p\ 2\pi^+\ \pi^-\ \mu^-$		
0.2 – 5	Kitagaki 86	cs, mass, p
μ^- 3charged (chargeds) (neutrals)		
5 – 150	Bosetti 90	mass, pt
$p\ 3\pi^+\ 2\pi^-\ \mu^-$		
0.2 – 5	Kitagaki 86	cs

$\nu_\mu\ n$

ν_μ X		
10 – 260	Allasia 88C	cs
μ^- X		
3 – 30	Brunner 89	cs, p
10 – 260	Allasia 88C	cs
	Allasia 85C	p
$p\ \mu^-$		
> 0.15	Allison 89B	cs
1.5	Lile 89	cs
3 – 30	Grabosch 86D	angp, cs, p
	Belikov 85	cs
	Belikov 83B	angp, cs
< 4	Ahrens 87	cs
< 12	Ahrens 86	cs
	Ahrens 85B	cs
$\Delta(1232\,P_{33})^+\ \mu^-$		
0.2 – 5	Kitagaki 86	cs
$\rho^0\ \mu^-$ X		
10 – 260	Allasia 85B	mult
$K_S\ \mu^-$ X		
10 – 260	Allasia 85D	cs
$\Lambda\ \mu^-$ X		
10 – 260	Allasia 85D	cs
$\Sigma(1385\,P_{13})^+\ \mu^-$ X		
10 – 260	Allasia 85D	cs
$\Sigma(1385\,P_{13})^-\ \mu^-$ X		
10 – 260	Allasia 85D	cs
ν_μ hadron$^+$ X		
< 200	Schmitz 88	mult
ν_μ hadron$^-$ X		
< 200	Schmitz 88	mult
μ^- hadron$^+$ X		
< 200	Schmitz 88	mult
μ^- hadron$^-$ X		
< 200	Schmitz 88	mult
$p\ \pi^0\ \mu^-$		
0.2 – 5	Kitagaki 86	cs, mass, p, pwa

$\nu_\mu\ n$

$p\ \pi^0\ \mu^-$		
3 – 30	Grabosch 89	angp, cs, mass
< 30	Schmitz 88	cs
$n\ \pi^+\ \mu^-$		
0.2 – 5	Kitagaki 86	cs, mass, p, pwa
3 – 30	Grabosch 89	angp, cs, mass
< 30	Schmitz 88	cs
$p\ \pi^+\ \pi^-\ \mu^-$		
0.2 – 5	Kitagaki 86	cs, mass, p
$p\ 2\pi^+\ 2\pi^-\ \mu^-$		
0.2 – 5	Kitagaki 86	cs

ν_μ nucleon

ν_μ X		
3 – 30	Ammosov 86I	cs
	Ammosov 85	cs
10 – 160	Blondel 90	const, cs
	Allaby 89	p
	Allaby 88C	p
	Allaby 87	cs
	Allaby 86B	cs
	Abramowicz 85	cs
10 – 200	Ushida 88B	cs
30 – 230	Reutens 90	const, cs
60 – 90	Bogert 85B	cs
160	Bergsma 85C	cs
165 – 250	Bogert 86	p
< 230	Bogert 85	p
e^- X		
< 7	Blumenfeld 89	p
μ^- X		
3 – 30	Ammosov 88D	cs
	Ammosov 87D	angp, cs, pt
	Ammosov 87E	cs, p
	Ammosov 86I	cs
	Ammosov 85	cs
	Ammosov 85B	p
10 – 100	Varvell 87	p
10 – 160	Blondel 90	const, cs
	Allaby 88	cs
	Allaby 87	cs
	Berge 87	cs
	Allaby 86	cs
	Allaby 86B	cs
	Abramowicz 85	cs
10 – 200	Ammosov 88	p
	Ushida 88B	cs
	Ammosov 87B	p
	Diemoz 86	p
10 – 260	Bergsma 84C	p
30 – 230	Reutens 90	const, cs
60 – 90	Bogert 85B	cs
160	Bergsma 85C	cs
< 230	Bogert 85	p
< 300	Murtagh 85B	cs
heavy-lepton^0 X		
30 – 230	Mishra 87	cs
charm X		
10 – 200	Ushida 88B	cs
$\Delta(1232\,P_{33})^{++}\ \mu^-$		
3 – 30	Ammosov 88B	cs, p
$\Lambda_c^+\ \mu^-$		
3 – 30	Ammosov 87D	cs
$\mu^-\ e^+$ X		
3 – 30	Ammosov 88E	cs, mass, p
	Ammosov 87D	angp, cs, pt
$\mu^-\ e^-$ X		
3 – 30	Ammosov 88E	cs
	Ammosov 87E	cs, p
$\mu^-\ \mu^+$ X		
30 – 230	Lang 87	angp, cs, mass, p, pt

ν_μ nucleon

$\mu^-\ \mu^+$ X		
	Mishra 87	angp
30 – 600	Foudas 88B	cs, p, pt
< 300	Murtagh 85B	cs
$2\mu^-$ X		
30 – 230	Lang 87	angp, cs, mass, p, pt
< 300	Murtagh 85B	cs
$\pi^+\ \mu^-$ X		
3 – 30	Ammosov 86H	p
$\pi^-\ \mu^-$ X		
3 – 30	Ammosov 86H	p
$\rho^0\ \mu^-$ X		
3 – 30	Ammosov 86H	mass, mult, p, p, pt
10 – 200	Ammosov 86G	pol
$\mu^+\ 0\mu^\pm$ X		
10 – 230	Mishra 89	cs
$\mu^-\ \ell^+$ X		
< 300	Murtagh 85B	cs
$\mu^-\ \ell^-$ X		
< 300	Murtagh 85B	cs
μ^- charmed-meson X		
3 – 30	Ammosov 87D	cs
10 – 200	Ushida 88	p, pt
$\Lambda_c^+\ \mu^-$ X		
10 – 200	Ushida 88	p, pt
	Ushida 88L	cs
μ^- charm X		
10 – 200	Ushida 88	ang, p
	Ushida 88B	cs
30 – 600	Foudas 88B	–
μ^- hadron$^+$ X		
< 230	Mukherjee 86	angp
μ^- hadron$^-$ X		
< 230	Mukherjee 86	angp
charm $\overline{\text{charm}}$ X		
10 – 200	Ushida 88B	cs
$p\ \pi^+\ \mu^-$		
3 – 30	Ammosov 88B	mass, p
$\pi^+\ \pi^-\ \mu^-$ X		
10 – 200	Ammosov 86G	ang, mass, p
$D_S^*(2547)^+\ \mu^-\ \gamma$ X		
10 – 200	Asratyan 87C	–
ν_μ charm $\overline{\text{charm}}$ X		
10 – 200	Ushida 88B	cs
μ^- hadron jet X		
< 230	Mukherjee 86	angp
$D^*(2010)^+\ K^0\ \mu^-\ \gamma$ X		
10 – 200	Asratyan 87C	mass, p
$\mu^-\ e^+$ 2hadron (hadrons)		
3 – 30	Ammosov 87D	angp, cs, pt

ν_μ deuteron

ν_μ X		
10 – 260	Allasia 88C	cs
μ^- X		
10 – 100	Allport 89	a-dep, p
	Guy 87	a-dep, p
10 – 200	Cole 88	p
	Hanlon 85	a-dep, p
10 – 260	Allasia 88C	cs
	Allasia 85C	p
< 500	Kitagaki 88	a-dep, cs, p
$\Delta(1232\,P_{33})^{++}$ X		
10 – 260	Allasia 86	p
$\rho^0\ \mu^-$ X		
10 – 260	Allasia 85B	mass, 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.

ν_μ deuteron

μ^- heavy-lepton^0 X		
10 – 260	Allasia 85	cs
$K^*(892)^+$ μ^- X		
10 – 260	Allasia 85D	cs, p
$K^*(892)^-$ μ^- X		
10 – 260	Allasia 85D	cs, p
Λ μ^- X		
10 – 260	Allasia 85D	p
mult[p] μ^- X		
10 – 300	Guy 89	cs, mult, p
ν_μ q X		
10 – 260	Allasia 88B	cs
μ^- q X		
10 – 260	Allasia 88B	cs
μ^- (neutrals) even-charged		
10 – 260	Tenner 88	angp
μ^- (neutrals) odd-charged		
10 – 260	Tenner 88	angp
$2\pi^+$ ν_μ X		
10 – 260	Allasia 88	mass, pt
$2\pi^-$ ν_μ X		
10 – 260	Allasia 88	mass, pt
π^+ π^- ν_μ X		
10 – 260	Allasia 88	mass, pt
π^+ $2\mu^-$ X + π^- μ^- μ^+ X		
10 – 260	Allasia 85	mass
$2\pi^+$ μ^- X		
10 – 260	Allasia 88	mass, pt
$2\pi^-$ μ^- X		
10 – 260	Allasia 88	mass, pt
π^+ π^- μ^- X		
10 – 260	Allasia 88	mass, pt
p (p's) μ^- X		
10 – 300	Guy 89	cs, mult, p
mult[p] μ^- mult[hadron$^-$] X		
10 – 300	Guy 89	a-dep, mult
π^+ μ^- (neutrals) odd-charged		
10 – 260	Tenner 88	angp
π^- μ^- (neutrals) odd-charged		
10 – 260	Tenner 88	angp
p μ^- (neutrals) even-charged		
10 – 260	Tenner 88	p
p μ^- (neutrals) odd-charged		
10 – 260	Tenner 88	angp, p
0p μ^- (neutrals) even-charged		
10 – 260	Tenner 88	p
0p μ^- (neutrals) odd-charged		
10 – 260	Tenner 88	p
ρ^0 μ^- mult[charged] (neutrals)		
10 – 260	Allasia 85B	mult
p(spect) p π^0 μ^-		
0.2 – 5	Kitagaki 86	
n(spect) p π^+ μ^-		
0.2 – 5	Kitagaki 86	
p(spect) n π^+ μ^-		
0.2 – 5	Kitagaki 86	
n(spect) p K^+ μ^-		
1 – 5	Mann 86	cs
p(spect) p K^0 μ^-		
1 – 5	Mann 86	cs
n(spect) Λ K^+ ν_μ		
1 – 5	Mann 86	cs
p(spect) Λ K^0 ν_μ		
1 – 5	Mann 86	cs
p(spect) Λ K^+ μ^-		
1 – 5	Mann 86	cs

ν_μ deuteron

p(spect) p π^+ π^- μ^-		
0.2 – 5	Kitagaki 86	
p(spect) n K^0 π^+ μ^-		
1 – 5	Mann 86	cs
p(spect) Λ K^+ π^- ν_μ		
1 – 5	Mann 86	cs
p(spect) Λ K^+ π^0 μ^-		
1 – 5	Mann 86	cs
p(spect) Λ K^0 π^+ μ^-		
1 – 5	Mann 86	cs
p(spect) p K^+ K^- μ^-		
1 – 5	Mann 86	cs
n(spect) p $2\pi^+$ π^- μ^-		
0.2 – 5	Kitagaki 86	
n(spect) p K^+ $\overline{K}^0$ π^0 μ^-		
1 – 5	Mann 86	cs
p(spect) p $2\pi^+$ $2\pi^-$ μ^-		
0.2 – 5	Kitagaki 86	
n(spect) p $3\pi^+$ $2\pi^-$ μ^-		
0.2 – 5	Kitagaki 86	

ν_μ C

μ^- X		
0.05 – 0.3	Dombeck 87	cs

ν_μ Ne

e^- X		
10 – 200	Brucker 86	cs, p
μ^- X		
10 – 100	Allport 89	a-dep, p
	Guy 87	a-dep, p
	Aderholz 86	cs
10 – 200	Baker 86	cs
	Baker 85	cs, p
	Hanlon 85	a-dep, p
14 – 200	Baltay 85	cs
50	Baker 85C	cs
τ^- X		
10 – 200	Brucker 86	cs, p
mult[π^0] X		
< 400	Wittek 88	mult
mult[hadron$^+$] X		
< 400	Wittek 88	mult
mult[hadron$^-$] X		
< 400	Wittek 88	mult
μ^- charged X		
5 – 150	Rosetti 90	mass, pt
μ^- e^+ X		
10 – 200	Baker 85	cs, p
14 – 200	Baltay 85	cs
50	Baker 85C	cs
μ^- e^- X		
10 – 200	Baker 85	cs, p
14 – 200	Baltay 85	cs
50	Baker 85C	cs
μ^- μ^+ X		
10 – 100	Baton 85	cs, mass, p, pt
$2\mu^-$ X		
10 – 100	Baton 85	cs
π^0 μ^- X		
< 200	Schmitz 88	mult
π^+ μ^- X		
10 – 200	Baker 86	angp, p, pt
< 200	Schmitz 88	mult
π^- μ^- X		
10 – 200	Baker 86	angp, p, pt
< 200	Schmitz 88	mult
η μ^- X		
10 – 100	Wittek 89	mult, p, pt

ν_μ Ne

ρ^+ μ^- X		
< 200	Schmitz 88	mult
ρ^- μ^- X		
< 200	Schmitz 88	mult
ρ^0 μ^- X		
10 – 100	Wittek 89	mult, p, pt
	Wittek 87	dme
< 200	Schmitz 88	mult, pol
ω μ^- X		
10 – 100	Wittek 89	mult, p, pt
$f_2(1270)$ μ^- X		
10 – 100	Wittek 89	mult, p, pt
mult[π^+] μ^- X		
10 – 100	Wittek 88	angp, mult, p
mult[π^-] μ^- X		
10 – 100	Wittek 88	angp, mult, p
mult[π^0] μ^- X		
10 – 100	Wittek 88	angp, mult, p
K_S μ^- X		
10 – 200	Baker 86	angp, cs, mass, p, pt
p μ^- X		
10 – 200	Brucker 85	mult
< 200	Schmitz 88	mult
< 300	Schmitz 88	asym
Λ μ^- X		
10 – 200	Baker 86	angp, cs, mass, p, pt
$\overline{\Lambda}$ μ^- X		
10 – 200	Baker 86	cs
Σ^0 μ^- X		
10 – 200	Baker 86	cs
Ξ^- μ^- X		
10 – 200	Baker 86	cs
mult[p] μ^- X		
10 – 300	Guy 89	cs, mult, p
μ^- black X		
10 – 200	Voyvodic 86	mult
μ^- grey X		
10 – 200	Ammosov 87C	angp, mult
	Voyvodic 86	mult
μ^- hadron$^+$ X		
10 – 200	Brucker 85	mult
< 300	Schmitz 88	asym
μ^- hadron$^-$ X		
10 – 200	Brucker 85	mult
< 300	Schmitz 88	asym
μ^- mult[grey] X		
10 – 200	Ammosov 87C	mult
μ^- mult[hadron$^+$] X		
10 – 100	Wittek 88	angp, mult, p
μ^- mult[hadron$^-$] X		
10 – 100	Wittek 88	angp, mult, p
μ^- shower X		
10 – 200	Ammosov 87C	mult
	Voyvodic 86	mult
μ^- shower$^+$ X		
10 – 200	Ammosov 87C	p
μ^- shower$^-$ X		
10 – 200	Ammosov 87C	mult, p, pt
Ne π^0 ν_μ		
20	Baltay 86	cs

ν_μ Ne

Ne π^+ μ^-		
10 – 100	Marage 89	angp, cs, p
40 – 300	Aderholz 89	cs
Ne ρ^+ μ^-		
10 – 320	Ballagh 86	angp, p
$2\mu^-$ e^+ X		
10 – 100	Baton 85	cs
$2\mu^-$ μ^+ X		
10 – 100	Baton 85	cs
π^+ π^- μ^- X		
10 – 100	Wittek 87	ang, mass, p
ρ^+ π^- μ^- X		
10 – 100	Wittek 89	mult, p, pt
ρ^- π^+ μ^- X		
10 – 100	Wittek 89	mult, p, pt
K_S μ^- μ^+ X		
10 – 100	Baton 85	cs, mass, p, pt
K_S $0K_S$ μ^- X		
10 – 200	Baker 86	cs
$2K_S$ μ^- X		
10 – 200	Baker 86	cs
Λ 0Λ μ^- X		
10 – 200	Baker 86	cs
$\overline{\Lambda}$ $0\overline{\Lambda}$ μ^- X		
10 – 200	Baker 86	cs
Λ μ^- μ^+ X + K_S μ^- μ^+ X		
10 – 100	Baton 85	cs, mass, p, pt
Λ K_S μ^- X		
10 – 200	Baker 86	cs
$\overline{\Lambda}$ K_S μ^- X		
10 – 200	Baker 86	cs
Λ $\overline{\Lambda}$ μ^- X		
10 – 200	Baker 86	cs
2Λ μ^- X		
10 – 200	Baker 86	cs
p (p's) μ^- X		
10 – 300	Guy 89	cs, mult, p
mult[p] μ^- mult[hadron$^-$] X		
10 – 300	Guy 89	a-dep, mult
μ^- mult[grey] shower$^-$ X		
10 – 200	Ammosov 87C	mult, p
μ^- hadron$^+$ hadron$^-$ X		
10 – 200	Brucker 85	mult
μ^- 2hadron (hadrons)		
10 – 200	Brucker 85	mult
$2K_S$ μ^- μ^+ X		
10 – 100	Baton 85	cs, mass, p, pt
$3K_S$ μ^- X		
10 – 200	Baker 86	cs
Λ $2K_S$ μ^- X		
10 – 200	Baker 86	cs
2Λ K_S μ^- X		
10 – 200	Baker 86	cs

ν_μ Fe

ν_μ X		
10 – 160	Abramowicz 85	cs
160	Abramowicz 86	cs
μ^- X		
10 – 160	Berge 87	cs
	Abramowicz 85	cs
10 – 260	Burkhardt 85	cs
30 – 230	Stockdale 85	cs
30 – 600	Merritt 87	ang, cs, pt
120 – 250	Reutens 85	cs
160	Abramowicz 86	cs
μ^- μ^+ X		
10 – 260	Burkhardt 85	cs
30 – 600	Foudas 88	cs, p, pt
	Merritt 87	ang, cs, pt
$2\mu^-$ X		
10 – 260	Burkhardt 85	cs
30 – 600	Schumm 88	p, pt
	Merritt 87	ang, cs, pt
	Merritt 87B	cs, p
μ^- charm X		
30 – 600	Foudas 88	-

ν_μ nucleus

charged X		
0.1 – 1.1	Suzuki 88	flux
0.4 – 2	Bionta 88	cs
ν_μ X		
0.2 – 20	Berger 89B	flux
	Perdereau 89	flux
	Longuemare 88	flux
μ^- X		
0.1 – 1.1	Suzuki 88	flux
0.2 – 20	Berger 89B	flux
	Perdereau 89	flux
	Longuemare 88	flux
0.4 – 2	Bionta 88	cs
	Nakamura 88	-
0.5 – 19	Angelini 86	-
1 – 13	Bergsma 88	cs
10^3 - 10^6	Oyama 88B	cs
τ^- X		
10 – 100	Ushida 86C	cs
heavy-lepton^0 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
e^- e^+ X		
10 – 260	Dorenbosch 86B	angp, p
μ^- γ X		
3 – 30	Ammosov 88G	ang, cs, p
	Grabosch 86B	angp, cs, p
μ^+ e^- X		
10 – 260	Dorenbosch 86B	angp, p
μ^- e^+ X		
10 – 200	Baker 85B	ang, cs, p
10 – 260	Dorenbosch 86B	angp, p
μ^- μ^+ X		
10 – 260	Dorenbosch 86B	angp, p
π^0 μ^- X		
3 – 30	Baranov 85	mult
π^+ μ^- X		
3 – 30	Ammosov 85C	p
?	Ramm 85	mass
π^- μ^- X		
3 – 30	Ammosov 85C	p
ρ^0 μ^- X		
10 – 100	Wittek 87	dme
D^0 μ^- X		
10 – 100	Ushida 86B	
10 – 200	Smart 86	cs, p
	Voyvodic 85	cs
$\overline{D}^0$ μ^- X		
10 – 100	Ushida 86B	

ν_μ nucleus

D^+ μ^- X		
10 – 100	Ushida 86	-
10 – 200	Smart 86	cs, p
	Voyvodic 85	cs
D^- μ^- X		
10 – 100	Ushida 86	-
D_S^- μ^- X		
10 – 100	Ushida 86	-
D_S^+ μ^- X		
10 – 100	Ushida 86	-
10 – 200	Smart 86	cs, p
	Voyvodic 85	cs
$D_S^*(2790)^+$ μ^- X		
10 – 200	Batusov 88C	-
K^- π^+ X		
10 – 200	Asratyan 87B	mass
	Batusov 87	mass
K_S μ^- X		
3 – 30	Ammosov 85D	cs, mass, p, pt
K_S π^+ X		
10 – 200	Asratyan 87B	mass
p μ^- X		
3 – 30	Ammosov 85C	angp, p
Λ_c^+ μ^- X		
10 – 100	Ushida 86	-
10 – 200	Smart 86	cs, p
	Voyvodic 85	cs
Λ_c^+ π^+ X		
10 – 200	Batusov 87	mass
$\Sigma_c(2455)^0$ μ^- X		
10 – 200	Voyvodic 86B	-
Λ μ^- X		
3 – 30	Ammosov 85D	cs, mass, p, pt
mult[p] μ^- X		
3 – 30	Ammosov 85C	mult
μ^- charm X		
3 – 30	Ammosov 85D	cs
< 300	Schmitz 88	cs
mult[shower] mult[charged] X		
< 500	Kitagaki 88	cor, mult
μ^- black X		
10 – 200	Voyvodic 86	mult
μ^- charged-hadron X		
3 – 30	Ammosov 85C	p
10 – 320	Ballagh 89	asym, p
μ^- grey X		
10 – 200	Ammosov 87C	angp, mult
	Voyvodic 86	mult
μ^- hadron$^+$ X		
10 – 320	Ballagh 89	asym, p
μ^- hadron$^-$ X		
10 – 320	Ballagh 89	asym, p
μ^- mult[grey] X		
10 – 200	Ammosov 87C	mult
μ^- shower X		
10 – 200	Ammosov 87C	mult
	Voyvodic 86	mult
μ^- shower$^+$ X		
10 – 200	Ammosov 87C	p
μ^- shower$^-$ 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

p mult[black] X			
	10 – 200	Ammar 88	mult, p
p mult[grey] X			
	10 – 200	Ammar 88	mult, p
p mult[shower] X			
	10 – 200	Ammar 88	mult, p
p shower X			
	10 – 200	Ammar 88	cs, mult, p
mult[p] black X			
	10 – 200	Ammar 89	angp, cor, mult
mult[p] grey X			
	10 – 200	Ammar 89	angp, cor, mult
mult[p] shower X			
	10 – 200	Ammar 89	angp, cor, mult
μ^- fragt (neutrals)			
	< 500	Kitagaki 88	a-dep, cs, p
nucleus π^0 ν_μ			
	3 – 30	Grabosch 86	angp, cs, p
	10 – 260	Bergsma 85B	cs
nucleus π^+ μ^-			
	3 – 30	Grabosch 86	angp, cs, p
π^+ π^- μ^- X			
	10 – 100	Wittek 87	ang, mass, p
K^- π^+ π^0 X			
	10 – 200	Asratyan 87B	mass
K^- $2\pi^+$ X			
	10 – 200	Asratyan 87B	mass
		Batusov 87	mass
$\overline{K}^0$ π^+ π^- X			
	10 – 200	Batusov 87	mass
K_S μ^- e^+ X			
	10 – 200	Baker 85B	cs, mass, p
K_S π^+ π^0 X			
	10 – 200	Asratyan 87B	mass
K_S π^+ π^- X			
	10 – 200	Asratyan 87B	mass
p π^+ μ^- X			
	3 – 30	Ammosov 85C	p
p π^- μ^- X			
	3 – 30	Ammosov 85C	p
Λ_c^+ π^- μ^- X			
	10 – 200	Voyvodic 86B	mass
Λ μ^- e^+ X			
	10 – 200	Baker 85B	cs, mass, p
Λ K_S μ^- X			
	3 – 30	Ammosov 85D	cs
2Λ μ^- X			
	3 – 30	Ammosov 85D	cs
μ^- mult[grey] shower$^-$ X			
	10 – 200	Ammosov 87C	mult, p
μ^- charged (chargeds) (neutrals)			
	< 500	Kitagaki 88	a-dep, cs, p
π^0 μ^- charged (neutrals)			
	3 – 30	Baranov 85	mult
K^- $2\pi^+$ π^- X			
	10 – 200	Asratyan 87B	mass
K_S π^0 μ^- e^+ X			
	10 – 200	Baker 85B	mass
K_S π^- μ^- e^+ X			
	?	Baker 85B	–
p K^- $2\pi^+$ X			
	10 – 200	Batusov 87	mass
K^+ K^- π^+ μ^- γ X			
	10 – 200	Asratyan 87C	mass
Σ^+ π^+ $2\pi^-$ μ^- X			
	10 – 200	Voyvodic 86B	mass
n $2\pi^+$ $2\pi^-$ μ^- X			
	10 – 200	Voyvodic 86B	mass
K^+ K^- $2\pi^+$ π^- μ^- γ X			
	10 – 200	Asratyan 87C	mass

$\overline{\nu}_\mu$ e^-

e^- $\overline{\nu}_\mu$			
	1.23	Abe 89E	angp, cs
	1.4	Ahrens 85	cs
	10 – 160	Dorenbosch 89	const, cs
		Geiregat 89	const, cs

$\overline{\nu}_\mu$ p

$\overline{\nu}_\mu$ X			
	5 – 150	Jones 86	cs
	10 – 260	Allasia 88C	cs
μ^+ X			
	3 – 30	Brunner 89	cs, p
	5 – 150	Jones 89C	p
		Jones 87	p
		Jones 86	cs
		Grassler 85	mass
	10 – 100	Aderholz 86	cs
	10 – 200	Asratyan 85	a-dep, p
		Asratyan 85B	angp, cs, p
	10 – 260	Allasia 88C	cs
		Allasia 85C	p
p $\overline{\nu}_\mu$			
	< 12	Ahrens 87C	angp, cs
		Abe 86B	angp, cs
n μ^+			
	> 0.15	Allison 89B	cs
	0.2 – 2	Losecco 87	cs
	1.5	Krizmanic 89	cs
	3 – 30	Grabosch 86D	angp, cs, p
		Belikov 85	cs
		Belikov 83B	angp, cs
	< 12	Ahrens 88	p
		Ahrens 86	cs
Λ μ^+			
	10 – 200	Ammosov 86B	cs, p
		Ammosov 86F	cs, p
Σ^c μ^+			
	10 – 200	Ammosov 86F	cs
π^+ μ^+ X			
	5 – 150	Grassler 85	p
	< 200	Schmitz 88	mult
π^- μ^+ X			
	5 – 150	Grassler 85	p
	< 200	Schmitz 88	mult
ρ^0 μ^+ X			
	5 – 150	Grassler 85	mass, mult, p, p, pt
	10 – 260	Allasia 85B	mult
	< 200	Schmitz 88	pol
$\overline{D}^0$ μ^+ X			
	5 – 150	Jones 87B	cs
$D^*(2010)^-$ μ^+ X			
	5 – 150	Jones 87B	cs
K_S μ^+ X			
	10 – 260	Allasia 85D	cs
Λ μ^+ X			
	5 – 150	Jones 85B	pol
	10 – 260	Allasia 85D	cs
$\Sigma(1385\,P_{13})^+$ μ^+ X			
	10 – 260	Allasia 85D	cs
$\Sigma(1385\,P_{13})^-$ μ^+ X			
	10 – 260	Allasia 85D	cs
mult[p] μ^+ X			
	10 – 300	Guy 89	cs, mult, p
$\overline{\nu}_\mu$ hadron$^+$ X			
	< 200	Schmitz 88	mult
$\overline{\nu}_\mu$ hadron$^-$ X			
	< 200	Schmitz 88	mult
μ^+ hadron$^+$ X			
	< 200	Schmitz 88	mult
μ^+ hadron$^-$ X			
	< 200	Schmitz 88	mult
n π^0 μ^+			
	3 – 30	Grabosch 89	angp, cs, mass
	< 30	Schmitz 88	cs
p π^- μ^+			
	3 – 30	Grabosch 89	angp, cs, mass
	5 – 150	Jones 89B	p
	< 30	Schmitz 88	cs
Λ π^0 μ^+			
	10 – 200	Ammosov 86F	cs
n $\overline{K}^0$ μ^+			
	10 – 200	Ammosov 86F	cs
Λ K^0 μ^+			
	10 – 200	Ammosov 86F	cs
$\pi^\pm$ μ^+ hadron(s)			
	5 – 150	Jones 90	mult, p
π^+ μ^+ hadron(s)			
	5 – 150	Jones 90	mult, p
π^- μ^+ hadron(s)			
	5 – 150	Jones 90	mult, p
p (p's) μ^+ X			
	10 – 300	Guy 89	cs, mult, p
n $\overline{K}^0$ π^0 μ^+ + n $\overline{K}^0$ $2\pi^0$ μ^+ + n $\overline{K}^0$ $3\pi^0$ μ^+			
	10 – 200	Ammosov 86F	cs
Λ K^0 π^0 μ^+ + Λ K^0 $2\pi^0$ μ^+			
	10 – 200	Ammosov 86F	cs

$\overline{\nu}_\mu$ n

$\overline{\nu}_\mu$ X			
	10 – 260	Allasia 88C	cs
μ^+ X			
	3 – 30	Brunner 89	cs, p
	10 – 200	Asratyan 85	a-dep, p
		Asratyan 85B	angp, cs, p
	10 – 260	Allasia 88C	cs
		Allasia 85C	p
ρ^0 μ^+ X			
	10 – 260	Allasia 85B	mult
K_S μ^+ X			
	10 – 260	Allasia 85D	cs
Λ μ^+ X			
	10 – 260	Allasia 85D	cs, p
$\Sigma(1385\,P_{13})^+$ μ^+ X			
	10 – 260	Allasia 85D	cs
$\Sigma(1385\,P_{13})^-$ μ^+ X			
	10 – 260	Allasia 85D	cs
$\overline{\nu}_\mu$ hadron$^+$ X			
	< 200	Schmitz 88	mult
$\overline{\nu}_\mu$ hadron$^-$ X			
	< 200	Schmitz 88	mult
μ^+ hadron$^+$ X			
	< 200	Schmitz 88	mult
μ^+ hadron$^-$ X			
	< 200	Schmitz 88	mult
n π^- μ^+			
	3 – 30	Grabosch 89	angp, cs, mass
	< 30	Schmitz 88	cs

$\overline{\nu}_\mu$ nucleon

$\overline{\nu}_\mu$ X			
	3 – 30	Ammosov 86I	cs

$\bar{\nu}_\mu$ nucleon

$\bar{\nu}_\mu$ X		
	Ammosov 85	cs
10 – 160	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
μ^+ X		
3 – 30	Ammosov 86I	cs
	Ammosov 85	cs
	Ammosov 85B	p
10 – 100	Varvell 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
mult[hadron] X		
5.7 – 205	Baldin 87	col, p
μ^+ charged$^+$ X		
10 – 200	Ammosov 87	p
	Ammosov 86D	p
μ^+ charged$^-$ X		
10 – 200	Ammosov 87	p
	Ammosov 86D	p
μ^- μ^+ X		
30 – 230	Lang 87	angp, cs, mass, p, pt
30 – 600	Foudas 88B	cs, p, pt
$2\mu^+$ X		
30 – 230	Lang 87	angp, cs, mass, p, pt
$\pi^\pm$ μ^+ X		
10 – 200	Baldin 87B	p
π^+ μ^+ X		
10 – 200	Ammosov 86E	mult, pt
π^- μ^+ X		
10 – 200	Ammosov 86E	mult, pt
ρ^0 μ^+ X		
10 – 200	Ammosov 87	p
	Ammosov 86D	p
	Ammosov 86E	mass, mult, p, pt, pt
	Ammosov 86G	pol
D_S^- μ^+ X		
10 – 200	Asratyan 87	cs
D_S^{*+} μ^+ X		
10 – 200	Ammosov 86	
D_S^{*-} μ^+ X		
10 – 200	Ammosov 86	
	Asratyan 86	
	Asratyan 86B	
$D_S^*(2547)^+$ μ^+ X		
10 – 200	Ammosov 86	
$D_S^*(2547)^-$ μ^+ X		
10 – 200	Ammosov 86	
$K^*(892)^0$ μ^+ X		
10 – 200	Ammosov 87	p
	Ammosov 86D	p
μ^+ charged-hadron X		
10 – 200	Ammosov 84H	pt

$\bar{\nu}_\mu$ nucleon

μ^+ $\overline{\text{charm}}$ X		
10 – 200	Ushida 88B	cs
30 – 600	Foudas 88B	
μ^+ hadron$^+$ X		
< 230	Mukherjee 86	angp
μ^+ hadron$^-$ X		
< 230	Mukherjee 86	angp
nucleon ρ^- μ^+		
10 – 200	Ammosov 84G	cs
π^- μ^+ charged$^+$ X		
10 – 200	Ammosov 86D	mass
π^+ π^- μ^+ X		
10 – 200	Ammosov 86G	ang, mass, p
D_S^- μ^+ γ X		
10 – 200	Asratyan 87C	mass, p.
	Ammosov 86	mass
	Asratyan 86	mass
	Asratyan 86B	mass
D_S^+ μ^+ γ X		
10 – 200	Ammosov 86	mass
D_S^{*-} μ^+ γ X		
10 – 200	Asratyan 87C	mass, p.
$D_S^*(2547)^-$ μ^+ γ X		
10 – 200	Asratyan 87C	
μ^+ hadron jet X		
< 230	Mukherjee 86	angp
π^- μ^+ 2γ X		
10 – 200	Ammosov 84G	mass
ϕ π^- μ^+ γ X		
10 – 200	Ammosov 86	mass
K_S K^- μ^+ γ X		
10 – 200	Ammosov 86	mass
ϕ π^0 π^- μ^+ γ X		
10 – 200	Ammosov 86	mass
K_S K^- π^0 μ^+ γ X		
10 – 200	Ammosov 86	mass
ϕ $2\pi^+$ π^- μ^+ γ X		
10 – 200	Ammosov 86	mass
K^+ K_S $2\pi^-$ μ^+ γ X		
10 – 200	Ammosov 86	mass
K_S K^- π^+ π^- μ^+ γ X		
10 – 200	Ammosov 86	mass

$\bar{\nu}_\mu$ deuteron

$\bar{\nu}_\mu$ X		
10 – 260	Allasia 88C	cs
μ^+ X		
10 – 100	Allport 89	a-dep, p
	Guy 87	a-dep, p
10 – 260	Allasia 88C	cs
	Allasia 85C	p
$\Delta(1232\,P_{33})^{++}$ X		
10 – 260	Allasia 86	p
ρ^0 μ^+ X		
10 – 260	Allasia 85B	mass, mult, p, pt
μ^+ heavy-lepton^0 X		
10 – 260	Allasia 85	cs
$K^*(892)^+$ μ^+ X		
10 – 260	Allasia 85D	cs
$K^*(892)^-$ μ^+ X		
10 – 260	Allasia 85D	cs
mult[p] μ^+ X		
10 – 300	Guy 89	cs, mult, p
$\bar{\nu}_\mu$ q X		
10 – 260	Allasia 88B	cs

$\bar{\nu}_\mu$ deuteron

μ^+ q X		
10 – 260	Allasia 88B	cs
μ^+ (neutrals) even-charged		
10 – 260	Tenner 88	angp
μ^+ (neutrals) odd-charged		
10 – 260	Tenner 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
π^+ π^- $\bar{\nu}_\mu$ X		
10 – 260	Allasia 88	mass, pt
π^+ μ^- μ^+ X + π^- $2\mu^+$ X		
10 – 260	Allasia 85	mass
$2\pi^+$ μ^+ X		
10 – 260	Allasia 88	mass, pt
$2\pi^-$ μ^+ X		
10 – 260	Allasia 88	mass, pt
π^+ π^- μ^+ X		
10 – 260	Allasia 88	mass, pt
p (p's) μ^+ X		
10 – 300	Guy 89	cs, mult, p
mult[p] μ^+ mult[hadron$^-$] X		
10 – 300	Guy 89	a-dep, mult
π^+ μ^+ (neutrals) odd-charged		
10 – 260	Tenner 88	angp
π^- μ^+ (neutrals) odd-charged		
10 – 260	Tenner 88	angp
p μ^+ (neutrals) even-charged		
10 – 260	Tenner 88	p
p μ^+ (neutrals) odd-charged		
10 – 260	Tenner 88	angp, p
0p μ^+ (neutrals) even-charged		
10 – 260	Tenner 88	p
0p μ^+ (neutrals) odd-charged		
10 – 260	Tenner 88	p
ρ^0 μ^+ mult[charged] (neutrals)		
10 – 260	Allasia 85B	mult

$\bar{\nu}_\mu$ Ne

μ^+ X		
10 – 100	Allport 89	a-dep, p
	Guy 87	a-dep, p
	Aderholz 86	cs
10 – 200	Asratyan 85	a-dep, p
μ^+ e^+ X		
10 – 100	Baton 85	cs
μ^+ e^- X		
10 – 100	Baton 85	cs, mass, p, pt
μ^- μ^+ X		
10 – 100	Baton 85	cs, mass, p, pt
$2\mu^+$ X		
10 – 100	Baton 85	cs
π^0 μ^+ X		
< 200	Schmitz 88	mult
π^+ μ^+ X		
< 200	Schmitz 88	mult
π^- μ^+ X		
10 – 100	Fitch 85	p, pt
< 200	Schmitz 88	mult
η μ^+ X		
10 – 100	Wittek 89	mult, p, pt
ρ^+ μ^+ X		
< 200	Schmitz 88	mult
ρ^- μ^+ X		
< 200	Schmitz 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.

$\bar{\nu}_\mu$ Ne

$\rho^0 \mu^+ X$			
	10 – 100	Wittek 89	mult, p, pt
		Wittek 87	dme
	< 200	Schmitz 88	mult, pol
$\omega \mu^+ X$			
	10 – 100	Wittek 89	mult, p, pt
$f_2(1270) \mu^+ X$			
	10 – 100	Wittek 89	mult, p, pt
mult[π^+] μ^+ X			
	10 – 100	Wittek 88	angp, mult, p
mult[π^-] μ^+ X			
	10 – 100	Wittek 88	angp, mult, p
mult[π^0] μ^+ X			
	10 – 100	Wittek 88	angp, mult, p
$D_S^- \mu^+ X$			
	< 300	Schmitz 88	cs
$p \mu^+ X$			
	< 200	Schmitz 88	mult
	< 300	Schmitz 88	asym
mult[p] μ^+ X			
	10 – 300	Guy 89	cs, mult, p
μ^+ mult[hadron$^+$] X			
	10 – 100	Wittek 88	angp, mult, p
μ^+ mult[hadron$^-$] X			
	10 – 100	Wittek 88	angp, mult, p
Ne $\pi^- \mu^+$			
	10 – 100	Marage 86	angp, cs, mass, p
	10 – 200	Ammosov 86C	angp, cs
	40 – 300	Aderholz 89	cs
Ne $\rho^- \mu^+$			
	10 – 100	Marage 87	cs
Ne $a_1(1260)^- \mu^+$			
	10 – 200	Ammosov 88C	cs
$\pi^+ \pi^- \mu^+ X$			
	10 – 100	Wittek 87	ang, mass, p
$\rho^+ \pi^- \mu^+ X$			
	10 – 100	Wittek 89	mult, p, pt
$\phi \pi^- \mu^+ X$			
	< 300	Schmitz 88	mass
$K_S \mu^+ e^- X$			
	10 – 100	Baton 85	cs, mass, p, pt
$K_S \mu^- \mu^+ X$			
	10 – 100	Baton 85	cs, mass, p, pt
$\Lambda \mu^+ e^- X$			
	10 – 100	Baton 85	cs, mass, p, pt
$\Lambda \mu^+ e^- X + K_S \mu^+ e^- X$			
	10 – 100	Baton 85	cs, mass, p, pt
$\Lambda \mu^- \mu^+ X$			
	10 – 100	Baton 85	cs, mass, p, pt
$\Lambda \mu^- \mu^+ X + K_S \mu^- \mu^+ X$			
	10 – 100	Baton 85	cs, mass, p, pt
p (p's) μ^+ X			
	10 – 300	Guy 89	cs, mult, p
mult[p] μ^+ mult[hadron$^-$] X			
	10 – 300	Guy 89	a-dep, mult
Ne $\pi^0 \pi^- \mu^+$			
	10 – 100	Marage 87	angp, p

$\bar{\nu}_\mu$ Ne

$2K_S \mu^+ e^- X$			
	10 – 100	Baton 85	cs, mass, p, pt
$\Lambda K_S \mu^+ e^- X$			
	10 – 100	Baton 85	cs, mass, p, pt
$\Lambda K_S \mu^- \mu^+ X$			
	10 – 100	Baton 85	cs, mass, p, pt

$\bar{\nu}_\mu$ Fe

$\bar{\nu}_\mu X$			
	10 – 160	Abramowicz 85	cs
$\mu^+ X$			
	10 – 160	Berge 87	cs
		Abramowicz 85	cs
	10 – 260	Burkhardt 85	cs
	30 – 230	Stockdale 85	cs
	30 – 600	Merritt 87	ang, cs, pt
	120 – 250	Reutens 85	cs
$\mu^- \mu^+ X$			
	10 – 260	Burkhardt 85	cs
	30 – 600	Foudas 88	cs, p, pt
		Merritt 87	ang, cs, pt
$2\mu^+ X$			
	10 – 260	Burkhardt 85	cs
	30 – 600	Schumm 88	p, pt
		Merritt 87	ang, cs, pt
		Merritt 87B	cs, p
$\mu^+ \overline{\text{charm}}$ X			
	30 – 600	Foudas 88	

$\bar{\nu}_\mu$ nucleus

charged X			
	0.1 – 1.1	Suzuki 88	flux
	0.4 – 2	Bionta 88	cs
$\bar{\nu}_\mu X$			
	0.2 – 20	Berger 89B	flux
		Perdereau 89	flux
		Longuemare 88	flux
$\mu^+ X$			
	0.1 – 1.1	Suzuki 88	flux
	0.2 – 20	Berger 89B	flux
		Perdereau 89	flux
		Longuemare 88	flux
	0.4 – 2	Bionta 88	cs
		Nakamura 88	
	1 – 13	Bergsma 88	cs
	$10^3 - 10^6$	Oyama 88B	cs
$\tau^- X$			
	10 – 100	Ushida 86C	cs
charmed-meson X			
	10 – 200	Asratyan 87B	
$\pi^0 \mu^+ X$			
	3 – 30	Baranov 85	mult
$\pi^- \mu^+ X$			
	?	Ramm 85	mass
$\rho^0 \mu^+ X$			
	10 – 100	Wittek 87	dme
$D^*(2010)^- \mu^+ X$			
	10 – 200	Ammosov 87F	cs
$K^- \pi^+ X$			
	10 – 200	Asratyan 87B	mass
$K_S \pi^+ X$			
	10 – 200	Asratyan 87B	mass
$p \mu^+ X$			
	3 – 30	Ammosov 85C	angp, p
mult[p] μ^+ X			
	3 – 30	Ammosov 85C	mult
nucleus $\pi^0 \bar{\nu}_\mu$			
	10 – 260	Bergsma 85B	cs
nucleus $\pi^- \mu^+$			
	3 – 30	Grabosch 86	angp, cs, p

$\bar{\nu}_\mu$ nucleus

$\pi^+ \pi^- \mu^+ X$			
	10 – 100	Wittek 87	ang, mass, p
$\phi \mu^+ \gamma X$			
	10 – 200	Asratyan 86	mass
		Asratyan 86B	mass
$\phi \pi^- \mu^+ X$			
	10 – 200	Asratyan 87C	mass
$K^- \pi^+ \pi^0 X$			
	10 – 200	Asratyan 87B	mass
$K^- 2\pi^+ X$			
	10 – 200	Asratyan 87B	mass
$K_S \pi^+ \pi^0 X$			
	10 – 200	Asratyan 87B	mass
$K_S \pi^+ \pi^- X$			
	10 – 200	Asratyan 87B	mass
$K_S K^- \mu^+ X$			
	10 – 200	Asratyan 87C	mass
$\pi^0 \mu^+$ charged (neutrals)			
	3 – 30	Baranov 85	mult
nucleus $\mu^- \mu^+ \bar{\nu}_\mu$			
	10 – 160	Geiregat 90	cs
$\phi \pi^0 \pi^- \mu^+ X$			
	10 – 200	Asratyan 87C	mass
$K^+ 2\pi^- \mu^+ X$			
	10 – 200	Ammosov 87F	mass, p
$K^+ \pi^+ \pi^- \mu^+ X$			
	10 – 200	Ammosov 87F	mass, p
$K^- 2\pi^+ \pi^- X$			
	10 – 200	Asratyan 87B	mass
$K^+ K^- \pi^- \mu^+ X$			
	10 – 200	Asratyan 87	mass
$K_S K^- \pi^0 \mu^+ X$			
	10 – 200	Asratyan 87C	mass
$\phi \pi^+ 2\pi^- \mu^+ X$			
	10 – 200	Asratyan 87C	mass
$K^+ K^- \pi^- \mu^+ \gamma X$			
	10 – 200	Asratyan 86	mass
		Asratyan 86B	mass
$K^+ K_S 2\pi^- \mu^+ X$			
	10 – 200	Asratyan 87C	mass
$K_S K^- \pi^+ \pi^- \mu^+ X$			
	10 – 200	Asratyan 87C	mass

ν_τ nucleus

$\tau^- X$			
	< 400	Talebzadeh 87	cs

$\bar{\nu}_\tau$ nucleus

$\tau^+ X$			
	< 400	Talebzadeh 87	cs

$e^- \gamma$

e^{*-}			
	(14 – 28)	Bonneaud 86	cs
$e^- X$			
	(2 – 13)	Berger 87B	cs
	14.5	Aihara 89C	cs
		Aihara 87F	p
	16.5 – 17.5	Althoff 86B	p
	17.3	Berger 87C	
	25 – 28	Sasaki 89	p
		Sasaki 88	p
	?	Berger 87B	col, const, p
		Kolanoski 86	const, p
ηe^-			
	?	Berger 87B	p
$\eta' e^-$			
	14.5	Aihara 88D	cs
		Gidal 88B	cs
	?	Landsberg 85	p

$e^- \gamma$

$f_2(1270)\ e^-$		
?	Berger 87B	p
$f_1(1285)\ e^-$		
14.5	Aihara 88D	cs
	Aihara 88E	cs
	Gidal 88	
	Gidal 88B	cs
?	Ouldsaada 88B	
	Toki 88B	-
$f_1(1420)\ e^-$		
3 – 12	Hill 89	-
14.5	Aihara 86J	cs
?	Ouldsaada 88B	-
	Toki 88B	
$\eta(1440)\ e^-$		
14.5	Aihara 86J	cs
$\eta_c(1S)\ e^-$		
?	Ouldsaada 88B	-
meson^0 e^-		
14.5	Aihara 88D	cs
	Gidal 88	cs
?	Toki 88B	-
$D^*(2010)^+\ e^-$ X		
18.3	Bartel 87B	cs
$D^*(2010)^-\ e^-$ X		
18.3	Bartel 87B	cs
e^- jet X		
?	Berger 87B	pt
$2e^-\ e^+$		
5	Blinov 87	cs, mass, p
$\mu^-\ \mu^+\ e^-$		
17.5	Berger 85B	ang, angp, cs, p, pt
?	Berger 87B	-
$\rho^+\ \rho^-\ e^-$		
?	Toki 88B	mass
$2\rho^0\ e^-$		
17.4	Berger 88B	cs
17.5 – 23.3	Braunschweig 88F	cs
?	Toki 88B	mass
$2\omega\ e^-$		
?	Toki 88B	mass
$2\phi\ e^-$		
?	Toki 88B	mass
$K^+\ K^-\ e^- + \pi^+\ \pi^-\ e^-$		
14.5	Boyer 86	cs
$K^*(892)^0\ \overline{K}^*(892)^0\ e^-$		
?	Toki 88B	mass
$K^*(892)^+\ K^*(892)^-\ e^-$		
?	Toki 88B	mass
$D^0\ \pi^+\ e^-$ X		
18.3	Bartel 87B	mass
$\overline{D}^0\ \pi^-\ e^-$ X		
18.3	Bartel 87B	mass
e^- 2jet X		
?	Berger 87B	cs
$\eta\ \pi^+\ \pi^-\ e^-$		
14.5	Gidal 88B	mass
?	Toki 88B	mass
$\rho^0\ \pi^+\ \pi^-\ e^-$		
17.5 – 23.3	Braunschweig 88F	cs
$K^+\ K_S\ \pi^-\ e^-$		
?	Toki 88B	mass
$K^+\ K_S\ \pi^-\ e^- + K_S\ K^-\ \pi^+\ e^-$		
14.5	Gidal 88	mass
$2\pi^+\ 2\pi^-\ e^-$		
17.5 – 23.3	Braunschweig 88F	cs, mass
$4\pi\ e^-$		
?	Berger 87B	
$K^+\ \pi^0\ 2\pi^-\ e^-$ X		
18.3	Bartel 87B	mass
$K^-\ 2\pi^+\ \pi^0\ e^-$ X		
18.3	Bartel 87B	mass

$e^-\ e^-$

$2e^-$		
0.85 – 2	Brefeld 84	pol
100.2 – 1184	Salvini 88	angp, cs

$e^-\ p$

e^- X		
0.96 – 1.5	Sealock 89	angp, cs, mass
1 – 400	Berger 86B	angp, cs, p
120 – 280	Nachtmann 85	
?	Klein 84B	cs
$p\ e^-$		
0.504 – 1.286	Bosted 89	angp
1 – 400	Berger 86B	angp, cs, p
5 – 21.5	Arnold 86	angp
?	Walker 89	angp
$\Delta(1232\,P_{33})\ e^-$ X		
0.96 – 1.5	Sealock 89	
$n\ \pi^+\ e^-$		
0.6455	Gilman 90	cs
4.6	Vapenikova 88	angp, mass

$e^-\ n$

$p\ \pi^-\ e^-$		
4.6	Vapenikova 88	angp, mass

e^- nucleon

neutral X		
20	Bjorken 88	p
e^- X		
1 – 400	Berger 86B	angp, cs, p
nucleon e^- axion		
1.5	Davier 86	cs

e^- deuteron

e^- X		
1 – 400	Berger 86B	angp, cs, p
3.7 – 18	Whitlow 90	p
3.75 – 19.5	Dasu 88	a-dep, angp, p
	Dasu 87	p
	Dasu 87B	a-dep, p
8	Gomez 85	angp, p
16.2 – 22.2	Klein 84B	cs
deuteron e^-		
0.2005 – 0.6505	Platchkov 89	angp
0.3	Dmitriev 85	angp, pol
0.3 – 0.7	Auffret 85B	angp
0.4	Voitsekhovsk 86	angp, pol
0.5 – 1.2	Cramer 85	angp
0.65 – 0.85	Garcon 89	pol
0.7 – 1.3	Bosted 89	angp
	Arnold 87	angp
2	Meyer 88B	asym
2.5	Schablitzky 89	angp
$p\ n\ e^-$		
0.18	Mostovoj 87	asym
0.3 – 0.7	Auffret 85	p
0.538 – 0.779	Esaulov 87	angp, p
	Esaulov 86	angp, cs
0.843 – 1.189	Arnold 88	angp, p
1.465 – 1.57	Breuker 85	mass
500	Barreau 86	p
?	Arnold 89	angp, cs
p(spect) $p\ \pi^-\ e^-$		
4.6	Vapenikova 88	angp, mass
$2p\ \pi^-\ e^-$		
0.6455	Gilman 90	cs
n(spect) $n\ \pi^+\ e^-$		
4.6	Vapenikova 88	angp, mass
$2n\ \pi^+\ e^-$		
0.6455	Gilman 90	cs

$e^-\ ^3$H

^{3}H e^-		
0.1905 – 0.6855	Juster 85	angp, p
?	Beck 87	angp

$e^-\ ^3$He

e^- X		
0.1205 – 0.6675	Marchand 85	p
0.538	Akhmerov 87	angp
^{3}He e^-		
0.1055 – 0.3205	Ottermann 85	angp
500	Barreau 86	p
?	Beck 87	angp
deuteron $p\ e^-$		
0.3908	Keizer 85	cs, p
$2p\ n\ e^-$		
500	Barreau 86	p

$e^-\ ^4$He

e^- X		
0.8 – 1.2	Dementy 88	p
0.96 – 1.5	Sealock 89	angp, cs, mass
1.174	Kuplennikov 90	angp, p
?	Day 87	a-dep, p
$\Delta(1232\,P_{33})\ e^-$ X		
0.96 – 1.5	Sealock 89	-
^{3}H $p\ e^-$		
0.183	Spahn 89	angp
^{3}He $n\ e^-$		
0.183	Spahn 89	angp

e^- He

e^- X		
8	Gomez 85	angp, p
He e^-		
0.1055 – 0.3205	Ottermann 85	angp

$e^-\ ^6$Li

e^- X		
1.54 – 2	Bagdasaryan 85	angp, p

$e^-\ ^9$Be

^{9}Be e^-		
0.3	Hiel 89	asym, const
$p\ e^-$ X		
1.45 – 2.13	Bagdasaryan 88	angp, p
1.54 – 2	Bagdasaryan 85B	angp, p

e^- Be

Li X		
2 – 4.5	Aivazyan 86	angp, p
	Aivazyan 86B	a-dep, angp, p
Be X		
2 – 4.5	Aivazyan 86	angp, p
	Aivazyan 86B	a-dep, angp, p
Bor X		
2 – 4.5	Aivazyan 86	angp, p
	Aivazyan 86B	a-dep, angp, p
e^- X		
1.54 – 2	Bagdasaryan 85	angp, p

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e^- Be

He X	2 – 4.5	Aivazyan 86	angp, p
		Aivazyan 86B	a-dep, angp, p

e^- ^{12}C

e^- X	1.54 – 2	Bagdasaryan 85	angp, p
	1.67 – 2.13	Vartapetyan 89	angp
	?	Day 87	a-dep, p
		Hicks 86	angp
^{12}C e^-	0.69	Kalantarnaye 89	cs
p e^- X	1.45 – 2.13	Bagdasaryan 88	angp, p

e^- C

e^- X	0.653 – 1.65	Baran 88B	angp, cs, p
	0.96 – 1.5	Sealock 89	angp, cs, mass
p e^- X	0.78	Geesaman 89	a-dep, angp, p
$\Delta(1232\,P_{33})$ e^- X	0.96 – 1.5	Sealock 89	

e^- ^{13}C

e^- X	?	Hicks 86	angp

e^- ^{14}Nit

e^- X	?	Hicks 86	angp
^{14}C π^+ e^-	0.1735	Roehrich 85	angp, dme

e^- Al

Li X	2 – 4.5	Aivazyan 86	angp, p
		Aivazyan 86B	a-dep, angp, p
Be X	2 – 4.5	Aivazyan 86	angp, p
		Aivazyan 86B	a-dep, angp, p
Bor X	2 – 4.5	Aivazyan 86	angp, p
		Aivazyan 86B	a-dep, angp, p
e^- X	8	Gomez 85	angp, p
He X	2 – 4.5	Aivazyan 86	angp, p
		Aivazyan 86B	a-dep, angp, p
p e^- X	0.78	Geesaman 89	a-dep, angp, p

e^- ^{27}Al

e^- X	?	Day 87	a-dep, p

e^- ^{28}Si

e^- X	1.54 – 2	Bagdasaryan 85	angp, p
p e^- X	1.54 – 2	Bagdasaryan 85B	angp, p

e^- Si

Si e^-	0.76	Adeishvili 87	angp

e^- ^{40}Ca

e^- X	0.12 – 0.695	Meziani 85	angp, p

e^- ^{48}Ca

e^- X	0.12 – 0.695	Meziani 85	angp, p
^{48}Ca e^- γ	0.2405	Wise 85	angp, p, pwa

e^- Fe

e^- X	0.653 – 1.65	Baran 88B	angp, cs, p
	0.96 – 1.5	Sealock 89	angp, cs, mass
	3.7 – 18	Whitlow 90	p
	3.75 – 19.5	Dasu 88	a-dep, angp, p
		Dasu 87	p
		Dasu 87B	a-dep, p
	8	Gomez 85	angp, p
$\Delta(1232\,P_{33})$ e^- X	0.96 – 1.5	Sealock 89	

e^- ^{56}Fe

e^- X	0.12 – 0.695	Meziani 85	angp, p
	?	Day 87	a-dep, p

e^- Ni

Li X	2 – 4.5	Aivazyan 86	angp, p
		Aivazyan 86B	a-dep, angp, p
Be X	2 – 4.5	Aivazyan 86	angp, p
		Aivazyan 86B	a-dep, angp, p
Bor X	2 – 4.5	Aivazyan 86	angp, p
		Aivazyan 86B	a-dep, angp, p
He X	2 – 4.5	Aivazyan 86	angp, p
		Aivazyan 86B	a-dep, angp, p
p e^- X	0.78	Geesaman 89	a-dep, angp, p

e^- Cu

Li X	2 – 4.5	Aivazyan 86	angp, p
		Aivazyan 86B	a-dep, angp, p
Be X	2 – 4.5	Aivazyan 86	angp, p
		Aivazyan 86B	a-dep, angp, p
Bor X	2 – 4.5	Aivazyan 86	angp, p
		Aivazyan 86B	a-dep, angp, p
e^+ X	9 – 22.4	Riordan 87	cs, p
He X	2 – 4.5	Aivazyan 86	angp, p
		Aivazyan 86B	a-dep, angp, p
axion X	9 – 22.4	Riordan 87	cs

e^- Ge

Ge e^- γ	150	Belkacem 85	p

e^- ^{90}Zr

p X	0.0205 – 0.1305	Dodge 85	angp, p
He X	0.0205 – 0.1305	Dodge 85	angp, p
p e^- X	0.0505 – 0.1005	Dodge 85	angp, p
He e^- X	0.0505 – 0.1005	Dodge 85	angp, p

e^- ^{92}Zr

p X	0.0205 – 0.1005	Dodge 85	angp, p
He X	0.0205 – 0.1005	Dodge 85	angp, p
p e^- X	0.0505 – 0.1005	Dodge 85	angp, p
He e^- X	0.0505 – 0.1005	Dodge 85	angp, p

e^- Ag

Li X	2 – 4.5	Aivazyan 86	angp, p
		Aivazyan 86B	a-dep, angp, p
Be X	2 – 4.5	Aivazyan 86	angp, p
		Aivazyan 86B	a-dep, angp, p
Bor X	2 – 4.5	Aivazyan 86	angp, p
		Aivazyan 86B	a-dep, angp, p
He X	2 – 4.5	Aivazyan 86	angp, p
		Aivazyan 86B	a-dep, angp, p

e^- ^{163}Ho

γ X	0	Yasumi 85	p
^{163}Dy* ν_e	0	Yasumi 86	-

e^- Ta

p e^- X	0.78	Geesaman 89	a-dep, angp, p

e^- Wt

neutral X	2.5	Konaka 86	cs
e^+ X	9 – 22.4	Riordan 87	cs, p
e^- X	0.96 – 1.5	Sealock 89	angp, cs, mass
axion X	2.5	Konaka 86	cs
	9 – 22.4	Riordan 87	cs
e^- e^+ X	2.5	Konaka 86	cs
$\Delta(1232\,P_{33})$ e^- X	0.96 – 1.5	Sealock 89	
Wt e^- higgs	1.6	Davier 89	cs
Wt $2e^-$ e^+	1.6	Davier 89	mass, p

e^- Au

Li X	2 – 4.5	Aivazyan 86	angp, p

e^- Au

Li X		
	Aivazyan 86B	a-dep, angp, p
Be X		
2 – 4.5	Aivazyan 86	angp, p
	Aivazyan 86B	a-dep, angp, p
Bor X		
2 – 4.5	Aivazyan 86	angp, p
	Aivazyan 86B	a-dep, angp, p
e^- X		
3.75 – 19.5	Dasu 88	a-dep, angp, p
	Dasu 87	p
	Dasu 87B	a-dep, p
8	Gomez 85	angp, p
He X		
2 – 4.5	Aivazyan 86	angp, p
	Aivazyan 86B	a-dep, angp, p

e^- ^{197}Au

e^- X		
?	Day 87	a-dep, p

e^- ^{235}U

fragt X		
1.33 – 4.32	Arakelyan 89	cs
	Arakelyan 89C	cs

e^- ^{238}U

fragt X		
1.33 – 4.32	Arakelyan 89	cs
	Arakelyan 89C	cs

e^- nucleus

e^- X		
0.96 – 1.5	Sealock 89	angp, cs, mass
axion X		
275	Bross 89	
?	Davier 87	
fragt X		
1.501 – 16	Fredriksson 87	cs
e^- e^+ X		
275	Bross 89	cs, mass
$\Delta(1232\,P_{33})$ e^- X		
0.96 – 1.5	Sealock 89	
nucleus e^- higgs		
1.6	Davier 89	cs
nucleus $2e^-$ e^+		
1.6	Davier 89	mass, p

e^+ γ

e^{*+}		
(14 – 28)	Bonneaud 86	cs
e^+ X		
?	Kolanoski 86	const, p
η' e^+		
14.5	Aihara 88D	cs
	Gidal 88B	cs
?	Landsberg 85	p
$f_1(1285)$ e^+		
14.5	Aihara 88D	cs
	Aihara 88E	cs
	Gidal 88	
$f_1(1420)$ e^+		
14.5	Aihara 86J	cs
$\eta(1440)$ e^+		
14.5	Aihara 86J	cs
meson^0 e^+		
14.5	Aihara 88D	cs
	Gidal 88	cs
$D^*(2010)^+$ e^+ X		
18.3	Bartel 87B	cs
$D^*(2010)^-$ e^+ X		
18.3	Bartel 87B	cs
e^- $2e^+$		
5	Blinov 87	cs, mass, p
μ^- μ^+ e^+		
17.5	Berger 85B	ang, angp, cs, p, pt
$2\rho^0$ e^+		
17.4	Berger 88B	cs
K^+ K^- e^+ + π^+ π^- e^+		
14.5	Boyer 86	cs
D^0 π^+ e^+ X		
18.3	Bartel 87B	mass
$\overline{D}^0$ π^- e^+ X		
18.3	Bartel 87B	mass
η π^+ π^- e^+		
14.5	Gidal 88B	mass
K^+ K_S π^- e^+ + K_S K^- π^+ e^+		
14.5	Gidal 88	mass
K^+ π^0 $2\pi^-$ e^+ X		
18.3	Bartel 87B	mass
K^- $2\pi^+$ π^0 e^+ X		
18.3	Bartel 87B	mass

e^+ e^-

X		
(10.52)	Kreinick 89	
	Miller 89	
neutral		
(55 – 60.8)	Odaka 89	cs
mult[charged]		
(29)	Sugano 86	mult
ρ^0		
?	Dolinsky 89	
	Dolinsky 89B	
	Dolinsky 88B	
	Kurdadze 88	
	Vasserman 88	
	Aulchenko 87C	
	Vasserman 87B	
	Aulchenko 86B	
	Aulchenko 86C	
	Barkov 85	
ω		
?	Barkov 89	
	Dolinsky 89	
	Dolinsky 89B	
	Dolinsky 88	cs
	Dolinsky 88B	
	Kurdadze 88	
	Vasserman 88	
	Aulchenko 87	
	Aulchenko 87C	
	Barkov 87	
	Barkov 87C	cs
	Aulchenko 86B	
	Aulchenko 86C	
	Barkov 85	
η'		
?	Dolinsky 89B	
	Vorobiev 88C	
	Aulchenko 87C	
	Aulchenko 86C	
$f_0(975)$		
?	Dolinsky 89B	
	Vorobiev 88C	
	Aulchenko 87C	
$a_0(980)^0$		
?	Dolinsky 89B	
	Vorobiev 88C	
	Aulchenko 87C	
ϕ		
?	Barkov 89	
	Dolinsky 89	
	Dolinsky 89B	
	Barkov 88	cs
	Dolinsky 88	cs
	Druzhinin 88	
	Aulchenko 87C	
	Barkov 87B	
	Aulchenko 86B	–
	Aulchenko 86C	
	Golubev 86	
	Vasserman 86	
	Barkov 85B	
$\rho(1450)^0$		
?	Dolinsky 89B	–
	Barkov 85	
$f_2(1270)$		
?	Dolinsky 89B	–
	Vorobiev 88C	–
	Aulchenko 87C	–
$a_2(1320)^0$		
?	Dolinsky 89B	–
	Vorobiev 88C	–
	Aulchenko 87C	–
$f_0(1400)$		
?	Dolinsky 89B	–
	Vorobiev 88C	–
	Aulchenko 87C	–
$C(1480)$		
1.28 – 1.4	Dolinsky 89B	cs
1603 – 1918	Aulchenko 87B	cs
?	Aulchenko 86C	–
$\rho(1700)^0$		
?	Dolinsky 89B	–
$\eta_c(1S)$		
?	Kolanoski 86	–
$J/\psi(1S)$		
?	Bisello 90	–
	Bisello 89	–
	Coffman 89	–
	Lockman 89	–
	Mallik 89B	–
	Szklarz 89	–
	Adler 88D	–
	Ajaltouni 88	cs
	Ajaltouni 88B	–
	Augustin 88	–
	Augustin 88B	–
	Coffman 88	–
	Falvard 88	cs
	Hitlin 88	–
	Jousset 88	–
	Mir 88	–
	Stanco 88	–
	Toki 88	–
	Toki 88B	–
	Augustin 87	–
	Baltrusaitis 87	–
	Becker 87C	–
	Bisello 87	–
	Henrard 87	–
	Pallin 87	–
	Schindler 87	–
	Baltrusaitis 86B	–
	Baltrusaitis 86C	–
	Bisello 86	–
	Bisello 86B	–
	Konigsmann 86	–
	Stockhausen 86	cs
	Augustin 85	
	Augustin 85B	
	Augustin 85C	–
	Augustin 85D	
	Augustin 85E	–
	Baltrusaitis 85E	–
	Baltrusaitis 85F	
	Gaiser 85	
	Jeanmarie 85	
	Lee 85B	
	Odian 85	
	Richman 85	
	Rosner 85E	
	Toki 85B	

$e^+ e^-$

Z^0		
	Akrawy 89C	-
	Akrawy 89D	
	Akrawy 89E	-
	Burchat 89	cs
	Decamp 89	cs
	Decamp 89B	cs
	Decamp 89C	-
	Decamp 89D	-
	Decamp 89E	-
	Decamp 89G	cs
	Decamp 89H	-
	Feldman 89	-
	Feldman 89B	-
	Hearty 89	cs
	Komamiya 89C	-
	Kral 89	-
	Nash 89	-
	Weinstein 89	cs
positronium		
?	Atoyan 89	-
toponium		
(39.79 – 46.78)	Bartel 85M	cs
(40 – 46.7)	Adeva 85	-
Υ(unspec)		
?	Wu 87	-
meson		
(7.2 – 10)	Blinov 85B	-
(39.79 – 46.78)	Bartel 85M	cs
D^*_S + X		
(9.4 – 10.6)	Albrecht 87N	cs
axion		
0.0012 – 0.0013		
	Tsertos 88	cs
	Tsertos 88B	cs
monopole		
(57)	Shirai 88	cs
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)	Marshall 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	cs, p, pt
(34)	Hofmann 87B	p
	Althoff 85B	p, pt
(52)	Miyamoto 87	mult, p
	Sakai 87	mult, p
(52 – 57)	Li 89B	p, pt
(91.1)	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

$e^+ e^-$

mult[charged] (neutrals)		
	Derrick 86	col, mult, p
	Derrick 86C	mult, p
	Feldman 85	cor, p
	Gan 85	p
(29 – 35)	Buschbeck 89	mult, p
(29 – 40)	Gittelman 87	-
(35 – 46)	Braunschweig 89C	col, const, mass, mult, p
(40 – 46.7)	Adeva 85	-
(50 – 60.4)	Zheng 90	cs, mult
(91.1)	Abrams 89E	cs, mult
charged$^+$ charged$^-$		
978.5 – 1918	Bondar 84	cs
γ X		
(5 – 31.6)	Marshall 89	p
(9.46)	Irion 85	-
	Komamiya 85	
(10.02)	Irion 85	
	Rosner 85E	
	Albrecht 86	p
(12 – 34)	Naroska 87	p
(14 – 22.5)	Bartel 85	cs, mult, p
(29)	Hearty 87	cs
	Bartha 86	cs
	Hollebeek 86	-
	Wu 86	-
	Hollebeek 85	-
	Aihara 84F	cs, p
	Fernandez 84C	-
(29 – 35)	Marshall 89	mult
(29 – 65)	Whitaker 86	cs
(34)	Naroska 87	mult
(35)	Behrend 89B	mult, p
(39.5)	Adeva 87	pt
(42.6)	Behrend 86D	cs
(52 – 60.8)	Ogawa 89	p
$e^\pm$ 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	-
(29 – 35)	Marshall 89	mult
(34.6 – 44)	Goldhaber 85C	-
(35)	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^+ X		
(10.3 – 10.5)	Bowcock 88	p
(29)	Brom 87	-
	Ong 87	p, pt
(29 – 34)	Goldhaber 85C	-
(32 – 46.78)	Bartel 85C	mass, pt
?	Abachi 89	cs
e^- X		
(10.3 – 10.5)	Bowcock 88	p
(29)	Brom 87	-
	Fernandez 87C	p
	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
	Ong 88B	p, pt
	Wu 86	-
	Aihara 85E	p, pt
	Naroska 85	
(29 – 35)	Marshall 89	mult
(34.6)	Naroska 87	pt
(35)	Bartel 86	
(38.3 – 46.3)	Behrend 87B	col

$e^+ e^-$

$\mu^\pm$ X		
(44)	Adeva 87	pt
(50 – 55)	Abe 88B	col, cs
(50 – 56)	Ko 88	col
(55 – 56)	Sumiyoshi 88	col
(56 – 57)	Abe 88F	ang
(56.5 – 60.8)	Adachi 89E	col
μ^+ X		
(14 – 46.8)	Adeva 86B	cs
(29)	Band 89	asym, p, pt
	Band 88	p, pt
	Ong 87	p, pt
(33 – 37.5)	Bartel 87C	p, pt
μ^- X		
(14 – 46.8)	Adeva 86B	cs
(29)	Band 89	asym, p, pt
	Band 88	p, pt
	Ong 87	p, pt
(33 – 37.5)	Bartel 87C	p, pt
(34.6 – 44)	Goldhaber 85C	-
(39.79 – 46.78)	Bartel 85M	cs
π^0 X		
(5 – 31.6)	Marshall 89	p
(9.4 – 10.49)	Behrends 85	p
(10)	Albrecht 89G	cs, mult, p
(10 – 15)	Mattig 89	cs, p
(12 – 34)	Naroska 87	p
(14 – 22.5)	Bartel 85	p
(29)	Hofmann 87B	mult
	Aihara 84F	cs, p
(29 – 35)	Marshall 89	mult
(34)	Naroska 87	mult
(34.6)	Braunschweig 86	angp, p
(35)	Behrend 89B	mult, p
(35 – 44)	Pitzl 89	mult, p
(44)	Braunschweig 89B	mult, p
	Barlow 87	-
$\pi^\pm$ X		
(5 – 31.6)	Marshall 89	p
(29)	Avery 89	cor
	Aihara 88C	cs, mult, p
	Hofmann 87B	mult
	Madaras 86	-
	Hofmann 85	-
(29 – 35)	Marshall 89	mult
(29.9 – 38.7)	Bartel 85	p
(34)	Hofmann 87B	mult, p
(52)	Miyamoto 87	mult, p
π^+ X		
29	Aihara 37B	cs
(9.4 – 10.49)	Behrends 85	p
(10 – 45)	Mattig 89	cs, p
(29)	Rouse 87	p, p
π^- X		
29	Aihara 87B	cs
(9.4 – 10.49)	Behrends 85	p
(10 – 45)	Mattig 89	cs, p
(29)	Rouse 87	p, p
π^+ X + π^- X		
(29)	Aihara 88F	p, pt
	Cowan 88	cs, p
	Derrick 87	cs
(34 – 44)	Braunschweig 89B	mult, p
η X		
(10)	Albrecht 89G	cs, mult, p
(10 – 45)	Mattig 89	cs, p
(12 – 34)	Naroska 87	p
(29)	Abachi 88B	p
	Hofmann 87B	mult
(29 – 35)	Marshall 89	mult
(29.9 – 38.7)	Bartel 85	p
(34)	Naroska 87	mult
(35)	Behrend 89B	mult, p
	Pitzl 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.

$e^+ e^-$

D_S^+ X

	Jung 86	
	Derrick 85C	angp. cs
(35 – 44)	Braunschweig 87B	cs
(44)	Barlow 87	
?	Schindler 87	-
	Derrick 85C	-

$D^*(2010)^0$ X

(10.52 – 10.58)	Bortoletto 88	cs, p
(29)	Abachi 88	-
	Low 87	cs, p
	Bartel 85G	cs, p
?	Schindler 87	-

$\overline{D}^*(2010)^0$ X

(10.52 – 10.58)	Bortoletto 88	cs, p
(29)	Abachi 88	-
	Low 87	cs, p
	Bartel 85G	cs, p
?	Schindler 87	-

$D^*(2010)^0$ X + $D^*(2010)^0$ X

(34)	Naroska 87	cs, p

$D^*(2010)^0$ X + $\overline{D}^*(2010)^0$ X

(29 – 35)	Marshall 89	mult

$D^*(2010)^+$ X

(9.4 – 10.6)	Albrecht 88J	-
	Albrecht 85	p
(9.5 – 10.5)	Albrecht 89R	-
(10.1 – 10.4)	Albrecht 87F	-
(10.3 – 10.5)	Bowcock 88	cs
(10.38 – 10.58)	Csorna 85	p
(10.52 – 10.58)	Bortoletto 88	cs, p
(28 – 46.8)	Braunschweig 89G	asym, cs, p
(29)	Abachi 89C	cs
	Averill 89	-
	Abachi 88	-
	Baringer 88	angp, cs, p, pt
	Abachi 87C	p
	Wagner 87	-
	Abachi 86B	-
	Aihara 86E	angp, p
	Gladney 86B	-
	Yamamoto 85	cs, p
	Yamamoto 85B	-
	Yamamoto 85C	cs, p
(44)	Barlow 87	cs
?	Schindler 87	-
	Augustin 85E	-

$D^*(2010)^-$ X

(9.4 – 10.6)	Albrecht 88J	-
	Albrecht 85	p
(10.1 – 10.4)	Albrecht 87F	-
(10.3 – 10.5)	Bowcock 88	cs
(10.38 – 10.58)	Csorna 85	p
(10.52 – 10.58)	Bortoletto 88	cs, p
(28 – 46.8)	Braunschweig 89G	asym, cs, p
(29)	Averill 89	-
	Abachi 88	-
	Baringer 88	angp, cs, p, pt
	Abachi 87C	p
	Wagner 87	-
	Aihara 86E	angp, p
	Yamamoto 85	cs, p
	Yamamoto 85B	-
	Yamamoto 85C	cs, p
(44)	Barlow 87	cs
?	Schindler 87	-

$D^*(2010)^+$ X + $D^*(2010)^-$ X

(29)	Marshall 85	p
	Yamamoto 85E	cs, p, pt
(34)	Naroska 87	angp, cs, p
	Yamamoto 85E	cs, p, pt
(42.2)	Althoff 86C	-
?	Rosner 85E	-

$e^+ e^-$

D_S^{*+} X

(9.4 – 10.6)	Albrecht 85B	
(29)	Bartel 85G	p
?	Schindler 87	

D_S^{*-} X

(9.4 – 10.6)	Albrecht 85B	
(29)	Bartel 85G	p
?	Schindler 87	

D_S^{*+} X + D_S^{*-} X

(34)	Naroska 87	cs

$D_S^*(2547)^+$ X

?	Schindler 87	-

$D_S^*(2547)^-$ X

?	Schindler 87	

$D^*(2150)^0$ X

?	Schindler 87	

$\overline{D}^*(2150)^0$ X

?	Schindler 87	-

$D^*(2300)^0$ X

?	Schindler 87	-

$D_1(2420)^+$ X

?	Schindler 87	

$D_1(2420)^-$ X

?	Schindler 87	

$D_1(2420)^0$ X

?	Schindler 87	

$\overline{D}_1(2420)^0$ X

?	Schindler 87	-

$D_1(2420)^0$ X + $\overline{D}_1(2420)^0$ X

(10)	Albrecht 86B	p

$D_2^*(2460)^+$ X

?	Albrecht 89X	-

$D_2^*(2460)^-$ X

?	Albrecht 89X	-

$D_2^*(2460)^0$ X

(10)	Albrecht 89V	angp. mass, p

K^+ X

29	Aihara 87B	cs
(9.4 – 10.49)	Behrends 85	p
(10 – 45)	Mattig 89	cs, p
(29)	Rouse 87	p, p

K^- X

29	Aihara 87B	cs
(9.4 – 10.49)	Behrends 85	p
(10 – 45)	Mattig 89	cs, p
(29)	Rouse 87	p, p

K^+ X + K^- X

(29)	Aihara 88F	p, pt
	Cowan 88	cs, p
	Derrick 87	cs
	Schellman 85	angp
(34 – 44)	Braunschweig 89B	mult, p

K^0 X

(9.4 – 10.49)	Behrends 85	p
(10 – 45)	Mattig 89	cs, p
(29)	Hofmann 87B	mult

$\overline{K}^0$ X

(9.4 – 10.49)	Behrends 85	p
(10 – 45)	Mattig 89	cs, p

K^0 X + $\overline{K}^0$ X

(5 – 31.6)	Marshall 89	p
(9.46)	Mestayer 85	
(29)	Derrick 87	cs
(29 – 35)	Marshall 89	mult

$K^*(892)^+$ X

(9.4 – 10.49)	Behrends 85	p
(10)	Behrend 89F	p
(10 – 45)	Mattig 89	cs, p
(29)	Abachi 87B	mult, p

$e^+ e^-$

$K^*(892)^-$ X

(9.4 – 10.49)	Behrends 85	p
(10)	Behrend 89F	p
(10 – 45)	Mattig 89	cs, p
(29)	Abachi 87B	mult, p

$K^*(892)^0$ X

(9.4 – 10.49)	Behrends 85	p
(10 – 45)	Mattig 89	cs, p
(29)	Abachi 89D	cs, p
	Edherg 88	mult, p
	Hofmann 87B	mult
	Derrick 85F	p

$\overline{K}^*(892)^0$ X

(9.4 – 10.49)	Behrends 85	p
(29)	Abachi 89D	cs, p
	Derrick 85F	p

$K^*(892)^+$ X + $K^*(892)^-$ X

(12 – 34)	Naroska 87	p
(34)	Naroska 87	mult

$K^*(892)^0$ X + $\overline{K}^*(892)^0$ X

(29)	Aihara 85	mult, p, pt
(29 – 35)	Marshall 89	mult

$K_2^*(1430)^+$ X

(29)	Abachi 87B	mult

$K_2^*(1430)^-$ X

(29)	Abachi 87B	mult

$\overline{K}_2^*(1430)^0$ X

(10 – 45)	Mattig 89	cs, p
(29)	Abachi 86C	p

higgsino X

(50 – 57)	Kamae 88	col, cs

$\tilde{\mu}^+$ X

(50 – 57)	Kamae 88	col, cs

$\tilde{\mu}^-$ X

(50 – 57)	Kamae 88	col, cs

$K^\pm$ X

(5 – 31.6)	Marshall 89	p
(19 – 34)	Yamamoto 85E	cs, p, pt
(29)	Aihara 88C	cs, mult, p
	Hofmann 87B	mult
	Madaras 86	-
	Hofmann 85	-
	Yamamoto 85E	cs, p, pt
(29 – 35)	Marshall 89	mult
(34)	Hofmann 87B	mult, p

kaon X

(52)	Miyamoto 87	mult, p

K_S X

(10)	Behrend 89F	p
(12 – 34)	Naroska 87	p
(14 – 33)	Althoff 85B	cs, mult, p, pt
(29)	Abachi 89C	cs, p
	Madaras 86	-
	Aihara 85	mult, p, pt
	Schellman 85	angp
(34)	Naroska 87	mult
(44)	Barlow 87	-
(52)	Miyamoto 87	p, pt

$K^*(892)^\pm$ X

(29 – 35)	Marshall 89	mult

B^* X

?	Schindler 87	-

$D_S^\pm$ X

(4.14)	Adler 89E	-
	Toki 89B	-
(29)	Wormser 87	cs, cs

$D^*(2010)^\pm$ X

(29)	Naroska 85	-
(29 – 35)	Marshall 89	mult
(35)	Ouldsaada 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.

$e^+ e^-$

p X		
29	Aihara 87B	cs
(9.4 – 10.49)	Behrends 85	p
(10 – 45)	Mattig 89	cs, p
(29)	Rouse 87	p, p
	Madaras 86	
$\bar{p}$ X		
29	Aihara 87B	cs
(9.4 – 10.49)	Behrends 85	p
(29)	Rouse 87	p, p
	Madaras 86	
(29 – 35)	Marshall 89	mult
p X + $\bar{p}$ X		
(5 – 31.6)	Marshall 89	p
(9.46)	Mestayer 85	
(29)	Aihara 88C	cs, mult, p
	Aihara 88F	p, pt
	Cowan 88	cs, p
	Derrick 87	cs
(29 – 35)	Marshall 89	mult
(34 – 44)	Braunschweig 89B	mult, p
$\Delta(1232\,P_{33})^{++}$ X		
(10)	Albrecht 89I	cs
(10 – 45)	Mattig 89	cs, p
(29)	Hofmann 87B	mult
$\overline{\Delta}(1232\,P_{33})^{--}$ X		
(10)	Albrecht 89I	cs
Λ_c^+ X		
(4.5 – 6.8)	Klein 89C	cs
(9.46)	Mestayer 85	
(9.46 – 10.6)	Klein 89C	cs, p
	Albrecht 88D	cs, p
(10.5 – 10.85)	Bowcock 85	cs, p
(10.52 – 10.58)	Bortoletto 88	cs, p
(29)	Klein 89	cs
	Klein 89C	cs
	Klein 88	cs, p
$\overline{\Lambda}_c^-$ X		
(9.46 – 10.6)	Albrecht 88D	cs, p
(10.5 – 10.85)	Bowcock 85	cs, p
(10.52 – 10.58)	Bortoletto 88	cs, p
(29)	Klein 89	cs
	Klein 88	cs, p
Λ_c^+ X + $\overline{\Lambda}_c^-$ X		
(19 – 34)	Yamamoto 85E	cs, p, pt
$\Sigma_c(2455)^0$ X		
(10)	Klein 89C	p
	Albrecht 88H	p
(10.5)	Bowcock 89	cs
(29)	Klein 89C	cs
	Klein 88	cs
$\overline{\Sigma}_c(2455)^0$ X		
(10)	Albrecht 88H	p
(29)	Klein 88	cs
$\Sigma_c(2455)^{++}$ X		
(10)	Klein 89C	p
	Albrecht 88H	p
(10.5)	Bowcock 89	cs
(29)	Klein 89C	cs
	Klein 88	cs
$\overline{\Sigma}_c(2455)^{--}$ X		
(10)	Albrecht 88H	p
(29)	Klein 88	cs
$\Xi_c(2460)^+$ X		
(10.5 – 10.7)	Alam 89B	
$\Xi_c(2460)^0$ X		
(10.5)	Klein 89C	
	Avery 88	
(10.5 – 10.7)	Alam 89B	
(29)	Klein 89C	
	Klein 88	
$\overline{\Xi}_c(2460)^-$ X		
(10.5 – 10.7)	Alam 89B	

$e^+ e^-$

$\overline{\Xi}_c(2460)^0$ X		
(10.5)	Avery 88	
(10.5 – 10 7)	Alam 89B	
Λ X		
(9.4 – 10.49)	Behrends 85	p
(10)	Behrend 89F	p
	Albrecht 86G	cs
(10 – 45)	Mattig 89	cs, p
(19 – 34)	Yamamoto 85E	cs, p, pt
(29)	Hofmann 87B	mult
	Abachi 86D	angp, p
	Baringer 86	mult, p
	Madaras 86	
	Delavaissier 85	cs, p, pt
	Yamamoto 85E	cs, p, pt
(34.8 – 42.1)	Braunschweig 89I	col, cs, p, pt
(44)	Barlow 87	
$\overline{\Lambda}$ X		
(9.4 – 10.49)	Behrends 85	p
(29)	Delavaissier 85	cs, p, pt
(29 – 35)	Marshall 89	mult
(44)	Barlow 87	
Λ X + $\overline{\Lambda}$ X		
(9.46)	Mestayer 85	
(10)	Albrecht 88I	cs, p
(12 – 34)	Naroska 87	p
(14 – 33)	Althoff 85B	col, cs, mult, p, pol, pt
(29)	Derrick 87	cs
	Baden 86	angp, cs, p, pt
	Aihara 85B	mult, p
(29 – 35)	Marshall 89	mult
(34)	Naroska 87	mult
Σ^+ X + Σ^- X		
(29 – 35)	Marshall 89	mult
Σ X		
(29)	Hofmann 87B	mult
Σ^0 X		
(10 – 45)	Mattig 89	cs, p
Σ^0 X + $\overline{\Sigma}^0$ X		
(10)	Albrecht 88I	cs, mass
$\Sigma(1385\,P_{13})^+$ X		
38.4 – 42.1	Braunschweig 89I	cs
(10)	Albrecht 86G	cs
(10 – 45)	Mattig 89	cs, p
(29)	Abachi 87D	cs, p
$\Sigma(1385\,P_{13})^+$ X + $\overline{\Sigma}(1385\,P_{13})^-$ X		
(10)	Albrecht 88I	cs, mass
$\Sigma(1385\,P_{13})^-$ X		
38.4 – 42.1	Braunschweig 89I	cs
(10)	Albrecht 86G	cs
(29)	Abachi 87D	cs, p
$\Sigma(1385\,P_{13})^-$ X + $\overline{\Sigma}(1385\,P_{13})^+$ X		
(10)	Albrecht 88I	cs, mass
$\Lambda(1520\,D_{03})$ X		
(9.4 – 10.6)	Albrecht 88Q	cs
Ξ^- X		
(9.4 – 10.49)	Behrends 85	p
(10)	Albrecht 86G	cs
(29)	Klein 88	cs, p
	Abachi 87D	cs, p
	Klein 87	cs, p
(34.8 – 42.1)	Braunschweig 89I	cs, p, pt
$\overline{\Xi}^+$ X		
(9.4 – 10.49)	Behrends 85	p
(29)	Klein 88	cs, p
	Klein 87	cs, p
Ξ^- X + $\overline{\Xi}^+$ X		
(9.46)	Mestayer 85	
(10)	Albrecht 88I	cs, mass, p

$e^+ e^-$

Ξ^- X + $\overline{\Xi}^+$ X		
(12 – 34)	Naroska 87	p
(29 – 35)	Marshall 89	mult
(34)	Naroska 87	mult
$\Xi(1530\,P_{13})^0$ X		
(10)	Albrecht 86G	cs
(10 – 45)	Mattig 89	cs, p
(29)	Klein 88	cs
	Klein 87	cs
$\Xi(1530\,P_{13})^0$ X + $\overline{\Xi}(1530\,P_{13})^0$ X		
(10)	Albrecht 88I	cs, mass
Ξ X		
(10 – 45)	Mattig 89	cs, p
Ω^- X		
(10)	Albrecht 86G	cs
(10 – 45)	Mattig 89	cs, p
(29)	Klein 88	cs, pt
	Hofmann 87B	mult
$\overline{\Omega}^+$ X		
(29)	Klein 88	cs, pt
Ω^- X + $\overline{\Omega}^+$ X		
(10)	Albrecht 88I	cs, mass
(29 – 35)	Marshall 89	mult
deuteron X		
(10 – 45)	Mattig 89	cs, p
$\overline{\text{deuteron}}$ X		
(9.4 – 10.6)	Albrecht 85E	p
(10)	Albrecht 89O	p
$p^\pm$ X		
(29)	Hofmann 85	–
charm X		
(29)	Ong 88	cs, p
	Ong 88B	–
	Ong 87	–
	Klem 86	–
	Forden 85B	–
c X		
(29)	Rowson 85	–
(33 – 37.5)	Bartel 87C	p
$\bar{c}$ X		
(33 – 37.5)	Bartel 87C	p
b X		
(29)	Rowson 85	–
(33 – 37.5)	Bartel 87C	p
(35 – 46)	Braunschweig 89C	col, const, mass, mult, p
$\bar{b}$ X		
(33 – 37.5)	Bartel 87C	p
(35 – 46)	Braunschweig 89C	col, const, mass, mult, p
bottom X		
(29)	Ong 89	–
	Ong 88	cs, p
	Ong 88B	–
	Ash 87B	–
	Camporesi 87	–
	Ong 87	–
	Klem 86	–
(29 – 37.5)	Piccolo 89	–
(35 – 46)	Braunschweig 89C	col, const, mass, mult, p
(50 – 57)	Kichimi 88	cs
$\overline{\text{bottom}}$ X		
(29)	Ong 89	–
	Ong 88B	–
	Ash 87B	–
	Ong 87	–
	Klem 86	–
(29 – 37.5)	Piccolo 89	–
(35 – 46)	Braunschweig 89C	col, const, mass, mult, p
charged-hadron X		
(9.4 – 10.5)	Albrecht 89W	angp, p
(29)	Derrick 85D	p
(50 – 57)	Yamauchi 88	mult, p, pt

$e^+ e^-$

charged-hadron X		
(52 – 57)	Li 89B	p, pt
(91.1)	Abrams 89E	p, pt
$\overline{\text{charm}}$ X		
(29)	*Ong 88B*	-
	Ong 87	-
	Klem 86	
	Forden 85B	-
hadron X		
(10 – 45)	Mattig 89	cs, p
(34 – 44)	Braunschweig 89B	p
(< 60)	*Salvini 88*	angp, cs, p, pt
hadron$^+$ X		
(34.6)	Berger 85F	-
hadron$^-$ X		
(34.6)	Berger 85F	-
higgs X		
(30 – 46.78)	Bartel 86D	-
(40 – 46.7)	Adeva 85	-
jet X		
(10 – 45)	Mattig 89	angp, p
(14 – 44)	Genser 89	col, p, pt
(29)	Derrick 86C	-
	Ash 85D	mass, pt
	Derrick 85G	mult, p
(34.8 – 43.6)	Ouldsaada 88B	ang, angp, p
(35 – 46)	Braunschweig 89C	col, const, mass, mult, p
(50 – 57)	Mcneil 88	cs
(50 – 60.8)	Sakai 90	angp, col, p
(< 60)	Salvini 88	angp, cs, p, pt
monopole X		
(50 – 52)	Kinoshita 88B	cs
(50 – 56)	Kinoshita 88C	cs
(50 – 57)	Kichimi 88	cs
(50 – 60.8)	Kinoshita 89B	cs
mult[hadron] X		
(19 – 34)	Yamamoto 85E	cs, p, pt
(29)	Yamamoto 85E	cs, p, pt
(46.8)	Behrend 87	-
(56)	Kim 88	col
	Kim 88D	angp, col, p, pt
mult[jet] X		
(19 – 34)	Yamamoto 85E	cs, p, pt
(19.7)	Yamamoto 85E	mass, p, pt
(29)	Abachi 89C	col, mult
(46.8)	Behrend 87	-
(52)	Adachi 88B	angp, p
(54 – 61.4)	Abe 90C	const, mult
(56)	Maki 88	cs
photino X		
(46.8)	Behrend 87	-
(50 – 57)	Kamae 88	col, cs
q X		
(10)	Albrecht 85F	cs
(10.5)	Bowcock 89B	-
$\bar{q}$ X		
(10.5)	Bowcock 89B	-
$\tilde{\ell}$ X		
(40 – 46.7)	Adeva 85	-
top X		
(40 – 46.7)	Adeva 85	-
(50 – 57)	Kichimi 88	cs
$\overline{\text{top}}$ X		
(40 – 46.7)	Adeva 85	-
t X		
(39.79 – 46.78)	Bartel 85M	cs

$e^+ e^-$

X $\tilde{q}$		
(40 – 46.7)	Adeva 85	
(50 – 57)	Kamae 88	col, cs
	Kichimi 88	cs
$\tilde{e}^-$ X		
(50 – 57)	Kamae 88	col, cs
$\tilde{e}^+$ X		
(50 – 57)	*Kamae 88*	*col, cs*
γ neutral		
0	Atoyan 90	cs
	Gninenko 89	cs
(9.46)	*Mageras 86*	cs, mass
monopole neutral		
(10.6)	*Gentile 87*	*cs*
neutral jet		
(27 – 37)	Bartel 85E	angp, cs, pt
(40 – 46.78)	Behrend 85	cs
$\nu \bar{\nu}$		
(29)	Akerlof 88	cs
	Wendt 87	cs
(89.2 – 93)	Jung 89	cs
2γ		
0	Ivanov 87	p
0.0002 – 0.0007	Minowa 89	mass
< 0.0004	Kozhuharov 88	cs
0.0019 – 0.0027	Connell 88	mass
50 – 57	Kim 89B	angp, mass
(< 2.4)	Salvini 88	
(10 – 45)	Naroska 87	angp, cs
(14 – 34.6)	Marshall 89	angp
(29)	Fernandez 87B	angp, cs, mass
	Derrick 86D	angp, p
	Gold 86	col
	Derrick 85E	angp
(34 – 44)	Behrend 86	angp
(39.79 – 46.72)	Althoff 85	angp, cs
(44.2)	Kiesling 85	-
(50 – 52)	Miyamoto 87	angp
	Sakai 87	
(50 – 56)	Maki 88B	angp, cs
	Rosenfeld 88	angp
	Shirai 88	angp, asym, cs
(50 – 60.8)	Kim 89E	cs
(50 – 61.4)	Kim 89F	angp, cs
(52)	Adachi 88	angp
	Abe 87	angp, cs
	Amako 87	angp, cs
	Sakai 87	angp
(52 – 56)	Kim 88C	angp, cs
	Tauchi 88	angp
(52 – 60.8)	Adachi 89D	cs
	Ogawa 89	angp, cs
(55 – 56)	Sumiyoshi 88	angp
(55 – 57)	Abe 89F	angp, cs
	Unno 88	angp
(56)	Maki 88	cs
(56 – 60.8)	*Nozaki 89*	angp, const, cs
$e^- e^+$		
< 0.0004	Kozhuharov 88	cs
0.001 – 0.0017	Tsertos 89B	cs
0.0012 – 0.0013	Tsertos 88	cs
	Tsertos 88B	cs
0.0011 – 0.0029	Wimmersperg 87	cs
0.0015 – 0.002	Mills 87	cs
0.002 – 0.0029	Lorenz 88	cs, p
0.0022 – 0.0024	Tsertos 89	cs
< 0.0056	Klinken 88	cs
50 – 57	Kim 89B	angp, mass
244.6 – 1918	Vorobiev 88C	cs
1654	Vasserman 87C	angp
(< 2.4)	Salvini 88	
(10 – 45)	Naroska 87	angp, cs
(12 – 46.8)	Braunschweig 88B	angp

$e^+ e^-$

$e^- e^+$		
(14 – 34.6)	Marshall 89	angp
(14 – 44)	Ouldsaada 88B	angp
(29)	Fernandez 87	angp, asym
	Derrick 86B	angp
	Derrick 86D	angp, p
	Derrick 85E	angp
(29 – 43.6)	*Saxon 86*	angp, asym, const, cs
(34.4)	Klein 84B	angp
(34.57 – 43.71)	Bartel 85K	angp
(34.6)	*Berger 85E*	angp, asym, p
(35)	Behrend 89I	-
(39.79 – 46.72)	Althoff 85	cs
(40 – 46.7)	Adeva 85	-
(43.6)	Kiesling 85	-
(43.7)	Marshall 85	angp, asym, const, cs
(50 – 52)	Miyamoto 87	angp
	Sakai 87	-
(50 – 56)	Maki 88B	angp, cs
	Rosenfeld 88	angp
	Shirai 88	angp, asym, cs
(52)	Adachi 88	angp
	Abe 87	angp, cs
	Amako 87	angp, cs
(52 – 56)	Kim 88C	angp, cs
	Tauchi 88	angp
(52 – 57)	Metcalf 89	angp
(52 – 60.8)	*Ogawa 89*	angp, cs
(55 – 56)	Sumiyoshi 88	angp
(55 – 57)	Unno 88	angp
(56 – 60.8)	Nozaki 89	angp, asym, const
(57)	Mori 89B	angp
?	Komamiya 85	-
$\pi^0 \gamma$		
244.6 – 1079	Dolinsky 89	p
978.5 – 1079	Landsberg 86	-
(< 2.4)	Salvini 88	-
?	Dolinsky 89B	mass
$\mu^- \mu^+$		
50 – 57	Kim 89B	angp, mass
126.8 – 1918	Barkov 85	angp, cs, mass, pwa
(0.9 – 38)	Klein 84B	angp
978.5 – 1918	Bondar 84	cs
(1.4 – 2.2)	Luca 85	cs
(3.87 – 4.5)	Osterheld 86	cs, cs, mult
(5 – 7.4)	Edwards 89	cs
(7 – 42)	Bigi 84	angp, asym, cs
(9.4 – 10.5)	Kaarsberg 89	cs
(10 – 44.72)	Marshall 89	angp, cs
(10 – 44.8)	Saxon 86	angp, asym, const, cs
(10 – 45)	Naroska 87	angp, cs
(10.5 – 11.2)	Besson 85	col, cs, mult
(12 – 46)	Bartel 84G	angp, *asym*, *const*, *cs*
(12 – 48.6)	Marshall 85	angp, asym, const, cs
(13.86 – 44.77)	Bartel 85K	asym
(13.87 – 46)	Bartel 85K	cs
(14 – 44.6)	Adeva 85B	angp, asym, cs
(14 – 46.1)	Adeva 88	angp, asym, cs
(29)	Ash 85C	angp, asym
	Derrick 85	angp, cs
	Fernandez 85B	cs
(29 – 43.9)	Naroska 85	-
(29 – 44)	Barlow 87	angp
(29 – 44.1)	Wu 87	asym
(34.2 – 43.8)	Kiesling 85	-
(34.2 – 46.1)	Ouldsaada 88B	angp
(34.38 – 44.77)	Bartel 8[illegible]	angp
(34.6)	Berger [illegible]	angp, asym, p
(35)	Hegn[illegible] 89	angp, const

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$e^+ e^-$

$\mu^- \mu^+$		
	Braunschweig 88E	angp, asym
(35 – 56)	Kamae 88	angp, asym, cs
(38.3 – 46.8)	Behrend 87E	angp, asym, cs
(39.79 – 46.72)	Althoff 85	angp, cs
(40 – 46.7)	Adeva 85	–
(44)	Genser 89	cs
(50 – 52)	Miyamoto 87	angp, asym, cs
(50 – 55)	Unno 88	angp
(50 – 56)	Ko 88	angp, asym
	Maki 88B	angp, cs
	Rosenfeld 88	angp, asym
	Shirai 88	angp, asym, cs
(50 – 57)	Eno 89	col, const, cs
	Metcalf 89	cs
	Mcneil 88	angp, asym, const
	Sakuda 88	cs
(50 – 60.8)	Abe 89P	ang, asym, cs
	Kim 89E	cs
(50 - 61.4)	Kumita 89B	cs
	Maki 89	asym, const, cs
(52)	Adachi 87	angp, cs
(52 – 55)	Adachi 88D	angp, asym, const, cs
(52 – 56)	Bacala 88	angp, asym, cs
	Kim 88B	angp, asym
(52 – 57)	Metcalf 89	angp
	Bacala 88B	angp, asym, cs
(52 – 60.8)	Ogawa 89	angp, cs
(54 – 61.4)	Abe 90	cs
(54.4)	Tauchi 88	angp
(54.5)	Olsen 88	angp, const
(55 – 56)	Sumiyoshi 88	angp, asym, cs
(56 – 60.8)	Nozaki 89	angp, asym, const
(58.5 – 61.4)	Kumita 89	col, cs
(< 60)	Salvini 88	angp, cs
?	Sakai 87	–
	Klein 84B	angp
$2\pi^0$		
1058 – 1918	Aulchenko 86C	mass
?	Dolinsky 89B	–
$\pi^+ \pi^-$		
126.8 – 1918	Barkov 85	angp, cs, mass, pwa
978.5 – 1079	Dolinsky 89	cs
	Druzhinin 85	cs
	Golubev 86	cs
(1.35 – 2.4)	Bisello 89B	cs
(1.4 – 2.2)	Luca 85	cs
(1.5 – 2.2)	Castro 88	cs
(3.1)	Baltrusaitis 85E	cs
$\eta \gamma$		
244.6 – 1079	Dolinsky 89	p
978.5 – 1079	Landsberg 86	–
$\eta \pi^0$		
1079 – 1918	Aulchenko 86C	cs
?	Dolinsky 89B	-
$\rho^0 \gamma$		
1079 – 1918	Aulchenko 86B	mass
$\omega \pi^0$		
706.9 – 988.3	Aulchenko 87C	cs
846.3 – 1891	Dolinsky 89B	cs
978.5 – 1918	Dolinsky 86	cs
	Landsberg 85	cs
1079 – 1918	Aulchenko 86C	cs
	Dolinsky 85	cs
$\eta' \gamma$		
978.5 – 1079	Dolinsky 89	mass
$\phi \pi^0$		
1.28 – 1.4	Dolinsky 89B	cs

$e^+ e^-$

$\phi \pi^0$		
1079 – 1918	Aulchenko 86C	cs
1603 – 1918	Aulchenko 87B	cs
$\eta_c(1S) \gamma$		
(3 – 3.2)	Bisello 88	cs, mass
$\tau^- \tau^+$		
(3.5 – 7.2)	Barish 88	angp, cs
(3.77)	Coffman 87	
(9.3 – 10.6)	Albrecht 87L	–
(9.4 – 10.6)	Janssen 90	cs
	Albrecht 88C	–
	Albrecht 88O	cs
	Albrecht 88P	-
	Albrecht 87C	–
	Albrecht 87I	cs
	Albrecht 87T	–
	Skwarnicki 87B	–
(9.8 – 10.3)	Janssen 89	–
(9.8 – 10.6)	Lowe 86C	–
(10)	Albrecht 86E	–
(10 – 44.72)	Marshall 89	angp, cs
(10 – 44.8)	Saxon 86	angp, asym, const, cs
(10 – 45)	Naroska 87	angp, cs
(10.2)	Keh 88B	–
(10.34 – 11.18)	Csorna 87	–
(10.36 – 10.86)	Bowcock 90	–
(10.5)	Baringer 87	–
	Bebek 87	cs
(10.58)	Heltsley 86	–
(12 – 46.26)	Bartel 85K	cs
(12 – 48.6)	Marshall 85	angp, asym, const, cs
(13.9 – 43.1)	Althoff 84R	–
(14 – 45)	Hayes 89B	–
(14 – 46.1)	Adeva 88	angp, asym, cs
(14 – 46.8)	Behrend 89D	angp, cs
	Adeva 86B	angp, asym
(15 – 45)	Gan 88	asym
(29)	Abachi 89	–
	Abachi 89B	cs
	Stoker 89	cs
	Amidei 88	–
	Abachi 87	–
	Abachi 87E	–
	Abachi 87F	–
	Band 87	cs
	Bylsma 87	–
	Ford 87	–
	Ford 87B	angp, pol
	Ford 87C	–
	Gan 87	cs
	Gan 87B	cs
	Abachi 86	–
	Aihara 86G	–
	Aihara 86I	–
	Burchat 86	–
	Burchat 86B	–
	Klem 86	–
	Ruckstuhl 86	–
	Schmidke 86	cs, p
	Yelton 86	–
	Akerlof 85B	cs
	Ash 85B	-
	Beltrami 85	-
	Fernandez 85C	angp, cs
	Fernandez 85D	–
	Forden 85B	-
	Gan 85	angp, cs
	Koltick 85B	-
	Matteuzzi 85	-
	Mills 85	–
(29 – 34)	Goldhaber 85C	-
(29 – 43.9)	Naroska 85	-
(29 – 44)	Barlow 87	angp
(29 – 44.1)	Wu 87	asym
(30 – 46.78)	Bartel 85L	angp, asym, cs
(34.2 – 43.8)	Ouldsaada 88B	angp
	Kiesling 85	–
(34.57 – 43.05)	Bartel 85K	angp, asym
(34.6)	Bartel 86F	-

$e^+ e^-$

$\tau^- \tau^+$		
	Berger 85F	angp, asym
(35)	Behrend 89H	–
	Hegner 89	angp, const
	Bartel 86	–
(35 – 36.3)	Braunschweig 88D	–
(35 – 42.4)	Braunschweig 89F	angp, cs
(35 – 56)	Kamae 88	angp, asym, cs
(50 – 52)	Miyamoto 87	angp, asym, cs
(50 – 55)	Unno 88	angp
(50 – 56)	Ko 88	angp, asym
	Maki 88B	angp, cs
	Rosenfeld 88	angp, asym
	Shirai 88	angp, asym. cs
(50 – 57)	Mcneil 88	angp, asym, const
	Sakuda 88	cs
(50 – 60.8)	Abe 89P	ang, asym, cs
	Kim 89E	cs
(50 – 61.4)	Maki 89	asym, const, cs
(52)	Adachi 87	angp, cs
	Sakai 87	angp, asym
(52 – 55)	Adachi 88D	angp, asym, const, cs
(52 – 56)	Bacala 88	angp, asym, cs
	Kim 88B	angp, asym
(52 – 57)	Metcalf 89	angp
	Bacala 88B	angp, asym, cs
(52 – 60.8)	Ogawa 89	angp, cs
(54.4)	Tauchi 88	angp
(54.5)	Olsen 88	angp, const
(55 – 56)	Sumiyoshi 88	angp, asym, cs
(56 – 60.8)	Nozaki 89	angp, asym, const
(< 60)	Salvini 88	angp, cs
$\Upsilon(1S) \pi^0$		
(10.2)	Lurz 87	cs, mass
$\Upsilon(1S) \eta$		
(10.2)	Lurz 87	cs, mass
$e^\pm e^{*\pm}$		
(52 – 56)	Kim 88C	–
$e^+ e^{*-}$		
(50 – 56)	Maki 88B	cs
(50 – 57)	Kim 89B	cs
(52 – 60.8)	Adachi 89D	cs
(56)	Abe 88E	cs
	Unno 88	–
(57)	Shirai 88	–
$e^- e^{*+}$		
(50 – 56)	Maki 88B	cs
(50 – 57)	Kim 89B	cs
(52 – 60.8)	Adachi 89D	cs
(56)	Abe 88E	cs
	Unno 88	–
(57)	Shirai 88	–
$e^- e^{*+} + e^+ e^{*-}$		
(33 – 46.8)	Behrend 86	mass
$\mu^\pm \mu^{*\pm}$		
(52 – 56)	Kim 88C	–
$\mu^+ \mu^{*-}$		
(50 – 57)	Kim 89B	cs
(52 – 60.8)	Adachi 89D	cs
(57)	Shirai 88	–
$\mu^- \mu^{*+}$		
(50 – 57)	Kim 89B	cs
(52 – 60.8)	Adachi 89D	cs
(57)	Shirai 88	–
$\mu^- \mu^{*+} + \mu^+ \mu^{*-}$		
(33 – 46.8)	Behrend 86	mass

$e^+ \ e^-$

$\tau^+ \ \tau^{*-}$		
(30 – 46.78)	Bartel 86D	-
$\tau^- \ \tau^{*+}$		
(30 – 46.78)	Bartel 86D	-
$\tau^- \ \tau^{*+} + \tau^+ \ \tau^{*-}$		
(33 – 46.8)	Behrend 86	mass
$B \ \overline{B}$		
(9.46)	Mestayer 85	-
(29)	Snyder 89	-
B(unspec) $\overline{B}$(unspec)		
(10.57 – 10.59)	Wachs 89	-
(10.76)	Alam 87	-
?	Wu 87	-
	Haas 85	-
heavy-lepton^0 $\overline{\text{heavy-lepton}}^0$		
(29)	Perl 85	cs
(36 – 45)	Gan 88	-
(44.2)	Behrend 88C	mass
(50 – 60.8)	Sakai 89	-
	Shaw 89	-
$\overline{\ell}^0 \ \ell^0$		
?	Wu 87	-
$\overline{q}^* \ q^*$		
(46.8)	Behrend 86C	-
(52 – 60.8)	Ogawa 89	angp, cs
2B(unspec)		
(35 – 44)	Elsen 90	angp
$e^{*-} \ e^{*+}$		
244.6 – 1918	Aulchenko 86	cs
(33 – 46.8)	Behrend 86	mass
(50 – 56)	Maki 88B	cs
(50 – 57)	Kim 89B	cs
(52 – 56)	Kim 88C	-
(52 – 60.8)	Adachi 89D	cs
(56)	Abe 88E	cs
	Unno 88	-
(57)	Shirai 88	-
	Yamauchi 88	cs
2heavy-e		
?	Dolinsky 89B	-
2heavy-lepton		
(56)	Kim 88	-
heavy-lepton$^-$ heavy-lepton$^+$		
(29)	Mathis 88	cs
(36 – 45)	Gan 88	-
(44.2)	Behrend 88C	mass
(50 – 52)	Igarashi 87	-
(50 – 56)	Ko 88	-
	Maki 88B	cs
	Shirai 88	cs
(50 – 60.8)	Kim 89E	cs
(52)	Adachi 88B	angp, p
	Amako 87	cs
	Yoshida 87	cs
(52 – 55)	Yamauchi 88	cs
(52 – 60.8)	Adachi 89B	-
(55 – 56)	Sumiyoshi 88	-
(56)	Abe 88D	cs
	Kim 88D	cs
	Unno 88	-
?	Wu 87	-
2heavy-lepton^0		
(50 – 60.8)	Kim 89E	cs
2ℓ		
(9.45 – 10.57)	Cassel 85	cs
$\ell^+ \ \ell^-$		
(40 – 46.7)	Adeva 85	-
(50 – 60.8)	Sakai 89	-
?	Stoker 89	-
2lepton-colored		
(50 – 60.8)	Kim 89G	cs
$\mu^{*+} \ \mu^{*-}$		
(33 – 46.8)	Behrend 86	mass
(50 – 56)	Maki 88B	cs
(50 – 57)	Kim 89B	cs

$e^+ \ e^-$

$\mu^{*+} \ \mu^{*-}$		
(52 – 56)	Kim 88C	-
(52 – 60.8)	Adachi 89D	cs
(57)	Shirai 88	-
	Yamauchi 88	cs
$\tau^{*+} \ \tau^{*-}$		
(33 – 46.8)	Behrend 86	mass
(52 – 60.8)	Adachi 89D	cs
(57)	Yamauchi 88	cs
2Z'		
(50 – 60.8)	Kim 89E	cs
$B^+ \ B^-$		
(10.58)	Miller 89	
	Schubert 89	cs, p
	Bebek 87B	cs
(29 – 40)	Gittelman 87	-
$B^0 \ \overline{B}^0$		
(10.55)	Franzini 89	cs, p
	Itep 89	cs, p
(10 58)	Miller 89	-
	Schubert 89	cs, p
	Bebek 87B	cs
(29 – 40)	Gittelman 87	
$D^0 \ \overline{D}^0$		
(4.14)	Adler 88C	
?	Schindler 86	
$D^+ \ D^-$		
(4.14)	Adler 88C	-
$D^*(2010)^0 \ \overline{D}^0$		
(4.14)	Adler 88C	-
$\overline{D}^*(2010)^0 \ D^0$		
(4.14)	Adler 88C	-
$D^*(2010)^+ \ D^-$		
(4.14)	Adler 88C	-
$D^*(2010)^- \ D^+$		
(4.14)	Adler 88C	-
$D_S^+ \ D_S^-$		
(4.14)	Wasserbaech 89	-
?	Schindler 89	-
$D^*(2010)^0 \ \overline{D}^*(2010)^0$		
(4.14)	Adler 88C	-
$D^*(2010)^+ \ D^*(2010)^-$		
(4.14)	Adler 88C	
(35)	Ouldsaada 89	angp
?	Wu 87	asym
$D_S^{*+} \ D_S^-$		
(4.14)	Bai 90	cs
	Alder 89	cs
	Browder 89	-
	Blaylock 87	cs
	Wasserbaech 87	cs
	Schindler 86	cs
	Toki 86	cs, cs, cs
$D_S^{*-} \ D_S^+$		
(4.14)	Bai 90	cs
	Alder 89	cs
	Browder 89	-
	Pitman 89	-
	Schindler 88	-
	Blaylock 87	cs
	Stockdale 87	cs
	Wasserbaech 87	cs
	Schindler 86	cs
	Toki 86	cs, cs, cs
$D_S^{*+} \ D_S^- + D_S^{*-} \ D_S^+$		
(4.14)	Adler 89B	cs
higgsino zino		
(46.8)	Behrend 87	
$\tilde{\tau}^- \ \tilde{\tau}^+$		
(45)	Gan 88	
(52 – 55)	Yamauchi 88	cs
(52 – 60.8)	Adnachi 89B	

$e^+ \ e^-$

$\tilde{\tau}^- \ \tilde{\tau}^+$		
?	Adachi 89	-
$K^+ \ K^-$		
(1.35 – 2.4)	Bisello 88B	cs
(1.5 – 2.2)	Castro 88	cs
(3.1)	Baltrusaitis 85E	cs
2higgsino		
(27 – 37)	Bartel 85E	-
(40 – 46.78)	Behrend 85	-
(50 – 60.8)	Sakai 90	cs
$\tilde{\mu}^- \ \tilde{\mu}^+$		
(34.2)	Bartel 85D	cs
(45)	Gan 88	-
(50 – 60.8)	Sakai 90	cs
	Sakai 89	-
(52 – 55)	Yamauchi 88	cs
(52 – 57)	Takahashi 88	-
(52 – 60.8)	Adachi 89B	-
?	Adachi 89	-
$K_S \ K_L$		
978.5 – 1079	Druzhinin 85	cs
(3.1)	Baltrusaitis 85E	cs
?	Dolinsky 89B	cs
	Landsberg 85	cs
2K_S		
(3.1)	Baltrusaitis 85E	cs
2charmed-meson		
(35 – 44)	Elsen 90	angp
$D_S^* \ D_S^\pm$		
(4.14)	Adler 89E	-
	Toki 89B	-
$p \ \overline{p}$		
(1.9 – 2.4)	Castro 88	cs
(3 – 3.2)	Pallin 87	angp
?	Sedlak 88	angp
$n \ \overline{n}$		
(2.4)	Castro 88	cs
$\Lambda \ \overline{\Lambda}$		
(2.4)	Castro 88	cs
(3 – 3.2)	Pallin 87	angp
$\Lambda \ \overline{\Sigma}^0$		
(2.4)	Castro 88	cs
$\Sigma^0 \ \overline{\Sigma}^0$		
(2.4)	Castro 88	cs
(3 – 3.2)	Pallin 87	angp
chargino$^+$ chargino$^-$		
(52 – 57)	Takahashi 88	-
(52 – 60.8)	Adachi 89B	-
?	Adachi 89	-
γ axion		
0	Atoyan 90	cs
	Gninenko 89	cs
1079 – 1918	Aulchenko 86C	cs
(9.46)	Mageras 86	cs, mass
γ higgs		
(50 – 52)	Igarashi 87	-
μ^+ jet		
(14 – 46.8)	Adeva 86B	ang
μ^- jet		
(14 – 46.8)	Adeva 86B	ang
$q^* \ \overline{q}$		
(46.8)	Behrend 86C	-
$\overline{q}^* \ q$		
(46.8)	Behrend 86C	-
wino$^-$ wino$^+$		
(14 – 47)	Bartel 85F	-
2e-color$^\pm$		
(50 – 60.8)	Kim 89E	cs
2lepton-quark		
(50 – 60.8)	Kim 89E	cs
	Kim 89G	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.

$e^+ e^-$

$2\mu^- X$		
(29)	Hurst 89	cs, p
	Schaad 85	cs, p, pt
$\mu^- \mu^+ X + e^- e^+ X$		
(29)	Wu 86	.
$\pi^+ \mu^+ X$		
(29)	Aihara 87C	mult, p, pt
$\pi^- \mu^+ X$		
(29)	Aihara 87C	mult, p, pt
$\pi^+ \mu^- X$		
(29)	Aihara 87C	mult, p, pt
$\pi^- \mu^- X$		
(29)	Aihara 87C	mult, p, pt
$\pi^0 \pi^\pm X$		
(29)	Gan 85B	-
$2\pi^+ X$		
(3.097 – 29)	Juricic 88	ang, p
(29)	Avery 89	cor
(29 – 37)	Althoff 85F	cor, mass
(34)	Althoff 85E	cor, mass
(44)	Barlow 87	-
$2\pi^- X$		
(3.095 – 29)	Juricic 88	ang, p
(29)	Avery 89	cor
(29 – 37)	Althoff 85F	cor, mass
(34)	Althoff 85E	cor, mass
(44)	Barlow 87	-
$\pi^+ \pi^- X$		
(9.46 – 10.49)	Behrends 85	ang
(10)	Behrend 89F	mass
(29)	Abachi 89C	mass
	Abachi 89D	mass, p
	Avery 89	cor
	Edberg 88	mass
	Abachi 86C	mass
	Baden 86	mass
	Derrick 85F	mass, p
(29 – 37)	Althoff 85F	cor, mass
(34)	Althoff 85E	cor, mass
(44)	Barlow 87	-
(52)	Miyamoto 87	mass
$\eta \pi^\pm X$		
(4.14)	Adler 89E	mass
(29)	Wormser 87	cs, mass
$\eta \pi^+ X$		
(4.14)	Stockdale 87	cs, mass
$\rho^0 \gamma X$		
(10)	Albrecht 90	cs, mass
$\eta' \pi^\pm X$		
(4.14)	Adler 89E	mass
(29)	Wormser 87	cs, mass
$\eta' \pi^+ X$		
(10)	Albrecht 90	cs, mass
(29)	Wormser 88B	cs, mass
$\eta' \pi^- X$		
(29)	Wormser 88B	cs, mass
$f_0(975) \pi^\pm X$		
(4.14)	Adler 89E	mass
	Toki 89B	cs, mass
$\phi \pi^+ X$		
(4.14)	Blaylock 87	mass
	Wasserbaech 87	cs, mass
	Toki 86	cs, mass
(9.4 – 10.6)	Albrecht 88J	mass
	Albrecht 85D	ang, mass
(10)	Albrecht 90	cs, mass
	Albrecht 86F	-
(10.5)	Chen 89B	mass
	Haas 86	mass
(29)	Averill 89	mass
	Bartel 85G	mass
	Derrick 85C	mass

$e^+ e^-$

$\phi \pi^- X$		
(4.14)	Blaylock 87	mass
	Wasserbaech 87	cs, mass
	Toki 86	cs, mass
(9.4 – 10.6)	Albrecht 88J	mass
	Albrecht 85D	ang, mass
(10.5)	Chen 89B	mass
(29)	Averill 89	mass
	Bartel 85G	mass
	Derrick 85C	mass
$a_1(1260)^+$ charged X + $a_1(1260)^-$ charged X		
(10)	Albrecht 86E	
$\tau^- \tau^+ X$		
(10 – 60)	Kass 89	.
(30 – 46.7)	Kleinwort 89	cs
(46.8)	Behrend 87	
(50 – 55)	Masuda 88	cs
(56)	Maki 88	asym, p
$B \overline{B} X$		
(29)	Band 89	
$2\ell^+ X$		
(10.55)	Franzini 89	cs, p
	Itep 89	cs, p
(29 – 34.6)	Franzini 89	cs, p
	Itep 89	cs, p
$2\ell^- X$		
(10.55)	Franzini 89	cs, p
	Itep 89	cs, p
(29 – 34.6)	Franzini 89	cs, p
	Itep 89	cs, p
$\ell^+ \ell^- X$		
(10.55)	Franzini 89	cs, p
	Itep 89	cs, p
(29 – 34.6)	Franzini 89	cs, p
	Itep 89	cs, p
$2\tilde{\nu} X$		
(46.8)	Behrend 87	.
$B^0 \overline{B}^0 X$		
(29)	Porter 89	-
	Band 88	-
	Schaad 85	
(29 – 34.6)	Franzini 89	cs, p
	Itep 89	cs, p
$B^0 B_S X$		
(29)	Porter 89	.
$\overline{B}^0 \overline{B}_S X$		
(29)	Porter 89	-
$B_S \overline{B}_S X$		
(29)	Porter 89	
	Schaad 85	-
(29 – 34.6)	Franzini 89	cs, p
	Itep 89	cs, p
$D^0 \gamma X$		
(29)	Low 87	mass
	Bartel 85G	mass
$\overline{D}^0 \gamma X$		
(29)	Low 87	mass
	Bartel 85G	mass
$D_S^- \gamma X$		
(9.4 – 10.6)	Albrecht 87N	mass
	Albrecht 85B	mass
(29)	Bartel 85G	mass
$D_S^+ \gamma X$		
(9.4 – 10.6)	Albrecht 87N	mass
	Albrecht 85B	mass
(29)	Bartel 85G	mass
$D^0 \pi^0 X$		
(29)	Low 87	mass
	Bartel 85G	mass
$\overline{D}^0 \pi^0 X$		
(29)	Low 87	mass
	Bartel 85G	mass

$e^+ e^-$

$D^0 \pi^+ X$		
(9.4 – 10.6)	Albrecht 85	mass
(10)	Albrecht 89V	mass
(10.38 – 10.58)	Csorna 85	mass
(29)	Abachi 89C	cs
	Abachi 88	mass
	Baringer 88	mass
	Wagner 87	mass
	Abachi 86B	mass
	Aihara 86E	mass
	Yamamoto 85	ang, mass
	Yamamoto 85B	ang, mass
	Yamamoto 85C	mass
(42.2)	Althoff 86C	mass
$D^0 \pi^- X$		
(29)	Yamamoto 85	ang, mass
$\overline{D}^0 \pi^+ X$		
(9.4 – 10.6)	Albrecht 85	mass
$\overline{D}^0 \pi^- X$		
(10.38 – 10.58)	Csorna 85	mass
(29)	Abachi 88	mass
	Baringer 88	mass
	Wagner 87	mass
	Aihara 86E	mass
	Yamamoto 85B	ang, mass
	Yamamoto 85C	mass
(42.2)	Althoff 86C	mass
$D^+ \pi^- X$		
(29)	Abachi 88	mass
$D^- \pi^+ X$		
(29)	Abachi 88	mass
$D^*(2010)^- e^+ X$		
(29)	Wagner 89B	pt
$D^*(2010)^+ e^- X$		
(29)	Wagner 89B	pt
$D_S^- \pi^+ X$		
(29)	Wormser 88B	cs, mass
$D_S^+ \pi^- X$		
(29)	Wormser 88B	cs, mass
$D^*(2010)^- \mu^+ X$		
(29)	Wagner 89B	pt
$D^*(2010)^+ \mu^- X$		
(29)	Wagner 89B	pt
$D^*(2010)^+ \pi^+ X$		
(29)	Abachi 88C	mass
$D^*(2010)^+ \pi^- X$		
(10)	Albrecht 89V	mass
?	Augustin 85E	-
$D^*(2010)^+ \pi^- X + D^*(2010)^- \pi^+ X$		
(10)	Albrecht 86B	mass
?	Rosner 85E	-
$K^+ e^+ X$		
(29)	Aihara 87C	mult, p, pt
$K^+ e^- X$		
(29)	Aihara 87C	mult, p, pt
$K^- e^+ X$		
(29)	Aihara 87C	mult, p, pt
$K^- e^- X$		
(29)	Aihara 87C	mult, p, pt
$K^+ \mu^+ X$		
(29)	Aihara 87C	mult, p, pt
$K^+ \mu^- X$		
(29)	Aihara 87C	mult, p, pt
$K^- \mu^+ X$		
(29)	Aihara 87C	mult, p, pt
$K^- \mu^- X$		
(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.

$e^+ e^-$

$K^+ \pi^+ X$		
(29)	Abachi 87C	mass
$K^+ \pi^- X$		
(4.14)	Adler 88C	mass
(9.4 – 10.6)	Albrecht 88J	mass
(10.58)	Csorna 87B	mass
(29)	Abachi 89D	mass, p
	Averill 89	mass
	Baringer 88	mass
	Edberg 88	mass
	Low 87	mass
	Abachi 86C	mass
	Derrick 85B	mass
	Derrick 85F	mass, p
(42.2)	Althoff 86C	mass
$K^- \pi^+ X$		
(4.14)	Adler 88C	mass
(9 4 – 10.6)	Albrecht 88J	mass
(10)	Albrecht 88S	mass
(10.58)	Csorna 87B	mass
(29)	Abachi 89D	mass, p
	Averill 89	mass
	Baringer 88	mass
	Abachi 87C	mass
	Low 87	mass
	Derrick 85B	mass
	Derrick 85F	mass, p
(42.2)	Althoff 86C	mass
$K^+ \pi^- X + K^- \pi^+ X$		
(10.58)	Heltsley 86	-
(29)	Gladney 85	-
?	Rosner 85E	-
$K^*(892)^+ \gamma X$		
(10.6)	Albrecht 88E	mass
$K^*(892)^- \gamma X$		
(10.6)	Albrecht 88E	mass
$K^*(892)^0 \gamma X$		
(10.6)	Albrecht 88E	mass
$\overline{K}^*(892)^0 \gamma X$		
(10.6)	Albrecht 88E	mass
$K^*(892)^- \pi^+ X$		
(10)	Albrecht 86F	-
$K^+ \rho^- X + K^- \rho^+ X$		
?	Rosner 85E	-
$K_1(1400)^+ \gamma X$		
(10.6)	Albrecht 88E	mass
$K_1(1400)^- \gamma X$		
(10.6)	Albrecht 88E	mass
$K_1(1400)^0 \gamma X$		
(10.6)	Albrecht 88E	mass
$\overline{K}_1(1400)^0 \gamma X$		
(10.6)	Albrecht 88E	mass
$K_2^*(1430)^+ \gamma X$		
(10.6)	Albrecht 88E	mass
$K_2^*(1430)^- \gamma X$		
(10.6)	Albrecht 88E	mass
$K_2^*(1430)^0 \gamma X$		
(10.6)	Albrecht 88E	mass
$\overline{K}_2^*(1430)^0 \gamma X$		
(10.6)	Albrecht 88E	mass
$K^0 \phi X + \overline{K}^0 \phi X$		
(10.58)	Bebek 86	mass
$K_3^*(1780)^+ \gamma X$		
(10.6)	Albrecht 88E	mass
$K_3^*(1780)^- \gamma X$		
(10.6)	Albrecht 88E	mass
$K_3^*(1780)^0 \gamma X$		
(10.6)	Albrecht 88E	mass

$e^+ e^-$

$\overline{K}_3^*(1780)^0 \gamma X$		
(10.6)	Albrecht 88E	mass
$K^+ K^- X$		
(9.46 – 10.49)	Behrends 85	ang
(10.45)	Albrecht 88K	mass
(10.57 – 10.58)	Bartoletto 86	mass
(10.58)	Csorna 87B	mass
(29)	Edberg 88	mass
(34)	Althoff 85E	cor, mass
$2K^+ X$		
(34)	Althoff 85E	cor, mass
$2K^- X$		
(34)	Althoff 85E	cor, mass
$K^+ \overline{K}^0 X$		
(4.14)	Bai 90	cs, mass
	Alder 89	cs, mass
(10.5)	Chen 89B	mass
$K^0 K^- X$		
(4.14)	Bai 90	cs, mass
	Alder 89	cs, mass
(10.5)	Chen 89B	mass
$K^*(892)^0 K^- X$		
(4.14)	Bai 90	cs, mass
	Alder 89	cs, mass
	Toki 86	cs, mass
(10.5)	Chen 89B	mass
$\overline{K}^*(892)^0 K^+ X$		
10	Albrecht 85M	mass
(4.14)	Bai 90	cs, mass
	Alder 89	cs, mass
	Toki 86	cs, mass
(10)	Albrecht 86F	
(10.5)	Chen 89B	mass
$K^*(892)^- K^0 X$		
(10.5)	Chen 89B	mass
$K^*(892)^+ \overline{K}^0 X$		
(10.5)	Chen 89B	mass
$K^*(892)^+ \overline{K}^*(892)^0 X$		
(4.14)	Bai 90	cs, mass
	Alder 89	cs, mass
$K^*(892)^0 K^*(892)^- X$		
(4.14)	Bai 90	cs, mass
	Alder 89	cs, mass
$\bar{\mu}^- \bar{\mu}^+ X$		
(46.8)	Behrend 87	-
$K_S \pi^+ X$		
(10)	Behrend 89F	mass
(29)	Abachi 87B	mass
$K_S \pi^- X$		
(10)	Behrend 89F	mass
(29)	Abachi 87B	mass
$K_S \phi X$		
(9.4 – 10.6)	Albrecht 87E	ang, mass
$K^+ K_S X$		
(4.14)	Toki 86	cs, mass
$K_S K^- X$		
(4.14)	Toki 86	cs, mass
$p e^+ X$		
(29)	Aihara 87C	mult, p, pt
$p e^- X$		
(29)	Aihara 87C	mult, p, pt
$\bar{p} e^+ X$		
(29)	Aihara 87C	mult, p, pt
$\bar{p} e^- X$		
(29)	Aihara 87C	mult, p, pt
$p \mu^+ X$		
(29)	Aihara 87C	mult, p, pt
$p \mu^- X$		
(29)	Aihara 87C	mult, p, pt

$e^+ e^-$

$\bar{p} \mu^+ X$		
(29)	Aihara 87C	mult, p, pt
$\bar{p} \mu^- X$		
(29)	Aihara 87C	mult, p, pt
$p \pi^+ X$		
(10)	Albrecht 89I	mass
$p \pi^- X$		
(10)	Albrecht 89I	mass
	Behrend 89F	mass
	Albrecht 86G	mass
(29)	Abachi 87D	mass
	Baden 86	mass
(34.8 – 42.1)	Braunschweig 89I	mass
$\bar{p} \pi^+ X$		
(29)	Baden 86	mass
$p \pi^- X + \bar{p} \pi^+ X$		
(10)	Albrecht 88I	mass
$\Lambda_c^+ \pi^+ X$		
(10)	Albrecht 88H	mass
(10.5)	Bowcock 89	mass
$\Lambda_c^+ \pi^- X$		
(10)	Albrecht 88H	mass
(10.5)	Bowcock 89	mass
$\overline{\Lambda}_c^- \pi^+ X$		
(10)	Albrecht 88H	mass
$\overline{\Lambda}_c^- \pi^- X$		
(10)	Albrecht 88H	mass
$\Lambda \gamma X + \overline{\Lambda} \gamma X$		
(10)	Albrecht 88I	mass
$\Lambda e^+ X$		
(29)	Klein 89	cs, mass
$\overline{\Lambda} e^- X$		
(29)	Klein 89	cs, mass
$\Lambda \mu^+ X$		
(29)	Klein 89	cs, mass
$\overline{\Lambda} \mu^- X$		
(29)	Klein 89	cs, mass
$\Lambda \pi^+ X$		
(10)	Albrecht 86G	mass
(29)	Abachi 87D	mass
$\Lambda \pi^- X$		
(10)	Albrecht 86G	mass
(29)	Abachi 87D	mass
$\overline{\Lambda} \pi^+ X$		
(29)	Abachi 87D	mass
$\overline{\Lambda} \pi^- X$		
(29)	Abachi 87D	mass
$\Lambda \pi^+ X + \overline{\Lambda} \pi^- X$		
(10)	Albrecht 88I	mass
$\Lambda \pi^- X + \overline{\Lambda} \pi^+ X$		
(10)	Albrecht 88I	mass
$p K^- X$		
(9.4 – 10.6)	Albrecht 88Q	mass
$p \overline{K}^0 X$		
(9.46 – 10.6)	Albrecht 88D	mass
$\bar{p} K^0 X$		
(9.46 – 10.6)	Albrecht 88D	mass
$\Xi^- \pi^+ X$		
(10)	Albrecht 86G	mass
(10.5)	Avery 88	mass
(29)	Klein 88	mass, mass
	Klein 87	mass
$\Xi^+ \pi^- X$		
(10.5)	Avery 88	mass
(29)	Klein 88	mass
	Klein 87	mass

$e^+ e^-$

$\Lambda K^- X$		
(10)	Albrecht 86G	mass
$\Lambda K^- X + \overline{\Lambda} K^+ X$		
(10)	Albrecht 88I	mass
$\Omega^- \pi^+ X$		
(29)	Klein 88	mass
$\Xi^- K^+ X$		
(29)	Klein 88	mass
$\Lambda K_S X$		
(9.46 – 10.49)	Behrends 85	ang
$\overline{\Lambda} K_S X$		
(9.46 – 10.49)	Behrends 85	ang
$p \bar{p} X$		
(9.46 – 10.49)	Behrends 85	ang
(10)	Albrecht 89B	angp, cor, pt
(29)	Aihara 86F	p
	Madaras 86	-
	Aihara 85G	ang, cor
	Hofmann 85	-
$2p X$		
(9.46 – 10.49)	Behrends 85	ang
$2\bar{p} X$		
(9.46 – 10.49)	Behrends 85	ang
(29)	Aihara 86F	p
$2p X + 2\bar{p} X$		
(10)	Albrecht 90B	ang, p
$p \Lambda X$		
(9.46 – 10.49)	Behrends 85	ang
$\bar{p} \Lambda X$		
(9.46 – 10.49)	Behrends 85	ang
(29)	Aihara 86F	p
$p \overline{\Lambda} X$		
(9.46 – 10.49)	Behrends 85	ang
(29)	Aihara 86F	p
$\bar{p} \overline{\Lambda} X$		
(9.46 – 10.49)	Behrends 85	ang
(29)	Aihara 86F	p
$\Lambda \overline{\Lambda} X$		
38.4 – 42.1	Braunschweig 89I	cs
(9.46 – 10.49)	Behrends 85	ang
(10)	Albrecht 89B	angp, cor, pt
(29)	Aihara 86F	p
	Madaras 86	-
	Aihara 85B	cor, mult
	Delavaissier 85	cor
(34)	Hofmann 87B	mult, p
$2\Lambda X$		
(29)	Madaras 86	-
	Delavaissier 85	cor
$2\overline{\Lambda} X$		
(29)	Madaras 86	-
	Delavaissier 85	cor
$2\Lambda X + 2\overline{\Lambda} X$		
38.4 – 42.1	Braunschweig 89I	cs
(10)	Albrecht 90B	ang, p
$\overline{\Lambda} \Lambda(1520 D_{03}) X$		
(10)	Albrecht 89B	angp, cor, pt
$\overline{\Lambda} \Xi^- X$		
(10)	Albrecht 89B	angp, cor, pt
$\Omega^- \overline{\Omega}^+ X$		
(29)	Klein 87B	cs
γ mult[hadron] X		
(35 – 44)	Pitzl 89	mult, p
$e^\pm$ jet X		
(30 – 40)	Venkataraman 85B	cs, pt
$e^\pm$ mult[hadron] X		
(56)	Kim 88D	ang, mass

$e^+ e^-$

e^+ jet X		
(35 – 43)	Kroha 89B	col, pt
e^- jet X		
(35 – 43)	Kroha 89B	col, pt
$\mu^\pm$ jet X		
(30 – 40)	Venkataraman 85B	cs, pt
μ^+ jet X		
(35 – 43)	Kroha 89B	col, pt
μ^- jet X		
(35 – 43)	Kroha 89B	col, pt
$\ell^\pm$ charged-hadron X		
(29)	Rowson 85B	
mult[lepton] mult[hadron] X		
(56)	Kim 88	col
$D^*(2010)^+$ hadron$^+$ X		
(29)	Kesten 85	mult, p, pt
$D^*(2010)^+$ hadron$^-$ X		
(29)	Kesten 85	mult, p, pt
$D^*(2010)^-$ hadron$^+$ X		
(29)	Kesten 85	mult, p, pt
$D^*(2010)^-$ hadron$^-$ X		
(29)	Kesten 85	mult, p, pt
(jets) jet X		
(14 – 44)	Genser 89	col, p, pt
charged-hadron hadron$^+$ X		
(29)	Kesten 85	mult, p, pt
charged-hadron hadron$^-$ X		
(29)	Kesten 85	mult, p, pt
X $2\tilde{q}$		
(46.8)	Behrend 87	-
2charged-hadron X		
(29)	Aihara 85C	cor, p
2gluino X		
(46.8)	Behrend 87	-
2jet X		
(14 – 34)	Althoff 85B	cs
(17 – 34)	Collins 85E	angp, p
(22 – 46.7)	Bethke 88	p
(29)	Abachi 89C	col, mult
	Bethke 89	cs
	Ford 89	col
	Derrick 86C	-
	Derrick 85G	mult, p
(29 – 37)	Althoff 85F	cor, mult
(34.8 – 43.6)	Ouldsaada 88B	ang, angp, p
(50 – 60.8)	Sakai 90	angp, col, p
(52 – 57)	Adachi 89	cs
(56)	Unno 88	-
2wino X		
(46.8)	Behrend 87	-
$\tilde{e}^- \tilde{e}^+$ X		
(46.8)	Behrend 87	
γ neutral (neutrals)		
978.5 – 1079	Druzhinin 88	cs
(44)	Barlow 87	-
γ 2neutral		
(29)	Ford 86	p, pt
$e^- e^+$ neutral		
(3.6)	Blinov 86B	
neutral (neutrals) jet		
(29)	Akerlof 85	p
	Feldman 85	cs
$e^\pm$ mult[charged] (neutrals)		
(29)	Sakuda 85	angp, cs
(30 – 40)	Venkataraman 85B	col, cs, pt
(38.66 – 46.3)	Kuhlen 86B	angp, col

$e^+ e^-$

$\mu^\pm$ mult[charged] (neutrals)		
(30 – 40)	Venkataraman 85B	col, cs, pt
(38.66 – 46.3)	Kuhlen 86B	angp, col
mult[γ] 2charged		
(9.4 – 10.6)	Skwarnicki 87B	ang, mass
gluon charged jet		
(22 – 38)	Braunschweig 89E	p
charged 2jet		
(22 – 38)	Braunschweig 89E	p
$\nu \bar{\nu} \gamma$		
29 – 42.6	Wu 87	cs
(29)	Hearty 87	cs
	Johnson 87	cs
	Ford 86	-
(29 – 42.6)	Grivaz 88	cs
(35 – 46.57)	Behrend 88D	cs
(50 – 61.4)	Maki 89	cs
(54 – 61.4)	Abe 89I	-
$2\nu \gamma$		
(35 – 42.6)	Ouldsaada 88B	-
3γ		
0	Atoyan 90	cs
	Gninenko 89	cs
	Chang 85	p
244.6 – 978.5	Dolinsky 88B	cs, mass, p
244.6 – 1079	Dolinsky 89	mass, p
978.5 – 1079	Landsberg 86	-
	Vasserman 86	ang, cs
1079 – 1918	Aulchenko 86B	mass
(29)	Fernandez 87B	angp, cs, mass
(34)	Naroska 87	angp, p
(35)	Kamae 88	ang, cs, p
	Naroska 87	cs
(35 – 46.8)	Behrend 88B	angp, mass, p
(55 – 57)	Abe 89F	ang, angp, cs, mass
$e^- e^+ \gamma$		
9.784 – 1075	Druzhinin 84	ang, angp, cs, mass
50 – 57	Kim 89B	angp, mass
978.5 – 1079	Dolinsky 89B	ang, cs, mass
1058 – 1918	Aulchenko 86C	mass
(14 – 22)	Kiesling 85	-
(14 – 46.8)	Behrend 85B	angp, mass, p
(29)	Karlen 88B	cs, mass
	Karlen 88C	asym, cs, mass
	Perl 86	ang, cs, p, pt
(33 – 46.8)	Behrend 86	mass
(34)	Naroska 87	angp, mass, p
(35)	Naroska 87	cs
(40 – 45)	Saxon 86	mass, p
(52 – 56)	Kim 88C	angp, asym, cs, mass
(55 – 56)	Sumiyoshi 88	mass
(56)	Abe 88E	angp, mass
	Maki 88	cs
	Unno 88	mass
(57)	Shirai 88	ang, mass
?	Dolinsky 89	-
$\pi^0 e^- e^+$		
565.2 – 626.2	Dolinsky 88	ang, cs, mass
1058 – 1918	Aulchenko 86C	mass
(9 – 29)	Gidal 88C	cs
(9.4 – 10.6)	Williams 88	mass, pt
(29)	Kolanoski 85	-
?	Dolinsky 89	-
	Kolanoski 85	-
$\mu^- \mu^+ \gamma$		
50 – 57	Kim 89B	angp, mass
(1 – 38)	Klein 84B	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.

$e^+ e^-$

2hadron (hadrons)

(9.388 – 9.479)	Jakubowski 88	cs
(9.4 – 10.5)	Kaarsberg 89	cs
	Albrecht 87H	
(9.44 – 10.6)	Gray 87	cs
(9.45 – 10.57)	Cassel 85	cs
(9.46 – 51.7)	Wu 87	const, cor, cs
(9.98)	Albrecht 89H	mass
(10 – 45)	Mattig 89	col, cs, p, pt
	Saxon 86	const, cs
(10.5 – 10.65)	Wachs 89	cs
(10.5 – 11.2)	Besson 85	col, cs, mult
(12 – 41.5)	Marshall 89	col
	Braunschweig 88C	col, mult
(12 – 43.5)	Braunschweig 89H	col, mass
(12 – 46)	Barlow 87	cs
(12 – 46.5)	Naroska 87	ang, col, cs, mass
(12 – 46.8)	Braunschweig 89K	angp, col
	Braunschweig 87	ang, col
(12 – 48.6)	Marshall 85	const, cs
(14 – 43)	Barreiro 85B	p
(14 – 43.7)	Braunschweig 90	ang, col, cs, p
(14 – 46.8)	Behrend 89C	col
	Behrend 87D	cs
(14 – 47)	Adeva 86C	angp, col
	Naroska 85	
(22 – 38)	Braunschweig 89E	
(27 – 37)	Bartel 85E	angp, col
(29)	Komamiya 89B	ang, p
	Wood 88	ang, p
	Fernandez 85	cor, p
	Fernandez 85B	cs
	Rosenberg 85B	col, const, p, pt
	Rowson 85	
	Bender 84C	cs
(34)	Bartel 85H	col, cor, p
(35)	Braunschweig 89L	ang, col, mass
(39.79 – 46.72)	Althoff 85	cs
(39.79 – 46.78)	Adeva 86	col, cs
	Bartel 85M	cs
	Haissinski 85	
(40 – 46.78)	Behrend 85	angp, col
(40 – 47)	Komamiya 85	
(44)	Genser 89	cs
(44.2)	Behrend 88C	angp, p
(50 – 52)	Sagawa 88	col, cs
	Abe 87C	col
	Amako 87	col, cs
	Miyamoto 87	col, cs
	Sakai 87	col, cs
	Yoshida 87B	col, cs
(50 – 55)	Albrow 88	col, cs
	Masuda 88	cs
	Sugahara 88	angp, col
(50 – 56)	Ko 88	col, cs
	Maki 88B	col, cs
	Mori 88	cs
	Park 88	ang, col, p
	Rosenfeld 88	cs
	Shirai 88	col, cs
	Son 88	col, cs
(50 – 57)	Eno 89	col, const, cs
	Metcalf 89	col, cs, p
	Mori 89	cs
	Mori 89B	col, cs
	Kamae 88	col, cs
	Kichimi 88	col
	Mcneil 88	const, cs
	Unno 88	cs
	Yamauchi 88	col, cs, p, pt
(50 – 60.4)	Zheng 90	cs, mult
(50 – 60.8)	Eno 89B	col
	Kim 89F	col, cs, p
(50 – 61.4)	Adachi 90B	cs
	Iwasaki 89	ang, const, cor, cs
	Kumita 89B	cs
	Maki 89	cs
(52)	Adachi 88C	col, cs, cs
	Yoshida 87	col
(52 – 56)	Tauchi 88	cs
(52 – 57)	Li 89B	col
(52 – 60.8)	Ogawa 89	col, cs
(53.3 – 59.5)	Adachi 89C	col, p
(54 – 61.4)	Abe 90	cs
	Abe 90C	col, p
(55 – 56)	Sumiyoshi 88	col, cs
(55 – 60.8)	Odaka 89	cs
(56)	Maki 88	col, cs
(56 – 57)	Abe 88F	col
(56 – 60.8)	Nozaki 89	const, cs
(58.5 – 61.4)	Kumita 89	col, cs
(< 60)	Salvini 88	col, cor, cs
(60.8)	Fry 89	ang, const, cor, cs
(89.2 – 93)	Abrams 89D	col
?	Ouldsaada 88B	

3higgs

(29)	Komamiya 89	cs

3jet

(10 – 45)	Mattig 89	ang, cor, et
(12 – 46.8)	Braunschweig 89K	angp, col
(14 – 44)	Naroska 87	cs, p, pt
	Bartel 86H	p
(20 – 42)	Albrow 88	cs
(22 – 56)	Bethke 88B	cs
(27)	Aihara 86B	ang, p
(29)	Bethke 89B	p
	Rouse 87	
	Madaras 86	
	Petersen 86C	col, p
	Sugano 86	cs
	Rosenberg 85B	col, const, p, pt
	Yamamoto 85E	cs, p, pt
	Aihara 84G	ang
	Bender 84C	cs
(30 – 46.7)	Ouldsaada 88	angp, col
(33 – 36.6)	Althoff 85C	ang, p
(34)	Marshall 89	angp
	Bartel 85H	ang, p
(44)	Barlow 87	cs
(46.8)	Behrend 86C	mass
(50 – 56)	Maki 88B	cs
	Park 88	cs
(50 – 57)	Park 89	const, cs
	Park 89B	cs
	Kamae 88	col, cs
	Mcneil 88	col, const, cor
(50 – 60.8)	Bodek 89	
	Kim 89C	
(50 – 61.4)	Iwasaki 89	ang, const, cor, cs
	Maki 89	ang, const, cor
(54.5)	Olsen 88	col, const
(< 60)	Salvini 88	angp, cs, p, pt
(60.8)	Fry 89	ang, const, cor, cs
(89.2 – 93)	Abrams 89D	cs

$e^- \tilde{\nu}$ wino$^+$

(29)	Fernandez 87C	

3charged X

(29)	Burchat 86	
	Feldman 85B	et

2charged (chargeds) (neutrals)

(52 – 57)	Li 89	col, p

4charged

(29)	Aihara 88	

$\pi^\pm$ 2γ X

(4.14)	Adler 89E	mass
(29)	Wormser 87	cs, mass

$\pi^+ \pi^- \gamma$ X

(29)	Aihara 87	mass

$\pi^+ \pi^- \pi^\pm$ X

(4.14)	Adler 89E	mass
	Toki 89B	cs, mass
(10)	Naroska 85	
?	Koltick 85B	

2$\pi^+ \pi^-$ X

(9.4 – 10.6)	Albrecht 87R	mass
(10)	Albrecht 85J	mass, p
(29)	Avery 89	cor
	Ruckstuhl 86	cs, mass
(29 – 37)	Althoff 85F	cor, mass

3π^+ X

(3.095 – 29)	Juricic 88	ang, p
(29)	Avery 89	cor
(29 – 37)	Althoff 85F	cor, mass

3π^- X

(3.095 – 29)	Juricic 88	ang, p
(29)	Avery 89	cor
(29 – 37)	Althoff 85F	cor, mass

π^+ 2π^- X

(9.4 – 10.6)	Albrecht 87R	mass
(10)	Albrecht 85J	mass, p
(29)	Avery 89	cor
	Ruckstuhl 86	cs, mass
(29 – 37)	Althoff 85F	cor, mass

3π X

(29)	Gan 85B	

$\eta e^- e^+$ X

978.5 – 1079	Golubev 85	cs, mass

$\eta \pi^+ \pi^-$ X

(29)	Wormser 88B	cs, mass

$\phi \pi^+ \gamma$ X

(9.4 – 10.6)	Albrecht 87N	mass
	Albrecht 85B	mass

$\phi \pi^- \gamma$ X

(9.4 – 10.6)	Albrecht 87N	mass
	Albrecht 85B	mass

0γ charged$^+$ charged$^-$ X

(29)	Perl 86	ang, cs, p, pt

$e^- e^+$ mult[γ] X

(9.46)	Blinov 85E	mult

$D^0 \pi^+ e^-$ X

(29)	Wagner 89B	mass

$\overline{D}^0 \pi^- e^+$ X

(29)	Wagner 89B	mass

$D^0 \pi^+ \mu^-$ X

(29)	Wagner 89B	mass

$\overline{D}^0 \pi^- \mu^+$ X

(29)	Wagner 89B	mass

$D^0 \pi^+ \pi^-$ X + $\overline{D}^0 \pi^+ \pi^-$ X

(10)	Albrecht 86B	mass

$K^+ \pi^- \gamma$ X

(29)	Low 87	mass
	Bartel 85G	mass

$K^- \pi^+ \gamma$ X

(29)	Low 87	mass
	Bartel 85G	mass

$K^- \pi^+$ charged X

(10)	Albrecht 86F	

$K^+ \pi^0 \pi^-$ X

(29)	Abachi 87C	mass
	Low 87	mass
	Bartel 85G	mass
(42.2)	Althoff 86C	mass

$K^- \pi^+ \pi^0$ X

(29)	Abachi 87C	mass
	Low 87	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.

$e^+ e^-$

$e^- e^+ 2\gamma$		
	Roe 89	mass
	Roe 89B	mass
	Karlen 88B	cs, mass
	Karlen 88C	asym, cs, mass
	Aihara 86	mass
	Perl 86	ang, cs, p, pt
(33 – 46.8)	Behrend 86	mass
(34)	Naroska 87	angp, p
(34.7)	Berger 85H	p, pt
(35)	Naroska 87	cs
(36.5)	Bartel 86C	ang, mass, p
(52 – 56)	Kim 88C	cs
(55 – 56)	Sumiyoshi 88	mass
(55 – 60.8)	Adachi 90	-
(56)	Abe 88E	mass
	Maki 88	cs
(57)	Shirai 88	ang, mass
	Yamauchi 88	mass
?	Dolinsky 89	-
	Ouldsaada 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
1016 – 1926	Barkov 88	cs, mass
1079 – 1918	Dolinsky 85	cs
(1.4 – 2)	Courau 86	cs, mass
(3.6)	Blinov 88B	cs
	Blinov 86B	mass
	Blinov 85C	angp, cs, mass, pt
(14 – 46.8)	Kiesling 85	-
(29)	Hawkins 89	cs
	Hawkins 89B	mass
	Petradza 89	angp, cs, mass, p
	Perl 86	ang, cs, p, pt
(35)	Naroska 87	cs
(35 – 46.8)	Behrend 88G	ang, angp, mass, p
(36)	Naroska 87	angp, mass, p
(36.5)	Bartel 86C	ang, mass, p
(44)	Barlow 87	-
(50 – 60.8)	Kurihara 89	angp, mass, p
(50 – 61.4)	Ho 89	ang, angp, mass
(52 – 56)	Kim 88C	cs, mass
?	Berger 85C	-
$\mu^- e^- 2e^+$		
(35)	Naroska 87	cs, qnc
$\mu^- \mu^+ 2\gamma$		
50 – 57	Kim 89B	angp, mass
(10.2)	Lurz 87	mass
	Skwarnicki 87	ang, p
(33 – 46.8)	Behrend 86	mass
(35)	Naroska 87	cs, p
(52 – 56)	Kim 88C	cs
(56)	Maki 88	cs
(57)	Shirai 88	ang, mass
	Yamauchi 88	mass
$\mu^- \mu^+ 2\gamma + e^- e^+ 2\gamma$		
(10.02)	Irion 85	-
$\mu^- \mu^+ e^- e^+$		
0.69 – 0.94	Ajaltouni 85B	mass
(1.4 – 2)	Courau 86	cs, mass
(9.46)	Blinov 85E	angp, cs, mass
(14 – 46.8)	Kiesling 85	-
(29)	Hawkins 89B	mass
	Petradza 89	angp, cs, mass, p
	Perl 86	ang, cs, p, pt
	Gidal 85	-
(35)	Naroska 87	cs

$e^+ e^-$

$\mu^- \mu^+ e^- e^+$		
	Berger 85B	ang, angp, cs, mass
(35 – 46.8)	Behrend 88G	ang, angp, mass, p
(36)	Naroska 87	angp, mass, p
(36.5)	Bartel 86C	ang, mass, p
(39.5)	Adeva 88	ang, cs, mass, pt
(44)	Barlow 87	-
(50 – 52)	Miyamoto 87	mass, p
(50 – 56)	Shirai 88	cs
(50 – 60.8)	Kurihara 89	angp, mass, p
(50 – 61.4)	Ho 89	ang, angp, mass
?	Berger 87B	pt
	Berger 85C	-
$\mu^- \mu^+ e^- e^+ + \mu^- \mu^+ e^- e^+ \gamma$		
(35 – 46.8)	Behrend 88F	cs
$2\pi^0 e^- e^+$		
(9 – 29)	Gidal 88C	mass, pwa
(9.4 – 10.6)	Marsiske 90	angp, cs
(9.98 – 10.02)	Albrecht 87Q	angp, mass
$\pi^+ \pi^- 2\gamma$		
426.2 – 883.1	Vasserman 88	cs
426.2 – 939.7	Dolinsky 89	cs
426.2 – 1918	Dolinsky 89B	cs, mass
1058 – 1918	Aulchenko 86C	mass
(1.35 – 2.4)	Antonelli 88	mass
$\pi^+ \pi^- e^- e^+$		
0.69 – 0.94	Ajaltouni 85B	mass
(1.4 – 2)	Courau 86	cs, mass
(9 – 29)	Gidal 88C	mass, pwa
(9.98 – 10.02)	Albrecht 87Q	angp, mass
(29)	Aihara 86D	angp, p
	Johnson 86	-
(55 – 60.8)	Adachi 90	mass
?	Berger 85C	
	Kolanoski 85	-
$3\pi^0 \gamma$		
244.6 – 1079	Dolinsky 89	mass, p
$2\mu^- 2\mu^+$		
(29)	Petradza 89	angp, cs, mass, p
(35 – 46.8)	Behrend 88G	ang, angp, mass, p
(52 – 56)	Kim 88C	cs, mass
$\pi^+ \pi^- \mu^- \mu^+$		
(9.98 – 10.02)	Albrecht 87Q	angp, mass
$\pi^+ 2\pi^0 \pi^-$		
400.8 – 1918	Kurdadze 86	cs
706.9 – 988.3	Aulchenko 87C	cs, mass
706.9 – 1904	Dolinsky 89B	cs, mass
1058 – 1918	Aulchenko 86C	mass
$2\pi^+ 2\pi^-$		
400.8 – 1918	Kurdadze 88	cs, mass
988.3 – 1904	Dolinsky 89B	cs, mass
1016 – 1926	Barkov 88	cs, mass
1058 – 1918	Aulchenko 86C	mass
$\eta \pi^0 e^- e^+$		
(9 – 29)	Gidal 88C	mass, pwa
?	Kolanoski 85	
$\rho^0 e^- e^+ \gamma$		
(7.2 – 10.4)	Blinov 87C	mass
$\eta \pi^+ \pi^- \gamma$		
?	Dolinsky 89	
$\rho^+ \pi^- e^- e^+$		
(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	

$e^+ e^-$

$2\rho^0 e^- e^+$		
?	Kolanoski 85	-
$\omega \rho^0 e^- e^+$		
?	Kolanoski 85	-
$2\omega e^- e^+$		
?	Kolanoski 85	-
$\phi \rho^0 e^- e^+$		
(14 – 36)	Althoff 86D	angp, mass
$2\phi e^- e^+$		
(14 – 36)	Althoff 86D	angp, mass
$\tau^- \tau^+ \nu_\tau \overline{\nu}_\tau$		
(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 86	mass
(35)	Naroska 87	angp, cs, p
(57)	Yamauchi 88	mass
$K^+ K^- e^- e^+$		
(9.4 – 10.6)	Albrecht 89K	angp, mass
(29)	Aihara 86D	angp, p
	Johnson 86	-
$K^+ K^- e^- e^+ + \pi^+ \pi^- e^- e^+$		
(29)	Boyer 86	angp
	Gidal 85	-
$K^0 \overline{K}^0 e^- e^+$		
?	Kolanoski 85	-
$K^+ K^- \pi^+ \pi^-$		
(9.4 – 10.6)	Albrecht 87S	ang
$K^*(892)^0 \overline{K}^*(892)^0 e^- e^+$		
(14 – 36)	Althoff 86D	angp, mass
$K_L 3\pi^0$		
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	-
	Althoff 85D	mass
(34.5)	Berger 88	mass
$p \overline{p} e^- e^+$		
(4.7 – 5.3)	Albrecht 88R	-
(29)	Aihara 87E	pt
	Johnson 86	-
(34.8 – 43.9)	Bartel 86B	angp, mass
	Bartel 86E	-
$p \overline{p} \pi^+ \pi^-$		
(3 – 3.2)	Tixier 88	mass
$\rho^0 e^- e^+$ (hadrons)		
(10.3 – 10.6)	Haas 88	-
$\rho^0 \mu^- \mu^+$ (hadrons)		
(10.3 – 10.6)	Haas 88	-
2γ 2jet		
(46.8)	Behrend 86C	mass
$e^+ \nu_e$ hadron (hadrons)		
(50 – 55)	Sugahara 88	angp, col
(50 – 56)	Rosenfeld 88	col
$e^- \overline{\nu}_e$ hadron (hadrons)		
(50 – 55)	Sugahara 88	angp, col
(50 – 56)	Rosenfeld 88	col
$e^- e^+$ hadron (hadrons)		
(10.3 – 10.6)	Haas 88	-
(29)	Aihara 87D	angp, mass, p
(33 – 35)	Althoff 86B	mass, p
$e^- e^+$ 2jet		
(34.7)	Berger 85H	p, pt
$e^- e^+$ 2photino		
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.

$e^+ e^-$

$\mu^+ \nu_\mu$ hadron (hadrons)

(50 – 55)	Sugahara 88	angp, col
(50 – 56)	Rosenfeld 88	col

$\mu^- \bar{\nu}_\mu$ hadron (hadrons)

(50 – 55)	Sugahara 88	angp, col
(50 – 56)	Rosenfeld 88	col

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

(10.3 – 10.6)	Haas 88	-

$\mu^- \mu^+$ hadron (hadrons)

(10.3 – 10.6)	Haas 88	-
(30 – 35)	Ferrarotto 88	mass

$\mu^- \mu^+$ 2jet

(39 – 46.8)	Bartel 87	ang
(52 – 57)	Sagawa 89	col

$\tau^+ \nu_\tau$ 2jet

(42.5 – 46.8)	Behrend 87C	cs

γ 2hadron (hadrons)

(9.4 – 10.5)	Albrecht 87H	p
(29)	Gold 86	angp, cs, p
(55 – 60.8)	Abe 89J	ang, p

ν 2hadron (hadrons)

(43)	Behrend 86B	-

$e^\pm$ 2hadron (hadrons)

(29)	Pal 86	p, pt
(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
	Son 88	col, cs
(50 – 57)	Yamauchi 88	angp, col
(50 – 61.4)	Myung 89	col, cs

e^+ 2hadron (hadrons)

(29)	Ong 89	pt
	Klem 86	p, pt

e^- 2hadron (hadrons)

(29)	Ong 89	pt
	Klem 86	p, pt

$\mu^\pm$ 2hadron (hadrons)

(34.6)	Bartel 86G	col, pt
	Saxon 86	cs, p, pt
(39.79 – 46.78)	Adeva 86	col, cs
(43)	Behrend 86B	-
(46)	Bartel 87	ang, angp, col
(50 – 52)	Igarashi 87	col
(50 – 56)	Eno 88	ang, col, mass
	Maki 88B	col, pt
	Myung 88	ang, col
	Shirai 88	col, cs
	Son 88	col, cs
(50 – 57)	Yamauchi 88	angp, col
(50 – 61.4)	Myung 39	col, cs

μ^+ 2hadron (hadrons)

(14 – 46.8)	Adeva 86B	ang
(29)	Ong 89	pt
(39.79 – 46.78)	Bartel 85M	cs

μ^- 2hadron (hadrons)

(14 – 46.8)	Adeva 86B	ang
(29)	Ong 89	pt

$\pi^\pm$ 2hadron (hadrons)

(29)	Aibara 89B	col, p

ℓ 2hadron (hadrons)

?	Unno 88	

4jet

(14 – 44)	Bartel 86H	p
(29)	Bethke 89B	p
(34)	Naroska 87	cs
(42.5 – 46.8)	Behrend 87C	cs
(46.8)	Behrend 86C	mass
(50 – 56)	Maki 88B	cs
(50 – 57)	Park 89	ang, col, cor
	Park 89B	cs

$e^+ e^-$

4jet

(50 – 61.4)	Iwasaki 89	ang, const, cor, cs
	Maki 89	ang, const, cor
(52 – 61.4)	Adachi 90C	mass
(60.8)	Fry 89	ang, const, cor, cs
(89.2 – . . .,	Abrams 89D	cs

4charged X

(29)	Petradza 90	angp, mass, p

2charged 2neutral (neutrals)

(29)	Aihara 86I	angp, mass, p

4charged (neutrals)

(29)	Amidei 88	-
	Ruckstuhl 86	-

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

(29)	Gidal 85	-

$2e^- 2e^+$ X

(29)	Petradza 90	angp, cs, p

$\mu^- \mu^+ 2\gamma$ X

(29)	Wu 86	-

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

(29)	Petradza 90	angp, cs, p

$\pi^+ \pi^- 2\gamma$ X

(10)	Albrecht 88S	mass
(29)	Wormser 88B	mass

$2\pi^+ \pi^-$ charged$^+$ X

(10)	Albrecht 86E	-

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

(29)	Petradza 90	angp, cs, p

$\pi^0 3\pi^\pm$ X

(29)	Koltick 85B	-

$\pi^+ \pi^0 \pi^- \pi^\pm$ X

(4.14)	Adler 89E	mass

$2\pi^+ \pi^0 \pi^-$ X

(4.14)	Stockdale 87	cs, mass

$\eta \pi^+ \pi^- \pi^\pm$ X

(4.14)	Adler 89E	mass
(29)	Wormser 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

$K^+ \pi^0 2\pi^-$ X

(10.52 – 10.58)	Bortoletto 38	mass
(28 – 46.8)	Braunschweig 89G	mass
(29)	Wagner 87	mass
	Aihara 86E	mass
	Yamamoto 85C	mass

$K^- \pi^+ \pi^0 \pi^\pm$ X

(29)	Naroska 85	-

$K^- 2\pi^+ \pi^0$ X

(10.52 – 10.58)	Bortoletto 88	mass
(28 – 46.8)	Braunschweig 89G	mass
(29)	Abachi 89C	mass
	Wagner 87	mass
	Aihara 86E	mass
	Gladney 86B	mass
	Yamamoto 85C	mass

$K^+ \pi^0 2\pi^-$ X + $K^- 2\pi^+ \pi^0$ X

(29)	Gladney 85	
	Goldhaber 85C	

$e^+ e^-$

$K^+ \pi^+ 2\pi^-$ X

(9.4 – 10.6)	Albrecht 88J	mass
	Albrecht 85	mass
(29)	Abachi 87C	mass
(42.2)	Althoff 86C	mass

$K^- 2\pi^+ \pi^-$ X

(9.4 – 10.6)	Albrecht 89	mass
	Albrecht 88J	mass
	Albrecht 85	mass
(10)	Albrecht 89V	mass
(29)	Abachi 87C	mass
(42.2)	Althoff 86C	mass

$K^+ \pi^+ 2\pi^-$ X + $K^- 2\pi^+ \pi^-$ X

(10)	Albrecht 86B	mass
(29)	Gladney 85	-
?	Rosner 85E	-

$K^+ K^- \pi^+ \gamma$ X

(9.4 – 10.6)	Albrecht 87N	mass
(29)	Bartel 85G	mass

$K^+ K^- \pi^- \gamma$ X

(9.4 – 10.6)	Albrecht 87N	mass
(29)	Bartel 85G	mass

$K^+ K^- \pi^+ \pi^0$ X

(4.14)	Bai 90	cs, mass
	Alder 89	cs, mass

$K^+ K^- \pi^0 \pi^-$ X

(4.14)	Bai 90	cs, mass
	Alder 89	cs, mass

$2K^+ 2\pi^-$ X

(29)	Yamamoto 85C	mass

$2K^- 2\pi^+$ X

(29)	Yamamoto 85C	mass

$K^0 K^- \pi^+ \pi^-$ X

(10)	Albrecht 89P	mass

$K^+ K^-$ mult$[\pi^+]$ mult$[\pi^-]$ X

(9.4 – 10.6)	Albrecht 85D	ang, mass

$p \pi^+ 2\pi^-$ X

(10.5)	Avery 88	mass

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

(10.5)	Avery 88	mass

$\Lambda 2\pi^+ \pi^-$ X

(9.46 – 10.6)	Albrecht 88D	mass
(10.5 – 10.85)	Bowcock 85	mass

$\Lambda 3\pi^+$ X

(10.5 – 10.7)	Alam 89B	mass

$\Lambda \pi^+ 2\pi^-$ X

(10.5 – 10.85)	Bowcock 85	mass

$\overline{\Lambda} 2\pi^+ \pi^-$ X

(10.5 – 10.85)	Bowcock 85	mass

$\overline{\Lambda} 3\pi^-$ X

(10.5 – 10.7)	Alam 89B	mass

$\overline{\Lambda} \pi^+ 2\pi^-$ X

(9.46 – 10.6)	Albrecht 88D	mass
(10.5 – 10.85)	Bowcock 85	mass

$\Lambda 2\pi^+ \pi^-$ X + $\overline{\Lambda} \pi^+ 2\pi^-$ X

(9.46)	Mestayer 85	-

$\Lambda \pi^+ 2\pi^-$ X + $\overline{\Lambda} 2\pi^+ \pi^-$ X

(9.46)	Mestayer 85	-

2ℓ 2hadron X

(50 – 57)	Kichimi 88	col

4jet X

(22 – 46.7)	Bethke 88	p
(29)	Bethke 89	cs
	Ford 89	col
?	Ouldsaada 88B	-

$e^- e^+ \gamma$ neutral (neutrals)

(29)	Riles 89B	cs, p

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

(50 – 60.8)	Sakai 90	angp, col, mass

$e^+ e^-$

$\mu^\pm e^\pm \gamma$ neutral (neutrals)		
(29)	Riles 89B	cs, p
$\pi^\pm e^\pm \gamma$ neutral (neutrals)		
(29)	Riles 89B	cs, p
$\mu^- \mu^+$ 2neutral (neutrals)		
(50 – 60.8)	Sakai 90	angp, col, mass
$\pi^\pm \mu^\pm \gamma$ neutral (neutrals)		
(29)	Riles 89B	cs, p
$2\pi^0 \gamma$ (γ's) (neutrals)		
1603 – 1918	Aulchenko 87B	mass
$\rho^- \pi^0 \tau^+$ neutral (neutrals)		
(29)	Ford 87	mass
$\rho^+ \pi^0 \tau^-$ neutral (neutrals)		
(29)	Ford 87	mass
$\rho^0 \pi^- \tau^+$ neutral (neutrals)		
(29)	Ford 87	mass
$\rho^0 \pi^+ \tau^-$ neutral (neutrals)		
(29)	Ford 87	mass
e^- 2charged-hadron (charged-hadrons) (neutrals)		
(36.5)	Bartel 87B	-
2γ (γ's) charged$^+$ charged$^-$		
(29)	Aihara 86G	mass
e^+ 3charged (chargeds)		
(29)	Akerlof 88	mass
e^- 3charged (chargeds)		
(29)	Akerlof 88	mass
$3e^\pm$ charged (neutrals)		
(44.2)	Aleksan 86	-
$e^\pm$ (ν's) 2γ charged		
(10.2)	Keh 88B	ang, mass, p
4γ (γ's)		
244.6 – 978.5	Dolinsky 88B	cs, mass, p
244.6 – 1918	Dolinsky 89B	mass
5γ		
978.5 – 1079	Druzhinin 85	cs
1058 – 1918	Aulchenko 86C	mass
1079 – 1918	Dolinsky 85	mass, p
(29)	Hawkins 89	cs
?	Dolinsky 89	mass, p
$e^- e^+ 2\gamma$ (γ's)		
?	Lowe 86B	-
$e^- e^+ 3\gamma$		
(2 – 40)	Landsberg 86	mass
(29)	Hawkins 89	cs
$2e^- 2e^+ \gamma$		
(29)	Hawkins 89	cs
$\pi^+ \pi^- 3\gamma$		
?	Dolinsky 89	-
$\pi^+ \pi^- e^- e^+ \gamma$		
(7.2 – 10.4)	Blinov 87C	mass
(10)	Albrecht 87M	ang
(29)	Gidal 85	-
$\pi^+ \pi^0 \pi^- e^- e^+$		
(7.2 – 10.4)	Blinov 87C	mass
(9 – 29)	Gidal 88C	mass, pwa
$2\pi^+ 2\pi^- \gamma$		
(1.35 – 2.4)	Antonelli 88	mass
(3 – 3.2)	Bisello 88	cs, mass
$2\pi^+ \pi^0 2\pi^-$		
1016 – 1926	Barkov 88	cs, mass
(1.35 – 2.4)	Antonelli 88	mass
$\eta\ 2\pi^0 e^- e^+$		
(10)	Antreasyan 87	mass

$e^+ e^-$

$\eta\ \pi^+ \pi^- e^- e^+$		
(29)	Gidal 88B	ang
?	Kolanoski 85	-
$\phi\ \pi^+ \pi^- e^- e^+$		
(14 – 36)	Althoff 86D	angp, mass
$K^*(892)^0 K^- \pi^+ e^- e^+$		
(14 – 36)	Althoff 86D	angp, mass
$\overline{K}^*(892)^0 K^+ \pi^- e^- e^+$		
(14 – 36)	Althoff 86D	angp, mass
$K^+ K_S \pi^- e^- e^+$		
(17.5)	Althoff 85D	mass
(29)	Aihara 88B	mass
	Gidal 88	ang, mass
	Aihara 86C	mass
(34.68)	Berger 86	-
$K_S K^- \pi^+ e^- e^+$		
(17.5)	Althoff 85D	mass
(29)	Aihara 88B	mass
	Gidal 88	ang, mass
	Aihara 86C	mass
(34.68)	Berger 86	-
$K^+ K_S \pi^- e^- e^+ + K_S K^- \pi^+ e^- e^+$		
(9 – 29)	Gidal 88C	mass, pwa
(29)	Gidal 85	-
(34 – 35)	Braunschweig 89	cs, mass, pt
$p\ \overline{p}\ \pi^0 e^- e^+$		
(4.7 – 5.3)	Albrecht 88R	-
$\pi^+ e^- e^+$ hadron (hadrons)		
(10.3 – 10.6)	Haas 88	-
$\pi^+ \mu^- e^+$ hadron (hadrons) + $\pi^- \mu^+ e^-$ hadron (hadrons)		
(10.3 – 10.6)	Haas 88	-
$\pi^+ \mu^- \mu^+$ hadron (hadrons)		
(10.3 – 10.6)	Haas 88	-
$e^\pm \gamma$ 2hadron (hadrons)		
(10.6)	Augustin 85E	-
$2e^\pm$ 2hadron (hadrons)		
(35)	Kamae 88	ang, cs, p
$e^- e^+$ (jets) 2jet		
(14 – 35)	Roberts 86	-
(34.5)	Berger 87	-
$e^- e^+$ 2charged-hadron (hadrons)		
(33 – 35)	Althoff 86B	pt
$e^- e^+$ 2hadron (hadrons)		
(7.6 – 10.6)	Baru 86	cs
	Blinov 86C	mass
(9.4 – 10.6)	Albrecht 88L	-
(10.3 – 10.6)	Grab 87	-
(10.52)	Fulton 89	mass
(14 – 35)	Roberts 86	-
(29)	Aihara 89C	angp
	Aihara 87F	p
	Aihara 86H	mass
	Johnson 86	-
	Bintinger 85	angp, mass
	Kolanoski 85	-
(34.6)	Berger 87C	-
(34.7)	Berger 85H	p, pt
?	Kolanoski 85	-
$\mu^\pm e^\pm$ 2hadron (hadrons)		
(35)	Kamae 88	ang, cs, p
$\mu^- e^+$ 2hadron (hadrons) + $\mu^+ e^-$ 2hadron (hadrons)		
(10.3 – 10.6)	Grab 87	-
$2\mu^\pm$ 2hadron (hadrons)		
(35)	Kamae 88	ang, cs, p
$\mu^- \mu^+$ 2hadron (hadrons)		
(10.3 – 10.6)	Grab 87	

$e^+ e^-$

$\mu^- \mu^+$ 2hadron (hadrons)		
(10.52)	Fulton 89	mass
$\ell^+ \ell^-$ 2hadron (hadrons)		
(35 – 43)	Behrend 89J	-
(35 – 44)	Elsen 90	p
$D^0 \pi^+$ 2hadron (hadrons)		
(29)	Kesten 85	mass, pt
$\overline{D}^0 \pi^-$ 2hadron (hadrons)		
(29)	Kesten 85	mass, pt
$K^+ \pi^-$ 2hadron (hadrons)		
(29)	Kesten 85	mass, pt
$K^- \pi^+$ 2hadron (hadrons)		
(29)	Kesten 85	mass, pt
(jets) 4jet		
(44)	Barlow 87	cs
5jet		
(34)	Naroska 87	cs
(50 – 56)	Maki 88B	cs
(89.2 – 93)	Abrams 89D	cs
5charged X		
(29)	Naroska 85	-
	Petersen 85	col
2charged$^+$ 2charged$^-$ neutral (neutrals)		
(9.4 – 10.6)	Albrecht 87C	ang, mass
4charged neutral (neutrals)		
(9.3 – 10.6)	Albrecht 87L	mass
4charged (chargeds) (neutrals)		
(9.4 – 10.6)	Albrecht 85B	-
	Albrecht 85D	-
(34.6)	Berger 85G	ang, cor
$\pi^+ \pi^- \pi^\pm 2\gamma$ X		
(4.14)	Adler 89E	mass
(29)	Wormser 87	cs, mass
$2\pi^+ \pi^0 2\pi^-$ X		
(10)	Albrecht 88S	mass
$5\pi^\pm$ X		
(29)	Koltick 85B	-
$K^+ \pi^+ 3\pi^-$ X		
(10.3 – 10.5)	Bowcock 88	mass
(28 – 46.8)	Braunschweig 89G	mass
(29)	Aihara 86E	mass
$K^- 2\pi^+ \pi^- \pi^\pm$ X		
(29)	Naroska 85	-
$K^- 3\pi^+ \pi^-$ X		
(10.3 – 10.5)	Bowcock 88	mass
(28 – 46.8)	Braunschweig 89G	mass
(29)	Abachi 89C	mass
	Aihara 86E	mass
$K^+ \pi^+ 3\pi^-$ X + $K^- 3\pi^+ \pi^-$ X		
(29)	Gladney 85	-
$K^+ K^- \pi^+ e^- e^+$ X		
(29)	Weir 89	mass
$K^0 K^- \pi^+ \pi^0 \pi^-$ X		
(10)	Albrecht 89P	mass
$K^+ K^- 2\pi^+ \pi^-$ X		
(4.14)	Bai 90	cs, mass
	Alder 89	cs, mass
$K^+ K^- \pi^+ 2\pi^-$ X		
(4.14)	Bai 90	cs, mass
	Alder 89	cs, mass
$K_S 2\pi^+ 2\pi^-$ X		
(10)	Albrecht 89V	mass
5jet X		
(22 – 46.7)	Bethke 88	p
(29)	Bethke 89	cs
?	Ouldsaada 88B	-
5γ (neutrals)		
1603 – 1918	Aulchenko 87B	mass
$\pi^0 \pi^\pm e^\pm \gamma$ neutral (neutrals)		
(29)	Riles 89B	cs, 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.

$e^+ e^-$

$\pi^0 \pi^\pm \mu^\pm \gamma$ neutral (neutrals)		
(29)	Riles 89B	cs, p
$2\pi^+ \pi^- e^- \nu$ (neutrals) +		
$\pi^+ 2\pi^- e^+ \nu$ (neutrals)		
(10.34 – 11.18)	Csorna 87	mass, p
$2\pi^+ \pi^- \mu^- \nu$ (neutrals) +		
$\pi^+ 2\pi^- \mu^+ \nu$ (neutrals)		
(10.34 – 11.18)	Csorna 87	mass, p
$2\pi^+ 2\pi^-$ neutral (neutrals)		
(10.34 – 11.18)	Csorna 87	mass, p
(34.6)	Berger 85D	angp, mass
$\rho^+ \pi^+ 2\pi^-$ neutral (neutrals)		
(10.34 – 11.18)	Csorna 87	mass, p
$\rho^- 2\pi^+ \pi^-$ neutral (neutrals)		
(10.34 – 11.18)	Csorna 87	mass, p
$2\pi^0 \pi^- \tau^+$ neutral (neutrals)		
(29)	Ford 87	cs, mass
$\pi^+ 2\pi^0 \tau^-$ neutral (neutrals)		
(29)	Ford 87	cs, mass
$\pi^+ 2\pi^- \tau^+$ neutral (neutrals)		
(29)	Ford 87	cs, mass
$2\pi^+ \pi^- \tau^-$ neutral (neutrals)		
(29)	Ford 87	cs, mass
$K^+ \pi^+ 2\pi^-$ neutral (neutrals)		
(10.34 – 11.18)	Csorna 87	mass, p
$K^- 2\pi^+ \pi^-$ neutral (neutrals)		
(10.34 – 11.18)	Csorna 87	mass, p
$e^- e^+$ 2charged (chargeds) (neutrals)		
(35 – 46.8)	Behrend 88F	cs, mass, p
$e^- e^+$ 4charged		
(10.52 – 10.86)	Chen 89C	mass
$\mu^\pm e^\pm$ 2charged (chargeds) (neutrals)		
(35 – 46.8)	Behrend 88F	cs, mass, p
$\mu^- \mu^+$ 2charged (chargeds) (neutrals)		
(35 – 46.8)	Behrend 88F	cs, mass, p
τ^+ 3charged neutral (neutrals)		
(29)	Ford 87	cs
τ^- 3charged neutral (neutrals)		
(29)	Ford 87	cs
0γ 4charged (neutrals)		
(29)	Perl 85	-
4hadron (hadrons) charged		
(29)	Petersen 88	ang, p, pt
5γ (γ's)		
244.6 – 978.5	Dolinsky 89	p
$e^- e^+ 4\gamma$		
(9.98 – 10.02)	Albrecht 87Q	angp, mass
(10)	Bienlein 88	mass
?	Kolanoski 85	-
$\mu^- \mu^+ 4\gamma + e^- e^+ 4\gamma$		
(10.02)	Irion 85	-
$\pi^+ \pi^- 4\gamma$		
706.9 – 1904	Dolinsky 89B	cs, mass
$\pi^+ \pi^- e^- e^+ 2\gamma$		
(29)	Aihara 88E	angp, p
	Gidal 85	-
?	Kolanoski 85	-
$\pi^+ 2\pi^0 \pi^- e^- e^+$		
(4.7 – 5.3)	Albrecht 89F	-
$2\pi^+ 2\pi^- e^- e^+$		
(9 – 29)	Gidal 88C	mass, pwa

$e^+ e^-$

$2\pi^+ 2\pi^- e^- e^+$		
(17.5)	Althoff 85D	mass
(29)	Aihara 88B	mass
(34 – 35)	Braunschweig 89	cs, mass, pt
(34.5)	Berger 88	mass
(34.7)	Berger 88B	
(35 – 46.6)	Braunschweig 88F	
$\eta \pi^- e^+ \nu_\tau \bar{\nu}_\tau \nu_e$		
(3.77)	Coffman 87	-
$\eta \pi^+ e^- \nu_\tau \bar{\nu}_\tau \bar{\nu}_e$		
(3.77)	Coffman 87	
$\eta \pi^- \mu^+ \nu_\tau \bar{\nu}_\tau \nu_\mu$		
(3.77)	Coffman 87	
$\eta \pi^+ \mu^- \nu_\tau \bar{\nu}_\tau \bar{\nu}_\mu$		
(3.77)	Coffman 87	-
$2\pi^0 4\pi^\pm$		
?	Koltick 85B	
$2\pi^+ 2\pi^0 2\pi^-$		
1016 – 1926	Barkov 88	cs, mass
$3\pi^+ 3\pi^-$		
1016 – 1926	Barkov 88	cs, mass
?	Koltick 85B	
$2\eta \pi^+ \pi^- \nu_\tau \bar{\nu}_\tau$		
(29)	Gan 87B	mass
$K^+ K^- \pi^+ \pi^- e^- e^+$		
(9 – 29)	Gidal 88C	mass, pwa
(14 – 36)	Althoff 86D	angp, mass
(29)	Aihara 88B	mass
	Aihara 85D	angp
(34 – 35)	Braunschweig 89	cs, mass, pt
$2K^+ 2K^- e^- e^+$		
(29)	Aihara 88B	mass
$K^+ K_S \pi^0 \pi^- e^- e^+$		
(4.7 – 5.3)	Albrecht 88N	
$K_S K^- \pi^+ \pi^0 e^- e^+$		
(4.7 – 5.3)	Albrecht 88N	-
$2K_S \pi^+ \pi^- e^- e^+$		
(4.7 – 5.3)	Albrecht 88N	-
$p \bar{p} \pi^+ \pi^- e^- e^+$		
(4.7 – 5.3)	Albrecht 88R	-
(29)	Aihara 89	
$\pi^+ e^- e^+$ 2hadron (hadrons)		
(10.3 – 10.6)	Grab 87	-
$\pi^+ \mu^- \mu^+$ 2hadron (hadrons)		
(10.3 – 10.6)	Grab 87	-
5charged-hadron (charged-hadrons)		
(29)	Bender 84C	col, mult, p, pt
5hadron (hadrons)		
(29)	Petersen 88	ang, col
4charged 2neutral (neutrals)		
(29)	Aihara 86I	angp, mass, p
6charged (neutrals)		
(29)	Amidei 88	-
	Bylsma 87	ang, angp, mass, p
	Ruckstuhl 86	
	Beltrami 85	p
	Burchat 85	cs, mass
$2\pi^+ 2\pi^- 2\gamma$ X		
(29)	Wormser 88B	mass
$\pi^0 5\pi^\pm$ X		
(29)	Koltick 85B	-
	Naroska 85	
$3\pi^+ 3\pi^-$ X		
?	Koltick 85B	
$K^- 3\pi^+ 2\pi^-$ X		
(10)	Albrecht 89V	mass

$e^+ e^-$

$K^0 K^- 2\pi^+ 2\pi^-$ X		
(10)	Albrecht 89P	mass
$p 4\pi^+ \pi^-$ X		
(10.5 – 10.7)	Alam 89B	mass
$\bar{p} \pi^+ 4\pi^-$ X		
(10.5 – 10.7)	Alam 89B	mass
γ 4charged (chargeds) (neutrals)		
(9.4 – 10.6)	Albrecht 85B	-
e^+ 5charged (neutrals)		
(29)	Schaad 85	cs, p, pt
e^- 5charged (neutrals)		
(29)	Schaad 85	cs, p, pt
μ^+ 5charged (neutrals)		
(29)	Schaad 85	cs, p, pt
μ^- 5charged (neutrals)		
(29)	Schaad 85	cs, p, pt
7γ		
244.6 – 1079	Dolinsky 89	mass, p
$\pi^- e^+ \nu_\tau \bar{\nu}_\tau \nu_e 2\gamma$		
(3.77)	Coffman 87	mass
$\pi^+ e^- \nu_\tau \bar{\nu}_\tau \bar{\nu}_e 2\gamma$		
(3.77)	Coffman 87	mass
$\pi^- \mu^+ \nu_\tau \bar{\nu}_\tau \nu_\mu 2\gamma$		
(3.77)	Coffman 87	mass
$\pi^+ \mu^- \nu_\tau \bar{\nu}_\tau \bar{\nu}_\mu 2\gamma$		
(3.77)	Coffman 87	mass
$2\pi^+ 2\pi^- e^- e^+ \gamma$		
(29)	Gidal 85	-
$2\pi^+ \pi^0 2\pi^- e^- e^+$		
(4.7 – 5.3)	Albrecht 87J	-
(29)	Gidal 85	-
(34.6)	Berger 85D	angp, mass
2kaon (kaons) 2π (π's) γ		
(4.14)	Adler 89B	mass
$p \bar{p} \pi^+ \pi^0 \pi^- e^- e^+$		
(4.7 – 5.3)	Albrecht 88R	-
$K^+ \pi^+ 2\pi^-$ 2hadron (hadrons)		
(29)	Kesten 85	mass, pt
$K^- 2\pi^+ \pi^-$ 2hadron (hadrons)		
(29)	Kesten 85	mass, pt
6charged (chargeds) (neutrals)		
(29)	Sakuda 85	col, p, pt
$e^\pm$ 5charged jet X		
(29)	Porter 89	p, pt
$\mu^\pm$ 5charged jet X		
(29)	Porter 89	p, pt
$e^- e^+ 6\gamma$		
(9 – 29)	Gidal 88C	mass, pwa
(10)	Bienlein 88	mass
	Antreasyan 87	mass
$\pi^+ \pi^0 2\pi^- e^+ \nu_\tau \bar{\nu}_\tau \nu_e$		
(3.77)	Coffman 87	mass
$2\pi^+ \pi^0 \pi^- e^- \nu_\tau \bar{\nu}_\tau \bar{\nu}_e$		
(3.77)	Coffman 87	mass
$\pi^+ \pi^0 2\pi^- \mu^+ \nu_\tau \bar{\nu}_\tau \nu_\mu$		
(3.77)	Coffman 87	mass
$2\pi^+ \pi^0 \pi^- \mu^- \nu_\tau \bar{\nu}_\tau \bar{\nu}_\mu$		
(3.77)	Coffman 87	mass
$2\pi^+ 2\pi^0 2\pi^- e^- e^+$		
(9.4 – 10.6)	Albrecht 87K	-
8charged (neutrals)		
(29)	Bylsma 87	ang, angp, mass, p
$e^- e^+$ 6charged (neutrals)		
(17 -- 17.5)	Braunschweig 90B	angp, cs, mass, p

$e^+ e^-$

$3\pi^+ 2\pi^0 3\pi^-$ 2(neutrals)		
(29)	Abachi 87F	mass
$e^- e^+$ 8charged (neutrals)		
(17 – 17.5)	Braunschweig 90B	angp, cs, mass, p

e^+ nucleus

e^+ hadron X		
20.5	Fredriksson 87	a-dep, p, pt

$e^\pm$ nucleus

p X		
5	Degtyarenko 90	p
$\Delta(1232\,P_{33})^{++}$ X		
5	Degtyarenko 90	p
$\Delta(1232\,P_{33})^0$ X		
5	Degtyarenko 90	p
$e^\pm \gamma$ X		
5	Degtyarenko 89	mult
$\pi^0 e^\pm$ X		
5	Degtyarenko 89	mult
$\pi^+ e^\pm$ X		
5	Degtyarenko 89	angp, mult, p
$\pi^- e^\pm$ X		
5	Degtyarenko 89	angp, mult, p
$K^+ e^\pm$ X		
5	Degtyarenko 89	mult
$K^- e^\pm$ X		
5	Degtyarenko 89	mult
$K_S e^\pm$ X		
5	Degtyarenko 89	mult
$p e^\pm$ X		
5	Degtyarenko 89	angp, mult, p
$\bar{p} e^\pm$ X		
5	Degtyarenko 89	mult
$p \pi^+$ X		
5	Degtyarenko 90	mass
$p \pi^-$ X		
5	Degtyarenko 90	mass
$\Lambda e^\pm$ X		
5	Degtyarenko 89	mult
deuteron $e^\pm$ X		
5	Degtyarenko 89	mult, p
mult[p] $e^\pm$ X		
5	Degtyarenko 89	mult
$2\pi e^\pm$ X		
5	Degtyarenko 89	cor
$2p e^\pm$ X		
5	Degtyarenko 89	cor, mass

d gluon

d gluon		
?	Breakstone 90	angp

u gluon

u gluon		
?	Breakstone 90	angp

$\mu^- p$

μ^- X		
1 – 400	Berger 86B	angp, cs, p
$p \mu^-$		
1 – 400	Berger 86B	angp, cs, p

μ^- nucleon

μ^- X		
1 – 400	Berger 86B	angp, cs, p

μ^- deuteron

μ^- X		
1 – 400	Berger 86B	angp, cs, p

μ^- ^{12}C

^{12}Bor $\nu_\mu \gamma$		
0	Hasinoff 89	p
	Hasinoff 88	p

μ^- C

μ^- X		
120 – 280	Benvenuti 87	p
	Benvenuti 87C	p
$\mu^- 2\mu^+$ X		
200	Benvenuti 85	p, pt
$D^0 \overline{D}^0 \mu^-$ X		
200	Benvenuti 85	-
$D^+ \overline{D}^0 \mu^-$ X		
200	Benvenuti 85	-
$\overline{D}^0 D^- \mu^-$ X		
200	Benvenuti 85	-
$D^0 D^- \mu^-$ X		
200	Benvenuti 85	-

μ^- ^{16}O

^{16}Nit $\nu_\mu \gamma$		
0	Hasinoff 89	p
	Hasinoff 88	p

μ^- ^{32}S

^{32}S $\mu^- \gamma$		
0	Schaller 85	-

μ^- ^{34}S

^{34}S $\mu^- \gamma$		
0	Schaller 85	-

μ^- ^{36}S

^{36}S $\mu^- \gamma$		
0	Schaller 85	-

μ^- ^{40}Ca

^{40}KK $\nu_\mu \gamma$		
0	Hasinoff 89	p
	Hasinoff 88	p

μ^- Ti

Ca e^+		
0	Ahmad 87	cs, p
0.073	Blecher 87	cs, p
Ca* e^+		
0	Ahmad 88	cs, p, qnc
Ti e^-		
0	Ahmad 88	cs, p, qnc
	Ahmad 87	cs, p
	Numao 86	p, qnc
	Numao 86B	-
0.073	Burnham 87	cs, qnc
	Bryman 85	cs

μ^- Fe

inelastic		
50 – 120	Kopp 85	p
μ^- X		
93 – 215	Meyers 86	p

μ^- ^{90}Zr

^{90}Zr $\mu^- \gamma$		
0	Phan 85	mass, p

μ^- ^{152}Sm

^{152}Sm* $e^- \nu_\mu \bar{\nu}_e$		
0	Mitropolskii 87	cs

μ nucleus

p X		
32	Rabin 86	ang, angp, p, pt
mult[black] X		
150	Jain 88	mult
mult[shower] X		
150	Jain 88	mult
shower X		
150	Jain 88	mult, p
mult[black] mult[shower] X		
150	Jain 88	cor, mult
mult[black] shower X		
150	Jain 88	cor, mult, p

$\mu^+ e^-$

muonium		
0.01	Ni 87	-
0.02	Huber 88	flux
	Beer 86	flux
0.02 – 0.029	Janissen 89	-
$\mu^- e^+$		
0	Huber 88	cs
	Ni 87	amp
	Beer 86	cs
0.02 – 0.029	Huber 89	-

$\mu^+ p$

mult[charged] X		
280	Arneodo 86E	col, p, pt
μ^+ X		
1 – 400	Berger 86B	angp, cs, p
100 – 200	Ashman 89	p, pol
	Ashman 88B	asym
100 – 280	Benvenuti 89	p
	Benvenuti 89C	const, p
	Benvenuti 87D	p
120 – 280	Aubert 85D	p
$J/\psi(1S)$ X		
280	Aubert 84C	cs, p
D^0 X		
280	Grab 87	cs
D^0 X + $\overline{D}^0$ X		
280	Aubert 85	cs
mult[hadron] X		
280	Arneodo 86E	col, p, pt
$p \mu^+$		
1 – 400	Berger 86B	angp, cs, p
$\mu^+ \gamma$ X		
200	Aubert 89	angp, p, pt
μ^+ charged X		
280	Arneodo 88B	p
$\mu^- \mu^+$ X		
280	Grab 87	mass
	Aubert 85	mass
$\pi^0 \mu^+$ X		
200	Aubert 89	p, pt
$\pi^+ \mu^+$ X		
280	Arneodo 89	p
$\pi^- \mu^+$ X		
280	Arneodo 89	p
$\rho^0 \mu^+$ X		
120 – 280	Aubert 85C	angp, cs, pol
280	Arneodo 86D	mult, p, pt
$\omega \mu^+$ X		
280	Arneodo 86D	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.

$\mu^+ p$

$D^0 \mu^+ X$		
240 – 280	Aubert 86C	p, pt
$K^+ \mu^+ X$		
280	Arneodo 89 Arneodo 86H	p mult, p
$K^- \mu^+ X$		
280	Arneodo 89 Arneodo 86H	p mult, p
$K_S \mu^+ X$		
120 – 280	Arneodo 85B	mult, mult
280	Arneodo 86H	mult, p
$p \mu^+ X$		
280	Arneodo 89 Arneodo 87C	p mult, p
$\overline{p} \mu^+ X$		
280	Arneodo 89 Arneodo 87C	p mult, p
$\Lambda \mu^+ X$		
280	Arneodo 86H	mult, p
$\overline{\Lambda} \mu^+ X$		
280	Arneodo 86H	mult, p
μ^+ charged-hadron X		
120 – 280	Arneodo 85B Aubert 85B	mult, mult angp, p, pt
280	Arneodo 85	mass, mult
μ^+ hadron X		
280	Aubert 86	mass, p
μ^+ hadron$^+$ X		
120 – 280	Arneodo 85B	mult
280	Aubert 86	mass, p
μ^+ hadron$^-$ X		
120 – 280	Arneodo 85B	mult
280	Aubert 86	mass, p
μ^+ mult[charged] (neutrals)		
280	Derado 90 Arneodo 88B	mult col, mass, mult, p
$p \rho^0 \mu^+$		
120 – 200	Ashman 88C	angp, cs
$p \phi \mu^+$		
120 – 200	Ashman 88C	angp, cs
$2\pi^+ \mu^+ X$		
280	Arneodo 86C	mass
$2\pi^- \mu^+ X$		
280	Arneodo 86C	mass
$\pi^+ \pi^- \mu^+ X$		
280	Arneodo 86C	mass
$K^+ \pi^- \mu^+ X$		
240 – 280	Aubert 86C	mass
$K^- \pi^+ \mu^+ X$		
240 – 280	Aubert 86C	mass
$K^+ K^- \mu^+ X$		
280	Arneodo 86H	mult
$2K^+ \mu^+ X$		
280	Arneodo 86H	mult
$2K^- \mu^+ X$		
280	Arneodo 86H	mult
$K^+ K_S \mu^+ X$		
280	Arneodo 86H	mult
$K_S K^- \mu^+ X$		
280	Arneodo 86H	mult
$2K_S \mu^+ X$		
280	Arneodo 86H	mult
$\Lambda K^+ \mu^+ X$		
280	Arneodo 86H	mult
$\Lambda K^- \mu^+ X$		
280	Arneodo 86H	mult

$\mu^+ p$

$\overline{\Lambda} K^+ \mu^+ X$		
280	Arneodo 86H	mult
$\overline{\Lambda} K^- \mu^+ X$		
280	Arneodo 86H	mult
$\Lambda K_S \mu^+ X$		
280	Arneodo 86H	mult
$\overline{\Lambda} K_S \mu^+ X$		
280	Arneodo 86H	mult
$p \overline{p} \mu^+ X$		
280	Arneodo 87C	mult, p
$2p \mu^+ X$		
280	Arneodo 87C	mult, p
$2\overline{p} \mu^+ X$		
280	Arneodo 87C	mult
$\Lambda \overline{\Lambda} \mu^+ X$		
280	Arneodo 86H	mult
$2\Lambda \mu^+ X$		
280	Arneodo 86H	mult

μ^+ nucleon

$\mu^+ X$		
1 – 400	Berger 86B	angp, cs, p
150	Jain 87C	mult, p
$\pi^+ \mu^+ X + \pi^- \mu^+ X$		
280	Arneodo 87	mass, p
$K^+ \mu^+ X + K^- \mu^+ X$		
280	Arneodo 87	mass, p
$K_S \mu^+ X$		
280	Arneodo 87	mass, p
$p \mu^+ X + \overline{p} \mu^+ X$		
280	Arneodo 87	mass, p
μ^+ hadron X		
280	Arneodo 87	mass, p, pt
μ^+ mult[hadron] X		
280	Arneodo 87	col
charm $\overline{\text{charm}}$ X		
200	Arneodo 86F	-
μ^+ mult[charged] (neutrals)		
150	Jain 87C	mult, p
nucleon $e^+ \gamma$		
0.0786	Hogan 86	-
μ^+ 2jet		
280	Arneodo 87	pt
nucleon $e^+ 2\gamma$		
0.0786	Hogan 86	-
nucleon $e^- 2e^+$		
0.0786	Hogan 86	-
μ^+ 3jet		
280	Arneodo 87	pt

μ^+ deuteron

$\mu^+ X$		
1 – 400	Berger 86B	angp, cs, p
100 – 280	Ashman 88	a-dep, p
120 – 280	Benvenuti 89B	p
200	Benvenuti 87B	a-dep, p
280	Arneodo 89B Arneodo 88 Aubert 87 Bari 85	p p p a-dep, p
?	Benvenuti 86	a-dep, p
$J/\psi(1S)$ X		
280	Aubert 84C	cs, p
D^0 X		
280	Grab 87	cs
D^0 X + $\overline{D}$ X		
280	Aubert 85	cs
μ^+ charg		
280	Arneodo 88B	p

μ^+ deuteron

$\mu^- \mu^+ X$		
280	Grab 87 Aubert 85	mass mass
$\pi^+ \mu^+ X$		
280	Arneodo 89 Aubert 86 Aubert 85E	p mass, p p
$\pi^- \mu^+ X$		
280	Arneodo 89 Aubert 86 Aubert 85E	p mass, p p
$D^0 \mu^+ X$		
280	Aubert 86C	p, pt
$K^+ \mu^+ X$		
280	Arneodo 89 Arneodo 86H	p mult, p
$K^- \mu^+ X$		
280	Arneodo 89 Arneodo 86H	p mult, p
$K_S \mu^+ X$		
280	Arneodo 86H	mult, p
$p \mu^+ X$		
280	Arneodo 89 Arneodo 87C	p mult, p
$\overline{p} \mu^+ X$		
280	Arneodo 89 Arneodo 87C	p mult, p
$\Lambda \mu^+ X$		
280	Arneodo 86H	mult, p
$\overline{\Lambda} \mu^+ X$		
280	Arneodo 86H	mult, p
μ^+ hadron X		
280	Aubert 86	mass, p
μ^+ hadron$^+$ X		
280	Aubert 86	mass, p
μ^+ hadron$^-$ X		
280	Aubert 86	mass, p
μ^+ mult[charged] (neutrals)		
280	Arneodo 88B	col, mass, mult, p
$K^+ \pi^- \mu^+ X$		
280	Aubert 86C	mass
$K^- \pi^+ \mu^+ X$		
280	Aubert 86C	mass
$p \overline{p} \mu^+ X$		
280	Arneodo 87C	mult, p
$2p \mu^+ X$		
280	Arneodo 87C	mult, p
$2\overline{p} \mu^+ X$		
280	Arneodo 87C	mult

$\mu^+ C$

inelastic		
110 – 120	Kopp 85	p
$\mu^+ X$		
100 – 280	Ashman 88	a-dep, p
120 – 280	Benvenuti 87 Benvenuti 87C	p p
280	Arneodo 89B Arneodo 88	p p
bottom $\overline{\text{bottom}}$ X		
200	Benvenuti 85	cs
$2\mu^- \mu^+ X$		
200	Benvenuti 85	p, pt
$D^0 \overline{D}{}^0 \mu^+ X$		
200	Benvenuti 85	-
$D^+ \overline{D}{}^0 \mu^+ X$		
200	Benvenuti 85	-
$\overline{D}{}^0 D^- \mu^+ X$		
200	Benvenuti 85	-

μ^+ C

$D^0 D^- \mu^+ X$		
200	Benvenuti 85	

μ^+ Nit

$\mu^+ X$		
280	Bari 85	a-dep, p
$\pi^+ \pi^- X$		
120 – 200	Ashman 88C	mass
$K^+ K^- X$		
120 – 200	Ashman 88C	mass

μ^+ Ca

$\mu^+ X$		
280	Arneodo 89B	p
	Arneodo 88	p

μ^+ Fe

inelastic		
50 – 120	Kopp 85	p
$\mu^+ X$		
93 – 215	Meyers 86	p
120 – 280	Aubert 86B	p
200	Benvenuti 87B	a-dep, p
280	Bari 85	a-dep, p
?	Benvenuti 86	a-dep, p
$J/\psi(1S) X$		
250	Aubert 84C	cs, p
$\mu^- \mu^+ X$		
200	Arneodo 86F	–
$2\mu^+ X$		
200	Arneodo 86F	–

μ^+ Cu

$\mu^+ X$		
100 – 280	Ashman 88	a-dep, p

μ^+ Sn

$\mu^+ X$		
100 – 280	Ashman 88	a-dep, p

μ^+ nucleus

$J/\psi(1S) X$		
250 – 280	Fredriksson 87	cs
$p X$		
32	Rabin 86	ang, angp, p, pt
μ^+ hadron X		
280	Fredriksson 87	a-dep, p, pt
mult[htrack] shower X		
150	Fredriksson 87	cor, mult

$\mu^\pm$ p

mult[charged] X		
100 – 280	Nagy 89	cs, cs, mult, mult, p, p
$\rho^0 X$		
100 – 280	Nagy 89	cs, p
ωX		
100 – 280	Nagy 89	cs, p
ϕX		
100 – 280	Nagy 89	cs, p
$J/\psi(1S) X$		
100 – 280	Nagy 89	cs, p
mult[K^+] X		
100 – 280	Nagy 89	cs, mult, p
mult[K^-] X		
100 – 280	Nagy 89	cs, mult, p
mult[K^0] X		
100 – 280	Nagy 89	cs, mult, p
mult[Λ] X		
100 – 280	Nagy 89	cs, mult, p
mult[$\overline{\Lambda}$] X		
100 – 280	Nagy 89	cs, mult, p
mult[strange] X		
100 – 280	Nagy 89	cs, mult, p
$p \rho^0 \mu^\pm$		
100 – 280	Nagy 89	p, pol

$\mu^\pm$ nucleon

X		
(34.97 – 75.11)	Price 85	mult
nucleon $\mu^\pm$		
?	Klein 84B	cs

$\mu^\pm$ deuteron

mult[charged] X		
100 – 280	Nagy 89	cs, mult, p
$\rho^0 X$		
100 – 280	Nagy 89	cs, p
ωX		
100 – 280	Nagy 89	cs, p
ϕX		
100 – 280	Nagy 89	cs, p
$J/\psi(1S) X$		
100 – 280	Nagy 89	cs, p
mult[K^+] X		
100 – 280	Nagy 89	cs, mult, p
mult[K^-] X		
100 – 280	Nagy 89	cs, mult, p
mult[K^0] X		
100 – 280	Nagy 89	cs, mult, p
mult[Λ] X		
100 – 280	Nagy 89	cs, mult, p
mult[$\overline{\Lambda}$] X		
100 – 280	Nagy 89	cs, mult, p
mult[strange] X		
100 – 280	Nagy 89	cs, mult, p
2strange X		
100 – 280	Nagy 89	p

$\mu^\pm$ ^{7}Li

^{7}Li $\mu^\pm \gamma$		
0	Ruckstuhl 85B	p

$\mu^\pm$ ^{13}C

^{13}C $\mu^\pm \gamma$		
0	Deboer 85	–

$\mu^\pm$ ^{24}Mg

^{24}Mg $\mu^\pm \gamma$		
0	Beltrami 85B	–

$\mu^\pm$ ^{28}Si

^{28}Si $\mu^\pm \gamma$		
0	Beltrami 85B	–

$\mu^\pm$ nucleus

$\mu^\pm X$		
$400 - 5 \cdot 10^3$	Zatsepin 89	p
$p X$		
32	Rabin 85	angp, p
hadron X		
4.999 – 150	Asatiani 85	angp, cs, mult
$\mu^\pm$ mult[fragt]		
32	Rabin 88	angp, p
nucleus $\rho^0 \mu^\pm$		
100 – 280	Nagy 89	p, pol

π^- e^-

$\pi^- e^-$		
300	Amendolia 86	angp
$\pi^0 \pi^- e^-$		
300	Amendolia 85	angp

π^- p

charged X		
40	Baldin 85B	col, p
	Grishin 8	mult
80 – 140	Apsimon	cs, pt
360	Verbeure 87	mult
charged$^-$ X		
40	Gabunia 90	a-dep, mult, p
mult[charged] X		
40	Baldin 86	col
360	Aguilarbenit 85F	p
mult[charged] (neutrals)		
4 5	Perepelitsa 88	cs, qnc
38	Boos 87B	ang, mult, p, pt
40	Grishin 85C	cor, mult
200	Naudet 86	cor, p
γX		
0.0773	Stanislaus 89	p
280	Bonesini 88	p, pt
	Richard 87	p, pt
280 – 300	Lancon 86B	angp, pt
	Rutherfoord 85	p, pt
300	Demarzo 87	p, pt
	Richard 87	p, pt
	Ferbel 86	angp, pt
$\pi^0 X$		
40	Amaglobeli 89	asym, pt
	Apokin 89	asym, pt
	Apokin 88B	angp, asym, p
58	Paub 85	p, pt
200	Kennett 87	angp, p
280	Bonesini 87	p, pt
	Richard 87	p, pt
280 – 300	Lancon 86B	angp, pt
	Rutherfoord 85	p, pt
300	Demarzo 87B	p, pt
	Richard 87	p, pt
	Ferbel 86	angp, pt
360	Bailly 87G	cs, p, pt
	Bailly 87H	cs, p, pt
	Aguilarbenit 86C	cs, p, pt
	Bailly 86	cs, p
$\pi^+ X$		
5 – 40	Bajramov 89	p
58	Paub 85	p, pt
360	Bailly 87G	cs, p, pt
	Bailly 87H	cs, p, pt
	Verbeure 87	cs, p
$\pi^- X$		
5 – 40	Bajramov 89	p
58	Paub 85	p, pt
360	Bailly 87G	cs, p, pt
	Bailly 87H	cs, p, pt
	Verbeure 87	cs, p
ηX		
3.3 – 4.75	Arkhipov 88	angp, mass
	Arkhipov 87	mass
40	Amaglobeli 89	asym, pt
	Apokin 89	asym, pt
280	Bonesini 89	cs, p, pt
	Richard 87	p, pt
360	Bailly 87G	cs, p, pt
	Bailly 87H	cs, p, pt
	Aguilarbenit 86C	cs, p, pt
$\rho^+ X$		
250	Adamus 87G	cs
360	Aguilarbenit [illegible]9	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_{cm} in GeV. See the legend on page 155.

$\pi^- \, p$

$\rho^- \, X$		
250	Adamus 87B	cs
360	Aguilarbenit 89	cs, p, pt
$\rho^0 \, X$		
5	Antos 87	pol
38	Bannikov 88	angp
250	Adamus 87B	cs
360	Aguilarbenit 89	cs, p, pt
	Bailly 87C	cs, p, pt
$\omega \, X$		
250	Adamus 87B	cs
$\eta' \, X$		
360	Bailly 87G	cs, p, pt
	Bailly 87H	cs, p, pt
	Aguilarbenit 86C	cs
$\phi \, X$		
360	Aguilarbenit 89	cs, p, pt
$a_1(1260)^0 \, X$		
100	Chapin 85	cs
$f_2(1270) \, X$		
360	Bailly 87C	cs, p, pt
$\pi_2(1670)^0 \, X$		
100	Chapin 85	cs
$\rho_3(1690)^0 \, X$		
360	Bailly 87C	cs, p, pt
$\chi_{c0}(1P) \, X$		
27	Prokoshkin 87C	a-dep, p, pt
$D^0 \, X$		
360	Aguilarbenit 87B	–
	Aguilarbenit 87D	–
	Aguilarbenit 87E	–
	Aguilarbenit 87F	–
	Aguilarbenit 86	–
	Aguilarbenit 86D	cs, p, pt
	Aguilarbenit 85E	cs, p, pt
$\overline{D}^0 \, X$		
360	Aguilarbenit 87B	–
	Aguilarbenit 87D	–
	Aguilarbenit 87E	–
	Aguilarbenit 87F	–
	Aguilarbenit 86	–
	Aguilarbenit 86D	cs, p, pt
	Aguilarbenit 85E	cs, p, pt
$D^0 \, X + \overline{D}^0 \, X$		
360	Aguilarbenit 85	cs
$D^+ \, X$		
360	Aguilarbenit 87B	–
	Aguilarbenit 87D	–
	Aguilarbenit 87E	–
	Aguilarbenit 87F	–
	Aguilarbenit 86	–
	Aguilarbenit 86D	cs, p, pt
	Aguilarbenit 85E	cs, p, pt
$D^- \, X$		
360	Aguilarbenit 87B	–
	Aguilarbenit 87D	–
	Aguilarbenit 87E	–
	Aguilarbenit 87F	–
	Aguilarbenit 86	–
	Aguilarbenit 86D	cs, p, pt
	Aguilarbenit 85E	cs, p, pt
$D_S^- \, X$		
360	Aguilarbenit 86D	cs
	Aguilarbenit 85C	cs

$\pi^- \, p$

$D_S^+ \, X$		
360	Aguilarbenit 86D	cs
	Aguilarbenit 85C	cs
$D^*(2010)^0 \, X$		
360	Aguilarbenit 86B	cs, p, pt
$\overline{D}^*(2010)^0 \, X$		
360	Aguilarbenit 86B	cs, p, pt
$D^*(2010)^+ \, X$		
360	Aguilarbenit 86B	cs, p, pt
$D^*(2010)^- \, X$		
13	Christenson 85	cs
360	Aguilarbenit 86B	cs, p, pt
$K^+ \, X$		
58	Paub 85	p, pt
360	Bailly 87G	cs, p, pt
	Bailly 87H	cs, p, pt
	Verbeure 87	cs, p
$K^- \, X$		
58	Paub 85	p, pt
360	Bailly 87G	cs, p, pt
	Bailly 87H	cs, p, pt
	Verbeure 87	cs, p
$K^0 \, X$		
40	Gabunia 89	a-dep, mult
$K^*(892)^+ \, X$		
4.35 – 4.85	Aleshin 85	cs
360	Aguilarbenit 89	cs, p, pt
$K^*(892)^- \, X$		
4.35 – 4.85	Aleshin 85	cs
360	Aguilarbenit 89	cs, p, pt
$K^*(892)^0 \, X$		
16	Karnaukhov 86	cs
360	Aguilarbenit 89	cs, p, p
$\overline{K}^*(892)^0 \, X$		
360	Aguilarbenit 89	cs, p, pt
$K^*(\text{unspec})^+ \, X$		
16	Karnaukhov 87	–
$K^*(\text{unspec})^- \, X$		
16	Karnaukhov 87	–
$K^*(\text{unspec})^0 \, X$		
16	Karnaukhov 87	–
$K_S \, X$		
40	Baldin 85B	col, p
	Grishin 85	mult, p
	Grishin 85B	cs, p, pt
360	Bailly 86	cs, p
$D_S^\pm \, X$		
200	Becker 87	–
$p \, X$		
1.84 – 2.63	Abramov 88	ang, angp, p
9.9	Blazey 85	angp, mass, pt
30	Abreu 85	a-dep, p, pt
100	Chapin 85	angp, mass
360	Bailly 87G	cs, p, pt
	Bailly 87H	cs, p, pt
	Verbeure 87	cs, p
$\overline{p} \, X$		
30	Abreu 85	a-dep, p, pt
360	Bailly 87G	cs, p, pt
	Bailly 87H	cs, p, pt
	Verbeure 87	cs, p
$\Delta(1232 \, P_{33})^{++} \, X$		
5	Antos 88	angp, cs, p

$\pi^- \, p$

$\Lambda_c^+ \, X$		
360	Klein 89C	–
	Aguilarbenit 87H	–
	Aguilarbenit 86D	cs, p, pt
$\overline{\Lambda}_c^- \, X$		
360	Aguilarbenit 87H	–
	Aguilarbenit 86D	cs, p, pt
$\Lambda \, X$		
4 – 205	Panagiotou 89	p, pol. pt
38	Boos 87B	–
40	Gabunia 89	a-dep, mult
	Baldin 85B	col, p
	Grishin 85	mult, p
	Grishin 85B	cs, p, pt
360	Bailly 86	cs, p
$\overline{\Lambda} \, X$		
360	Bailly 86	cs, p
$\Sigma(1385 \, P_{13})^+ \, X$		
16	Karnaukhov 86	cs
$\Sigma(1385 \, P_{13})^- \, X$		
16	Karnaukhov 86	cs
anomalon X		
360	Aguilarbenit 85F	–
bottom X		
200	Arenton 86	cs
$\text{hadron}^+ \, X$		
360	Bailly 86	cs, p
$\text{hadron}^- \, X$		
360	Bailly 86	cs, p
jet X		
40	Baldin 88B	ang, p
	Baldin 85	angp, p
	Baldin 85B	col, p
200	Tannenbaum 89	angp, p, pt
	Arenton 85B	ang, col, et, pt
mult[hadron] X		
5.7 – 205	Baldin 87	col, p
40	Baldin 86B	col
mult[jet] X		
40	Baldin 86	col
$\text{tachyon}^+ \, X$		
4.5	Perepelitsa 87	cs
$\text{tachyon}^- \, X$		
4.5	Perepelitsa 87	cs
π^0 (neutrals)		
200	Kennett 87	angp, p
$n \, \gamma$		
0.0773	Stanislaus 89	p
0.1217 – 0.2211	Bagheri 87B	angp
0.427 – 0.625	Kim 89D	angp
	Kim 86	asym
$n \, \pi^0$		
0	Niebuhr 89	–
	Crawford 88	p
	Crawford 86	p
0.0456 – 0.1219	Bagheri 87	angp, pwa
0.1006 – 0.1471	Fitzgerald 86	angp
0.301 – 0.625	Kim 90	angp, asym
	Kim 89	angp
0.547 – 0.687	Wightman 88	angp, asym, pol
	Wightman 87	angp, asym
< 1.232	Arndt 85	amp
2.969 – 3.965	Suzuki 87	angp
2.969 – 4.22	Minowa 87	angp
4.314 – 18.7	Zhokin 89	cs
39.1	Apokin 86C	angp, cs

$\pi^- \ p$

$n \ \pi^0$		
40	Siksin 87	amp
	Apokin 86	angp, asym, pol
	Kazarinov 85	amp
	Avvakumov 84	angp, pol
	Borisov 84	angp, pol
$p \ \pi^-$		
0.03 – 0.67	Brack 89	angp, cs
0.1356	Wiedner 89	amp, angp
	Wiedner 87	angp
0.2445 – 0.4168	Ottermann 85B	angp
0.295 – 0.45	Felipcic 89	angp
0.378 – 0.687	Sadler 87	angp, cs
0.45	Bekrenev 86	pol
0.45 – 0.56	Abaev 88B	pol
0.471 – 0.625	Barlow 89	angp, asym, pol
0.471 – 0.687	Mokhtari 86	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
0.5728	Bekrenev 86B	pol
< 1.232	Arndt 85	amp
1.43 – 2.07	Alekseev 89	asym
	Alekseev 88B	angp, asym
	Budkovsky 85	angp, asym
4.314 – 76.26	Zhokin 89	angp
(3 – 540)	Prokoshkin 87C	angp
8 – 12	Armstrong 87C	angp, cs
	Armstrong 86F	angp
9.9	Baller 88	angp, cs, pt
	Blazey 85	angp, mass, pt
	Heppelmann 85	ang, angp, pwa
20 – 50	Asad 85	angp
40	Antipov 87B	angp, cs
	Siksin 87	amp
	Kazarinov 85	amp
< 200	Hohler 89	angp, pol, pwa
$\Delta(1232 \, P_{33})^0 \ \pi^0$		
4.314 – 18.7	Zhokin 89	cs
$\Delta(1232 \, P_{33})^- \ \pi^+$		
4.314 – 18.7	Zhokin 89	cs
9.9	Baller 88	angp, cs, pt
$n \ \eta$		
8 – 40	Landsberg 86	–
32.5	Landsberg 88	ang, angp, mass
39.1	Apokin 86C	angp, cs
40	Apokin 85B	angp, pol
$p \ \rho^-$		
4.314 – 18.7	Zhokin 89	cs
9.9	Baller 88	angp, cs, pt
	Blazey 85	angp, pt
	Heppelmann 85	–
On !		
8 – 40	Landsberg 86	–
32.5	Landsberg 88	ang, angp, mass
	Bityukov 87	cs
39.1	Apokin 86C	angp, cs
40	Avvakumov 86B	angp, asym
$\Delta(1232 \, P_{33})^0 \ \eta$		
3.3	Arkhipov 85	angp, cs
3.3 – 4.75	Arkhipov 87	angp, cs
?	Arkhipov 88	–
$N(1680 \, F_{15})^0 \ \pi^0$		
4.314 – 18.7	Zhokin 89	cs

$\pi^- \ p$

$N(1700 \, B)^+ \ \pi^-$		
4.5	Aleshin 87	cs
$n \ \eta'$		
8 – 40	Landsberg 86	–
30 – 38	Alde 87B	–
32.5	Bityukov 90	–
	Landsberg 88	ang, angp, mass
38	Alde 86B	–
	Alde 86D	angp, cs
39.1	Apokin 86C	angp, cs
40	Apokin 85B	angp, pol
$n \ a_0(980)^0$		
100	Boutemeur 89	cs, pwa
	Augustin 88C	–
	Boutemeur 88	cs
$\Delta(1232 \, P_{33})^0 \ \rho^0$		
4.314 – 18.7	Zhokin 89	cs
$n \ h_1(1170)$		
8.01	Inagaki 89B	cs
8.06	Takamatsu 89	cs
$p \ b_1(1235)^-$		
4.5	Aleshin 87C	cs, pol
	Aleshin 87D	pol
	Aleshin 86B	cs
$n \ b_1(1235)^0$		
8.95	Takamatsu 89	cs
$n \ a_1(1260)^0$		
8.01	Inagaki 89B	cs
8.06	Takamatsu 89	cs
$n \ \rho(1450)^0$		
8.95	Takamatsu 89	cs
$n \ f_2(1270)$		
4.314 – 18.7	Zhokin 89	cs
22	Longacre 86	–
	Longacre 86B	mass, pwa
39.1	Apokin 86C	angp, cs
40	Bolonkin 88	cs
	Bolonkin 87	cs, pwa
	Apokin 86B	angp, cs
	Baloshin 84	cs
100	Alde 87D	cs
	Alde 86	cs
$n \ \eta(1295)$		
8	Augustin 88C	–
8.06	Takamatsu 89	cs
	Ando 86	–
8.95	Takamatsu 89	cs
	Augustin 88C	mass, pwa
32.5	Bityukov 87	cs
$n \ f_1(1285)$		
8	Augustin 88C	–
	Birman 88	ang, angp
8.06	Takamatsu 89	cs
8.95	Takamatsu 89	cs
	Augustin 88C	mass, pwa
22	Rath 89	cs
32.5	Bityukov 89	cs, mass
	Augustin 88C	mass
	Bityukov 88	–
	Bityukov 87	cs
	Landsberg 87	angp, cs, pwa
	Prokoshkin 87B	angp, cs
	Bityukov 85C	cs, mass
?	Chung 85	–
$N(2100 \, B)^+ \ \pi^-$		
4.5	Aleshin 87	cs
$n \ a_2(1320)^0$		
40	Bolonkin 88	cs
	Bolonkin 87	cs, pwa
	Apel 85	cs
100	Boutemeur 89	cs, pwa

$\pi^- \ p$

$n \ a_2(1320)^0$		
	Alde 88E	cs, mass, pwa
	Augustin 88C	–
	Boutemeur 88	cs
$n \ f_0(1400)$		
100	Alde 86	cs
$n \ f_1(1420)$		
8.06	Ando 86	–
32.5	Augustin 88C	mass
	Bityukov 87	cs
	Bityukov 85C	cs, mass
40	Bolonkin 88	cs
?	Chung 85	–
$n \ \eta(1440)$		
8	Augustin 88C	–
	Toki 88B	–
8.06	Takamatsu 89	cs
	Chan 88	–
8.95	Takamatsu 89	cs
	Augustin 88C	mass, pwa
32.5	Bityukov 87	cs
?	Chung 85	–
$n \ C(1480)$		
32.5	Landsberg 87	angp, cs, pwa
	Bityukov 86B	angp, cs
$N(1680 \, F_{15})^0 \ \rho^0$		
4.314 – 18.7	Zhokin 89	cs
$n \ f'_2(1525)$		
22	Longacre 86	–
	Longacre 86B	mass, pwa
40	Bolonkin 88	cs
	Bolonkin 87	cs, pwa
	Baloshin 84	cs
100	Alde 86	cs
$\Delta(1232 \, P_{33})^0 \ f_2(1270)$		
4.314 – 18.7	Zhokin 89	cs
$n \ f_0(1590)$		
38	Tsukerman 85B	–
38 – 230	Toki 88B	–
100	Alde 87D	cs
	Alde 86	cs
$n \ \rho_3(1690)^0$		
?	Fukui 88	angp, mass
$n \ \rho(1700)^0$		
8.95	Takamatsu 89	cs
$n \ f_2(1720)$		
22	Longacre 86	–
	Longacre 86B	mass, pwa
40	Bolonkin 88	cs
	Toki 88B	–
	Bolonkin 87	cs, pwa
$n \ f_0(1750)$		
40	Bolonkin 88	cs
$n \ f_2(1810)$		
22	Longacre 86	–
	Longacre 86B	mass, pwa
100	Alde 87D	cs
$n \ f_2(2010)$		
22	Augustin 88C	–
	Longacre 87	–
	Longacre 86B	–
	Tsukerman 85B	–
40	Bolonkin 88	cs
$N(1680 \, F_{15})^0 \ f_2(1270)$		
4.314 – 18.7	Zhokin 89	cs
$n \ f_4(2050)$		
38	Alde 90	angp, cs
40	Bolonkin 88	cs
	Bolonkin 87	cs, pwa
100	Alde 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.

$\pi^- p$

$n\ f_4(2220)$		
38 – 100	Augustin 88C	–
	Toki 87	–
	Alde 86E	cs
40	Toki 88B	–
100	Alde 86	cs
$n\ f_2(2300)$		
22	Augustin 88C	–
	Longacre 87	–
	Longacre 86B	–
	Tsukerman 85B	–
40	Bolonkin 88	cs
	Bolonkin 87	cs, pwa
$n\ f_2(2340)$		
22	Augustin 88C	–
	Longacre 87	–
	Longacre 86B	–
	Tsukerman 85B	–
$n\ \eta_c(1S)$		
13	Chiang 86	cs
$n\ J/\psi(1S)$		
13	Chiang 86	cs
$\Lambda_c^+\ D^*(2010)^-$		
13	Christenson 85	cs
$\Sigma_c(2455)^+\ D^*(2010)^-$		
13	Christenson 85	cs
$\Lambda\ K^0$		
4.35 – 4.85	Aleshin 85	cs
40	Avvakumov 86	angp, asym, pol
$\Lambda\ K^0 + \Sigma^0\ K^0$		
3.15 – 7.9	Bachman 86	angp, pol
$\Sigma^0\ K^0$		
4.35 – 4.85	Aleshin 85	cs
$\Sigma^-\ K^+$		
9.9	Baller 88	angp, cs, pt
p meson$^-$		
6	Takamatsu 89	mass, pwa
n meson		
40	Bolonkin 87	cs, pwa
n meson^0		
1 – 60	Prokoshkin 87C	angp
8	Birman 88	ang, angp
8.06	Ando 86	–
8.95	Takamatsu 89	cs
17.2	Rybicki 86	cs
32.5	Landsberg 88	angp, cs
	Landsberg 87	angp, cs, pwa
	Prokoshkin 87B	angp, cs
	Bityukov 86	angp, cs
	Bityukov 85	cs
38	Alde 89	cs
	Alde 88C	cs
	Alde 88D	angp, cs
	Alde 86C	angp, cs
38 – 100	Alde 86E	cs
40	Toki 88B	–
	Baloshin 87	angp, cs
	Prokoshkin 87B	angp
	Baloshin 84	cs
40 – 100	Prokoshkin 87	angp, cs
100	Boutemeur 89	cs, pwa
	Alde 88E	ang, cs, mass, pwa
	Augustin 88C	–
	Boutemeur 88	cs
	Alde 86	cs
?	Alde 90	–
	Fukui 88	mass
$n\ C(1480)^0$		
32.5	Augustin 88C	mass
	Landsberg 88	angp, cs
	Bityukov 85	cs
n glueball		
21.4	Chan 88	-

$\pi^- p$

n glueball		
22	Etkin 88	–
	Longacre 87	–
	Longacre 86B	–
	Etkin 85	–
	Tsukerman 85B	–
38	Tsukerman 85B	–
40	Prokoshkin 85	cs
100	Alde 86	cs
charged (chargeds) (neutrals)		
4.5	Perepelitsa 87	mass
2γ X		
3.3 – 4.75	Arkhipov 88	mass
	Arkhipov 87	mass
40	Amaglobeli 89	asym, mass
	Apokin 89	asym, mass
280	Bonvin 90	cs, p, pt
	Bonvin 89	cs, mass, p, pt
300	Demarzo 87B	mass
?	Albrow 88	pt
$e^-\ e^+$ X		
0.2696	Alekseev 87B	angp, cs
$\mu^-\ \mu^+$ X		
40 – 225	Rutherfoord 85	mass
225	Rutherfoord 85	mass
$\pi^+\ \pi^0$ X		
360	Aguilarbenit 89	mass, p, pt
$\pi^0\ \pi^-$ X		
360	Aguilarbenit 89	mass, p, pt
$2\pi^+$ X		
4.9	Dzhincharadz 86	p
4.91	Glagolev 85	ang
$2\pi^-$ X		
4.9	Dzhincharadz 86	p
4.91	Glagolev 85	ang
$\pi^+\ \pi^-$ X		
4.91	Glagolev 85	ang
5	Antos 87	mass
38	Bannikov 88	mass
360	Aguilarbenit 89	mass, p, pt
	Bailly 87C	mass, p
$\phi\ \pi^+$ X		
360	Aguilarbenit 85C	mass
$\phi\ \pi^-$ X		
360	Aguilarbenit 85C	mass
$\overline{B}^0\ B^-$ X		
350	Albanese 85	–
$D^0\ \pi^0$ X		
360	Aguilarbenit 86B	mass
$\overline{D}^0\ \pi^0$ X		
360	Aguilarbenit 86B	mass
$D^0\ \pi^+$ X		
360	Aguilarbenit 86B	mass
$\overline{D}^0\ \pi^-$ X		
360	Aguilarbenit 86B	mass
$D^0\ \overline{D}^0$ X		
360	Aguilarbenit 85D	cor, mass, p, pt
$D^+\ \overline{D}^0$ X		
360	Aguilarbenit 85D	cor, mass, p, pt
$D^0\ D^-$ X		
360	Aguilarbenit 85D	cor, mass, p, pt
$D^+\ D^-$ X		
360	Aguilarbenit 85D	cor, mass, p, pt
K^0 charged$^-$ X		
40	Gabunia 90	a-dep, mult, p

$\pi^- p$

$K^+\ \pi^0$ X		
360	Aguilarbenit 89	mass, p, pt
$K^-\ \pi^0$ X		
360	Aguilarbenit 89	mass, p, pt
$K^+\ \pi^-$ X		
360	Aguilarbenit 89	mass, p, pt
$K^-\ \pi^+$ X		
360	Aguilarbenit 89	mass, p, pt
$K^0\ \pi^+$ X		
4.35 – 4.85	Arutyunyants 85	ang
$K^0\ \pi^-$ X		
4.35 – 4.85	Arutyunyants 85	ang
$K^+\ K^-$ X		
360	Aguilarbenit 89	mass, p, pt
$K^0\ \overline{K}^0$ X		
4.35 – 4.85	Arutyunyants 85	ang
$2K^0$ X		
4.35 – 4.85	Aleshin 85	cs
$K_S\ \pi^+$ X		
16	Karnaukhov 87	mass
$K_S\ \pi^-$ X		
16	Karnaukhov 87	mass
$2K_S$ X		
4.35 – 4.85	Aleshin 85	cs
$p\ \pi^+$ X		
5	Antos 88	mass
Λ charged$^-$ X		
40	Gabunia 90	a-dep, mult, p
$\Lambda\ \pi^+$ X		
16	Karnaukhov 87	mass
$\Lambda\ \pi^-$ X		
16	Karnaukhov 87	mass
$\Lambda\ K^0$ X		
4.35 – 4.85	Arutyunyants 85	ang
$p\ \overline{p}$ X		
30	Beusch 86	a-dep, ang, mass, p, pt
γ jet X		
280	Bonesini 89B	p, pt
π^- jet X		
40	Baldin 85	ang, p
ρ^0 jet X		
40	Baldin 85	ang, p
K_S jet X		
40	Baldin 85	ang, p
$\Delta(1232\,P_{33})^{++}$ jet X		
40	Baldin 85	ang, p
Λ jet X		
40	Baldin 85	ang, p
2hadron$^-$ X		
58	Paub 85	cor, p
hadron$^+$ hadron$^-$ X		
58	Paub 85	cor, p
2jet X		
200	Naudet 86	p, pt
	Arenton 85B	ang, col, et, pt
$p\ \pi^-$ (neutrals)		
9.9	Heppelmann 85	ang, angp, pwa
$\Lambda\ K^0$ (neutrals)		
4.35 – 4.85	Aleshin 85	cs
π^0 mult[charged] (neutrals)		
360	Aguilarbenit 86C	cs, mult

$\pi^- \; p$

π^+ mult[charged] (neutrals)		
5	Bajramov 86	mult, p, pt
π^- mult[charged] (neutrals)		
5	Bajramov 86	mult, p, pt
$n \; 2\gamma$		
13	Chiang 86	mass
$n \; e^- \; e^+$		
0	Niebuhr 89	ang, angp, mass
13	Chiang 86	mass
$p \; \pi^- \; \gamma$		
0	Bovet 84	amp, cs
40	Antipov 89B	angp, cs, mass
$n \; \mu^- \; \mu^+$		
8 – 40	Landsberg 86	–
25 – 33	Landsberg 85	mass
$n \; 2\pi^0$		
25	Apel 85B	ang, mass
38	Alde 88D	mass
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
	Kernel 89B	amp, cs, mass
9.9	Heppelmann 85	dme, pwa
$n \; \pi^+ \; \pi^-$		
0.29 – 0.45	Kernel 89B	amp, cs, mass
0.4567	Balandin 85	ang
17.2	Rybicki 86	angp, mass, pwa
	Svec 84	–
17.2 – 63	Rybicki 85	mass, pwa
32.5	Landsberg 88	ang, angp, mass
	Landsberg 87	mass, p
$\Delta(1232\,P_{33})^0 \; 2\gamma$		
3.3 – 4.75	Arkhipov 88	–
$n \; \eta \; \pi^0$		
40	Apel 85	ang, angp, mass, pwa
100	Boutemeur 89	–
	Alde 88E	ang, angp, mass, pwa
	Augustin 88C	mass, pwa
	Boutemeur 88	–
	Iddir 88	ang, angp, mass, pwa
$p \; \eta \; \pi^-$		
4.5	Aleshin 86B	cs
6	Takamatsu 89	mass, pwa
$n \; \rho^0 \; \gamma$		
32.5	Bityukov 89	cs, mass
$n \; \omega \; \pi^0$		
8.95	Takamatsu 89	mass, pwa
$p \; \omega \; \pi^-$		
4.5	Aleshin 87D	ang, angp, mass, p, pwa
	Aleshin 86B	cs
$n \; \phi \; \gamma$		
32.5	Augustin 88C	mass
	Bityukov 88	ang, mass
	Landsberg 87	mass, p
	Prokoshkin 87B	mass, p
$n \; \eta' \; \pi^0$		
100	Boutemeur 89	–

$\pi^- \; p$

$n \; 2\eta$		
38	Alde 88D	mass
	Alde 86C	mass, p
	Tsukerman 85B	mass
38 – 230	Toki 88B	mass
40	Prokoshkin 87B	mass, pwa
	Prokoshkin 87C	angp, mass
	Prokoshkin 85	mass, pwa
100	Alde 86	angp, mass, pwa
	Augustin 85E	–
$n \; a_0(980)^0 \; \pi^0$		
21.4	Toki 88B	mass
22	Rath 89	cs
$n \; a_0(980)^+ \; \pi^-$		
8	Toki 88B	mass
?	Ando 86	–
$n \; a_0(980)^- \; \pi^+$		
?	Ando 86	–
$n \; \phi \; \pi^0$		
32.5	Augustin 88C	mass
	Landsberg 88	ang, angp, mass
	Landsberg 87	mass, p
	Prokoshkin 87B	mass, p
	Bityukov 86	mass
	Bityukov 86B	mass, p
	Bityukov 85	cs, mass
40	Prokoshkin 87C	mass
$\Delta(1232\,P_{33})^{++} \; \rho^- \; \pi^-$		
4.5	Aleshin 87	mass
	Aleshin 86B	cs
$n \; \eta(1440) \; \gamma$		
21.4	Toki 88B	–
$n \; a_2(1320)^0 \; \pi^0$		
22	Rath 89	cs
$n \; \eta' \; \eta$		
38	Alde 88D	mass
	Tsukerman 85B	mass
38 – 100	Augustin 88C	mass
	Toki 87	mass
	Alde 86E	mass
38 – 230	Toki 88B	mass
40	Prokoshkin 87B	mass, pwa
	Prokoshkin 85	mass, pwa
$n \; 2\omega$		
38	Alde 90	mass
$n \; 2\eta'$		
40	Prokoshkin 85	mass, pwa
$n \; 2\phi$		
22	Augustin 88C	mass, pwa
	Etkin 88	mass, pwa
	Longacre 87	mass, pwa
	Longacre 86B	mass, pwa
	Etkin 85	mass, pwa
	Tsukerman 85B	mass
100	Augustin 85E	–
$\Lambda \; K^0 \; \pi^0$		
4.35 – 4.85	Aleshin 85	cs
$\Lambda \; K^+ \; \pi^-$		
4.35 – 4.85	Aleshin 85	cs
$\Sigma^0 \; K^+ \; \pi^-$		
4.35 – 4.85	Aleshin 85	cs
$n \; K^+ \; K^-$		
32.5	Landsberg 88	ang, angp, mass
	Landsberg 87	mass, p
$p \; K^0 \; K^-$		
4.35 – 4.85	Aleshin 85	cs

$\pi^- \; p$

$\Lambda \; K^*(892)^+ \; \pi^-$		
4.35 – 4.85	Aleshin 85	cs
$n \; K^*(892)^0 \; K_S + n \; K^*(892)^- \; K^+$		
8	Toki 88B	mass
$n \; K^*(892)^0 \; K_S + n \; \overline{K}^*(892)^0 \; K_S$		
21.4	Toki 88B	mass
$n \; 2K_S$		
22	Longacre 86	–
	Longacre 86B	mass, pwa
38	Alde 88D	mass
40	Bolonkin 88	angp, mass, pwa
	Toki 88B	mass
	Baloshin 87	angp, mass
	Bolonkin 87	mass, pwa
	Prokoshkin 87C	mass
	Baloshin 84	ang, cs, mass, pwa
$n \; \Lambda \; \overline{\Lambda}$		
40	Prokoshkin 87C	angp, mass
$n \; \eta \; \pi\pi(L=0)$		
8.06	Ando 86	mass, pwa
2hadron (hadrons)		
40	Baldin 88B	col
2charged (chargeds) (neutrals)		
80 – 140	Apsimon 90	col, pt
$\pi^+ \; \pi^0 \; \pi^- \; X$		
250	Adamus 87B	mass
360	Aguilarbenit 89	mass, p, pt
$2\pi^+ \; \pi^- \; X$		
360	Aguilarbenit 85C	mass
$\pi^+ \; 2\pi^- \; X$		
360	Aguilarbenit 85C	mass
$K^+ \; 2\pi^- \; X$		
13	Christenson 85	mass
$K^+ \; \pi^+ \; \pi^- \; X$		
16	Karnaukhov 87	mass
360	Aguilarbenit 85C	mass
$K^- \; \pi^+ \; \pi^- \; X$		
360	Aguilarbenit 85C	mass
$K^0 \; \overline{K}^0$ charged$^-$ X		
40	Gabunia 90	a-dep, mult, p
$K^+ \; K^- \; \pi^+ \; X$		
360	Aguilarbenit 85C	mass
$K^+ \; K^- \; \pi^- \; X$		
360	Aguilarbenit 85C	mass
$K^+ \; K^0 \; \pi^- \; X$		
8	Chan 88	mass, pwa
$K_S \; \pi^+ \; \pi^- \; X$		
16	Karnaukhov 87	mass
2kaon π X		
200	Becker 87	mass
$\Lambda \; K^+ \; \pi^-$ (neutrals)		
4.35 – 4.85	Aleshin 85	cs
$p \; K^0 \; K^-$ (neutrals)		
4.35 – 4.85	Aleshin 85	cs
$K^*(892)^+$ charged$^-$ neutral (neutrals)		
16	Karnaukhov 87	cs
$K^*(892)^-$ charged$^+$ neutral (neutrals)		
16	Karnaukhov 87	cs
$\Sigma(1385\,P_{13})^+$ charged$^-$ neutral (neutrals)		
16	Karnaukhov 87	cs
$\Sigma(1385\,P_{13})^-$ charged$^+$ neutral (neutrals)		
16	Karnaukhov 87	cs
$n \; 2\gamma$ (γ's)		
40 – 100	Prokoshkin 87	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.

$\pi^- \, p$

$n \, \mu^- \, \mu^+ \, \gamma$		
8 – 40	Landsberg 86	–
25 – 33	Landsberg 85	mass
$n \, \pi^+ \, \pi^- \, \gamma$		
32.5	Bityukov 90	ang, mass
	Bityukov 89	cs, mass
	Landsberg 88	ang, angp, mass
	Bityukov 87	mass
	Landsberg 87	mass, p
$n \, \pi^+ \, \pi^0 \, \pi^-$		
8.01	Inagaki 89B	mass, pwa
8.06	Takamatsu 89	mass, pwa
32.5	Landsberg 88	ang, angp, mass
$p \, \pi^+ \, 2\pi^-$		
4.35 – 4.85	Aleshin 84	angp, p, pol, pt
$n \, \eta \, 2\gamma$		
38	Alde 88D	mass
38 – 100	Alde 86E	mass
$\Delta(1232 \, P_{33})^{++} \, \pi^0 \, 2\pi^-$		
4.5	Aleshin 87	mass
	Aleshin 86B	cs
$n \, \eta \, 2\pi^0$		
38	Alde 86B	mass
$n \, \eta \, \pi^+ \, \pi^-$		
8	Augustin 85E	–
8.01	Inagaki 89B	mass, pwa
8.06	Ando 86	mass, pwa
8.95	Takamatsu 89	mass, pwa
	Augustin 88C	mass
	Fukui 88	angp, mass, pwa
$p \, \rho^0 \, \pi^0 \, \pi^-$		
4.5	Aleshin 86B	cs
$p \, \rho^- \, \pi^+ \, \pi^-$		
4.5	Aleshin 86B	cs
$\Lambda \, K^+ \, \pi^0 \, \pi^-$		
4.35 – 4.85	Aleshin 85	cs
$\Lambda \, K^0 \, \pi^+ \, \pi^-$		
4.35 – 4.85	Aleshin 85	cs
$n \, K^+ \, K^- \, \gamma$		
32.5	Augustin 88C	mass
	Bityukov 88	ang, mass
	Landsberg 88	ang, angp, mass
	Bityukov 87	mass
	Landsberg 87	mass, p
$\Sigma^0 \, K^0 \, \pi^+ \, \pi^-$		
4.35 – 4.85	Aleshin 85	cs
$n \, K^+ \, K^- \, \pi^0$		
4.35 – 4.85	Aleshin 85	cs
32.5	Augustin 88C	mass
	Landsberg 88	ang, angp, mass
	Landsberg 87	mass, p
	Prokoshkin 87B	mass, p
	Bityukov 86	mass
	Bityukov 86B	mass, p
	Bityukov 85	cs, mass
	Bityukov 85C	cs, mass
$p \, K^0 \, K^- \, \pi^0$		
4.35 – 4.85	Aleshin 85	cs
$n \, K^+ \, \overline{K}^0 \, \pi^-$		
8	Birman 88	angp, mass
$n \, K^0 \, K^- \, \pi^+$		
4.35 – 4.85	Aleshin 85	cs
$n \, K^+ \, K^- \, \phi$		
22	Augustin 88C	mass
	Etkin 88	mass
	Longacre 87	mass, pwa
	Etkin 85	mass

$\pi^- \, p$

$n \, K^+ \, K_S \, \pi^-$		
8	Augustin 88C	mass
	Toki 88B	mass
	Augustin 85E	–
	Chung 85	mass, pwa
8.01	Inagaki 89B	mass, pwa
8.06	Takamatsu 89	mass, pwa
$n \, K_S \, K^- \, \pi^+$		
8.01	Inagaki 89B	mass, pwa
8.06	Takamatsu 89	mass, pwa
$n \, K^+ \, K_S \, \pi^- + n \, K_S \, K^- \, \pi^+$		
8.06	Chan 88	mass, pwa
$n \, K^*(892)^0 \, K_S \, \pi^0$		
22	Rath 89	cs
$n \, 2K_S \, \pi^0$		
21.4	Chan 88	mass, pwa
	Toki 88B	mass
22	Rath 89	mass
4charged (neutrals)		
360	Aguilarbenit 85	mass
$K^+ \, \pi^+ \, 2\pi^-$ X		
16	Karnaukhov 87	mass
$K^- \, 2\pi^+ \, \pi^-$ X		
16	Karnaukhov 87	mass
$2\pi^+ \, 2\pi^-$ neutral		
4.314	Andryakov 88	angp, cor, p
$2K^0$ 2neutral (neutrals)		
4.35 – 4.85	Aleshin 85	cs
$2K_S$ 2neutral (neutrals)		
4.35 – 4.85	Aleshin 85	cs
$\Lambda \, K^0 \, \pi^+ \, \pi^-$ (neutrals)		
4.35 – 4.85	Aleshin 85	cs
$n \, 4\gamma$		
25	Apel 85B	cs
38	Alde 88D	mass
	Alde 86C	mass, p
38 – 100	Augustin 88C	mass
	Toki 87	mass
	Alde 86E	mass
38 – 230	Toki 88B	mass
40	Prokoshkin 87B	mass, p
	Apel 85	mass
100	Boutemeur 89	mass
	Alde 88E	ang, mass
	Augustin 88C	mass
	Boutemeur 88	mass
	Alde 86	angp, mass
$n \, \mu^- \, \mu^+ \, 2\gamma$		
8 – 40	Landsberg 86	–
25 – 33	Landsberg 85	mass
$n \, 2\pi^0 \, 2\gamma$		
38	Alde 90	mass
$n \, \pi^+ \, \pi^- \, 2\gamma$		
8.01	Inagaki 89B	mass, pwa
8.95	Augustin 88C	mass
	Fukui 88	angp, mass, pwa
32.5	Landsberg 88	ang, angp, mass
	Landsberg 87	mass, p
$n \, 4\pi^0$		
38 – 230	Toki 88B	mass
40	Prokoshkin 87B	mass, pwa
100	Alde 87D	mass
$n \, \pi^+ \, 2\pi^0 \, \pi^-$		
8.95	Takamatsu 89	mass, pwa
$p \, \pi^+ \, \pi^0 \, 2\pi^-$		
4	Andryakov 87	p
4.314	Andryakov 88	angp, cor, p
4.5	Aleshin 87	mass

$\pi^- \, p$

$p \, \pi^+ \, \pi^0 \, 2\pi^-$		
	Aleshin 87D	ang, angp, mass, p
	Aleshin 86B	cs
$n \, 2\pi^+ \, 2\pi^-$		
4	Andryakov 87	p
4.314	Andryakov 88	angp, cor, p
$n \, K^+ \, K^- \, 2\gamma$		
32.5	Landsberg 88	ang, angp, mass
	Landsberg 87	mass, p
$n \, 2K^+ \, 2K^-$		
22	Augustin 88C	mass
	Etkin 88	mass
	Longacre 87	mass
	Longacre 86B	mass
	Etkin 85	mass
$K_S \, 2\pi^+ \, 2\pi^-$ X		
16	Karnaukhov 87	mass
$K^+ \, \pi^+ \, 2\pi^-$ neutral (neutrals)		
360	Aguilarbenit 85	mass
$K^- \, 2\pi^+ \, \pi^-$ neutral (neutrals)		
360	Aguilarbenit 85	mass
$n \, \mu^- \, \mu^+ \, 3\gamma$		
8 – 40	Landsberg 86	–
$p \, \pi^+ \, \pi^0 \, 2\pi^- \, (\pi^0\text{'s})$		
4.314	Andryakov 88	angp, cor, p
$\Lambda \, K^+ \, \pi^+ \, 2\pi^- \, (\pi^0\text{'s})$		
16	Karnaukhov 86	mass
$2\pi^+ \, 2\pi^-$ 2neutral (neutrals)		
4	Andryakov 87	p
$n \, 6\gamma$		
38	Alde 90	mass
	Alde 89	mass
	Alde 88C	mass
	Alde 86B	mass
	Alde 86D	mass
$p \, \pi^+ \, 2\pi^0 \, 2\pi^- \, (\pi^0\text{'s})$		
4	Andryakov 87	p
$\Lambda \, K^0 \, 2\pi^+ \, 2\pi^- \, (\pi^0\text{'s})$		
16	Karnaukhov 86	mass
$n \, 8\gamma$		
38 – 230	Toki 88B	mass
40	Prokoshkin 87B	mass, p
100	Alde 87D	mass
	Alde 86	angp, mass

$\pi^- \, n$

X		
1.4 – 5	Bayukov 85F	a-dep, p
K_S X		
21	Stopa 87	cs, cs, mult, mult, p, p, pt, pt
40	Grishin 85B	cs, p, pt
p X		
1.84 – 2.63	Abramov 88	ang, angp, p
Λ X		
21	Stopa 87	cs, cs, mult, mult, p, p, pol, pt, pt
40	Grishin 85B	cs, p, pt
$\overline{\Lambda}$ X		
21	Stopa 87	cs, cs, mult, mult, p, p, pt, pt
$n \, \pi^-$		
< 200	Hohler 89	angp, pol, pwa
K_S mult[charged] (neutrals)		
21	Stopa 87	cs, mult
Λ mult[charged] (neutrals)		
21	Stopa 87	cs, mult

π^- n

$\overline{\Lambda}$ mult[charged] (neutrals)		
21	Stopa 87	cs, mult

π^- nucleon

γ X		
4	Artykov 86B	angp, cs, mult, p, pt
π^0 X		
4	Artykov 86B	cs, mult, p, pt
π^+ X		
50	Bajramov 89	p
π^- X		
50	Bajramov 89	p
$D^*(2010)^+$ X		
250	Fitch 86	cs, p
$D^*(2010)^-$ X		
250	Fitch 86	cs, p
nucleon $a_3(2050)^-$		
200	Joyner 89	cs
DD $< K^+ \overline{K}^0\ 2\pi^- >$ nucleon		
200	Mikocki 86	cs
DD $< K^0\ K^-\ \pi^+\ \pi^- >$ nucleon		
200	Mikocki 86	cs
$\mu^-\ \mu^+$ X		
80	Palestini 85	angp, mass, p, pt
252	Conway 89	angp, mass, p, pt
$D^0\ \pi^+$ X		
250	Fitch 86	mass
$\overline{D}^0\ \pi^-$ X		
250	Fitch 86	mass
bottom $\overline{\text{bottom}}$ X		
320	Catanesi 88	cs
nucleon $\pi^0\ \pi^-$		
300	Alde 88B	p, pt
nucleon $\eta\ \pi^-$		
300	Alde 88B	p, pt
nucleon $\rho^0\ \pi^-$		
200	Joyner 89	cs
nucleon $\eta'\ \pi^-$		
300	Alde 88B	p, pt
nucleon $f_0(1240)\ \pi^-$		
200	Joyner 89	cs
nucleon $f_0(1590)\ \pi^-$		
300	Augustin 88C	–
	Alde 87	cs, p
nucleon $f_2(1720)\ \pi^-$		
300	Augustin 88C	–
nucleon π^- meson^0		
300	Alde 87C	p
$K^+\ 2\pi^-$ X		
250	Fitch 86	mass
$K^-\ 2\pi^+$ X		
250	Fitch 86	mass
$K^*(892)^+$ vee charged X		
200	Mikocki 86	cs, p, pt
$K^*(892)^-$ vee charged X		
200	Mikocki 86	cs, p, pt
K_S vee charged X		
200	Mikocki 86	cs, p, pt
Λ vee charged X		
200	Mikocki 86	cs, p, pt
$\overline{\Lambda}$ vee charged X		
200	Mikocki 86	cs, p, pt
$\Sigma(1385\,P_{13})^+$ vee charged X		
200	Mikocki 86	cs, p, pt
$\overline{\Sigma}(1385\,P_{13})^-$ vee charged X		
200	Mikocki 86	cs, p, pt

π^- nucleon

$\Sigma(1385\,P_{13})^-$ vee charged X		
200	Mikocki 86	cs, p, pt
$\overline{\Sigma}(1385\,P_{13})^+$ vee charged X		
200	Mikocki 86	cs, p, pt
Ξ^- vee charged X		
200	Mikocki 86	cs, p, pt
$\overline{\Xi}^+$ vee charged X		
200	Mikocki 86	cs, p, pt
nucleon $\pi^+\ 2\pi^-$		
200	Joyner 89	cs, mass
nucleon $2\eta\ \pi^-$		
300	Augustin 88C	mass
	Alde 87	ang, mass
nucleon $\pi^-\ 4\gamma$		
300	Augustin 88C	mass
nucleon $\pi^-\ 8\gamma$		
300	Alde 87C	mass

π^- deuteron

dibaryon		
?	Stanislaus 89	–
mult[charged] (neutrals)		
38	Boos 87B	ang, mult, p, pt
γ X		
0.0773	Stanislaus 89	p
π^0 X		
40	Amaglobeli 89	asym, pt
	Apokin 89	asym, pt
	Apokin 88C	angp, asym, p
η X		
40	Amaglobeli 89	asym, pt
	Apokin 89	asym, pt
K_S X		
21	Stopa 87	cs, mult, p, pt
p X		
0.1947 – 0.5212	Arvieux 84C	–
1.84 – 2.63	Abramov 88	ang, angp, p
Λ X		
21	Stopa 87	cs, mult, p, pol, pt
38	Boos 87B	–
$\overline{\Lambda}$ X		
21	Stopa 87	cs, mult, p, pt
deuteron π^-		
0.143 – 0.256	Smith 87C	angp, asym
0.2 – 1.2	Yokosawa 85	–
0.2189 – 0.4105	Yokosawa 85	–
0.2236 – 0.4421	Ottermann 85B	angp
0.2248 – 0.4168	Boschitz 86	angp, dme, pol
0.2353 – 0.3701	Ungricht 85	angp, pol, pwa
0.2422	Blankleider 84	–
0.3 – 1.2	Yokosawa 85C	–
0.86 – 1.16	Abramov 89B	angp
0.98 – 3.09	Chuvilo 86	–
1.75 – 3.09	Abramov 87	angp
	Abramov 85	angp
dibaryon π^+		
0.2146	Ashery 88	angp, cs
2γ X		
40	Amaglobeli 89	asym, mass
	Apokin 89	asym, mass
$\mu^-\ \mu^+$ X		
140 – 286	Bordalo 87	a-dep, p

π^- deuteron

$\mu^-\ \mu^+$ X		
	Bordalo 87B	a-dep, pt
286	Guanziroli 88	angp
	Richard 87	–
$2K_S$ X		
21	Stopa 87	cs, mult
$\Lambda\ K_S$ X		
21	Stopa 87	cs, mult
$\overline{\Lambda}\ K_S$ X		
21	Stopa 87	cs, mult
$\Lambda\ \overline{\Lambda}$ X		
21	Stopa 87	cs, mult
K_S mult[charged] (neutrals)		
21	Stopa 87	cs, mult
Λ mult[charged] (neutrals)		
21	Stopa 87	cs, mult
$\overline{\Lambda}$ mult[charged] (neutrals)		
21	Stopa 87	cs, mult
$2n\ \gamma$		
0.0773	Stanislaus 89	p
deuteron $\pi^-\ \gamma$		
0	Bovet 84	amp, cs
$p\ n\ \pi^-$		
0.25 – 0.65	Boschitz 86	angp, dme, pol
0.2537	Goetz 85	angp, p
$2K_S$ mult[charged] (neutrals)		
21	Stopa 87	cs, mult
$\Lambda\ K_S$ mult[charged] (neutrals)		
21	Stopa 87	cs, mult
$\overline{\Lambda}\ K_S$ mult[charged] (neutrals)		
21	Stopa 87	cs, mult
$\Lambda\ \overline{\Lambda}$ mult[charged] (neutrals)		
21	Stopa 87	cs, mult
$2n\ \pi^+\ \pi^-$		
0.2146	Ashery 88	angp, mass
0.4075	Parker 89	mass

π^- ^{3}H

^{3}H π^-		
0.2445 – 0.3314	Pillai 88	angp

π^- ^{3}He

π^- X		
0.4693 – 0.5985	Boswell 86	p
deuteron n		
0.1461 – 0.1731	Aniol 85	cs
^{3}H π^0		
0	Backenstoss 85	cs
^{3}He π^-		
0.1922 – 0.3183	Marx 86	angp
0.2445 – 0.3314	Pillai 88	angp
^{3}H η		
0.59 – 0.68	Peng 89	angp, p
0.68	Peng 87	angp, p
2γ X		
0.59 – 0.68	Peng 89	mass
$p\ n$ X		
< 0.2875	Redwine 86	cs
deuteron $n\ \gamma$		
0	Backenstoss 85	cs
$p\ 2n$		
0.1461 – 0.1731	Aniol 85	cs
0.22	Backenstoss 85B	angp, 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.

π^- ^{3}He

3nucleon		
0.22	Backenstoss 85B	angp, cs

π^- ^{4}He

X		
0.1283 – 0.4168	Marx 86	cs
0.2707	Marx 86	cs
inelastic		
0.2707	Marx 86	cs
^{4}He π^-		
0.0853 – 0.2875	Marx 86	angp
0.1283 – 0.4168	Marx 86	cs
0.2707	Marx 86	cs
^{3}H p π^-		
0.2189 – 0.3183	Balestra 86	angp, cs
0.2605	Marx 86	ang, mass
2p 2n π^-		
0.2189 – 0.3183	Balestra 86	angp, cs

π^- He

π^+ X		
0.2875 – 0.353	Gram 89	a-dep, cs
π^- X		
0.4693 – 0.5985	Boswell 86	p

π^- ^{6}Li

π^+ X		
0.2875 – 0.353	Gram 89	a-dep, cs
p X		
0	Amelin 90	p
1.5	Burgov 87	a-dep, angp, p
5	Bayukov 85D	angp, p
	Gavrilov 85B	a-dep, angp, p
n X		
5	Bayukov 85D	angp, p
	Gavrilov 85B	a-dep, angp, p
deuteron X		
0	Amelin 90	p
1.5	Burgov 87	a-dep, angp, p
5	Gavrilov 85B	a-dep, angp, p
^{5}H p		
0	Amelin 90	cs, mass
^{4}H deuteron		
0	Amelin 90	cs, mass
He p n π^-		
0	Doerr 86	cs, p
^{3}H deuteron p π^-		
0	Doerr 86	cs, p
^{3}He deuteron n π^-		
0	Doerr 86	cs, p
^{3}H 2p n π^-		
0	Doerr 86	cs, p
2deuteron p n π^-		
0	Doerr 86	cs, p
deuteron 2p 2n π^-		
0	Doerr 86	cs, p
3p 3n π^-		
0	Doerr 86	cs, p

π^- Li

charged$^+$ X		
40	Boos 88	a-dep, mult
charged$^-$ X		
40	Boos 88	a-dep, mult
mult[charged$^+$] X		
40	Boos 88	a-dep, mult
mult[charged$^-$] X		
40	Boos 88	a-dep, mult
π^+ X		
1.5	P ·klej 86	angp, p
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
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

π^- ^{7}Li

X		
0.163 – 0.2537	Marx 86	cs
0.2707	Marx 86	cs
inelastic		
0.2707	Marx 86	cs
π^+ X		
0.2875 – 0.353	Gram 89	a-dep, cs
p X		
0	Amelin 90	p
5	Bayukov 85D	angp, p
	Gavrilov 85B	a-dep, angp, p
n X		
5	Bayukov 85D	angp, p
	Gavrilov 85B	a-dep, angp, p
deuteron X		
0	Amelin 90	p
5	Gavrilov 85B	a-dep, angp, p
^{3}H X		
0	Amelin 90	p
^{4}H ^{3}H		
0	Amelin 90	cs, mass
^{5}H deuteron		
0	Amelin 90	cs, mass
^{7}Li π^-		
0.2707	Marx 86	cs

π^- ^{9}Be

3^{3}H		
0	Gornov 87	mass
^{5}H ^{3}H p		
0	Gornov 87	mass
^{4}H ^{3}H deuteron		
0	Gornov 87	mass

π^- Be

inelastic		
1.26 – 2.5	Kuzichev 89	a-dep, cs
e^+ X		
200	Palka 87B	
e^- X		
200	Palka 87B	

π^- Be

π^+ X		
0.2875 – 0.353	Gram 89	a-dep, cs
ρ^0 X		
300	Benayoun 87B	cs, pt
ϕ X		
100	Dijkstra 86D	cs, p
100 – 200	Dijkstra 86	mult, p, pt
300	Benayoun 87B	cs, pt
$f_2(1270)$ X		
300	Benayoun 87B	cs, pt
$\eta(1440)$ X		
300	Benayoun 87B	cs, pt
$f_2(1720)$ X		
300	Benayoun 87B	cs, pt
$\eta_c(1S)$ X		
85	Booth 86	ang, pwa
$J/\psi(1S)$ X		
125	Katsanevas 87	a-dep, cs, p, pt
$\chi_c(3455)$ X		
190	Bauer 85	cs
$\chi_{c1}(1P)$ X		
190	Bauer 85	cs
$\chi_{c2}(1P)$ X		
190	Bauer 85	cs
D^0 X		
200	Grab 87	–
	Palka 87	–
	Bailey 85C	–
$\overline{D}^0$ X		
200	Palka 87	–
$\overline{D}^0$ X + D^- X		
200	Bailey 85C	–
$D^\pm$ X		
200	Bailey 85C	–
D^+ X		
200	Palka 87	–
	Palka 87B	cs, p
D^- X		
200	Palka 87	–
	Palka 87B	cs, p
D^+ X + D^0 X		
200	Bailey 85C	–
$D^*(2010)^+$ X + $D^*(2010)^-$ X		
200	Bailey 85C	–
meson^0 X		
85	Augustin 88C	–
	Booth 85	mass
p X		
0	Gornov 88	a-dep, p
	Gornov 87B	a-dep, p
	Gornov 86B	p
3	Vorobiev 85B	pol
5	Bayukov 85D	angp, p
40	Antipov 87	p
n X		
5	Bayukov 85D	angp, p
deuteron X		
0	Gornov 87B	a-dep, p
	Gornov 86B	p
^{3}He X		
0	Gornov 87B	a-dep, p
	Gornov 86B	p
^{3}H X		
0	Gornov 87B	a-dep, p
	Gornov 86B	p
^{4}He X		
0	Gornov 87B	a-dep, p
	Gornov 86B	p
Be $a_1(1260)^-$		
40	Zajmidoroga 85	mass, pwa

π^- Be

$\mu^+ e^-$ X		
200	Grab 87	mass
	Palka 87	mass
$\mu^- e^+$ X		
200	Grab 87	mass
	Palka 87	mass
$\mu^- \mu^+$ X		
125	Katsanevas 87	a-dep, mass
190	Bauer 85	mass
$\pi^+ \pi^-$ X		
300	Benayoun 87B	mass, pt
ρ^0 charged X		
300	Benayoun 86	cs, pt
$\phi \pi^+$ X		
100	Dijkstra 86C	mass
200	Dijkstra 86C	mass
$\phi \pi^-$ X		
100	Dijkstra 86C	mass
200	Dijkstra 86C	mass
2ϕ X		
85	Augustin 88C	mass
	Booth 86	ang, pwa
	Augustin 85E	–
	Booth 85	mass
$J/\psi(1S)\ \gamma$ X		
190	Bauer 85	mass
$\overline{D}$(unspec) D(unspec) X		
200	Bailey 85C	–
$D^0 \overline{D}^0$ X		
200	Bailey 85	mass
$D^+ \overline{D}^0$ 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
$\overline{K}^*(892)^0 e^+$ X		
200	Palka 87	mass
$K^*(892)^0 e^-$ X + $\overline{K}^*(892)^0 e^+$ X		
200	Palka 87B	mass
$K^+ \phi$ X		
100	Dijkstra 86C	mass
200	Dijkstra 86C	mass
$K^- \phi$ X		
100	Dijkstra 86C	mass
200	Dijkstra 86C	mass
$K^+ K^-$ X		
100 – 200	Dijkstra 86	ang, dme, mass
300	Benayoun 87B	mass, pt
$K_S \phi$ X		
100	Dijkstra 86C	mass
200	Dijkstra 86C	mass
D^0 $\overline{\text{charmed-meson}}$ X		
200	Ginther 87	cs
205	Mooney 89	cs
$\overline{D}^0$ charmed-meson X		
200	Ginther 87	cs
205	Mooney 89	cs
D_S^- charmed-meson X		
200	Ginther 87	cs
D_S^+ $\overline{\text{charmed-meson}}$ X		
200	Ginther 87	cs
$D^*(2010)^-$ charmed-meson X		
200	Ginther 87	cs
205	Mooney 89	cs
$D^*(2010)^+$ $\overline{\text{charmed-meson}}$ X		
200	Ginther 87	cs
205	Mooney 89	cs
charmed-meson $\overline{\text{charmed-meson}}$ X		
200	Ginther 87	cs
205	Mooney 89	cs
$p \phi$ X		
100	Dijkstra 86C	mass
200	Dijkstra 86C	mass
$\overline{p} \phi$ X		
100	Dijkstra 86C	mass
200	Dijkstra 86C	mass
Be $\pi^- \gamma$		
40	Antipov 85	ang, angp, p
$\mu^- \mu^+ \gamma$ X		
190	Bauer 85	mass
$\pi^+ \pi^-$ 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
$J/\psi(1S)$ charged$^+$ 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
	Bailey 85C	–
$K^+ \pi^- e^-$ 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		
100	Dijkstra 86C	mass
200	Dijkstra 86C	mass
$K^+ K_S \pi^-$ X		
300	Benayoun 87B	mass, pt
$K_S K^- \pi^+$ X		
300	Benayoun 87B	mass, pt
$K^+ K_S K^-$ X		
100	Dijkstra 86C	mass
200	Dijkstra 86C	mass
$p K^+ K^-$ X		
100	Dijkstra 86C	mass
200	Dijkstra 86C	mass
$\overline{p} K^+ K^-$ X		
100	Dijkstra 86C	mass
200	Dijkstra 86C	mass
$\mu^- \mu^+$ charged$^+$ charged$^-$ X		
225	Budd 85	mass
$K^+ 2\pi^- e^+$ X		
200	Bailey 85	mass
	Bailey 85C	-
$K^- 2\pi^+ e^-$ X		
200	Bailey 85	mass
	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	mass
	Booth 86	mass
	Booth 85	mass
$K^+ \pi^+ 2\pi^- e^+$ X + $K^- 2\pi^+ \pi^- e^-$ X		
200	Bailey 85C	–
$K^+ \pi^+ 2\pi^- e^-$ X + $K^- 2\pi^+ \pi^- e^+$ X		
200	Bailey 85C	–
$K^+ K^- 2\pi^+ 2\pi^- \mu^+$ X		
200	Ginther 87	mass, p
205	Mooney 89	mass, p
$K^+ K^- 2\pi^+ 2\pi^- \mu^-$ X		
200	Ginther 87	mass, p
205	Mooney 89	mass, p

π^- ^{10}Bor

p X		
5	Bayukov 85D	angp, p
	Gavrilov 85B	a-dep, angp, p
n X		
5	Bayukov 85D	angp, p
	Gavrilov 85B	a-dep, angp, p
deuteron X		
5	Gavrilov 85B	a-dep, angp, p

π^- ^{11}Bor

p X		
5	Bayukov 85D	angp, p
n X		
5	Bayukov 85D	angp, p

π^- ^{12}C

X		
0.163 – 0.2537	Marx 86	cs
0.2707	Marx 86	cs
inelastic		
0.2707	Marx 86	cs
π^+ X		
5	Abdinov 84B	mult
5 – 40	Bajramov 89	p
π^- X		
5	Abdinov 84B	mult
5 – 40	Bajramov 89	p
p X		
5	Abdinov 84B	angp, mult
tribaryon X		
?	Abdinov 86B	–
^{12}C π^-		
0.2707	Marx 86	cs
$e^- e^+$ X		
0.2696	Alekseev 87B	angp, cs
$2p$ X		
5	Abdinov 84B	ang, mult
π^+ mult[grey] X		
5 – 40	Bajramov 89	mult, p
π^- mult[grey] X		
5 – 40	Bajramov 89	mult, p
^{12}C* $2\pi^0$		
39.1	Apokin 89B	angp, mass
mult[charged] 2neutral (neutrals)		
40	Angelov 89	col, p
$3p$ X		
5	Abdinov 86B	ang, 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.

π^- ^{12}C

2p (p's) X	40	Allaberdin 87	angp, cor
$\pi^\pm$ mult[charged] 2neutral (neutrals)	40	Angelov 89	col, p
p mult[charged] 2neutral (neutrals)	40	Angelov 89	col, p

π^- C

inelastic	1.26 – 2.5	Kuzichev 89	a-dep, cs
charged X	38	Barwolff 85	mult
	40	Baldin 85B	col, p
charged$^+$ X	40	Boos 88	a-dep, mult
charged$^-$ X	38	Barwolff 85	mult
	40	Gabunia 90	a-dep, mult, p
		Boos 88	a-dep, mult
mult[charged] X	40	Baatar 87B	cs, mult, p, pt
		Baldin 86	col
mult[charged$^+$] X	40	Boos 88	a-dep, mult
mult[charged$^-$] X	40	Boos 88	a-dep, mult
mult[charged] (neutrals)	38	Boos 87B	ang, mult, p, pt
	40	Baatar 88	cor, mass, mult, p, pt
γ X	4	Artykov 86B	angp, cs, mult, p, pt
	40	Beshliu 85	p
	200	Badier 85F	pt
		Bardadinotwi 85	p, pt
π^0 X	1.1	Golubeva 90	p
	4	Artykov 86B	cs, mult, p, pt
	200	Badier 85E	cs, p, pt
		Badier 85F	pt
		Bardadinotwi 85	p, pt
π^+ X	0.2875 – 0.353	Gram 89	a-dep, cs
	1.4 – 5	Bayukov 85E	a-dep, angp, p
	1.5	Buklej 86	angp, p
	5	Vorobiev 89B	a-dep, angp
		Vorobiev 38D	a-dep, angp
	40	Ananieva 86	mult, p, pt
		Baatar 85	angp, mult, p
	200	Bardadinotwi 85	p, pt
π^- X	1.4 – 5	Bayukov 85E	a-dep, angp, p
	1.5	Burgov 85	angp, p
	4	Istmatova 85B	mult
	9.4	Agakishiev 87C	angp
	40	Baatar 90B	angp, et, p, pt
		Baatar 89B	angp, et, p
		Agakishiev 87C	angp
		Kopylova 86B	angp
		Baatar 85	angp, mult, p
	200	Bardadinotwi 85	p, pt
η X	38	Bannikov 89B	cs
ρ^0 X	38	Bannikov 89B	cs
	40	Fredriksson 87	mult

π^- C

ω X	38	Bannikov 89B	cs
	40	Fredriksson 87	mult
η' X	38	Bannikov 89B	cs
$f_0(975)$ X	40	Fredriksson 87	mult
$J/\psi(1S)$ X	38	Jani 87	cs, p, pt
	530	Kartik 90	a-dep, cs, p, pt
		De 89	a-dep, cs, p
$\chi_{c1}(1P)$ X	38	Jani 87	–
$\chi_{c2}(1P)$ X	38	Jani 87	–
$\psi(2S)$ X	38	Jani 87	cs
χ(unspec) X	530	De 89	-
mult[γ] X	4 – 40	Istmatova 85	mult
mult[$\pi^\pm$] X	5	Abdinov 87	col
mult[π^-] X	4	Istmatova 85B	cs
	40	Baatar 90B	mult
K^0 X	40	Gabunia 89	a-dep, mult
K_S X	40	Baldin 85B	col, p
		Grishin 85B	cs, p, pt
p X	0	Gornov 88	a-dep, p
		Gornov 87B	a-dep, p
		Gornov 86B	p
	0.6	Golubeva 89	angp
	0.85 – 2.5	Burgov 86	angp, p
	1.4 – 5	Bayukov 85C	a-dep, angp, p
		Bayukov 85F	a-dep, p
	1.5	Burgov 87	a-dep, angp, p
	3	Vorobiev 85B	pol
	5	Gulkanyan 87	angp, cs, p
		Vorobiev 86B	angp
		Bayukov 85D	angp, p
	30	Abreu 85	a-dep, p, pt
	38	Barwolff 85	mult
	40	Bannikov 89	a-dep, angp, cs, mult
		Armutlijsky 87C	col, mult
		Kopylova 86B	angp
		Albini 85	a-dep, angp, p
		Baatar 85	angp, mult, p
		Vishnyakov 85	angp
	200	Bardadinotwi 85	p, pt
$\bar{p}$ X	30	Abreu 85	a-dep, p, pt
n X	1.4 – 5	Bayukov 85C	a-dep, angp, p
		Bayukov 85F	a-dep, p
	5	Bayukov 85D	angp, p
nucleon X	40	Gabunia 90	a-dep, mult, p
Λ X	1.2 – 5	Vorobiev 89C	angp
		Vorobiev 87B	a-dep, angp
	3	Vorobiev 88E	p, pol
	38	Boos 87B	–
	40	Gabunia 89	a-dep, mult

π^- C

Λ X		Fredriksson 87	mult
		Baldin 85B	col, p
		Grishin 85B	cs, p, pt
deuteron X	0	Gornov 87B	a-dep, p
		Gornov 86B	p
	0.85 – 2.5	Burgov 86	angp, p
	1.5	Burgov 87	a-dep, angp, p
dibaryon X	5	Abdinov 86C	–
^{3}He X	0	Gornov 87B	a-dep, p
		Gornov 86B	p
^{3}H X	0	Gornov 87B	a-dep, p
		Gornov 86B	p
^{4}He X	0	Gornov 87B	a-dep, p
		Gornov 86B	p
mult[p] X	4	Istmatova 85B	cs
		Vorobiev 85	mult
	5	Abdinov 87	col
	40	Bannikov 89	mult
		Baldin 88C	angp, cor
		Armutlijsky 87C	col, mult
grey X	40	Boos 88	a-dep, mult
jet X	40	Baldin 88B	ang, p
		Baldin 85	angp, p
		Baldin 85B	col, p
mult[grey] X	40	Boos 88	a-dep, mult
mult[hadron] X	5.7 – 205	Baldin 87	col, p
	40	Baldin 86B	col
mult[jet] X	40	Baldin 86	col
mult[shower] X	4	Istmatova 85B	cs
X star	40	Boos 88	a-dep, cs
C* π^0	39.1	Apokin 86C	angp, cs
C* η	39.1	Apokin 86C	angp, cs
C* ω	39.1	Apokin 86C	angp, cs
C* η'	39.1	Apokin 86C	angp, cs
C $a_1(1260)^-$	40	Zajmidoroga 85	mass, pwa
C* $f_2(1270)$	39.1	Apokin 86C	angp, cs
charged$^-$ charged X	38	Barwolff 85	angp, mult
2charged X	38	Barwolff 85	angp, mult
2γ X	200	Badier 85C	cs, pt
		Bardadinotwi 85	cs, p, pt
$\pi^\pm$ mult[charged] X	40	Baatar 88B	mass, mult, p. pt
π^+ mult[charged] X	5	Bajramov 86	mult, p, pt

π^- C

π^+ mult[charged] X		
40	Baatar 87	angp, mass, mult, p, pt
π^- mult[charged] X		
5	Bajramov 86	mult, p, pt
40	Baatar 89B	angp, p
	Baatar 87	angp, mass, mult, p, pt
$\mu^-\ \mu^+$ X		
38	Bannikov 89B	ang, mass, pt
	Jani 87	mass
$2\pi^0$ X		
40	Agakishiev 87B	cor
$\pi^+\ \pi^\pm$ X		
40	Baatar 85	angp, mult, p
$\pi^-\ \pi^\pm$ X		
9.4	Agakishiev 87C	angp
40	Agakishiev 87C	angp
	Baatar 85	angp, mult, p
$2\pi^+$ X		
5	Vorobiev 89B	angp, cor, pt
	Vorobiev 88D	angp, cor
40	Agakishiev 87B	cor
$2\pi^-$ X		
40	Agakishiev 87B	cor
$\pi^+\ \pi^-$ X		
38	Barwolff 88	mass
$J/\psi(1S)\ \gamma$ X		
38	Jani 87	mass, p, pt
530	De 89	mass
π^0 mult[π^-] X		
4	Istmatova 85B	mult
π^- mult[π^-] X		
40	Aliev 89	angp, cor, mult
K^0 charged$^-$ X		
40	Gabunia 90	a-dep, mult, p
K_S charged X		
38	Barwolff 88	a-dep, cs, mult, p, pt
p charged X		
38	Barwolff 85	angp, mult
p charged$^+$ X		
5	Arakelyan 87	angp, cs, mass, p
p charged$^-$ X		
40	Bannikov 89	angp, mult
p mult[charged] X		
40	Baatar 87	angp, mass, mult, p, pt
$p\ \pi^\pm$ X		
40	Baatar 85	angp, mult, p
$p\ \pi^+$ X		
40	Anoshin 87	angp, mass, p, pt
	Baatar 85	angp, mult, p
$p\ \pi^-$ X		
3	Vorobiev 88E	ang, mass, p
5	Arakelyan 87	angp, cs, mass, p
9.4	Agakishiev 87C	angp
38	Barwolff 88	mass
40	Agakishiev 87C	angp
	Anoshin 87	angp, mass, p, pt
	Baatar 85	angp, mult, p
$\bar{p}\ \pi^+$ X		
38	Barwolff 88	mass

π^- C

p mult[π^+] X		
5	Asaturyan 86	ang, mult, p
p mult[$\pi^\pm$] X		
5	Asaturyan 86	ang, mult, p
p mult[π^-] X		
5	Asaturyan 86	ang, mult, p
Λ charged X		
38	Barwolff 88	a-dep, cs, mult, p, pt
Λ charged$^-$ X		
40	Gabunia 90	a-dep, mult, p
$\overline{\Lambda}$ charged X		
38	Barwolff 88	a-dep, cs, mult
nucleon K^0 X		
40	Gabunia 90	a-dep, mult, p
$p\ \bar{p}$ X		
30	Beusch 86	a-dep, ang, mass, p, pt
$2p$ X		
4 – 40	Zielinsky 88	cs, mass
	Azimov 84B	mass
	Azimov 84C	mass
5	Zielinsky 88	cs, mass
	Arakelyan 87	angp, cs, mass, p
	Gulkanyan 87	angp, cs, p
	Abdinov 86C	mass
	Abdinov 86D	ang, mass
40	Agakishiev 87B	cor
	Baatar 85	angp, mult, p
	Beshliu 85	mass
nucleon Λ X		
40	Gabunia 90	a-dep, mult, p
mult[p] charged$^-$ X		
40	Bannikov 89	angp, mult
mult[p] π^0 X		
4	Istmatova 85B	mult
mult[p] π^- X		
4	Istmatova 85B	mult
hadron mult[charged] X		
40	Baatar 87B	angp, cs, mult, p, pt
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
π^0 shower X		
40	Fredriksson 87	cor, mult
π^- jet X		
40	Baldin 85	ang, p
π^+ mult[grey] X		
40	Artykov 90	mult, p, pt
π^- mult[grey] X		
40	Artykov 90	mult, p, pt
ρ^0 jet X		
40	Baldin 85	ang, p
K_S jet X		
40	Baldin 85	ang, p

π^- C

p (p's) X		
40	Angelov 88	angp, col
n mult[p] X		
4	Istmatova 85B	mult
$\Delta(1232\,P_{33})^{++}$ jet X		
40	Baldin 85	ang, p
Λ jet X		
40	Baldin 85	ang, p
mult[p] shower X		
4	Istmatova 85B	mult
grey X star		
40	Boos 88	a-dep, mult
mult[grey] X star		
40	Boos 88	a-dep, mult
shower mult[shower] X		
40	Aliev 89	angp, cor, mult
π mult[charged] (neutrals)		
40	Baatar 89	angp, mass, mult, pt
mult[π] mult[charged] (neutrals)		
40	Baatar 88	cor, mass, mult, p, pt
p mult[charged] (neutrals)		
40	Baatar 89	angp, mass, mult, pt
mult[p] mult[charged] (neutrals)		
40	Baatar 88	cor, mass, mult, p, pt
$2\pi^-$ fragt		
4.7	Agababyan 85B	angp, cs, mass, p
C $\pi^-\ \gamma$		
40	Antipov 85	ang, angp, p
C $\pi^0\ \pi^-$		
40	Antipov 86	angp, mass
	Antipov 86B	angp, p
	Antipov 85B	cs
	Antipov 85C	angp, mass
2hadron (hadrons)		
40	Baldin 88B	col
$\mu^-\ \mu^+\ \gamma$ X		
38	Bannikov 89B	ang, mass, pt
530	De 89	mass
$2\pi^0\ \pi$ X		
40	Agakishiev 87B	cor
$\pi^+\ 2\pi^-$ X		
40	Bellini 84	mass, pwa
$2\pi^+\ \pi$ X		
40	Agakishiev 87B	cor
$2\pi^-\ \pi$ X		
40	Agakishiev 87B	cor
$J/\psi(1S)\ \pi^+\ \pi^-$ X		
38	Jani 87	mass
$K^0\ \overline{K}^0$ charged$^-$ X		
40	Gabunia 90	a-dep, mult, p
$p\ 2\pi^0$ X		
40	Agakishiev 87B	cor
$p\ \pi^+\ \pi^\pm$ X		
40	Baatar 85	angp, mult, p
$p\ \pi^-\ \pi^\pm$ X		
40	Baatar 85	angp, mult, p
$p\ 2\pi^+$ X		
40	Agakishiev 87B	cor
$p\ 2\pi^-$ X		
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.

π^- C

nucleon K^0 $\overline{K}^0$ X	40	Gabunia 90	a-dep, mult, p
2p γ X	40	Beshliu 85	mass
2p $\pi^\pm$ X	40	Baatar 85	angp, mult, p
2p π^+ X	5	Gulkanyan 87	angp, cs, p
2p π X	40	Agakishiev 87B	cor
3p X	4 – 40	Azimov 86	mass
mult[p] π^+ π^- fragt	5	Abdinov 86	mass, p
4p X	4 – 40	Azimov 86	mass
(p's) 2π^- (γ's) fragt	4.7	Agababyan 85B	cs, mass

π^- ^{14}C

^{14}C π^-	0.1283	Mishra 85	angp
^{14}C π^- γ	0.2696	Holtkamp 85	–

π^- ^{15}Nit

Nit* π^-	0.2696	Seestrommorr 85	angp
^{15}Nit π^- γ	0.2696	Seestrommorr 85	angp

π^- ^{16}O

π^+ X	0.2189 – 0.3851	Wood 85	angp, cs, p
π^- X	0.3583	Redwine 86	p
^{15}Nit p π^-	0.353	Redwine 86	angp, p
^{15}Nit p π^- γ	0.353	Redwine 86	angp, p

π^- O

π^+ X	0.2875 – 0.353	Gram 89	a-dep, cs
p X	1.5	Burgov 87	a-dep, angp, p
deuteron X	1.5	Burgov 87	a-dep, angp, p

π^- ^{18}O

π^- X	0.3583	Redwine 86	p

π^- Fl

p X	5	Bayukov 85D	angp, p
n X	5	Bayukov 85D	angp, p

π^- Ne

K^0 X	10.5	Fredriksson 87	mult
p X	30	Tkaczyk 86	p, pt
$\overline{n}$ X	200	Fredriksson 87	mult

π^- Ne

$N(1440\,P_{11})$ X	6.2	Amelin 87	–
$\Delta(1620\,S_{31})^-$ 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	–
2p X	6.2	Zielinsky 88	cs, mass
		Amelin 87B	ang, mass
		Amelin 86	mass
mult[p] $\pi^\pm$ X	10.5 – 200	Fredriksson 87	cor, mult
mult[p] mult[π^+] mult[π^-] X	6.2	Amelin 87	angp, mass

π^- ^{24}Mg

(blacks) mult[grey] mult[shower] (neutrals)	100	Biswas 86	cs
	320	Biswas 86	cs

π^- Al

X	0.2707	Marx 86	cs
inelastic	0.2707	Marx 86	cs
	1.26 – 2.5	Kuzichev 89	a-dep, cs
μ^+ X	320	Cobbaert 87B	a-dep, cs, p
μ^- X	320	Cobbaert 87B	a-dep, cs, p
π^0 X	1.1	Golubeva 90	p
π^+ X	40	Ananieva 86	mult, p, pt
$J/\psi(1S)$ X	530	Kartik 90	a-dep, cs, p, pt
p X	30	Abreu 85	a-dep, p, pt
$\overline{p}$ X	30	Abreu 85	a-dep, p, pt
Λ X	1.2 – 5	Vorobiev 89C	angp
		Vorobiev 87B	a-dep, angp
	3	Vorobiev 88E	p, pol
		Vorobiev 86	–
charm X	320	Cobbaert 87B	a-dep
$\overline{\text{charm}}$ X	320	Cobbaert 87B	a-dep
Al* π^0	39.1	Apokin 86D	angp, cs
Al π^-	0.2707	Marx 86	cs
Al* η	39.1	Apokin 86D	angp, cs
Al* ω	39.1	Apokin 86D	angp, cs
Al* η'	39.1	Apokin 86D	angp, cs
Al $a_1(1260)^-$	40	Zajmidoroga 85	mass, pwa

π^- Al

Al* $f_2(1270)$	39.1	Apokin 86D	angp, cs
μ^- μ^+ X	320	Cobbaert 88B	a-dep, mass, p
$J/\psi(1S)$ γ X	530	De 89	a-dep, cs, mass, p
p π^- X	3	Vorobiev 88E	ang, mass, p
		Vorobiev 86	ang, mass
p $\overline{p}$ X	30	Beusch 86	a-dep, ang, mass, p, pt
2p X	2.5	Bayukov 85	cor
Al π^- γ	40	Antipov 85	ang, angp, p
Al π^0 π^-	40	Antipov 86	angp, mass
		Antipov 86B	angp, p
		Antipov 85B	cs
		Antipov 85C	angp, mass
μ^- μ^+ γ X	530	De 89	mass
π^+ 2π^- X	40	Bellini 84	mass, pwa

π^- ^{27}Al

^{24}Na 3nucleon	0.1283 – 0.6242	Dropesky 86	cs
^{18}Fl 9nucleon	0.1283 – 0.6242	Dropesky 86	cs

π^- Si

D^0 X	200	Barlag 88	cs, p, pt
		Barlag 87	–
$\overline{D}^0$ X	200	Barlag 88	cs, p, pt
		Barlag 87	–
D^+ X	200	Barlag 88	cs, p, pt
		Barlag 87	–
D^- X	200	Barlag 88	cs, p, pt
		Barlag 87	–
D_S^- X	200	Barlag 88	cs, p, pt
D_S^+ X	200	Barlag 88	cs, p, pt
$D^*(2010)^+$ X	200	Barlag 88	cs, p, pt
$D^*(2010)^-$ X	200	Barlag 88	cs, p, pt
p X	0	Gornov 88	a-dep, p
		Gornov 87B	a-dep, p
		Gornov 86B	p
deuteron X	0	Gornov 87B	a-dep, p
		Gornov 86B	p
^{3}He X	0	Gornov 87B	a-dep, p
		Gornov 86B	p
^{3}H X	0	Gornov 87B	a-dep, p
		Gornov 86B	p

π^- Si

^{4}He X	0	Gornov 87B	a-dep, p
		Gornov 86B	p
DD $< \pi^+ 2\pi^- >$ Si	40	Vegni 86	angp, mass, pwa
Si $a_1(1260)^-$	40	Zajmidoroga 85	mass, pwa
$\pi^+ 2\pi^-$ X	40	Bellini 84	mass, pwa
^{24}Na 3nucleon	0.1283 – 0.6242	Dropesky 86	cs
$K^+ K^- 2\pi^+ 2\pi^-$ X	200	Barlag 88	mass
^{18}Fl 9nucleon	0.1283 – 0.6242	Dropesky 86	cs

π^- S

charged$^+$ X	40	Boos 88	a-dep, mult
charged$^-$ X	40	Boos 88	a-dep, mult
mult[charged$^+$] X	40	Boos 88	a-dep, mult
mult[charged$^-$] X	40	Boos 88	a-dep, 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
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

π^- Cl

χ(unspec) X	530	De 89	–

π^- ^{40}Ar

^{40}Ar π^-	0.2875	Germond 85C	angp

π^- ^{40}Ca

π^+ X	0.2189 – 0.3851	Wood 85	angp, cs, p
Ca* π^-	0.2306	Ullmann 85	angp
^{40}Ca $\pi^- \gamma$	0.2306	Ullmann 85	angp

π^- Ca

π^+ X	0.2875 – 0.353	Gram 89	a-dep, cs

π^- ^{45}Sc

^{44}Ca $p \pi^-$	0.1947 – 0.4168	Ohkubo 85	cs, p

π^- Ti

Ti $a_1(1260)^-$	40	Zajmidoroga 85	mass, pwa
$\pi^+ 2\pi^-$ X	40	Bellini 84	mass, pwa

π^- ^{48}Ca

^{47}KK $p \pi^-$	0.1947 – 0.4168	Ohkubo 85	cs, p
^{47}Ca $n \pi^-$	0.1947 – 0.4168	Ohkubo 85	cs, p

π^- Fe

inelastic	1.26 – 2.5	Kuzichev 89	a-dep, cs
μ^+ X	320	Cobbaert 87B	a-dep, cs, p
μ^- X	320	Cobbaert 87B	a-dep, cs, p
charm X	320	Cobbaert 87B	a-dep
$\overline{\text{charm}}$ X	320	Cobbaert 87B	a-dep
$\mu^- \mu^+$ X	320	Cobbaert 88B	a-dep, mass, p
Fe $\pi^- \gamma$	40	Antipov 85	ang, angp, p
Fe $\pi^0 \pi^-$	40	Antipov 86	angp, mass
		Antipov 86B	angp, p
		Antipov 85B	cs
		Antipov 85C	angp, mass

π^- ^{58}Ni

p X	5	Bayukov 85D	angp, p
		Gavrilov 85B	a-dep, angp, p
n X	5	Bayukov 85D	angp, p
		Gavrilov 85B	a-dep, angp, p
deuteron X	5	Gavrilov 85B	a-dep, angp, p

π^- Ni

p X	5	Bayukov 85D	angp, p
n X	5	Bayukov 85D	angp, p

π^- Cu

X	0.2707	Marx 86	cs
inelastic	0.2707	Marx 86	cs
	1.26 – 2.5	Kuzichev 89	a-dep, cs
charged X	38	Barwolff 85	mult
charged$^+$ X	40	Boos 88	a-dep, mult
charged$^-$ X	38	Barwolff 85	mult
	40	Gabunia 90	a-dep, mult, p
		Boos 88	a-dep, mult

π^- Cu

mult[charged$^+$] X	40	Boos 88	a-dep, mult
mult[charged$^-$] X	40	Boos 88	a-dep, mult
π^+ X	1.4 – 5	Bayukov 85E	a-dep, angp, p
	1.5	Buklej 86	angp, p
	40	Ananieva 86	mult, p, pt
π^- X	1.4 – 5	Bayukov 85E	a-dep, angp, p
$J/\psi(1S)$ X	125	Katsanevas 87	a-dep, cs, p, pt
	530	Kartik 90	a-dep, cs, p, pt
χ(unspec) X	530	De 89	–
D^0 X	230	Barlag 90B	–
		Barlag 90C	p
		Barlag 89B	–
		Barlag 88C	–
		Barlag 88D	angp, cs, p, pt
$\overline{D}^0$ X	230	Barlag 88C	–
		Barlag 88D	angp, cs, p, pt
D^+ X	230	Barlag 90B	–
		Barlag 90C	p
		Barlag 88C	–
		Barlag 88D	angp, cs, p, pt
D^- X	230	Barlag 88C	–
		Barlag 88D	angp, cs, p, pt
D_S^- X	230	Barlag 88C	–
		Barlag 88D	angp, cs, p, pt
D_S^+ X	230	Barlag 90B	–
		Barlag 90C	p
		Barlag 88C	–
		Barlag 88D	angp, cs, p, pt
K^0 X	40	Gabunia 89	a-dep, mult
p X	0	Gornov 88	a-dep, p
		Gornov 87B	a-dep, p
		Gornov 86B	p
	0.6 – 1	Golubeva 89	angp
	1.4 – 5	Bayukov 85C	a-dep, angp, p
		Bayukov 85F	a-dep, p
	1.5	Burgov 87	a-dep, angp, p
	5	Bayukov 85D	angp, p
	30	Abreu 85	a-dep, p, pt
	38	Barwolff 85	mult
	40	Bannikov 89	a-dep, angp, cs, mult
		Albini 85	a-dep, angp, p
		Vishnyakov 85	angp
$\overline{p}$ X	30	Abreu 85	a-dep, p, pt
n X	1.4 – 5	Bayukov 85C	a-dep, angp, p
	5	Bayukov 85D	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.

π^- Cu

nucleon X	40	Gabunia 90	a-dep, mult, p
Λ_c^+ X	230	Barlag 90B	–
		Barlag 90C	p
		Barlag 90D	p
		Klein 89C	–
		Barlag 88B	–
		Barlag 88C	–
		Barlag 88D	angp, cs, p, pt
		Barlag 86	p
$\overline{\Lambda}_c^-$ X	230	Barlag 90C	p
		Barlag 90D	p
		Barlag 88C	–
		Barlag 88D	angp, cs, p, pt
		Barlag 86	p
$\Xi_c(2460)$ X	230	Klein 89C	mass
$\Xi_c(2460)^+$ X	230	Barlag 89C	cs
$\Xi_c(2460)^0$ X	230	Barlag 90	–
Λ X	1.2 – 5	Vorobiev 89C	angp
		Vorobiev 87B	a-dep, angp
	3	Vorobiev 88E	p, pol
	40	Gabunia 89	a-dep, mult
deuteron X	0	Gornov 87B	a-dep, p
		Gornov 86B	p
	1.5	Burgov 87	a-dep, angp, p
^{3}He X	0	Gornov 87B	a-dep, p
		Gornov 86B	p
^{3}H X	0	Gornov 87B	a-dep, p
		Gornov 86B	p
^{4}He X	0	Gornov 87B	a-dep, p
		Gornov 86B	p
mult[p] X	40	Bannikov 89	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* π^0	39.1	Apokin 86D	angp, cs
Cu π^-	0.2707	Marx 86	cs
Cu* η	39.1	Apokin 86D	angp, cs
Cu ρ^-	200	Capraro 87	angp
Cu* ω	39.1	Apokin 86D	angp, cs
Cu* η'	39.1	Apokin 86D	angp, cs
Cu $a_1(1260)^-$	40	Zajmidoroga 85	mass, pwa
Cu* $f_2(1270)$	39.1	Apokin 86D	angp, cs
Cu $\pi_2(1670)^-$	50	Antipov 86C	cs, pt

π^- Cu

charged$^-$ charged X	38	Barwolff 85	angp, mult
2charged X	38	Barwolff 85	angp, mult
μ^- μ^+ X	125	Katsanevas 87	a-dep, mass
π^+ π^- X	38	Barwolff 88	mass
$J/\psi(1S)$ γ X	530	De 89	a-dep, cs, mass, p
K^0 charged$^-$ X	40	Gabunia 90	a-dep, mult, p
K^+ π^- X	230	Barlag 88D	mass
K^- π^+ X	230	Barlag 90B	mass
		Barlag 88D	mass
K^0 ϕ X	230	Barlag 88C	mass
$\overline{K}^0$ ϕ X	230	Barlag 88C	mass
K_S charged X	38	Barwolff 88	a-dep, cs, mult, p, pt
mult[kaon] mult[π] X	230	Barlag 89B	mass
p charged X	38	Barwolff 85	angp, mult
p charged$^-$ X	40	Bannikov 89	angp, mult
p π^- X	3	Vorobiev 88E	ang, mass, p
	38	Barwolff 88	mass
$\overline{p}$ π^+ X	38	Barwolff 88	mass
p ϕ X	230	Barlag 88C	mass
$\overline{p}$ ϕ X	230	Barlag 88C	mass
Λ charged X	38	Barwolff 88	a-dep, cs, mult, p, pt
Λ charged$^-$ X	40	Gabunia 90	a-dep, mult, p
$\overline{\Lambda}$ charged X	38	Barwolff 88	a-dep, cs, mult
nucleon K^0 X	40	Gabunia 90	a-dep, mult, p
Λ_c^+ K^- X	230	Barlag 90	mass
p $\overline{p}$ X	30	Beusch 86	a-dep, ang, mass, p, pt
2p X	2.5	Bayukov 85	cor
nucleon Λ X	40	Gabunia 90	a-dep, mult, p
mult[p] charged$^-$ X	40	Bannikov 89	angp, mult
charged$^+$ X star	40	Boos 88	a-dep, mult
charged$^-$ X star	40	Boos 88	a-dep, mult

π^- Cu

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
Cu π^- γ	40	Antipov 85	ang, angp, p
Cu ρ^0 π^-	50	Antipov 88B	pt
		Antipov 86C	ang, mass, pt, pwa
	?	Antipov 89	–
		Antipov 88	–
μ^- μ^+ γ X	530	De 89	mass
π^+ 2π^- X	40	Bellini 84	mass, pwa
K^+ 2π^- X	230	Barlag 88D	mass
K^- 2π^+ X	230	Barlag 90B	mass
		Barlag 88D	mass
K^0 π^+ π^- X	230	Barlag 88C	mass
$\overline{K}^0$ π^+ π^- X	230	Barlag 88C	mass
K^0 $\overline{K}^0$ charged$^-$ X	40	Gabunia 90	a-dep, mult, p
K^+ K^- π^+ X	230	Barlag 90B	mass
		Barlag 88D	mass
K^+ K^- π^- X	230	Barlag 88D	mass
K^+ $\overline{K}^0$ π^- X	230	Barlag 88C	mass
K^0 K^- π^+ X	230	Barlag 88C	mass
p K^- π^+ X	230	Barlag 90B	mass
		Barlag 90C	angp, mass, p
		Barlag 90D	angp, mass, p
		Barlag 88B	mass
		Barlag 88C	mass
		Barlag 88D	mass
		Barlag 86	angp, mass, p
$\overline{p}$ K^+ π^- X	230	Barlag 90C	angp, mass, p
		Barlag 90D	angp, mass, p
		Barlag 88C	mass
		Barlag 88D	mass
		Barlag 86	angp, mass, p
Ξ^- 2π^+ X	230	Barlag 89	mass
		Barlag 89C	mass
Σ^+ K^- π^+ X	230	Barlag 89	mass
		Barlag 89C	mass
nucleon K^0 $\overline{K}^0$ X	40	Gabunia 90	a-dep, mult, p
p $\overline{K}^*(892)^0$ K^- X	230	Barlag 90	mass
Cu π^- μ^- μ^+	50	Antipov 89	cs, mass, pwa

π^- Cu

Cu π^- μ^- μ^+			
		Antipov 88	cs, mass, p
		Antipov 88B	cs
		Antipov 86C	ang, mass, pt, pwa
Cu π^+ $2\pi^-$			
	50	Antipov 88B	cs
K^+ $2\pi^+$ π^- X			
	230	Barlag 88D	mass
K^- $2\pi^+$ π^- X			
	230	Barlag 90B	mass
K^- π^+ $2\pi^-$ X			
	230	Barlag 88D	mass
Λ $2\pi^+$ π^- X			
	230	Barlag 89C	mass
p $\bar{K}^0$ π^+ π^- X			
	230	Barlag 88C	mass
$\bar{p}$ K^0 π^+ π^- X			
	230	Barlag 88C	mass
p $2K^-$ π^+ X			
	230	Barlag 90	mass
K^+ K^- $2\pi^+$ π^- X			
	230	Barlag 88C	mass

π^- ^{64}Ni

p X			
	5	Bayukov 85D	angp, p
		Gavrilov 85B	a-dep, angp, p
n X			
	5	Bayukov 85D	angp, p
		Gavrilov 85B	a-dep, angp, p
deuteron X			
	5	Gavrilov 85B	a-dep, angp, p

π^- Zn

p X			
	5	Bayukov 85D	angp, p
n X			
	5	Bayukov 85D	angp, p

π^- Ge

p X			
	0	Gornov 88	a-dep, p
		Gornov 87B	a-dep, p
		Gornov 86B	p
deuteron X			
	0	Gornov 87B	a-dep, p
		Gornov 86B	p
^{3}He X			
	0	Gornov 87B	a-dep, p
		Gornov 86B	p
^{3}H X			
	0	Gornov 87B	a-dep, p
		Gornov 86B	p
^{4}He X			
	0	Gornov 87B	a-dep, p
		Gornov 86B	p

π^- Zr

X			
	0.2707	Marx 86	cs
inelastic			
	0.2707	Marx 86	cs

π^- Rh

π^+ X			
	0.2875 – 0.353	Gram 89	a-dep, cs

π^- Ag

Ag $a_1(1260)^-$			
	40	Zajmidoroga 85	mass, pwa

π^- Ag

π^+ $2\pi^-$ X			
	40	Bellini 84	mass, pwa

π^- ^{108}Ag

(blacks) mult[grey] mult[shower] (neutrals)			
	100	Biswas 86	cs
	320	Biswas 86	cs

π^- ^{112}Sn

p X			
	5	Bayukov 85D	angp, p
		Gavrilov 85B	a-dep, angp, p
n X			
	5	Bayukov 85D	angp, p
		Gavrilov 85B	a-dep, angp, p
deuteron X			
	5	Gavrilov 85B	a-dep, angp, p

π^- Cd

inelastic			
	1.26 – 2.5	Kuzichev 89	a-dep, cs
Λ X			
	1.2 – 5	Vorobiev 89C	angp
		Vorobiev 87B	a-dep, angp
	3	Vorobiev 88E	p, pol
		Vorobiev 86	–
p π^- X			
	3	Vorobiev 88E	ang, mass, p
		Vorobiev 86	ang, mass

π^- In

p X			
	5	Bayukov 85D	angp, p
n X			
	5	Bayukov 85D	angp, p

π^- ^{118}Sn

Sn* π^-			
	0.2306	Ullmann 85	angp
^{118}Sn π^- γ			
	0.2306	Ullmann 85	angp

π^- Sn

p X			
	5	Bayukov 85D	angp, p
	30	Abreu 85	a-dep, p, pt
$\bar{p}$ X			
	30	Abreu 85	a-dep, p, pt
n X			
	5	Bayukov 85D	angp, p
Sn* π^0			
	39.1	Apokin 86D	angp, cs
Sn* η			
	39.1	Apokin 86D	angp, cs
Sn* ω			
	39.1	Apokin 86D	angp, cs
Sn* η'			
	39.1	Apokin 86D	angp, cs
Sn* $f_2(1270)$			
	39.1	Apokin 86D	angp, cs
μ^- μ^+ X			
	225	Greenlee 85	mass, p
p $\bar{p}$ X			
	30	Beusch 86	a-dep, ang, mass, p, pt

π^- ^{124}Sn

p X			
	5	Bayukov 85D	angp, p

π^- ^{124}Sn

p X			
		Gavrilov 85B	a-dep, angp, p
n X			
	5	Bayukov 85D	angp, p
		Gavrilov 85B	a-dep, angp, p
deuteron X			
	5	Gavrilov 85B	a-dep, angp, p

π^- ^{131}Xe

π^0 X			
	3.5	Pavlyak 86	mult
$\pi^\pm$ X			
	3.5	Pavlyak 86	mult
π X			
	3.5	Pavlyak 86B	mult, p
p X			
	3.5	Pavlyak 86	mult
		Pavlyak 86B	mult, p
mult[p] X			
	3.5	Pavlyak 86B	mult
π^0 $\pi^\pm$ X			
	3.5	Pavlyak 86	mult
mult[p] π X			
	3.5	Pavlyak 86B	mult
mult[p] mult[π] X			
	3.5	Pavlyak 86B	mult

π^- Xe

X			
	0	Barmin 89	cs
γ X			
	0	Barmin 89	cs, p
	3.5	Abdurakhimov 88B	angp, pt
π^0 X			
	3.5	Pluta 88	angp
π X			
	3.5	Strugalski 85B	angp
mult[π] X			
	3.5	Strugalski 85B	angp, cor, mult, p, pt
p X			
	3.5	Strugalski 86B	angp, p, pt
mult[p] X			
	2.34 – 9	Strugalski 88	mult
	3.5	Strugalski 86	mult
		Strugalski 86B	mult
		Strugalski 85	mult
(p's) (n's)			
	3.5	Grishin 88	mult
mult[p] (frags)			
	3.5	Strugalski 85	mult
π^0 mult[charged] X			
	3.5	Okhrimenko 87	angp, p
	9	Fredriksson 87	cor, mult
$2\pi^0$ X			
	3.5	Grishin 86B	p, pt
η mult[charged] X			
	3.5	Okhrimenko 87	angp, p
mult[γ] mult[charged] X			
	3.5	Abdurakhimov 88B	mult
p π^- X			
	3.5	Strugalski 86B	angp, p, pt
p 0π X			
	3.5	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 $P_{\rm lab}$ in GeV/c, or in parentheses $E_{\rm cm}$ in GeV. See the legend on page 153.

π^- Xe

$2p$ X	3.5	Pluta 88B	angp, cor
		Bartke 86	p
mult[p] π^0 X	3.5	Pluta 88	angp, cor, mult
		Strugalski 88C	cor, mult, p
mult[p] π^- X	3.5	Strugalski 86B	mult
mult[p] 0π X	3.5	Strugalski 86B	mult
mult[p] mult[π^0] X	3.5	Miller 87B	angp, mult, p
mult[p] mult[π] X	3.5	Strugalski 85B	mult
(p's) (n's) π	3.5	Grishin 88	angp, mult
mult[p] mult[n] mult[frag]	2.34 – 9	Strugalski 88	cs
mult[p] mult[n] π^- mult[frag]	3.5	Strugalski 88	cs

π^- Ta

π^- X	9.4	Agakishiev 87C	angp
Ta $a_1(1260)^-$	40	Zajmidoroga 85	mass, pwa
$\pi^- \pi^\pm$ X	9.4	Agakishiev 87C	angp
$p\,\pi^-$ X	9.4	Agakishiev 87C	angp
$\pi^+ 2\pi^-$ X	40	Bellini 84	mass, pwa

π^- Wt

mult[charged] X	300	Badier 85	cs, mass
$J/\psi(1S)$ X	125	Katsanevas 87	a-dep, cs, p, pt
	225	Grab 87	cs
		Louis 86	cs
	252	Biino 87	p, pol
$\Upsilon(1S)$ X	194	Falciano 85	p, pt
	286	Grossmanhand 86	cs, p, pt
$\Upsilon(2S)$ X	194	Falciano 85	p, pt
	286	Grossmanhand 86	cs
$\Upsilon(3S)$ X	194	Falciano 85	p, pt
	286	Grossmanhand 86	cs
D^0 X	225	Grab 87	cs
		Louis 86	cs
$\overline{D}^0$ X	225	Louis 86	cs
longlived X	300	Badier 85	cs
$e^- e^+$ X	300	Badier 85	cs, mass
$\mu^- \mu^+$ X	80	Palestini 85	angp, mass, p, pt
	125	Anassontzis 87	ang, angp, mass, p, pt
		Katsanevas 87	a-dep, mass
	140 – 286	Guanziroli 88	angp
		Bordalo 87	a-dep, p
		Bordalo 87B	a-dep, pt
		Richard 87	angp, mass
	194	Falciano 86	ang, p
		Betev 85	mass, p
		Betev 85B	mass, p
		Falciano 85	mass
	225	Grab 87	mass
		Louis 86	mass
	250	Heinrich 89	p
	252	Conway 89	angp, mass, p, pt
		Biino 87	ang, mass, p
	263	Alexander 86	ang
	286	Grossmanhand 86	mass
	300	Badier 85	cs, mass
$2\mu^+$ X	225	Louis 86	ang
$2\mu^-$ X	225	Louis 86	ang
$\pi^+ \pi^-$ X	300	Badier 85	cs, mass
$B\,\overline{B}$ X	140 – 286	Bordalo 88	cs
bottom $\overline{\text{bottom}}$ X	194	Ereditato 85	cs
$\mu^\pm \mu^- \mu^+$ X	140 – 286	Bordalo 88	–
$\mu^- 2\mu^+$ X	194	Ereditato 85	mass, pt
$2\mu^- \mu^+$ X	194	Ereditato 85	mass, pt

π^- ^{197}Au

fragt X	0.1426 – 0.1947	Hicks 85	–
(blacks) mult[grey] mult[shower] (neutrals)	100	Biswas 86	cs
	320	Biswas 86	cs

π^- Pb

X	0.2707	Marx 86	cs
inelastic	0.2707	Marx 86	cs
	1.26 – 2.5	Kuzichev 89	a-dep, cs
charged X	38	Barwolff 85	mult
charged$^+$ X	40	Boos 88	a-dep, mult
charged$^-$ X	38	Barwolff 85	mult
	40	Gabunia 90	a-dep, mult, p
		Boos 88	a-dep, mult
mult[charged$^+$] X	40	Boos 88	a-dep, mult
mult[charged$^-$] X	40	Boos 88	a-dep, mult
π^+ X	0.2875 – 0.353	Gram 89	a-dep, cs
	1.4 – 5	Bayukov 85E	a-dep, angp, p
	1.5	Buklej 86	angp, p
	5	Vorobiev 89B	a-dep, angp
		Vorobiev 88D	a-dep, angp
	40	Ananieva 86	mult, p, pt
π^- X	1.4 – 5	Bayukov 85E	a-dep, angp, p

π^- Pb

$J/\psi(1S)$ X	530	Kartik 90	a-dep, cs, p, pt
χ(unspec) X	530	De 89	–
K^0 X	40	Gabunia 89	a-dep, mult
p X	0.6	Golubeva 89	angp
	1.4 – 5	Bayukov 85C	a-dep, angp, p
		Bayukov 85F	a-dep, p
	1.5	Burgov 87	a-dep, angp, p
	3	Vorobiev 85B	pol
	5	Vorobiev 86B	angp
	30	Abreu 85	a-dep, p, pt
	38	Barwolff 85	mult
	40	Bannikov 89	a-dep, angp, cs, mult
		Albini 85	a-dep, angp, p
		Vishnyakov 85	angp
$\overline{p}$ X	30	Abreu 85	a-dep, p, pt
n X	1.4 – 5	Bayukov 85C	a-dep, angp, p
		Bayukov 85F	a-dep, p
nucleon X	40	Gabunia 90	a-dep, mult, p
Λ X	1.2 – 5	Vorobiev 89C	angp
		Vorobiev 87B	a-dep, angp
	3	Vorobiev 88E	p, pol
	40	Gabunia 89	a-dep, mult
deuteron X	1.5	Burgov 87	a-dep, angp, p
	5	Vorobiev 86B	angp
mult[p] X	40	Bannikov 89	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
Pb* π^0	39.1	Apokin 86D	angp, cs
Pb π^-	0.2707	Marx 86	cs
Pb* η	39.1	Apokin 86D	angp, cs
Pb ρ^-	200	Capraro 87	angp
Pb* ω	39.1	Apokin 86D	angp, cs
Pb* η'	39.1	Apokin 86D	angp, cs
Pb $a_1(1260)^-$	40	Zajmidoroga 85	mass, pwa
Pb* $f_2(1270)$	39.1	Apokin 86D	angp, cs
charged$^-$ charged X	38	Barwolff 85	angp, mult
2charged X	38	Barwolff 85	angp, mult
$2\pi^+$ X	5	Vorobiev 89B	angp, cor, pt
		Vorobiev 88D	angp, cor

π^- Pb

$\pi^+ \pi^-$ X			
	38	Barwolff 88	mass
$J/\psi(1S)\ \gamma$ X			
	530	De 89	a-dep, cs, mass, p
K^0 charged$^-$ X			
	40	Gabunia 90	a-dep, mult, p
K_S charged X			
	38	Barwolff 88	a-dep, cs, mult, p, pt
p charged X			
	38	Barwolff 85	angp, mult
p charged$^-$ X			
	40	Bannikov 89	angp, mult
$p\ \pi^-$ X			
	3	Vorobiev 88E	ang, mass, p
	38	Barwolff 88	mass
$\bar{p}\ \pi^+$ X			
	38	Barwolff 88	mass
Λ charged X			
	38	Barwolff 88	a-dep, cs, mult, p, pt
Λ charged$^-$ X			
	40	Gabunia 90	a-dep, mult, p
$\bar{\Lambda}$ charged X			
	38	Barwolff 88	a-dep, cs, mult
nucleon K^0 X			
	40	Gabunia 90	a-dep, mult, p
$p\ \bar{p}$ X			
	30	Beusch 86	a-dep, ang, mass, p, pt
nucleon Λ X			
	40	Gabunia 90	a-dep, mult, p
mult[p] charged$^-$ X			
	40	Bannikov 89	angp, 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
Pb $\pi^-\ \gamma$			
	40	Antipov 85	ang, angp, p
$\mu^-\ \mu^+\ \gamma$ X			
	530	De 89	mass
$\pi^+\ 2\pi^-$ X			
	40	Bellini 84	mass, pwa
$K^0\ \bar{K}^0$ charged$^-$ X			
	40	Gabunia 90	a-dep, mult, p
nucleon $K^0\ \bar{K}^0$ X			
	40	Gabunia 90	a-dep, mult, p

π^- ^{208}Pb

^{208}Pb $\pi^-\ \gamma$			
	0	Delaat 85	p

π^- ^{209}Bi

fragt X			
	0.1426 – 0.1947	Hicks 85	–

π^- ^{238}U

fragt X			
	0.1426 – 0.1947	Hicks 85	–

π^- U

X			
	1.4 – 5	Bayukov 85F	a-dep, p
μ^+ X			
	320	Cobbaert 87B	a-dep, cs, p
μ^- X			
	320	Cobbaert 87B	a-dep, cs, p
π^+ X			
	1.4 – 5	Bayukov 85E	a-dep, angp, p
π^- X			
	1.4 – 5	Bayukov 85E	a-dep, angp, p
$J/\psi(1S)$ X			
	320	Catanesi 89	cs
p X			
	1.4 – 5	Bayukov 85C	a-dep, angp, p
		Bayukov 85F	a-dep, p
n X			
	1.4 – 5	Bayukov 85C	a-dep, angp, p
charm X			
	320	Cobbaert 87B	a-dep
$\overline{\text{charm}}$ X			
	320	Cobbaert 87B	a-dep
$\mu^-\ \mu^+$ X			
	320	Catanesi 88	p, pt
		Cobbaert 88B	a-dep, mass, p
$2\mu^+$ X			
	320	Catanesi 88	p, pt
$2\mu^-$ X			
	320	Catanesi 88	p, pt
$2p$ X			
	2.5	Bayukov 85	cor
	5	Bayukov 85	cor
bottom $\overline{\text{bottom}}$ X			
	320	Catanesi 89	cs
		Catanesi 88	cs
		Catanesi 86	cs, p
$\mu^-\ 2\mu^+$ X			
	320	Catanesi 86	p, pt
$2\mu^-\ \mu^+$ X			
	320	Catanesi 86	p, pt

π^- nucleus

inelastic			
	5 – 300	Fredriksson 87	a-dep, cs
	13.3	Prokoshkin 87C	cs
charged X			
	300	Holynski 86	p
charged$^+$ X			
	40	Boos 88	a-dep, mult
charged$^-$ X			
	10.5 – 64	Fredriksson 87	mult
	40	Boos 88	a-dep, mult
mult[charged$^+$] X			
	40	Boos 88	a-dep, mult
mult[charged$^-$] X			
	40	Boos 88	a-dep, mult

π^- nucleus

^{37}Ar X			
	0.3957 – 0.4536	Gavrin 89	cs, mult
mult[charged] (neutrals)			
	340	Ahmad 85B	mult
π^0 X			
	5 – 40	Fredriksson 87	mult
π^+ X			
	40 – 50	Fredriksson 87	p
	50	Bajramov 89	p
π^- X			
	7 – 50	Fredriksson 87	angp, p
	50	Bajramov 89	p
$\pi_2(1670)^-$ X			
	40	Bellini 84	cs
$J/\psi(1S)$ X			
	70	Prokoshkin 87C	pol, pt
	80	Albrow 88	pol
	252	Biino 87	p, pol
	530	Kartik 90	p, pt
mult[htrack] X			
	340	Ahmad 89	mult
meson$^-$ X			
	40	Bellini 84	–
p X			
	5 – 200	Fredriksson 87	mult
	7 – 30	Fredriksson 87	angp
$\bar{p}$ X			
	30	Fredriksson 87	angp
n X			
	4 – 40	Fredriksson 87	mult
Λ X			
	3.9 – 40	Panagiotou 89	p, pol, pt
	30 – 40	Fredriksson 87	angp, p
$\bar{\Lambda}$ X			
	30	Fredriksson 87	angp
deuteron X			
	1 – 6	Gavrilov 85	a-dep, angp, p
dibaryon X			
	4 – 6.2	Amelin 87B	cs
dibaryon($S = -2$) X			
	4	Shahbazyan 88	cs, mass
mult[p] X			
	2.9	Vorobiev 85	mult
axion X			
	300	Badier 86	cs
black X			
	300	Babecki 85	mult
	340	Ahmad 89	angp, mult
		Ahrar 86	mult, p
gluino X			
	300	Badier 86	cs
	350	Arnold 87B	cs
grey X			
	5.4 – 340	Fredriksson 87	mult
	40	Boos 88	a-dep, mult
	300	Babecki 85	mult
	340	Ahmad 89	angp, mult
		Ahrar 86	mult, p
htrack X			
	5.4 – 340	Fredriksson 87	mult
jet X			
	200	Fredriksson 87	a-dep, angp, pt
longlived X			
	300	Badier 86	cs
mult[black] X			
	340	Ahmad 89	mult
mult[grey] X			
	40	Boos 88	a-dep, mult
	340	Ahmad 90	angp, mult
		Ahmad 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.

π^- nucleus

mult[neutral] X		
350	Arnold 87B	cs, p
mult[shower] X		
5.4 – 340	Fredriksson 87	mult
50	Kumar 89	angp, mult
300	Juric 86	angp, mult, p
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
	Babecki 85	mult
340	Ahrar 86	mult, p
X star		
40	Boos 88	a-dep, cs
nucleus ρ^-		
43 – 202	Landsberg 86	–
nucleus $\pi_2(1670)^-$		
40	Cassata 88	cs
nucleus $a_3(2050)^-$		
40	Cassata 88	cs
200	Joyner 89	cs
nucleus $K^*(892)^-$		
43 – 202	Landsberg 86	–
nucleus $K^*(1370)^-$		
43 – 202	Landsberg 86	–
DD $< \pi^+ 2\pi^- >$ nucleus		
40	Cassata 88	cs, mass
2charged X		
50 – 200	Azimov 85	cor
$e^- e^+$ X		
300	Badier 86	cs, mass
$\mu^- \mu^+$ X		
43 – 280	Fredriksson 87	a-dep, angp, pt
150 – 280	Fredriksson 87	a-dep, angp
225	Rutherfoord 85	a-dep, mass
252	Biino 87	ang, mass, p
300	Badier 86	cs, mass
530	Kartik 90	mass, p
$\pi^+ \pi^-$ X		
300	Badier 86	cs, mass
$D^0 \overline{D}^0$ X		
350	Aoki 88	ang
$D^+ \overline{D}^0$ X		
350	Aoki 88	ang
$D^0 D^-$ X		
350	Aoki 88	ang
$D^+ D^-$ X		
350	Aoki 88	ang
K_S charged X		
38	Barwolff 88	ang
p charged$^-$ X		
25 – 60	Fredriksson 87	cor, mult
Λ charged X		
38	Barwolff 88	ang
$\overline{\Lambda}$ charged X		
38	Barwolff 88	ang, p, pt
2p X		
4	Kechechyan 89	p
	Amelin 86	mass
4 – 6.2	Amelin 87B	ang, mass
5	Zielinsky 88	cs, mass
p Σ^- X		
4	Shahbazyan 88	cs, mass
2Λ X		
4	Shahbazyan 88	cs, mass
charged$^+$ X star		
40	Boos 88	a-dep, mult

π^- nucleus

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
mult[htrack] mult[shower] X		
340	Ahmad 89	mult
black mult[grey] X		
340	Ahmad 89	mult
grey mult[grey] X		
340	Ahmad 90	angp, mult
grey mult[shower] X		
200	Jain 88B	cor, mult, p
grey shower X		
200	Jain 88B	cor, mult, p
grey X star		
40	Boos 88	a-dep, mult
mult[black] grey X		
340	Ahmad 89	mult
mult[black] mult[shower] X		
340	Ahmad 89	mult
mult[grey] mult[shower] X		
20 – 37	Fredriksson 87	mult
300	Juric 86	angp, mult, p
340	Ahmad 89	mult
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
mult[grey] X star		
40	Boos 88	a-dep, mult
shower mult[hadron] X		
300	Juric 86	angp, mult, p
nucleus π^- γ		
40	Antipov 86D	p
nucleus π^0 π^-		
43 – 202	Landsberg 86	mass
2π^- fragt		
5	Agababyan 85B	angp, cs, mass, p
nucleus ρ^0 π^-		
40	Cassata 88	cs, mass
200	Joyner 89	cs
ρ^0 π^- fragt		
5	Agababyan 85B	angp, cs, mass
nucleus $f_0(1240)$ π^-		
200	Joyner 89	cs
π^- 2γ X		
300	Alde 88B	mass
π^+ π^- $\pi^\pm$ X		
300	Badier 86	cs, mass
nucleus π^+ 2π^-		
40	Prokoshkin 87C	angp, mass
200	Joyner 89	cs, mass
2D^- 2charm X		
350	Aoki 87	angp
(p's) 2π^- (γ's) fragt		
5	Agababyan 85B	cs, mass
(p's) 2π^- (γ's) fragt charged$^+$		
5	Agababyan 85B	cs, mass

π^- nucleus

(p's) 2π^- 0γ fragt charged$^+$		
5	Agababyan 85B	cs, mass
(p's) π^+ 2π^- (γ's) fragt		
5	Agababyan 85B	angp, cs, mass
Λ K_S 2π^+ 2π^- X		
200	Arenton 86	mass
π^- 6γ X		
300	Alde 88B	mass

π^+ π^-

2π^0		
0.1181 – 17.2	Clark 85	pwa
0.9337 – 14.19	Apokin 89B	cs

π^+ p

charged X		
80 – 140	Apsimon 89	angp, cs, pt
250	Aivazyan 89	mult, p
	Adamus 88B	mult, p, pt
	Adamus 88C	mult, p
	Aivazyan 88	mult, p, pt
	Adamus 87C	mult, p
	Adamus 86	mult, p
	Adamus 86B	cs, mult
charged$^+$ X		
250	Aivazyan 89	mult, p
	Adamus 88G	mult, p, pt
charged$^-$ X		
200	Brick 90	cor, mult, p
250	Aivazyan 89	mult, p
	Adamus 88G	mult, p, pt
	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	col, p
	Buschbeck 89	mult, p
	Ajinenko 87	p, pt
γ X		
280	Bonesini 88	p, pt
	Richard 87	p, pt
280 – 300	Lancon 86B	angp, pt
	Rutherfoord 85	p, pt
300	Demarzo 87	p, pt
	Richard 87	p, pt
	Ferbel 86	angp, pt
π^0 X		
250	Adamus 86C	cs, mult, p, pt
280	Bonesini 87	p, pt
	Richard 87	p, pt
280 – 300	Lancon 86B	angp, pt
300	Demarzo 87B	p, pt
	Richard 87	p, pt
	Ferbel 86	angp, pt
η X		
10.5	Bitsadze 86	a-dep, p
280	Bonesini 89	cs, p, pt
	Richard 87	p, pt
ϕ X		
120	Dijkstra 86D	–
K^+ X		
12	Bitsadze 85B	mass
$K^*(892)^+$ X		
?	Chliapnikov 90	cs

$\pi^+ p$

$K^*(892)^0$ X		
?	Chliapnikov 90	cs
$\bar{K}^*(892)^0$ X		
16	Jawahery 85	p, pt
?	Chliapnikov 90	cs
K_S X		
?	Chliapnikov 90	cs
$D_S^\pm$ X		
200	Becker 87	–
p X		
1.84 – 2.63	Abramov 88	ang, angp, p
30	Abreu 85	a-dep, p, pt
200	Brick 89	mult
250	Ajinenko 89E	cs, mult, p, pt
$\bar{p}$ X		
30	Abreu 85	a-dep, p, pt
$\Delta(1232 P_{33})^{++}$ X		
250	Ajinenko 89E	cs, mult, p, pt
Λ X		
18.5	Panagiotou 89	p, pol, pt
250	Ajinenko 89E	cs, mult, p, pt
$\bar{\Lambda}$ X		
250	Ajinenko 89E	cs, mult, p, pt
$\Sigma(1385 P_{13})^+$ X		
250	Ajinenko 89E	cs, mult, p, pt
anomalon X		
147	Fuess 87	–
shower X		
200	Brick 90	cor, mult, p
	Brick 89	mult
$p \pi^+$		
0.03 – 0.67	Brack 89	angp, cs
0.0668	Brack 88	angp
0.1208 – 0.2259	Friedman 90	cs
0.1305 – 0.2258	Friedman 89	cs
0.1356	Wiedner 89	amp, angp
	Wiedner 87	angp
0.2445 – 0.4168	Ottermann 85B	angp
0.303 – 0.7263	Abaev 84	pwa
0.378 – 0.687	Sadler 87	angp, cs
0.471 – 0.625	Barlow 89	angp, asym, pol
0.471 – 0.687	Mokhtari 86	asym, cs, pwa
	Mokhtari 85	pol
0.547 – 0.625	Seftor 89	pol
0.547 – 0.687	Wightman 88	angp, asym, pol
< 1.232	Arndt 85	amp
4.314 – 76.26	Zhokin 89	angp
9.9	Baller 88	angp, cs, pt
40	Siksin 87	amp
	Kazarinov 85	[illegible]
50	Asad 85	angp
< 200	Hohler 89	angp, pol, pwa
250	Grassler 88	angp, cs
	Adamus 87D	angp, cs
$\Delta(1232 P_{33})^+ \pi^+$		
9.9	Baller 88	angp, cs, pt
$N^*_{5/2}(1380)^{+++} \pi^-$		
4.23	Drutskoy 88	cs
	Mikhajlichen 87	cs
$N^*_{5/2}(1390)^{+++} \pi^-$		
3.94	Arefiev 87	ang, angp, mass

$\pi^+ p$

$N^*_{5/2}(1480)^{+++} \pi^-$		
3.94	Arefiev 87	ang, angp, mass
	Arefiev 86	cs
7.792	Arefiev 90B	–
$p \rho^+$		
9.9	Baller 88	angp, cs, pt
$N^*_{5/2}(1650)^{+++} \pi^-$		
3.94	Arefiev 87	ang, angp, mass
	Arefiev 86	cs
4.23	Drutskoy 88	cs
	Mikhajlichen 87	cs
$N^*_{5/2}(1760)^{+++} \pi^-$		
4.23	Drutskoy 88	cs
	Mikhajlichen 87	cs
$\Delta(1232 P_{33})^{++} \rho^0$		
3.94	Arefiev 90B	cs
	Arefiev 86B	angp
$N^*_{5/2}(2070)^{+++} \pi^-$		
4.23	Drutskoy 88	cs
	Mikhajlichen 87	cs
$\Delta(1232 P_{33})^{++} f_2(1270)$		
3.94	Arefiev 90B	cs
	Zhokin 89	angp, cs
15.7	Clark 85	cs
exotic-nucleon π^-		
4.2	Brovkin 89	cs
$N^*_{5/2}(\text{unspec})^{+++} \pi^-$		
4	Abramov 89C	cs
4.23	Mikhajlichen 87	cs
$\Sigma^+ K^+$		
1.49 – 2.069	Haba 88	angp, pol, pwa
1.69 – 1.88	Candlin 88	angp, pol
1.7	Kobayashi 87	angp
4.23	Drutskoy 87	cs
9.9	Baller 88	angp, cs, pt
12	Bitsadze 85B	angp, pol
$\Sigma(1385 P_{13})^+ K^+$		
12	Bitsadze 85B	angp, pol
$\Sigma(1385 P_{13})^+ K^*(892)^+$		
4.23	Drutskoy 89	cs
$\Sigma(1385 P_{13})^+ K^*(1370)^+$		
4.23	Drutskoy 89	cs
DD < charged (chargeds) (neutrals) > π^+		
250	Adamus 88F	cs, p
DD < $p\ 2\pi^+\ 2\pi^-$ > π^+		
250	Ajinenko 89B	cs, mass, p
DD < $p\ \pi^+\ \pi^-$ > π^+		
250	Ajinenko 89B	cs, mass, p
DD < $2\pi^+\ \pi^-$ > p		
250	Ajinenko 89B	cs, mass, p
DD < $3\pi^+\ 2\pi^-$ > p		
250	Ajinenko 89B	cs, mass, p
DD < charged (chargeds) (neutrals) > p		
250	Adamus 88F	cs, p
2charged X		
200	Brick 90	cor, mult, p
2γ X		
300	Demarzo 87B	mass
$\mu^- \mu^+$ X		
40 – 225	Rutherfoord 85	mass
$2\pi^+$ X		
250	Adamus 88	angp, cor, p

$\pi^+ p$

$2\pi^-$ X		
250	Adamus 88	angp, cor, p
$\pi^+ \pi^-$ X		
4.23	Drutskoy 87	ang
$K^- \pi^+$ X		
16	Jawahery 85	mass
$p \pi^+$ X		
85	Armstrong 86B	mass, p
$\Sigma^+ \pi^+$ X		
4.23	Drutskoy 87B	mass
$p K^+$ X		
4.23	Drutskoy 87B	mass
$p K^0$ X		
4.23	Drutskoy 87B	mass
$p \bar{p}$ X		
30	Beusch 86	a-dep, ang, mass, p, pt
γ jet X		
280	Bonesini 89B	p, pt
2jet X		
200	Naudet 86	p, pt
π^+ mult[charged] (neutrals)		
250	Adamus 88F	mult
p mult[charged] (neutrals)		
250	Adamus 88F	mult
$p \pi^+ \gamma$		
0.4158	Meyer 88	angp, p
$\Delta(1232 P_{33})^{++} 2\pi^0$		
15.7	Clark 85	ang, angp, mass, pwa
$\Delta(1232 P_{33})^{++} \pi^+ \pi^-$		
250	Ajinenko 89B	cs
$N^*_{5/2}(1390)^{+++} \pi^0 \pi^-$		
3.94	Arefiev 87	ang, angp, mass
$N^*_{5/2}(1480)^{+++} \pi^0 \pi^-$		
3.94	Arefiev 87	ang, angp, mass
7.792	Arefiev 90B	–
$p \rho^+ \pi^0$		
15.7	Ferguson 87	cs
$p \rho^0 \pi^+$		
15.7	Ferguson 87	cs, p
250	Ajinenko 89B	cs
$n \rho^+ \pi^+$		
15.7	Ferguson 87	cs
$p \omega \pi^+$		
15.7	Ferguson 87	cs
$N^*_{5/2}(1650)^{+++} \pi^0 \pi^-$		
3.94	Arefiev 87	ang, angp, mass
$p f_2(1270) \pi^+$		
250	Ajinenko 89B	cs
$p f_1(1285) \pi^+$		
85	Armstrong 89C	cs
	Augustin 88C	mass
?	Armstrong 86E	–
$p f_1(1420) \pi^+$		
85	Augustin 88C	mass
?	Armstrong 86E	–
$p K^+ \gamma$		
1.7	Kobayashi 87	angp
$\Lambda K^+ \pi^+$		
4.23	Drutskoy 87	cs
$\Sigma^+ K^+ \pi^0$		
4.23	Drutskoy 87	cs
$\Sigma^0 K^+ \pi^+$		
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.

$\pi^+ p$

kink$^+$ 4charged (neutrals) + kink$^-$ 4charged (neutrals)	4.23	Drutskoy 87	cs
$n\ 3\pi^+ \pi^0 \pi^-$	15.7	Ferguson 87	cs, mass
$p\ 3\pi^+ 2\pi^-$	4.2	Brovkin 89	mass, p
	15.7	Ferguson 87	cs, mass
	85	Armstrong 89C	mass, pwa
	250	Ajinenko 89B	cs
$p\ \rho^+ 2\pi^+ 2\pi^-$	15.7	Ferguson 87	cs
$p\ \rho^- 3\pi^+ \pi^-$	15.7	Ferguson 87	cs
$p\ K^+ K^- 2\pi^+ \pi^-$	85	Armstrong 86D	cs, mass, p
$p\ 2K^+ 2K^- \pi^+$	85	Armstrong 86	cs, mass
$2p\ \bar{p}\ 2\pi^+ \pi^-$	85	Armstrong 87	mass, p
kink$^+$ vee 4charged (neutrals) + kink$^-$ vee 4charged (neutrals)	4.23	Drutskoy 87	cs
2kink$^+$ 4charged (neutrals) + 2kink$^-$ 4charged (neutrals)	4.23	Drutskoy 87	cs
$p\ 3\pi^+ \pi^0 2\pi^-$	15.7	Ferguson 87	cs, mass
kink$^+$ 6charged (neutrals) + kink$^-$ 6charged (neutrals)	4.23	Drutskoy 87	cs
$2p\ \bar{p}\ 3\pi^+ 2\pi^-$	85	Armstrong 87	mass, p

$\pi^+ n$

X	1.4 – 5	Bayukov 85F	a-dep, p
$p\ \pi^0$	6 – 11.85	Fujisaki 88	pol
	< 200	Hohler 89	angp, pol, pwa
$n\ \pi^+$	< 200	Hohler 89	angp, pol, pwa
$p\ \eta$	6 – 11.85	Fujisaki 88	pol
$\Lambda\ K^+$	10.3	Bitsadze 86B	angp, cs
$\Sigma^0\ K^+$	10.3	Bitsadze 86B	angp, cs
$p\ 2\gamma$	6 – 11.85	Fujisaki 88	mass
$p\ \pi^+ \pi^-$	5.98 – 11.85	Delesquen 85	angp, dme, mass
	6 – 12	Svec 84	–

π^+ deuteron

η X	10.5	Bitsadze 86	a-dep, p
		Akimenko 85	cs
ρ^0 X	3.9	Nakai 89	a-dep, cs
$f_2(1270)$ X	3.9	Nakai 89	a-dep, cs
K^+ X	1.06 – 1.4	Pigot 85	mass

π^+ deuteron

p X	0.1947 – 0.5212	Arvieux 84C	–
$2p$	0.2069 – 0.4168	Boschitz 86	angp, dme, pol
	0.3957 – 0.5728	Strakovsky 86	angp, pwa
		Borkovsky 84	angp, cs, pwa
	0.65 – 1.95	Chuvilo 86	–
deuteron π^+	0.143 – 0.256	Smith 87C	angp, asym
	0.1695	Smith 86F	angp, cs, pol
	0.2069 – 0.2549	Smith 86D	angp, asym, pol
	0.2069 – 0.3744	Redwine 86	pol
	0.2165 – 0.2514	Shin 86	angp, pol
	0.2189 – 0.4105	Yokosawa 85C	–
	0.2236 – 0.4421	Ottermann 85B	angp
	0.2248 – 0.4168	Boschitz 86	angp, dme, pol
	0.2353 – 0.2549	Smith 86C	angp, asym, pol
	0.2353 – 0.3701	Ungricht 85	angp, pol, pwa
	0.2422	Blankleider 84	–
	0.2875	Smith 86E	angp, pol
	0.74	Yamauchi 85	angp, asym
dibaryon π^-	0.2217	Ashery 88	angp, cs
dibaryon$(S = -1)$ K^+	1.06 – 1.4	Pigot 85	angp
$\pi^+ \pi^-$ X	3.9	Nakai 89	a-dep, mass
p(spect) $p\ \pi^0$	6 – 11.85	Fujisaki 88	–
$p\ n\ \pi^+$	0.25 – 0.65	Boschitz 86	angp, dme, pol
	0.34	Mathie 85	angp, asym
p(spect) $p\ \eta$	6 – 11.85	Fujisaki 88	–
$p\ \Lambda\ K^+$	10.3	Bitsadze 86B	angp
$n\ \Sigma^+ K^+$	10.3	Bitsadze 86B	angp
$p\ \Sigma^0 K^+$	10.3	Bitsadze 86B	angp
p(spect) $p\ 2\gamma$	6 – 11.85	Fujisaki 88	mass
$2p\ \pi^+ \pi^-$	0.2217	Ashery 88	angp, mass

$\pi^+\ {}^3$H

^{3}H π^+	0.2445 – 0.3314	Pillai 88	angp

$\pi^+\ {}^3$He

X	0.1947 – 0.248	Angelescu 90	cs
π^+ X	0.4693 – 0.5985	Boswell 86	p

$\pi^+\ {}^3$He

^{3}He π^+	0.1922 – 0.2605	Marx 86	angp
	0.1947 – 0.248	Angelescu 90	cs
	0.2445 – 0.3314	Pillai 88	angp
$2p$ X	< 0.2875	Redwine 86	cs
$3p$	0.1461 – 0.1731	Aniol 85	cs
	0.1947 – 0.248	Angelescu 90	ang, cs, p

$\pi^+\ {}^4$He

X	0.1283 – 0.4168	Marx 86	cs
^{4}He π^+	0.1283 – 0.4168	Marx 86	cs
^{3}He $p\ \pi^0$	0.2069 – 0.2651	Marx 86	angp
^{3}H $p\ \pi^+$	0.1536 – 0.2605	Balestra 86	angp, cs
	0.2069 – 0.2651	Marx 86	angp
	0.2605	Marx 86	ang, mass
^{3}He $n\ \pi^+$	0.2069 – 0.2651	Marx 86	angp
$3p\ n$	0.1536 – 0.2605	Balestra 86	angp, cs
	0.2707	Weber 89	cs, p
$4p\ \pi^-$	0.2189 – 0.3851	Kinney 86	angp, p
$2p\ 2n\ \pi^+$	0.1536 – 0.2605	Balestra 86	angp, cs

π^+ He

π^+ X	0.4693 – 0.5985	Boswell 86	p
π^- X	0.2875 – 0.353	Gram 89	a-dep, cs

$\pi^+\ {}^6$Li

inelastic	1.35 – 3.75	Gachurin 85	cs
π^- X	0.2875 – 0.353	Gram 89	a-dep, cs
p X	1.5	Burgov 87	a-dep, angp, p
deuteron X	1.5	Burgov 87	a-dep, angp, p
$2\,{}^3$He	0.1426 – 0.1695	Mcparland 85	angp
	0.1426 – 0.2422	Mcparland 85B	angp
$2p$ X	0.2537	Ransome 90	cs, p
deuteron p X	0.2537	Ransome 90	cs, p
He $2p$	0.2537	Ransome 90	cs, p
He* $2p$	0.2537	Ransome 90	cs, p
$2p\ \pi^-$ X	0.5 – 1.5	Kobayashi 88B	angp, cs, mass

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π^+ ^{6}Li

$3p$ X	0.2537	Ransome 90	cs, p
$2p$ n X	0.2537	Ransome 90	cs, p
^{3}H $3p$	0.2537	Ransome 90	cs, p
$4n$ X	0.2537	Ransome 90	cs, p

π^+ Li

π^+ X	1.5	Buklej 86	angp, p
η X	10.5	Bitsadze 86	a-dep, p
p X	0.8	Chrien 88	angp, p
π^+ π^- X	3.9	Nakai 89	a-dep, mass

π^+ ^{7}Li

inelastic	1.35 – 3.75	Gachurin 85	cs
π^0 X	0.4168 – 0.6753	Rokni 88	a-dep, angp
π^- X	0.2875 – 0.353	Gram 89	a-dep, cs
^{7}Be π^0	0.1023 – 0.141	Irom 85	angp
e^- e^+ X	0.5005	Baturin 88	angp, cs
^{6}Li p e^- e^+	0.5005	Baturin 88	angp, cs

π^+ Be

inelastic	1.35 – 3.75	Gachurin 85	cs
π^- X	0.2875 – 0.353	Gram 89	a-dep, cs
η X	10.5	Bitsadze 86	a-dep, p
ϕ X	120 – 200	Dijkstra 86	mult, p, pt
η mult[fragt]	10.5	Akimenko 89	a-dep, ang, angp, cs, p
ϕ π^+ X	120	Dijkstra 86C	mass
ϕ π^- X	120	Dijkstra 86C	mass
K^+ ϕ X	120	Dijkstra 86C	mass
K^- ϕ X	120	Dijkstra 86C	mass
K^+ K^- X	120 – 200	Dijkstra 86	ang, dme, mass
K_S ϕ X	120	Dijkstra 86C	mass
p ϕ X	120	Dijkstra 86C	mass
$\bar{p}$ ϕ X	120	Dijkstra 86C	mass
$2\pi^0$ mult[fragt]	10.5	Akimenko 89	a-dep, cs
K^+ K^- π^+ X	120	Dijkstra 86C	mass
K^+ K^- π^- X	120	Dijkstra 86C	mass
K^+ $2K^-$ X	120	Dijkstra 86C	mass

π^+ Be

$2K^+$ K^- X	120	Dijkstra 86C	mass
K^+ K_S K^- X	120	Dijkstra 86C	mass
p K^+ K^- X	120	Dijkstra 86C	mass
$\bar{p}$ K^+ K^- X	120	Dijkstra 86C	mass

π^+ ^{12}C

inelastic	1.35 – 3.75	Gachurin 85	cs
Λ X	4	Manabe 89	angp, p, pol
hypernucleus K^+	1.054	Milner 85B	angp
^{12}O* π^-	0.2189 – 0.3205	Mordechai 85	angp, p
^{12}O π^-	0.2189 – 0.3205	Mordechai 85	angp

π^+ C

γ X	200	Badier 85F	pt
		Bardadinotwi 85	p, pt
π^0 X	1.1	Golubeva 90	p
	200	Badier 85E	cs, p, pt
		Badier 85F	pt
		Bardadinotwi 85	p, pt
π^+ X	1 – 6	Bayukov 85E	a-dep, angp, p
	1.5	Buklej 86	angp, p
	200	Bardadinotwi 85	p, pt
π^- X	0.2875 – 0.353	Gram 89	a-dep, cs
	1 – 6	Bayukov 85E	a-dep, angp, p
	200	Bardadinotwi 85	p, pt
ρ^0 X	3.9	Nakai 89	a-dep, cs
$f_2(1270)$ X	3.9	Nakai 89	a-dep, cs
$J/\psi(1S)$ X	530	De 89	a-dep, cs, p
χ(unspec) X	530	De 89	-
p X	0.6	Golubeva 89	angp
	0.8	Chrien 88	angp, p
	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
	200	Bardadinotwi 85	p, pt
$\bar{p}$ X	30	Abreu 85	a-dep, p, pt
n X	1 – 6	Bayukov 85C	a-dep, angp, p
	1.4 – 5	Bayukov 85F	a-dep, p
Λ X	3	Vorobiev 89C	angp
		Vorobiev 88E	p, pol
deuteron X	1.5	Burgov 87	a-dep, angp, p
nucleus π^+ + nucleus p (p's) π^+	2.9	Vorobiev 84C	ang, mult, p

π^+ C

nucleus π^- + nucleus p (p's) π^-	2.9	Vorobiev 84C	ang, mult, p
C ρ^+	202.5	Huston 86	angp
2γ X	200	Badier 85C	cs, pt
		Bardadinotwi 85	cs, p, pt
π^+ π^- X	3.9	Nakai 89	a-dep, mass
$J/\psi(1S)$ γ X	530	De 89	mass
p π^- X	3	Vorobiev 88E	ang, mass, p
Λ K^+ X	10.3	Bitsadze 86B	angp
Σ^+ K^+ X	10.3	Bitsadze 86B	angp
Σ^0 K^+ X	10.3	Bitsadze 86B	angp
p $\bar{p}$ X	30	Beuscb 86	a-dep, ang, mass, p, pt
$2p$ X	3 – 7.5	Bayukov 86	ang
	7.5	Bayukov 89C	ang, angp, p
deuteron p X	7.5	Bayukov 89C	ang, angp, p
^{3}H p X	7.5	Bayukov 89C	ang, angp, p
2deuteron X	7.5	Bayukov 89C	ang, angp, p
nucleus π^+ π^- + nucleus p (p's) π^+ π^-	2.9	Vorobiev 84C	ang, mult, p
μ^- μ^+ γ X	530	De 89	mass
$3p$ X	0.34	Tacik 86	angp, p

π^+ ^{14}C

π^0 X	0.4168 – 0.6753	Rokni 88	a-dep, angp
π^- X	0.4084 – 0.6497	Williams 89B	angp, mass
^{14}C π^+	0.1283	Mishra 85	angp
^{14}O π^-	0.1271	Leitch 85	angp, cs
	0.4084 – 0.6497	Williams 89B	angp
^{14}C π^+ γ	0.2696	Holtkamp 85	-

π^+ ^{15}Nit

Nit* π^+	0.2696	Seestrommorr 85	angp
^{15}O π^0	0.1283 – 0.4063	Redwine 86	angp
^{15}Nit π^+ γ	0.2696	Seestrommorr 85	angp

$\pi^+\ ^{16}O$

$\pi^- X$		
0.2189 – 0.3851	Wood 85	–
0.3583	Redwine 86	p
^{14}Nit $2p$		
0.1421	Wharton 85	–
^{15}Nit $p\ \pi^+$		
0.353	Redwine 86	angp, p
$p\ \pi^0\ \gamma$ X		
0.353	Redwine 86	angp, p
^{15}Nit $p\ \pi^+\ \gamma$		
0.353	Redwine 86	angp, p

π^+ O

π^- X		
0.2875 – 0.353	Gram 89	a-dep, cs
p X		
0.8	Chrien 88	angp, p
1.5	Burgov 87	a-dep, angp, p
deuteron X		
1.5	Burgov 87	a-dep, angp, p

$\pi^+\ ^{18}O$

π^- X		
0.3583	Redwine 86	p
0.4084 – 0.6497	Williams 89B	angp, mass
^{18}Ne π^-		
0.4084 – 0.6497	Williams 89B	angp

π^+ Ne

K^0 X		
10.5	Fredriksson 87	mult
p X		
30	Tkaczyk 86	p, pt
mult[p] $\pi^{\pm}$ X		
10.5 – 200	Fredriksson 87	cor, mult

$\pi^+\ ^{24}$Mg

^{24}Si* π^-		
0.2189 – 0.3205	Mordechai 85	angp, p
^{24}Si π^-		
0.2189 – 0.3205	Mordechai 85	angp
(blacks) mult[grey] mult[shower] (neutrals)		
100	Biswas 86	cs

π^+ Mg

charged X		
200	Brick 89	mult
charged$^-$ X		
200	Brick 90	cor, mult, p
	Brick 89	mult
mult[charged] X		
200	Brick 89	mult
mult[charged$^-$] X		
200	Brick 89	mult
mult[shower] X		
200	Brick 89	mult
shower X		
200	Brick 90	cor, mult, p
	Brick 89	mult
2charged X		
200	Brick 90	cor, mult, p
mult[grey] charged$^-$ X		
200	Brick 90	cor, mult, p

π^+ Mg

mult[grey] charged$^-$ X		
	Brick 89	mult
mult[grey] shower X		
200	Brick 90	cor, mult, p
	Brick 89	mult
mult[grey] charged$^+$ charged$^-$ X		
200	Brick 89	mult

π^+ Al

mult[charged] X		
250	Ajinenko 90B	angp, mult, p
mult[charged$^-$] X		
250	Ajinenko 90B	angp, mult, p
π^0 X		
1.1	Golubeva 90	p
η X		
10.5	Bitsadze 86	a-dep, p
ρ^0 X		
3.9	Nakai 89	a-dep, cs
$f_2(1270)$ X		
3.9	Nakai 89	a-dep, cs
p X		
0.8	Chrien 88	angp, p
4	Tokushuku 90	angp
30	Abreu 85	a-dep, p, pt
$\bar{p}$ X		
30	Abreu 85	a-dep, p, pt
Λ X		
3	Vorobiev 89C	angp
deuteron X		
4	Tokushuku 90	angp
$\pi^+\ \pi^-$ X		
3.9	Nakai 89	a-dep, mass
$J/\psi(1S)\ \gamma$ X		
530	De 89	a-dep, cs, mass, p
$p\ \bar{p}$ X		
30	Beusch 86	a-dep, ang, mass, p, pt
mult[grey] mult[charged] X		
250	Ajinenko 90B	angp, mult, p
mult[grey] mult[charged$^-$] X		
250	Ajinenko 90B	angp, mult, p
$\mu^-\ \mu^+\ \gamma$ X		
530	De 89	mass

$\pi^+\ ^{27}$Al

inelastic		
1.35 – 3.75	Gachurin 85	cs
π^0 X		
0.4168 – 0.6753	Rokni 88	a-dep, angp
^{24}Na 3nucleon		
0.1283 – 0.5212	Dropesky 86	cs
^{18}Fl 9nucleon		
0.1283 – 0.5212	Dropesky 86	cs

$\pi^+\ ^{28}$Si

^{28}S* π^-		
0.2189 – 0.3205	Mordechai 85	angp, p
^{28}S π^-		
0.2189 – 0.3205	Mordechai 85	angp

π^+ Si

^{24}Na 3nucleon		
0.1283 – 0.5212	Dropesky 86	cs

π^+ Si

^{18}Fl 9nucleon		
0.1283 – 0.5212	Dropesky 86	cs

$\pi^+\ ^{32}$S

^{32}Ar π^-		
0.2189 – 0.3205	Mordechai 85	angp
^{32}Ar* π^-		
0.2189 – 0.3205	Mordechai 85	angp, p

$\pi^+\ ^{37}$Cl

^{37}Ar π^0		
0.3957 – 0.5108	Gavrin 89	cs

π^+ Cl

χ(unspec) X		
530	De 89	–

$\pi^+\ ^{40}$Ar

^{40}Ar π^+		
0.2875	Germond 85C	angp

$\pi^+\ ^{40}$Ca

π^- X		
0.2189 – 0.3851	Wood 85	angp, cs, p
^{40}Ti* π^-		
0.2189 – 0.3205	Mordechai 85	angp, p
^{40}Ti π^-		
0.2189 – 0.3205	Mordechai 85	angp
Ca* π^+		
0.2306	Ullmann 85	angp
^{40}Ca $\pi^+\ \gamma$		
0.2306	Ullmann 85	angp

π^+ Ca

π^- X		
0.2875 – 0.353	Gram 89	a-dep, cs

$\pi^+\ ^{45}$Sc

^{44}Ca $p\ \pi^+$		
0.1947 – 0.4168	Ohkubo 85	cs, p

π^+ Ti

$2p$ X		
3 – 7.5	Bayukov 86	ang
7.5	Bayukov 89C	ang, angp, p
deuteron p X		
7.5	Bayukov 89C	ang, angp, p
^{3}H p X		
7.5	Bayukov 89C	ang, angp, p
2deuteron X		
7.5	Bayukov 89C	ang, angp, p

$\pi^+\ ^{48}$Ca

^{47}Ca $n\ \pi^+$		
0.1947 – 0.4168	Ohkubo 85	cs, p

$\pi^+\ ^{58}$Ni

$2p$ X		
0.2651	Redwine 86	angp

$\pi^+\ ^{60}$Ni

π^0 X		
0.4168 – 0.6753	Rokni 88	a-dep, angp

π^+ Cu

π^+ X
1 – 6 Bayukov 85E a-dep, angp, p
1.5 Buklej 86 angp, p
π^- X
1 – 6 Bayukov 85E a-dep, angp, p
η X
10.5 Bitsadze 86 a-dep, p
ρ^0 X
3.9 Nakai 89 a-dep, cs
$f_2(1270)$ X
3.9 Nakai 89 a-dep, cs
χ(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
Λ X
3 Vorobiev 89C angp
deuteron X
1.5 Burgov 87 a-dep, angp, p
η mult[fragt]
10.5 Akimenko 89 a-dep, ang, angp, cs, p
Cu ρ^+
202.5 Huston 86 angp
$J/\psi(1S)$ γ X
530 De 89 a-dep, cs, mass, p
p $\bar{p}$ X
30 Beusch 86 a-dep, ang, mass, p, pt
$2\pi^0$ mult[fragt]
10.5 Akimenko 89 a-dep, cs
μ^- μ^+ γ X
530 De 89 mass
Cu $2\pi^+$ π^-
202.5 Zielinsky 86 angp, mass, pwa

π^+ ^{65}Zn

inelastic
1.35 – 3.75 Gachurin 85 cs

π^+ ^{90}Zr

π^0 X
0.4168 – 0.6753 Rokni 88 a-dep, angp

π^+ Rh

π^- X
0.2875 – 0.353 Gram 89 a-dep, cs

π^+ Ag

charged X
200 Brick 89 mult
charged$^-$ X
200 Brick 90 cor, mult, p
Brick 89 mult
mult[charged] X
200 Brick 89 mult

π^+ Ag

mult[charged$^-$] X
200 Brick 89 mult
mult[shower] X
200 Brick 89 mult
shower X
200 Brick 90 cor, mult, p
Brick 89 mult
2charged X
200 Brick 90 cor, mult, p
mult[grey] charged$^-$ X
200 Brick 90 cor, mult, p
Brick 89 mult
mult[grey] shower X
200 Brick 90 cor, mult, p
Brick 89 mult
mult[grey] charged$^+$ charged$^-$ X
200 Brick 89 mult

π^+ ^{108}Ag

(blacks) mult[grey] mult[shower] (neutrals)
100 Biswas 86 cs

π^+ Cd

Λ X
3 Vorobiev 89C angp

π^+ ^{118}Sn

Sn* π^+
0.2306 Ullmann 85 angp
^{118}Sn π^+ γ
0.2306 Ullmann 85 angp

π^+ 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

π^+ ^{120}Sn

π^0 X
0.4168 – 0.6753 Rokni 88 a-dep, angp

π^+ Xe

charged X
2.34 – 9 Miller 87C mult
π^0 X
2.34 – 9 Miller 87C mult
π^+ X
2.34 – 9 Miller 87C mult
π^- X
2.34 – 9 Miller 87C mult
p X
2.34 – 9 Miller 87C mult
nucleus π^+ + nucleus p (p's) π^+
2.9 Vorobiev 84C ang, mult, p
nucleus π^- + nucleus p (p's) π^-
2.9 Vorobiev 84C ang, mult, p
nucleus π^+ π^- + nucleus p (p's) π^+ π^-
2.9 Vorobiev 84C ang, mult, p

π^+ ^{181}Ta

inelastic
1.35 – 3.75 Gachurin 85 cs

π^+ Wt

$J/\psi(1S)$ X
225 Grab 87 cs
Louis 86 cs
252 Biino 87 p, pol
D^0 X
225 Grab 87 cs
Louis 86 cs
$\overline{D}^0$ X
225 Louis 86 cs
μ^- μ^+ X
225 Grab 87 mass
Louis 86 mass
250 Heinrich 89 p
252 Biino 87 ang, mass, p
$2\mu^+$ X
225 Louis 86 ang
$2\mu^-$ X
225 Louis 86 ang

π^+ Au

charged X
200 Brick 89 mult
charged$^-$ X
200 Brick 90 cor, mult, p
Brick 89 mult
mult[charged] X
200 Brick 89 mult
250 Ajinenko 90B angp, mult, p
mult[charged$^-$] X
200 Brick 89 mult
250 Ajinenko 90B angp, mult, p
mult[shower] X
200 Brick 89 mult
shower X
200 Brick 90 cor, mult, p
Brick 89 mult
2charged X
200 Brick 90 cor, mult, p
mult[grey] charged$^-$ X
200 Brick 90 cor, mult, p
Brick 89 mult
mult[grey] mult[charged] X
250 Ajinenko 90B angp, mult, p
mult[grey] mult[charged$^-$] X
250 Ajinenko 90B angp, mult, p
mult[grey] shower X
200 Brick 90 cor, mult, p
Brick 89 mult
mult[grey] charged$^+$ charged$^-$ X
200 Brick 89 mult

π^+ ^{197}Au

fragt X
0.1426 – 0.1947 Hicks 85 –
(blacks) mult[grey] mult[shower] (neutrals)
100 Biswas 86 cs

π^+ ^{207}Pb

inelastic
1.35 – 3.75 Gachurin 85 cs

π^+ Pb

π^+ X
1 – 6 Bayukov 85E a-dep, angp, p
1.5 Buklej 86 angp, p
π^- X
0.2875 – 0.353 Gram 89 a-dep, cs

π^+ Pb

π^- X		
1 – 6	Bayukov 85E	a-dep, angp, p
χ(unspec) X		
530	De 89	–
p X		
0.6	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
4	Tokushuku 90	angp
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
1.4 – 5	Bayukov 85F	a-dep, p
Λ X		
3	Vorobiev 89C	angp
	Vorobiev 88E	p, pol
deuteron X		
1.5	Burgov 87	a-dep, angp, p
4	Tokushuku 90	angp
hadron X		
200	Akesson 88B	angp, et
η mult[fragt]		
10.5	Akimenko 89	a-dep, ang, angp, cs, p
Pb ρ^+		
202.5	Huston 86	angp
$J/\psi(1S)$ γ X		
530	De 89	a-dep, cs, mass, p
p π^- X		
3	Vorobiev 88E	ang, mass, p
p $\bar{p}$ X		
30	Beusch 86	a-dep, ang, mass, p, pt
2p X		
3 – 7.5	Bayukov 86	ang
7.5	Bayukov 89C	ang, angp, p
deuteron p X		
7.5	Bayukov 89C	ang, angp, p
^{3}H p X		
7.5	Bayukov 89C	ang, angp, p
2deuteron X		
7.5	Bayukov 89C	ang, angp, p
2π^0 mult[fragt]		
10.5	Akimenko 89	a-dep, cs
μ^- μ^+ γ X		
530	De 89	mass
Pb 2π^+ π^-		
202.5	Zielinsky 86	angp, mass, pwa

π^+ ^{208}Pb

π^0 X		
0.4168 – 0.6753	Rokni 88	a-dep, angp

π^+ ^{209}Bi

inelastic		
1.35 – 3.75	Gachurin 85	cs
fragt X		
0.1426 – 0.1947	Hicks 85	–

π^+ ^{238}U

inelastic		
1.35 – 3.75	Gachurin 85	cs
fragt X		
0.1426 – 0.1947	Hicks 85	–

π^+ U

X		
1.4 – 5	Bayukov 85F	a-dep, p
π^+ X		
1 – 6	Bayukov 85E	a-dep, angp, p
π^- X		
1 – 6	Bayukov 85E	a-dep, angp, p
p X		
1 – 6	Bayukov 85C	a-dep, angp, p
1.4 – 5	Bayukov 85F	a-dep, p
n X		
1 – 6	Bayukov 85C	a-dep, angp, p

π^+ nucleus

inelastic		
5 – 300	Fredriksson 87	a-dep, cs
charged$^-$ X		
10.5 – 200	Fredriksson 87	mult
^{37}Ar X		
0.3957 – 0.5108	Gavrin 89	cs, mult
γ X		
200	Fredriksson 87	angp, pt
e^+ X		
0.077	Azuelos 86	mass
μ^+ X		
0.077	Azuelos 86	mass
π^0 X		
200	Fredriksson 87	angp, pt
π^+ X		
100	Fredriksson 87	angp
π^- X		
100	Fredriksson 87	angp
η X		
200	Fredriksson 87	angp, pt
$J/\psi(1S)$ X		
252	Biino 87	p, pol
K^+ X		
100	Fredriksson 87	angp
K^- X		
100	Fredriksson 87	angp
p X		
10.5 – 64	Fredriksson 87	mult
30 – 100	Fredriksson 87	angp, p
$\bar{p}$ X		
30 – 100	Fredriksson 87	angp, p
Λ X		
30	Fredriksson 87	angp, p
$\bar{\Lambda}$ X		
30	Fredriksson 87	angp, p
deuteron X		
1 – 6	Gavrilov 85	a-dep, angp, p
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	–

π^+ nucleus

nucleus $b_1(1235)^+$		
43 – 202	Landsberg 86	–
nucleus $a_1(1260)^+$		
43 – 202	Landsberg 86	–
nucleus $a_2(1320)^+$		
43 – 202	Landsberg 86	–
nucleus $K^*(892)^+$		
43 – 202	Landsberg 86	–
nucleus $K^*(1370)^+$		
43 – 202	Landsberg 86	–
2γ X		
10.5	Akimenko 89	mass, p
μ^- μ^+ X		
200	Fredriksson 87	a-dep, angp
200 – 225	Fredriksson 87	a-dep, angp, pt
252	Biino 87	ang, mass, p
2π^0 X		
10.5	Akimenko 89	mass, p
He mult[htrack] X		
7.5	Takibaev 90	p
nucleus π^+ π^0		
43 – 202	Landsberg 86	mass
nucleus η π^+		
43 – 202	Landsberg 86	mass
nucleus ρ^+ π^0		
43 – 202	Landsberg 86	mass
nucleus ω π^+		
43 – 202	Landsberg 86	mass
nucleus K^+ K_S		
43 – 202	Landsberg 86	mass
0p 2charged X		
200	Brick 90	cor, mult, p
4γ X		
10.5	Akimenko 89	mass, p

$\pi^\pm$ C

inelastic		
(106.4 – 473.2)	Avakyan 89C	a-dep, cs

$\pi^\pm$ Ne

Λ X + Σ^0 X		
10.5	Fredriksson 87	mult

$\pi^\pm$ Fe

inelastic		
(233.9 – 1021)	Avakyan 89C	a-dep, cs

$\pi^\pm$ Pb

inelastic		
(479.9 – 1974)	Avakyan 89C	a-dep, cs

π p

μ^- μ^+ X		
150 – 280	Rutherfoord 85	mass, p, pt

π Fe

inelastic		
(233.9 – 723.1)	Avakyan 85D	cs
	Avakyan 85E	cs
π^0 X		
(233.9 – 723.1)	Avakyan 85D	cs

π nucleus

shower		
300 – 1600	Avakyan 85F	cs
π X		
2 – 200	Fredriksson 87	mult

K^- e^-

K^- e^-		
250	Amendolia 86B	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.

$K^- \; p$

charged X		
80 – 140	Apsimon 89	angp, cs, pt
110	Tannenbaum 89	p, pt
mult[charged] X		
110	Tannenbaum 89	p, pt
π^0 X		
40	Amaglobeli 89	asym, pt
	Apokin 89	asym, pt
	Apokin 88B	angp, asym, p
58	Paub 85	p, pt
π^+ X		
0.688 – 0.833	Koiso 84	–
58	Paub 85	p, pt
π^- X		
0.688 – 0.833	Koiso 84	–
58	Paub 85	p, pt
ϕ X		
110	Banerjee 86	cs, p, pt
$f_2'(1525)$ X		
40	Toki 88B	–
K^+ X		
58	Paub 85	p, pt
K^- X		
58	Paub 85	p, pt
$K^*(892)^-$ X		
?	Chliapnikov 90	cs
$\overline{K}^*(892)^0$ X		
110	Banerjee 86	cs, p, pt
?	Chliapnikov 90	cs
K_S X		
?	Chliapnikov 90	cs
$D_S^\pm$ X		
200	Becker 87	–
Λ X		
3.93 – 176	Panagiotou 89	p, pol, pt
12 – 16	Armstrong 85	p, pol, pt
110	Haupt 85	p
176	Gourlay 86	pol
$\Sigma(1385\,P_{13})^+$ X		
110	Banerjee 86B	cs, mult, p, pt
$\Sigma(1385\,P_{13})^-$ X		
110	Banerjee 86B	cs, mult, p, pt
$\Sigma(3170\,B)^+$ X		
?	Aston 85	–
Ξ^- X		
5	Bensinger 85	asym, p, pol, pt
11	Aston 85B	ang, cs, p, pt
$\Xi(1530\,P_{13})^0$ X		
11	Aston 85B	ang, cs, p, pt
?	Aston 85	–
$\Xi(1820\,D_{13})^-$ X		
?	Aston 85	–
Ω^- X		
11	Aston 85B	ang, cs, p, pt
$\Omega(2250)^-$ X		
11	Aston 89	cs
$\Omega(2470)^-$ X		
11	Aston 89	cs
$\Omega^*(\text{unspec})^-$ X		
11	Aston 88E	cs
	Aston 87	cs
$\Lambda\,\gamma$		
0	Whitehouse 89	cs

$K^- \; p$

$\Sigma^0\,\gamma$		
0	Whitehouse 89	cs
$\Sigma^+\,\pi^-$		
0	Hessey 89	cs
0.688 – 0.833	Koiso 84	
$\Sigma^-\,\pi^+$		
0.68	Gall 88	–
	Hertzog 88	
0.688 – 0.833	Koiso 84	–
$p\,K^-$		
8 – 12	Armstrong 87C	angp, cs
	Armstrong 86F	angp
9.9	Baller 88	angp, cs, pt
20	Asad 85	angp
40	Antipov 87B	angp, cs
$\Sigma(1660\,P_{11})^+\,\pi^-$		
4.2	Hemingway 84	–
$p\,K^*(892)^-$		
?	Bird 88	–
$n\,\overline{K}^*(892)^0$		
11	Aston 89B	–
	Aston 88B	pwa
	Aston 86	mass, pwa
	Aston 86B	–
?	Aston 88I	–
$\Lambda\,f_0(975)$		
11	Aston 88I	–
	Aston 88J	
$\Lambda\,\phi$		
11	Aston 88I	–
	Aston 88J	–
	Aston 86B	–
$n\,\overline{K}_1(1400)^0$		
11	Aston 88I	–
?	Aston 87B	
$p\,K^*(1370)^-$		
?	Bird 88	–
$n\,\overline{K}^*(1370)^0$		
11	Aston 88I	–
	Aston 86B	–
?	Aston 88I	–
$p\,K_2^*(1430)^-$		
11	Aston 89B	–
	Aston 88G	cs
	Aston 88I	–
	Aston 86B	cs
?	Bird 88	–
$n\,\overline{K}_2^*(1430)^0$		
11	Aston 89B	–
	Aston 88B	pwa
	Aston 88I	–
	Aston 86	mass, pwa
	Aston 86B	–
?	Aston 88I	–
	Aston 87B	–
$n\,\overline{K}_0^*(1430)^0$		
11	Aston 88B	pwa
?	Aston 88I	–
$\Lambda\,h_1(1380)$		
11	Aston 88I	–
	Aston 88J	–
	Augustin 88C	–
$\Lambda\,f_0(1525)$		
11	Aston 88I	–
	Aston 88J	–
$\Lambda\,f_2'(1525)$		
11	Aston 88C	cs
	Aston 88I	–
	Aston 88J	–
	Augustin 88C	–
	Toki 88B	–
	Aston 86B	–
$\Lambda\,f_2'(1525) + \Sigma^0\,f_2'(1525)$		
40	Bolonkin 88	cs

$K^- \; p$

$\Lambda\,f_1(1510)$		
11	Aston 88I	–
	Aston 88J	–
	Augustin 88C	–
	Toki 88B	–
	Aston 86B	–
$p\,K^*(1680)^-$		
?	Bird 88	–
$n\,\overline{K}^*(1680)^0$		
11	Aston 88I	–
	Aston 86B	–
?	Aston 88I	–
$p\,K_3^*(1780)^-$		
11	Aston 89B	–
	Aston 88G	cs
	Aston 88I	–
	Aston 86B	cs
?	Bird 88	–
$n\,\overline{K}_3^*(1780)^0$		
11	Aston 89B	–
	Aston 88B	pwa
	Aston 88I	–
	Aston 86	mass, pwa
	Aston 86B	–
?	Aston 88I	–
	Aston 87B	–
$\Lambda\,f_2(1720)$		
11	Aston 88H	cs
	Aston 86B	–
?	Hitlin 88	–
$p\,K_0^*(1950)^-$		
?	Bird 88	–
$n\,\overline{K}_0^*(1950)^0$		
?	Aston 88I	–
$\Lambda\,\phi_3(1850)$		
11	Aston 88D	–
	Aston 88I	–
	Aston 88J	–
	Aston 86B	–
$n\,\overline{K}_4^*(2045)^0$		
11	Aston 89B	–
	Aston 88B	pwa
	Aston 88I	–
	Aston 86	mass, pwa
	Aston 86B	–
?	Aston 88I	–
	Aston 87B	–
$n\,\overline{K}_5^*(2380)^0$		
11	Aston 89B	–
	Aston 88B	pwa
	Aston 86B	–
?	Aston 88I	–
$\Lambda\,f_4(2220)$		
11	Aston 88C	–
	Aston 88I	–
	Aston 88J	–
	Aston 86B	–
$n\,\overline{K}_2^*(1980)^0$		
11	Aston 88I	–
$n\,\overline{K}^*(\text{unspec})^0$		
11	Aston 86	mass, pwa
$\Lambda\,(\pi\text{'s})$		
3.93 – 176	Panagiotou 89	p, pol, pt
$Y^*(\text{unspec})\,f_1(1420)$		
32.5	Bityukov 85C	cs, mass
$Y^*(\text{unspec})^0\,f_2'(1525)$		
40	Bolonkin 88	cs
$Y^*(\text{unspec})^0\,f_2(1720)$		
40	Bolonkin 88	cs
$\Lambda\,KK(L=0)$		
11	Aston 88H	cs
Λ meson^0		
11	Aston 88	mass

$K^- \, p$

Λ meson^0		
	Aston 88F	angp, mass, pwa
	Toki 88B	–
32.5	Landsberg 88	angp, cs
Y^*(unspec) meson^0		
40	Bolonkin 89	cs
$f_2'(1525)$ strange		
40	Bolonkin 86	cs
$f_2(1720)$ strange		
40	Bolonkin 86	cs
$\Lambda \, X(2200)$		
11	Toki 88B	–
$\Lambda \, C(1480)^0$		
32.5	Landsberg 88	angp, cs
$2\pi^+$ X		
32.1	Ukhanov 86	ang
$2\pi^-$ X		
32.1	Ukhanov 86	ang
$\pi^+ \, \pi^-$ X		
11	Sinervo 86	–
32.1	Ukhanov 86	ang, p, pt
176	Gourlay 86	mass
$2\pi^+$ X + $2\pi^-$ X		
32.1	Ukhanov 86	p, pt
$a_0(980)^+ \, \pi^-$ X		
?	Aston 85	–
$a_0(980)^- \, \pi^+$ X		
?	Aston 85	–
$\phi \, \pi^-$ X		
110	Banerjee 86	cs, mass
$\overline{K}^0 \, \pi^-$ X		
11	Sinervo 86	–
$K^+ \, K^-$ X		
110	Banerjee 86	cs, mass
$K^*(892)^+ \, K^-$ X		
?	Aston 85	–
$\overline{K}^*(892)^0 \, K^+$ X		
?	Aston 85	–
$K^*(892)^0 \, \overline{K}^0$ X		
?	Aston 85	–
$K_S \, \pi^+$ X		
32.1	Ukhanov 86	ang, p, pt
$K_S \, \pi^-$ X		
32.1	Ukhanov 86	ang, p, pt
$K^*(892) \, K^0$ X		
?	Aston 85	–
$2K_S$ X		
40	Toki 88B	mass
$p \, \pi^+$ X		
32.1	Ukhanov 86	ang, p, pt
$p \, \pi^-$ X		
32.1	Ukhanov 86	ang, p, pt
176	Gourlay 86	mass
$\bar{p} \, \pi^+$ X		
176	Gourlay 86	mass
$n \, \pi^+$ X		
11	Sinervo 86	–
$\Lambda \, \pi^+$ X		
32.1	Ukhanov 86	ang
110	Banerjee 86B	mass, p, pt
$\Lambda \, \pi^-$ X		
32.1	Ukhanov 86	ang
110	Banerjee 86B	mass, p, pt
$\Xi^- \, \pi^+$ X		
11	Aston 85	mass
$\Xi(1530 \, P_{13})^0 \, \pi^-$ X		
11	Aston 85	mass

$K^- \, p$

$\Xi^- \, K^+$ X		
11	Aston 85	mass
$\Xi^- \, K^0$ X		
11	Aston 85	mass
$\Xi(1530 \, P_{13})^0 \, K^-$ X		
11	Aston 89	mass
	Aston 87	mass
$p \, K_S$ X		
32.1	Ukhanov 86	ang, p, pt
$\Sigma(1385 \, P_{13})^+$ mult[charged] (neutrals)		
110	Banerjee 86B	cs, mult
$\Sigma(1385 \, P_{13})^-$ mult[charged] (neutrals)		
110	Banerjee 86B	cs, mult
Ξ^- mult[charged] (neutrals)		
11	Aston 85B	cs, mult
$\Xi(1530 \, P_{13})^0$ mult[charged] (neutrals)		
11	Aston 85B	cs, mult
Ω^- mult[charged] (neutrals)		
11	Aston 85B	cs, mult
$n \, K^- \, \pi^+$		
11	Aston 89B	mass, pwa
	Aston 88B	pwa
	Aston 88I	mass, pwa
	Aston 86	mass, pwa
	Aston 86B	mass, pwa
$p \, \overline{K}^0 \, \pi^-$		
11	Aston 89B	mass, pwa
	Bird 88	mass, pwa
$\Lambda(1405 \, S_{01}) \, \pi^+ \, \pi^-$		
4.2	Hemingway 84	mass
$n \, \overline{K}^*(892)^0 \, \pi^0$		
?	Aston 86B	–
$n \, K^*(892)^- \, \pi^+$		
11	Aston 86B	mass, pwa
$p \, K^- \, \eta$		
11	Aston 89B	–
	Aston 88G	mass, pwa
	Aston 88I	mass, pwa
	Aston 86B	mass
$n \, \overline{K}^0 \, \rho^0$		
11	Aston 86B	mass, pwa
$p \, K^- \, \omega$		
11	Aston 89B	–
	Aston 88G	–
$\Lambda \, \pi^0$ (π's)		
110	Haupt 85	p
$\Lambda \, K^+ \, K^-$		
11	Aston 88D	mass, pwa
	Aston 88F	angp, mass, pwa
	Aston 88H	amp, mass
	Aston 88I	mass, pwa
	Aston 88J	mass, pwa
	Augustin 88C	mass, pwa
	Aston 86B	mass, pwa
32.5	Landsberg 88	ang, angp, mass
$\Lambda \, K^*(892)^0 \, \overline{K}^0$		
11	Aston 88	cs, mass, pwa
$\Lambda \, \overline{K}^*(892)^0 \, K^0$		
11	Aston 88	cs, mass, pwa
$p \, K_S \, \pi^-$		
11	Bird 88	mass, pwa
hyperon $\phi \, \pi^0$		
32.5	Bityukov 86B	mass, p
$\Lambda \, K^*(892)^0 \, K_S$ + $\Lambda \, K^*(892)^- \, K^+$		
11	Toki 88B	mass
$\Lambda \, K \, \overline{K}$		
11	Toki 88B	mass

$K^- \, p$

$\Lambda \, 2K_S$		
11	Aston 88C	mass
	Aston 88F	mass
	Aston 88H	amp, mass
	Aston 88I	mass, pwa
	Aston 88J	mass, pwa
	Aston 86B	mass, pwa
$\Lambda \, K^*(892) \, K$		
11	Aston 86B	mass, pwa
$\Lambda \, K^*(892) \, \overline{K}$		
11	Aston 86B	mass, pwa
hyperon $2K_S$		
40	Bolonkin 88	mass, pwa
$\Lambda \, \overline{\Lambda} \, Y^*$(unspec)		
40	Bolonkin 89	ang, mass
$2K_S$ strange		
40	Bolonkin 86	cs
2charged (chargeds) (neutrals)		
80 – 140	Apsimon 90	col, pt
$K^+ \, \overline{K}^0 \, \pi^-$ X		
11	Aston 85	ang, angp, mass, pwa
$K^0 \, K^- \, \pi^+$ X		
11	Aston 85	ang, angp, mass, pwa
$\Omega^- \, \pi^+ \, \pi^-$ X		
11	Aston 89	mass
	Aston 88E	mass
$\Xi^- \, K^- \, \pi^+$ X		
11	Aston 89	mass
$\Lambda \, K \, \overline{K}$ X		
110	Haupt 85	p
$\pi^+ \, \pi^-$ mult[charged] (neutrals)		
32.1	Ukhanov 86	ang, mult, p
$2\pi^+$ mult[charged] (neutrals) + $2\pi^-$ mult[charged] (neutrals)		
32.1	Ukhanov 86	ang, mult, p
$\Sigma^+ \, \pi^+ \, 2\pi^-$		
4.2	Hemingway 84	ang, mass, p
$\Sigma^- \, 2\pi^+ \, \pi^-$		
4.2	Hemingway 84	ang, mass, p
$p \, K^- \, \pi^+ \, \pi^-$		
32.1	Ma 86	p
	Patalakha 85	ang, angp, mult, p, pt
	Bogolyubsky 84D	mass, p, pt
$n \, \overline{K}^0 \, \pi^+ \, \pi^-$		
4.2	Hemingway 84	ang, mass, p
11	Aston 89B	mass, pwa
	Aston 88I	mass, pwa
	Aston 87B	pwa
	Aston 86B	mass, pwa
	Sinervo 86	–
$\Lambda \, K^+ \, K^- \, \gamma$		
32.5	Landsberg 88	ang, angp, mass
$\Lambda \, K^+ \, K^- \, \pi^0$		
32.5	Landsberg 88	ang, angp, mass
$\Lambda \, K^+ \, \overline{K}^0 \, \pi^-$ + $\Lambda \, K^0 \, K^- \, \pi^+$		
11	Aston 88	mass, pwa
Y^*(unspec) $K^+ \, K^- \, \pi^0$		
32.5	Bityukov 85C	cs, mass
$\Lambda \, K^+ \, K_S \, \pi^-$		
11	Aston 88D	mass, pwa
	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.

$K^- p$

$\Lambda K^+ K_S \pi^-$		Aston 88J	mass, pwa
		Augustin 88C	mass, pwa
		Toki 88B	mass
		Aston 86B	mass, pwa
$\Lambda K_S K^- \pi^+$	11	Aston 88D	mass, pwa
		Aston 88I	mass, pwa
		Aston 88J	mass, pwa
		Augustin 88C	mass, pwa
		Aston 86B	mass, pwa
$\Lambda K^+ K_S \pi^- + \Lambda K_S K^- \pi^+$	11	Aston 88H	amp, mass
hyperon $K^+ K^- \pi^0$	32.5	Bityukov 86B	mass, p
$\Lambda K \overline{K}$ (π's)	3.93 – 176	Panagiotou 89	p, pol, pt
$\Lambda K^- \pi^+ \pi^-$ X	11	Aston 89	mass, mass
$p K^- \pi^+ \pi^0 \pi^-$	11	Aston 89B	mass, pwa
		Aston 88G	cs, mass
		Aston 88I	cs, mass
		Aston 86B	cs, mass
$p \overline{K}^0 \pi^+ 2\pi^-$	32.1	Ma 86	p
$\Lambda K^+ K^- 2\gamma$	32.5	Landsberg 88	ang, angp, mass
$p \bar{p} Y^*$(unspec) $\pi^+ \pi^-$	40	Bolonkin 89	mass
4charged (chargeds) (neutrals)	32.1	Babintsev 86B	col
$p K^- 2\pi^+ 2\pi^-$	32.1	Ma 86	p
		Patalakha 85	ang, angp, mult, p, pt
$p K^+ 2K^- \pi^+ \pi^-$	32.1	Ma 86	p
$2p \bar{p} K^- \pi^+ \pi^-$	32.1	Ma 86	p
$p \overline{K}^0 2\pi^+ 3\pi^-$	32.1	Ma 86	p
$p K^- 3\pi^+ 3\pi^-$	32.1	Ma 86	p
		Patalakha 85	ang, angp, mult, p, pt
$p K^- 4\pi^+ 4\pi^-$	32.1	Patalakha 85	ang, angp, mult, p, pt

$K^- n$

hyperon $f_1(1420)$	32.5	Bityukov 87	cs
hyperon $\eta(1440)$	32.5	Bityukov 87	cs
hyperon $f_1(1510)$	32.5	Bityukov 87	cs
hyperon $K^+ K^- \gamma$	32.5	Bityukov 87	mass

K^- nucleon

hyperon $f_1(1285)$	32.5	Landsberg 87	angp, cs, pwa
hyperon $C(1480)$	32.5	Landsberg 87	angp, cs, pwa
hyperon meson^0	32.5	Landsberg 87	angp, cs, pwa
hyperon $\phi \gamma$	32.5	Landsberg 87	mass, p
hyperon $\phi \pi^0$	32.5	Landsberg 87	mass, p
hyperon $K^+ K^-$	32.5	Landsberg 87	mass, p
hyperon $K^+ K^- \gamma$	32.5	Landsberg 87	mass, p
hyperon $K^+ K^- \pi^0$	32.5	Landsberg 87	mass, p
hyperon $K^+ K^- 2\gamma$	32.5	Landsberg 87	mass, p

K^- deuteron

π^0 X	40	Amaglobeli 89	asym, pt
		Apokin 89	asym, pt
		Apokin 88C	angp, asym, p
π^- X	0.92 – 1.4	Pigot 85	mass
dibaryon($S = -1$) π^-	0.92 – 1.4	Pigot 85	angp

K^- ^{4}He

^{3}He $\Lambda \pi^-$	< 0.3	Dalitz 90	p
^{3}He $\Sigma^0 \pi^-$	< 0.3	Dalitz 90	p
deuteron $n \Sigma^+ \pi^-$	< 0.3	Dalitz 90	p
deuteron $n \Sigma^- \pi^+$	< 0.3	Dalitz 90	p
p $2n$ $\Sigma^+ \pi^-$	< 0.3	Dalitz 90	p
p $2n$ $\Sigma^- \pi^+$	< 0.3	Dalitz 90	p

K^- Li

charged$^+$ X	40	Boos 88	a-dep, mult
charged$^-$ X	40	Boos 88	a-dep, mult
mult[charged$^+$] X	40	Boos 88	a-dep, mult
mult[charged$^-$] X	40	Boos 88	a-dep, 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
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

K^- ^{9}Be

^{9}Li$_S$	?	Pniewski 85	–

K^- Be

ϕ X	100	Dijkstra 86D	cs, p
	100 – 175	Dijkstra 86	mult, p, pt
p X	40	Antipov 87	p
DD $< K^- \pi^+ \pi^- >$ Be	40	Antipov 89C	a-dep, angp, cs, mass
$\phi \pi^+$ X	100	Dijkstra 86C	mass
$\phi \pi^-$ X	100	Dijkstra 86C	mass
$K^+ \phi$ X	100	Dijkstra 86C	mass
$K^- \phi$ X	100	Dijkstra 86C	mass
$K^+ K^-$ X	100 – 175	Dijkstra 86	ang, dme, mass
$K_S \phi$ X	100	Dijkstra 86C	mass
$p \phi$ X	100	Dijkstra 86C	mass
$\bar{p} \phi$ X	100	Dijkstra 86C	mass
$K^+ K^- \pi^+$ X	100	Dijkstra 86C	mass
$K^+ K^- \pi^-$ X	100	Dijkstra 86C	mass
$K^+ 2K^-$ X	100	Dijkstra 86C	mass
$2K^+ K^-$ X	100	Dijkstra 86C	mass
$K^+ K_S K^-$ X	100	Dijkstra 86C	mass
$p K^+ K^-$ X	100	Dijkstra 86C	mass
$\bar{p} K^+ K^-$ X	100	Dijkstra 86C	mass
Be $K^- \pi^+ \pi^-$	38	Efendiev 89	mass, pwa

K^- ^{9}Bor

^{9}Be$_S$	?	Pniewski 85	–

K^- ^{12}C

hypernucleus π^+	0	Gal 86B	–
		Yamazaki 85	p
	0.9195	Yamazaki 86	–
	450	Dabrowski 86	–
hypernucleus π^-	0	Gal 86B	–
	0.8	Grace 85	angp, mass
Cs π^+	0.45	Bertini 84	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
charged$^+$ X	40	Boos 88	a-dep, mult

K^- C

charged$^-$ X	40	Boos 88	a-dep, mult
mult[charged$^+$] X	40	Boos 88	a-dep, mult
mult[charged$^-$] X	40	Boos 88	a-dep, 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
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

K^- ^{16}O

O_S π^+	0.45	Bertini 84	mass

K^- Al

X	1.6 – 1.8	Afanasyev 88	a-dep, angp, cs
inelastic	1.6 – 1.8	Afanasyev 88	a-dep, angp, cs
Al K^- π^+ π^-	38	Efendiev 89	mass, pwa

K^- Si

D^0 X	200	Barlag 88	cs, p, pt
		Barlag 87	–
$\bar{D}^0$ X	200	Barlag 88	cs, p, pt
		Barlag 87	–
D^+ X	200	Barlag 88	cs, p, pt
		Barlag 87	–
D^- X	200	Barlag 88	cs, p, pt
		Barlag 87	–
D_S^- X	200	Barlag 88	cs, p, pt
D_S^+ X	200	Barlag 88	cs, p, pt
$D^*(2010)^+$ X	200	Barlag 88	cs, p, pt
$D^*(2010)^-$ X	200	Barlag 88	cs, p, pt
K^+ K^- $2\pi^+$ $2\pi^-$ X	200	Barlag 88	mass

K^- S

charged$^+$ X	40	Boos 88	a-dep, mult
charged$^-$ X	40	Boos 88	a-dep, mult
mult[charged$^+$] X	40	Boos 88	a-dep, mult
mult[charged$^-$] X	40	Boos 88	a-dep, 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
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

K^- Ti

X	1.6 – 1.8	Afanasyev 88	a-dep, angp, cs
inelastic	1.6 – 1.8	Afanasyev 88	a-dep, angp, cs

K^- Cu

charged$^+$ X	40	Boos 88	a-dep, mult
charged$^-$ X	40	Boos 88	a-dep, mult
mult[charged$^+$] X	40	Boos 88	a-dep, mult
mult[charged$^-$] X	40	Boos 88	a-dep, mult
Λ_c^+ X	230	Barlag 90D	p
$\bar{\Lambda}_c^-$ X	230	Barlag 90D	p
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
DD < K^- π^+ π^- > Cu	40	Antipov 89C	a-dep, angp, cs, mass
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 K^- π^+ X	230	Barlag 90D	angp, mass, p
$\bar{p}$ K^+ π^- X	230	Barlag 90D	angp, mass, p

K^- Cu

Cu K^- π^+ π^-	38	Efendiev 89	mass, pwa

K^- Ag

DD < K^- π^+ π^- > Ag	40	Antipov 89C	a-dep, angp, cs, mass
Ag K^- π^+ π^-	38	Efendiev 89	mass, pwa

K^- Cd

X	1.6 – 1.8	Afanasyev 88	a-dep, angp, cs
inelastic	1.6 – 1.8	Afanasyev 88	a-dep, angp, cs

K^- Wt

γ X	0	Gall 88	p
Ξ^0 X	6	Bensinger 88	–
Λ π^0 X	6	Bensinger 88	cs, mass
Λ 2γ X	6	Bensinger 88	cs, mass

K^- Pb

charged$^+$ X	40	Boos 88	a-dep, mult
charged$^-$ X	40	Boos 88	a-dep, mult
mult[charged$^+$] X	40	Boos 88	a-dep, mult
mult[charged$^-$] X	40	Boos 88	a-dep, mult
γ X	0	Gall 88	p
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
DD < K^- π^+ π^- > Pb	40	Antipov 89C	a-dep, angp, cs, mass
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
Pb K^- π^+ π^-	38	Efendiev 89	mass, pwa

K^- nucleus

inelastic	5 – 300	Fredriksson 87	a-dep, cs
	13.3	Prokoshkin 87C	cs
charged$^+$ X	40	Boos 88	a-dep, mult
charged$^-$ X	40	Boos 88	a-dep, mult

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$K^+ p$

DD < charged (chargeds) (neutrals) > p		
250	Adamus 88F	cs, p
DD < $K^*(892)^+ 2\pi^+ 2\pi^-$ > p		
32.1	Gerdyukov 87	cs, mass, pt
DD < $K^*(892)^+ \rho^0$ > p		
32.1	Gerdyukov 87	ang, mass
DD < $K^*(892)^0 2\pi^+ \pi^-$ > p		
32.1	Ajinenko 87B	cs
DD < $K^*(892)^0 K^+ K^- \pi^+$ > p		
32.1	Ajinenko 87B	cs
DD < $\overline{K}^*(892)^0 2K^+ \pi^-$ > p		
32.1	Ajinenko 87B	cs
DD < $K^+ 2\pi^+ 2\pi^-$ > p		
32.1	Ajinenko 87B	ang, angp, cs, mass
250	Ajinenko 89B	cs, mass, p
DD < $K^+ \phi \pi^+ \pi^-$ > p		
32.1	Ajinenko 87B	cs
DD < $K^+ \pi^+ \pi^-$ > p		
250	Ajinenko 89B	cs, mass, p
DD < $K^+ \rho^0 \pi^+ \pi^-$ > p		
32.1	Ajinenko 87B	cs
DD < $K^0 \rho^0 \pi^+$ > p		
32.1	Gerdyukov 87	cs, mass, pt
DD < $p \overline{p} K^+ \pi^+ \pi^-$ > p		
32.1	Ajinenko 87B	cs, mass
DD < X > $\overline{\Lambda}$		
32.1	Garutchava 87B	angp, mass
DD < $K^+ \pi^+ \pi^-$ > DD < $2p \overline{p}$ >		
32.1	Ajinenko 87B	cs
DD < $2K^+ K^-$ > DD < $\Delta(1232 P_{33})^{++} \pi^-$ >		
32.1	Ajinenko 87B	cs
DD < $K^+ \pi^+ \pi^-$ > DD < $\Delta(1232 P_{33})^{++} \pi^-$ >		
32.1	Ajinenko 87B	cs
DD < $p \pi^+ \pi^-$ > DD < $K^+ \pi^+ \pi^-$ >		
32.1	Ajinenko 87B	cs, mass
DD < $K^+ \pi^+ \pi^-$ > DD < $p K^+ K^-$ >		
32.1	Ajinenko 87B	cs
DD < $2K^+ K^-$ > DD < $p \pi^+ \pi^-$ >		
32.1	Ajinenko 87B	cs, mass
DD < $K^*(892)^0 \pi^+$ > DD < $p \pi^+ \pi^-$ >		
32.1	Ajinenko 87B	cs
DD < $K^+ \phi$ > DD < $p \pi^+ \pi^-$ >		
32.1	Ajinenko 87B	cs
DD < $p \overline{p} K^+$ > DD < $p \pi^+ \pi^-$ >		
32.1	Ajinenko 87B	cs
DD < $2K^+ K^-$ > DD < $p \rho^0$ >		
32.1	Ajinenko 87B	cs
DD < $K^+ \pi^+ \pi^-$ > DD < $p \rho^0$ >		
32.1	Ajinenko 87B	cs
$\pi^+ \pi^0$ X		
250	Agababyan 89	mass, p
$2\pi^+$ X		
250	Adamus 88	angp, cor, p
$2\pi^-$ X		
250	Adamus 88	angp, cor, p

$K^+ p$

$\pi^+ \pi^-$ X		
250	Agababyan 89	mass, p
ρ^0 charged X		
250	Agababyan 89	cs, p
$K^+ \pi^0$ X		
250	Agababyan 89	mass, p
$K^+ \pi^-$ X		
250	Agababyan 89	mass, p
	Adamus 87	mass, p
$K^- \pi^+$ X		
250	Agababyan 89	mass, p
	Adamus 87	mass, p
$K^*(892)^0$ charged X		
250	Agababyan 89	cs, p
$\overline{K}^*(892)^0$ charged X		
250	Agababyan 89	cs, p
$K^*(892)^+ \pi^+$ X		
32.1	Knyazev 85	cs, p
$K^*(892)^+ \pi^-$ X		
32.1	Knyazev 85	cs, p
$K^0 \phi$ X		
32.1	Tomaradze 86	ang
$K^*(892)^+ \rho^0$ X		
32.1	Knyazev 85	cs, p
$K^+ K^-$ X		
250	Agababyan 89	mass, p
	Adamus 87	mass, p
$2K^*(892)^+$ X		
32.1	Knyazev 85	cs, p
$K^*(892)^+ K^*(892)^0$ X		
32.1	Knyazev 85	cs, p
$K_S \pi^+$ X		
32.1	Ajinenko 84B	angp, cs, mass
$K_S \pi^-$ X		
32.1	Ajinenko 84B	angp, cs, mass
$K_S \rho^0$ X		
32.1	Knyazev 85	cs, p
$K^+ K_S$ X		
32.1	Ajinenko 84B	angp, cs, mass
$K^*(892)^+ K_S$ X		
32.1	Tomaradze 86	ang
	Knyazev 85	cs, p
70	Ronjin 86	cs
$K^*(892)^- K_S$ X		
70	Ronjin 86	cs
$2K_S$ X		
32.1	Tomaradze 86	ang
	Ajinenko 84	cs, mass, p, pt
70	Ronjin 86	p, pt
$\Lambda \pi^+$ X		
32.1	Ajinenko 84B	angp, cs, mass
$p K^*(892)^+$ X		
32.1	Tomaradze 86	ang
$\Sigma(1385 P_{13})^+ K^0$ X		
32.1	Ajinenko 84C	cs, p
$\Sigma(1385 P_{13})^- K^0$ X		
32.1	Ajinenko 84C	cs, p
$\Lambda K^*(892)^+$ X		
70	Ronjin 86	cs
$\Lambda K^*(892)^+$ X + $\overline{\Sigma}^0 K^*(892)^+$ X		
32.1	Ajinenko 84C	cs, p
$p K_S$ X		
32.1	Tomaradze 86	ang

$K^+ p$

$p K_S$ X		
	Ajinenko 84B	angp, cs, mass
ΛK_S X		
32.1	Tomaradze 86	ang
70	Ronjin 86	p, pt
$\overline{\Lambda} K_S$ X		
32.1	Tomaradze 86	ang
70	Ronjin 86	p, pt
ΛK_S X + $\Sigma^0 K_S$ X		
32.1	Ajinenko 84C	cs, mass, p, pt
$\overline{\Lambda} K_S$ X + $\overline{\Sigma}^0 K_S$ X		
32.1	Ajinenko 84C	cs, mass, p, pt
$p \Lambda$ X		
32.1	Ajinenko 85	cs, p
70	Ronjin 86	p, pt
$p \overline{\Lambda}$ X		
32.1	Tomaradze 86	ang
70	Ronjin 86	p, pt
$\Lambda \overline{\Lambda}$ X		
32.1	Tomaradze 86	ang
70	Ronjin 86	p, pt
$\Lambda \overline{\Lambda}$ X + $\Lambda \overline{\Sigma}^0$ X + $\overline{\Lambda} \Sigma^0$ X + $\Sigma^0 \overline{\Sigma}^0$ X		
32.1	Ajinenko 84C	cs, mass, p, pt
$\overline{\Lambda}$ 0strange X		
32.1	Garutchava 87	asym, cs, p
$\overline{\Lambda}$ strange X		
32.1	Garutchava 87	asym, cs, p
K^+ mult[charged] (neutrals)		
250	Adamus 88F	mult
p mult[charged] (neutrals)		
250	Adamus 88F	mult
$p K^0 \pi^+$		
32.1	Ajinenko 86C	cs
	Gerdyukov 86B	cs, mass, p, p
$\Delta(1232 P_{33})^{++} K^+ \pi^-$		
250	Ajinenko 89B	cs
$p K^*(892)^0 \pi^+$		
250	Ajinenko 89B	cs
$p K^+ \rho^0$		
250	Ajinenko 89B	cs
$p K^+ \phi$		
13	Frame 86	ang, angp, dme, mass, pwa
$p K_2^*(1430)^0 \pi^+$		
250	Ajinenko 89B	cs
$p K^+ f_2(1270)$		
250	Ajinenko 89B	cs
$\Lambda 2K^+$		
32.1	Gerdyukov 87	ang, mass
	Ajinenko 86C	cs
	Gerdyukov 86	angp, cs, mass, p
$2p \overline{\Lambda}$		
32.1	Ajinenko 86C	cs
	Gerdyukov 86	angp, cs, mass, p
2charged (chargeds) (neutrals)		
80 – 140	Ansimon 90	col, pt
$\pi^+ \pi^0 \pi^-$ X		
250	Agababyan 89	mass, p
	Adamus 87E	mass
$K_S \pi^+ \pi^-$ X		
32.1	Ajinenko 84B	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.

$K^+ p$

$K_S \pi^+ \pi^- X$		Ajinenko 83B	mass
$2K_S \pi^+ X$	32.1	Ajinenko 84	mass
$2K_S \pi^- X$	32.1	Ajinenko 84	mass
$p K^*(892)^+ \pi^+ X$	32.1	Ajinenko 86B	cs, p
$p K^*(892)^+ \pi^- X$	32.1	Ajinenko 86B	cs, p
$p K_S \pi^+ X$	32.1	Ajinenko 86B	cs, p
$p K_S \pi^- X$	32.1	Ajinenko 86B	cs, p
$\Delta(1232 P_{33})^{++} K_S \pi^+ X$	32.1	Ajinenko 86B	cs, p
$\Delta(1232 P_{33})^{++} K_S \pi^- X$	32.1	Ajinenko 86B	cs, p
$\overline{\Lambda} K_S \pi^- X$	32.1	Ajinenko 84B	angp, cs, mass
$p \Lambda$ mult[charged] (neutrals)	32.1	Ajinenko 85	cs
$p K^+ \pi^+ \pi^-$	32.1	Gerdyukov 87	ang, mass
		Ajinenko 86C	cs
	250	Ajinenko 89B	cs
$\Delta(1232 P_{33})^{++} K^0 \pi^+ \pi^-$	32.1	Gerdyukov 87	cs, mass, pt
$p K^*(892)^+ \pi^+ \pi^-$	32.1	Gerdyukov 87	cs, cs, mass, mass, pt, pt
$p K^0 \rho^0 \pi^+$	32.1	Gerdyukov 87	cs, mass, pt
$p K_2^*(1430)^+ \pi^+ \pi^-$	32.1	Gerdyukov 87	cs, cs, mass, mass, pt, pt
$\Lambda K^+ K^0 \pi^+$	32.1	Ajinenko 86C	cs
$p 2K^+ K^-$	13	Frame 86	mass
	32.1	Ajinenko 86C	cs
$p K^+ K^0 \overline{K}^0$	32.1	Ajinenko 86C	cs
$2p \overline{p} K^+$	13	Frame 86	mass
	32.1	Ajinenko 86C	cs
$p \Lambda \overline{\Lambda} K^+$	32.1	Ajinenko 86C	cs
$2K_S \pi^+ \pi^- X$	32.1	Ajinenko 84	mass
$\Lambda 2\pi^+ \pi^- X$	32.1	Ajinenko 84B	angp, cs, mass
$p K^0 2\pi^+ \pi^-$	32.1	Gerdyukov 87	angp, cs, mass, pt
		Ajinenko 86C	cs
$\Lambda 2K^+ \pi^+ \pi^-$	32.1	Ajinenko 86C	cs
$\Lambda 2K^0 2\pi^+$	32.1	Ajinenko 86C	cs
$p 2K^+ \overline{K}^0 \pi^-$	32.1	Ajinenko 86C	cs
$p K^+ K^0 K^- \pi^+$	32.1	Ajinenko 86C	cs

$K^+ p$

$p 2K^0 \overline{K}^0 \pi^+$	32.1	Ajinenko 86C	cs
$2p \overline{\Lambda} \pi^+ \pi^-$	32.1	Ajinenko 86C	cs
$2p \overline{p} K^0 \pi^+$	32.1	Ajinenko 86C	cs
$p \Lambda \overline{\Lambda} K^0 \pi^+$	32.1	Ajinenko 86C	cs
$p \overline{p} \Lambda 2K^+$	32.1	Ajinenko 86C	cs
$2p \overline{\Lambda} K^0 \overline{K}^0$	32.1	Ajinenko 86C	cs
$2p \Lambda 2\overline{\Lambda}$	32.1	Ajinenko 86C	cs
$p K^+ 2\pi^+ 2\pi^-$	32.1	Ajinenko 87B	angp
		Ajinenko 86C	cs
	250	Ajinenko 89B	cs
$\Delta(1232 P_{33})^{++} K^0 2\pi^+ 2\pi^-$	32.1	Gerdyukov 87	cs, mass, pt
$p K^*(892)^+ 2\pi^+ 2\pi^-$	32.1	Gerdyukov 87	cs, mass, pt
$p K^0 \rho^0 2\pi^+ \pi^-$	32.1	Gerdyukov 87	cs, mass, pt
$p K_2^*(1430)^+ 2\pi^+ 2\pi^-$	32.1	Gerdyukov 87	cs, mass, pt
$\Lambda K^+ K^0 2\pi^+ \pi^-$	32.1	Ajinenko 86C	cs
$p 2K^+ K^- \pi^+ \pi^-$	32.1	Ajinenko 87B	angp
		Ajinenko 86C	cs
$p K^+ K^0 \overline{K}^0 \pi^+ \pi^-$	32.1	Ajinenko 86C	cs
$2p \overline{p} K^+ \pi^+ \pi^-$	32.1	Ajinenko 87B	angp
		Ajinenko 86C	cs
$p \Lambda \overline{\Lambda} K^+ \pi^+ \pi^-$	32.1	Ajinenko 86C	cs
$2p \overline{\Lambda} K^+ \overline{K}^0 \pi^-$	32.1	Ajinenko 86C	cs
$p K^0 3\pi^+ 2\pi^-$	32.1	Gerdyukov 87	angp, cs, mass, pt
		Ajinenko 86C	cs
$\Lambda 2K^+ 2\pi^+ 2\pi^-$	32.1	Ajinenko 86C	cs
$\Lambda 2K^0 3\pi^+ \pi^-$	32.1	Ajinenko 86C	cs
$p 2K^+ \overline{K}^0 \pi^+ 2\pi^-$	32.1	Ajinenko 86C	cs
$p K^+ K^0 K^- 2\pi^+ \pi^-$	32.1	Ajinenko 86C	cs
$p 2K^0 \overline{K}^0 2\pi^+ \pi^-$	32.1	Ajinenko 86C	cs
$2p \overline{\Lambda} 2\pi^+ 2\pi^-$	32.1	Ajinenko 86C	cs
$2p \overline{p} K^0 2\pi^+ \pi^-$	32.1	Ajinenko 86C	cs
$p \Lambda \overline{\Lambda} K^0 2\pi^+ \pi^-$	32.1	Ajinenko 86C	cs
$p \overline{p} \Lambda 2K^+ \pi^+ \pi^-$	32.1	Ajinenko 86C	cs

$K^+ p$

$2p \overline{\Lambda} K^0 \overline{K}^0 \pi^+ \pi^-$	32.1	Ajinenko 86C	cs
$2p \Lambda 2\overline{\Lambda} \pi^+ \pi^-$	32.1	Ajinenko 86C	cs
$p K^+ 3\pi^+ 3\pi^-$	32.1	Ajinenko 86C	cs
$\Lambda K^+ K^0 3\pi^+ 2\pi^-$	32.1	Ajinenko 86C	cs
$p K^+ K^0 \overline{K}^0 2\pi^+ 2\pi^-$	32.1	Ajinenko 86C	cs
$p \Lambda \overline{\Lambda} K^+ 2\pi^+ 2\pi^-$	32.1	Ajinenko 86C	cs
$2p \overline{\Lambda} K^+ \overline{K}^0 \pi^+ 2\pi^-$	32.1	Ajinenko 86C	cs
$p K^0 4\pi^+ 3\pi^-$	32.1	Ajinenko 86C	cs
$\Lambda 2K^0 4\pi^+ 2\pi^-$	32.1	Ajinenko 86C	cs
$p 2K^0 \overline{K}^0 3\pi^+ 2\pi^-$	32.1	Ajinenko 86C	cs
$2p \overline{\Lambda} 3\pi^+ 3\pi^-$	32.1	Ajinenko 86C	cs
$2p \overline{\Lambda} K^0 \overline{K}^0 2\pi^+ 2\pi^-$	32.1	Ajinenko 86C	cs
$p K^+ 4\pi^+ 4\pi^-$	32.1	Ajinenko 86C	cs
$\Lambda K^+ K^0 4\pi^+ 3\pi^-$	32.1	Ajinenko 86C	cs
$p K^+ K^0 \overline{K}^0 3\pi^+ 3\pi^-$	32.1	Ajinenko 86C	cs
$p \Lambda \overline{\Lambda} K^+ 3\pi^+ 3\pi^-$	32.1	Ajinenko 86C	cs
$p K^0 5\pi^+ 4\pi^-$	32.1	Ajinenko 86C	cs
$\Lambda 2K^0 5\pi^+ 3\pi^-$	32.1	Ajinenko 86C	cs
$p 2K^0 \overline{K}^0 4\pi^+ 3\pi^-$	32.1	Ajinenko 86C	cs
$2p \overline{\Lambda} 4\pi^+ 4\pi^-$	32.1	Ajinenko 86C	cs
$2p \overline{\Lambda} K^0 \overline{K}^0 3\pi^+ 3\pi^-$	32.1	Ajinenko 86C	cs
$\Lambda K^+ K^0 5\pi^+ 4\pi^-$	32.1	Ajinenko 86C	cs
$p K^+ K^0 \overline{K}^0 4\pi^+ 4\pi^-$	32.1	Ajinenko 86C	cs
$p \Lambda \overline{\Lambda} K^+ 4\pi^+ 4\pi^-$	32.1	Ajinenko 86C	cs
$\Lambda 2K^0 6\pi^+ 4\pi^-$	32.1	Ajinenko 86C	cs
$p 2K^0 \overline{K}^0 5\pi^+ 4\pi^-$	32.1	Ajinenko 86C	cs
$2p \overline{\Lambda} K^0 \overline{K}^0 4\pi^+ 4\pi^-$	32.1	Ajinenko 86C	cs

$K^+ n$

$p K^+ \pi^-$	5.98 – 11.85	Delesquen 89	amp, dme, pol

K^+ deuteron

ηX	10.5	Akimenko 85	cs

K^+ Be

ϕX	120 – 200	Dijkstra 86	mult, p, pt

K^+ Be

K^0 X	11.2	Akimenko 90B	a-dep, angp, p, pt
$K^*(892)^0$ X	11.2	Akimenko 90C	a-dep, angp, p, pt
$\phi\ \pi^+$ X	120	Dijkstra 86C	mass
$\phi\ \pi^-$ X	120	Dijkstra 86C	mass
$K^+\ \phi$ X	120	Dijkstra 86C	mass
$K^-\ \phi$ X	120	Dijkstra 86C	mass
$K^+\ K^-$ X	120 – 200	Dijkstra 86	ang, dme, mass
$K_S\ \phi$ X	120	Dijkstra 86C	mass
$p\ \phi$ X	120	Dijkstra 86C	mass
$\bar{p}\ \phi$ X	120	Dijkstra 86C	mass
$K^+\ K^-\ \pi^+$ X	120	Dijkstra 86C	mass
$K^+\ K^-\ \pi^-$ X	120	Dijkstra 86C	mass
$K^+\ 2K^-$ X	120	Dijkstra 86C	mass
$2K^+\ K^-$ X	120	Dijkstra 86C	mass
$K^+\ K_S\ K^-$ X	120	Dijkstra 86C	mass
$p\ K^+\ K^-$ X	120	Dijkstra 86C	mass
$\bar{p}\ K^+\ K^-$ X	120	Dijkstra 86C	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
π^0 X	200	Badier 85E	cs, p, pt

K^+ Mg

charged X	200	Brick 89	mult
charged$^-$ X	200	Brick 90	cor, mult, p
		Brick 89	mult
mult[charged] X	200	Brick 89	mult
mult[charged$^-$] X	200	Brick 89	mult
mult[shower] X	200	Brick 89	mult
shower X	200	Brick 90	cor, mult, p
		Brick 89	mult
mult[grey] charged$^-$ X	200	Brick 90	cor, mult, p
		Brick 89	mult
mult[grey] shower X	200	Brick 90	cor, mult, p
		Brick 89	mult
mult[grey] charged$^+$ charged$^-$ X	200	Brick 89	mult

K^+ Al

X	1.6 – 1.8	Afanasyev 88	a-dep, angp, cs
inelastic	1.6 – 1.8	Afanasyev 88	a-dep, angp, cs
charged X	250	Ajinenko 89	mult
charged$^+$ X	250	Ajinenko 89	mult
charged$^-$ X	250	Ajinenko 89	mult
mult[charged] X	250	Ajinenko 90B	angp, mult, p
		Ajinenko 89	mult
mult[charged$^+$] X	250	Ajinenko 89	mult
mult[charged$^-$] X	250	Ajinenko 90B	angp, mult, p
		Ajinenko 89	mult
p X	250	Ajinenko 89	p
mult[grey] X	250	Ajinenko 89	mult
mult[grey] charged$^-$ X	250	Ajinenko 89	cor, mult
mult[grey] mult[charged] X	250	Ajinenko 90B	angp, mult, p
mult[grey] mult[charged$^-$] X	250	Ajinenko 90B	angp, mult, p
		Ajinenko 89	cor, mult

K^+ Ti

X	1.6 – 1.8	Afanasyev 88	a-dep, angp, cs
inelastic	1.6 – 1.8	Afanasyev 88	a-dep, angp, cs

K^+ Cu

K^0 X	11.2	Akimenko 90B	a-dep, angp, p, pt
$K^*(892)^0$ X	11.2	Akimenko 90C	a-dep, angp, p, pt

K^+ Ag

charged X	200	Brick 89	mult
charged$^-$ X	200	Brick 90	cor, mult, p
		Brick 89	mult
mult[charged] X	200	Brick 89	mult
mult[charged$^-$] X	200	Brick 89	mult
mult[shower] X	200	Brick 89	mult
shower X	200	Brick 90	cor, mult, p
		Brick 89	mult
mult[grey] charged$^-$ X	200	Brick 90	cor, mult, p
		Brick 89	mult
mult[grey] shower X	200	Brick 90	cor, mult, p
		Brick 89	mult
mult[grey] charged$^+$ charged$^-$ X	200	Brick 89	mult

K^+ Cd

X	1.6 – 1.8	Afanasyev 88	a-dep, angp, cs
inelastic	1.6 – 1.8	Afanasyev 88	a-dep, angp, cs

K^+ Xe

K^+ X	0.56 – 0.81	Barmin 89B	–
K^0 X	0.85	Barmin 86B	–
		Barmin 85	–
K_S X	0.85	Barmin 86C	–
2γ X	0.85	Barmin 86C	mass
$\pi^+\ \pi^0\ \pi^-$ X	0.85	Barmin 85	–

K^+ Au

charged X	200	Brick 89	mult
	250	Ajinenko 89	mult
charged$^+$ X	250	Ajinenko 89	mult
charged$^-$ X	200	Brick 90	cor, mult, p
		Brick 89	mult
	250	Ajinenko 89	mult
mult[charged] X	200	Brick 89	mult
	250	Ajinenko 90B	angp, mult, p
		Ajinenko 89	mult
mult[charged$^+$] X	250	Ajinenko 89	mult
mult[charged$^-$] X	200	Brick 89	mult
	250	Ajinenko 90B	angp, mult, p
		Ajinenko 89	mult
p X	250	Ajinenko 89	p
mult[grey] X	250	Ajinenko 89	mult
mult[shower] X	200	Brick 89	mult
shower X	200	Brick 90	cor, mult, p
		Brick 89	mult
mult[grey] charged$^-$ X	200	Brick 90	cor, mult, p
		Brick 89	mult
	250	Ajinenko 89	cor, mult
mult[grey] mult[charged] X	250	Ajinenko 90B	angp, mult, p
mult[grey] mult[charged$^-$] X	250	Ajinenko 90B	angp, mult, p
		Ajinenko 89	cor, mult
mult[grey] shower X	200	Brick 90	cor, mult, p
		Brick 89	mult
mult[grey] charged$^+$ charged$^-$ X	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

K^0 X		
11.2	Akimenko 90B	a-dep, angp, p, pt
$K^*(892)^0$ X		
11.2	Akimenko 90C	a-dep, angp, p, pt
hadron X		
200	Akesson 88B	angp, et

K^+ nucleus

inelastic		
5 – 300	Fredriksson 87	a-dep, cs
charged⁻ X		
200	Fredriksson 87	mult
π^+ X		
100	Fredriksson 87	angp
π^- X		
100	Fredriksson 87	angp
K^+ X		
100	Fredriksson 87	angp
K^- X		
100	Fredriksson 87	angp
K^0 X		
10	Fredriksson 87	angp
K_S X		
10.5	Bitsadze 85	–
shower X		
50 – 200	Fredriksson 87	mult
e^- e^+ X		
10.5	Bitsadze 85	mass
p K^+ mult[fragt]		
0.6	Berdnikov 86	ang, angp, cs, p
nucleus p K^+		
0.3811	Smirnov 85	ang, cs, p
0.6	Berdnikov 85	angp, cs, p

K_L γ

$K_2^*(1430)^0$		
60 – 200	Carlsmith 87	cs

K_L deuteron

deuteron K_S		
10 – 50	Silvestrov 87	–
	Silvestrov 86	–
deuteron μ^- μ^+ X		
10 – 50	Silvestrov 87	mass

K_L C

X		
1.6 – 7.4	Berezin 86	a-dep, cs
Ω^- X		
80 – 280	Hartouni 85	cs, p, pt
$\overline{\Omega}^+$ X		
80 – 280	Hartouni 85	cs, p, pt
$K^*(892)^+$ π^-		
75 – 200	Lamm 87	cs, p
$K^*(892)^-$ π^+		
75 – 200	Lamm 87	cs, p
K_S ρ^0		
75 – 200	Lamm 87	cs, p
K_S ω		
75 – 200	Lamm 87	cs, p
K_S ϕ		
75 – 200	Lamm 87	cs, p
Λ K^- X		
80 – 280	Hartouni 85	mass
$\overline{\Lambda}$ K^+ X		
80 – 280	Hartouni 85	mass
K_S π^+ π^-		
75 – 200	Lamm 87	cs, p

K_L Al

X		
1.6 – 7.4	Berezin 86	a-dep, cs

K_L Cu

X		
1.6 – 7.4	Berezin 86	a-dep, cs
Cu $K^*(892)^0$		
100 – 200	Carlsmith 86	–
Cu $K_2^*(1430)^0$		
60 – 200	Carlsmith 87	cs
Cu K_S		
1.6 – 7.4	Balats 87	p, pt
Cu K_S π^0		
60 – 200	Carlsmith 87	cs, mass

K_L Sn

X		
1.6 – 7.4	Berezin 86	a-dep, cs

K_L Pb

X		
1.6 – 7.4	Berezin 86	a-dep, cs
Pb $K^*(892)^0$		
100 – 200	Carlsmith 86	–
Pb $K_2^*(1430)^0$		
60 – 200	Carlsmith 87	cs
Pb K_S π^0		
60 – 200	Carlsmith 87	cs, mass

ρ^0 nucleon

X		
< 3.9	Nakai 89	cs
< 5	Abdinov 86	cs

$\bar{p}\,p$

X		
0.1 – 100	Sedlak 88	cs
0.2219 – 0.4132	Bugg 87	cs
0.464	Sapozhnikov 86	cs
0.7 – 0.76	Banerjee 85	cs
(5 – 62)	Block 84	amp, angp, cs
32.1	Bogolyubsky 87E	cs
(23 – 62.5)	Camilleri 87	cs
(30.6 – 62.7)	Sedlak 88	cs
	Carboni 85	cs
(200 – 900)	Salvini 88	cs
	Alner 86	cs
	Schmickler 86	cs
	Geichgimbel 85	cs
(546 – 640)	Ward 86B	cs, mult, p
(546 – 900)	Jenni 89	angp, cs
(630)	Mandelli 88	et
(900)	Ward 86B	cs
(1800)	Amos 90	cs
$f_0(975)$		
0.702 – 0.757	Sedlak 88	cs
$X(1935)^0$		
0.4 – 0.6	Bruckner 87	cs
$f_4(2220)$		
1.3 – 1.5	Bardin 87	cs
$\eta_c(1S)$		
3.621 – 5.755	Augustin 88C	–
	Toki 87	–
?	Baglin 87	–
$J/\psi(1S)$		
?	Baglin 87C	–
$\chi_{c1}(1P)$		
5.51 – 29.02	Baglin 86	–
?	Baglin 87	–
	Baglin 87B	–
$\chi_{c2}(1P)$		
3.621 – 5.755	Augustin 88C	
5.51 – 29.02	Baglin 86	–
?	Baglin 87	–
	Baglin 87B	

$\bar{p}\,p$

baryonium		
?	Angelopoulos 85	–
	Tanimori 85	–
χ(unspec)		
5.586 – 5.624	Baglin 86B	cs
mult[$\pi^\pm$]		
5.6	Sedlak 88	cs
mult[π]		
2.3 – 9.2	Sedlak 88	pt
annihil		
0.1 – 100	Sedlak 88	cs
0.3 – 0.58	Brueckner 90	cs
0.4 – 0.6	Bruckner 87	cs
0.464	Sapozhnikov 86	cs
0.586 – 0.604	Franklin 87	cs
1.91 – 1.99	Fickinger 86B	cs
inelastic		
0.1 – 100	Sedlak 88	cs
6.1	Batyunya 86B	cs
12	Chakrabarti 85	cs
32.1	Bogolyubsky 87E	cs
(200 – 900)	Salvini 88	cs
	Alner 86	cs
	Schmickler 86	cs
	Geichgimbel 85	cs
(300 – 1800)	Paoletti 89	angp
(546)	Alner 85C	cs
(546 – 640)	Ward 86B	cs, mult, p
(900)	Ward 86B	cs
(1800)	Amos 90	cs
mult[jet]		
(540)	Savoynavarro 85	–
(neutrals) X		
(630)	Alitti 89	pt
(1800)	Tonelli 89	et
	Wagner 89	et
charged X		
0.76 – 12	Banerjee 85B	mult, p
32.1	Bravina 89	mult, p
	Bogolyubsky 88C	p, pt
	Bogolyubsky 87D	cor, mult, p
	Bogolyubsky 86H	p, pt
200	Allday 88	pt
250	Adamus 86B	cs, mult
(27 – 1800)	Tannenbaum 89	pt
(31 – 62)	Breakstone 86F	mult, pt
(53 – 900)	Tannenbaum 89	p
(200 – 900)	Ansorge 89	angp, mult
	Jenni 89	p
	Alner 86B	p
	Schmickler 86	p, pt
	Geichgimbel 85	mult
	Albajar 90B	p, pt
(540)	Banner 85B	pt
(546)	Tao 88	angp, pt
	Alner 85C	mult
(546 – 630)	Albajar 89B	mult, pt
(546 – 640)	Ward 86B	cs, mult, p
(630 – 1300)	Binkley 90	cs, p
	Abe 89M	angp, p
	Abe 88C	cs, p, pt
(900)	Ward 86B	cs, mult, p
(1800)	Abe 89H	pt
	Tonelli 89	pt
	Albrow 88	angp, mult, pt
	Alexopoulos 88B	mult, p, pt
	Turkot 88	cor, mult, p, pt
	Abe 89D	angp, cs, p, pt
charged⁺ X		
200	Allday 88	pt
(23 – 62.5)	Camilleri 87	cs, mult, p, pt
charged⁻ X		
32.1	Bogolyubsky 88C	p, pt

$\bar{p}\,p$

charged$^-$ X

	Bogolyubsky 86H	p, pt
200	Allday 88	pt
(23 – 62.5)	Camilleri 87	cs, mult, p, pt

mult[charged] X

0.76 – 12	Banerjee 85B	mult, p
5.7 – 22.4	Baldin 86	col
(23 – 62.5)	Camilleri 87	cs, mult
(53 – 630)	Tannenbaum 89	ang, et, p
(200 – 900)	Ansorge 89C	mult, mult
	Eckart 88	col, cor, mult, p
(540)	Savoynavarro 85	–
(546 – 640)	Ward 86B	cs, mult, p
(630)	Appel 85B	col, et
(900)	Ward 86B	cs, mult, p
(1800)	Turkot 88	cor, mult, pt

(chargeds) (neutrals)

22.4	Batyunya 90	cs
(1800)	Freeman 89	et

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
200	Allday 88	cs, mult
(200 – 900)	Albajar 89	cor, p
	Tao 88	mult
	Holl 86	et, mult, p
	Alner 85D	mult
	Cerradini 85	mult
	Albajar 90B	et, mult, p, pt
(540)	Alner 85	mult
(546)	Alner 85C	cs
(630)	Albajar 90	mult, p, pt
	Buschbeck 89	–
(1800)	Hubbard 89B	col, et, mass, mult, p, pt
	Alexopoulos 88B	mult, p, pt

γ X

0	Omori 89	p
	Adiels 86B	p
	Gorringe 85	mult, p
	Tsukerman 85	p
0.105	Ziegler 88	p
0.308	Ahmad 85C	p
0.76 – 12	Banerjee 85B	mult, p
12	Chakrabarti 85	cs, p, pt
32.1	Bogolyubsky 88	p
	Bogolyubsky 88E	cs, mult, p, pt
70	Ukhanov 86B	cs, p, pt
(23 – 62.5)	Camilleri 87	cs
313.7	Bernasconi 88	cs, pt
	Bernasconi 87	cs, pt
1496	Akesson 85G	pt
(53 – 640)	Lancon 86B	p, pt
(200 – 900)	Ansorge 89	angp, 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
	Richard 87	p, pt
(1800)	Harris 90	p, pt

$e^\pm$ X

(540)	Savoynavarro 85	–
(540 – 630)	Vuillemin 85	–
(546 – 630)	Appel 86	angp, pt

$\bar{p}\,p$

e^+ X

(546 – 630)	Albajar 86	p
(630)	Fransson 90	pt
	Botner 89	pt

e^- X

(546 – 630)	Albajar 86	p
(630)	Fransson 90	pt
	Botner 89	pt

μ^+ X

(546 – 630)	Albajar 86	p
(630)	Albajar 88D	pt
	Albajar 88F	et, pt
(1800)	Skarha 89	pt

μ^- X

(546 – 630)	Albajar 86	p
(630)	Albajar 88D	pt
	Albajar 88F	et, pt

π^0 X

5.55	Sedlak 88	angp
12	Chakrabarti 85	cs
32.1	Bogolyubsky 87E	mult
40	Apokin 88B	angp, asym, p
70	Ukhanov 86B	p
(23 – 62.5)	Camilleri 87	cs
313.7	Bernasconi 88	cs, pt
	Antille 87	cs, pt
	Bernasconi 87	cs, pt
	Valenti 85	angp
1496	Akesson 85G	pt
(53 – 640)	Lancon 86B	p, pt
(540)	Banner 85B	pt
(630)	Pare 90	angp, p, pt
	Ansari 88B	p, pt
	Appel 86B	p, pt

$\pi^\pm$ X

8.8 – 9.1	Sedlak 88	p
(546)	Ward 86B	p
(1800)	Alexopoulos 90	mult, p, pt

π^+ X

0	Ahmad 84	p
0.76	Banerjee 85	p, pt
5.55	Sedlak 88	angp
12 – 1078	Sedlak 88	p
32.1	Bogolyubsky 88	p
	Smirnova 88	mult, p, pt
	Bogolyubsky 87E	mult
	Bravina 86	p
(23 – 62.5)	Camilleri 87	pt

π^- X

0	Ahmad 84	p
0.7 – 100	Sedlak 88	cs
5.55	Sedlak 88	angp
5.7	Sedlak 88	angp, pt
12 – 1078	Sedlak 88	p
32.1	Bogolyubsky 88	p
	Bogolyubsky 88C	p, pt
	Smirnova 88	mult, p, pt
	Bogolyubsky 87E	mult
	Bogolyubsky 86H	p, pt
	Bravina 86	p
(23 – 62.5)	Camilleri 87	pt

π^+ X + π^- X

(200 – 900)	Burow 87	cs, mult

π X

(630)	Botner 89	pt

η X

0	Chiba 89	cs
	Adiels 88	p
12	Chakrabarti 85	cs
(23 – 62.5)	Camilleri 87	cs
313.7	Bernasconi 88	cs, pt
	Antille 87	cs, pt
	Bernasconi 87	cs, pt
1496	Akesson 85G	pt
(540)	Banner 85B	pt
(630)	Albajar 88C	–

ρ^0 X

0.7 – 100	Sedlak 88	cs

$\bar{p}\,p$

ρ^0 X

9.1 – 405	Sedlak 88	p
12 – 22.4	Sedlak 88	amp
	Batyunya 87J	angp, pol, pt
32.1	Kozlovsky 86	cs, mult, p, pt
(630)	Albajar 88C	–

ω X

12	Chakrabarti 85	cs
(630)	Albajar 88C	–

η' X

0	Chiba 89	cs
(630)	Albajar 88C	–

$f_0(975)$ X

32.1	Kozlovsky 86	cs

ϕ X

(630)	Albajar 88C	–

$f_2(1270)$ X

0.7 – 100	Sedlak 88	cs
9.1	Sedlak 88	p
32.1	Kozlovsky 86	cs, mult, p, pt

$\tau^\pm$ X

(540)	Savoynavarro 85	–
(540 – 630)	Vuillemin 85	–

$J/\psi(1S)$ X

5.586 – 5.624	Baglin 86B	cs
(546 – 630)	Tao 88	pt
(630)	Albajar 88C	–
	Albajar 88D	pt
	Albajar 88E	cs, p, pt
(630 – 1800)	Liss 90	–

$\Upsilon(1S)$ X

(630 – 1800)	Liss 90	–

$\Upsilon(3S)$ X + $\Upsilon(2S)$ X + $\Upsilon(1S)$ X

(540 – 630)	Albajar 86C	angp, cs
(546 – 630)	Summers 87	cs

Z^0 X

(536 – 630)	Albajar 89B	cs, p, pt
(540)	Rubbia 86	cs
(540 – 630)	Arnison 86C	cs
	Vuillemin 85	–
(540 – 640)	Stubenrauch 86	p, pt
(540 – 1800)	Jenni 89	cs, pt
(546 – 630)	Stubenrauch 89	cs, pt
	Plothowbesch 88	cs
	Salvini 88	cs, p, pt
	Tao 88	cs, p, pt
	Albajar 87	cs
	Ansari 87C	cs, p
	Ansari 87F	cs
	Cenci 87	cs
	Albajar 86B	cs
	Appel 86	cs, pt
	Arnison 85D	cs
	Levi 85	cs
(630)	Akesson 90B	–
	Alitti 90	cs
	Alitti 90B	pt
	Alitti 90C	–
	Meier 89	cs
	Gan 88	–
	Ansari 87B	cs
	Repellin 87	cs, mass
	Richard 87	pt
(1800)	Watts 90	pt
	Abe 89Q	cs
	Abe 89T	–
	Geer 89	–
	Kamon 89	cs, pt
	Smith 89	–

Z^0 X + W^- X + W^+ X

(630)	Alitti 90D	cs

χ(unspec) X

(630)	Albajar 88E	cs, p, pt

mult[γ] X

0	Chiba 89	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.

$\bar{p}\,p$

$W^{\pm}$ X		
	Albrow 88	cs
	Gladney 90	–
W^{+} X		
(540)	Rubbia 86	cs
	Hanni 85	cs
(540 – 630)	Albajar 87E	pt
	Arnison 86C	cs, pt
(540 – 1800)	Jenni 89	cs, pt
(546 – 630)	Stubenrauch 89	ang, cs, p, pt
	Plothowbesch 88	cs
	Salvini 88	cs, p, pt
	Ansari 87C	cs, p
	Ansari 87F	cs
	Cenci 87	cs
	Albajar 86B	–
	Arnison 85D	cs
	Levi 85	cs, p, pt
(630)	Gan 88	–
	Mandelli 88	p
	Repellin 87	cs, mass
	Richard 87	pt
(1800)	Abe 89B	cs
W^{-} X		
(540)	Rubbia 86	cs
	Hanni 85	cs
(540 – 630)	Albajar 87E	pt
	Arnison 86C	cs, pt
(540 – 1800)	Jenni 89	cs, pt
(546 – 630)	Stubenrauch 89	ang, cs, p, pt
	Plothowbesch 88	cs
	Salvini 88	cs, p, pt
	Ansari 87C	cs, p
	Ansari 87F	cs
	Cenci 87	cs
	Albajar 86B	–
	Arnison 85D	cs
	Levi 85	cs, p, pt
(630)	Gan 88	–
	Mandelli 88	p
	Repellin 87	cs, mass
	Richard 87	pt
(1800)	Abe 89B	cs
bottom X		
(630)	Alhajar 88F	cs, pt
?	Albajar 88E	–
$\overline{\text{bottom}}$ X		
(630)	Albajar 88E	cs, p, pt
	Albajar 88F	cs, pt
charged-hadron X		
(630 – 1800)	Abe 89L	cs, p, pt
(1800)	Gladney 90	et, pt
$\overline{\text{charm}}$ X		
(630)	Albajar 88F	cs, pt
gluino X		
(546 – 630)	Albajar 87B	–
(630)	Dowell 88	–
(1800)	Sinervo 89	et, mass
hadron X		
32.1	Bogolyubsky 87E	mult
(630)	Botner 89	pt
hadron^{+} X		
(630)	Fransson 90	pt
hadron^{-} X		
(630)	Fransson 90	pt
jet X		
5.7 – 12	Baldin 85	angp, p
22.4	Baldin 85	angp, p
(200 – 900)	Tao 88	cs, et, pt
	Cerradini 85	cs, mult, p
	Albajar 88	pt
(540)	Hanni 85	cs, pt
	Savoynavarro 85	–
(540 – 630)	Reya 85B	–
(546)	Arnison 85E	p
(546 – 630)	Tao 88	et
	Arnison 86	pt

$\bar{p}\,p$

jet X		
(546 – 900)	Salvini 88	angp, p, pt
(546 – 1800)	Jenni 89	et, pt
(630)	Meier 89	pt
	Albrow 88	pt
	Albajar 87D	et, mult
	Appel 85	pt
(1800)	Hessing 90	pt
	Abe 89	et
	Abe 89C	et
	Abe 89O	mult
	Geer 89	pt
	Tonelli 89	et
monopole X		
(1800)	Price 87	cs
mult[hadron] X		
5.7 – 12	Baldin 86B	col
5.7 – 205	Baldin 87	col, p
mult[jet] X		
5.7 – 22.4	Baldin 86	col
(200 – 900)	Tao 88	mult
(540 – 630)	Vuillemin 85	–
(630)	Albajar 87D	mult
(1800)	Sinervo 89	et, mass
mult[Λ] X		
(200 – 900)	Pelzer 89	cs, mult, p, pt
mult[$\overline{\Lambda}$] X		
(200 – 900)	Pelzer 89	cs, mult, p, pt
mult[neutral] X		
1479	Angelis 85	p, pt
q X		
(540)	Banner 85	cs
(630)	Lyons 87	–
$\tilde{l}$ X		
(630)	Dowell 88	–
strange X		
32.1	Bogolyubsky 88B	p
top X		
(540 – 1800)	Jenni 89	–
(630)	Albajar 88G	cs
	Dowell 88	–
$\overline{\text{top}}$ X		
(540 – 1800)	Jenni 89	–
(630)	Albajar 88G	cs
	Dowell 88	–
t X		
(630)	Akesson 90C	p
	Felcini 89	–
(1800)	Geer 89	–
	Sinervo 89	et, mass
$\bar{t}$ X		
(630)	Felcini 89	–
unspec X		
(546 – 630)	Albajar 89B	cs
X centauro		
(900)	Burow 87	p
	Alner 86C	cs, pt
	Ward 86B	cs
X $\tilde{q}$		
(546 – 630)	Albajar 87B	–
(630)	Dowell 88	–
(neutrals) jet		
(546 – 630)	Albajar 86	p
	Albajar 86B	p
annihil charged		
0.7373 – 105.6	Sedlak 88	mult
charged inelastic		
0.7373 – 105.6	Sedlak 88	mult
mult[charged] mult[neutral]		
1.6	Sedlak 88	mult
2γ		
0	Adiels 86	cs
3.621 – 5.755	Augustin 88C	mass
	Baglin 87	ang, mass

$\bar{p}\,p$

2γ		
	Toki 87	mass
$e^{-}\,e^{+}$		
3.5 – 6.5	Baglin 87C	cs
3.637 – 3.698	Baglin 85	angp, cs
?	Sedlak 88	angp, cs
$\pi^0\,\gamma$		
0	Chiba 88	cs
	Adiels 86	cs
?	Sedlak 88	cs
$2\pi^0$		
0	Chiba 88	cs
	Adiels 86	cs
1.1 – 2	Sedlak 88	amp, angp, cs, pol
?	Sedlak 88	cs, cs
	Chiba 87B	cs
$\pi^{+}\,\pi^{-}$		
0	Ahmad 86	cs
0.158 – 0.275	Bardin 87B	angp, cs
0.36 – 0.76	Tanimori 89B	angp, cs, p
	Sugimoto 88	angp, cs, p
0.39 – 0.78	Tanimori 85	angp, cs
0.7373 – 7.53	Sedlak 38	angp
1.1 – 2	Sedlak 88	amp, angp, cs, pol
1.3 – 1.5	Bardin 87	cs
1.449 – 4.289	Sedlak 88	cs
4.6 – 12	Markytan 89	col, pt
8 – 12	Armstrong 87C	angp, cs
	Armstrong 86F	angp
30 – 50	Asad 85	angp
?	Sedlak 88	cs, cs
$\eta\,\gamma$		
0	Chiba 88	cs
$\eta\,\pi^0$		
0	Chiba 89	cs
	Adiels 88	cs
	Chiba 88	cs
?	Sedlak 88	cs
	Chiba 87B	cs
$\eta\,\pi^0 + \eta\,\gamma$		
0	Chiba 89	cs
$\omega\,\gamma$		
0	Chiba 88	cs
$\omega\,\gamma + \rho^0\,\gamma$		
0	Chiba 88	cs
$\rho^0\,\pi^0$		
0	Chiba 88	cs
0.7 – 2.53	Sedlak 88	cs
?	Sedlak 88	cs
	Chiba 87B	cs
$\rho^{+}\,\pi^{-}$		
?	Sedlak 88	cs
$\rho^{-}\,\pi^{+}$		
?	Sedlak 88	cs
$\omega\,\pi^0$		
0	Chiba 88	cs
?	Sedlak 88	cs
	Chiba 87B	cs
$\omega\,\pi^0 + \rho^0\,\pi^0$		
0	Chiba 88	cs
$\eta'\,\gamma$		
0	Chiba 88	cs
$\phi\,\gamma$		
0	Chiba 88	cs
$\eta'\,\pi^0$		
0	Chiba 88	cs
?	Sedlak 88	cs
	Chiba 87B	cs
2η		
0	Chiba 89	cs
	Adiels 88	cs
$\phi\,\pi^0$		
0	Chiba 88	cs

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$\bar{p}\, p$

$\phi\ \pi^0$		
?	Chiba 87B	cs
$\rho^0\ \eta$		
0	Chiba 89	cs
	Adiels 88	cs
?	Sedlak 88	cs
$\omega\ \eta$		
0	Chiba 89	cs
	Adiels 88	cs
$b_1(1235)^+\ \pi^- + b_1(1235)^-\ \pi^+$		
?	Sedlak 88	cs
$f_2(1270)\ \pi^0$		
?	Sedlak 88	cs
$f_1(1285)\ \pi^0$		
0.702 – 0.757	Sedlak 88	cs
$a_2(1320)^0\ \pi^0$		
0	Adiels 88	cs
$a_2(1320)^+\ \pi^-$		
0	Ahmad 84	p
0.702 – 0.757	Sedlak 88	cs
$a_2(1320)^-\ \pi^+$		
0	Ahmad 84	p
0.702 – 0.757	Sedlak 88	cs
$a_2(1320)^+\ \pi^- + a_2(1320)^-\ \pi^+$		
?	Sedlak 88	cs
$\eta'\ \eta$		
0	Chiba 89	cs
	Adiels 88	cs
$2\rho^0$		
?	Sedlak 88	cs
$\omega\ \rho^0$		
?	Sedlak 88	cs
$f_1(1420)\ \pi^0$		
0.702 – 0.757	Sedlak 88	cs
2ω		
< 2	Hamann 90	angp, cs, pwa
$\phi\ \eta$		
0	Chiba 89	cs
$f'_2(1525)\ \pi^0$		
0.702 – 0.757	Sedlak 88	cs
$f_0(975)\ \rho^0$		
0.702 – 0.757	Sedlak 88	cs
$\phi\ \rho^0$		
0.702 – 0.757	Sedlak 88	cs
$\phi\ \omega$		
< 2	Hamann 90	angp, cs, pwa
2ϕ		
< 2	Hamann 90	angp, cs, pwa
3.742	Baglin 89C	angp, cs
$f_2(1270)\ \omega$		
?	Sedlak 88	cs
$a_2(1320)^+\ \rho^-$		
0.702 – 0.757	Sedlak 88	cs
$a_2(1320)^-\ \rho^+$		
0.702 – 0.757	Sedlak 88	cs
$J/\psi(1S)\ \gamma$		
3.5 – 7.5	Baglin 87B	ang, ang, mass, pwa
5.51 – 29.02	Baglin 86	cs
baryonium γ		
0	Omori 89	p
	Chiba 87	cs
	Chiba 87B	cs
	Angelopoulos 86	–
	Sapozhnikov 86	–
$\pi^0\ (\pi^0$'s)		
?	Sedlak 88	cs
π^0 baryonium		
0	Chiba 87B	cs

$\bar{p}\, p$

π^0 baryonium		
	Sapozhnikov 86	–
π^0 mult$[\pi^\pm]$		
5.6	Sedlak 88	cs
π^+ baryonium		
0	Sapozhnikov 86	
π^- baryonium		
0	Sapozhnikov 86	-
ρ^0 mult$[\pi^\pm]$		
9.1	Sedlak 88	cs, mult
ω mult$[\pi^\pm]$		
9.1	Sedlak 88	cs, mult
K^+ baryonium		
0	Sapozhnikov 86	–
K^- baryonium		
0	Sapozhnikov 86	–
$K^+\ K^-$		
0	Ahmad 86	cs
0.36 – 0.76	Tanimori 89B	angp, cs, p
	Sugimoto 88	angp, cs, p
0.39 – 0.78	Tanimori 85	angp, cs
0.7 – 2.12	Sedlak 88	angp, cs
0.7373 – 7.53	Sedlak 88	angp
1.3 – 1.5	Bardin 87	cs
30 – 50	Asad 85	angp
?	Sedlak 88	cs
$K^0\ \bar{K}^0$		
0	Doser 88	cs
$K^*(892)^-\ K^+$		
0.702 – 0.757	Sedlak 88	cs
$K^*(892)^+\ K^-$		
0.702 – 0.757	Sedlak 88	cs
$K^*(892)^0\ \bar{K}^*(892)^0$		
0.702 – 0.757	Sedlak 88	cs
$K^*(892)^+\ K^*(892)^-$		
0.702 – 0.757	Sedlak 88	cs
$K_2^*(1430)^-\ K^+$		
0.702 – 0.757	Sedlak 88	cs
$K_2^*(1430)^+\ K^-$		
0.702 – 0.757	Sedlak 88	cs
$K^0\ K_S$		
0.5 – 3	Sedlak 88	cs
$K^*(892)^0\ K_S$		
0.702 – 0.757	Sedlak 88	cs
$\bar{K}^*(892)^0\ K_S$		
0.702 – 0.757	Sedlak 88	cs
$K_2^*(1430)^0\ K_S$		
0.702 – 0.757	Sedlak 88	cs
$\bar{K}_2^*(1430)^0\ K_S$		
0.702 – 0.757	Sedlak 88	cs
$K\ \bar{K}$		
< 2	Hamann 90	angp, cs, pwa
$K_S\ K_L$		
0	Doser 88	cs
0.5 – 3	Sedlak 88	cs
?	Sedlak 88	cs
$2K_S$		
0	Doser 88	cs
0.5 – 3	Sedlak 88	cs
1.3 – 1.58	Barnes 89	cs
$p\ \bar{p}$		
0.1 – 100	Sedlak 88	cs
0.18 – 0.6	Bruckner 85	amp, angp
0.1948 – 0.3104	Sapozhnikov 86	amp
0.202 – 0.609	Bruckner 85B	amp, angp, cs
0.233 – 0.272	Linssen 87	angp
0.29	Sedlak 88	amp, angp

$\bar{p}\, p$

$p\ \bar{p}$		
0.359 – 0.625	Ashford 85B	amp, ang
0.39 – 0.78	Kageyama 87	angp, cs
0.4 – 0.86	Timmers 84	–
0.413 – 0.715	Iwasaki 85B	amp, angp
0.497 – 1.55	Kunne 88	asym
	Kunne 88B	angp, cs, pol
	Kunne 88C	angp, cs, pol
0.542 – 0.556	Birsa 85	asym
0.55 – 1.077	Schiavon 89	amp, angp, cs
0.6103 – 1.097	Sapozhnikov 86	angp
0.697	Bertini 89	angp, pol
0.7	Bertini 88C	angp, pol
0.7 – 0.76	Banerjee 85	cs
1.055 – 2.201	Sedlak 88	cs
1.91 – 1.99	Fickinger 86B	cs
3.65 – 5.65	Baglin 89B	angp
8 – 12	Armstrong 87C	angp, cs
	Armstrong 86F	angp
9.9	Baller 88	angp, cs, pt
10.1 – 100	Bogolyubsky 86F	angp, cs
12	Chakrabarti 85	cs
(5 – 62)	Block 84	amp, angp, cs
22.4	Zlatanov 89	amp, angp
	Batyunya 85C	angp, cs
30 – 50	Asad 85	angp
32.1	Bogolyubsky 89B	cs
	Bogolyubsky 84B	angp, cs
(23 – 62.5)	Camilleri 87	amp, ang, angp, cs
313.7	Breedon 89	angp
(30.6 – 62.5)	Amos 85	angp, cs
(31 – 62)	Breakstone 85C	angp
1496	Breakstone 85	angp
	Erhan 85	angp, cs
(200 – 900)	Schmickler 86	cs
(300 – 1800)	Paoletti 89	angp
(540)	Albrow 88	amp
(546)	Bernard 87	amp, angp
	Bozzo 85	angp
(546 – 640)	Ward 86B	cs, mult, p
(546 – 900)	Jenni 89	angp, cs
(630)	Bernard 86	angp
(1800)	Amos 90	cs
	Amos 90B	angp
	Amos 89	cs
	Amos 88	angp
	Tonelli 88	angp
?	Bertini 88B	pol
$n\ \bar{n}$		
0.18 – 0.6	Bruckner 86	angp, cs
0.39 – 0.78	Kageyama 87	angp, cs
0.7 – 0.76	Banerjee 85	cs
1.653 – 1.731	Cresti 86	mass
$\bar{p}\ N(1520\,B)^+$		
22.4	Batyunya 87F	cs
$\Delta(1232\,P_{33})^{++}\ \bar{\Delta}(1232\,P_{33})^{--}$		
22.4	Batyunya 87F	angp, cs
	Batyunya 86C	angp, cs, pol
$\Delta(1232\,P_{33})^0\ \bar{\Delta}(1232\,P_{33})^0$		
22.4	Batyunya 86C	angp, cs
$\bar{p}\ N(1700\,B)^+$		
22.4	Batyunya 87F	cs
$\bar{p}\ N^*(\text{unspec})^+$		
22.4	Batyunya 86D	cs
$\Lambda\ \bar{\Lambda}$		
1.435 – 1.447	Vonfrankenbe 89	cs
1.435 – 1.92	Vonfrankenbe 89	angp
1.435 – 145	Barnes 89	angp, cs, pol
1.476 – 1.507	Barnes 89B	angp, cs, pol
	Barnes 87	angp, pol
	Barnes 85	angp, cs
1.545 – 1.695	Vonfrankenbe 89	pol

$\bar{p}\, p$		
$\Lambda \bar{\Lambda}$		
1.546	Barnes 87B	asym
$\Lambda \bar{\Lambda} + \Sigma^0 \bar{\Sigma}^0$		
3.15 – 7.9	Bachman 86	angp, pol
$\Lambda \bar{\Sigma}^0$		
1.695	Barnes 90	angp, cs, pol
$\bar{\Lambda} \Sigma^0$		
1.695	Barnes 90	angp, cs, pol
	Vonfrankenbe 89	angp, cs
γ jet		
(1800)	Blair 89	angp
π^0 annihil		
?	Sedlak 88	mult, p
$\pi^\pm$ annihil		
8.8 – 9.1	Sedlak 88	p
?	Sedlak 88	mult, p
π^+ annihil		
12 – 1078	Sedlak 88	p
π^- annihil		
12 – 1078	Sedlak 88	p
π annihil		
?	Sedlak 88	mult, p
ρ^0 annihil		
9.1 – 405	Sedlak 88	p
$f_2(1270)$ annihil		
9.1	Sedlak 88	p
K_S annihil		
9.1 – 405	Sedlak 88	p
DD $<$ jet X $>$ p		
(630)	Bonino 88	angp, cs, mass, p
DD $< \bar{p} >$ p		
(200 – 900)	Schmickler 86	cs
DD $< \bar{p}\, \pi^+ \pi^- >$ p		
22.4	Batyunya 87F	angp, cs, mass
	Batyunya 86C	angp, cs
DD $< \bar{p}\, \pi^+ \pi^0 \pi^- >$ p		
22.4	Batyunya 87E	angp, cs
DD $<$ X $>$ p		
(200 – 900)	Ansorge 86	cs, mult, p, pt
(1800)	Amos 90	cs
DD $< \gamma$ X $> \bar{p}$		
32.1	Bogolyubsky 89D	angp
DD $< K^0$ X $> \bar{p}$		
32.1	Bogolyubsky 89D	angp
DD $< \Lambda$ X $> \bar{p}$		
32.1	Bogolyubsky 89D	angp
DD $< p\ 2\pi^+\ 2\pi^- > \bar{p}$		
32.1	Bogolyubsky 87B	ang, cs, mass, p
DD $< p > \bar{p}$		
(200 – 900)	Schmickler 86	cs
DD $< p\, \pi^+ \pi^- > \bar{p}$		
22.4	Batyunya 87F	angp, cs, mass
	Batyunya 86C	angp, cs
DD $< p\, \pi^+ \pi^0 \pi^- > \bar{p}$		
22.4	Batyunya 87E	angp, cs
DD $< p\, \rho^0 \pi^+ \pi^- > \bar{p}$		
32.1	Bogolyubsky 87B	cs
DD $< p$ X $> \bar{p}$		
32.1	Bogolyubsky 89D	angp
DD $< \pi^+$ X $> \bar{p}$		
32.1	Bogolyubsky 89D	angp
DD $< \pi^- > \bar{p}$		
32.1	Bogolyubsky 89D	angp

$\bar{p}\, p$		
DD $<$ X $> \bar{p}$		
32.1	Bogolyubsky 89B	cs
	Bogolyubsky 89D	angp
(200 – 900)	Ansorge 86	cs mult, p, pt
(546)	Bernard 86B	angp, cs, mass
(1800)	Amos 90	cs
DD $< p$ X $> \bar{\Delta}(1232\, P_{33})^{--}$		
32.1	Bogolyubsky 89D	angp
DD $< \pi^+$ X $> \bar{\Delta}(1232\, P_{33})^{--}$		
32.1	Bogolyubsky 89D	angp
DD $< \pi^-$ X $> \bar{\Delta}(1232\, P_{33})^{--}$		
32.1	Bogolyubsky 89D	angp
$\bar{t}\, t$		
(1800)	Barbarogalti 90	cs
2jet		
4.6 – 12	Markytan 89	col, pt
(540)	Savoynavarro 85	–
DD $< \bar{p}\, \pi^0 >$ DD $< p\, \pi^+ \pi^- >$		
22.4	Batyunya 87E	angp, cs
DD $< \bar{p}\, \pi^+ \pi^- >$ DD $< p\, \pi^0 >$		
22.4	Batyunya 87E	angp, cs
DD $<$ X $>$ DD $<$ X $>$		
(200 – 900)	Ansorge 86	cs
$\tilde{e}^- \tilde{e}^+$		
(630)	Repellin 87	cs, mass
charged$^+$ charged$^-$ X		
(1800)	Abe 89H	pt
2charged X		
32.1	Bogolyubsky 86	ang, cor
200	Derado 88	a-dep, cor, mult, p
(53 – 63)	Kvatadze 88	angp, cor, p
(62)	Breakstone 86B	p, pt
(200 – 900)	Asman 88	cor, mult, p
	Eckart 88	cor
(630 – 1800)	Binkley 90	cor
2charged$^+$ X		
(200 – 900)	Albajar 89	cor, p
2charged$^-$ X		
(200 – 900)	Albajar 89	cor, p
charged$^-$ mult[charged] (neutrals)		
32.1	Bogolyubsky 88	p
2charged (neutrals) inelastic		
12	Chakrabarti 85	cs
γ charged X		
(200 – 900)	Ansorge 89	cor
2γ X		
12	Chakrabarti 85	mass
313.7	Valenti 85	mass
(540 – 630)	Albajar 88B	angp, pt
(630)	Pare 90	mass
	Albrow 88	pt
	Ansari 88B	ang, p, pt
$e^\pm\, \nu$ X		
(546 – 630)	Appel 86	pt
$e^+ \gamma$ X		
(546 – 630)	Ansari 87D	–
$e^- \gamma$ X		
(546 – 630)	Ansari 87D	–
e^+ neutral X		
(546 – 630)	Ansari 87C	–
e^- neutral X		
(546 – 630)	Ansari 87C	–
$e^+ \nu_e$ X		
(1800)	Abe 89B	et, mass
$e^- \bar{\nu}_e$ X		
(1800)	Abe 89B	et, mass

$\bar{p}\, p$		
$e^- e^+$ X		
5.586 – 5.624	Baglin 86B	mass
(540)	Rubbia 86	mass, p, pt
	Bagnaia 84E	ang, mass, pt
(546 – 630)	Ansari 87C	–
	Ansari 87D	mass, pt
	Appel 86	mass
$\mu^\pm \nu_\mu$ X		
(200 – 900)	Ansorge 88	mass
$\mu^+ e^-$ X		
(1800)	Barbarogalti 90	pt
$\mu^- e^+$ X		
(1800)	Barbarogalti 90	pt
π^+ mult[charged] X		
22.4 – 24	Batyunya 90	p
$\mu^- \mu^+$ X		
(540)	Rubbia 86	mass, p, pt
	Arnison 85	ang, mass, pt
(540 – 630)	Albajar 87C	ang, mass, pt
	Albajar 86C	ang, mass, pt
(546 – 630)	Tao 88	ang, cs, pt
	Summers 87	ang, cs, cs, mass, p
(630)	Albajar 88C	–
	Albajar 88D	pt
	Albajar 88E	mass, p, pt
	Albajar 88F	et, pt
	Albajar 88G	cor, et, pt
(630 – 1800)	Liss 90	mass, pt
$2\mu^+$ X		
(540)	Arnison 85	ang, mass, pt
(540 – 630)	Albajar 87C	ang, mass, pt
	Albajar 86C	ang, mass, pt
(546 – 630)	Tao 88	cs
	Summers 87	cs
$2\mu^-$ X		
(540)	Arnison 85	ang, mass, pt
(540 – 630)	Albajar 87C	ang, mass, pt
	Albajar 86C	ang, mass, pt
(546 – 630)	Tao 88	cs
	Summers 87	cs
$\mu^- \mu^+$ X + $e^- e^+$ X		
(540 – 630)	Vuillemin 85	–
$\pi^+ \pi^0$ X		
(200 – 900)	Ansorge 88	mass
$\pi^0 \pi^-$ X		
(200 – 900)	Ansorge 88	mass
$2\pi^+$ X		
32.1	Bumazhnov 86	cor, p
1496	Akesson 86F	cor, pt
(200 – 900)	Albajar 89	cor, p
$2\pi^-$ X		
32.1	Bumazhnov 86	cor, p
1496	Akesson 86F	cor, pt
(200 – 900)	Albajar 89	cor, p
$\pi^+ \pi^-$ X		
12 – 22.4	Batyunya 87J	angp, mass
32.1	Bumazhnov 86	cor, p
	Kozlovsky 86	mass, p, pt
(23 – 62.5)	Camilleri 87	p
(200 – 900)	Ansorge 88	mass
(630 – 1800)	Abe 89L	mass
2π X		
22.4	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.

$\bar{p}\,p$

$J/\psi(1S)\,\gamma$ X	?	Rosner 85E	–
$\tau^-\,\tau^+$ X	(540 – 630)	Vuillemin 85	–
mult[γ] mult[charged] X	(900)	Alner 86C	cor, et
B(unspec) $\bar{B}$(unspec) X	(546 – 630)	Tao 88	cs
heavy-lepton$^-$ heavy-lepton$^+$ X	(630)	Dowell 88	–
$2\ell^+$ X	(546 – 630)	Franzini 89	cs, p
		Itep 89	cs, p
$2\ell^-$ X	(546 – 630)	Franzini 89	cs, p
		Itep 89	cs, p
$\ell^+\,\ell^-$ X	(546 – 630)	Franzini 89	cs, p
		Itep 89	cs, p
$B^0\,\bar{B}^0$ X	(546 – 630)	Franzini 89	cs, p
		Itep 89	cs, p
	(630)	Dowell 88	cs
$B_S\,\bar{B}_S$ X	(546 – 630)	Franzini 89	cs, p
		Itep 89	cs, p
$2K^+$ X	1496	Akesson 85B	cor
$2K^-$ X	1496	Akesson 85B	cor
$K_S\,\pi^+$ X	32.1	Babintsev 88	mass
$K_S\,\pi^-$ X	32.1	Babintsev 88	mass
$K^*(892)^+\,K_S$ X + $K^*(892)^-\,K_S$ X	32.1	Babintsev 88	cs
$2K_S$ X	32.1	Bogolyubsky 87C	cs, p, pt
p charged$^-$ X	32.1	Bogolyubsky 88	p
p mult[charged] X	22.4 – 24	Batyunya 90	p
$\bar{p}$ mult[charged] X	(546)	Bernard 85	mult
$p\,\pi^0$ X	32.1	Bogolyubsky 88	p
$p\,\pi^+$ X	32.1	Bogolyubsky 88	p
		Babintsev 85	mass
$p\,\pi^-$ X	32.1	Babintsev 85	mass
	176	Gourlay 86	mass
	(200 – 900)	Ansorge 89B	cs
	(1800)	Turkot 88	mass
$\bar{p}\,\pi^+$ X	176	Gourlay 86	mass
	(1800)	Turkot 88	mass
$p\,\rho^0$ X	32.1	Kozlovsky 86	p, pt
Λ charged$^-$ X	32.1	Bogolyubsky 88	p
Λ mult[charged] X	(1800)	Turkot 88	cor, mult, pt
$\bar{\Lambda}$ mult[charged] X	(1800)	Turkot 88	cor, mult, pt
Λ mult[charged] X + $\bar{\Lambda}$ mult[charged] X	(1800)	Turkot 88	cor, mult, pt

$\bar{p}\,p$

$\Lambda\,\pi^0$ X	32.1	Bogolyubsky 88	p
$\Lambda\,\pi^+$ X	32.1	Bogolyubsky 88	p
$\bar{\Lambda}\,\pi^+$ X	32.1	Bogolyubsky 88	mult, p
$\bar{\Lambda}\,\pi^-$ X	32.1	Bogolyubsky 88	mult, p
$\Lambda\,K^0$ X	32.1	Bogolyubsky 86B	p, pt
$\Lambda\,K^*(892)^+$ X + $\bar{\Lambda}\,K^*(892)^-$ X	32.1	Babintsev 88	cs
$p\,K_S$ X	32.1	Bogolyubsky 88	p
$\Lambda\,K_S$ X	32.1	Bogolyubsky 88	p
		Bogolyubsky 87C	cs, p, pt
$p\,\bar{\Lambda}$ X	32.1	Bogolyubsky 88	mult, p, p
$\Lambda\,\bar{\Lambda}$ X	32.1	Bogolyubsky 88	mult, p, p
		Bogolyubsky 87C	cs, p, pt
		Bogolyubsky 86B	p, pt
2Λ X	32.1	Bogolyubsky 87C	cs, p, pt
$2\bar{\Lambda}$ X	32.1	Bogolyubsky 87C	cs, p, pt
$W^\pm$ charged X	(546 – 630)	Albajar 89B	mult, pt
γ jet X	(630)	Ansari 88B	ang, p, pt
hadron charged X	32.1	Bogolyubsky 88G	angp, mult, p, pt
e^+ jet X	(540 – 630)	Albajar 87E	mass
e^- jet X	(540)	Rubbia 86	mass, p, pt
	(540 – 630)	Albajar 87E	mass
μ^+ jet X	(540 – 630)	Albajar 87E	mass
	(1800)	Skarha 89	pt
μ^- jet X	(540 – 630)	Albajar 87E	mass
$\pi^\pm$ jet X	5.7 – 12	Baldin 85	ang, p
π^- jet X	22.4	Baldin 85	ang, p
ρ^0 jet X	22.4	Baldin 85	ang, p
$J/\psi(1S)$ mult[hadron] X	(630)	Albajar 88E	col, p, pt
$W^\pm$ 0jet X	(546 – 630)	Ruhlmann 88	cs
Z^0 higgs X	(1800)	Abe 89R	-
		Geer 89	pt
Z^0 jet X	(540 – 640)	Stubenrauch 86	angp, et
	(546 – 630)	Tao 88	pt
Z^0 mult[jet] X	(540 – 640)	Stubenrauch 86	mult
	(546 – 630)	Albajar 89B	mult

$\bar{p}\,p$

Z^0 mult[jet] X		Stubenrauch 89	mult
		Tao 88	et, mult
	(1800)	Watts 90	mult
		Kamon 89	mult
ℓ jet X	(546 – 900)	Salvini 88	angp, mass, p, pt
$D^*(2010)^+$ jet X	(630)	Albajar 90D	mult
	(1800)	Abe 89O	mult
$D^*(2010)^-$ jet X	(630)	Albajar 90D	mult
	(1800)	Abe 89O	mult
K_S jet X	22.4	Baldin 85	ang, p
$\Delta(1232\,P_{33})^{++}$ jet X	22.4	Baldin 85	ang, p
Λ jet X	22.4	Baldin 85	ang, p
charm $\overline{\text{charm}}$ X	(630)	Albajar 88C	cs, pt
$\bar{c}\,c$ X	(630)	Fransson 90	cs
		Botner 89	cs
$t\,\bar{b}$ X	(630)	Albajar 90E	cs
	(630 – 1800)	Barbarogalti 89	–
$W^\pm$ higgs X	(1800)	Abe 89R	–
$W^\pm$ jet X	(540 – 630)	Vuillemin 85	–
	(540 – 640)	Stubenrauch 86	angp, et
	(546 – 630)	Albajar 89B	ang, angp, et
		Ansari 88	cs
		Plothowbesch 88	cs
		Ruhlmann 88	cs
		Arnison 85B	angp, cs, mass, pt
	(1800)	Watts 90	pt
		Geer 89	mass, pt
		Kamon 89	pt
$W^\pm$ mult[jet] X	(540 – 640)	Stubenrauch 86	mult
	(546 – 630)	Albajar 89B	mult
		Tao 88	et, mult
		Arnison 85B	mult
	(1800)	Watts 90	mult
		Geer 89	mult
		Kamon 89	mult
W^+ higgs X	(1800)	Geer 89	pt
W^- higgs X	(1800)	Geer 89	pt
W^+ jet X	(546 – 630)	Stubenrauch 89	ang
W^- jet X	(546 – 630)	Stubenrauch 89	ang
W^+ mult[jet] X	(546 – 630)	Stubenrauch 89	mult
		Levi 85	angp, p, pt
W^- mult[jet] X	(546 – 630)	Stubenrauch 89	mult
		Levi 85	angp, p, pt
(jets) jet X	(540)	Hanni 85	cs, pt
bottom $\overline{\text{bottom}}$ X	(540)	Arnison 85	cs
	(540 – 630)	Albajar 87C	–
		Albajar 86C	angp, cs, pt

$\bar{p}\,p$

bottom $\overline{\text{bottom}}$ X		
(546 – 630)	Summers 87	cs
(630)	Albajar 88C	cs, pt
	Albajar 88D	cs, p, pt
	Dowell 88	cs
gluino X $\tilde{q}$		
(546 – 630)	Plothowbesch 88	cs
(630)	Alitti 89	–
$\bar{t}\,t$ X		
(630)	Albajar 90E	cs
(630 – 1800)	Barbarogalti 89	–
(1800)	Tonelli 89	–
X $\bar{\tilde{q}}\,\tilde{q}$		
(630)	Alitti 89	–
X 2$\tilde{q}$		
(546 – 630)	Plothowbesch 88	cs
2gluino X		
(546 – 630)	Plothowbesch 88	cs
(630)	Alitti 89	–
2jet X		
(200 – 900)	Albajar 8[illegible]	ang, et
(540 – 630)	Tao 88	ang
	Reya 85B	–
(546)	Arnison 86D	mult, p, pt
	Arnison 85C	angp, p
(546 – 630)	Sphicas 88	angp, mass, p, pt
	Tao 88	et
	Ansari 87D	pt
(546 – 900)	Salvini 88	angp, mass, p, pt
(630)	Alitti 90D	angp, mass
	Jenni 89	angp
	Meier 89	angp, col, mass
	Albajar 88H	angp, mass
	Albajar 87D	et
	Ansari 87B	mass
	Arnison 86B	angp, mass
	Appel 85	pt
	Appel 85B	et
	Appel 85C	angp, pt
(1800)	Abe 90B	–
	Abe 89N	angp
	Abe 89S	mass
	Geer 89	ang, mass, pt
	Hubbard 89B	et, p, pt
	Tonelli 89	ang
	Abe 89D	angp, cs, p, pt
$\pi^+\,\pi^-$ (neutrals)		
1.25 – 1.55	Sculli 87	cs, mass
5.7 – 22.4	Batyunya 85B	ang, mass
ρ^0 neutral (neutrals)		
5.7 – 22.4	Batyunya 85B	amp
$K^+\,K^-$ (neutrals)		
1.25 – 1.55	Sculli 87	cs, mass
γ mult[charged] (neutrals)		
12	Chakrabarti 85	cs
32.1	Bogolyubsky 88E	cs, mult
(200 – 900)	Ansorge 89	cor, mult
π^0 mult[charged] (neutrals)		
4.6	Sedlak 88	mult
π^+ mult[charged] (neutrals)		
32.1	Bogolyubsky 88	p
ρ^0 mult[charged] (neutrals)		
32.1	Kozlovsky 86	cs, mult
$f_2(1270)$ mult[charged] (neutrals)		
32.1	Kozlovsky 86	cs, mult
mult[γ] mult[charged] (neutrals)		
12	Chakrabarti 85	cor, mult

$\bar{p}\,p$

K_S mult[charged] (neutrals)		
22.4	Batyunya 85	cs
32.1	Bogolyubsky 87C	cs, mult, p
$K^*(892)^\pm$ mult[charged] (neutrals) + $K^*(892)^-$ mult[charged] (neutrals)		
32.1	Babintsev 88	cs, mult
p mult[charged] (neutrals)		
24	Batyunya 89	cs, p
(630)	Bonino 88	angp, et, p
$\bar{p}$ charged$^+$ (neutrals)		
32.1	Bogolyubsky 89B	mult, p
$\bar{p}$ mult[charged] (neutrals)		
32.1	Bogolyubsky 89B	angp, mult, p, p
	Bogolyubsky 87	cs
Λ mult[charged] (neutrals)		
22.4	Batyunya 85	cs
(1800)	Banerjee 89	p, pt
$\overline{\Lambda}$ mult[charged] (neutrals)		
22.4	Batyunya 85	cs
(1800)	Banerjee 89	p, pt
$\Sigma(1385\,P_{13})^+$ mult[charged] (neutrals)		
32.1	Babintsev 86	cs, mult
$W^\pm$ mult[charged] (neutrals)		
(546 – 630)	Appel 86	mult
annihil mult[charged] (neutrals)		
32.1	Bogolyubsky 87E	mult
$e^-\,e^+\,\gamma$		
5.51 – 29.02	Baglin 86	mass, p
$\pi^+\,\pi^0\,\pi^-$		
1.449 – 4.289	Sedlak 88	cs
?	Sedlak 88	cs
$\eta\,\pi^+\,\pi^-$		
?	Sedlak 88	cs
$\rho^0\,\pi^+\,\pi^-$		
1 – 8	Sedlak 88	cs
?	Sedlak 88	cs
$\omega\,\pi^+\,\pi^-$		
0.7 – 7.2	Sedlak 88	cs
1 – 8	Sedlak 88	cs
?	Sedlak 88	cs
$\eta(1295)\,2\pi$		
0	Toki 88B	–
$f_1(1285)\,\pi^+\,\pi^-$		
?	Duch 89	–
$\eta(1440)\,\pi^+\,\pi^-$		
?	Duch 89	–
$\eta(1440)\,2\pi$		
0	Toki 88B	–
baryonium γ (γ's)		
0	May 89	p
$\rho^0\,\pi^0$ mult[$\pi^\pm$]		
9.1	Sedlak 88	cs, mult
$K^+\,K_S\,\pi^- + K_S\,K^-\,\pi^+$		
0.3014 – 1.914	Sedlak 88	cs
5.7	Sedlak 88	cs
$2K_S\,\pi^0$		
0.3014 – 1.914	Sedlak 88	cs
5.7	Sedlak 88	cs
$p\,\bar{p}\,\pi^0$		
22.4	Batyunya 86	cs
$n\,\bar{p}\,\pi^+$		
22.4	Batyunya 86	cs
$p\,\bar{n}\,\pi^-$		
22.4	Kanazirski 89	ang, cs
	Batyunya 86	cs
$\bar{p}\,\Delta(1232\,P_{33})^{++}\,\pi^-$		
22.4	Batyunya 86C	angp, cs

$\bar{p}\,p$

$p\,\overline{\Delta}(1232\,P_{33})^{--}\,\pi^+$		
22.4	Batyunya 86C	angp, cs
$p\,\bar{p}\,\rho^0$		
22.4	Batyunya 87F	angp, cs, cs
$p\,\bar{p}\,\omega$		
22.4	Batyunya 87E	angp, cs
	Batyunya 86D	cs
$\bar{p}\,\Delta(1950\,B)^{++}\,\pi^-$		
22.1	Batyunya 86C	angp, cs
$p\,\overline{\Delta}(1950\,B)^{--}\,\pi^+$		
22.4	Batyunya 86C	angp, cs
$\bar{p}\,\Lambda\,K^+$		
32.1	Bogolyubsky 86C	cs
$2\pi^+$ annihil		
101	Sedlak 88	p
$\pi^+\,\pi^-$ annihil		
12	Sedlak 88	p
$DD < \pi^+\,\pi^- > p\,\bar{p}$		
22.4	Kanazirski 87	cs, mass, p
$W^\pm$ (jets) jet		
(630)	Repellin 87	mass, p, pt
(jets) 2jet		
(540)	Savoynavarro 85	–
(630)	Ansari 87	p, pt
2hadron (hadrons)		
(200 – 900)	Albajar 88	et
(546 – 630)	Sphicas 88	angp, col, pt
(630)	Albajar 87D	angp, et, p
(1800)	Albrow 88	et
3jet		
(540)	Savoynavarro 85	–
$\mu^-\,\mu^+\,\gamma$ X + $e^-\,e^+\,\gamma$ X		
(540 – 630)	Vuillemin 85	–
$\pi^+\,\pi^0\,\pi^-$ X		
12	Chakrabarti 85	mass
$2\pi^+\,\pi^-$ X		
(200 – 900)	Ansorge 88	mass
$\pi^+\,2\pi^-$ X		
(200 – 900)	Ansorge 88	mass
$\pi^0\,\pi^\pm$ (π^0's) X		
(540)	Savoynavarro 85	–
$K^+\,K_S\,\pi^-$ X		
6.6	Reeves 86	mass, pwa
$3K_S$ X		
32.1	Bogolyubsky 87C	cs, p, pt
$p\,2\pi^-$ X		
(200 – 900)	Ansorge 89B	cs
$\Lambda\,2K_S$ X		
32.1	Bogolyubsky 87C	cs, p, pt
$\overline{\Lambda}\,2K_S$ X		
32.1	Bogolyubsky 87C	cs, p, pt
$\Lambda\,\overline{\Lambda}\,K_S$ X		
32.1	Bogolyubsky 87C	cs, p, pt
$\Lambda\,2\overline{\Lambda}$ X		
32.1	Bogolyubsky 87C	cs, p, pt
$2\Lambda\,\overline{\Lambda}$ X		
32.1	Bogolyubsky 87C	cs, p, pt
mult[p] 2charged X		
200	Derado 88	a-dep, cor, mult, p
$\mu^-\,\mu^+$ mult[jet] X		
(546 – 630)	Summers 87	–

$\bar{p}\,p$

DD p 2X			
	32.1	Bogolyubsky 87	cs
ν (jets) jet X			
	(546 – 630)	Appel 86	pt
e^+ (jets) jet X			
	(630)	Albajar 88G	cor, et, pt
e^- (jets) jet X			
	(630)	Albajar 88G	cor, et, pt
μ^+ (jets) jet X			
	(630)	Albajar 88F	et, pt
		Albajar 88G	cor, et, pt
μ^- (jets) jet X			
	(630)	Albajar 88F	et, pt
		Albajar 88G	cor, et, pt
Z^0 (jets) jet X			
	(546 – 630)	Appel 86	pt
$W^\pm$ (jets) jet X			
	(540 – 630)	Vuillemin 85	–
	(546 – 630)	Appel 86	mass, pt
$W^\pm$ 2jet X			
	(546 – 630)	Ruhlmann 88	cs
	(1800)	Watts 90	pt
		Geer 89	mass, pt
		Kamon 89	pt
W^+ (jets) jet X			
	(546 – 630)	Ansari 87C	et, mass
W^- (jets) jet X			
	(546 – 630)	Ansari 87C	et, mass
W^+ 2jet X			
	(540 – 630)	Albajar 87E	cor, mass, pt
	?	Sphicas 88	mass, pt
W^- 2jet X			
	(540 – 630)	Albajar 87E	cor, mass, pt
	?	Sphicas 88	mass, pt
3jet X			
	(540 – 630)	Tao 88	ang
		Reya 85B	–
	(546)	Arnison 85C	ang, angp, p
	(546 – 630)	Sphicas 88	mass, p
		Ansari 87D	pt
	(630)	Appel 85C	ang, angp, mass, p, pt
$\rho^0\ \pi^+\ \pi^-$ (neutrals)			
	5.7	Sedlak 88	amp
		Batyunya 87J	angp, pol
neutral (neutrals) 2jet			
	(546 – 630)	Albajar 87B	ang, et
π^0 mult[charged] neutral (neutrals)			
	32.1	Bogolyubsky 88	p
$2\pi^+$ mult[charged] (neutrals)			
	32.1	Bumazhnov 86	cor, p
$2\pi^-$ mult[charged] (neutrals)			
	32.1	Bumazhnov 86	cor, p
$\pi^+\ \pi^-$ mult[charged] (neutrals)			
	32.1	Bumazhnov 86	cor, p
K_S mult[charged] neutral (neutrals)			
	32.1	Bogolyubsky 88	p
$K_S\ \pi^+$ mult[charged] (neutrals)			
	32.1	Babintsev 88	mass
$K_S\ \pi^-$ mult[charged] (neutrals)			
	32.1	Babintsev 83	mass
$2K_S$ mult[charged] (neutrals)			
	32.1	Bogolyubsky 87C	cs, mult, p
$\bar{p}\ \pi^0$ mult[charged] (neutrals)			
	32.1	Bogolyubsky 89B	cs, mult

$\bar{p}\,p$

$p\ \pi^+$ mult[charged] (neutrals)			
	24	Batyunya 89	p, pt
$p\ \pi^-$ mult[charged] (neutrals)			
	24	Batyunya 89	p, pt
$\overline{\Lambda}$ mult[charged] neutral (neutrals)			
	32.1	Bogolyubsky 88	mult, p, p
$\bar{p}\ K^0$ mult[charged] (neutrals)			
	32.1	Bogolyubsky 89B	mult, p
$\Lambda\ K_S$ mult[charged] (neutrals)			
	32.1	Bogolyubsky 87C	cs, mult, p
$p\ \bar{p}$ mult[charged] (neutrals)			
	32.1	Chekulaev 88B	angp, mass, mult, p
$\bar{p}\ \Lambda$ mult[charged] (neutrals)			
	32.1	Bogolyubsky 89B	mult, p
$W^\pm$ mult[charged] (neutrals) 0jet			
	(546 – 630)	Appel 86	mult
$2\pi^+\ 2\pi^-$			
	0	Doser 88	mass
	1.2 – 9.2	Sedlak 88	angp
	1.449 – 4.289	Sedlak 88	cs
	4.6 – 12	Markytan 89	col, pt
	5.7	Sedlak 88	col, p
	9	Sedlak 88	col
	32.1	Sedlak 88	cs
		Bogolyubsky 86C	cs
		Bogolyubsky 86D	col
	?	Sedlak 88	cs
4π			
	0.3014 – 2.793	Sedlak 88	cs
	4.6	Sedlak 88	pt
$\rho^0\ \pi^+\ \pi^0\ \pi^-$			
	1 – 8	Sedlak 88	cs
	?	Sedlak 88	cs
$\rho^+\ \pi^+\ 2\pi^- + \rho^-\ 2\pi^+\ \pi^-$			
	?	Sedlak 88	cs
$f_2(1270)\ \pi^+\ \pi^0\ \pi^-$			
	1 – 8	Sedlak 88	cs
$\pi^+\ \pi^0\ \pi^-$ (π^0's)			
	?	Sedlak 88	cs
$2K^+\ 2K^-$			
	3.742	Baglin 89C	mass
π^0 exotic-meson γ (γ's)			
	0	May 89	p
$K^+\ K_S\ \pi^0\ \pi^- + K_S\ K^-\ \pi^+\ \pi^0$			
	5.7	Sedlak 88	cs
$K_S\ K_L\ \pi^+\ \pi^-$			
	5.7	Sedlak 88	cs
$2K_S\ \pi^+\ \pi^-$			
	5.7	Sedlak 88	cs
$p\ \bar{p}\ \pi^+\ \pi^-$			
	1.435 – 1.45	Barnes 89	mass
	1.476 – 1.507	Barnes 89B	mass
	1.546	Barnes 87B	mass
	4.6 – 12	Markytan 89	col, pt
	9	Sedlak 88	col
	22.4	Batyunya 87F	angp, cs, mass
		Kanazirski 87	cs, mass, p
		Batyunya 86C	cs, mass
	32.1	Bogolyubsky 86C	cs
		Bogolyubsky 86G	cor, p, pt
	(62)	Breakstone 86B	angp, mass
$\bar{p}\ \Delta(1232\,P_{33})^{++}\ \pi^0\ \pi^-$			
	22.4	Batyunya 87E	angp, cs
		Batyunya 86D	cs

$\bar{p}\,p$

$p\ \overline{\Delta}(1232\,P_{33})^{--}\ \pi^+\ \pi^0$			
	22.4	Batyunya 87E	angp, cs
$\bar{p}\ N^*_{5/2}(1480)^{+++}\ 2\pi^-$			
	32.1	Bogolyubsky 86E	cs
$p\ \bar{p}\ \rho^0\ \pi^0$			
	22.4	Batyunya 86D	cs
$p\ \bar{p}\ \rho^+\ \pi^-$			
	22.4	Batyunya 87E	angp, cs
$p\ \bar{p}\ \rho^-\ \pi^+$			
	22.4	Batyunya 87E	angp, cs
$p\ \bar{p}\ \rho^+\ \pi^- + p\ \bar{p}\ \rho^-\ \pi^+$			
	22.4	Batyunya 86D	cs
$\Lambda\ \overline{\Lambda}\ \pi^+\ \pi^-$			
	32.1	Bogolyubsky 86C	cs
$\bar{p}\ \Lambda\ K^0\ \pi^+$			
	32.1	Bogolyubsky 86C	cs
$p\ \bar{p}\ K^+\ K^-$			
	32.1	Bogolyubsky 86C	cs
$p\ \bar{p}\ K^0\ \overline{K}^0$			
	32.1	Bogolyubsky 86C	cs
$2p\ 2\bar{p}$			
	32.1	Bogolyubsky 86C	cs
$\mu^-\ \mu^+$ (jets) jet			
	(630)	Albajar 88C	mass, pt
$e^\pm$ (jets) 2jet			
	(1800)	Sinervo 89	et, mass
Z^0 2hadron (hadrons)			
	(546 – 630)	Ansari 87C	et, pt
W^+ 2hadron (hadrons)			
	(546 – 630)	Ansari 87C	et, pt
W^- 2hadron (hadrons)			
	(546 – 630)	Ansari 87C	et, pt
$2\pi^+\ 2\pi^-$ X			
	5.7	Sedlak 88	p
$\Lambda\ \overline{\Lambda}\ 2K_S$ X			
	32.1	Bogolyubsky 87C	cs, p, pt
2γ 2jet X			
	(546 – 630)	Ansari 87D	mass, pt
$W^\pm$ (jets) 2jet X			
	(1800)	Kamon 89	mass
4jet X			
	(546 – 630)	Sphicas 88	mass, p
		Ansari 87D	pt
	(630)	Meier 89	col, mass
$2\pi^+\ 2\pi^-$ (neutrals)			
	5.7	Batyunya 87J	angp, mass
	5.7 – 22.4	Batyunya 85B	ang, mass
$e^\pm$ neutral (neutrals) (jets) jet			
	(630)	Akesson 90C	p
$W^\pm$ charged (chargeds) (neutrals) 0jet			
	(546 – 630)	Appel 86	pt
$\pi^+\ \pi^0\ \pi^-\ \gamma$ (γ's)			
	0	May 89	mass, p
$2\pi^+\ \pi^0\ 2\pi^-$			
	< 0.7	Sedlak 88	p
	1.449 – 4.289	Sedlak 88	cs
	4.6 – 12	Markytan 89	col, pt
	5.7	Sedlak 88	p
	32.1	Sedlak 88	cs
		Bogolyubsky 86C	cs
		Bogolyubsky 86D	col
	?	Sedlak 88	cs
5π			
	0.3014 – 2.793	Sedlak 88	cs
	4.6	Sedlak 88	pt

$\bar{p}\, p$

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

$\bar{p}\, p$

$K^+\ K_S\ \pi^+\ \pi^0\ 2\pi^- + K_S\ K^-\ 2\pi^+\ \pi^{(}\ \pi^-$		
$+$		
$K^0\ K_S\ 2\pi^+\ \pi^0\ 2\pi^-$		
12	Sedlak 88	angp
$K^+\ K_S\ \pi^+\ \pi^0\ 2\pi^- + K_S\ K^-\ 2\pi^+\ \pi^0\ \pi^-$		
5.7	Sedlak 88	cs
$K_S\ K_L\ 2\pi^+\ 2\pi^-$		
5.7	Sedlak 88	cs
$2K_S\ 2\pi^+\ 2\pi^-$		
0.76	Sedlak 88	p
5.7	Sedlak 88	cs
$p\ \bar{p}\ 2\pi^+\ 2\pi^-$		
4.6 – 12	Markytan 89	col, pt
9	Sedlak 88	col
22.4	Boos 89	angp, asym, cs, mass, p
32.1	Bogolyubsky 86C	cs
	Bogolyubsky 86D	col
	Bogolyubsky 86E	ang, cs, mass, p
	Bogolyubsky 86G	cor, p, pt
$\bar{p}\ \Delta(1232\,P_{33})^{++}\ \pi^+\ \pi^0\ 2\pi^-$		
22.4	Boos 89	cs
$\bar{n}\ \Delta(1232\,P_{33})^{++}\ \pi^+\ 3\pi^-$		
22.4	Boos 89	cs
$\Lambda\ \overline{\Lambda}\ 2\pi^+\ 2\pi^-$		
32.1	Bogolyubsky 86C	cs
$\bar{p}\ \Lambda\ K^0\ 2\pi^+\ \pi^-$		
32.1	Bogolyubsky 86C	cs
$p\ \bar{p}\ K^0\ \overline{K}^0\ \pi^+\ \pi^-$		
32.1	Bogolyubsky 86C	cs
$2p\ 2\bar{p}\ \pi^+\ \pi^-$		
32.1	Bogolyubsky 86C	cs
2γ 4jet X		
(546 – 630)	Ansari 87D	mass, pt
6jet X		
(546 – 630)	Ansari 87D	pt
$3\pi^+\ \pi^0\ 3\pi^-$		
1.449 – 4.289	Sedlak 88	cs
4.6 – 12	Markytan 89	col, pt
32.1	Sedlak 88	cs
	Bogolyubsky 86C	cs
	Bogolyubsky 86D	angp, col
?	Sedlak 88	cs
7π		
4.6	Sedlak 88	pt
$\rho^0\ 3\pi^+\ 3\pi^-$		
1 – 8	Sedlak 88	cs
$2\pi^+\ 2\pi^0\ 2\pi^-\ (\pi^0\text{'s})$		
?	Sedlak 88	cs
$K^+\ \overline{K}^0\ 2\pi^+\ 3\pi^- + K^0\ K^-\ 3\pi^+\ 2\pi^-$		
32.1	Bogolyubsky 86C	cs
$K^+\ K_S\ 2\pi^+\ 3\pi^- + K_S\ K^-\ 3\pi^+\ 2\pi^-$		
12	Sedlak 88	cs
$2K_S\ 2\pi^+\ \pi^0\ 2\pi^-$		
5.7	Sedlak 88	cs
$p\ \bar{p}\ 2\pi^+\ \pi^0\ 2\pi^-$		
22.4	Boos 89	angp, asym, cs, mass, p
$n\ \bar{p}\ 3\pi^+\ 2\pi^-$		
22.4	Boos 89	cs
$p\ \bar{n}\ 2\pi^+\ 3\pi^-$		
22.4	Boos 89	angp, asym, cs, mass, p
$\bar{p}\ \Lambda\ K^+\ 2\pi^+\ 2\pi^-$		
32.1	Bogolyubsky 86C	cs
$p\ \bar{p}\ K^+\ \overline{K}^0\ \pi^+\ 2\pi^-\ +$		
$p\ \bar{p}\ K^0\ K^-\ 2\pi^+\ \pi^-$		
32.1	Bogolyubsky 86C	cs

$\bar{p}\, p$

2γ 5jet X		
(546 – 630)	Ansari 87D	mass, pt
$4\pi^+\ 4\pi^-$		
1.449 – 4.289	Sedlak 88	cs
4.6 – 12	Markytan 89	col, pt
32.1	Sedlak 88	cs
	Bogolyubsky 86C	cs
8π		
4.6	Sedlak 88	pt
$K^+\ K_S\ 2\pi^+\ \pi^0\ 3\pi^- + K^0\ K_S\ 3\pi^+\ 3\pi^-\ +$		
$K_S\ K^-\ 3\pi^+\ \pi^0\ 2\pi^-$		
12	Sedlak 88	col, cs
$K^+\ K_S\ 2\pi^+\ \pi^0\ 3\pi^- + K_S\ K^-\ 3\pi^+\ \pi^0\ 2\pi^-$		
$+$		
$K^0\ K_S\ 3\pi^+\ \pi^0\ 3\pi^-$		
12	Sedlak 88	angp
$p\ \bar{p}\ 3\pi^+\ 3\pi^-$		
4.6 – 12	Markytan 89	col, pt
32.1	Bogolyubsky 86C	cs
	Bogolyubsky 86D	col
	Bogolyubsky 86G	cor, p, pt
$\Lambda\ \overline{\Lambda}\ 3\pi^+\ 3\pi^-$		
32.1	Bogolyubsky 86C	cs
$\bar{p}\ \Lambda\ K^0\ 3\pi^+\ 2\pi^-$		
32.1	Bogolyubsky 86C	cs
$p\ \bar{p}\ K^0\ \overline{K}^0\ 2\pi^+\ 2\pi^-$		
32.1	Bogolyubsky 86C	cs
2γ 6jet X		
(546 – 630)	Ansari 87D	mass, pt
$4\pi^+\ \pi^0\ 4\pi^-$		
1.449 – 4.289	Sedlak 88	cs
4.6 – 12	Markytan 89	col, pt
32.1	Sedlak 88	cs
	Bogolyubsky 86C	cs
	Bogolyubsky 86D	angp, col
9π		
4.6	Sedlak 88	pt
$3\pi^+\ 2\pi^0\ 3\pi^-\ (\pi^0\text{'s})$		
?	Sedlak 88	cs
$K^+\ \overline{K}^0\ 3\pi^+\ 4\pi^- + K^0\ K^-\ 4\pi^+\ 3\pi^-$		
32.1	Bogolyubsky 86C	cs
$\bar{p}\ \Lambda\ K^+\ 3\pi^+\ 3\pi^-$		
32.1	Bogolyubsky 86C	cs
$p\ \bar{p}\ K^+\ \overline{K}^0\ 2\pi^+\ 3\pi^-\ +$		
$p\ \bar{p}\ K^0\ K^-\ 3\pi^+\ 2\pi^-$		
32.1	Bogolyubsky 86C	cs
$5\pi^+\ 5\pi^-$		
1.449 – 4.289	Sedlak 88	cs
32.1	Sedlak 88	cs
	Bogolyubsky 86C	cs
	Bogolyubsky 86D	col
$p\ \bar{p}\ 4\pi^+\ 4\pi^-$		
32.1	Bogolyubsky 86C	cs
	Bogolyubsky 86D	col
	Bogolyubsky 86G	cor, p, pt
$5\pi^+\ \pi^0\ 5\pi^-$		
1.449 – 4.289	Sedlak 88	cs
32.1	Sedlak 88	cs
	Bogolyubsky 86C	cs
	Bogolyubsky 86D	col
$K^+\ \overline{K}^0\ 4\pi^+\ 5\pi^- + K^0\ K^-\ 5\pi^+\ 4\pi^-$		
32.1	Bogolyubsky 86C	cs
$p\ \bar{p}\ K^+\ \overline{K}^0\ 3\pi^+\ 4\pi^-\ +$		
$p\ \bar{p}\ K^0\ K^-\ 4\pi^+\ 3\pi^-$		
32.1	Bogolyubsky 86C	cs
$6\pi^+\ 6\pi^-$		
32.1	Sedlak 88	cs
	Bogolyubsky 86C	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.

$\bar{p}\, p$

$p\, \bar{p}\, 5\pi^+\, 5\pi^-$	32.1	Bogolyubsky 86C	cs
$6\pi^+\, \pi^0\, 6\pi^-$	32.1	Sedlak 88	cs
		Bogolyubsky 86C	cs
		Bogolyubsky 86D	col
$p\, \bar{p}\, 6\pi^+\, 6\pi^-$	32.1	Bogolyubsky 86C	cs

$\bar{p}\, n$

mult$[\pi^\pm]$	5.6	Sedlak 88	cs
π^0 mult$[\pi^\pm]$	5.6	Sedlak 88	cs
ρ^- baryonium	0	Daftari 87	–
ρ^0 mult$[\pi^\pm]$	9.1	Sedlak 88	cs, mult
ω mult$[\pi^\pm]$	9.1	Sedlak 88	cs, mult
π^- meson^0	?	Bridges 86C	–
		Bridges 86D	–
ρ^- meson^0	0	Daftari 87	–
K_L exotic-meson	8.9	Shoemaker 88	–
$\pi^+\, 2\pi^-$	0.45 – 0.97	Sedlak 88	cs
	< 0.65	Bridges 86C	mass, p
	9.2	Sedlak 88	cs
$a_2(1320)^-\, \pi^+\, \pi^-$	0	Bridges 86D	mass, p
$2\rho^0\, \pi^-$	0	Bridges 86D	mass, p
$\rho^0\, \pi^0$ mult$[\pi^\pm]$	9.1	Sedlak 88	cs, mult
$n\, \bar{\Sigma}^-\, K_L$	8.9	Shoemaker 88	cs, mass
$\pi^+\, \pi^0\, 2\pi^-$	0	Daftari 87	mass
	0.45 – 0.97	Sedlak 88	cs
	< 0.65	Bridges 86C	mass, p
	9.2	Sedlak 88	cs
$\rho^0\, \pi^+\, 2\pi^-$	0	Bridges 86D	mass, p
	4.33 – 9.2	Sedlak 88	mult
	?	Bridges 86D	–
$\omega\, \pi^+\, 2\pi^-$	4.33 – 9.2	Sedlak 88	mult
$n\, \bar{\Lambda}\, K_L\, \pi^-$	8.9	Shoemaker 88	cs, mass
$p\, \bar{\Sigma}^-\, K_L\, \pi^-$	8.9	Shoemaker 88	cs, mass
$2\pi^+\, 3\pi^-$	0	Bridges 86D	mass, p
	0.45 – 0.97	Sedlak 88	cs
	< 0.65	Bridges 86C	mass, p
	9.2	Sedlak 88	cs
$\rho^0\, \pi^+\, \pi^0\, 2\pi^-$	4.33 – 9.2	Sedlak 88	mult
$\pi^+\, \pi^0\, 2\pi^-$ (π^0's)	0.45 – 0.97	Sedlak 88	cs
$p\, \bar{\Lambda}\, K_L\, 2\pi^-$	8.9	Shoemaker 88	cs, mass
$n\, \bar{\Sigma}^-\, K_L\, \pi^+\, \pi^-$	8.9	Shoemaker 88	cs, mass
$n\, \bar{\Sigma}^+\, K_L\, 2\pi^-$	8.9	Shoemaker 88	cs, mass
$2\pi^+\, \pi^0\, 3\pi^-$	0.45 – 0.97	Sedlak 88	cs

$\bar{p}\, n$

$2\pi^+\, \pi^0\, 3\pi^-$	9.2	Sedlak 88	cs
$\rho^0\, 2\pi^+\, 3\pi^-$	4.33 – 9.2	Sedlak 88	mult
$\omega\, 2\pi^+\, 3\pi^-$	4.33 – 9.2	Sedlak 88	mult
$2\pi^+\, 3\pi^-$ neutral (neutrals)	9.2	Sedlak 88	cs
$3\pi^+\, 4\pi^-$	9.2	Sedlak 88	cs
$\rho^0\, 2\pi^+\, \pi^0\, 3\pi^-$	4.33 – 9.2	Sedlak 88	mult
$2\pi^+\, \pi^0\, 3\pi^-$ (π^0's)	0.45 – 0.97	Sedlak 88	cs
$3\pi^+\, \pi^0\, 4\pi^-$	9.2	Sedlak 88	cs
$3\pi^+\, 4\pi^-$ neutral (neutrals)	9.2	Sedlak 88	cs
$4\pi^+\, 5\pi^-$	9.2	Sedlak 88	cs
$4\pi^+\, \pi^0\, 5\pi^-$	9.2	Sedlak 88	cs
$4\pi^+\, 5\pi^-$ neutral (neutrals)	9.2	Sedlak 88	cs

$\bar{p}$ nucleon

$\overline{N}N(I=0)$	1 – 3	Sapozhnikov 86	cs
$\overline{N}N(I=1)$	1 – 3	Sapozhnikov 86	cs

$\bar{p}$ deuteron

X	0.2 – 0.6	Sedlak 88	cs
γ X	0	Gorringe 85	mult, p
π^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
Λ X	0.45 – 0.921	Parkin 86	angp, cs
	< 2.9	Tosello 89	cs, mult
$\bar{\Lambda}$ X	< 2.9	Tosello 89	cs, mult
$p\, \rho^-$	0	Angelopoulos 88B	p
$\pi^+\, \pi^-$ X	0.45 – 0.921	Parkin 86	mass
$p\, \pi^-$ X	0.45 – 0.921	Parkin 86	mass
	< 0.65	Liu 88	mass, p
		Bridges 86	p
p(spect) K_L X	8.9	Shoemaker 88	p
$p\, \pi^0\, \pi^-$	0	Angelopoulos 88B	p
p(spect) $\pi^0\, \pi^-$	0	Bridges 86B	angp, p
	?	Sedlak 88	cs, cs
n(spect) $\pi^+\, \pi^-$	0	Bridges 86B	angp, p
	?	Sedlak 88	cs
$n\, \pi^+\, \pi^-$	0	Angelopoulos 88B	p
p(spect) $\eta\, \pi^-$	?	Sedlak 88	cs
p(spect) $\rho^0\, \pi^-$	?	Sedlak 88	cs

$\bar{p}$ deuteron

$n\, \rho^+\, \pi^- + n\, \rho^0\, \pi^0 + n\, \rho^-\, \pi^+$	0	Angelopoulos 88B	p
p(spect) $\omega\, \pi^-$	?	Sedlak 88	cs
p(spect) $f_2(1270)\, \pi^-$	?	Sedlak 88	cs
p(spect) $a_2(1320)^0\, \pi^-$ + p(spect) $a_2(1320)^-\, \pi^0$	?	Sedlak 88	cs
$p\, \pi^-$ baryonium	< 0.65	Liu 88	mass, p
		Bridges 86	p
n(spect) $K_S\, K_L$	?	Sedlak 88	cs
$p\, K\, \overline{K}$ X	0.5708	Guaraldo 89	p
$n\, \pi^+\, \pi^0\, \pi^-$	0	Angelopoulos 88B	p
p(spect) $\pi^+\, 2\pi^-$	< 0.65	Bridges 86C	mass, p
	?	Sedlak 88	cs, p
p(spect) $\rho^0\, \pi^0\, \pi^-$	?	Sedlak 88	cs
p(spect) $\rho^+\, 2\pi^-$	?	Sedlak 88	cs
p(spect) $\rho^-\, \pi^+\, \pi^-$	?	Sedlak 88	cs
p(spect) $\pi^0\, \pi^-$ (π^0's)	?	Sedlak 88	cs
$p\, K\, \overline{K}\, \pi$	1 – 3	Guaraldo 89B	p
p(spect) $K\, \overline{K}\, \pi$	?	Sedlak 88	p
$2p\, \bar{p}\, \pi^-$	1.6 – 2	Guaraldo 89B	p
	2.358 – 2.784	Guaraldo 89	p
p(spect) $\pi^+\, \pi^0\, 2\pi^-$	< 0.65	Bridges 86C	mass, p
	?	Sedlak 88	cs, p
p(spect) $\pi^+\, 2\pi^-$ (π^0's)	?	Sedlak 88	cs
$p\, 2\pi^+\, 3\pi^-$	2.358 – 2.784	Guaraldo 89	p
p(spect) $2\pi^+\, 3\pi^-$	0	Bridges 86D	mass, p
	< 0.65	Bridges 86C	mass, p
	?	Sedlak 88	cs, p
p(spect) $\omega\, \pi^+\, \pi^0\, 2\pi^-$	?	Sedlak 88	cs
p(spect) $2\pi^+\, \pi^0\, 3\pi^-$	?	Sedlak 88	cs, p
p(spect) $2\pi^+\, 3\pi^-$ (π^0's)	?	Sedlak 88	cs
p(spect) $3\pi^+\, \pi^0\, 4\pi^-$ (π^0's)	?	Sedlak 88	cs

$\bar{p}\, {}^3$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

$\bar{p}\, {}^4$He

X	0.04 – 0.05	Balestra 89B	cs

$\bar{p}\,^4$He

X		
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
Λ **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}**He** $\bar{p}$		
0.6077	Batusov 88	amp, angp, cs
2K_S **X**		
0.6077	Batusov 89C	cs
Λ K_S **X**		
0.6077	Batusov 89C	cs
^{3}**H** p $\bar{p}$ **+ 2deuteron** $\bar{p}$ **+ deuteron** p n $\bar{p}$ **+**		
2p **2**n $\bar{p}$		
0.6	Balestra 87	cs
^{3}**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}**He X**		
0.1928 – 0.3062	Balestra 85	cs
0.6084	Balestra 84	cs
^{3}**H X**		
0.6084	Balestra 84	cs
vee X		
0.1928 – 0.3062	Balestra 85	cs

$\bar{p}\,^6$Li

p **X**		
0.6	Garreta 85	p

$\bar{p}$ Li

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
p **X**		
40	Boos 87	mult
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
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

$\bar{p}\,^7$Li

X		
0.18	Sedlak 88	cs

$\bar{p}\,^9$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**		
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**		
120	Bailey 85B	cs, p
μ^- μ^+ **X**		
125	Katsanevas 87	a-dep, mass
ϕ π^+ **X**		
100	Dijkstra 86C	mass
ϕ π^- **X**		
100	Dijkstra 86C	mass
K^+ ϕ **X**		
100	Dijkstra 86C	mass
K^- ϕ **X**		
100	Dijkstra 86C	mass

$\bar{p}$ Be

K^+ K^- **X**		
100	Dijkstra 86	ang, dme, mass
K_S ϕ **X**		
100	Dijkstra 86C	mass
p ϕ **X**		
100	Dijkstra 86C	mass
$\bar{p}$ ϕ **X**		
100	Dijkstra 86C	mass
K^+ K^- π^+ **X**		
100	Dijkstra 86C	mass
K^+ K^- π^- **X**		
100	Dijkstra 86C	mass
K^+ **2**K^- **X**		
100	Dijkstra 86C	mass
2K^+ K^- **X**		
100	Dijkstra 86C	mass
K^+ K_S K^- **X**		
100	Dijkstra 86C	mass
p K^+ K^- **X**		
100	Dijkstra 86C	mass
$\bar{p}$ K^+ K^- **X**		
100	Dijkstra 86C	mass

$\bar{p}\,^{12}$C

X		
0.18	Sedlak 88	cs
0.2 – 0.6	Sedlak 88	cs
π^+ **X**		
0.608	Mcgaughey 86	cs, p
π^- **X**		
0.608	Mcgaughey 86	cs, p
p **X**		
0.18	Garreta 84	p
0.6	Guaraldo 89B	p
	Garreta 85	p
0.608	Mcgaughey 86	cs, p
^{12}**C** $\bar{p}$		
0.046	Sedlak 88	angp
0.3007 – 0.6084	Lichtenstadt 85	angp
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
p **X**		
40	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
mult[grey] X		
40	Boos 88	a-dep, mult
X star		
40	Boos 88	a-dep, cs
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.

$\bar{p}$ C

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

$\bar{p}$ ^{16}O

γ X

0.2 – 0.3	Poth 85	p

^{16}O $\bar{p}$

0.6084	Lichtenstadt 85	angp

$\bar{p}$ ^{17}O

γ X

0.2 – 0.3	Poth 85	p

$\bar{p}$ ^{18}O

γ X

0.2 – 0.3	Poth 85	p

^{18}O $\bar{p}$

0.6084	Lichtenstadt 85	angp

$\bar{p}$ ^{19}Fl

γ X

0.2 – 0.3	Poth 85	p

$\bar{p}$ ^{20}Ne

X

0.18	Sedlak 88	cs
0.2 – 0.6	Sedlak 88	cs

charged$^-$ X

0.607	Balestra 87C	p, pt

K_S X

0.607	Balestra 89	mult, p
	Balestra 87C	cs, mult, p

p X

0.608	Guaraldo 89B	p

Λ X + Σ^0 X

0.607	Balestra 87C	cs, mult, p

0Λ π^- X

0.607	Balestra 89	mult, p

K_S charged X

0.607	Balestra 87C	mult

K_S charged$^-$ X

0.607	Balestra 87C	p, pt

K_S π^- X

0.607	Balestra 89	mult, p

Λ charged X + Σ^0 charged X

0.607	Balestra 87C	mult

Λ charged$^-$ X + Σ^0 charged$^-$ X

0.607	Balestra 87C	p, pt

Λ π^- X

0.607	Balestra 89	mult, p

π^- mult[charged] (neutrals)

0.607	Guaraldo 89B	cor, mult

$\bar{p}$ Ne

inelastic

0.201 – 0.609	Balestra 86B	cs

charged X

0.201 – 0.609	Balestra 86B	cs

mult[charged] X

0.193 – 0.608	Guaraldo 89	mult
0.6462 – 1.23	Piragino 86B	cs

mult[charged] (neutrals)

0.193 – 0.608	Sedlak 88	cs
0.201 – 0.609	Balestra 86B	mult

π^- X

0.608	Guaraldo 89	p, pt

π^- mult[charged] X

0.6084	Guaraldo 89	cor, mult

π^- 0vee X

0.607	Tosello 89	mult

K_S π^- X

0.607	Tosello 89	mult

Λ π^- X

0.607	Tosello 89	mult

$\bar{p}$ ^{23}Na

γ X

0.2 – 0.3	Poth 85	p

$\bar{p}$ ^{24}Mg

(blacks) mult[grey] mult[shower] (neutrals)

100	Biswas 86	cs

$\bar{p}$ Mg

$\bar{p}$ $\pi^\pm$ X

100	Toothacker 87	mult, p

$\bar{p}$ mult[$\pi^\pm$] X

100	Toothacker 87	p

p $\bar{p}$ X

100	Toothacker 87	mult

$\bar{p}$ Al

X

0.5141 – 0.6331	Ashford 85	cs

annihil

1.26 – 2.5	Kuzichev 89	a-dep, cs

Al $\bar{p}$

1.252	Piragino 86B	angp

$\bar{p}$ ^{27}Al

X

0.18	Sedlak 88	cs
0.2 – 0.6	Sedlak 88	cs

$\bar{p}$ S

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

p X

40	Boos 87	mult

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

$\bar{p}$ S

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

$\bar{p}$ Ar

2charged X

200	Derado 88	a-dep, cor, mult, p

mult[p] 2charged X

200	Derado 88	a-dep, cor, mult, p

$\bar{p}$ ^{40}Ca

X

0.18	Sedlak 88	cs
0.2 – 0.6	Sedlak 88	cs

^{40}Ca $\bar{p}$

0.3007 – 0.6084	Lichtenstadt 85	angp
0.6082 – 0.6112	Piragino 86B	angp

$\bar{p}$ ^{44}Ca

γ X

0.2 – 0.3	Poth 85	p

$\bar{p}$ ^{54}Fe

X

0.18	Sedlak 88	cs

$\bar{p}$ Fe

annihil

1.26 – 2.5	Kuzichev 89	a-dep, cs

$\bar{p}$ ^{63}Cu

X

0.18	Sedlak 88	cs
0.2 – 0.6	Sedlak 88	cs

p X

0.18	Garreta 84	p

$\bar{p}$ Cu

X

0.5141 – 0.6331	Ashford 85	cs

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

$J/\psi(1S)$ X

125	Katsanevas 87	a-dep, cs, p, pt

$\bar{p}$ 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
μ^- μ^+ 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

$\bar{p}\ ^{70}$Ge

γ X		
0.2 – 0.3	Poth 85	p

$\bar{p}$ Yt

π^+ X		
0.608	Mcgaughey 86	cs, p
π^- X		
0.608	Mcgaughey 86	cs, p
p X		
0.608	Mcgaughey 86	cs, p

$\bar{p}$ Mo

fragt X		
0	Guaraldo 89	cs

$\bar{p}$ Ag

p X		
100	Toothacker 87	p
$\bar{p}$ X		
100	Toothacker 87	p
120	Bailey 85B	cs, p
$\bar{p}$ $\pi^\pm$ X		
100	Toothacker 87	mult, p
$\bar{p}$ mult[$\pi^\pm$] X		
100	Toothacker 87	p
p $\bar{p}$ X		
100	Toothacker 87	mult

$\bar{p}\ ^{108}$Ag

(blacks) mult[grey] mult[shower] (neutrals)		
100	Biswas 86	cs

$\bar{p}\ ^{112}$Cd

annihil		
1.76	Kuzichev 88	cs

$\bar{p}$ Cd

annihil		
1.26 – 2.5	Kuzichev 89	a-dep, cs

$\bar{p}\ ^{115}$In

X		
0.18	Sedlak 88	cs

$\bar{p}$ Xe

K^0 X		
1.05	Guaraldo 89	cs, p
Λ X		
1.05	Guaraldo 89	cs, p
2charged X		
200	Derado 88	a-dep, cor, mult, p
K^+ $\bar{K}^0$ 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
Λ K^+ X		
1.05	Guaraldo 89	cs, p
Λ K^0 X		
1.05	Guaraldo 89	cs, p
mult[p] 2charged X		
200	Derado 88	a-dep, cor, mult, p

$\bar{p}\ ^{138}$Ba

γ X		
0.2 – 0.3	Poth 85	p

$\bar{p}$ 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
Λ X		
4	Tosello 89	angp, p
	Miyano 88	ang, cs, p, pol, pt
$\bar{\Lambda}$ X		
4	Miyano 88	ang, cs, p, pt
p mult[π^+] X		
6.066	Guaraldo 89	cor, mult
Λ $\bar{\Lambda}$ X		
4	Miyano 88	cs
2Λ X		
4	Miyano 88	cs
K_S mult[charged] (neutrals)		
4	Miyano 88	mult
Λ mult[charged] (neutrals)		
4	Miyano 88	mult

$\bar{p}$ Wt

$J/\psi(1S)$ X		
125	Katsanevas 87	a-dep, cs, p, pt
$\bar{p}$ X		
120	Bailey 85B	cs, p
μ^- μ^+ X		
125	Anassontzis 87	ang, angp, mass, p, pt

$\bar{p}$ Wt

μ^- μ^+ X		
	Katsanevas 87	a-dep, mass

$\bar{p}$ Au

$\bar{p}$ $\pi^\pm$ X		
100	Toothacker 87	mult, p
$\bar{p}$ mult[$\pi^\pm$] X		
100	Toothacker 87	p
p $\bar{p}$ X		
100	Toothacker 87	mult

$\bar{p}\ ^{197}$Au

X		
0.18	Sedlak 88	cs
(blacks) mult[grey] mult[shower] (neutrals)		
100	Biswas 86	cs

$\bar{p}$ Pb

X		
0.5141 – 0.6331	Ashford 85	cs
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
p X		
40	Boos 87	mult
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
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

$\bar{p}\ ^{208}$Pb

X		
0.18	Sedlak 88	cs
γ X		
0.2 – 0.3	Poth 85	p
^{208}Pb $\bar{p}$ γ		
0	Kreissl 87	p

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$\bar{p}$ Bi

hypernucleus X		
0.2	Berrada 85	cs

$\bar{p}$ ^{209}Bi

hypernucleus X		
0.1	Campagnolle 89	cs
	Bocquet 87	cs
p X		
0.18	Garreta 84	p

$\bar{p}$ ^{238}U

hypernucleus X		
0.1	Campagnolle 89	cs
0.1 – 0.2	Bocquet 86	–
π^{+} X		
0.608	Mcgaughey 86	cs, p
π^{-} X		
0.608	Mcgaughey 86	cs, p
p X		
0.608	Mcgaughey 86	cs, p

$\bar{p}$ U

mult[frag]		
0	Guaraldo 89B	cs
hypernucleus X		
0.2	Berrada 85	cs
π^{+} X		
0.607	Guaraldo 89	angp
p X		
0.607	Guaraldo 89	angp
$\bar{p}$ X		
120	Bailey 85B	cs, p
n X		
0	Guaraldo 89B	p
	Angelopoulos 88	p

$\bar{p}$ nucleus

X		
0.6084	Piragino 86B	cs
inelastic		
5 – 300	Fredriksson 87	a-dep, cs
13.3	Prokoshkin 87C	cs
charged X		
< 0.6	Balestra 85B	cs, mult
charged^{+} X		
40	Boos 88	a-dep, mult
200	Fredriksson 87	p
charged^{-} X		
40	Boos 88	a-dep, mult
	Boos 87	mult
40 – 200	Fredriksson 87	mult
200	Fredriksson 87	p
mult[charged] X		
0.3 – 0.5	Guaraldo 89	mult
< 2.142	Piragino 86B	cs
mult[charged^{+}] X		
40	Boos 88	a-dep, mult
mult[charged^{-}] X		
40	Boos 88	a-dep, mult
mult[charged] (neutrals)		
0 – 0.5	Balestra 86B	cs, mult
K_S X		
< 4	Guaraldo 89	angp, cs, p
	Tosello 89	cs, mult
p X		
0.18	Garreta 84	p
40	Boos 87	mult
	Fredriksson 87	a-dep, mult
$\bar{p}$ X		
120	Fredriksson 87	p
Λ X		
< 4	Guaraldo 89	angp, cs, p
	Tosello 89	cs, mult
4 – 400	Panagiotou 89	a-dep, p, pol, pt
$\bar{\Lambda}$ X		
< 4	Tosello 89	cs, mult
mult[p] X		
40	Boos 87	mult
grey X		
40	Boos 88	a-dep, mult
mult[black] X		
5	Shivpuri 86	mult
mult[grey] X		
40	Boos 88	a-dep, mult
mult[shower] X		
5	Shivpuri 86	mult
200	Fredriksson 87	mult
shower X		
5	Shivpuri 86	ang, p
200	Fredriksson 87	mult
X star		
40	Boos 88	a-dep, cs
nucleus $\bar{p}$		
185	Akchurin 89	angp, asym, pol
p charged^{-} X		
40 – 200	Fredriksson 87	cor, mult
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[black] mult[grey] X		
5	Shivpuri 86	mult
mult[black] mult[shower] X		
5	Shivpuri 86	mult
mult[grey] X star		
40	Boos 88	a-dep, mult
p charged^{+} charged^{-} X		
40	Boos 87	a-dep, mult

p p

X		
0.2 – 1	Yokosawa 85	–
	Yokosawa 85C	–
0.304 – 2.48	Madigan 85	cs
0.9959 – 3.204	Perrot 86	asym
1.463	Yuan 86	asym
(5 – 540)	Block 84	amp, angp, cs
32.1	Bogolyubsky 87E	cs
(23 – 62.5)	Camilleri 87	cs
(30.6 – 62.7)	Sedlak 88	cs
	Carboni 85	cs
800	Gomez 86	a-dep, cs
(63)	Akesson 87	et
(433.2 – 16777)	Linsley 84	cs
dibaryon		
?	Bertini 88	-
inelastic		
32.1	Bogolyubsky 87E	cs
$< 10^3$	Bystricky 87	cs
1496	Ward 86B	p
charged X		
32.1	Bravina 89	mult, p
(10 – 100)	Ward 86B	cs
200	Allday 88	pt
205	Baldin 85B	col, p
250	Aivazyan 89	mult, p
	Adamus 88B	mult, p, pt
	Aivazyan 88	mult, p, pt
	Adamus 87C	mult, p
	Adamus 86	mult, p
(23 – 63)	Fischer 88	p, pt
360	Bailly 88B	col, p, pt
(31 – 62)	Breakstone 86F	mult, pt
	Breakstone 86G	mult, p, pt
1440	Hofmann 87B	p
charged^{+} X		
200	Allday 88	pt
250	Aivazyan 89	mult, p
	Adamus 88G	mult, p, pt
(23 – 62.5)	Camilleri 87	cs, mult, p, pt
491.5	Bell 85B	mult, p
(31 – 62)	Breakstone 86D	angp, cs, p, pt
charged^{-} X		
200	Klar 84	mult, p, pt
	Brick 90	cor, mult, p
	Allday 88	pt
250	Aivazyan 89	mult, p
	Adamus 88G	mult, p, pt
	Ajinenko 87	p, pt
	Adamus 86	mult, p
(23 – 62.5)	Camilleri 87	cs, mult, p, pt
(23 – 63)	Fischer 88	p, pt
491.5	Bell 85B	mult, p
(31 – 62)	Breakstone 86D	angp, cs, p, pt
mult[charged] X		
19 – 303	Tannenbaum 89	mult
(10 – 100)	Ward 86B	cs
200	Dengler 86C	angp, mult, p
205	Baldin 86	col
250	Adamus 88G	mult
(23 – 62.5)	Camilleri 87	cs, mult
300 – 400	Tannenbaum 89	ang, angp, et, p
360	Aguilarbenit 85F	p
(30 – 63)	Tannenbaum 89	col, et, p
800	Ammar 88B	–
	Ammar 87	–
1496	Tannenbaum 89	ang, et, p
(62)	Fabbri 88	angp, mult, p
(540)	Tannenbaum 89	mult, p
mult[charged^{-}] X		
200	Dengler 86C	angp, mult, p
mult[charged] (neutrals)		
2 – 400	Boos 86	cs, mult
32.1	Bogolyubsky 87E	mult
147	Brick 86	p
200	Allday 88	cs, mult
	Naudet 86	cor, p
250	Ajinenko 89D	col, p
	Ajinenko 87	p, pt
399.1	Ahn 86	mult
400	Bhattacharje 90	mult
	Miettinen 88	a-dep, angp, col, et, mult, p
< 500	Bystricky 87	cs
(31 – 62)	Breakstone 88B	angp, mult, p
800	Ammar 86B	cs, mult
	Gomez 86	col, et
(62)	Fabbri 88	angp, mult, p

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$p\,p$

K_S X		
360	Bailly 87F	ang, angp, asym, p, pt
	Bailly 86B	pt
	Aziz 85C	cs
	Asai 84	angp, cs, mult, p, pt
1496	Ward 86B	p
?	Chliapnikov 90	cs
meson^0 X		
(63)	Angelis 90	pt
$D_S^{\pm}$ X		
200	Becker 87	–
p X		
4.2 – 10	Bekmirzaev 89	mult
13.3 – 18.5	Saroff 90	asym, p, pt
22.4	Batyunya 89	cs, p
32.1	Bogolyubsky 88F	cs
	Bogolyubsky 87E	mult
70	Abramov 86	a-dep, pt
	Abramov 84C	pt
200	Brick 89	mult
	Abe 88	p
281 – 1078	Ward 86B	p
(23 – 62.5)	Camilleri 87	pt
400	Brown 86	angp
400 – 800	Jaffe 89	pt
511.2	Breakstone 85D	cs
800	Gomez 86B	–
(62)	Breakstone 88	p, pt
	Breakstone 87	cs, p, pt
	Breakstone 85B	cs
$\bar{p}$ X		
(11.29 – 61.28)	Prokoshkin 87C	p
70	Abramov 86	a-dep, pt
	Abramov 84C	pt
(23 – 62.5)	Camilleri 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, cs, p, pt, pt
	Breakstone 85B	cs
n X		
1.696	Baturin 87	a-dep, angp
4.2	Bekmirzaev 87B	angp, mult, p
4.2 – 10	Bekmirzaev 89	mult
10	Bekmirzaev 87	angp, mult, p
32.1	Bogolyubsky 87E	mult
300	Azimov 85F	angp, mult, p
$\Delta(1232\,P_{33})^{++}$ X		
(23 – 62.5)	Camilleri 87	cs, p, pol, pt
405	Okusawa 88	cs, p
$\overline{\Delta}(1232\,P_{33})^{--}$ X		
(23 – 62.5)	Camilleri 87	cs, p, pol, pt
Λ_c^+ X		
400	Klein 89C	–
	Aguilarbenit 88B	angp, cs, p, pt
	Aguilarbenit 87	cs, p
	Aguilarbenit 87H	–
(63)	Chauvat 87	cs, p, pol, pt
$\overline{\Lambda}_c^-$ X		
400	Aguilarbenit 88B	angp, cs, p, pt
	Aguilarbenit 87	cs, p
	Aguilarbenit 87H	–
Λ X		
1.5 – 300	Panagiotou 89	p, pol, pt
13.3 – 18.5	Bonner 87	asym, p, pol, pt

$p\,p$

Λ X		
32.1	Bogolyubsky 88F	cs, p, pt
	Bogolyubsky 87E	mult
176	Gourlay 86	pol
205	Baldin 85B	col, p
(23 – 62.5)	Camilleri 87	cs, p, pol, pt
360	Bailly 86B	pt
	Aziz 85B	p
	Asai 84	angp, asym, cs, mult, p, pt
400	Yokosawa 85C	–
504.6	Chauvat 85	asym, pol
(31 – 62)	Panagiotou 89	p, pol, pt
	Smith 87	angp, p, pol
$\overline{\Lambda}$ X		
1.5 – 300	Panagiotou 89	p, pol, pt
32.1	Bogolyubsky 88F	cs
(23 – 62.5)	Camilleri 87	cs, p, pol, pt
360	Asai 84	angp, cs, mult, p, pt
(31 – 62)	Panagiotou 89	p, pol, pt
Λ X + $\overline{\Lambda}$ X		
32.1	Bogolyubsky 88F	p, pt
Σ^+ X		
32.1	Bogolyubsky 87E	mult
405	Okusawa 88	cs, p
Σ^0 X		
32.1	Bogolyubsky 88F	cs
	Bogolyubsky 87E	mult
Σ^- 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	Bystricky 87	–
deuteron X		
70	Abramov 86	a-dep, pt
$\overline{\text{deuteron}}$ 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	a-dep, angp, pt
400 – 800	Jaffe 89	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	Baldin 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	Baldin 87	col, p

$p\,p$

mult[hadron] X		
200	Tannenbaum 89	et, p
205	Baldin 86B	col
(24 – 540)	Tannenbaum 89	et, p
360	Bailly 86B	pt
800	Tannenbaum 89	et, p
mult[jet] X		
205	Baldin 86	col
(62)	Breakstone 89	–
mult[neutral] X		
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	Kistryn 87	cs
0.1228 – 1.505	Vanoers 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
0.6126	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	Aprile 86	asym, pol
1.09 – 1.921	Garcon 86	–
< 1.1	Arndt 87	amp
1.18 – 2.47	Yokosawa 85	–
1.279 – 1.687	Dobrovolsky 88	angp
1.282 – 1.463	Gazzaly 87	angp, pol
	Pauletta 87	asym
	Tanaka 87	asym, p, pol
1.331 – 1.639	Vovchenko 86B	pol
1.366 – 1.804	Bystricky 85B	asym
1.373 – 1.696	Bystricky 85	pol
1.463	Barlett 85	angp, pol
1.463 – 1.662	Vovchenko 89B	angp, p, pol, pwa
	Borisov 86	pol
1.504 – 1.69	Lac 88	asym
1.504 – 2.991	Lac 89C	angp, p, pol
1.504 – 3.511	Lac 89D	angp, p, pol
1.511 – 3.515	Lac 89	angp, pol
	Lac 89B	angp, pol
1.522 – 1.569	Vovchenko 89	angp, pol
1.55 – 3.2	Fontaine 89	angp, p, pol
1.557 – 3.515	Lehar 88	asym, pol
	Perrot 88	asym, pol
1.639	Bazhanov 88	asym, pol
	Bazhanov 88B	pol, pwa
2.75 – 3.48	Auer 86B	cs
2.75 – 5	Chuvilo 86	–
6	Matsuda 86	pwa
	Auer 85	amp, angp, pol
6 – 11.75	Yokosawa 85C	–
6 – 150	Prokoshkin 87C	cs
9.9 – 100	Bogolyubsky 86F	angp, cs
11.75	Auer 86	asym
(5 – 62)	Block 84	amp, angp, cs
13 – 22	Court 86	asym, pol
13.3 – 18.5	Khiari 89	pol
18.5	Crabb 88	asym, pol
24 – 28	Soffer 85	angp, pol, pt
28	Cameron 85B	pol
	Raymond 85	pol, pt
50	Asad 85	angp

p p		
2*p*		
150 – 300	Soffer 85	angp, pol
185	Akchurin 89	angp, asym, pol
250	*Grassler 88*	*angp, cs*
	Adamus 87D	angp, cs
(23 – 62.5)	Camilleri 87	amp, 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
deuteron π^+		
0.7942 – 1.475	Hiroshige 84C	–
0.9303 – 1.463	Blankleider 84	–
0.95 – 2.5	Yokosawa 85	–
0.9543 – 1.023	Falk 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	Chuvilo 86	–
$n\,\Delta(1232\,P_{33})^{++}$		
1.18 – 1.98	Wicklund 87	angp, asym, cs, dme, pwa
3 – 12	Wicklund 85	asym, dme, p
dibaryon π^-		
1.696	Abaev 87	cs
$\Lambda N(2130\,{}^3S_1)^+\ K^+$		
3.099	Frascaria 89	–
dibaryon($S = -1$) K^+		
3.099	Frascaria 87	angp, cs
DD < $2\pi^+\ \pi^-$ (neutrals) > p		
360	Asai 89C	mass, p, pt
DD < K_S X > p		
360	Asai 84	p
DD < $\Lambda\ K^+\ \phi$ > p		
(63)	Smith 85D	ang, cs, mass
DD < Λ X > p		
360	Asai 84	p
DD < $\overline{\Lambda}$ X > p		
360	Asai 84	p
DD < $n\ 2\pi^+\ \pi^-$ > p		
360	Asai 89C	mass, p, pt
DD < $p\ 2\pi^+\ 2\pi^-$ > p		
(62)	Smith 85B	ang, mass, p
DD < $p\ \Lambda\ \overline{\Lambda}$ > p		
(63)	Smith 85D	ang, cs, mass
DD < $p\ \pi^+\ 2\pi^0\ \pi^-$ > p		
360	Asai 89C	ang, mass, p, pt
DD < $p\ \pi^+\ \pi^-$ > p		
360	Asai 89C	ang, mass, p, pt
DD < $p\ \pi^+\ \pi^0\ \pi^-$ > p		
360	Asai 89C	ang, mass, p, pt
DD < X > p		
(62)	Breakstone 88	p, pt
2jet		
(63)	Akesson 85E	ang, mass, p, pt
charged$^+$ charged$^-$ X		
399.1	Ahn 87	angp, p

p p		
2charged X		
200	Brick 90	cor, mult, p
	Derado 88	a-dep, cor, mult, p
(30.4 – 62.2)	Bell 85C	cor
(53 – 63)	Kvatadze 88	angp, cor, p
(62)	Breakstone 86B	p, pt
2charged (neutrals) inelastic		
< 500	Bystricky 87	cs
γ charged X		
(63)	Angelis 90	angp
	Akesson 86E	*p, pt*
γ charged$^+$ X		
(63)	Angelis 90	angp
γ charged$^-$ X		
(63)	Angelis 90	angp
2γ X		
300	Demarzo 87B	mass
(63)	*Akesson 86B*	*mass, p*
$e^-\ e^+$ X		
(63)	Richard 87	mass, p, pt
π^0 charged X		
(62.4)	Tannenbaum 89	ang, cor, pt
(63)	Akesson 86E	p, pt
π^+ charged X		
527.8 – 1031	Akesson 85F	mult
(62)	Breakstone 86E	angp, p
π^+ charged$^+$ X		
(62)	Breakstone 86E	angp, p
π^+ charged$^-$ X		
(62)	Breakstone 86E	angp, p
π^- charged X		
527.8 – 1031	Akesson 85F	mult
$\mu^-\ \mu^+$ X		
(19 – 63)	Rutherfoord 85	mass, p, pt
225	Rutherfoord 85	mass
2π^+ X		
70	Abramov 84	p, pt
360	Bailly 88E	p, pt
	Bailly 87F	ang, angp, asym, p, pt
	Bailly 86D	p
400	Brown 86	mass
1496	Akesson 86F	cor, pt
(62)	Smith 86B	p, pt
2π^- X		
70	Abramov 84	p, pt
360	Bailly 88E	p, pt
	Bailly 87F	ang, angp, asym, p, pt
	Bailly 86D	p
1496	*Akesson 86F*	*cor*, pt
(62)	Smith 86B	p, pt
$\pi^+\ \pi^-$ X		
24	*Batyunya 87J*	angp, mass
70	Abramov 84	p, pt
(23 – 62.5)	Camilleri 87	p
360	Bailly 87F	ang, angp, asym, p, pt
(62)	Smith 86B	p, pt
mult[π^0] mult[π^-] X		
300	*Azimov 85E*	*mult*
$D^0\ \overline{D}^0$ X		
400	Aguilarbenit 88B	cor, cs, mass, p, pt
	Aguilarbenit 87C	cs
$D^+\ \overline{D}^0$ X		
400	Aguilarbenit 88B	cor, cs, mass, p, pt
$D^0\ D^-$ X		
400	Aguilarbenit 88B	cor, cs, mass, p, pt

p p		
$D^+\ \overline{D}^0$ X + $D^0\ D^-$ X		
400	Aguilarbenit 87C	cs
$D^+\ D^-$ X		
400	Aguilarbenit 88B	cor, cs, mass, p, pt
	Aguilarbenit 87C	cs
$K^+\ \gamma$ X		
(63)	Akesson 86E	p, pt
$K^-\ \gamma$ X		
(63)	Akesson 86E	p, pt
K^+ charged X		
527.8 – 1031	Akesson 85F	mult
K^- charged X		
527.8 – 1031	Akesson 85F	mult
$K^+\ \pi^0$ X		
(63)	Akesson 86E	p, pt
$K^-\ \pi^0$ X		
(63)	Akesson 86E	p, pt
$K^+\ \pi^+$ X		
70	Abramov 84	p, pt
(62)	Smith 86B	p, pt
$K^+\ \pi^-$ X		
70	Abramov 84	p, pt
(62)	Smith 86B	p, pt
$K^-\ \pi^+$ X		
70	Abramov 84	p, pt
(62)	Smith 86B	p, pt
$K^-\ \pi^-$ X		
70	Abramov 84	p, pt
(62)	Smith 86B	p, pt
$K^*(892)^0\ \phi$ X		
400	Torres 85	mass
$K^+\ K^-$ X		
70	Abramov 84	p, pt
527.8 – 1031	Akesson 85F	cs
(62)	Smith 86B	p, pt
2K^+ X		
70	Abramov 84	p, pt
400	Brown 86	mass
527.8 – 1031	Akesson 85F	cs
(62)	*Smith 86B*	*p, pt*
(63)	Akesson 85B	cor
2K^- X		
527.8 – 1031	Akesson 85F	cs
(62)	Smith 86B	p, pt
(63)	Akesson 85B	cor
$K_S\ \pi^+$ X		
360	Aziz 88	mass
$K_S\ \pi^-$ X		
360	Aziz 88	mass
meson^0 charged X		
(63)	Angelis 90	angp
meson^0 charged$^+$ X		
(63)	Angelis 90	angp
meson^0 charged$^-$ X		
(63)	Angelis 90	angp
$K\ \overline{K}$ X		
32.1	Bogolyubsky 88F	cs
$K^\pm\ K_S$ X		
360	Bailly 87F	ang, angp, asym, p, pt
2K_S X		
32.1	Bogolyubsky 88F	cs
360	Aziz 88	ang, cs, mass, p, pt
charmed-meson $\overline{\text{charmed-meson}}$ X		
400	Aguilarbenit 87C	cs
$p\ \gamma$ X		
(63)	Akesson 86E	p, pt
$\bar{p}\ \gamma$ X		
(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 $P_{\rm lab}$ in GeV/c, or in parentheses $E_{\rm cm}$ in GeV. See the legend on page 153.

$p\ p$

$p\ \pi^0$ X		
(63)	Akesson 86E	p, pt
$\bar{p}\ \pi^0$ X		
(63)	Akesson 86E	p, pt
$p\ \pi^+$ X		
69	Boos 88C	p, pt
70	Abramov 84	p, pt
(62)	Breakstone 87	mass, pt
	Smith 86B	p, pt
$p\ \pi^-$ X		
69	Boos 88C	p, pt
70	Abramov 84	p, pt
176	Gourlay 86	mass
(62)	Smith 86B	p, pt
$\bar{p}\ \pi^+$ X		
70	Abramov 84	p, pt
176	Gourlay 86	mass
(62)	Smith 86B	p, pt
$\bar{p}\ \pi^-$ X		
70	Abramov 84	p, pt
(62)	Smith 86B	p, pt
$\Lambda\ \pi^+$ X		
360	Bailly 87F	ang, angp, asym, p, pt
(62)	Smith 86B	p, pt
$\Lambda\ \pi^-$ X		
360	Bailly 87F	ang, angp, asym, p, pt
(62)	Smith 86B	p, pt
$p\ K^+$ X		
70	Abramov 84	p, pt
(62)	Smith 86B	p, pt
$p\ K^-$ X		
70	Abramov 84	p, pt
(62)	Smith 86B	p, pt
$\bar{p}\ K^+$ X		
70	Abramov 84	p, pt
(62)	Smith 86B	p, pt
$\bar{p}\ K^-$ X		
(62)	Smith 86B	p, pt
$\Lambda\ K^+$ X		
(62)	Smith 86B	p, pt
$\Lambda\ K^-$ X		
(62)	Smith 86B	p, pt
$p\ K_S$ X		
32.1	Bogolyubsky 88F	cs
$\Lambda\ K_S$ X		
32.1	Bogolyubsky 88F	cs
360	Aziz 88	ang, cs, mass, p, pt
	Bailly 87F	ang, angp, asym, p, pt
$\bar{\Lambda}\ K_S$ X		
32.1	Bogolyubsky 88F	cs
360	Aziz 88	cs
hyperon kaon X		
32.1	Bogolyubsky 88F	cs
$p\ \bar{p}$ X		
70	Abramov 84	p, pt
360	Bailly 87F	ang, angp, asym, p, pt
(62)	Smith 86B	p, pt
$2p$ X		
2 – 11.75	Auer 88	cs, mass
6 – 10	Carroll 88	angp
70	Abramov 84	p, pt
85	Armstrong 86B	mass, p
(62)	Breakstone 89B	angp, cs, mass, pt
	Smith 86B	p, pt
$2\bar{p}$ X		
(62)	Smith 86B	p, pt
$p\ \Lambda$ X		
(62)	Smith 86B	p, pt

$p\ p$

$\bar{p}\ \Lambda$ X		
(62)	Smith 86B	p, pt
$p\ \Lambda$ X + $p\ \bar{\Lambda}$ X		
32.1	Bogolyubsky 88F	cs
$\Lambda\ \bar{\Lambda}$ X		
32.1	Bogolyubsky 88F	cs
360	Aziz 88	cs
	Bailly 87F	ang, angp, asym, p, pt
2Λ X		
32.1	Bogolyubsky 88F	cs
hyperon $\overline{\text{hyperon}}$ X		
32.1	Bogolyubsky 88F	cs
π^- charm X		
400	Aguilarbenit 88C	p, pt
γ jet X		
280	Bonesini 89B	p, pt
(63)	Anassontzis 90	pt
	Akesson 86D	angp, mass, pt
π^0 charged-hadron X		
(63)	Akesson 85	cor, p
$\pi^\pm$ jet X		
10	Baldin 85	ang, p
π^+ jet X		
(62)	Breakstone 90	angp, p
	Geist 89	angp, col, p, pt
	Breakstone 86E	angp
π^- jet X		
(62)	Breakstone 90	angp, p
	Geist 89	angp, col, p, pt
K^+ jet X		
(62)	Breakstone 90	angp, p
	Geist 89	angp, col, p, pt
K^- jet X		
(62)	Geist 89	angp, col, p, pt
$\bar{\Lambda}_c^-$ charm X		
400	Aguilarbenit 87	cs
DD < charged > p X		
69	Boos 88C	p, pt
Λ_c^+ $\overline{\text{charm}}$ X		
400	Aguilarbenit 87	cs
Λ charged-hadron X		
360	Bailly 87F	ang, angp, asym, p, pt
(jets) jet X		
400	Miettinen 88	a-dep, angp, et, p
shower jet X		
200 – 400	Boos 88B	angp, mult
2hadron X		
5 – 70	Prokoshkin 87C	angp
2hadron$^+$ X		
70	Abramov 84	p, pt
360	Bailly 87F	ang, angp, asym, p, pt
400	Brown 86	mass
2hadron$^-$ X		
70	Abramov 84	p, pt
360	Bailly 87F	ang, angp, asym, p, pt
hadron$^+$ hadron$^-$ X		
70	Abramov 84	p, pt
360	Bailly 87F	ang, angp, asym, p, pt
801.3	Jaffe 88	cor
2jet X		
200	Naudet 86	p, pt

$p\ p$

2jet X		
200 – 400	Arenton 85B	ang, col, et, pt
400	Nelson 87	col, cor, pt
	Arenton 85	pt
800	Stewart 90	a-dep, angp, col, et
(63)	Akesson 87	et
$2p$ (neutrals)		
3.88	Nagae 87	angp, mass
γ mult[charged] (neutrals)		
(63)	Akesson 88D	cs, pt
π^+ mult[charged] (neutrals)		
(62)	Breakstone 85E	ang, mult
K^+ mult[charged] (neutrals)		
(62)	Breakstone 85E	ang, mult
K^- mult[charged] (neutrals)		
(62)	Breakstone 85E	ang, mult
K_S mult[charged] (neutrals)		
32.1	Bogolyubsky 88F	cs, mult
360	Asai 84	cs, mult
p mult[charged] (neutrals)		
22.4	Batyunya 89	cs, p
Λ mult[charged] (neutrals)		
32.1	Bogolyubsky 88F	cs, mult
360	Asai 84	cs, mult
$\bar{\Lambda}$ mult[charged] (neutrals)		
32.1	Bogolyubsky 88F	cs, mult
360	Asai 84	cs, mult
charm mult[charged] (neutrals)		
400	Aguilarbenit 88C	col, mult, mult
mult[shower] mult[charged] (neutrals)		
200 – 400	Boos 88B	ang, angp, cor, mult
$2p\ \gamma$		
0.6444 – 0.7771	Fearing 86	angp
0.7771	Kitching 86	asym
$2p\ \pi^0$		
0.6 – 0.9	Andreev 88B	angp, cs, mass, p
1 – 6	Yokosawa 85	–
1.278 – 1.463	Riley 87	p, pol
< 4	Bystricky 87	cs
$p\ n\ \pi^+$		
0.65 – 0.8	Hollas 85	p, pol
0.9821 – 1.103	Waltham 83	asym
1 – 5	Yokosawa 85C	–
1 – 6	Yokosawa 85	–
1.08 – 1.459	Shypit 88	pol, pwa
1.18 – 1.98	Wicklund 87	angp, cs, dme, mass
3 – 12	Wicklund 85	asym, dme, mass
< 4	Bystricky 87	cs
deuteron $\pi^+\ \pi^0$		
< 3	Bystricky 87	cs
$2p\ f_0(975)$		
(40 – 63)	Toki 88B	–
$2p\ f_2(1270)$		
300	Armstrong 89D	–
(62)	Breakstone 86	–
p(spect) $p\ f_1(1285)$		
300	Toki 88B	–
$2p\ f_1(1285)$		
85	Armstrong 89C	cs
	Augustin 88C	–

$p\,p$		
2p $f_1(1285)$		
85 – 300	Armstrong 89E	cs
300	Armstrong 89	cs
	Armstrong 89E	cs, mass, pwa
?	Armstrong 86E	–
p(spect) p $f_1(1420)$		
300	Toki 88B	–
2p $f_1(1420)$		
85	Augustin 88C	–
300	Armstrong 89	cs
?	Armstrong 86E	–
2p $f_2'(1525)$		
85	Toki 88B	–
2p $f_2(1720)$		
85	Toki 88B	–
2p mult[$\pi^\pm$]		
(62)	Breakstone 86C	angp
$p\ \Lambda\ K^+$		
?	Bertini 88B	pol
2p meson^0		
85	Armstrong 87	cs
	Armstrong 86B	–
300	Armstrong 89E	cs, mass, pwa
(40 – 63)	Toki 88B	–
2p glueball		
85	Armstrong 87	cs
300	Chan 88	–
2hadron (hadrons)		
205	Baldin 88B	col
(62)	Breakstone 89	angp, p, pt
3charged X		
400	Aguilarbenit 87	–
2charged (chargeds) (neutrals)		
24	Batyunya 90	cs
400	Arenton 85	angp, col
2π^+ π^- X		
360	Bailly 86D	p
3π^+ X		
360	Bailly 88E	p, pt
	Bailly 86D	p
3π^- X		
360	Bailly 88E	p, pt
	Bailly 86D	p
π^+ 2π^- X		
360	Bailly 86D	p
K^+ ϕ π^- X		
400	Torres 85	mass
K^- ϕ π^+ X		
400	Torres 85	mass
2K_S $\pi^\pm$ X		
360	Aziz 88	mass
p 2charged X		
400	Aguilarbenit 87	–
p 2K_S X		
32.1	Bogolyubsky 88F	cs
Λ 2K_S X		
32.1	Bogolyubsky 88F	cs
2p $\pi^\pm$ X		
(62)	Breakstone 88C	angp, p, pt
2Λ K_S X		
32.1	Bogolyubsky 88F	cs
mult[p] 2charged X		
200	Derado 88	a-dep, cor, mult, p
π^+ 2jet X		
(62)	Geist 89	angp, col, p, pt
$p\,p$		
π^- 2jet X		
(62)	Geist 89	angp, col, p, pt
K^+ 2jet X		
(62)	Geist 89	angp, col, p, pt
K^- 2jet X		
(62)	Geist 89	angp, col, p, pt
3jet X		
(63)	Akesson 87	et
	Akesson 86	p
2K_S mult[charged] (neutrals)		
32.1	Bogolyubsky 88F	cs, mult
Λ K_S mult[charged] (neutrals)		
32.1	Bogolyubsky 88F	cs, mult
2p π^+ π^-		
< 5	Bystricky 87	cs
11.75	Finley 85	ang, dme, mass, p
85	Armstrong 86B	mass, pwa
	Vassiliadis 85	angp, mass
300	Armstrong 89F	ang, angp, mass
	Armstrong 88	ang, angp, mass
	Chan 88	mass
(62)	Breakstone 89B	angp, cs, mass, pt
	Breakstone 88C	mass, pt
	Breakstone 86	mass, p
	Breakstone 86B	angp, mass
(63)	Akesson 85D	pwa
2p 2π		
(40 – 63)	Toki 88B	mass
deuteron 2π^+ π^-		
< 5	Bystricky 87	cs
2p ρ^0 γ		
300	Armstrong 89F	ang, angp, mass
	Armstrong 88	ang, angp, mass
2p $a_0(980)^+$ π^-		
85	Augustin 88C	mass
2p $a_0(980)^-$ π^+		
85	Augustin 88C	mass
p $\Delta(1232\,P_{33})^{++}$ ρ^0 π^-		
85	Armstrong 89C	cs
2p $a_2(1320)^+$ π^-		
300	Armstrong 89E	cs, mass, pwa
2p $a_2(1320)^-$ π^+		
300	Armstrong 89E	cs, mass, pwa
2p $a_2(1320)^+$ π^- + 2p $a_2(1320)^-$ π^+		
85	Armstrong 89C	cs
2p 2ρ^0		
300	Armstrong 89E	cs, mass, pwa
2p ϕ ρ^0		
85	Armstrong 86D	cs
2p 2ϕ		
85	Armstrong 86	cs, mass
300	Armstrong 89B	cs
p n π^+ (π^0's)		
< 7	Bystricky 87	cs
$p\,p$		
2p K^+ K^-		
85	Armstrong 86B	mass, pwa
	Vassiliadis 85	angp, mass
300	Armstrong 89D	dme, mass
	Armstrong 89F	ang, angp, mass
	Armstrong 88	ang, angp, mass
(62)	Breakstone 89B	angp, cs, mass, pt
(63)	Akesson 85D	pwa
2p $K^*(892)^-$ K^+		
85	Augustin 88C	mass
2p $K^*(892)^+$ K^-		
85	Augustin 88C	mass
2p $K^*(892)^0$ $\overline{K}^0$		
85	Augustin 88C	mass
2p $\overline{K}^*(892)^0$ K^0		
85	Augustin 88C	mass
2p $K^*(892)^0$ $\overline{K}^*(892)^0$		
85	Armstrong 86D	cs, mass
p(spect) p $K^*(892)^0$ K_S + p(spect) p $K^*(892)^-$ K^+		
300	Toki 88B	mass
2p K $\overline{K}$		
85	Toki 88B	mass
2p 2K_S		
85	Vassiliadis 85	angp, mass
300	Armstrong 89D	dme, mass
	Armstrong 89F	ang, angp, mass
	Armstrong 88	ang, angp, mass
3p $\overline{p}$		
85	Armstrong 87	mass, p
	Vassiliadis 85	angp, mass
(62)	Breakstone 89B	angp, cs, mass, pt
2p Λ $\overline{\Lambda}$		
85	Armstrong 87	mass, p
DD < p > DD < p > π^+ π^-		
85	Vassiliadis 85	angp, mass
DD < p > DD < p > K^+ K^-		
85	Vassiliadis 85	angp, mass
DD < p > DD < p > $K^*(892)^0$ $\overline{K}^*(892)^0$		
300	Armstrong 90	cs
DD < p > DD < p > 2K_S		
85	Vassiliadis 85	angp, mass
DD < p > DD < p > p $\overline{p}$		
85	Vassiliadis 85	angp, mass
2K 2$\overline{K}$ X		
32.1	Bogolyubsky 88F	cs
Λ 2π^+ π^- X		
(63)	Chauvat 87	mass
hyperon 2K $\overline{K}$ X		
32.1	Bogolyubsky 88F	cs
p Λ 2K_S X + p $\overline{\Lambda}$ 2K_S X		
32.1	Bogolyubsky 88F	cs
2hyperon 2kaon X		
32.1	Bogolyubsky 88F	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.

$p\ p$

$2\text{charged}^+\ 2\text{jet X}$		
(63)	Akesson 87E	ang, cor, p
$2\text{charged}^-\ 2\text{jet X}$		
(63)	Akesson 87E	ang, cor, p
4jet X		
(62)	Breakstone 89	–
(63)	Akesson 87	ang, et
$2p\ \pi^+\ \pi^0\ \pi^-$		
< 11	Bystricky 87	cs
$p\ n\ 2\pi^+\ \pi^-$		
< 12	Bystricky 87	cs
$p\ \Delta(1232\,P_{33})^{++}\ \pi^+\ 2\pi^-$		
300	Armstrong 89E	cs, mass
$p\ \Delta(1232\,P_{33})^0\ 2\pi^+\ \pi^-$		
300	Armstrong 89E	cs, mass
$2p\ \eta\ \pi^+\ \pi^-$		
300	Armstrong 89F	ang, angp, mass
	Armstrong 88	ang, angp, mass
$2p\ \rho^0\ \pi^+\ \pi^-$		
85	Armstrong 89C	cs
300	Armstrong 89E	cs, mass, pwa
$2p\ \phi\ \pi^+\ \pi^-$		
85	Armstrong 86D	cs
$2p\ f_2(1270)\ \pi^+\ \pi^-$		
85	Armstrong 89C	cs
300	Armstrong 89E	cs, mass, pwa
$2p\ 2\pi^0\ (\pi^0\text{'s})$		
< 7	Bystricky 87	cs
$2n\ 2\pi^+\ (\pi^0\text{'s})$		
< 9	Bystricky 87	cs
$p\ \Delta(1232\,P_{33})^{++}\ K^+\ K^-\ \pi^-$		
85	Armstrong 86D	cs
$2p\ K^*(892)^0\ K^-\ \pi^+$		
85	Armstrong 86D	cs
$2p\ \overline{K}^*(892)^0\ K^+\ \pi^-$		
85	Armstrong 86D	cs
$2p\ K^+\ K^-\ \rho^0$		
85	Armstrong 86D	cs
$2p\ K^+\ K^-\ \phi$		
85	Armstrong 86	cs, mass
300	Armstrong 89B	cs
$2p\ K_2^*(1430)^0\ K^-\ \pi^+$		
85	Armstrong 86D	cs
$2\Lambda\ 2K^+\ (\pi^0\text{'s})$		
7.8	Aleshin 86	cs
$p(\text{spect})\ p\ K^+\ K_S\ \pi^-$		
300	Toki 88B	mass
$2p\ K^+\ K_S\ \pi^-$		
85	Augustin 88C	mass, pwa
	Armstrong 86E	cs, mass, p, pwa
300	Armstrong 89F	ang, angp, mass
	Armstrong 88	ang, angp, mass
$2p\ K_S\ K^-\ \pi^+$		
85	Augustin 88C	mass, pwa
	Armstrong 86E	cs, mass, p, pwa
300	Armstrong 89F	ang, angp, mass
	Armstrong 88	ang, angp, mass

$p\ p$

$2p\ K^+\ K_S\ \pi^- + 2p\ K_S\ K^-\ \pi^+$		
300	Armstrong 89	mass
(hadrons) 4jet		
(62)	Breakstone 85E	-
$K^+\ 2K^-\ \pi^+\ \pi^-$ X		
400	Torres 85	mass
$2K^+\ K^-\ \pi^+\ \pi^-$ X		
400	Torres 85	mass
$2p\ 2\pi^+\ 2\pi^-$		
85	Armstrong 89C	mass, pwa
300	Armstrong 89E	angp, mass
	Armstrong 89F	ang, angp, mass
	Armstrong 88	ang, angp, mass
(62)	Breakstone 89B	angp, cs, mass, pt
	Breakstone 88C	pt
(63)	Akesson 85D	pwa
$2p\ K^+\ K^-\ \pi^+\ \pi^-$		
85	Armstrong 86D	cs, mass, p
300	Armstrong 90	angp, mass
(62)	Breakstone 89B	angp, cs, mass, pt
$2p\ 2K^+\ 2K^-$		
85	Armstrong 86	cs, mass
300	Armstrong 89B	mass
$3p\ \overline{p}\ \pi^+\ \pi^-$		
8	Armstrong 87	mass, p
(62)	Breakstone 89B	angp, cs, mass, pt
$\text{DD} < p > \text{DD} < p > 2\pi^+\ 2\pi^-$		
300	Armstrong 89E	angp, mass
$\text{DD} < \quad > \text{DD} < p > K^+\ K^-\ \pi^+\ \pi^-$		
300	Armstrong 90	angp, mass
6(chargeds) (neutrals)		
200 – 400	Abduzhamilov 88	col, cor
$2p\ 3\pi^+\ 3\pi^-$		
(62)	Breakstone 89B	angp, cs, mass, pt
$3p\ \overline{p}\ 2\pi^+\ 2\pi^-$		
85	Armstrong 87	mass, p

$p\ n$

mult[charged] (neutrals)		
400	Bhattacharje 90	mult
	Bhattacharje 89C	mult, p
γ X		
300	Alimov 89B	mult
π^0 X		
300	Artykov 86	cs, mult
	Azimov 85E	cs
mult[π^0] X		
300	Azimov 85E	mult
mult[hadron] X		
100 – 300	Bhattacharje 89B	mult
$p\ n$		
0.1374 – 1.464	Bystricky 86D	amp, angp, cs
0.6103	Sowinski 87	angp, asym
1.463	Barlett 85	angp, pol
6 – 8	Soffer 85	angp, pol
$2p\ \pi^-$		
0.9543	Ponting 88	asym, pwa
5charged (neutrals)		
21 – 25	Saidkhanov 86	col, mass

p nucleon

mult[charged] (neutrals)		
2 – 400	Boos 86	cs, mult
γ X		
300	Artykov 90	pt
$\Upsilon(1S)$ X		
808.1	Albrow 88	mass
$\Upsilon(2S)$ X		
808.1	Albrow 88	mass
$\Upsilon(3S)$ X		
808.1	Albrow 88	mass
D^+ X		
400	Georgiopoulo 84	angp, cs
D^- X		
400	Georgiopoulo 84	angp, cs
D_S^- X		
400	Georgiopoulo 84	angp, cs
D_S^+ X		
400	Georgiopoulo 84	angp, cs
exotic-meson X		
400	Davenport 86	cs
	Green 86	cs
Λ_c^+ X		
400	Aziz 85	cs
Λ_c^+ X + D^+ X + D^- X		
400	Aziz 85	cs
charm X		
70	Belikov 89	cs
monopole X		
400	Virodov 89	cs
shower X		
800	Abduzhamilov 89	mult, p
p nucleon		
1.09	Berezhnoj 85	amp, pol
γ mult[charged$^-$] X		
300	Alimov 89B	mult, p
$e^-\ e^+$ X		
1.696 – 5.762	Naudet 88B	cs, mass, p
$\mu^-\ \mu^+$ X		
400	Badier 85B	mass, p
808.1	Albrow 88	mass
$\phi\ \pi^+$ X		
400	Georgiopoulo 84	ang, mass
$\phi\ \pi^-$ X		
400	Georgiopoulo 84	ang, mass
2ϕ X		
400	Davenport 86	mass
	Green 86	mass
charmed-meson $\overline{\text{charmed-meson}}$ X		
70	Sviridov 88	cs
Λ_c^+ $\overline{\text{charmed-meson}}$ X		
70	Sviridov 88	cs
charm $\overline{\text{charm}}$ X		
70	Sviridov 88	cs
200 – 360	Cobbaert 87	cs
3charged X		
400	Aziz 85	p
$K^+\ K^-\ \pi^+$ X		
400	Georgiopoulo 84	mass, p
$K^+\ K^-\ \pi^-$ X		
400	Georgiopoulo 84	mass, p
$K^+\ K^-\ \phi$ X		
400	Davenport 86	mass

p nucleon

$K^+ K^- \phi$ X		
	Green 86	mass
$K^+ K^- 2\phi$ X		
400	Green 86	mass
$2K^+ K^- \phi$ X + $K^+ 2K^- \phi$ X		
400	Green 86	mass
$2K^+ 2K^-$ X		
400	Davenport 86	mass
	Green 86	mass
$K^+ K^- \phi \pi^+ \pi^-$ X		
400	Green 86	mass
$2K^+ 2K^- \phi$ X		
400	Green 86	mass
$2K^+ 2K^-$ mult[charged] (neutrals)		
400	Georgiopoulo 84	mass
$2K^+ 2K^- \pi^+ \pi^-$ X		
400	Green 86	mass
	Georgiopoulo 84	mass

p deuteron

charged X		
19.2	Boos 86B	cs, mult
300	Crittenden 86	angp
charged$^+$ X		
300	Crittenden 86	angp
charged$^-$ X		
300	Crittenden 86	angp
π^+ X		
400	Jaffe 89	pt
	Brown 86	a-dep, pt
π^- X		
4.2	Bartke 85	a-dep, asym, p
400	Jaffe 89	pt
$\psi(2S)$ X		
800	Mishra 90	a-dep, a-dep, p, pt
$\Upsilon(1S)$ X		
800	Mishra 90	a-dep
K^+ X		
400	Jaffe 89	pt
	Brown 86	a-dep, pt
K^- X		
400	Jaffe 89	pt
p X		
0.5	Rees 86	pol
1.696	Belostotsky 84	pol
3.9	Nakai 89	a-dep, angp
400	Jaffe 89	pt
$\bar{p}$ X		
400	Jaffe 89	pt
n X		
1.696	Baturin 87	a-dep, angp
$\Delta(1232\,P_{33})^0$ X		
3.88	Nagae 87	angp, cs
hadron$^+$ X		
400	Jaffe 89	pt
	Brown 86	a-dep, pt
hadron$^-$ X		
400	Jaffe 89	pt
^{3}He γ		
0.4446 – 1.09	Fearing 86	angp, pol
deuteron p		
0.2873	Kistryn 89	pol
< 0.3104	Donoghue 84D	–
0.5804	Vanoers 85	pol
1.085 – 1.463	Sun 85	pol
1.09 – 1.463	Rahbar 87	asym, pol
1.337 – 1.686	Dobrovolsky 88	angp
	Velichko 88	angp
1.463	Barlett 85	angp, pol
1.61	Yokosawa 85	–
3.5	Ohmori 88	pol

p deuteron

^{3}He π^0		
0.8	Adams 89	pol
0.8081 – 1.09	Silverman 85	angp
1.604 – 3.722	Berthet 85	angp
^{3}H π^+		
0.9 – 1.1	Mayer 86	pol
1.09	Silverman 85	angp
^{3}He η		
0.896	Mayer 89	cs
1.604 – 3.722	Berthet 85	angp
dibaryon p		
1.438 – 1.669	Andreev 88	–
	Andreev 87C	cs
1.463 – 1.696	Andreev 87B	cs
dibaryon n		
1.438 – 1.669	Andreev 88	–
	Andreev 87C	cs
1.463 – 1.696	Andreev 87B	cs
$\mu^- \mu^+$ X		
800	Mishra 90	a-dep, p, pt
$2\pi^+$ X		
400	Brown 86	mass
$\pi^+ \pi^-$ X		
3.9	Nakai 89	a-dep, mass
$2K^+$ X		
400	Brown 86	mass
$p \pi^+$ X		
3.9	Nakai 89	a-dep, mass
$p \pi^-$ X		
3.9	Nakai 89	a-dep, mass
2hadron$^+$ X		
400	Brown 86	mass
$2p\ n$		
0.2873	Kistryn 89	pol
0.5 – 0.8	Chalmers 85	pol
1.099	Perdrisat 84	angp
1.099 – 1.101	Punjabi 88	angp, p
1.14 – 1.669	Andreev 84	angp, p
1.438 – 1.669	Andreev 88	ang, mass
	Andreev 87C	mass
1.463 – 1.696	Andreev 87B	ang, mass
1.5 – 1.7	Zielinsky 88	cs, mass
1.696	Aleshin 90	angp, pol
	Aleshin 87B	angp, p, pol
	Aleshin 87E	angp, pol
deuteron $n\ \pi^+$		
1.098	Debebe 85	angp, cs
$2p\ \pi^+$ X		
3.9	Nakai 89	a-dep, angp
$2p\ \pi^-$ X		
3.9	Nakai 89	a-dep, angp
p(spect) $2p\ \pi^-$		
0.9543	Ponting 88	asym, pwa
$2p\ \pi^+$ charged (neutrals)		
3.88	Nagae 87	angp, mass
$2p\ \pi^-$ charged (neutrals)		
3.88	Nagae 87	angp, mass

p ^{3}He

charged X		
5	Abdullin 89H	cs
deuteron X		
1.6 – 1.9	Zielinsky 88	cs, mass
1.61	Yokosawa 85C	-
anomalon X		
5	Abdullin 89H	cs
^{3}He p		
0.0433 – 0.1374	Beltramin 85	amp
0.6444 – 1.11	Hasell 85	angp, pol
1.696	Alkhazov 85	angp
^{3}H $\Delta(1232\,P_{33})^{++}$		
2.251 – 3.099	Ellegaard 89	pol

p ^{3}He

^{3}H $\Delta(1232\,P_{33})^{++}$		
	Ellegaard 85	angp, p
deuteron p(spect) p		
0.8081 – 1.023	Epstein 85	angp
deuteron $2p$		
0.8081 – 1.023	Epstein 85	angp
$3p\ n$		
0.8354 – 1.671	Blinov 88	angp, cs, mass, p

p ^{4}He

charged X		
(124)	Fischer 88	a-dep, p, pt
charged$^-$ X		
1196	Fredriksson 87	p
(124)	Fischer 88	a-dep, p, pt
mult[charged] X		
1196	Fredriksson 87	mult
(220)	Tannenbaum 89	et, p
mult[charged$^-$] X		
1196	Fredriksson 87	mult
p X		
46 – 400	Gorshkova 85	angp, p
1196	Fredriksson 87	p
deuteron X		
46 – 400	Gorshkova 85	angp, p
^{3}He X		
46 – 400	Gorshkova 85	angp, p
hadron X		
(157.5)	Akesson 89	et
2charged X		
1196	Fredriksson 87	cor, p
$2p$ X		
1196	Fredriksson 87	p

p He

mult[charged] (neutrals)		
400	Miettinen 88	a-dep, angp, col, et, mult, p
π^0 X		
1037	Richard 87	a-dep, p, pt
π^- X		
4.2	Bartke 85	a-dep, asym, p
ϕ X		
530.3 – 1037	Akesson 85F	cs
p X		
1.696	Belostotsky 84	pol
He p		
< 0.3104	Donoghue 84D	–
0.3126	Lang 85B	asym, pol
1.337 – 1.686	Dobrovolsky 88	angp
	Velichko 85	angp, cs
1.696	Alkhazov 85	angp
π^+ charged X		
530.3 – 1037	Akesson 85F	mult
π^- charged X		
530.3 – 1037	Akesson 85F	mult
K^+ charged X		
530.3 – 1037	Akesson 85F	mult
K^- charged X		
530.3 – 1037	Akesson 85F	mult
$K^+ K^-$ X		
530.3 – 1037	Akesson 85F	cs
$2K^+$ X		
530.3 – 1037	Akesson 85F	cs
$2K^-$ X		
530.3 – 1037	Akesson 85F	cs
(jets) jet X		
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.

$\bar{\nu}_\mu$ Ne

$\rho^0\ \mu^+\ X$		
10 – 100	Wittek 89	mult, p, pt
	Wittek 87	dme
< 200	Schmitz 88	mult, pol
$\omega\ \mu^+\ X$		
10 – 100	Wittek 89	mult, p, pt
$f_2(1270)\ \mu^+\ X$		
10 – 100	Wittek 89	mult, p, pt
mult$[\pi^+]\ \mu^+\ X$		
10 – 100	Wittek 88	angp, mult, p
mult$[\pi^-]\ \mu^+\ X$		
10 – 100	Wittek 88	angp, mult, p
mult$[\pi^0]\ \mu^+\ X$		
10 – 100	Wittek 88	angp, mult, p
$D_S^-\ \mu^+\ X$		
< 300	Schmitz 88	cs
$p\ \mu^+\ X$		
< 200	Schmitz 88	mult
< 300	Schmitz 88	asym
mult$[p]\ \mu^+\ X$		
10 – 300	Guy 89	cs, mult, p
μ^+ mult[hadron$^+$] X		
10 – 100	Wittek 88	angp, mult, p
μ^+ mult[hadron$^-$] X		
10 – 100	Wittek 88	angp, mult, p
Ne $\pi^-\ \mu^+$		
10 – 100	Marage 86	angp, cs, mass, p
10 – 200	Ammosov 86C	angp, cs
40 – 300	Aderholz 89	cs
Ne $\rho^-\ \mu^+$		
10 – 100	Marage 87	cs
Ne $a_1(1260)^-\ \mu^+$		
10 – 200	Ammosov 88C	cs
$\pi^+\ \pi^-\ \mu^+\ X$		
10 – 100	Wittek 87	ang, mass, p
$\rho^+\ \pi^-\ \mu^+\ X$		
10 – 100	Wittek 89	mult, p, pt
$\phi\ \pi^-\ \mu^+\ X$		
< 300	Schmitz 88	mass
$K_S\ \mu^+\ e^-\ X$		
10 – 100	Baton 85	cs, mass, p, pt
$K_S\ \mu^-\ \mu^+\ X$		
10 – 100	Baton 85	cs, mass, p, pt
$\Lambda\ \mu^+\ e^-\ X$		
10 – 100	Baton 85	cs, mass, p, pt
$\Lambda\ \mu^+\ e^-\ X + K_S\ \mu^+\ e^-\ X$		
10 – 100	Baton 85	cs, mass, p, pt
$\Lambda\ \mu^-\ \mu^+\ X$		
10 – 100	Baton 85	cs, mass, p, pt
$\Lambda\ \mu^-\ \mu^+\ X + K_S\ \mu^-\ \mu^+\ X$		
10 – 100	Baton 85	cs, mass, p, pt
$p\ (p$'s$)\ \mu^+\ X$		
10 – 300	Guy 89	cs, mult, p
mult$[p]\ \mu^+$ mult[hadron$^-$] X		
10 – 300	Guy 89	a-dep, mult
Ne $\pi^0\ \pi^-\ \mu^+$		
10 – 100	Marage 87	angp, p

$\bar{\nu}_\mu$ Ne

$2K_S\ \mu^+\ e^-\ X$		
10 – 100	Baton 85	cs, mass, p, pt
$\Lambda\ K_S\ \mu^+\ e^-\ X$		
10 – 100	Baton 85	cs, mass, p, pt
$\Lambda\ K_S\ \mu^-\ \mu^+\ X$		
10 – 100	Baton 85	cs, mass, p, pt

$\bar{\nu}_\mu$ Fe

$\bar{\nu}_\mu\ X$		
10 – 160	Abramowicz 85	cs
$\mu^+\ X$		
10 – 160	Berge 87	cs
	Abramowicz 85	cs
10 – 260	Burkhardt 85	cs
30 – 230	Stockdale 85	cs
30 – 600	Merritt 87	ang, cs, pt
120 – 250	Reutens 85	cs
$\mu^-\ \mu^+\ X$		
10 – 260	Burkhardt 85	cs
30 – 600	Foudas 88	cs, p, pt
	Merritt 87	ang, cs, pt
$2\mu^+\ X$		
10 – 260	Burkhardt 85	cs
30 – 600	Schumm 88	p, pt
	Merritt 87	ang, cs, pt
	Merritt 87B	cs, p
$\mu^+\ \overline{\text{charm}}\ X$		
30 – 600	Foudas 88	

$\bar{\nu}_\mu$ nucleus

charged X		
0.1 – 1.1	Suzuki 88	flux
0.4 – 2	Bionta 88	cs
$\bar{\nu}_\mu\ X$		
0.2 – 20	Berger 89B	flux
	Perdereau 89	flux
	Longuemare 88	flux
$\mu^+\ X$		
0.1 – 1.1	Suzuki 88	flux
0.2 – 20	Berger 89B	flux
	Perdereau 89	flux
	Longuemare 88	flux
0.4 – 2	Bionta 88	cs
	Nakamura 88	
1 – 13	Bergsma 88	cs
$10^3 - 10^6$	Oyama 88B	cs
$\tau^-\ X$		
10 – 100	Ushida 86C	cs
charmed-meson X		
10 – 200	Asratyan 87B	
$\pi^0\ \mu^+\ X$		
3 – 30	Baranov 85	mult
$\pi^-\ \mu^+\ X$		
?	Ramm 85	mass
$\rho^0\ \mu^+\ X$		
10 – 100	Wittek 87	dme
$D^*(2010)^-\ \mu^+\ X$		
10 – 200	Ammosov 87F	cs
$K^-\ \pi^+\ X$		
10 – 200	Asratyan 87B	mass
$K_S\ \pi^+\ X$		
10 – 200	Asratyan 87B	mass
$p\ \mu^+\ X$		
3 – 30	Ammosov 85C	angp, p
mult$[p]\ \mu^+\ X$		
3 – 30	Ammosov 85C	mult
nucleus $\pi^0\ \bar{\nu}_\mu$		
10 – 260	Bergsma 85B	cs
nucleus $\pi^-\ \mu^+$		
3 – 30	Grabosch 86	angp, cs, p

$\bar{\nu}_\mu$ nucleus

$\pi^+\ \pi^-\ \mu^+\ X$		
10 – 100	Wittek 87	ang, mass, p
$\phi\ \mu^+\ \gamma\ X$		
10 – 200	Asratyan 86	mass
	Asratyan 86B	mass
$\phi\ \pi^-\ \mu^+\ X$		
10 – 200	Asratyan 87C	mass
$K^-\ \pi^+\ \pi^0\ X$		
10 – 200	Asratyan 87B	mass
$K^-\ 2\pi^+\ X$		
10 – 200	Asratyan 87B	mass
$K_S\ \pi^+\ \pi^0\ X$		
10 – 200	Asratyan 87B	mass
$K_S\ \pi^+\ \pi^-\ X$		
10 – 200	Asratyan 87B	mass
$K_S\ K^-\ \mu^+\ X$		
10 – 200	Asratyan 87C	mass
$\pi^0\ \mu^+$ charged (neutrals)		
3 – 30	Baranov 85	mult
nucleus $\mu^-\ \mu^+\ \bar{\nu}_\mu$		
10 – 160	Geiregat 90	cs
$\phi\ \pi^0\ \pi^-\ \mu^+\ X$		
10 – 200	Asratyan 87C	mass
$K^+\ 2\pi^-\ \mu^+\ X$		
10 – 200	Ammosov 87F	mass, p
$K^+\ \pi^+\ \pi^-\ \mu^+\ X$		
10 – 200	Ammosov 87F	mass, p
$K^-\ 2\pi^+\ \pi^-\ X$		
10 – 200	Asratyan 87B	mass
$K^+\ K^-\ \pi^-\ \mu^+\ X$		
10 – 200	Asratyan 87	mass
$K_S\ K^-\ \pi^0\ \mu^+\ X$		
10 – 200	Asratyan 87C	mass
$\phi\ \pi^+\ 2\pi^-\ \mu^+\ X$		
10 – 200	Asratyan 87C	mass
$K^+\ K^-\ \pi^-\ \mu^+\ \gamma\ X$		
10 – 200	Asratyan 86	mass
	Asratyan 86B	mass
$K^+\ K_S\ 2\pi^-\ \mu^+\ X$		
10 – 200	Asratyan 87C	mass
$K_S\ K^-\ \pi^+\ \pi^-\ \mu^+\ X$		
10 – 200	Asratyan 87C	mass

ν_τ nucleus

$\tau^-\ X$		
< 400	Talebzadeh 87	cs

$\bar{\nu}_\tau$ nucleus

$\tau^+\ X$		
< 400	Talebzadeh 87	cs

$e^-\ \gamma$

e^{*-}		
(14 – 28)	Bonneaud 86	cs
$e^-\ X$		
(2 – 13)	Berger 87B	cs
14.5	Aihara 89C	cs
	Aihara 87F	p
16.5 – 17.5	Althoff 86B	p
17.3	Berger 87C	
25 – 28	Sasaki 89	p
	Sasaki 88	p
?	Berger 87B	col, const, p
	Kolanoski 86	const, p
$\eta\ e^-$		
?	Berger 87B	p
$\eta'\ e^-$		
14.5	Aihara 88D	cs
	Gidal 88B	cs
?	Landsberg 85	p

p Be

Σ^0 X		
22	Bonner 89	p, pol
28.5	Dukes 87	pol
	Sullivan 87	cs, p, pt
Ξ^0 X		
400	Beretvas 86	angp, cs, p
$\overline{\Xi}^0$ X		
400	Beretvas 86	angp, cs, p
Ω^- X		
400	Luk 88	–
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
17.98 – 63.99	Belyaev 89C	angp, p, pol
70	Abramov 86	a-dep, pt
$\overline{\text{deuteron}}$ X		
70	Abramov 86	a-dep, pt
^{3}He X		
10.1	Safronov 88B	angp
	Ergakov 86	a-dep, angp
^{3}H X		
6.37 – 8.08	Arefiev 85	a-dep, angp
10.1	Safronov 88B	angp
	Ergakov 86	a-dep, angp
10.14	Boyarinov 88	angp, p
70	Abramov 86	a-dep, pt
^{4}He X		
10.1	Safronov 88B	angp
charm X		
400	Duffy 88	a-dep, cs
bottom X		
400	Duffy 88	cs
$\overline{\text{bottom}}$ X		
400	Duffy 88	cs
charged-hadron X		
400	Bernstein 88	cs, p
$\overline{\text{charm}}$ X		
400	Duffy 88	a-dep, cs
fragt X		
0.6266 – 0.8081	Green 86B	angp
hadron$^+$ X		
400	Brown 86	a-dep, pt
	Hsiung 85	a-dep, pt
jet X		
800	Stewart 90	a-dep, angp, col, pt
longlived X		
400	Bernstein 88	cs, p
mult[hadron] X		
800	Tannenbaum 89	et, p
Be p		
0.6791	Roy 85B	cs, pol, pwa
1.696	Alkhazov 85B	angp
^{10}C π^-		
1.282	Hoistad 86	angp, asym
2charged$^+$ X		
70	Abramov 84D	a-dep, angp, pt
e^- e^+ X		
1.696	Naudet 88C	mass, pt
	Roche 88	mass, pt
1.696 – 5.762	Naudet 88B	cs, mass, p
1.742 – 5.762	Naudet 88	cs, mass, pt
2.89 – 5.762	Naudet 88C	mass
	Roche 88	mass
	Roche 87	cs, mass, pt
5.762	Letessiersel 89	mass, pt
	Letessiersel 89B	mass, pt
	Roche 88B	cs, mass, pt
	Roche 88C	mass, p, pt

p Be

e^- e^+ X		
800	Yoshida 89	mass, p, pt
	Brown 86	mass
2e^+ X		
5.762	Letessiersel 89B	mass, pt
2e^- X		
5.762	Letessiersel 89B	mass, pt
2e^- X + 2e^+ X		
5.762	Roche 88C	mass, p, pt
μ^- μ^+ X		
200 – 250	Bauer 85	mass
800	Brown 86	mass
2π^+ X		
70	Abramov 84D	a-dep, angp, pt
400	Brown 86	mass
π^+ π^- X		
13.3 – 18.5	Bonner 88	mass
ϕ π^+ X		
120	Dijkstra 86C	mass
200	Dijkstra 86C	mass
ϕ π^- X		
120	Dijkstra 86C	mass
200	Dijkstra 86C	mass
$J/\psi(1S)$ γ X		
200 – 250	Bauer 85	mass
K^+ ϕ X		
120	Dijkstra 86C	mass
200	Dijkstra 86C	mass
K^- ϕ X		
120	Dijkstra 86C	mass
200	Dijkstra 86C	mass
K^+ K^- X		
100 – 200	Dijkstra 86	ang, dme, mass
2K^+ X		
400	Brown 86	mass
K_S ϕ X		
120	Dijkstra 86C	mass
200	Dijkstra 86C	mass
2K_L X		
800	Yamanaka 89	p
	Gibbons 88	angp, p
charmed-meson $\overline{\text{charmed-meson}}$ X		
400	Duffy 88	a-dep, cs
p π^+ X		
70	Abramov 84D	a-dep, angp, pt
p π^- X		
13.3 – 18.5	Bonner 88	mass
p ϕ X		
120	Dijkstra 86C	mass
200	Dijkstra 86C	mass
$\overline{p}$ ϕ X		
120	Dijkstra 86C	mass
200	Dijkstra 86C	mass
p K^+ X		
70	Abramov 84D	a-dep, angp, pt
Λ_c^+ $\overline{\text{charmed-meson}}$ X		
400	Duffy 88	a-dep, cs
2p X		
1.09	Cebra 89	cor, p
70	Abramov 84D	a-dep, angp, pt
deuteron p X		
1.09	Cebra 89	cor, p
2deuteron X		
1.09	Cebra 89	cor, p
^{4}He p X		
1.09	Cebra 89	cor, p

p Be

2^{3}H X		
1.09	Cebra 89	cor, p
^{4}He deuteron X		
1.09	Cebra 89	cor, p
charm $\overline{\text{charm}}$ X		
400	Duffy 85	a-dep
	Romanowski 85	–
(jets) jet X		
400	Miettinen 88	a-dep, angp, et, p
2hadron$^+$ X		
400	Brown 86	mass
800	Streets 89	a-dep, ang, mass, pt
2hadron$^-$ X		
800	Streets 89	a-dep, ang, mass, pt
hadron$^+$ hadron$^-$ X		
400	Hsiung 85	a-dep, mass, pt
800	Streets 89	a-dep, ang, mass, pt
	Brown 86	mass
2jet X		
800	Stewart 90	a-dep, angp, col, et
^{5}He He p		
0.5523	Wang 85D	cs, p, pwa
μ^- μ^+ γ X		
200 – 250	Bauer 85	mass
K^+ 2π^+ X		
70	Abramov 84D	a-dep, angp, pt
K^+ K^- π^+ X		
120	Dijkstra 86C	mass
200	Dijkstra 86C	mass
K^+ K^- π^- X		
120	Dijkstra 86C	mass
200	Dijkstra 86C	mass
K^+ 2K^- X		
120	Dijkstra 86C	mass
200	Dijkstra 86C	mass
2K^+ K^- X		
120	Dijkstra 86C	mass
200	Dijkstra 86C	mass
K^+ K_S K^- X		
120	Dijkstra 86C	mass
200	Dijkstra 86C	mass
p K^- π^- X		
400	Luk 88	mass
p K^+ K^- X		
120	Dijkstra 86C	mass
200	Dijkstra 86C	mass
$\overline{p}$ K^+ K^- X		
120	Dijkstra 86C	mass
200	Dijkstra 86C	mass

p ^{10}Bor

p X		
7.5	Bayukov 85D	angp, p
	Gavrilov 85B	a-dep, angp, p
n X		
1.696	Baturin 87	a-dep, angp
7.5	Bayukov 85D	angp, p
	Gavrilov 85B	a-dep, angp, p
deuteron X		
7.5	Gavrilov 85B	a-dep, angp, p
^{11}Bor π^+		
0.6444 – 0.7453	Ziegler 85	angp, pol
^{11}Bor* π^+		
0.6444 – 0.7453	Ziegler 85	angp, pol

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.

$p\ ^{11}$Bor

p X		
7.5	Bayukov 85D	angp, p
	Gavrilov 85B	a-dep, angp, p
n X		
1.696	Baturin 87	a-dep, angp
7.5	Bayukov 85D	angp, p
	Gavrilov 85B	a-dep, angp, p
deuteron X		
7.5	Gavrilov 85B	a-dep, angp, p
^{11}Bor p		
1.696	Alkhazov 85B	angp

$p\ ^{12}$C

inelastic		
1.35 – 3.75	Gachurin 85	cs
^{11}C X		
4.491	Kozma 89B	cs
$\pi^{\pm}$ X		
0.8533 – 1.09	Digiacomo 85	p
π^{+} X		
0.6084 – 0.6462	Bimbot 85	angp, cs
0.8533 – 1.09	Digiacomo 85	p
15 – 61	Belyaev 88	angp
	Belyaev 88B	angp
π^{-} X		
0.6084 – 0.6462	Bimbot 85	angp, cs
0.8533 – 1.09	Digiacomo 85	p
4.3 – 9.9	Bajramov 89	p
15 – 61	Belyaev 88	angp
	Belyaev 88B	angp
p X		
16.97 – 31.99	Belyaev 89	ang, angp, p, pol
16.97 – 61.99	Belyaev 88C	angp, pol
n X		
1.696	Baturin 87	a-dep, angp
4.2	Bekmirzaev 87B	angp, mult, p
4.2 – 10	Bekmirzaev 89	mult, p
10	Bekmirzaev 87	angp, mult, p
deuteron X		
16.97 – 31.99	Belyaev 89	ang, angp, p, pol
dibaryon($S = -1$) X		
10	Shahbazyan 90	cs, mass
^{12}C p		
0.046	Sedlak 88	angp
1.696	Alkhazov 85B	angp
2p X		
0.6444	Cowley 88	angp, p
mult[charged] 2neutral (neutrals)		
4.2 – 10	Angelov 89	col, p
$\pi^{\pm}$ mult[charged] 2neutral (neutrals)		
4.2 – 10	Angelov 89	col, p
p mult[charged] 2neutral (neutrals)		
4.2 – 10	Angelov 89	col, p

p C

X		
800	Gomez 86	a-dep, cs
inelastic		
1.26 – 2.5	Kuzichev 89	a-dep, cs
4.2	Grigalashvil 88	cs
(106.4 – 473.2)	Avakyan 89C	a-dep, cs
charged X		
2 – 10	Kutsidi 86	mult
2.3	Grigalashvil 88	a-dep, mult
4.2	Mekhtiev 88	et, mult

p C

charged^{-} X		
2.3	Grigalashvil 88	a-dep, mult
4.2	Grigalashvil 88	a-dep, mult
mult[charged] X		
4.2	Mekhtiev 88	et
4.2 – 10	Baatar 87B	cs, mult, p, pt
14.5	Remsberg 88	mult
mult[charged^{+}] X		
10	Armutlijsky 87B	cs, mult
mult[charged^{-}] X		
2.3	Grigalashvil 88	a-dep, mult
4.2	Grigalashvil 88	a-dep, mult
10	Armutlijsky 87B	cs, mult
neutral X		
14.5	Remsberg 88	p
	Tannenbaum 88	et, p
mult[charged] (neutrals)		
4.2 – 10	Baatar 88	cor, mass, mult, p, pt
400	Miettinen 88	a-dep, angp, col, et, mult, p
800	Gomez 86	col, et
γ X		
10	Armutlijsky 85B	angp
70	Afanasyev 90	cs
	Afanasyev 90B	cs
200	Badier 85F	pt
	Bardadinotwi 85	p, pt
π^{0} X		
4.5	Abraamyan 88	p, pt
10	Armutlijsky 86	cs
200	Badier 85E	cs, p, pt
	Badier 85F	pt
	Bardadinotwi 85	p, pt
$\pi^{\pm}$ X		
10	Armutlijsky 85B	angp, cs
π^{+} X		
0.9543 – 1.023	Falk 83	asym, p
1 – 9	Bayukov 85E	a-dep, angp, p
4.2	Kopylova 87	p
	Simich 86	mult, p
7.5	Vorobiev 89B	a-dep, angp
	Vorobiev 88D	a-dep, angp
10	Kopylova 87	p
	Armutlijsky 85B	angp, mult
25 – 65	Belyaev 88D	a-dep, angp
70	Abramov 84E	a-dep, pt
200	Bardadinotwi 85	p, pt
π^{-} X		
1 – 9	Bayukov 85E	a-dep, angp, p
1.463	Barlow 88	angp
4.2	Agakishiev 89B	angp, mult, p
	Simich 86	mult, p
	Bartke 85	a-dep, asym, p
	Agakishiev 84B	angp, mult, p, pt
10	Armutlijsky 87B	a-dep, angp, mult, p
	Kopylova 86B	angp
	Armutlijsky 85B	angp, mult, p
70	Abramov 84E	a-dep, pt
200	Bardadinotwi 85	p, pt

p C

$J/\psi(1S)$ X		
530	De 89	a-dep, cs, p
800	Mishra 90	a-dep, p, pt
$\psi(2S)$ X		
800	Mishra 90	a-dep
$\Upsilon(1S)$ X		
800	Mishra 90	a-dep
χ(unspec) X		
530	De 89	–
positronium X		
70	Afanasyev 90	cs
	Afanasyev 90B	cs
K^{+} X		
1.468 – 1.685	Koptyev 88	cs
1.505 – 1.685	Abrosimov 85B	cs
1.693	Koptyev 88	cs
	Abrosimov 85B	cs
70	Abramov 84E	a-dep, pt
K^{-} X		
70	Abramov 84E	a-dep, pt
p X		
0.3956 – 1.199	Mcnaughton 86	pol
0.5513	Segel 85	cs, p
1 – 9	Bayukov 85C	a-dep, angp, p
1.463	Miake 84	angp
1.696	Baturin 87B	angp, p
	Baturin 85	a-dep, p
	Belostotsky 84	pol
3.9	Nakai 89	a-dep, angp
4.2	Gulkanyan 88D	a-dep, angp, cor, cs, mult
	Kopylova 87	p
	Armutlijsky 86C	angp, mult, p
4.2 – 10	Agakishiev 88	p
	Armutlijsky 87C	col, mult
7.5	Vorobiev 86B	angp
	Bayukov 85D	angp, p
	Bayukov 85F	a-dep, p
	Vorobiev 85B	pol
10	Armutlijsky 87	p
	Kopylova 87	p
	Kopylova 86B	angp
	Armutlijsky 85B	angp, cs, mult
17.98 – 63.99	Belyaev 89C	angp, p, pol
70	Abramov 84E	a-dep, pt
200	Bardadinotwi 85	p, pt
200.9	Schmidt 88	p, pt
800	Gomez 86B	–
$\bar{p}$ X		
70	Abramov 84E	a-dep, pt
n X		
1 – 9	Bayukov 85C	a-dep, angp, p
1.206	Binz 89	pol
1.696	Baturin 87B	angp, p
	Baturin 85	a-dep, p
4.2 – 10	Agakishiev 88	p
7.5	Vlasov 89	a-dep, angp
	Bayukov 85D	angp, p
	Bayukov 85F	a-dep, p
$\Delta(1232\,P_{33})^{++}$ X		
7.5	Vorobiev 90	angp
$\Delta(1232\,P_{33})^{0}$ X		
3.88	Nagae 87	angp, cs
Λ X		
3 – 7.5	Vorobiev 89C	angp
deuteron X		
4.2	Kopylova 87	p
10	Armutlijsky 87	cs, p
	Kopylova 87	p
17.98 – 63.99	Belyaev 89C	angp, p, pol
dibaryon X		
7.5	Vorobiev 87C	cs

p C		
^{3}He X		
7.48	Abashidze 85B	a-dep, angp
^{3}H X		
0.5513	Segel 85	cs, p
^{4}He X		
7.48	Abashidze 85B	a-dep, angp
mult[p] X		
4.2	Gulkanyan 88D	mult
4.2 – 10	Baldin 88C	angp, cor
	Armutlijsky 87C	col, mult
hadron$^+$ X		
10	Armutlijsky 85B	angp, mult, p, pt
hadron$^-$ X		
10	Armutlijsky 85B	pt
jet X		
800	Stewart 90	a-dep, angp, col, pt
mult[hadron] X		
10	Baldin 86B	–
800	Tannenbaum 89	et, p
2charged$^+$ X		
4.2	Angelov 88	ang, cor
2γ X		
4.5	Abraamyan 88	mass
200	Badier 85C	cs, pt
	Bardadinotwi 85	cs, p, pt
π^0 charged$^+$ X		
10	Armutlijsky 86	pt
π^0 charged$^-$ X		
10	Armutlijsky 86	pt
$\pi^\pm$ charged X		
1.696	Andronenko 86	ang, mult
π^+ charged$^+$ X		
4.2	Angelov 88	ang, cor
π^- charged$^+$ X		
4.2	Angelov 88	ang, cor
μ^- μ^+ X		
800	Mishra 90	a-dep, p, pt
2π^0 X		
10	Agakishiev 87B	cor
	Armutlijsky 86	mult
π^0 $\pi^\pm$ X		
10	Armutlijsky 85B	mult
π^+ π^0 X		
10	Armutlijsky 86	mult
π^0 π^- X		
10	Armutlijsky 86	angp, mult, p
2$\pi^\pm$ X		
10	*Armutlijsky 85B*	*cs*
π^+ $\pi^\pm$ X		
10	Armutlijsky 85B	mult
π^- $\pi^\pm$ X		
10	Armutlijsky 85B	angp, mult, p
2π^+ X		
7.5	Vlasov 90	a-dep, ang, angp, cor, p
	Vorobiev 89B	angp, cor, pt
	Vorobiev 88D	angp, cor
10	Agakishiev 87B	cor
2π^- X		
4.2	Angelov 88	ang, cor
10	*Agakishiev 87B*	*cor*
π^+ π^- X		
3.9	Nakai 89	a-dep, mass
p C		
π^+ π^- X		
4.2	Angelov 88	ang, cor
$J/\psi(1S)$ γ X		
530	De 89	mass
π^- mult[π^-] X		
4.2	Aliev 89	angp, cor, mult
K_S π X		
10	Armutlijsky 88	angp, mult, p, pt
p charged X		
1.696	Andronenko 86	ang, mult
4.2 – 10	Agakishiev 88	mult, p
p charged$^+$ X		
4.2	Angelov 88	ang, cor
p charged$^-$ X		
4.2 – 10	Agakishiev 88	mult, p
n charged X		
4.2 – 10	Agakishiev 88	mult, p
n charged$^-$ X		
4.2 – 10	Agakishiev 88	mult, p
p π^0 X		
10	Armutlijsky 86	mult
	Armutlijsky 85B	mult
p $\pi^\pm$ X		
7.5	Vorobiev 90	mass
10	Armutlijsky 85B	cs, mult
p π^+ X		
3.9	Nakai 89	a-dep, mass
7.5	Vlasov 90	a-dep, ang, angp, cor, p
	Vorobiev 90	mass
10	Armutlijsky 85B	mult
p π^- X		
3.9	Nakai 89	a-dep, mass
4.2	Angelov 88	ang, cor
10	Armutlijsky 85B	angp, mult, p
p π^+ X + 2π^+ X + π^+ π^- X		
10	Kopylova 86E	cor
p π^- X + π^+ π^- X + 2π^- X		
10	Kopylova 86E	cor
Λ π X		
10	Armutlijsky 88	mult, p, pt
p K_S X		
10	Armutlijsky 88	angp, mult, p, pt
deuteron charged X		
1.696	Andronenko 86	ang, mult
deuteron charged$^+$ X		
10	Armutlijsky 87	pt
deuteron charged$^-$ X		
10	Armutlijsky 87	pt
2p X		
1.463	Miake 84	angp
3 – 7.5	Bayukov 86	ang
4.2	Angelov 88	ang, cor
	Pluta 88B	angp, cor, p
	Armutlijsky 86B	cor
4.2 – 10	Armutlijsky 87D	angp, cs, mass, p
4.338	Ohmori 89	angp, pol
5.1	Budilov 90	angp, cor, p
6 – 12	Carroll 88	angp
7.5	Vorobiev 90B	ang, angp, mass, p
	Bayukov 89	ang, angp, p
	Bayukov 89B	ang, angp, p
p C		
2p X		
	Bayukov 89C	ang, angp, p
	Bayukov 88	angp, cor
	Vorobiev 87C	mass
10	Agakishiev 87B	cor
	Armutlijsky 85B	cs, mult
2p X + p π^+ X + p π^- X		
10	Kopylova 86E	cor
p n X		
7.5	Vlasov 89	a-dep, ang, cor, p
deuteron π^0 X		
10	Armutlijsky 87	mult, p
deuteron π^+ X		
7.5	Vlasov 90	a-dep, ang, angp, cor, p
10	Armutlijsky 87	mult
deuteron π^- X		
10	*Armutlijsky 87*	angp, mult, p
p Λ X		
10	Armutlijsky 88	mult, p, pt
^{3}H charged X		
1.696	Andronenko 86	mult
deuteron p X		
1.463	Miake 84	angp
7.5	Bayukov 89C	ang, angp, p
	Vlasov 89B	ang, p
	Vlasov 86	ang, angp, p
10	Armutlijsky 87	cor, mult
deuteron n X		
7.5	Vlasov 89	a-dep, ang, cor, p
^{3}H p X		
7.5	Bayukov 89C	ang, angp, p
	Vlasov 89B	ang, p
2deuteron X		
7.5	Bayukov 89C	ang, angp, p
	Vlasov 89B	ang, p
	Vlasov 86	ang, angp, p
hadron mult[charged] X		
4.2 – 10	Baatar 87B	angp, cs, mult, p, pt
$\pi^\pm$ hadron$^+$ X		
10	Armutlijsky 85B	angp, mult, p, pt
$\pi^\pm$ hadron$^-$ X		
10	Armutlijsky 85B	pt
$\pi^\pm$ jet X		
10	Baldin 85	ang, p
π hadron X		
10	*Lyubimov 88*	*col*
p (p's) X		
4.2 – 10	Angelov 88	angp, col
p hadron$^+$ X		
10	Armutlijsky 85B	angp, mult, p, pt
p hadron$^-$ X		
10	Armutlijsky 85B	pt
(jets) jet X		
400	Miettinen 88	a-dep, angp, et, p
shower mult[shower] X		
4.2	Aliev 89	angp, cor, mult
2jet 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

π mult[charged] (neutrals)		
4.2 – 10	Baatar 89	angp, mass, mult, pt
mult[π] mult[charged] (neutrals)		
4.2 – 10	Baatar 88	cor, mass, mult, p, pt
p mult[charged] (neutrals)		
4.2 – 10	Baatar 89	angp, mass, mult, pt
mult[p] mult[charged] (neutrals)		
4.2 – 10	Baatar 88	cor, mass, mult, p, pt
$\mu^- \mu^+ \gamma$ X		
530	De 89	mass
$3\pi^0$ X		
10	Agakishiev 87B	cor
$2\pi^0 \pi$ X		
10	Agakishiev 87B	cor
$2\pi^+ \pi^0$ X		
10	Agakishiev 87B	cor
$\pi^0 2\pi^-$ X		
10	Agakishiev 87B	cor
$2\pi^+ \pi$ X		
10	Agakishiev 87B	cor
$2\pi^- \pi$ X		
10	Agakishiev 87B	cor
$K_S \pi^+ \pi$ X		
10	*Armutlijsky 88*	*mult*
$K_S \pi^- \pi$ X		
10	Armutlijsky 88	angp, mult, p
p charged$^+$ charged$^-$ X		
4.2 – 10	Agakishiev 88	p
n charged$^+$ charged$^-$ X		
4.2 – 10	Agakishiev 88	p
p $2\pi^0$ X		
10	Agakishiev 87B	cor
p $\pi^+ \pi^\pm$ X		
10	Armutlijsky 85B	mult
p $\pi^- \pi^\pm$ X		
10	Armutlijsky 85B	angp, mult, p
p $2\pi^+$ X		
10	Agakishiev 87B	cor
p $2\pi^-$ X		
10	Agakishiev 87B	cor
Λ $\pi^+ \pi$ X		
10	Armutlijsky 88	mult
Λ $\pi^- \pi$ X		
10	Armutlijsky 88	angp, mult, p
p $K_S \pi^+$ X		
10	Armutlijsky 88	mult
p $K_S \pi^-$ X		
10	Armutlijsky 88	angp, mult, p
p $K_S \pi$ X		
10	Armutlijsky 88	mult
$2p$ π^0 X		
10	Agakishiev 87B	cor
	Armutlijsky 87	mult, p
$2p$ $\pi^\pm$ X		
10	Armutlijsky 85B	mult
$2p$ π^+ X		
3.9	Nakai 89	a-dep, angp
10	Armutlijsky 85B	mult
$2p$ π^- X		
3.9	Nakai 89	a-dep, angp
10	Armutlijsky 85B	angp, mult, p

p C

$2p$ π X		
10	Agakishiev 87B	cor
$2p$ $0\pi^+$ X		
4.2 – 10	Armutlijsky 87D	angp, cs, mass, p
p Λ π^+ X		
10	Armutlijsky 88	mult
p Λ π^- X		
10	Armutlijsky 88	angp, mult, p
p Λ π X		
10	Armutlijsky 88	mult
$2p$ K_S X		
10	Armutlijsky 88	mult
$3p$ X		
7.5	Vlasov 88	ang, angp, cor
10	Armutlijsky 87	cor
	Armutlijsky 85B	mult
$2p$ Λ X		
10	Armutlijsky 88	mult
deuteron $2p$ X		
7.5	Vlasov 88	ang, angp, cor
2deuteron p X		
7.5	Vlasov 88	ang, angp, cor
p $\pi^\pm$ hadron$^+$ X		
10	Armutlijsky 85B	angp, mult, p, pt
p $\pi^\pm$ hadron$^-$ X		
10	Armutlijsky 85B	pt
$2p$ hadron$^+$ X		
10	Armutlijsky 85B	angp, mult, p, pt
$2p$ hadron$^-$ X		
10	Armutlijsky 85B	pt
$2p$ fragt (neutrals)		
3.88	Nagae 87	angp, mass
6 – 10	Heppelmann 89	angp
$2p$ $2\pi^+$ X		
4.2 – 10	Armutlijsky 87D	angp, cs, mass, p
$3p$ (p's) X		
10	Lyubimov 88	col
$2p$ π^+ fragt (neutrals)		
3.88	Nagae 87	angp, mass
$2p$ π^- fragt (neutrals)		
3.88	Nagae 87	angp, mass

p ^{13}C

^{14}Nit*		
0.0573	Savage 88C	–
Nit* γ		
0.0573	Savage 86B	–
^{13}C p		
1.696	Alkhazov 85B	angp
^{13}Nit n		
0.5708	Goodman 85	angp, pol

p ^{14}Nit

π^- X		
21	Bajramov 89	p

p Nit

Nit p		
1.696	Alkhazov 85B	angp

p ^{15}Nit

^{15}O n		
0.5708	Goodman 85	angp, pol

p ^{16}O

n X		
1.696	Baturin 87	a-dep, angp
^{16}O p		
0.6444	Glover 85B	angp, cs, pol
1.696	Alkhazov 85B	angp

p Fl

p X		
7.5	Bayukov 85D	angp, p
n X		
7.5	Bayukov 85D	angp, p

p ^{19}Fl

n X		
1.696	Baturin 87	a-dep, angp
^{16}O* ^{4}He		
0.0398	Savage 88C	–
0.057	Bini 89B	cs

p ^{20}Ne

p X		
300	Alimov 89	angp, cs, mult, p
$\Delta(1232\,P_{33})^{++}$ X		
300	Alimov 88	angp, cs
$\Delta(1232\,P_{33})^0$ X		
300	Alimov 88	angp, cs
$N(1440\,B)^0$ X		
300	Alimov 88	angp, cs
π^- mult[π^-] X		
300	Aliev 89	angp, cor, mult
p π^+ X		
300	Alimov 89	angp, mult, p
	Alimov 88	angp, mass
p π^- X		
300	Alimov 89	angp, mult, p
	Alimov 88	angp, mass
$2p$ X		
300	Alimov 89	mass
	Zielinsky 88	cs, mass
shower mult[shower] X		
300	Aliev 89	angp, cor, mult
$2p$ $0\pi^\pm$ X		
300	Alimov 89	mass
$2p$ mult[$\pi^\pm$] X		
300	Alimov 89	mass
$2p$ (p's) X		
300	Allaberdin 87	angp, cor

p Ne

γ X		
28	Fredriksson 87	mult
300	Artykov 90	pt
	Alimov 89B	mult
π^0 X		
300	Artykov 86	cs, mult
	Azimov 85E	cs
mult[π^0] X		
300	Azimov 85E	mult
p X		
300	Alimov 85	angp, mult
n X		
300	Azimov 85F	angp, mult, p
γ mult[charged$^-$] X		
28	Fredriksson 87	cor, mult
300	Alimov 89B	mult, p

_p_ Ne

π^0 charged$^-$ X		
300	Artykov 86	mult
$p\ \pi^0$ X		
300	Artykov 86	mult
2p X		
300	Azimov 84C	mass
mult[p] mult[π^0] X		
300	Azimov 85E	mult
γ mult[grey] X		
300	Artykov 90	mult, p, pt
	Alimov 89B	mult, p
3p X		
300	Azimov 86	mass
γ mult[grey] mult[charged$^-$] X		
300	Alimov 89B	mult
4p X		
300	Azimov 86	mass
	Azimov 84B	mass

_p_ Na

p X		
1.463	Miake 84	angp
2p X		
1.463	Miake 84	angp
deuteron p X		
1.463	Miake 84	angp

_p_ ^{24}Mg

n X		
1.696	Baturin 87	a-dep, angp
(blacks) mult[grey] mult[shower] (neutrals)		
100	Biswas 86	cs

_p_ Mg

inelastic		
200	Abe 88	cs
charged X		
200	Brick 89	mult
charged$^-$ X		
200	Brick 90	cor, mult, p
	Brick 89	mult
mult[charged] X		
200	Brick 89	mult
mult[charged$^-$] X		
200	Brick 89	mult
$\pi^\pm$ X		
200	Abe 88	mult
π^- X		
200	Abe 88	mult
p X		
100	Toothacker 87	mult, p
200	Abe 88	p
$\bar{p}$ X		
100	Toothacker 87	mult, p
grey X		
200	Abe 88	mult
mult[shower] X		
200	Brick 89	mult
shower X		
200	Brick 90	cor, mult, p
	Brick 89	mult
2charged X		
200	Brick 90	cor, mult, p
$p\ \pi^\pm$ X		
100	Toothacker 87	mult, p
p mult[$\pi^\pm$] X		
100	Toothacker 87	p
2p X		
100	Toothacker 87	mult
mult[grey] charged$^-$ X		
200	Brick 90	cor, mult. p
	Brick 89	mult
p mult[p] X		
100	Toothacker 87	p, pt
n mult[p] X		
100	Toothacker 87	p, pt
mult[grey] shower X		
200	Brick 90	cor, mult, p
	Brick 89	mult
mult[grey] charged$^+$ charged$^-$ X		
200	Brick 89	mult

_p_ ^{25}Mg

n X		
1.696	Baturin 87	a-dep, angp

_p_ ^{26}Mg

n X		
1.696	Baturin 87	a-dep, angp

_p_ Al

X		
800	Gomez 86	a-dep, cs
inelastic		
1.26 – 2.5	Kuzichev 89	a-dep, cs
charged X		
220 – 1500	Dzhaoshvili 90	mult, p
> 10^3	Berdzenishvi 85	mult, p
mult[charged] X		
360	Bailly 88	mult, p
	Bailly 87D	mult
mult[charged$^-$] X		
360	Bailly 87D	mult
neutral X		
14.5	Remsberg 88	p
	Tannenbaum 88	et, p
220 – 1500	Dzhaoshvili 90	p
mult[charged] (neutrals)		
400	Miettinen 88	a-dep, angp, col, et, mult, p
800	Gomez 86	col, et
γ X		
450.9	Schukraft 88B	angp, pt
μ^+ X		
300	Cobbaert 88	a-dep
μ^- X		
300	Cobbaert 88	a-dep
π^+ X		
4.94 – 10.14	Boyarinov 87	angp, p
6.37 – 8.08	Arefiev 85	a-dep, angp
10.1	Sibirtsev 88	a-dep, angp
	Vorontsov 88B	a-dep, angp
10.14	Boyarinov 87B	angp
14.97 – 64.99	Belyaev 89B	a-dep, angp
25 – 65	Belyaev 88D	a-dep, angp
70	Abramov 84E	a-dep, pt
π^- X		
4	Enyo 85	p
4.94 – 10.14	Boyarinov 87	angp, p
8.9	Averchikov 87	a-dep, angp
10.1	Vorontsov 88B	a-dep, angp
10.14	Boyarinov 87B	angp
14.97 – 64.99	Belyaev 89B	a-dep, angp
70	Abramov 84E	a-dep, pt
K^+ X		
1.693	Koptyev 88	cs
	Ahrosimov 85B	cs
10.1	Sibirtsev 88	a-dep, angp
	Vorontsov 88B	a-dep, angp
10.14	Boyarinov 89	a-dep, angp
	Boyarinov 88B	angp
70	Abramov 84E	a-dep, pt
K^- X		
10.1	Vorontsov 88B	a-dep, angp
10.14	Boyarinov 89	a-dep, angp
	Boyarinov 88C	angp
28.4	Snow 85	angp
70	Abramov 84E	a-dep, pt
p X		
1.696	Baturin 85	a-dep, p
	Belostotsky 84	pol
2.5 – 9.2	Safronov 88	angp
3.9	Nakai 89	a-dep, angp
4	Tokushuku 90	angp
	Enyo 85	p
4.94 – 10.14	Boyarinov 86	angp
6.37 – 8.08	Arefiev 85	a-dep, angp
7.5	Bayukov 85F	a-dep, p
8.9	Averchikov 87	a-dep, angp
10.1	Safronov 88B	angp
	Sibirtsev 88	a-dep, angp
	Vorontsov 88B	a-dep, angp
	Ergakov 86	a-dep, angp
10.14	Boyarinov 87B	angp
70	Abramov 84E	a-dep, pt
800	Gomez 86B	–
$\bar{p}$ X		
4.542 – 10.09	Lepikhin 87	a-dep, angp
8.9	Averchikov 87	a-dep, angp
10.1	Voronin 88	a-dep, angp
70	Abramov 84E	a-dep, pt
n X		
1.696	Baturin 85	a-dep, p
7.5	Bayukov 85F	a-dep, p
$\Delta(1232\,P_{33})^0$ X		
3.88	Nagae 87	angp, cs
Λ X		
3 – 7.5	Vorobiev 89C	angp
deuteron X		
2.03 – 10.1	Ergakov 86	a-dep, angp
2.5 – 9.2	Safronov 88	angp
4	Tokushuku 90	angp
6.37 – 8.08	Arefiev 85	a-dep, angp
10.1	Safronov 88B	angp
10.14	Boyarinov 88	angp, p
70	Barkov 85C	a-dep, cs, p
^{3}He X		
10.1	Safronov 88B	angp
	Ergakov 86	a-dep, angp
70	Barkov 85C	a-dep, cs, p
^{3}H X		
6.37 – 8.08	Arefiev 85	a-dep, angp
10.1	Safronov 88B	angp
	Ergakov 86	a-dep, angp
10.14	Boyarinov 88	angp, p
70	Barkov 85C	a-dep, cs, p
^{4}He X		
10.1	Safronov 88B	angp
70	Barkov 85C	a-dep, cs, p
charm X		
300	Cobbaert 88	a-dep, cs
frag X		
5.762	Shibata 86	cs
grey X		
360	Bailly 87D	p
mult[grey] X		
360	Bailly 87D	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 Al

mult[hadron] X	800	Tannenbaum 89	et, p
mult[shower] X	360	Bailly 87D	mult
shower X	360	Bailly 87D	p
π^- mult[charged] X	4	Enyo 85	mult, p
μ^- μ^+ X	300	Cobbaert 88	a-dep
		Cobbaert 88B	a-dep, mass, p
π^+ π^- X	3.9	Nakai 89	a-dep, mass
$J/\psi(1S)$ γ X	530	De 89	a-dep, cs, mass, p
p mult[charged] X	4	Enyo 85	mult, p
2p X	6 – 12	Carroll 88	angp
	7.5	Bayukov 85	cor
(jets) jet X	400	Miettinen 88	a-dep, angp, et, p
grey shower X	360	Bailly 87D	cor, mult
mult[grey] shower X	360	Bailly 87D	p
shower hadron X	360	Bailly 87D	cor, mult, p
2hadron$^+$ X	800	Streets 89	a-dep, ang, mass, pt
2hadron$^-$ X	800	Streets 89	a-dep, ang, mass, pt
hadron$^+$ hadron$^-$ X	800	Streets 89	a-dep, ang, mass, pt
μ^- μ^+ γ X	530	De 89	mass
2p π^- X	3.9	Nakai 89	a-dep, angp
2p fragt (neutrals)	6 – 10	Heppelmann 89	angp
2p π^+ fragt (neutrals)	3.88	Nagae 87	angp, mass
2p π^- fragt (neutrals)	3.88	Nagae 87	angp, mass

p ^{27}Al

inelastic	1.35 – 3.75	Gachurin 85	cs
^{24}Na X	4.491	Damdinsuren 87	cs
p X	0.097 – 0.4207	Machner 85	p
	0.3467 – 1.166	Machner 85	angp
n X	0.097 – 0.4207	Machner 85	p
	1.696	Baturin 87	a-dep, angp
deuteron X	0.3467 – 1.166	Machner 85	angp
^{24}Na 3p n	0.2941 – 0.6444	Michel 85	cs

p Si

D^0 X	200	Barlag 88	cs, p, pt
		Barlag 87	–

p Si

$\overline{D}^0$ X	200	Barlag 88	cs, p, pt
		Barlag 87	–
D^+ X	200	Barlag 88	cs, p, pt
		Barlag 87	–
D^- X	200	Barlag 88	cs, p, pt
		Barlag 87	–
D_S^- X	200	Barlag 88	cs, p, pt
D_S^+ X	200	Barlag 88	cs, p, pt
$D^*(2010)^+$ X	200	Barlag 88	cs, p, pt
$D^*(2010)^-$ X	200	Barlag 88	cs, p, pt
K^+ K^- 2π^+ 2π^- X	200	Barlag 88	mass

p KK

p X	1.463	Miake 84	angp
2p X	1.463	Miake 84	angp
deuteron p X	1.463	Miake 84	angp

p Cl

χ(unspec) X	530	De 89	–

p Ar

charged$^-$ X	200	Klar 84	mult, p, pt
mult[charged] X	200	Dengler 86C	angp, mult, p
mult[charged$^-$] X	200	Dengler 86C	angp, mult, p
2charged X	200	Derado 88	a-dep, cor, mult, p
mult[p] 2charged X	200	Derado 88	a-dep, cor, mult, p

p ^{40}Ar

dibaryon X	1.696	Ermakov 86	–
		Ermakov 86B	–
2p X	1.696	Ermakov 86	ang, mass
2p π^+ X	1.696	Ermakov 86B	mass

p ^{40}Ca

inelastic	1.09	Seth 85	asym
n X	1.696	Baturin 87	a-dep, angp
^{40}Ca p	0.6444 – 0.9543	Lee 88	angp
	1.09	Berezhnoj 85	–
Ca* p	1.09	Berezhnoj 85	–

p Ca

$J/\psi(1S)$ X	800	Mishra 90	a-dep, p, pt

p Ca

$\psi(2S)$ X	800	Mishra 90	a-dep
$\Upsilon(1S)$ X	800	Mishra 90	a-dep
p X	0.5	Rees 86	pol
μ^- μ^+ X	800	Mishra 90	a-dep, p, pt

p ^{44}Ca

n X	1.696	Baturin 87	a-dep, angp

p Ti

ν_e X	28.3	Krizmanic 89	flux
		Lile 89	flux
$\bar{\nu}_e$ X	28.3	Krizmanic 89	flux
		Lile 89	flux
ν_μ X	28.3	Krizmanic 89	flux
		Lile 89	flux
$\bar{\nu}_\mu$ X	28.3	Krizmanic 89	flux
		Lile 89	flux
π^+ X	14.97 – 64.99	Belyaev 89B	a-dep, angp
	25 – 65	Belyaev 88D	a-dep, angp
π^- X	14.97 – 64.99	Belyaev 89B	a-dep, angp
K^+ X	1.693	Koptyev 88	cs
		Abrosimov 85B	cs
p X	7.5	Bayukov 85F	a-dep, p
n X	7.5	Bayukov 85F	a-dep, p
2π^+ X	7.5	Vlasov 90	a-dep, ang, angp, cor, p
p π^+ X	7.5	Vlasov 90	a-dep, ang, angp, cor, p
2p X	3 – 7.5	Bayukov 86	ang
	7.5	Bayukov 89	ang, angp, p
		Bayukov 89B	ang, angp, p
		Bayukov 89C	ang, angp, p
		Bayukov 88	angp, cor
p n X	7.5	Vlasov 89	a-dep, ang, cor, p
deuteron π^+ X	7.5	Vlasov 90	a-dep, ang, angp, cor, p
deuteron p X	7.5	Bayukov 89C	ang, angp, p
		Vlasov 89B	ang, p
		Vlasov 86	ang, angp, p
deuteron n X	7.5	Vlasov 89	a-dep, ang, cor, p
^{3}H p X	7.5	Bayukov 89C	ang, angp, p
		Vlasov 89B	ang, p

***p* Ti**

2deuteron X			
	7.5	Bayukov 89C	ang, angp, p
		Vlasov 89B	ang, p
		Vlasov 86	ang, angp, p
3*p* X			
	7.5	Vlasov 88	ang, angp, cor
deuteron 2*p* X			
	7.5	Vlasov 88	ang, angp, cor
2deuteron *p* X			
	7.5	Vlasov 88	ang, angp, cor

***p* ^{48}Ca**

inelastic			
	1.09	Seth 85	asym
^{48}Sc *n*			
	0.5211 – 0.5708	Anderson 85B	angp, cs, p

***p* Va**

^{51}Cr (*n*'s)			
	0.2941 – 0.6444	Michel 85	cs
^{48}Va *p* (*n*'s)			
	0.2941 – 0.6444	Michel 85	cs
nucleus nucleon (nucleons)			
	0.2941 – 0.6444	Michel 85	cs
^{46}Sc 3*p* (*n*'s)			
	0.2941 – 0.6444	Michel 85	cs
^{47}Sc 3*p* (*n*'s)			
	0.2941 – 0.6444	Michel 85	cs
^{43}KK 5*p* (*n*'s)			
	0.2941 – 0.6444	Michel 85	cs

***p* ^{54}Fe**

Fe* deuteron			
	0.4938	Dickey 85	pol
^{53}Fe deuteron γ			
	0.4938	Dickey 85	pol

***p* ^{55}Mn**

^{24}Na X			
	4.491	Kozma 90B	angp, p
		Kozma 88B	cs
^{28}Mg X			
	4.491	Kozma 90B	angp, p
		Kozma 88B	cs
^{42}KK X			
	4.491	Kozma 88B	cs
^{43}KK X			
	4.491	Kozma 88B	cs
^{43}Sc X			
	4.491	Kozma 88B	cs
^{44}Sc X			
	4.491	Kozma 88B	cs
^{46}Sc X			
	4.491	Kozma 88B	cs
^{47}Sc X			
	4.491	Kozma 88B	cs
^{48}Cr X			
	4.491	Kozma 88B	cs
^{48}Sc X			
	4.491	Kozma 88B	cs
^{48}Va X			
	4.491	Kozma 88B	cs

***p* ^{55}Mn**

^{51}Cr X			
	4.491	Kozma 88B	cs
^{52}Mn X			
	4.491	Kozma 88B	cs
^{52}Fe X			
	4.491	Kozma 88B	cs
^{54}Mn X			
	4.491	Kozma 88B	cs
frag X			
	4.491	Kozma 88B	cs
nucleus nucleon (nucleons)			
	0.2941 – 0.6444	Michel 85	cs
^{52}Mn *p* 3*n*			
	0.2941 – 0.6444	Michel 85	cs
^{51}Cr 2*p* 3*n*			
	0.2941 – 0.6444	Michel 85	cs
^{48}Cr 2*p* 6*n*			
	0.2941 – 0.6444	Michel 85	cs
^{46}Sc 5*p* 5*n*			
	0.2941 – 0.6444	Michel 85	cs

***p* Fe**

inelastic			
	1.26 – 2.5	Kuzichev 89	a-dep, cs
	(233.9 – 1021)	Avakyan 89C	a-dep, cs
	(233.9 – 723.1)	Avakyan 85D	cs
		Avakyan 85E	cs
μ^+ X			
	70	Belikov 89	cs
	300	Cobbaert 88	a-dep
μ^- X			
	70	Belikov 89	cs
	300	Cobbaert 88	a-dep
π^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
shower X			
	300	Muraki 84	-
μ^- μ^+ X			
	70	Sviridov 88	angp
	300	Cobbaert 88	a-dep
		Cobbaert 88B	a-dep, mass, p
	800	Mishra 90	a-dep, p, pt
charmed-meson $\overline{\text{charmed-meson}}$ X			
	70	Sviridov 88	–
Λ_c^+ $\overline{\text{charmed-meson}}$ X			
	70	Sviridov 88	–
charm $\overline{\text{charm}}$ X			
	70	Sviridov 88	–
2hadron$^+$ X			
	800	Streets 89	a-dep, ang, mass, pt
2hadron$^-$ X			
	800	Streets 89	a-dep, ang, mass, pt
hadron$^+$ hadron$^-$ X			
	800	Streets 89	a-dep, ang, mass, pt

***p* ^{58}Ni**

***p* X**			
	0.4207	Machner 85	p
	0.5513	Segel 85	cs, p
	7.5	Bayukov 85D	angp, p
		Gavrilov 85B	a-dep, angp, p
***n* X**			
	7.5	Bayukov 85D	angp, p
		Gavrilov 85B	a-dep, angp, p
deuteron X			
	7.5	Gavrilov 85B	a-dep, angp, p
^{3}H X			
	0.5513	Segel 85	cs, p

***p* Ni**

^{24}Na X			
	4.491	Kozma 88B	cs
^{28}Mg X			
	4.491	Kozma 88B	cs
^{42}KK X			
	4.491	Kozma 88B	cs
^{43}KK X			
	4.491	Kozma 88B	cs
^{43}Sc X			
	4.491	Kozma 88B	cs
^{44}Sc X			
	4.491	Kozma 88B	cs
^{46}Sc X			
	4.491	Kozma 88B	cs
^{47}Sc X			
	4.491	Kozma 88B	cs
^{48}Cr X			
	4.491	Kozma 88B	cs
^{48}Sc X			
	4.491	Kozma 88B	cs
^{48}Va X			
	4.491	Kozma 88B	cs
^{51}Cr X			
	4.491	Kozma 88B	cs
^{52}Mn X			
	4.491	Kozma 88B	cs
^{52}Fe X			
	4.491	Kozma 88B	cs
^{54}Mn X			
	4.491	Kozma 88B	cs
^{55}Co X			
	4.491	Kozma 88B	cs
^{56}Co X			
	4.491	Kozma 88B	cs
^{56}Mn X			
	4.491	Kozma 88B	cs
^{56}Ni X			
	4.491	Kozma 88B	cs
^{57}Co X			
	4.491	Kozma 88B	cs
^{57}Ni X			
	4.491	Kozma 88B	cs
***p* X**			
	7.5	Bayukov 85D	angp, p
***n* X**			
	7.5	Bayukov 85D	angp, p
frag X			
	4.491	Kozma 88B	cs
fragt X			
	9	Kozma 86B	cs

***p* ^{59}Co**

^{24}Na X			
	4.491	Kozma 90B	angp, p
		Kozma 88B	cs
^{28}Mg X			
	4.491	Kozma 90B	angp, p
		Kozma 88B	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.

$p\ ^{59}$Co

^{42}KK X		
4.491	Kozma 88B	cs
^{43}KK X		
4.491	Kozma 88B	cs
^{43}Sc X		
4.491	Kozma 88B	cs
^{44}Sc X		
4.491	Kozma 88B	cs
^{46}Sc X		
4.491	Kozma 88B	cs
^{47}Sc X		
4.491	Kozma 88B	cs
^{48}Cr X		
4.491	Kozma 88B	cs
^{48}Sc X		
4.491	Kozma 88B	cs
^{48}Va X		
4.491	Kozma 88B	cs
^{51}Cr X		
4.491	Kozma 88B	cs
^{52}Mn X		
4.491	Kozma 88B	cs
^{52}Fe X		
4.491	Kozma 88B	cs
^{54}Mn X		
4.491	Kozma 88B	cs
^{55}Co X		
4.491	Kozma 88B	cs
^{56}Co X		
4.491	Kozma 88B	cs
^{56}Mn X		
4.491	Kozma 88B	cs
^{57}Co X		
4.491	Kozma 88B	cs
^{58}Co X		
4.491	Kozma 88B	cs
frag X		
4.491	Kozma 88B	cs
nucleus nucleon (nucleons)		
0.2941 – 0.6444	Michel 85	cs
^{56}Co p n		
0.2941 – 0.6444	Michel 85	cs
^{52}Mn 3p 5n		
0.2941 – 0.6444	Michel 85	cs
^{51}Cr 4p 5n		
0.2941 – 0.6444	Michel 85	cs
^{48}Va 5p 7n		
0.2941 – 0.6444	Michel 85	cs
^{46}Sc 7p 7n		
0.2941 – 0.6444	Michel 85	cs

$p\ ^{62}$Ni

p X		
0.5513	Segel 85	cs, p

p Cu

X		
800	Gomez 86	a-dep, cs
inelastic		
1.26 – 2.5	Kuzichev 89	a-dep, cs
charged X		
220 – 1500	Dzhaoshvili 90	mult, p
300	Crittenden 86	angp
> 10^3	Berdzenishvi 85	mult, p
charged$^+$ X		
300	Crittenden 86	angp
charged$^-$ X		
300	Crittenden 86	angp

p Cu

neutral X		
14.5	Remsberg 88	p
	Tannenbaum 88	et, p
220 – 1500	Dzhaoshvili 90	p
^{24}Na X		
4.491	Kozma 88B	cs
9	Kozma 86	cs
^{28}Mg X		
4.491	Kozma 88B	cs
9	Kozma 86	cs
^{42}KK X		
4.491	Kozma 88B	cs
9	Kozma 86	cs
^{43}KK X		
4.491	Kozma 88B	cs
9	Kozma 86	cs
^{43}Sc X		
4.491	Kozma 88B	cs
9	Kozma 86	cs
^{44}Sc X		
4.491	Kozma 88B	cs
9	Kozma 86	cs
^{46}Sc X		
4.491	Kozma 88B	cs
9	Kozma 86	cs
^{47}Sc X		
4.491	Kozma 88B	cs
9	Kozma 86	cs
^{48}Cr X		
4.491	Kozma 88B	cs
9	Kozma 86	cs
^{48}Sc X		
4.491	Kozma 88B	cs
9	Kozma 86	cs
^{48}Va X		
4.491	Kozma 88B	cs
9	Kozma 86	cs
^{51}Cr X		
4.491	Kozma 88B	cs
9	Kozma 86	cs
^{52}Mn X		
4.491	Kozma 88B	cs
9	Kozma 86	cs
^{52}Fe X		
4.491	Kozma 88B	cs
^{53}Fe X		
9	Kozma 86	cs
^{54}Mn X		
4.491	Kozma 88B	cs
9	Kozma 86	cs
^{55}Co X		
4.491	Kozma 88B	cs
9	Kozma 86	cs
^{56}Co X		
4.491	Kozma 88B	cs
9	Kozma 86	cs
^{56}Mn X		
4.491	Kozma 88B	cs
9	Kozma 86	cs
^{56}Ni X		
4.491	Kozma 88B	cs
9	Kozma 86	cs
^{57}Co X		
4.491	Kozma 88B	cs
9	Kozma 86	cs
^{57}Ni X		
4.491	Kozma 88B	cs
9	Kozma 86	cs
^{58}Co X		
4.491	Kozma 88B	cs
9	Kozma 86	cs
^{59}Fe X		
4.491	Kozma 88B	cs
9	Kozma 86	cs
^{60}Co X		
4.491	Kozma 88B	cs

p Cu

mult[charged] (neutrals)		
400	Miettinen 88	a-dep, angp, col, et, mult, p
800	Gomez 86	col, et
ν X		
400	Talebzadeh 87	–
	Grassler 86	–
$\bar{\nu}$ X		
400	Grassler 86	–
ν_e X		
400	Duffy 88	a-dep, cs, p, pt
	Duffy 85	a-dep, cs, p
$\bar{\nu}_e$ X		
400	Duffy 88	a-dep, cs, p, pt
	Duffy 85	a-dep, cs, p
ν_μ X		
400	Duffy 88	a-dep, cs, p, pt
	Duffy 85	a-dep, cs, p
$\bar{\nu}_\mu$ X		
400	Duffy 88	a-dep, cs, p, pt
	Duffy 85	a-dep, cs, p
ν_e X + $\bar{\nu}_e$ X		
400	Dorenbosch 87	angp, p
ν_μ X + $\bar{\nu}_\mu$ X		
400	Dorenbosch 87	angp, p
π^0 X		
400	Dorenbosch 87	cs
$\pi^\pm$ X		
0.8474 – 0.9668	Akimov 89	angp
π^+ X		
0.8459 – 0.9189	Haysak 85	angp
1 – 9	Bayukov 85E	a-dep, angp, p
4.94 – 10.14	Boyarinov 87	angp, p
6.37 – 8.08	Arefiev 85	a-dep, angp
10.1	Sibirtsev 88	a-dep, angp
	Vorontsov 88B	a-dep, angp
10.14	Boyarinov 87B	angp
70	Abramov 84E	a-dep, pt
400	Brown 86	a-dep, pt
	Hsiung 85	a-dep, pt
	Thron 84	cs
π^- X		
1 – 9	Bayukov 85E	a-dep, angp, p
4.94 – 10.14	Boyarinov 87	angp, p
8.9	Averchikov 87	a-dep, angp
10.1	Vorontsov 88B	a-dep, angp
10.14	Boyarinov 87B	angp
70	Abramov 84E	a-dep, pt
400	Thron 84	cs
$J/\psi(1S)$ X		
200.9	Sonderegger 89	cs, et
$\Upsilon(1S)$ X		
800	Brown 86	p
$\Upsilon(2S)$ X		
800	Brown 86	p
$\Upsilon(3S)$ X		
800	Brown 86	p
χ(unspec) X		
530	De 89	–
heavy-lepton X		
400	Duffy 88	cs
heavy-lepton^0 X		
400	Dorenbosch 86B	–

p Cu

D(unspec) X	400	Coopersarkar 85	–
K^+ X	1.468 – 1.685	Koptyev 88	cs
	1.505 – 1.685	Abrosimov 85B	cs
	1.693	Koptyev 88	cs
		Abrosimov 85B	cs
	10.1	Sibirtsev 88	a-dep, angp
		Vorontsov 88B	a-dep, angp
	10.14	Boyarinov 89	a-dep, angp
		Boyarinov 88B	angp
	70	Abramov 84E	a-dep, pt
	400	Brown 86	a-dep, pt
		Hsiung 85	a-dep, pt
K^- X	10.1	Vorontsov 88B	a-dep, angp
	10.14	Boyarinov 89	a-dep, angp
		Boyarinov 88C	angp
	28.4	Snow 85	angp
	70	Abramov 84E	a-dep, pt
K_L X	12	Inagaki 89C	–
	24	Ohl 90	–
K_S X	12	Abe 87B	cs, p, pt
$D_S^{\pm}$ X	400	Talebzadeh 87	cs
p X	1 – 9	Bayukov 85C	a-dep, angp, p
	1.696	Baturin 85	a-dep, p
		Belostotsky 84	pol
	2.5 – 9.2	Safronov 88	angp
	4.94 – 10.14	Boyarinov 86	angp
	6.37 – 8.08	Arefiev 85	a-dep, angp
	7.5	Bayukov 85D	angp, p
		Bayukov 85F	a-dep, p
	8.9	Averchikov 87	a-dep, angp
	10.1	Safronov 88B	angp
		Sibirtsev 88	a-dep, angp
		Vorontsov 88B	a-dep, angp
		Ergakov 86	a-dep, angp
	10.14	Boyarinov 87B	angp
	70	Abramov 86	a-dep, pt
		Abramov 84E	a-dep, pt
	120	Bailey 85B	cs, p
	200.9	Schmidt 88	p, pt
	800	Gomez 86B	–
$\bar{p}$ X	4.542 – 10.09	Lepikhin 87	a-dep, angp
	8.9	Averchikov 87	a-dep, angp
	10.1	Voronin 88	a-dep, angp
	70	Abramov 86	a-dep, pt
		Abramov 84E	a-dep, pt
n X	1 – 9	Bayukov 85C	a-dep, angp, p
	1.696	Baturin 87	a-dep, angp
		Baturin 85	a-dep, p
	7.5	Bayukov 85D	angp, p
		Bayukov 85F	a-dep, p
$\Delta(1232\,P_{33})^0$ X	3.88	Nagae 87	cs
Λ X	3 – 7.5	Vorobiev 89C	angp
	12	Abe 87B	cs, p, pt
		Abe 86C	pol
	400	Beretvas 86	angp, cs, p
Σ^+ X	400	Cardello 84	p, pt

p Cu

Σ^- X	400	Wah 85	pol
		Cardello 84	p, pt
$\overline{\Sigma}^+$ X	400	Cardello 84	p, pt
Ξ^0 X	400	Beretvas 86	angp, cs, p
Ξ^- X	400	Trost 89	p, pol
		Cardello 84	p, pt
$\overline{\Xi}^+$ X	400	Cardello 84	p, pt
Ω^- X	400	Cardello 84	p, 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
$\overline{\text{deuteron}}$ X	70	Abramov 86	a-dep, pt
	400	Thron 84	cs
dibaryon X	7.5	Vorobiev 87C	cs
	?	Haysak 85	–
^{3}He X	7.48	Abashidze 85B	a-dep, angp
	10.1	Safronov 88B	angp
		Ergakov 86	a-dep, angp
^{3}H X	6.37 – 8.08	Arefiev 85	a-dep, angp
	10.1	Safronov 88B	angp
		Ergakov 86	a-dep, angp
	10.14	Boyarinov 88	angp, p
	70	Abramov 86	a-dep, pt
	400	Thron 84	cs
^{4}He X	7.48	Abashidze 85B	a-dep, angp
	10.1	Safronov 88B	angp
charm X	400	Duffy 88	a-dep, cs
axion X	400	Bergsma 85	cs
	800	Guo 89	–
		Brown 86	cs
		Brown 86B	–
bottom X	400	Duffy 88	cs
$\overline{\text{bottom}}$ X	400	Duffy 88	cs
$\overline{\text{charm}}$ X	400	Duffy 88	a-dep, cs
frag X	4.491	Kozma 88B	cs
gluino X	400	Coopersarkar 85B	cs
hadron$^+$ X	400	Brown 86	a-dep, pt
		Hsiung 85	a-dep, pt
jet X	800	Stewart 90	a-dep, angp, col, pt
mult[hadron] X	800	Tannenbaum 89	et, p
longlived X + charged X	400	Thron 84	angp
2charged$^+$ X	70	Abramov 84D	a-dep, angp, pt
$\nu_\mu\ \bar{\nu}_\mu$ X	400	Dorenbosch 87	cs

p Cu

2γ X	400	Bergsma 85	cs, mass
$e^-\ e^+$ X	400	Dorenbosch 86B	angp, p
		Bergsma 85	cs, mass
	800	Guo 89	ang, mass
		Brown 86B	mass
$\mu^+\ e^-$ X	400	Dorenbosch 86B	angp, p
$\mu^-\ e^+$ X	400	Dorenbosch 86B	angp, p
$\mu^-\ \mu^+$ X	200.9	Sonderegger 89	cs, et
	400	Dorenbosch 86B	angp, p
		Bergsma 85	cs, mass
	800	Brown 89	p
		Brown 86	mass
2π^+ X	70	Abramov 84D	a-dep, angp, pt
	400	Brown 86	mass
$J/\psi(1S)\ \gamma$ X	530	De 89	a-dep, cs, mass, p
$K^+\ \pi^+$ X	70	Abramov 84D	a-dep, angp, pt
2K^+ X	400	Brown 86	mass
charmed-meson $\overline{\text{charmed-meson}}$ X	400	Duffy 88	a-dep, cs
p charged X	1.696	Baturin 86	angp, p
$p\ \pi^+$ X	70	Abramov 84D	a-dep, angp, pt
$n\ \pi^+$ X	400	Cardello 84	mass
$n\ \pi^-$ X	400	Cardello 84	mass
$\bar{n}\ \pi^+$ X	400	Cardello 84	mass
$\Lambda\ \pi^0$ X	400	Cardello 84	mass
$\Lambda\ \pi^-$ X	400	Trost 89	angp, mass
		Cardello 84	mass
$p\ K^+$ X	70	Abramov 84D	a-dep, angp, pt
$\Xi^0\ \pi^-$ X	400	Cardello 84	mass
$\Lambda\ K^-$ X	400	Cardello 84	mass
Λ_c^+ $\overline{\text{charmed-meson}}$ X	400	Duffy 88	a-dep, cs
2p X	4.338	Ohmori 89	angp, pol
	6 – 10	Carroll 88	angp
	7.5	Vorobiev 90B	ang, angp, mass, p
		Vorobiev 87C	mass
		Bayukov 85	cor
	70	Abramov 84D	a-dep, angp, pt
charm $\overline{\text{charm}}$ X	400	Dorenbosch 87	cs
		Duffy 85	a-dep
(jets) jet X	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 Cu

2hadron$^+$ X		
400	Brown 86	mass
hadron$^+$ hadron$^-$ X		
400	Hsiung 85	a-dep, mass, pt
2jet X		
800	Stewart 90	a-dep, angp, col, et
μ^- μ^+ γ X		
530	De 89	mass
p 2π^- X		
400	Trost 89	angp, mass
2p π^+ X		
3.9	Nakai 89	a-dep, angp
2p π^- X		
3.9	Nakai 89	a-dep, angp
2p fragt (neutrals)		
6 – 10	Heppelmann 89	angp
2p π^+ fragt (neutrals)		
3.88	Nagae 87	angp, mass
2p π^- fragt (neutrals)		
3.88	Nagae 87	angp, mass

p ^{64}Ni

p X		
0.5513	Segel 85	cs, p
7.5	Bayukov 85D	angp, p
	Gavrilov 85B	a-dep, angp, p
n X		
7.5	Bayukov 85D	angp, p
	Gavrilov 85B	a-dep, angp, p
deuteron X		
7.5	Gavrilov 85B	a-dep, angp, p

p ^{64}Cu

^{24}Na X		
4.491	Kozma 90B	angp, p
^{28}Mg X		
4.491	Kozma 90B	angp, p

p ^{65}Zn

inelastic		
1.35 – 3.75	Gachurin 85	cs

p Zn

p X		
7.5	Bayukov 85D	angp, p
n X		
7.5	Bayukov 85D	angp, p

p ^{71}Ga

^{71}Ge n		
0.4895 – 0.6444	Krofcheck 85	angp

p ^{81}Br

^{81}Kr n		
0.6266 – 0.6444	Krofcheck 87	angp

p Kr

frag X		
80.93 – 350.9	Shibata 86	cs

p ^{89}Yt

^{24}Na X		
4.491	Kozma 90B	angp, p
^{28}Mg X		
4.491	Kozma 90B	angp, p

p ^{89}Yt

π^+ X		
0.6084 – 0.6462	Bimbot 85	angp, cs
π^- X		
0.6084 – 0.6462	Bimbot 85	angp, cs

p ^{90}Zr

p X		
0.4207	Machner 85	p
^{90}Zr p		
0.6444 – 0.9543	Lee 88	angp

p Zr

K^+ X		
1.693	Koptyev 88	cs
	Abrosimov 85B	cs

p Nb

p X		
7.5	Bayukov 85F	a-dep, p
n X		
7.5	Bayukov 85F	a-dep, p

p Mo

π^+ X		
14.97 – 64.99	Belyaev 89B	a-dep, angp
17.5 – 63	Belyaev 85	p
π^- X		
14.97 – 64.99	Belyaev 89B	a-dep, angp
17.5 – 63	Belyaev 85	p
25 – 65	Belyaev 88D	a-dep, angp
p X		
17.98 – 63.99	Belyaev 89C	angp, p, pol
deuteron X		
17.98 – 63.99	Belyaev 89C	angp, p, pol

p ^{98}Mo

^{98}Tc n		
0.4895	Rapaport 85	cs

p Ag

inelastic		
4.491	Kozma 90	cs
200	Abe 88	cs
charged X		
200	Brick 89	mult
charged$^-$ X		
200	Brick 90	cor, mult, p
	Brick 89	mult
mult[charged] X		
200	Brick 89	mult
mult[charged$^-$] X		
200	Brick 89	mult
Ru X		
4.491	Kozma 90	cs
Rh X		
4.491	Kozma 90	cs
Pd X		
4.491	Kozma 90	cs
Ag* X		
4.491	Kozma 90	cs
Na X		
4.491	Kozma 90	cs
Mg X		
4.491	Kozma 90	cs
KK X		
4.491	Kozma 90	cs

p Ag

Sc X		
4.491	Kozma 90	cs
Mn X		
4.491	Kozma 90	cs
^{56}Co X		
4.491	Kozma 90	cs
Fe X		
4.491	Kozma 90	cs
^{57}Co X		
4.491	Kozma 90	cs
Zn X		
4.491	Kozma 90	cs
Ga X		
4.491	Kozma 90	cs
As X		
4.491	Kozma 90	cs
Se X		
4.491	Kozma 90	cs
Br X		
4.491	Kozma 90	cs
Kr X		
4.491	Kozma 90	cs
Rb X		
4.491	Kozma 90	cs
Yt X		
4.491	Kozma 90	cs
Zr X		
4.491	Kozma 90	cs
Nb X		
4.491	Kozma 90	cs
Mo X		
4.491	Kozma 90	cs
Tc X		
4.491	Kozma 90	cs
$\pi^\pm$ X		
200	Abe 88	mult
π^- X		
200	Abe 88	mult
p X		
0.6266 – 1.064	Green 86B	angp
1.463	Miake 84	angp
100	Toothacker 87	mult, p, p
120	Bailey 85B	cs, p
200	Abe 88	p
200.9	Schmidt 88	p, pt
$\bar{p}$ X		
100	Toothacker 87	mult, p
frag X		
5.762	Shibata 86	cs
fragt X		
0.6266 – 1.064	Green 86B	angp
1.696	Roepke 85	mass, p
4.9	Hufner 85	angp, p
grey X		
200	Abe 88	mult
mult[shower] X		
200	Brick 89	mult
shower X		
200	Brick 90	cor, mult, p
	Brick 89	mult
2charged X		
200	Brick 90	cor, mult, p
$\pi^\pm$ charged X		
1.696	Andronenko 86	ang, mult
p charged X		
1.696	Andronenko 86	ang, mult
p $\pi^\pm$ X		
100	Toothacker 87	mult, p
p mult[$\pi^\pm$] X		
100	Toothacker 87	p

_p_ Ag

deuteron charged X		
1.696	Andronenko 86	ang, mult
2*p* X		
1.09	Cebra 89	cor, p
1.463	Miake 84	angp
100	Toothacker 87	mult
^{3}H charged X		
1.696	Andronenko 86	mult
deuteron *p* X		
1.09	Cebra 89	cor, p
1.463	Miake 84	angp
2deuteron X		
1.09	Cebra 89	cor, p
^{4}He *p* X		
1.09	Cebra 89	cor, p
2^{3}H X		
1.09	Cebra 89	cor, p
^{4}He deuteron X		
1.09	Cebra 89	cor, p
mult[grey] charged$^-$ X		
200	Brick 90	cor, mult, p
	Brick 89	mult
***p* mult[*p*] X**		
100	Toothacker 87	p, pt
***n* mult[*p*] X**		
100	Toothacker 87	p, pt
mult[grey] shower X		
200	Brick 90	cor, mult, p
	Brick 89	mult
mult[grey] charged$^+$ charged$^-$ X		
200	Brick 89	mult
2frag (frags) X		
300	Bujak 85	cs, mass

_p_ ^{108}Ag

^{24}Na X		
4.491	Kozma 90B	angp, p
^{28}Mg X		
4.491	Kozma 90B	angp, p
(blacks) mult[grey] mult[shower] (neutrals)		
100	Biswas 86	cs

_p_ ^{112}Sn

***p* X**		
7.5	Bayukov 85D	angp, p
	Gavrilov 85B	a-dep, angp, p
***n* X**		
7.5	Bayukov 85D	angp, p
	Gavrilov 85B	a-dep, angp, p
deuteron X		
7.5	Gavrilov 85B	a-dep, angp, p

_p_ Cd

inelastic		
1.26 – 2.5	Kuzichev 89	a-dep, cs
***p* X**		
7.5	Bayukov 85F	a-dep, p
***n* X**		
7.5	Bayukov 85F	a-dep, p
Λ X		
3 – 7.5	Vorobiev 89C	angp

_p_ In

***p* X**		
7.5	Bayukov 85D	angp, p
***n* X**		
7.5	Bayukov 85D	angp, p

_p_ ^{115}In

^{115}Sn *n*		
0.4895	Rapaport 85	cs

_p_ ^{116}Sn

***p* X**		
0.5513	Segel 85	cs, p
***n* X**		
1.696	Baturin 87	a-dep, angp
deuteron X		
0.5513	Segel 85	cs, p
^{3}He X		
0.5513	Segel 85	cs, p
^{3}H X		
0.5513	Segel 85	cs, p
He X		
0.5513	Segel 85	cs, p

_p_ Sn

mult[charged] (neutrals)		
400	Miettinen 88	a-dep, angp, col, et, mult, p
π^+ X		
70	Abramov 84E	a-dep, pt
π^- X		
70	Abramov 84E	a-dep, pt
K^+ X		
1.468 – 1.685	Koptyev 88	cs
1.505 – 1.685	Abrosimov 85B	cs
1.693	Koptyev 88	cs
	Abrosimov 85B	cs
70	Abramov 84E	a-dep, pt
K^- X		
70	Abramov 84E	a-dep, pt
***p* X**		
1.696	Baturin 85	a-dep, p
7.5	Bayukov 85D	angp, p
	Bayukov 85F	a-dep, p
70	Abramov 84E	a-dep, pt
$\bar{p}$ X		
70	Abramov 84E	a-dep, pt
***n* X**		
1.696	Baturin 85	a-dep, p
7.5	Bayukov 85D	angp, p
	Bayukov 85F	a-dep, p
(jets) jet X		
400	Miettinen 88	a-dep, angp, et, p

_p_ ^{120}Sn

***p* X**		
0.3467	Machner 85	p
***n* X**		
0.2941	Machner 85	p
deuteron X		
0.3467	Machner 85	p
^{3}H X		
0.3467	Machner 85	p
He X		
0.3467	Machner 85	p

_p_ ^{124}Sn

***p* X**		
0.5513	Segel 85	cs, p
7.5	Bayukov 85D	angp, p
	Gavrilov 85B	a-dep, angp, p
***n* X**		
1.696	Baturin 87	a-dep, angp
7.5	Bayukov 85D	angp, p
	Gavrilov 85B	a-dep, angp, p
deuteron X		
7.5	Gavrilov 85B	a-dep, angp, p

_p_ Xe

charged$^-$ X		
200	Klar 84	mult, p, pt
mult[charged] X		
200	Dengler 86C	angp, mult, p
mult[charged$^-$] X		
200	Dengler 86C	angp, mult, p
Be X		
1 – 19	Sangster 87	angp
Nit X		
1 – 19	Sangster 87	angp
Ne X		
1 – 19	Sangster 87	angp
frag X		
1 – 20	Mahi 88	angp, p
5.762	Shibata 86	cs
mult[frag] X		
30 – 300	Hufner 85	p
2charged X		
200	Derado 88	a-dep, cor, mult, p
mult[*p*] 2charged X		
200	Derado 88	a-dep, cor, mult, p

_p_ ^{133}Cs

^{42}KK X		
0.6444	Wagner 85	cs
^{65}Ni X		
0.6444	Wagner 85	cs
^{66}Ni X		
0.6444	Wagner 85	cs
^{67}Cu X		
0.6444	Wagner 85	cs
^{72}Zn X		
0.6444	Wagner 85	cs
^{77}As X		
0.6444	Wagner 85	cs
frag X		
0.6444	Wagner 85	cs

_p_ ^{140}Ce

Ce* deuteron		
0.4938	Dickey 85	pol
^{139}Ce deuteron γ		
0.4938	Dickey 85	pol

_p_ Tb

^{149}Tb X		
0.3438 – 1.627	Aleksandrov 89	cs
1.696	Aleksandrov 87B	cs

_p_ ^{159}Tb

^{24}Na X		
4.491	Kozma 90B	angp, p
^{28}Mg X		
4.491	Kozma 90B	angp, p

_p_ Ho

^{149}Tb X		
0.3438 – 1.627	Aleksandrov 89	cs
1.696	Aleksandrov 87B	cs

_p_ Gd

^{149}Tb X		
0.3438 – 1.627	Aleksandrov 89	cs
1.696	Aleksandrov 87B	cs

_p_ Tm

^{149}Tb X		
0.3438 – 1.627	Aleksandrov 89	cs
1.696	Aleksandrov 87B	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 Ta

charged X		
1 – 10	Kutsidi 86	mult
2.3	Grigalashvil 88	a-dep, mult
charged$^-$ X		
2.3	Grigalashvil 88	a-dep, mult
mult[charged] X		
2.3	Grigalashvil 88	a-dep, mult
mult[charged$^-$] X		
2.3	Grigalashvil 88	a-dep, mult
^{149}Tb X		
0.3438 – 1.627	Aleksandrov 89	cs
1.696	Aleksandrov 87B	cs
^{24}Na X		
4.491	Kozma 89	angp
^{28}Mg X		
4.491	Kozma 89	angp
π^0 X		
4.2	Gulkanyan 87D	mult
π^+ X		
4.94 – 10.14	Boyarinov 87	angp, p
6.37 – 8.08	Arefiev 85	a-dep, angp
10.1	Sibirtsev 88	a-dep, angp
	Vorontsov 88B	a-dep, angp
10.14	Boyarinov 87B	angp
π^- X		
4.2	Gulkanyan 87D	mult
	Bartke 85	a-dep, asym, p
4.94 – 10.14	Boyarinov 87	angp, p
10	Armutlijsky 87B	a-dep, angp, mult, p
10.1	Vorontsov 88B	a-dep, angp
10.14	Boyarinov 87B	angp
K^+ X		
1.693	Koptyev 88	cs
	Abrosimov 85B	cs
10.1	Sibirtsev 88	a-dep, angp
	Vorontsov 88B	a-dep, angp
10.14	Boyarinov 89	a-dep, angp
	Boyarinov 88B	angp
K^- X		
10.1	Vorontsov 88B	a-dep, angp
10.14	Boyarinov 89	a-dep, angp
	Boyarinov 88C	angp
p X		
2.5 – 9.2	Safronov 88	angp
4.2	Gulkanyan 88D	a-dep, angp, cor, cs, mult
4.2 – 10	Armutlijsky 87C	col, mult
4.94 – 10.14	Boyarinov 86	angp
6.37 – 8.08	Arefiev 85	a-dep, angp
7.5	Bayukov 85F	a-dep, p
10	Agakishiev 88	p
	Agakishiev 87	mult
10.1	Safronov 88B	angp
	Sibirtsev 88	a-dep, angp
	Vorontsov 88B	a-dep, angp
	Ergakov 86	a-dep, angp
10.14	Boyarinov 87B	angp
$\bar{p}$ X		
10.1	Voronin 88	a-dep, angp
n X		
7.5	Bayukov 85F	a-dep, p
10	Agakishiev 88	p

p Ta

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
^{3}He X		
10.1	Safronov 88B	angp
	Ergakov 86	a-dep, angp
^{3}H X		
6.37 – 8.08	Arefiev 85	a-dep, angp
10.1	Safronov 88B	angp
	Ergakov 86	a-dep, angp
10.14	Boyarinov 88	angp, p
^{4}He X		
10.1	Safronov 88B	angp
mult[p] X		
4.2 – 10	Armutlijsky 87C	col, mult
10	Agakishiev 87	mult
fragt X		
4.491	Kozma 89	cs
mult[frag] X		
0.34 – 5.7	Hufner 85	p
mult[hadron] X		
10	Baldin 86B	-
mult[jet] X		
10	Baldin 86	col
p charged X		
10	Agakishiev 88	mult, p
p charged$^-$ X		
10	Agakishiev 88	mult, p
n charged X		
10	Agakishiev 88	mult, p
n charged$^-$ X		
10	Agakishiev 88	mult, p
2p X		
10	Pluta 88B	angp, cor, p
	Agakishiev 87	p
	Agakishiev 87B	cor
$\pi^\pm$ jet X		
10	Baldin 85	ang, p
p charged$^+$ charged$^-$ X		
10	Agakishiev 88	p
n charged$^+$ charged$^-$ X		
10	Agakishiev 88	p
2p π X		
10	Agakishiev 87B	cor
2p mult[p] X		
10	Agakishiev 87	p

p ^{181}Ta

inelastic		
1.35 – 3.75	Gachurin 85	cs
^{24}Na X		
4.491	Kozma 90B	angp, p
^{28}Mg X		
4.491	Kozma 90B	angp, p
n X		
0.0433 – 0.1567	Machner 85	p
1.696	Baturin 87	a-dep, angp
fragt X		
9	Kozma 87	cs

p Wt

charged X		
300	Crittenden 86	angp
charged$^+$ X		
300	Crittenden 86	angp
charged$^-$ X		
200.9	Akesson 89E	cs, et, pt

p Wt

charged$^-$ X		
	Bartels 88	pt
	Schukraft 88B	et, p, pt
300	Crittenden 86	angp
γ X		
200.9	Akesson 89D	cs, et, pt
	Bartels 88	pt
ν_e X		
400	Duffy 88	a-dep, cs, p, pt
	Duffy 86	cs, p, pt
	Duffy 85	a-dep, cs, p
	Romanowski 85	cs, p, pt
$\bar{\nu}_e$ X		
400	Duffy 88	a-dep, cs, p, pt
	Duffy 86	cs, p, pt
	Duffy 85	a-dep, cs, p
	Romanowski 85	cs, p, pt
ν_μ X		
400	Duffy 88	a-dep, cs, p, pt
	Duffy 86	cs, p, pt
	Duffy 85	a-dep, cs, p
	Romanowski 85	cs, p, pt
$\bar{\nu}_\mu$ X		
400	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		
200.9	Akesson 89D	cs, et, pt
π^+ X		
10	Bertin 88	angp
14.97 – 64.99	Belyaev 89B	a-dep, angp
25 – 65	Belyaev 88D	a-dep, angp
300	Bertin 86	angp
400	Brown 86	a-dep, pt
	Hsiung 85	a-dep, pt
π^- X		
14.97 – 64.99	Belyaev 89B	a-dep, angp
$J/\psi(1S)$ X		
800	Mishra 90	a-dep, p, pt
$\psi(2S)$ X		
800	Mishra 90	a-dep
$\Upsilon(1S)$ X		
800	Mishra 90	a-dep
$\Upsilon(3S)$ X + $\Upsilon(2S)$ X + $\Upsilon(1S)$ X		
400	Childers 85	p
heavy-lepton X		
400	Duffy 88	cs
K^+ X		
400	Brown 86	a-dep, pt
	Hsiung 85	a-dep, pt
K_S X		
12	Abe 87B	cs, p, pt
p X		
120	Bailey 85B	cs, p
Λ X		
12	Abe 87B	cs, p, pt
	Abe 86C	pol
deuteron X		
70	Barkov 85C	a-dep, cs, p
^{3}He X		
70	Barkov 85C	a-dep, cs, p
^{3}H X		
70	Barkov 85C	a-dep, cs, p

p Wt

^{4}He X		
70	Barkov 85C	a-dep, cs, p
charm X		
400	Duffy 88	a-dep, cs
	Duffy 86	cs
bottom X		
400	Duffy 88	cs
	Badier 85D	cs
$\overline{\text{bottom}}$ X		
400	Duffy 88	cs
$\overline{\text{charm}}$ X		
400	Duffy 88	a-dep, cs
	Duffy 86	cs
hadron$^+$ X		
400	Brown 86	a-dep, pt
	Hsiung 85	a-dep, pt
$\mu^- \mu^+$ X		
125	Anassontzis 85	mass, p
400	Badier 85B	mass, p
	Badier 85D	ang, mass, pt
	Childers 85	mass, p
800	Mishra 90	a-dep, p, pt
$2\pi^+$ X		
400	Brown 86	mass
$J/\psi(1S)\ \mu^+$ X		
400	Badier 85D	mass, pt
$J/\psi(1S)\ \mu^-$ X		
400	Badier 85D	mass, pt
$2J/\psi(1S)$ X		
400	Badier 85D	ang, mass, pt
$2K^+$ X		
400	Brown 86	mass
charmed-meson $\overline{\text{charmed-meson}}$ X		
400	Duffy 88	a-dep, cs
	Duffy 86	cs
Λ_c^+ $\overline{\text{charmed-meson}}$ X		
400	Duffy 88	a-dep, cs
	Duffy 86	cs
charm $\overline{\text{charm}}$ X		
400	Duffy 85	a-dep
	Romanowski 85	–
2hadron X		
800	Kaplan 89	ang, mass, p, pt
2hadron$^+$ X		
400	Brown 86	mass
800	Streets 89	a-dep, ang, mass, pt
2hadron$^-$ X		
800	Streets 89	a-dep, ang, mass, pt
hadron$^+$ hadron$^-$ X		
400	Hsiung 85	a-dep, mass, pt
800	Streets 89	a-dep, ang, mass, pt
$\mu^-\ 2\mu^+$ X		
400	Badier 85D	ang, mass, pt
$J/\psi(1S)\ \mu^-\ \mu^+$ X		
400	Badier 85D	mass, pt
$2\mu^-\ 2\mu^+$ X		
400	Badier 85D	ang, mass, mass, pt

p ^{184}Wt

fragt X		
1.696	Chestnov 87	mass, p
2fragt X		
1.696	Chestnov 87	mass, p, pt

p Pt

K^- X		
28.4	Snow 85	angp
$\bar{p}$ X		
28.4	Snow 85	angp
longlived X		
12	Nakamura 89	–

p Au

inelastic		
200	Abe 88	cs
charged X		
200	Brick 89	mult
charged$^-$ X		
60.93 – 200.9	Bamberger 89	mult, p, pt
200	Brick 90	cor, mult, p
	Brick 89	mult
mult[charged] X		
200	Brick 89	mult
360	Bailly 88	mult, p
	Bailly 87D	mult
mult[charged$^-$] X		
200	Brick 89	mult
360	Bailly 87D	mult
neutral X		
14.5	Remsberg 88	p
	Tannenbaum 88	et, p
^{103}Ru X		
1 – 300	Hufner 85	cs
Bor X		
2.55	Avdejchikov 87I	angp, p
3.308 – 8.386	Avdejchikov 87B	angp
	Avdejchikov 87E	a-dep, angp, p
3.36 – 8.396	Avdejchikov 87	angp, p
	Avdejchikov 87C	angp, p
C X		
2.55	Avdejchikov 87I	angp, p
3.308 – 8.386	Avdejchikov 87B	angp
	Avdejchikov 87E	a-dep, angp, p
3.36 – 8.396	Avdejchikov 87	angp, p
	Avdejchikov 87C	angp, p
^{131}Ba X		
1 – 300	Hufner 85	cs
^{139}Ce X		
1 – 300	Hufner 85	cs
Nit X		
2.55	Avdejchikov 87I	angp, p
3.308 – 8.386	Avdejchikov 87B	angp
	Avdejchikov 87E	a-dep, angp, p
3.36 – 8.396	Avdejchikov 87	angp, p
	Avdejchikov 87C	angp, p
^{146}Gd X		
1 – 300	Hufner 85	cs
^{149}Tb X		
0.3438 – 1.627	Aleksandrov 89	cs
1.696	Aleksandrov 87B	cs
O X		
2.55	Avdejchikov 87I	angp, p
3.308 – 8.386	Avdejchikov 87B	angp
	Avdejchikov 87E	a-dep, angp, p
3.36 – 8.396	Avdejchikov 87	angp, p
	Avdejchikov 87C	angp, p
Fl X		
2.55	Avdejchikov 87I	angp, p
3.308 – 8.386	Avdejchikov 87B	angp

p Au

Fl X		
	Avdejchikov 87E	a-dep, angp, p
3.36 – 8.396	Avdejchikov 87	angp, p
	Avdejchikov 87C	angp, p
Ne X		
2.55	Avdejchikov 87I	angp, p
3.308 – 8.386	Avdejchikov 87B	angp
	Avdejchikov 87E	a-dep, angp, p
3.36 – 8.396	Avdejchikov 87	angp, p
	Avdejchikov 87C	angp, p
Na X		
3.308 – 8.386	Avdejchikov 87B	angp
	Avdejchikov 87E	a-dep, angp, p
3.36 – 8.396	Avdejchikov 87	angp, p
	Avdejchikov 87C	angp, p
^{24}Na X		
1 – 300	Hufner 85	cs
Mg X		
3.308 – 8.386	Avdejchikov 87B	angp
	Avdejchikov 87E	a-dep, angp, p
3.36 – 8.396	Avdejchikov 87	angp, p
	Avdejchikov 87C	angp, p
Al X		
3.36 – 8.396	Avdejchikov 87C	angp, p
Si X		
3.36 – 8.396	Avdejchikov 87C	angp, p
^{46}Sc X		
1 – 300	Hufner 85	cs
^{59}Fe X		
1 – 300	Hufner 85	cs
^{89}Zr X		
1 – 300	Hufner 85	cs
^{90}Nb X		
1 – 300	Hufner 85	cs
γ X		
60.93 – 200.9	Albrecht 88B	pt
	Lohner 88	pt
π^0 X		
60.93 – 200.9	Albrecht 88B	pt
	Franz 88B	angp, pt
	Lohner 88	angp, pt
$\pi^\pm$ X		
200	Abe 88	mult
π^- X		
200	London 89	angp
	Abe 88	mult
K^0 X		
200.9	Odyniec 89	mult
K_S X		
60.93 – 200.9	Bamberger 89	mult, p, pt
200	London 89	angp
200.9	Pugh 89	pt
	Vesztergombi 88	cs, p, pt
p X		
100	Toothacker 87	mult, p
200	Abe 88	p
200.9	Schmidt 88	p, pt
$\bar{p}$ X		
100	Toothacker 87	mult, p
Λ X		
60.93 – 200.9	Bamberger 89	mult, p, pt
200	London 89	angp
200.9	Odyniec 89	mult
	Pugh 89	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 Au

Λ X			
		Vesztergombi 88	cs, p, pt
$\bar{\Lambda}$ X			
	200	London 89	angp
	200.9	Odyniec 89	mult
		Vesztergombi 88	cs, p, pt
baryon X			
	200.9	Schmidt 87	p
^{3}He X			
	7.48	Abashidze 85B	a-dep, angp
^{4}He X			
	7.48	Abashidze 85B	a-dep, angp
fragt X			
	3 – 28	Hufner 85	p
grey X			
	200	Abe 88	mult
	360	Bailly 87D	p
hadron X			
	200.9	Bamberger 86	et
mult[frag] X			
	11.5 – 300	Hufner 85	p
mult[grey] X			
	360	Bailly 87D	mult
mult[hadron] X			
	200	Tannenbaum 89	et, p
mult[neutral] X			
	14.5	Tannenbaum 89	et, p
mult[shower] X			
	200	Brick 89	mult
	360	Bailly 87D	mult
shower X			
	200	Brick 90	cor, mult, p
		Brick 89	mult
	360	Bailly 87D	p
2charged X			
	200	Brick 90	cor, mult, p
γ mult[charged] X			
	60.93 – 200.9	Lohner 88	mult, pt
2γ X			
	200.9	Albrecht 88B	mass
π^+ π^- X			
	60.93 – 200.9	Bamberger 89	mass
		Vesztergombi 88	mass
p $\pi^\pm$ X			
	100	Toothacker 87	mult, p
p π^- X			
	60.93 – 200.9	Bamberger 89	mass
		Vesztergombi 88	mass
$\bar{p}$ π^+ X			
	60.93 – 200.9	Bamberger 89	mass
		Vesztergombi 88	mass
p mult[$\pi^\pm$] X			
	100	Toothacker 87	p
$\bar{\Lambda}$ π^+ X			
	60.93 – 200.9	Bamberger 89	mult, p, pt
2p X			
	5.1	Budilov 90	angp, cor, p
	100	Toothacker 87	mult
γ hadron X			
	60.93 – 200.9	Lohner 88	p, pt
hadron charged$^-$ X			
	200.9	Strobele 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
n mult[p] X			
	100	Toothacker 87	p, pt
grey shower X			
	360	Bailly 87D	cor, mult
mult[grey] shower X			
	200	Brick 90	cor, mult, p
		Brick 89	mult
	360	Bailly 87D	p
shower hadron X			
	360	Bailly 87D	cor, mult, p
mult[grey] charged$^+$ charged$^-$ X			
	200	Brick 89	mult

p ^{197}Au

inelastic			
	4.491	Kozma 90	cs
		Kozma 88	cs
Rh X			
	4.491	Kozma 90	cs
		Kozma 88	cs
Sb X			
	4.491	Kozma 90	cs
		Kozma 88	cs
Te X			
	4.491	Kozma 90	cs
		Kozma 88	cs
Xe X			
	4.491	Kozma 90	cs
		Kozma 88	cs
Ba X			
	4.491	Kozma 90	cs
		Kozma 88	cs
Pr X			
	4.491	Kozma 90	cs
		Kozma 88	cs
Eu X			
	4.491	Kozma 90	cs
		Kozma 88	cs
Gd X			
	4.491	Kozma 90	cs
		Kozma 88	cs
Tb X			
	4.491	Kozma 90	cs
		Kozma 88	cs
Dy X			
	4.491	Kozma 90	cs
		Kozma 88	cs
Yb X			
	4.491	Kozma 90	cs
		Kozma 88	cs
Lu X			
	4.491	Kozma 90	cs
		Kozma 88	cs
Hf X			
	4.491	Kozma 90	cs
		Kozma 88	cs
Re X			
	4.491	Kozma 90	cs
		Kozma 88	cs
Na X			
	4.491	Kozma 90	cs
		Kozma 88	cs
^{24}Na X			
	4.491	Kozma 90B	angp, p
Mg X			
	4.491	Kozma 90	cs
		Kozma 88	cs
^{28}Mg X			
	4.491	Kozma 90B	angp, p
Sc X			
	4.491	Kozma 90	cs
		Kozma 88	cs
Va X			
	4.491	Kozma 90	cs
		Kozma 88	cs
Mn X			
	4.491	Kozma 90	cs
		Kozma 88	cs
Fe X			
	4.491	Kozma 90	cs
		Kozma 88	cs
Zn X			
	4.491	Kozma 90	cs
		Kozma 88	cs
As X			
	4.491	Kozma 90	cs
		Kozma 88	cs
Se X			
	4.491	Kozma 90	cs
		Kozma 88	cs
Rb X			
	4.491	Kozma 90	cs
		Kozma 88	cs
^{87}Yt X			
	4.491	Kozma 90	cs
		Kozma 88	cs
Nb X			
	4.491	Kozma 90	cs
		Kozma 88	cs
Tc X			
	4.491	Kozma 90	cs
		Kozma 88	cs
p X			
	0.6444	Machner 85	–
deuteron X			
	0.6444	Machner 85	–
He X			
	0.3746	Machner 85	angp
	0.6444	Machner 85	–
fragt X			
	1.696	Chestnov 87	mass, p
	4.491	Damdinsuren 88B	cs
2fragt X			
	1.696	Chestnov 87	mass, p, pt
(blacks) mult[grey] mult[shower] (neutrals)			
	100	Biswas 86	cs

p Hg

q X			
	800	Matis 88	cs
		Matis 86	cs

p ^{207}Pb

inelastic			
	1.35 – 3.75	Gachurin 85	cs

p Pb

X			
	800	Gomez 86	a-dep, cs
inelastic			
	1.26 – 2.5	Kuzichev 89	a-dep, cs
	(479.9 – 1974)	Avakyan 89C	a-dep, cs
charged X			
	220 – 1500	Dzhaoshvili 90	mult, p
	$> 10^3$	Berdzenishvi 85	mult, p
neutral X			
	220 – 1500	Dzhaoshvili 90	p
^{24}Na X			
	4.491	Kozma 90B	angp, p
^{28}Mg X			
	4.491	Kozma 90B	angp, p
mult[charged] (neutrals)			
	400	Miettinen 88	a-dep, angp, col, et, mult, p
	800	Gomez 86	col, et
π^0 X			
	185	Underwood 89	asym, p
$\pi^\pm$ X			
	4.5 – 7.5	Vorobiev 86B	angp

p Pb

π^+ X			
	0.6084 – 0.6462	Bimbot 85	angp, cs
	1 – 9	Bayukov 85E	a-dep, angp, p
	7.5	Vorobiev 89B	a-dep, angp
		Vorobiev 88D	a-dep, angp
	70	Abramov 84E	a-dep, pt
π^- X			
	0.6084 – 0.6462	Bimbot 85	angp, cs
	1 – 9	Bayukov 85E	a-dep, angp, p
	4	Enyo 85	p
	70	Abramov 84E	a-dep, pt
χ(unspec) X			
	530	De 89	–
K^+ X			
	1.468 – 1.685	Koptyev 88	cs
	1.505 – 1.685	Abrosimov 85B	cs
	1.693	Koptyev 88	cs
		Abrosimov 85B	cs
	2.89	Schnetzer 89	angp, cs, p
	70	Abramov 84E	a-dep. pt
K^- X			
	70	Abramov 84E	a-dep, pt
p X			
	0.5	Rees 86	pol
	1 – 9	Bayukov 85C	a-dep, angp, p
	1.463	Miake 84	angp
	1.696	Baturin 87B	angp, p
		Baturin 85	a-dep, p
		Belostotsky 84	pol
	4	Tokushuku 90	angp
		Enyo 85	p
	4.5 – 7.5	Vorobiev 86B	angp
	7.5	Bayukov 85F	a-dep. p
		Vorobiev 85B	pol
	70	Abramov 86	a-dep, pt
		Abramov 84E	a-dep, pt
	800	Gomez 86B	–
$\bar{p}$ X			
	70	Abramov 86	a-dep, pt
		Abramov 84E	a-dep, pt
n X			
	1 – 9	Bayukov 85C	a-dep, angp, p
	1.696	Baturin 87B	angp, p
		Baturin 85	a-dep, p
	7.5	Vlasov 89	a-dep, angp
		Bayukov 85F	a-dep, p
$\Delta(1232\,P_{33})^{++}$ X			
	7.5	Vorobiev 90	angp
Λ X			
	2 – 7.5	Vorobiev 89C	angp
	400	Lundberg 89	pol
		Beretvas 86	angp, cs, p
Ξ^0 X			
	400	Beretvas 86	angp, cs, p
deuteron X			
	4	Tokushuku 90	angp
	70	Abramov 86	a-dep, pt
$\overline{\text{deuteron}}$ X			
	70	Abramov 86	a-dep, pt
***dibaryon* X**			
	7.5	Vorobiev 87C	cs
^{3}H 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	Damdinsuren 89	cs
hadron X			
	200	Akesson 88B	angp, et
jet X			
	800	Stewart 90	a-dep, angp, col, pt
longlived X			
	70	Abramov 86B	cs
mult[hadron] X			
	200	Tannenbaum 89	et, p
	800	Tannenbaum 89	et, p
q X			
	800	Matis 86	cs
shower X			
	300	Muraki 84	–
2charged$^+$ X			
	70	Abramov 84D	a-dep, angp, pt
2γ X			
	1.206	Faissner 88	ang, p
e^- e^+ X			
	1.206	Faissner 89	p
2π^+ X			
	7.5	Vlasov 90	a-dep, ang, angp, cor, p
		Vorobiev 89B	angp, cor, pt
		Vorobiev 88D	angp, cor
	70	Abramov 84D	a-dep, angp, pt
$J/\psi(1S)$ γ X			
	530	De 89	a-dep, cs, mass, p
K^+ π^+ X			
	70	Abramov 84D	a-dep, angp, pt
p π^+ X			
	7.5	Vlasov 90	a-dep, ang, angp, cor, p
	8.9	Averichev 89	cor, mass
	70	Abramov 84D	a-dep, angp, pt
p π^- X			
	8.9	Averichev 89	cor, mass
p K^+ X			
	70	Abramov 84D	a-dep, angp, pt
2p 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	angp, cor
		Vorobiev 87C	mass
		Bayukov 85	cor
	8.9	Averichev 89	cor, mass
	70	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 π^+ X			
	7.5	Vlasov 90	a-dep, ang, angp, cor, p
deuteron p X			
	1.463	Miake 84	angp
	7.5	Bayukov 89C	ang, angp, p
		Vlasov 89B	ang, p
		Vlasov 86	ang, angp, p
		Bayukov 85	cor
deuteron n X			
	7.5	Vlasov 89	a-dep, ang, cor, p
^{3}H p X			
	7.5	Bayukov 89C	ang, angp, p
		Vlasov 89B	ang, p
2deuteron X			
	7.5	Bayukov 89C	ang, angp, p
		Vlasov 89B	ang, p
		Vlasov 86	ang, angp, p
(jets) jet X			
	400	Miettinen 88	a-dep, angp, et, p
2jet X			
	800	Stewart 90	a-dep, angp, col, et
Pb p π^0			
	185	Underwood 89	mass
μ^- μ^+ γ 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 (neutrals)			
	6 – 10	Heppelmann 89	angp
4p X			
	7.5	Vlasov 88	ang, angp, cor

p ^{208}Pb

^{208}Pb p			
	0.6444	Morsch 85	angp, cs, pwa
	0.6444 – 0.9543	Lee 88	angp

p Bi

p X			
	0.5513	Segel 85	cs, p
^{3}H X			
	0.5513	Segel 85	cs, p

p ^{209}Bi

inelastic			
	1.35 – 3.75	Gachurin 85	cs
p X			
	0.4207	Machner 85	p
mult[n] π^- X			
	0.4895 – 1.463	Dombsky 85	angp, p

p Ac

2p π^+ X			
	3.9	Nakai 89	a-dep, angp

p ^{232}Th

fragt X			
	1.696	Chestnov 87	mass, p
2fragt X			
	1.696	Chestnov 87	mass, p, pt

p ^{238}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_{lab} in GeV/c, or in parentheses E_{cm} in GeV. See the legend on page 153.

p nucleus

black X	24 – 800	Abduzhamilov 88B	angp
	67 – 400	Absemetova 85	angp, p
	800	Abduzhamilov 88C	a-dep, mult
		Abdurazakova 87	mult
	?	Abduzhamilov 87	–
grey X	5.7 – 400	Fredriksson 87	mult
	24 – 800	Abduzhamilov 88B	angp
	90.2 – 99	Antonchik 87	angp, mult, p, pt
	200 – 800	Abduzhamilov 89	angp
	800	Abduzhamilov 88C	a-dep, mult
		Abdurazakova 87	mult
		Abduzhamilov 87	mult
hadron X	70	Prokoshkin 87C	angp, cor, pt
hadron$^+$ X	< 800	Sulyaev 88	a-dep, angp, p, pt
hadron$^-$ X	< 800	Sulyaev 88	a-dep, angp, p, pt
htrack X	5.7 – 400	Fredriksson 87	mult
	800	Abduzhamilov 88C	a-dep, mult
		Abdurazakova 87	mult
		Abduzhamilov 87	mult
		Shivpuri 87B	mult
jet X	200	Fredriksson 87	a-dep, angp, pt
mult[black] X	30 – 400	Kim 85	p
	800	Abduzhamilov 88C	a-dep, mult
mult[grey] X	4.5	Bannik 87B	p
	400	Ahmad 90	angp, mult
	800	Abduzhamilov 89	mult
		Abduzhamilov 88C	a-dep, mult
mult[hadron] X	5.7 – 205	Baldin 87	col, p
mult[jet] X	10	Baldin 86	col
mult[shower] X	5.7 – 400	Fredriksson 87	mult
	6.129 – 800	Kumar 89	mult
	70	Bhattacharje 89	angp, cor, mult, p
	200 – 800	Holynski 89B	cor, mult, p
	800	Abduzhamilov 89	mult
		Abduzhamilov 88C	a-dep, mult
		Jain 87B	mult, p
		Shivpuri 87B	mult
	$> 5 \cdot 10^3$	Nikolsky 85	p
***q* X**	800	Matis 86	cs
shower X	4 – 400	Fredriksson 87	angp
	5.7 – 400	Fredriksson 87	mult
	24 – 800	Abduzhamilov 88B	p
	30 – 400	Kim 85	p
	800	Abduzhamilov 89	mult, p
		Abduzhamilov 88C	a-dep, mult
		Abdurazakova 87	mult, p

p nucleus

shower X		Abduzhamilov 87	mult, p
		Jain 87B	mult, p
		Shivpuri 87B	a-dep, mult, p
		Jain 86	mult
nucleus *p*	185	Akchurin 89	angp, asym, pol
	800	Reiner 86	–
mult[black] mult[shower]	30 – 400	Kim 85	p
2charged X	24 – 400	Azimov 85	cor
$\mu^- \mu^+$ X	16 – 400	Fredriksson 87	a-dep, angp
	70	Prokoshkin 87C	angp, cor, pt
	225	Rutherfoord 85	a-dep, mass
	400	Berger 86B	cs, mass
	< 800	Sulyaev 88	a-dep, angp, p, pt
	800	Mishra 90	mass
$2\pi^0$ X	70	Prokoshkin 87C	a-dep, angp, pt
	< 800	Sulyaev 88	a-dep, angp, p, pt
$\pi^+ \pi^-$ X	< 800	Sulyaev 88	a-dep, angp, p, pt
2fireball X	400	Shivpuri 88	angp, mass, p
$K^+ K^-$ X	< 800	Sulyaev 88	a-dep, angp, p, pt
***p* charged$^-$ X**	5.4 – 300	Fredriksson 87	cor, mult
$p \pi^+$ X	4.2	Grishin 88B	mass
	10	Kopylova 86	mass, p
$p \pi^-$ X	10	Kopylova 86	mass, p
2*p* X	10	Kopylova 86	mass, p
$p \Sigma^-$ X	10	Shahbazyan 88	cs, mass
2Λ X	10	Shahbazyan 88	cs, mass
He mult[htrack] X	200 – 400	Takibaev 90	p
mult[*p*] mult[$\pi^\pm$] X	7.1	Guaraldo 89B	cor, mult
$\pi^\pm$ mult[grey] X	200	Abe 88	mult
π^- mult[grey] X	200	Abe 88	mult
mult[htrack] black X	1.05 – 400.9	Atageldieva 88	mult, p
	800	Abduzhamilov 88C	cor, mult
mult[htrack] grey X	800	Abduzhamilov 88C	cor, mult
	?	Abduzhamilov 89	–
mult[htrack] mult[black] X	67 – 400	Takibaev 88	ang, cor
mult[htrack] mult[grey] X	800	Abduzhamilov 89	mult

p nucleus

mult[htrack] mult[shower] X	200	Boos 86C	a-dep, mult, p
	800	Abduzhamilov 89	mult
		Jain 87B	mult
mult[htrack] shower X	7.1 – 400	Fredriksson 87	cor, mult
	800	Abduzhamilov 88C	cor, mult
		Shivpuri 87B	a-dep, mult, p
		Jain 86	mult, p
	?	Abduzhamilov 89	–
***p* mult[grey] X**	200	Abe 88	p
^{8}Li black X	70 – 250	Batusov 85	mult
^{8}Li grey X	70 – 250	Batusov 85	mult
^{8}Li shower X	70 – 250	Batusov 85	mult
charm $\overline{\text{charm}}$ 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
		Abduzhamilov 88C	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 88	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

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p nucleus

mult[black] grey X	800	Abduzhamilov 88B	angp, cor, mult
		Abduzhamilov 88C	cor, mult
mult[black] shower X	800	Abduzhamilov 88C	cor, mult
mult[grey] mult[shower] X	200	Boos 86C	a-dep, mult, p
mult[grey] shower X	24 – 800	Abduzhamilov 88B	cor, mult, p
	400	Ahmad 90	angp, mult
		Tariq 90	cor, mult, p
	800	Abduzhamilov 88C	cor, mult
shower jet X	200 – 400	Boos 88B	angp, mult
shower mult[shower] X	800	Abduzhamilov 88B	cor, mult, p
2hadron X	70 – 400	Fredriksson 87	a-dep, angp, cor, pt
hadron$^+$ hadron$^-$ X	< 800	Sulyaev 88	a-dep, angp, p, pt
2jet X	400	Moore 90	a-dep, angp, p, pt
2mult[shower] X	800	Jain 86	cor, mult, p
2shower X	70	Bhattacharje 89	cor, p
	800	Barbier 88	ang, angp, mult
		Shivpuri 87B	a-dep, cor, p
		Jain 86	cor, mult, p
black shower X + grey shower X	400	Shivpuri 87	angp
$e^-\ e^+\ \nu$ X	19.48	Bernardi 85	p
$e^-\ e^+\ e^\pm$ X	19.48	Bernardi 85	p
$\mu^\pm\ e^-\ e^+$ X	19.48	Bernardi 85	p
$\mu^-\ \mu^+\ \gamma$ X	400	Rosner 85E	–
$\mu^-\ \mu^+$ mult[charged] X	200 – 360	Erriquez 85	–
$2K_S\ \pi^0$ X	?	Cason 89	mass
0p 2charged X	200	Brick 90	cor, mult, p
$\pi^\pm$ mult[grey] mult[charged$^-$] X	200	Abe 88	mult
π^- mult[grey] mult[charged$^-$] X	200	Abe 88	mult
p mult[grey] mult[charged$^-$] X	200	Abe 88	p
mult[htrack] 2shower X	800	Jain 86	cor, mult, p
(blacks) (greys) mult[shower] X	200 – 400	Andreeva 85B	mult
grey 2shower X	800	Barbier 88	angp, mult
3shower X	70	Bhattacharje 89	cor, p
4shower X	70	Bhattacharje 89	cor, p

p supernucleus

supernucleus n	0.1374	Norman 87B	cs

$n\ p$

X	0.4898 – 1.194	Grundies 85	cs
	0.5317 – 1.207	Binz 89B	cs
	1.257 – 1.788	Lehar 87	cs
inelastic	< 4.2	Bystricky 87	cs
charged X	6.1	Batyunya 86B	mult
charged$^-$ X	1 – 200	Azimov 85D	mult
mult[charged] (neutrals)	< 100	Bystricky 87	cs
π^+ X	4.2	Bekmirzaev 88B	angp, mult, p, pt
π^- X	4.2	Bekmirzaev 88B	angp, mult, p, pt
		Bekmirzaev 87C	angp, p, pt
ϕ X	30 – 70	Aleev 89C	cs, p, pt
baryonium X	20 – 70	Aleev 89	–
		Aleev 88F	–
	40	Aleev 88G	cs
baryonium($S = +1$) X	20 – 70	Aleev 88D	–
baryonium($S = -1$) X	20 – 70	Aleev 88D	–
p X	4.2	Bekmirzaev 88B	angp, mult, p, pt
Λ_c^+ X	40 – 70	Vecko 89	cs
		Aleev 88C	cs, p, pt
mult[p] X	1 – 200	Azimov 85D	cs, mult
deuteron γ	0	Enghardt 87	p
		Greene 88	–
	< 0.3106	Donoghue 84D	–
	0.6088 – 1.061	Vanoers 85	amp, pwa
	0.618	Meyer 85D	angp
	0.7618	Fearing 86	angp, pol
$p\ n$	0.025	Sromicki 86	pol
	0.1228 – 1.505	Vanoers 85	amp
	0.1374 – 1.464	Bystricky 86D	amp, angp, cs
	0.22 – 0.477	Abegg 89B	angp, pol
	0.6448 – 1.091	Davis 88	angp, pol
	0.9237 – 1.793	Terrier 87	angp
	0.9237 – 1.85	Dobrovolsky 88	angp
	1.06	Abegg 89	pol
		Abegg 85	angp, asym, pol
	1.069 – 1.45	Garnett 89	pol
	1.091 – 1.464	Ditzler 87	pol
	< 1.1	Arndt 87	amp
	1.25 – 5.1	Beshliu 86	cs
	1.257 – 1.788	Ball 88	asym, pol
	1.261 – 1.68	Dobrovolsky 88	pol
		Korolev 85	pol
	1.373 – 1.696	Bystricky 85	pol
	1.397 – 1.457	Delesquen 88	pol
	1.452	Nath 89	angp, pol
	< 1.697	Lechanoinele 86	angp, cs, pol
	3 – 200	Prokoshkin 87C	angp, cs
deuteron π^0	0.7411 – 0.7941	Hutcheon 89	angp, cs

$n\ p$

dibaryon π^-	1.25 – 2.23	Troyan 88	cs
	1.257	Troyan 86	–
DD $< \Lambda\ K^0 >\ p$	40	Aleev 88B	cs, mass, pt
deuteron axion	0	Borzakov 87	–
		Enghardt 87	cs
	?	Ananiev 83	–
$\Lambda_c^+\ \pi^+$ X	20 – 70	Aleev 89B	mass
$\Lambda_c^+\ \pi^-$ X	20 – 70	Aleev 89B	mass
deuteron 2γ	?	Ananiev 83	p
deuteron $e^-\ e^+$	0	Borzakov 87	cs
		Enghardt 87	mass
2$p\ \pi^-$	1 – 5	Yokosawa 85C	–
	1 – 6	Yokosawa 85	–
	1.25 – 2.23	Troyan 88	mass
		Beshliu 85	mass
	1.25 – 5.1	Zielinsky 88	cs, mass
		Beshliu 86	cs
	1.257	Troyan 86	mass
	1.73	Glagolev 89C	angp, col, p
	< 12	Bystricky 87	cs
2$n\ \pi^+$	1 – 5	Yokosawa 85C	–
	1 – 6	Yokosawa 85	–
	< 12	Bystricky 87	cs
deuteron $\pi^+\ \pi^-$	1.25 – 5.1	Beshliu 86	cs
	< 5	Bystricky 87	cs
deuteron π^0 (π^0's) + $p\ n\ \pi^0$ (π^0's)	< 5	Bystricky 87	cs
$p\ \Lambda\ K^0$	40	Aleev 88B	mass, p, pt
$\bar{p}\ \Lambda\ \pi^+$ X	20 – 70	Aleev 88D	mass
$\bar{p}\ \Lambda\ \pi^-$ X	20 – 70	Aleev 88D	mass
$p\ \bar{\Lambda}\ \pi^+$ X	20 – 70	Aleev 88D	mass
$p\ \bar{\Lambda}\ \pi^-$ X	20 – 70	Aleev 88D	mass
$\bar{p}\ \Lambda\ K^+$ X	20 – 70	Aleev 89	mass
		Aleev 88F	mass
	40	Aleev 88G	mass
$p\ \bar{\Lambda}\ K^-$ X	20 – 70	Aleev 89	mass
		Aleev 88F	mass
	40	Aleev 88G	mass
2$p\ \pi^0\ \pi^-$	1.25 – 5.1	Beshliu 86	cs
	< 11	Bystricky 87	cs
$p\ n\ \pi^+\ \pi^-$	1.25 – 5.1	Beshliu 86	cs
	< 12	Bystricky 87	cs
$p\ n\ \pi^0$ (π^0's)	1.25 – 5.1	Beshliu 86	cs
2$n\ \pi^+$ (π^0's)	1.25 – 5.1	Beshliu 86	cs
	< 5	Bystricky 87	cs
3charged (chargeds) (neutrals)	1 – 4.2	Bekmirzaev 87B	cs
$\Lambda\ 2\pi^+\ \pi^-$ X	40 – 70	Aleev 88C	mass
$p\ K^-\ 2\pi^+$ X	20 – 70	Aleev 89B	mass

n p

$p\ K^-\ \pi^+\ \pi^-\ X$		
20 – 70	Aleev 89B	mass
$p\ \overline{K}^0\ \pi^+\ \pi^-\ X$		
40 – 70	Aleev 88C	mass
$\bar{p}\ \Lambda\ 2\pi^+\ X$		
20 – 70	Aleev 88D	mass
$\bar{p}\ \Lambda\ \pi^+\ \pi^-\ X$		
20 – 70	Aleev 88D	mass
$p\ \overline{\Lambda}\ 2\pi^-\ X$		
20 – 70	Aleev 88D	mass
$p\ \overline{\Lambda}\ \pi^+\ \pi^-\ X$		
20 – 70	Aleev 88D	mass
$\bar{p}\ \Lambda\ K^+\ \pi^+\ X$		
20 – 70	Aleev 89	mass
	Aleev 88F	mass
40	Aleev 88G	mass
$\bar{p}\ \Lambda\ K^+\ \pi^-\ X$		
20 – 70	Aleev 89	mass
	Aleev 88F	mass
40	Aleev 88G	mass
$p\ \overline{\Lambda}\ K^-\ \pi^+\ X$		
20 – 70	Aleev 89	mass
	Aleev 88F	mass
40	Aleev 88G	mass
$p\ \overline{\Lambda}\ K^-\ \pi^-\ X$		
20 – 70	Aleev 89	mass
	Aleev 88F	mass
40	Aleev 88G	mass
$p\ \bar{p}\ K^+\ K_S\ X$		
20 – 70	Aleev 89	mass
	Aleev 88F	mass
40	Aleev 88G	mass
$p\ \bar{p}\ K_S\ K^-\ X$		
20 – 70	Aleev 89	mass
	Aleev 88F	mass
40	Aleev 88G	mass
$2p\ \pi^+\ 2\pi^-$		
1.25 – 5.1	Beshliu 86	cs
< 9	Bystricky 87	cs
40	Aleev 88B	mass
3charged 2neutral (neutrals)		
1.25 – 5.1	Beshliu 86	cs
$2p\ \pi^+\ \pi^0\ 2\pi^-$		
1.25 – 5.1	Zielinsky 88	cs, mass
	Beshliu 86	cs
5.1	Beshliu 85	mass
$p\ n\ 2\pi^+\ 2\pi^-$		
1.25 – 5.1	Beshliu 86	cs
< 9	Bystricky 87	cs
$p\ n\ \pi^+\ \pi^0\ \pi^-\ (\pi^0\text{'s})$		
< 10	Bystricky 87	cs
5charged 2neutral (neutrals)		
1.25 – 5.1	Beshliu 86	cs

n n

inelastic		
6.1	Batyunya 85D	cs
mult[charged] (neutrals)		
6.1	Batyunya 85D	cs, mult

n nucleon

$D^0\ X$		
560	Cumalat 87	–
$\overline{D}^0\ X$		
560	Cumalat 87	–
$D^*(2010)^+\ X$		
560	Cumalat 87	–
$D^*(2010)^-\ X$		
560	Cumalat 87	–
$K^*(892)^+\ X$		
560	Cumalat 87	–
$K^*(892)^0\ X$		
560	Cumalat 87	–
$2K_S\ X$		
560	Cumalat 87	mass
$K^+\ K^-\ \pi^-\ X$		
560	Cumalat 87	mass

n deuteron

$^3\mathrm{H}\ \gamma$		
< 0.3106	Donoghue 84D	–

n Be

X		
0.5712 – 1.188	Franz 88	cs
$D^0\ X$		
640	Coteus 87	a-dep, cs
	Cumalat 87B	a-dep, cs
$D_S^-\ X$		
640	Shipbaugh 88B	cs, p
	Shipbaugh 87	p
$D_S^+\ X$		
640	Shipbaugh 88B	cs, p
	Shipbaugh 87	p
$D^*(2010)^+\ X$		
640	Shipbaugh 88B	a-dep, cs, p, pt
$D^*(2010)^-\ X$		
640	Shipbaugh 88B	a-dep, cs, p, pt
$\Lambda_c^+\ X$		
640	Diesburg 87	–
	Filaseta 87B	cs, p, pt
$\overline{\Lambda}_c^-\ X$		
640	Diesburg 87	–
	Filaseta 87B	cs, p, pt
$\Sigma_c(2455)^0\ X$		
640	Klein 89C	–
	Diesburg 87	–
$\overline{\Sigma}_c(2455)^0\ X$		
640	Diesburg 87	–
$\Sigma_c(2455)^{++}\ X$		
640	Klein 89C	–
	Diesburg 87	–
$\overline{\Sigma}_c(2455)^{--}\ X$		
640	Diesburg 87	–
$\phi\ \pi^+\ X$		
640	Shipbaugh 88B	mass
	Shipbaugh 87	mass
$\phi\ \pi^-\ X$		
640	Shipbaugh 88B	mass
	Shipbaugh 87	mass
$\Lambda_c^+\ \pi^+\ X$		
640	Diesburg 87	mass
$\Lambda_c^+\ \pi^-\ X$		
640	Diesburg 87	mass
$\overline{\Lambda}_c^-\ \pi^+\ X$		
640	Diesburg 87	mass
$\overline{\Lambda}_c^-\ \pi^-\ X$		
640	Diesburg 87	mass
$K^+\ K^-\ \pi^+\ X$		
640	Shipbaugh 88B	mass
	Shipbaugh 87	mass
$K^+\ K^-\ \pi^-\ X$		
640	Shipbaugh 88B	mass
	Shipbaugh 87	mass
$p\ K^-\ \pi^+\ X$		
640	Filaseta 87B	mass
$\bar{p}\ K^+\ \pi^-\ X$		
640	Filaseta 87B	mass
$p\ K^-\ \pi^+\ \pi^-\ X$		
640	Diesburg 87	mass

n Be

$\bar{p}\ K^+\ \pi^+\ \pi^-\ X$		
640	Diesburg 87	mass
$\Sigma_c(2455)^0\ K^-\ 2\pi^+\ X$		
640	Coteus 87	a-dep, cs
	Cumalat 87B	a-dep, cs
$\Sigma_c(2455)^{++}\ K^-\ 2\pi^+\ X$		
640	Coteus 87	a-dep, cs
	Cumalat 87B	a-dep, cs
$\Xi_c(2460)^+\ K^-\ 2\pi^+\ X$		
640	Coteus 87	a-dep, cs, p, pt
	Coteus 87B	a-dep, cs, p
	Cumalat 87B	a-dep, cs, p, pt
$\Lambda\ K^-\ 2\pi^+\ X$		
640	Coteus 87	mass, p
	Coteus 87B	mass, p
	Cumalat 87B	mass, p
$\Sigma^0\ K^-\ 2\pi^+\ X$		
640	Coteus 87	mass, p
	Coteus 87B	mass, p
	Cumalat 87B	mass, p

n ^{10}Bor

$^7\mathrm{Li}\ ^4\mathrm{He}$		
0	Ermakov 86C	asym

n Bor

Li^* axion		
?	Ananiev 83	–
$^7\mathrm{Li}$ axion		
?	Ananiev 83	–
$\mathrm{Li}^*\ 2\gamma$		
?	Ananiev 83	p
$^7\mathrm{Li}\ 2\gamma$		
?	Ananiev 83	p

n ^{12}C

$p\ X$		
0.8085 – 1.194	Franz 89	angp, p
1.149	Franz 85	angp, p
deuteron X		
0.8085 – 1.194	Franz 89	angp, p
1.149	Franz 85	angp, p
$^3\mathrm{H}\ X$		
0.8085 – 1.194	Franz 89	angp, p
1.149	Franz 85	angp, p
Λ (neutrals)		
3 – 10	Alekseev 88	–
3charged (chargeds) (neutrals)		
1 – 4.2	Bekmirzaev 87B	cs

n C

X		
0.5712 – 1.188	Franz 88	cs
inelastic		
(106.4 – 473.2)	Avakyan 89C	a-dep, cs
$\text{charged}^-\ X$		
1 – 200	Azimov 85D	mult
mult[charged] X		
40 – 70	Aleev 85	mass
$\pi^\pm\ X$		
0.8085 – 1.194	Buchle 89	a-dep, angp, p
	Buchle 88	angp
$\pi^+\ X$		
1.045 – 1.144	Buchle 89	angp
4.2	Bekmirzaev 88B	angp, mult, p, pt
	Kopylova 87	p
$\pi^-\ X$		
1.045 – 1.144	Buchle 89	angp
4.2	Bekmirzaev 88B	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.

n C

π^- X			
		Bekmirzaev 87C	angp, p, pt
		Bekmirzaev 86	mult, p
		Bekmirzaev 85	mult, p
$X(3100)^+$ X			
	40 – 70	Aleev 86C	a-dep, cs
$X(3100)^-$ X			
	40 – 70	Aleev 86C	a-dep, cs
$X(3100)^0$ X			
	40 – 70	Aleev 86C	a-dep, cs
baryonium X			
	20 – 70	Aleev 89	–
		Aleev 88F	–
D^0 X			
	40 – 70	Aleev 85	cs, p, pt
$\overline{D}^0$ X			
	40 – 70	Aleev 88	cs, p, pt
		Aleev 85	cs, p, pt
D^+ X			
	40 – 70	Aleev 85	cs, p, pt
D^- X			
	40 – 70	Aleev 88	cs, p, pt
		Aleev 85	cs, p, pt
baryonium$(S = +1)$ X			
	20 – 70	Aleev 88D	–
baryonium$(S = -1)$ X			
	20 – 70	Aleev 88D	–
p X			
	0.8374 – 1.149	Ero 87	angp
	4.2	Bekmirzaev 88	a-dep, angp, mult, p, pt
		Bekmirzaev 88B	angp, mult, p, pt
		Kopylova 87	p
$N\phi(1950)$ X			
	20 – 60	Aleev 85B	a-dep, cs
Λ_c^+ X			
	40	Prokoshkin 87C	cs
	40 – 70	Klein 89C	cs, p, pt
		Aleev 87B	a-dep
		Aleev 84C	pol, pt
Λ X			
	40	Aleev 87	a-dep, p, pol, pt
		Aleev 86	cs, p, pt
$\overline{\Lambda}$ X			
	40	Aleev 86	cs, p, pt
$\Sigma(1385\,P_{13})^+$ X			
	40	Aleev 86	cs, p, pt
$\Sigma(1385\,P_{13})^-$ X			
	40	Aleev 86	cs, p, pt
$\overline{\Sigma}(1385\,P_{13})^+$ X			
	40	Aleev 86	cs
$\Lambda(1520\,D_{03})$ X			
	40	Krastev 88	cs, p
Ξ^- X			
	20 – 70	Aleev 86B	pol
	40	Aleev 86	cs, p, pt
$\overline{\Xi}^+$ X			
	40	Aleev 86	cs
$\Xi(1530\,P_{13})^0$ X			
	40	Aleev 86	cs
Ω^- X			
	40	Aleev 86	cs
deuteron X			
	0.8374 – 1.149	Ero 87	angp
	4.2	Kopylova 87	p
^{3}H X			
	0.8374 – 1.149	Ero 87	angp
mult[p] X			
	1 – 200	Azimov 85D	cs, mult
$K^*(892)^+ \pi^-$ X			
	40 – 70	Aleev 88	mass
		Aleev 85	mass
$K^*(892)^- \pi^+$ X			
	40 – 70	Aleev 88	mass
		Aleev 85	mass
$K_S\,\pi^+$ X			
	40 – 70	Aleev 88	mass
		Aleev 85	mass
$K_S\,\pi^-$ X			
	40 – 70	Aleev 88	mass
$p\,\pi^-$ X			
	40	Aleev 87	mass
		Aleev 86	mass
$\overline{p}\,\pi^+$ X			
	40	Aleev 86	mass
$\Lambda\,\pi^+$ X			
	40	Aleev 86	mass
$\Lambda\,\pi^-$ X			
	20 – 70	Aleev 86B	mass
	40	Aleev 86	mass
$\Lambda\,K^-$ X			
	40	Aleev 86	mass
$\Sigma(1385\,P_{13})^+ K^+$ X			
	60	Prokoshkin 87C	ang, mass
$K^*(892)^+ 2\pi^-$ X			
	40 – 70	Aleev 88	mass
$K^*(892)^- 2\pi^+$ X			
	40 – 70	Aleev 88	mass
		Aleev 85	mass
$K_S\,\pi^+\,\pi^-$ X			
	40 – 70	Aleev 88	mass
		Aleev 85	mass
$p\,2\pi^-$ X			
	20 – 70	Aleev 86B	mass
$\Lambda\,\pi^+\,\pi^-$ X			
	40	Krastev 88	mass
$\overline{p}\,\Lambda\,\pi^+$ X			
	20 – 70	Aleev 88D	mass
	40 – 70	Aleev 86C	mass
$\overline{p}\,\Lambda\,\pi^-$ X			
	20 – 70	Aleev 88D	mass
	40 – 70	Aleev 86C	mass
$p\,\overline{\Lambda}\,\pi^+$ X			
	20 – 70	Aleev 88D	mass
$p\,\overline{\Lambda}\,\pi^-$ X			
	20 – 70	Aleev 88D	mass
$\overline{p}\,\Lambda\,K^+$ X			
	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$p\,\overline{\Lambda}\,K^-$ X			
	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$K_S\,2\pi^+\,\pi^-$ X			
	40 – 70	Aleev 88	mass
		Aleev 85	mass
$K_S\,\pi^+\,2\pi^-$ X			
	40 – 70	Aleev 88	mass
		Aleev 85	mass
$\Lambda\,2\pi^+\,\pi^-$ X			
	40 – 70	Aleev 87B	mass
		Aleev 84C	angp, asym, mass
$p\,\overline{K}^0\,\pi^+\,\pi^-$ X			
	40 – 70	Aleev 84C	angp, asym, mass
$p\,K_S\,\pi^+\,\pi^-$ X			
	40 – 70	Aleev 87B	mass
$\overline{p}\,\Lambda\,2\pi^+$ X			
	20 – 70	Aleev 88D	mass
	40 – 70	Aleev 86C	mass
$\overline{p}\,\Lambda\,\pi^+\,\pi^-$ X			
	20 – 70	Aleev 88D	mass
	40 – 70	Aleev 86C	mass
$p\,\overline{\Lambda}\,2\pi^-$ X			
	20 – 70	Aleev 88D	mass
$p\,\overline{\Lambda}\,\pi^+\,\pi^-$ X			
	20 – 70	Aleev 88D	mass
$\overline{p}\,\Lambda\,K^+\,\pi^+$ X			
	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$\overline{p}\,\Lambda\,K^+\,\pi^-$ X			
	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$p\,\overline{\Lambda}\,K^-\,\pi^+$ X			
	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$p\,\overline{\Lambda}\,K^-\,\pi^-$ X			
	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$p\,\overline{p}\,K^+\,K_S$ X			
	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$p\,\overline{p}\,K_S\,K^-$ X			
	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$\overline{p}\,\Lambda\,2\pi^+\,\pi^-$ X			
	40 – 70	Aleev 86C	mass

n O

X			
	0.5712 – 1.188	Franz 88	cs

n ^{20}Ne

charged$^-$ X			
	1 – 200	Azimov 85D	mult
mult[p] X			
	1 – 200	Azimov 85D	cs, mult

n Ne

μ^+ X			
	280	Tzeng 85	p
μ^- X			
	280	Tzeng 85	p
charmed-meson $\overline{\textbf{charmed-meson}}$ X			
	280	Tzeng 85	cs
Λ_c^+ $\overline{\textbf{charmed-meson}}$ X			
	280	Tzeng 85	cs

n Al

X			
	0.5712 – 1.188	Franz 88	cs
$X(3100)^+$ X			
	40 – 70	Aleev 86C	a-dep, cs
$X(3100)^-$ X			
	40 – 70	Aleev 86C	a-dep, cs
$X(3100)^0$ X			
	40 – 70	Aleev 86C	a-dep, cs
baryonium X			
	20 – 70	Aleev 89	–
		Aleev 88F	–
baryonium$(S = +1)$ X			
	20 – 70	Aleev 88D	–
baryonium$(S = -1)$ X			
	20 – 70	Aleev 88D	–
$N\phi(1950)$ X			
	20 – 60	Aleev 85B	a-dep, cs
Λ_c^+ X			
	40 – 70	Aleev 87B	a-dep
Λ X			
	40	Aleev 87	a-dep, p, pol, pt

n Al

$\Lambda(1520 D_{03})$ X			
	40	Krastev 88	cs, p
$p \pi^-$ X			
	40	Aleev 87	mass
$\Lambda \pi^+ \pi^-$ X			
	40	Krastev 88	mass
$\bar{p} \Lambda \pi^+$ X			
	20 – 70	Aleev 88D	mass
	40 – 70	Aleev 86C	mass
$\bar{p} \Lambda \pi^-$ X			
	20 – 70	Aleev 88D	mass
	40 – 70	Aleev 86C	mass
$p \bar{\Lambda} \pi^+$ X			
	20 – 70	Aleev 88D	mass
$p \bar{\Lambda} \pi^-$ X			
	20 – 70	Aleev 88D	mass
$\bar{p} \Lambda K^+$ X			
	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$p \bar{\Lambda} K^-$ X			
	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$\Lambda\ 2\pi^+ \pi^-$ X			
	40 – 70	Aleev 87B	mass
$p K_S \pi^+ \pi^-$ X			
	40 – 70	Aleev 87B	mass
$\bar{p} \Lambda\ 2\pi^+$ X			
	20 – 70	Aleev 88D	mass
	40 – 70	Aleev 86C	mass
$\bar{p} \Lambda \pi^+ \pi^-$ X			
	20 – 70	Aleev 88D	mass
	40 – 70	Aleev 86C	mass
$p \bar{\Lambda}\ 2\pi^-$ X			
	20 – 70	Aleev 88D	mass
$p \bar{\Lambda} \pi^+ \pi^-$ X			
	20 – 70	Aleev 88D	mass
$\bar{p} \Lambda K^+ \pi^+$ X			
	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$\bar{p} \Lambda K^+ \pi^-$ X			
	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$p \bar{\Lambda} K^- \pi^+$ X			
	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$p \bar{\Lambda} K^- \pi^-$ X			
	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$p \bar{p} K^+ K_S$ X			
	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$p \bar{p} K_S K^-$ X			
	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$\bar{p} \Lambda\ 2\pi^+ \pi^-$ X			
	40 – 70	Aleev 86C	mass

n Si

D^0 X			
	640	Coteus 87	a-dep, cs
		Cumalat 87B	a-dep, cs
D_S^- X			
	640	Shipbaugh 88B	cs, p
		Shipbaugh 87	p
D_S^+ X			
	640	Shipbaugh 88B	cs, p
		Shipbaugh 87	p
$D^*(2010)^+$ X			
	640	Shipbaugh 88B	a-dep, cs, p, pt
$D^*(2010)^-$ X			
	640	Shipbaugh 88B	a-dep, cs, p, pt
Λ_c^+ X			
	640	Filaseta 87B	cs, p, pt
$\bar{\Lambda}_c^-$ X			
	640	Filaseta 87B	cs, p, pt
$\phi \pi^+$ X			
	640	Shipbaugh 88B	mass
		Shipbaugh 87	mass
$\phi \pi^-$ X			
	640	Shipbaugh 88B	mass
		Shipbaugh 87	mass
$K^+ K^- \pi^+$ X			
	640	Shipbaugh 88B	mass
		Shipbaugh 87	mass
$K^+ K^- \pi^-$ X			
	640	Shipbaugh 88B	mass
		Shipbaugh 87	mass
$p K^- \pi^+$ X			
	640	Filaseta 87B	mass
$\bar{p} K^+ \pi^-$ X			
	640	Filaseta 87B	mass
$\Sigma_c(2455)^0 K^-\ 2\pi^+$ X			
	640	Coteus 87	a-dep, cs
		Cumalat 87B	a-dep, cs
$\Sigma_c(2455)^{++} K^-\ 2\pi^+$ X			
	640	Coteus 87	a-dep, cs
		Cumalat 87B	a-dep, cs
$\Xi_c(2460)^+ K^-\ 2\pi^+$ X			
	640	Coteus 87	a-dep, cs, p, pt
		Coteus 87B	a-dep, cs, p
		Cumalat 87B	a-dep, cs, p, pt
$\Lambda K^-\ 2\pi^+$ X			
	640	Coteus 87	mass, p
		Coteus 87B	mass, p
		Cumalat 87B	mass, p
$\Sigma^0 K^-\ 2\pi^+$ X			
	640	Coteus 87	mass, p
		Coteus 87B	mass, p
		Cumalat 87B	mass, p

n ^{35}Cl

$^{36}Cl\ \gamma$			
	< 0.1304	Avenier 85	asym

n Va

X			
	0.5712 – 1.188	Franz 88	cs

n Mn

X			
	0.5712 – 1.188	Franz 88	cs

n Fe

inelastic			
	(233.9 – 1021)	Avakyan 89C	a-dep, cs

n ^{56}Fe

^{57}Fe γ			
	< 0.005	Vesna 89	asym

n Co

X			
	0.5712 – 1.188	Franz 88	cs

n Cu

X			
	0.5712 – 1.188	Franz 88	cs
$\pi^\pm$ X			
	0.8085 – 1.194	Buchle 89	a-dep, angp, p
$X(3100)^+$ X			
	40 – 70	Aleev 86C	a-dep, cs
$X(3100)^-$ X			
	40 – 70	Aleev 86C	a-dep, cs
$X(3100)^0$ X			
	40 – 70	Aleev 86C	a-dep, cs
baryonium X			
	20 – 70	Aleev 89	–
		Aleev 88F	–
baryonium($S = +1$) X			
	20 – 70	Aleev 88D	–
baryonium($S = -1$) X			
	20 – 70	Aleev 88D	–
p X			
	0.8085 – 1.194	Franz 89	angp, p
$N\phi(1950)$ X			
	20 – 60	Aleev 85B	a-dep, cs
Λ_c^+ X			
	40 – 70	Aleev 87B	a-dep
Λ X			
	40	Aleev 87	a-dep, p, pol, pt
$\Lambda(1520 D_{03})$ X			
	40	Krastev 88	cs, p
deuteron X			
	0.8085 – 1.194	Franz 89	angp, p
^{3}H X			
	0.8085 – 1.194	Franz 89	angp, p
$p \pi^-$ X			
	40	Aleev 87	mass
$\Lambda \pi^+ \pi^-$ X			
	40	Krastev 88	mass
$\bar{p} \Lambda \pi^+$ X			
	20 – 70	Aleev 88D	mass
	40 – 70	Aleev 86C	mass
$\bar{p} \Lambda \pi^-$ X			
	20 – 70	Aleev 88D	mass
	40 – 70	Aleev 86C	mass
$p \bar{\Lambda} \pi^+$ X			
	20 – 70	Aleev 88D	mass
$p \bar{\Lambda} \pi^-$ X			
	20 – 70	Aleev 88D	mass
$\bar{p} \Lambda K^+$ X			
	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$p \bar{\Lambda} K^-$ X			
	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$\Lambda\ 2\pi^+ \pi^-$ X			
	40 – 70	Aleev 87B	mass
$p K_S \pi^+ \pi^-$ X			
	40 – 70	Aleev 87B	mass
$\bar{p} \Lambda\ 2\pi^+$ X			
	20 – 70	Aleev 88D	mass
	40 – 70	Aleev 86C	mass
$\bar{p} \Lambda \pi^+ \pi^-$ X			
	20 – 70	Aleev 88D	mass
	40 – 70	Aleev 86C	mass
$p \bar{\Lambda}\ 2\pi^-$ X			
	20 – 70	Aleev 88D	mass
$p \bar{\Lambda} \pi^+ \pi^-$ X			
	20 – 70	Aleev 88D	mass
$\bar{p} \Lambda K^+ \pi^+$ X			
	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$\bar{p} \Lambda K^+ \pi^-$ X			
	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$p \bar{\Lambda} K^- \pi^+$ X			
	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$p \bar{\Lambda} K^- \pi^-$ X			
	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$p \bar{p} K^+ K_S$ X			
	20 – 70	Aleev 89	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.

n Cu

$p \bar{p} K^+ K_S$ X		Aleev 88F	mass
$p \bar{p} K_S K^-$ X	20 – 70	Aleev 89	mass
		Aleev 88F	mass
$\bar{p} \Lambda 2\pi^+ \pi^-$ X	40 – 70	Aleev 86C	mass

n Ag

X	0.5712 – 1.188	Franz 88	cs

n ^{113}Cd

^{114}Cd γ	< 0.005	Vesna 89	asym

n Ce

X	0.5712 – 1.188	Franz 88	cs

n Ta

X	0.5712 – 1.188	Franz 88	cs
π^- X	4.2	Bekmirzaev 87C	angp, p, pt
		Bekmirzaev 86	mult, p
p X	4.2	Bekmirzaev 88	a-dep, angp, mult, p, pt

n Wt

D^0 X	640	Coteus 87	a-dep, cs
		Cumalat 87B	a-dep, cs
D_S^- X	640	Shipbaugh 88B	cs, p
		Shipbaugh 87	p
D_S^+ X	640	Shipbaugh 88B	cs, p
		Shipbaugh 87	p
$D^*(2010)^+$ X	640	Shipbaugh 88B	a-dep, cs, p, pt
$D^*(2010)^-$ X	640	Shipbaugh 88B	a-dep, cs, p, pt
Λ_c^+ X	640	Filaseta 87B	cs, p, pt
$\bar{\Lambda}_c^-$ X	640	Filaseta 87B	cs, p, pt
$\phi \pi^+$ X	640	Shipbaugh 88B	mass
		Shipbaugh 87	mass
$\phi \pi^-$ X	640	Shipbaugh 88B	mass
		Shipbaugh 87	mass
$K^+ K^- \pi^+$ X	640	Shipbaugh 88B	mass
		Shipbaugh 87	mass
$K^+ K^- \pi^-$ X	640	Shipbaugh 88B	mass
		Shipbaugh 87	mass
$p K^- \pi^+$ X	640	Filaseta 87B	mass
$\bar{p} K^+ \pi^-$ X	640	Filaseta 87B	mass
$\Sigma_c(2455)^0 K^- 2\pi^+$ X	640	Coteus 87	a-dep, cs
		Cumalat 87B	a-dep, cs
$\Sigma_c(2455)^{++} K^- 2\pi^+$ X	640	Coteus 87	a-dep, cs

n Wt

$\Sigma_c(2455)^{++} K^- 2\pi^+$ X		Cumalat 87B	a-dep, cs
$\Xi_c(2460)^+ K^- 2\pi^+$ X	640	Coteus 87	a-dep, cs, p, pt
		Coteus 87B	a-dep, cs, p
		Cumalat 87B	a-dep, cs, p, pt
$\Lambda K^- 2\pi^+$ X	640	Coteus 87	mass, p
		Coteus 87B	mass, p
		Cumalat 87B	mass, p
$\Sigma^0 K^- 2\pi^+$ X	640	Coteus 87	mass, p
		Coteus 87B	mass, p
		Cumalat 87B	mass, p

n ^{207}Pb

^{208}Pb γ	< 0.0971	Abov 89	asym

n Pb

X	0.5712 – 1.188	Franz 88	cs
inelastic	(479.9 – 1974)	Avakyan 89C	a-dep, cs

n ^{208}Pb

X	0.0868 – 0.7296	Schutt 88	cs

n Bi

X	0.5712 – 1.188	Franz 88	cs
$\pi^\pm$ X	0.8085 – 1.194	Buchle 89	a-dep, angp, p
p X	0.8085 – 1.194	Franz 89	angp, p
deuteron X	0.8085 – 1.194	Franz 89	angp, p
^{3}H X	0.8085 – 1.194	Franz 89	angp, p

n ^{233}U

X	$0.1501655 \cdot 10^{-4}$	Bondarenko 87	asym, cs

n ^{235}U

X	$0.1501655 \cdot 10^{-4}$	Bondarenko 87B	asym, cs

n ^{238}U

X	$0.1501655 \cdot 10^{-4}$	Bondarenko 87B	asym, cs
2frag (frags)	0	Damdinsuren 88	p

n U

X	0.5712 – 1.188	Franz 88	cs

n ^{239}Pu

X	$0.1501655 \cdot 10^{-4}$	Bondarenko 87B	asym, cs

n nucleus

inelastic	160 – 375	Fredriksson 87	a-dep, cs
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
$\Xi_c(2460)^+$ X	640	Klein 89C	a-dep, cs, p
dibaryon($S = -2$) X	7	Shahbazyan 88	cs, mass
nucleus n	$< 0.2 \cdot 10^{-4}$	Schmiedmayer 88	cs
$\mu^- \mu^+$ X	400	Fredriksson 87	a-dep, angp
$2p$ X	7	Kechechyan 89	p
$p \Sigma^-$ X	7	Shahbazyan 88	cs, mass
2Λ X	7	Shahbazyan 88	cs, mass
$\bar{p} \Lambda \pi^+$ X	40 – 70	Augustin 88C	mass
$\bar{p} \Lambda \pi^-$ X	40 – 70	Augustin 88C	mass
$\bar{p} \Lambda$ mult[π] X	40 – 70	Augustin 88C	mass
$\bar{p} \Lambda K^+$ X	40	Aleev 88G	mass
$p \bar{\Lambda} K^-$ X	40	Aleev 88G	mass
$\bar{p} \Lambda K^+ \pi^+$ X	40	Aleev 88G	mass
$\bar{p} \Lambda K^+ \pi^-$ X	40	Aleev 88G	mass
$p \bar{\Lambda} K^- \pi^+$ X	40	Aleev 88G	mass
$p \bar{\Lambda} K^- \pi^-$ X	40	Aleev 88G	mass
$p \bar{p} K^+ K_S$ X	40	Aleev 88G	mass
$p \bar{p} K_S K^-$ X	40	Aleev 88G	mass

$\bar{n} p$

X	0.1 – 0.5	Armstrong 87B	cs
		Armstrong 86C	cs
annihil	0.1 – 0.5	Armstrong 87B	cs
		Armstrong 86C	cs
	6.1	Batyunya 86B	cs
inelastic	6.1	Batyunya 86B	cs
charged X	6.1	Batyunya 86B	mult
mult[charged] (neutrals)	0.7	Banerjee 85	cs
	6.1	Batyunya 86B	cs
π^0 X	6.1	Batyunya 87B	cs, mult, p, pt

$\bar{n}\, p$

π^+ X		
0.7	Banerjee 85	p, pt
6.1	Batyunya 87B	angp, cs, mult, p, pt
π^- X		
0.7	Banerjee 85	p, pt
6.1	Batyunya 87B	angp
ρ^0 X		
0.5 – 0.8	Banerjee 86C	cs, p, pt
6.1	Batyunya 88B	cs, mult, p, pt
ω X		
6.1	Batyunya 88B	cs, mult
$f_0(975)$ X		
0.5 – 0.8	Banerjee 86C	cs, p, pt
$f_2(1270)$ X		
6.1	Batyunya 88B	cs, mult
p X		
6.1	Batyunya 87B	angp, cs, mult, p, pt
	Batyunya 86B	cs
$\bar{p}$ X		
6.1	Batyunya 87B	cs, mult, p, pt
	Batyunya 86B	cs
$\Delta(1232\, P_{33})^{++}$ X		
6.1	Batyunya 88B	cs, mult, p, pt
$\Delta(1232\, P_{33})^{0}$ X		
6.1	Batyunya 88B	cs, mult
$\overline{\Delta}(1232\, P_{33})^{--}$ X		
6.1	Batyunya 88B	cs, mult
$\overline{\Delta}(1232\, P_{33})^{0}$ X		
6.1	Batyunya 88B	cs, mult
annihil charged		
6.1	Batyunya 86B	mult
$\pi^+\, \pi^0$		
0.5 – 0.8	Banerjee 86C	cs
$\rho^0\, \pi^+$		
0.5 – 0.8	Banerjee 86C	cs
$\omega\, \pi^+$		
0.5 – 0.8	Banerjee 86C	cs
$f_0(975)\, \pi^+$		
0.5 – 0.8	Banerjee 86C	cs
$\rho^+\, \rho^0$		
0.5 – 0.8	Banerjee 86C	cs
$p\, \bar{n}$		
0.7	Banerjee 85	cs
6.1	Batyunya 84	cs
π^+ annihil		
6.1	Batyunya 87B	angp, mult, p, pt
π^- annihil		
6.1	Batyunya 87B	angp, mult, p, pt
ρ^0 annihil		
6.1	Batyunya 88B	cs, mult
ω annihil		
6.1	Batyunya 88B	cs, mult
$f_2(1270)$ annihil		
6.1	Batyunya 88B	cs, mult
$\pi^+\, \pi^-$ X		
6.1	Batyunya 88B	mass
$p\, \pi^+$ X		
6.1	Batyunya 88B	mass
$p\, \pi^-$ X		
6.1	Batyunya 88B	mass
$\bar{p}\, \pi^+$ X		
6.1	Batyunya 88B	mass
$\bar{p}\, \pi^-$ X		
6.1	Batyunya 88B	mass

$\bar{n}\, p$

π^0 mult[charged] (neutrals)		
6.1	Batyunya 87B	cs, mult, p, pt
π^+ mult[charged] (neutrals)		
6.1	Batyunya 87B	cs, mult, p, pt
π^- mult[charged] (neutrals)		
6.1	Batyunya 87B	mult, p
ρ^0 mult[charged] (neutrals)		
6.1	Batyunya 88B	cs, mult
ω mult[charged] (neutrals)		
6.1	Batyunya 88B	cs, mult
$f_2(1270)$ mult[charged] (neutrals)		
6.1	Batyunya 88B	cs, mult
p mult[charged] (neutrals)		
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
$\Delta(1232\, P_{33})^{++}$ mult[charged] (neutrals)		
6.1	Batyunya 88B	cs, mult
annihil mult[charged] (neutrals)		
6.1	Batyunya 86B	cs
$2\pi^+\, \pi^-$		
0.48 – 0.72	Sedlak 88	cs
0.5 – 0.8	Banerjee 86C	cs, mass
$\rho^0\, \pi^+\, \pi^0$		
0.5 – 0.8	Banerjee 86C	cs
$\rho^+\, \pi^+\, \pi^-$		
0.5 – 0.8	Banerjee 86C	cs
$\rho^-\, 2\pi^+$		
0.5 – 0.8	Banerjee 86C	cs
$2\rho^0\, \pi^+$		
0.5 – 0.8	Banerjee 86C	cs
ρ^0 annihil mult[charged] (neutrals)		
6.1	Batyunya 88B	cs, mult
ω annihil mult[charged] (neutrals)		
6.1	Batyunya 88B	cs, mult
$f_2(1270)$ annihil mult[charged] (neutrals)		
6.1	Batyunya 88B	cs, mult
$2\pi^+\, \pi^0\, \pi^-$		
0.5 – 0.8	Banerjee 86C	cs, mass
$\rho^0\, 2\pi^+\, \pi^-$		
0.5 – 0.8	Banerjee 86C	cs
$\omega\, 2\pi^+\, \pi^-$		
0.5 – 0.8	Banerjee 86C	cs
$f_0(975)\, 2\pi^+\, \pi^-$		
0.5 – 0.8	Banerjee 86C	cs
$3\pi^+\, 2\pi^-$		
0.48 – 0.72	Sedlak 88	cs
0.5 – 0.8	Banerjee 86C	cs, mass
$\rho^+\, 2\pi^+\, 2\pi^-$		
0.5 – 0.8	Banerjee 86C	cs
$2\rho^0\, 2\pi^+\, \pi^-$		
0.5 – 0.8	Banerjee 86C	cs
$2\pi^+\, \pi^0\, \pi^-$ (π^0's)		
0.48 – 0.72	Sedlak 88	cs
$3\pi^+\, \pi^0\, 2\pi^-$		
0.5 – 0.8	Banerjee 86C	cs, mass
$\rho^0\, 3\pi^+\, 2\pi^-$		
0.5 – 0.8	Banerjee 86C	cs
$4\pi^+\, 3\pi^-$		
0.5 – 0.8	Banerjee 86C	cs, mass
$3\pi^+\, \pi^0\, 2\pi^-$ (π^0's)		
0.48 – 0.72	Sedlak 88	cs

$\bar{n}\, p$

$4\pi^+\, \pi^0\, 3\pi^-$		
0.5 – 0.8	Banerjee 86C	cs, mass

$\bar{n}\, n$

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
π^0 X		
6.1	Batyunya 87G	ang, angp
π^+ X		
6.1	Batyunya 87G	ang, angp, cs
π^- 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

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$\bar{n}\ n$

$3\pi^+\ 3\pi^-$	6.1	Batyunya 87G	cs
$p\ \bar{p}\ 2\pi^+\ 2\pi^-$	6.1	Batyunya 87G	cs
$3\pi^+\ \pi^0\ 3\pi^-$	6.1	Batyunya 87G	cs
$n\ \bar{p}\ 3\pi^+\ 2\pi^-$	6.1	Batyunya 87G	cs
$p\ \bar{n}\ 2\pi^+\ 3\pi^-$	6.1	Batyunya 87G	cs
$3\pi^+\ 3\pi^-$ neutral (neutrals)	6.1	Batyunya 87G	cs
$4\pi^+\ \pi^0\ 4\pi^-$	6.1	Batyunya 87G	cs
$n\ \bar{p}\ 4\pi^+\ 3\pi^-$	6.1	Batyunya 87G	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

nucleon Pb

nucleon X	(2785 – 6216)	Borisov 85D	p

nucleon nucleus

mult[charged-meson] X	10 – 250	Atwater 87	pt
2frag (frags)	?	Cai 87B	mult, p

Λ Be

Be Σ^0	80 – 350	Petersen 86	–

Λ Sn

Sn Σ^0	80 – 350	Petersen 86	–

Λ Pb

Pb Σ^0	80 – 350	Petersen 86	–

Λ nucleus

nucleus Σ^0	80 – 350	Petersen 86	–

Σ^- Be

$X(3100)^+$ X	135	Augustin 88C	
		Bourquin 86	p
$X(3100)^-$ X	135	Augustin 88C	–
		Bourquin 86	p
$X(3100)^0$ X	135	Augustin 88C	–
		Bourquin 86	p
$\Xi_c(2460)^+$ X	135	Klein 89C	p
		Biagi 85	–
		Biagi 84	p
$\Xi_c(2460)^0$ X	135	Klein 89C	p
		Biagi 85	–
Ω_c X	135	Klein 89C	p
		Biagi 85	–
$\Omega^-\ K^+$ X	135	Biagi 85	mass
$p\ \bar{K}^0\ K^-$ X	135	Biagi 85	mass
$\Sigma(1385\,P_{13})^+\ K^-\ \pi^+$ X	135	Biagi 85	mass
$\Lambda\ \bar{K}^*(892)^0\ \pi^+$ X	135	Biagi 85	mass
$\Omega^-\ K^+\ \pi^+$ X	135	Biagi 85	mass
$\Lambda\ K^-\ \pi^+\ \pi^0$ X	135	Biagi 85	mass
$\Lambda\ K^-\ 2\pi^+$ X	135	Biagi 85	mass
		Biagi 84	mass
$p\ 2K^-\ \pi^+$ X	135	Biagi 85	mass
$p\ \bar{K}^0\ K^-\ \pi^+$ X	135	Biagi 85	mass
$\Xi^-\ K^-\ 2\pi^+$ X	135	Biagi 85	mass
$\bar{p}\ \Lambda\ 2\pi^+$ X	135	Augustin 88C	mass
		Bourquin 86	mass
$\bar{p}\ \Lambda\ \pi^+\ \pi^-$ X	135	Augustin 88C	mass
		Bourquin 86	mass
$p\ 2K^-\ 2\pi^+$ X	135	Biagi 85	mass
$\bar{p}\ \Lambda\ 2\pi^+\ \pi^-$ X	135	Augustin 88C	mass
		Bourquin 86	mass

Σ^- Wt

γ X	0	Gall 88	p
	0.1728	Hertzog 88	p

Σ^- Pb

γ X	0	Gall 88	p
	0.1728	Hertzog 88	p

$f_2(1270)$ nucleon

X	< 3.9	Nakai 89	cs

Ξ^- Be

Ξ^- 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
$\Xi(1690)^-$ 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
Ξ^*(unspec) X	116	Biagi 86B	cs
Ω^- X	116	Biagi 87C	cs, p, pol, pt
Ω^*(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
$\Lambda\ \bar{K}^0$ X	116	Biagi 87B	mass, pwa
$\Sigma^0\ \bar{K}^0$ 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

$\Xi^-\ ^{12}C$

$^{7}\text{Li}\ ^{6}\text{He}_{ss}$	0	May 89B	–

Ξ^- nucleus

$^{10}\text{Be}_{ss}$ X	0	May 89B	–

$\overline{\text{deuteron}}\ p$

p X	12.2	Batyunya 84	mass, p

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deuteron deuteron

K^+ K^- X
(63 – 88) Akesson 85F cs

2K^+ X
(63 – 88) Akesson 85F cs

2K^- X
(63 – 88) Akesson 85F cs

p(spect) mult[charged] X
12.2 Batyuna 88 mult

p mult[charged] (neutrals)
1036 Bell 86 mult, p

deuteron ^{3}He

^{4}He p
0.0613 – 0.2531 Vanoers 85 angp, pol

deuteron ^{7}Li

2p X
8.9 Averichev 89 cor, mass

deuteron ^{12}C

^{11}C X
8.982 Kozma 89B cs

p X
9 Azhgirej 87 angp
9.1 Ableev 88 cs, pol

deuteron C

inelastic
3.392 Gulkanyan 89 cs
8.4 Grigalashvil 88 cs

charged X
3.392 Gulkanyan 89 mult
4.6 Grigalashvil 88 a-dep, mult
8.4 Mekhtiev 88 et, mult

charged$^-$ X
4.6 Grigalashvil 88 a-dep, mult
8.4 Grigalashvil 88 a-dep, mult

mult[charged] X
3.392 Gulkanyan 89 mult
8.4 Mekhtiev 88 et

mult[charged$^-$] X
4.6 Grigalashvil 88 a-dep, mult
8.4 Grigalashvil 88 a-dep, mult

π^+ X
8.4 Kopylova 87 p
Simich 86 mult, p

π^- X
1 Viryasov 89 angp, cs, p, pt
3.392 Gulkanyan 89 cs, mult
8.4 Baatar 90 angp, et, p, pt
Agakishiev 89B angp, mult, p
Simich 86 mult, p
Armutlijsky 85 a-dep, angp, p
Agakishiev 84B angp, mult, p, pt
Agakishiev 84E a-dep, angp, mult
Armutlijsky 84 angp, p, pt

mult[π^-] X
3.392 Gulkanyan 89 mult

p X
1.6 Beznogikh 88 angp, asym
2.1 Perdrisat 87 cs, pwa
2.38 Avdejchikov 88 asym, p

deuteron C

p X
3.392 Gulkanyan 89 mult
4.2 Gulkanyan 88D a-dep, angp, cor, cs, mult, p
4.3 – 9 Azhgirej 85 angp
8.4 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
9 Azhgirej 86 angp, p

deuteron X
1.6 Beznogikh 88 angp, asym
2.38 Avdejchikov 88 asym, p
4.3 – 9 Azhgirej 85 angp
7.2 Ableev 84B cs
8.4 Kopylova 87 p
9 Azhgirej 88B angp

dibaryon X
8.4 Agakishiev 84E cs

^{3}He X
2.38 Avdejchikov 88 asym, p

^{3}H X
2.38 Avdejchikov 88 asym, p

He X
2.38 Avdejchikov 88 asym, p

mult[p] X
4.2 Gulkanyan 88D mult
8.4 Baldin 88C angp, cor
Armutlijsky 87C col, mult

2charged$^+$ X
8.4 Angelov 88 ang, cor

π^+ charged X
8.4 Agakishiev 86B mult

π^+ charged$^+$ X
8.4 Angelov 88 ang, cor

π^- charged X
8.4 Agakishiev 86B angp, mult, p, pt

π^- charged$^+$ X
8.4 Angelov 88 ang, cor

2π^- X
8.4 Angelov 88 ang, cor

π^+ π^- X
8.4 Angelov 88 ang, cor

p charged X
8.4 Agakishiev 86B angp, mult, p, pt

p charged$^+$ X
8.4 Angelov 88 ang, cor

p π^- X
8.4 Angelov 88 ang, cor
Gulkanyan 88 ang, angp, cor, p, pt

2p X
4 Budilov 90 angp, cor, p
4.2 Armutlijsky 87D angp, cs, mass, p
8.4 Angelov 88 ang, cor
Pluta 88B angp, cor, p
Zielinsky 88 cs, mass
Armutlijsky 86B cor
Agakishiev 84E mass

p (p's) X
8.4 Angelov 88 angp, col

2p 0π^+ X
4.2 Armutlijsky 87D angp, cs, mass, p

deuteron C

2p mult[π^+] X
4.2 Armutlijsky 87D angp, cs, mass, p

deuteron Al

p X
4.3 – 9 Azhgirej 85 angp

deuteron X
4.3 – 9 Azhgirej 85 angp

deuteron ^{27}Al

p X
0.5536 Machner 85 p

mult[p] X
0.5536 Machner 85 p

deuteron Ti

p X
2.1 Perdrisat 87 cs, pwa

deuteron ^{58}Ni

mult[p] X
0.5536 Machner 85 p

deuteron Ni

fragt X
9 Kozma 86B cs

deuteron ^{63}Cu

He X
0.4862 Machner 85 p

deuteron Cu

^{24}Na X
9 Kozma 86 cs

^{28}Mg X
9 Kozma 86 cs

^{42}KK X
9 Kozma 86 cs

^{43}KK X
9 Kozma 86 cs

^{43}Sc X
9 Kozma 86 cs

^{44}Sc X
9 Kozma 86 cs

^{46}Sc X
9 Kozma 86 cs

^{47}Sc X
9 Kozma 86 cs

^{48}Cr X
9 Kozma 86 cs

^{48}Sc X
9 Kozma 86 cs

^{48}Va X
9 Kozma 86 cs

^{51}Cr X
9 Kozma 86 cs

^{52}Mn X
9 Kozma 86 cs

^{53}Fe X
9 Kozma 86 cs

^{54}Mn X
9 Kozma 86 cs

^{55}Co X
9 Kozma 86 cs

^{56}Co X
9 Kozma 86 cs

^{56}Mn X
9 Kozma 86 cs

^{56}Ni X
9 Kozma 86 cs

^{57}Co X
9 Kozma 86 cs

^{57}Ni X
9 Kozma 86 cs

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deuteron ^{207}Pb

^{93}Tc* X		
9	Butsev 85	cs
^{95}Tc X		
9	Butsev 85	cs

deuteron Pb

K^+ X		
5.779	Schnetzer 89	angp, cs, p
mult[n] X		
9	Voronko 88	cs
fragt X		
8.982	Damdinsuren 89B	cs
2p X		
8.9	Averichev 89	cor, mass
deuteron p X		
8.9	Averichev 89	cor, mass

deuteron ^{208}Pb

mult[p] X		
0.5172	Machner 85	p
^{208}Pb deuteron		
0.5745	Morsch 85	angp, cs, pwr

deuteron Bi

p X		
4.3 – 9	Azhgirej 85	angp
deuteron X		
4.3 – 9	Azhgirej 85	angp

deuteron ^{209}Bi

^{132}La X		
9	Butsev 85	cs
^{198}Pb X		
9	Butsev 85	cs
^{198}Tl X		
9	Butsev 85	cs
^{198}Tl* X		
9	Butsev 85	cs
^{200}Pb X		
9	Butsev 85	cs
^{200}Tl X		
9	Butsev 85	cs
^{201}Pb X		
9	Butsev 85	cs
^{202}Bi X		
9	Butsev 85	cs
^{202}Pb X		
9	Butsev 85	cs
^{203}Bi X		
9	Butsev 85	cs
^{203}Pb X		
9	Butsev 85	cs
^{204}Bi X		
9	Butsev 85	cs
^{206}Bi X		
9	Butsev 85	cs
^{24}Na X		
9	Butsev 85	cs
^{28}Mg X		
9	Butsev 85	cs
^{41}Ar X		
9	Butsev 85	cs
^{56}Mn X		
9	Butsev 85	cs
^{90}Mo X		
9	Butsev 85	cs
^{90}Mo* X		
9	Butsev 85	cs
^{90}Nb X		
9	Butsev 85	cs
^{95}Tc X		
9	Butsev 85	cs

deuteron ^{232}Th

mult[p] X		
0.5172	Machner 85	p

deuteron nucleus

inelastic		
3.392	Gulkanyan 89	cs
5.779	Judek 86	cs
mult[charged] X		
3.392	Gulkanyan 89	mult
mult[π^-] X		
3.392	Gulkanyan 89	mult
K^+ X		
5.779	Schnetzer 89	angp, cs, p
grey X		
90.2 – 99	Antonchik 87	angp, mult, p, pt
nucleus deuteron		
3.392	Gulkanyan 89	cs
2charged X		
8.2	Balea 85	p
p π^+ X		
8.4	Grishin 88B	mass
black grey X		
90.2 – 99	Antonchik 87	angp, mult, p, pt
nucleus p n		
2.746 – 3.392	Bystricky 85	–

^{3}H p

X		
5	Abdullin 89	cs
charged (neutrals)		
5	Abdullin 89	cs
2charged (neutrals)		
5	Abdullin 89	cs
p X		
5	Abdullin 89B	angp
	Abdullin 89F	cs, mult, p
n X		
5	Abdullin 89F	cs, mult, p
^{3}H p		
5	Abdullin 89	angp, cs
	Abdullin 89C	cs
deuteron p n		
5	Abdullin 89	cs
	Abdullin 89C	angp, cs
	Abdullin 89D	ang, cs, p
	Abdullin 89F	angp, p
^{3}H p π^0		
5	Abdullin 89	cs
^{3}H n π^+		
5	Abdullin 89	cs
dibaryon 2n		
5	Abdullin 88B	cs
3charged (neutrals)		
5	Abdullin 89	cs
2p 2n		
5	Abdullin 88B	angp, cs, mass
deuteron p n π^0		
5	Abdullin 89F	angp, p
deuteron 2p π^-		
5	Abdullin 89F	angp, p
	Abdullin 89G	cs, mass, p
dibaryon 2n π^0		
5	Abdullin 88B	cs
deuteron p n (π^0's)		
5	Abdullin 89	cs
4charged (neutrals)		
5	Abdullin 89	cs
2p 2n π^0		
5	Abdullin 89F	angp, p
	Abdullin 88B	angp, cs, mass
3p n π^-		
5	Abdullin 89F	angp, p
p 3n π^+		
5	Abdullin 89F	angp, p
2p 2n (π^0's)		
5	Abdullin 89	cs
deuteron 2n π^+ (π^0's)		
5	Abdullin 89	cs
p 3n π^+ (π^0's)		
5	Abdullin 89	cs

^{3}He p

X		
2.5	Blinov 85	cs
8 – 16	Bano 87	cs
p X		
5	Abdullin 89F	cs, mult, p
n X		
5	Abdullin 89F	cs, mult, p
deuteron X		
4.731	Yokosawa 85C	–
4.8	Zielinsky 88	cs, mass
^{3}He X		
13.44 – 13.56	Bano 87	p
^{3}H X		
2.4 – 15	Ableev 87D	a-dep, angp, cs
anomalon X		
13.44 – 13.56	Bano 87	mult
^{3}H $\Delta(1232\,P_{33})^{++}$		
4.4 – 18.3	Ableev 87	ang
	Ableev 87E	angp
tribaryon p		
5	Abdullin 89E	cs, cs
	Abdullin 88C	cs
deuteron dibaryon		
5	Abdullin 88D	cs
deuteron 2p		
2.5 – 5	Blinov 86	angp, cs, mass, p
	Blinov 84B	ang, angp, cs
5	Abdullin 89D	ang, cs, p
	Abdullin 89F	angp, p
	Abdullin 88	ang, angp, cs, p
	Blinov 85D	angp, cs, mass
deuteron n $\Delta(1232\,P_{33})^{++}$		
5	Abdullin 88D	cs, mass
tribaryon p π^+		
5	Abdullin 89E	cs
	Abdullin 88C	cs
	Abdullin 88D	cs
tribaryon n π^+		
5	Abdullin 88D	cs
dibaryon 2p		
5	Abdullin 89E	cs
dibaryon p n		
5	Abdullin 88D	cs
dibaryon 2n		
5	Abdullin 89E	cs, cs
	Abdullin 88C	cs
deuteron dibaryon π^+		
5	Abdullin 88D	cs

^{3}He p

$2p$(spect) p n	2.5 – 5	Blinov 87B	ang, angp, cs
$3p$ n	2.5	Blinov 85	angp, cs, mass, p
	2.5 – 5	Blinov 88	–
		Blinov 86	angp, cs, mass, p
	5	Abdullin 89F	angp, p
		Abdullin 87	angp, cs, mass, p
	13.5	Glagolev 88B	ang, angp, cor, cs, p
deuteron $2p$ π^0	5	Abdullin 89F	angp, p
deuteron p n π^+	5	Abdullin 89F	angp, p
		Abdullin 88	ang, angp, cs, p
		Abdullin 88D	angp, cs, mass
p $2n$ $\Delta(1232 P_{33})^{++}$	5	Abdullin 90	angp, p
		Abdullin 89E	angp, cs, p
		Abdullin 88C	cs, mass
dibaryon $2p$ π^+	5	Abdullin 89E	cs
		Abdullin 88C	cs
dibaryon $2n$ π^+	5	Abdullin 89E	cs
		Abdullin 88C	cs
$3p$ n π^0	5	Abdullin 89F	angp, p
$2p$ $2n$ π^+	5	Abdullin 90	angp, mass, p
		Abdullin 89E	angp, cs, mass, p
		Abdullin 89F	angp, p
		Abdullin 88C	angp, cs, mass

^{3}He Be

inelastic	(199.8)	Tanihata 85	cs

^{3}He ^{12}C

^{3}H X	2.4 – 15	Ableev 87D	a-dep, angp, cs
	4.4 – 18.3	Ableev 87C	angp
		Ableev 87E	angp
^{3}H $\Delta(1232 P_{33})$ X	4.4 – 18.3	Ableev 87E	angp

^{3}He C

inelastic	(230.7)	Tanihata 85	cs
p X	10.8	Ableev 87B	p
	14.43	Adyasevich 87	angp, p
		Adyasevich 85	a-dep, cs, p
deuteron X	10.8	Ableev 87B	p
		Ableev 84B	cs
^{3}He X	10.8	Ableev 84B	cs
anomalon X	10.8	Ableev 84B	cs
demon X	10.8	Ableev 84B	cs

^{3}He Al

inelastic	(346.3)	Tanihata 85	cs

^{3}He ^{27}Al

p X	0.7149	Machner 85	p

^{3}He ^{62}Ni

He X	0.5919	Machner 85	p

^{3}He Cu

p X	14.43	Adyasevich 87	angp, p
		Adyasevich 85	a-dep, cs, p

^{3}He Pb

p X	14.43	Adyasevich 87	angp, p
		Adyasevich 85	a-dep, cs, p

^{3}He ^{208}Pb

^{208}Pb ^{3}He	0.8956	Morsch 85	angp, cs, pwa

^{3}He nucleus

$\Delta(1232 P_{33})^{++}$ X	2.4 – 15	Ableev 87D	a-dep, angp, cs
^{3}H X	2.4 – 15	Ableev 87D	a-dep, angp, cs

^{4}He p

X	8.6 – 13.5	Braun 89	cs
p X	8.6 – 13.5	Sobchak 88	angp
n X	8.6 – 13.5	Sobchak 88	angp
^{4}He p	8.6 – 13.5	Braun 89	angp, cs
mult[charged] (neutrals) X	8.6 – 13.5	Braun 89	cs
^{3}H $2p$	8.6	Zelinski 86	ang, p
^{3}He p n	8.6	Zelinski 86	ang, p
2deuteron p	8.6	Glagolev 86B	angp, asym, p
deuteron $2p$ n	8.6	Zielinsky 88	cs, mass
		Glagolev 86B	angp, asym, p
		Zelinski 86	ang, p
	8.6 – 13.5	Zelinski 88	ang, p
		Glagolev 87	cor
$4p$ n π^-	8.6	Zielinsky 88	cs, mass

^{4}He ^{4}He

charged X	(248)	Fischer 88	a-dep, p, pt
charged$^-$ X	(126)	Fredriksson 87	p
	(248)	Fischer 88	a-dep, p, pt
mult[charged] X	(104 – 126)	Fredriksson 87	mult
	(248)	Tannenbaum 89	et, p
mult[charged$^-$] X	(104 – 126)	Fredriksson 87	mult
mult[charged] (neutrals)	(252)	Akesson 88D	pt
$\pi^\pm$ X	(126)	Fredriksson 87	p
π^+ X	(248)	Fischer 88	a-dep, p, pt
π^- X	(248)	Fischer 88	a-dep, p, pt
K^+ X	(248)	Fischer 88	a-dep, p, pt
K^- X	(248)	Fischer 88	a-dep, p, pt
$K^\pm$ X	(126)	Fredriksson 87	p
K_S X	(126)	Fredriksson 87	p
p X	(248)	Fischer 88	a-dep, p, pt
$\bar{p}$ X	(248)	Fischer 88	a-dep, p, pt
Λ X	(126)	Fredriksson 87	p
^{4}He X	(126)	Fredriksson 87	p
hadron X	(252)	Akesson 89	et
mult[neutral] X	(248)	Tannenbaum 89	et, p
2charged X	(126)	Fredriksson 87	cor, p
γ mult[charged] (neutrals)	(252)	Akesson 88D	cs, pt

^{4}He He

$^{4}H_S$ X	18	Avramenko 87	cs
^{4}He π^- X	18	Avramenko 87	cs

^{4}He Li

π^- X	18	Gazdzicki 85	angp, pt
Λ X	18	Gazdzicki 85	angp, pt
$2\pi^-$ X	18	Abdurakhimov 88	angp, cor

^{4}He Be

inelastic	(230.7)	Tanihata 85	cs

^{4}He ^{10}Bor

^{13}C* p	0.1309	Baba 86	–

^{4}He ^{12}C

inelastic	0.4323	Dubar 89	cs
^{11}C X	17.94	Kozma 89B	cs
p X	2.65 – 4.52	Ableev 89	angp
^{3}H X	2.65 – 4.52	Ableev 89	angp

^{4}He C

inelastic	16.8	Grigalashvil 88	cs
	(266.3)	Tanihata 85	cs
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 $P_{\rm lab}$ in GeV/c, or in parentheses $E_{\rm cm}$ in GeV. See the legend on page 153.

^{4}He C

charged^{-} X		
9.2	Grigalashvil 88	a-dep, mult
16.8	Grigalashvil 88	a-dep, mult
mult[charged] X		
16.8	Mekhtiev 88	et
mult[charged^{-}] X		
9.2	Grigalashvil 88	a-dep, mult
16.8	Grigalashvil 88	a-dep, mult
π^{0} X		
4.5	Abraamyan 89	angp, p, pt
π^{+} X		
2.569 – 5.838	Lhote 87	a-dep, mult
π^{-} X		
2.569 – 5.838	Lhote 87	a-dep, mult
16.8	Agakisbiev 89B	angp, mult, p
p X		
4.2	Gulkanyan 88D	a-dep, angp, cor, cs, mult, p
19.24	Adyasevich 85B	angp, p
^{3}He X		
16.51	Abashidze 85B	a-dep, angp
^{4}He X		
16.51	Abashidze 85B	a-dep, angp
mult[p] X		
4.2	Gulkanyan 88D	mult
16.8	Baldin 88C	angp, cor, pt
2charged^{+} X		
4.2	Angelov 88	ang, cor
2γ X		
4.5	Abraamyan 89	mass
π^{+} charged^{+} X		
4.2	Angelov 88	ang, cor
π^{-} charged^{+} X		
4.2	Angelov 88	ang, cor
2π^{-} X		
4.2	Angelov 88	ang, cor
18	Abdurakhimov 88	angp, cor
π^{+} π^{-} X		
4.2	Angelov 88	ang, cor
p charged^{+} X		
4.2	Angelov 88	ang, cor
p π^{-} X		
4.2	Angelov 88	ang, cor
2p X		
4.2	Angelov 88	ang, cor
8	Budilov 90	angp, cor, p
16.8	Pluta 88B	angp, cor, p
	Zielinsky 88	cs, mass
π^{+} mult[grey] X		
5.838	Lhote 89	mult
π^{-} mult[grey] X		
5.838	Lhote 89	mult
p (p's) X		
16.8	Angelov 88	angp, col
2p (p's) X		
16.8	Akhababian 85	cor, mass, p, pt

^{4}He Ne

2π^{-} X		
18	Abdurakhimov 88	angp, cor

^{4}He Al

inelastic		
(399.6)	Tanihata 85	cs

^{4}He ^{27}Al

inelastic		
0.4323	Dubar 89	cs

^{4}He Cu

π^{+} X		
2.569 – 5.838	Lhote 87	mult
π^{-} X		
2.569 – 5.838	Lhote 87	mult
p X		
19.24	Adyasevich 85B	angp, p
^{3}He X		
16.51	Abashidze 85B	a-dep, angp
^{4}He X		
16.51	Abashidze 85B	a-dep, angp
π^{+} mult[grey] X		
5.838	Lhote 89	mult
π^{-} mult[grey] X		
5.838	Lhote 89	mult

^{4}He Zr

inelastic		
0.4323	Dubar 89	cs

^{4}He Mo

inelastic		
0.4323	Dubar 89	cs

^{4}He Ag

^{6}He X		
13.32	Avdejchikov 86	angp, p
^{6}Li X		
13.32	Avdejchikov 86	angp, p
^{7}Li X		
13.32	Avdejchikov 86	angp, p
^{8}Li X		
13.32	Avdejchikov 86	angp, p

^{4}He Ta

charged X		
9.2	Grigalashvil 88	a-dep, mult
charged^{-} X		
9.2	Grigalashvil 88	a-dep, mult
mult[charged] X		
9.2	Grigalasbvil 88	a-dep, mult
mult[charged^{-}] X		
9.2	Grigalashvil 88	a-dep, mult
p X		
4.2	Gulkanyan 88D	a-dep, angp, cor, cs, mult, p

^{4}He ^{181}Ta

inelastic		
0.4323	Dubar 89	cs

^{4}He Au

^{6}He X		
13.32	Avdejchikov 86	angp, p
^{6}Li X		
13.32	Avdejchikov 86	angp, p
^{7}Li X		
13.32	Avdejchikov 86	angp, p
^{8}Li X		
13.32	Avdejchikov 86	angp, p
Bor X		
3.373 – 16.82	Avdejchikov 87B	angp, cs

^{4}He Au

Bor X		
	Avdejchikov 87F	angp, p
	Avdejchikov 87H	a-dep, p
16.82	Avdejchikov 87G	angp, p
C X		
3.373 – 16.82	Avdejchikov 87B	angp, cs
	Avdejchikov 87F	angp, p
	Avdejchikov 87H	a-dep, p
16.82	Avdejchikov 87G	angp, p
Nit X		
3.373 – 16.82	Avdejchikov 87B	angp, cs
	Avdejchikov 87F	angp, p
	Avdejchikov 87H	a-dep, p
16.82	Avdejchikov 87G	angp, p
O X		
3.373 – 16.82	Avdejchikov 87B	angp, cs
	Avdejchikov 87F	angp, p
	Avdejchikov 87H	a-dep, p
16.82	Avdejchikov 87G	angp, p
Fl X		
3.373 – 16.82	Avdejchikov 87B	angp, cs
	Avdejchikov 87F	angp, p
	Avdejchikov 87H	a-dep, p
16.82	Avdejchikov 87G	angp, p
Ne X		
3.373 – 16.82	Avdejchikov 87B	angp
	Avdejchikov 87F	angp, p
16.82	Avdejchikov 87G	angp, p
Na X		
3.373 – 16.82	Avdejchikov 87B	angp
	Avdejchikov 87F	angp, p
16.82	Avdejchikov 87G	angp, p
Mg X		
3.373 – 16.82	Avdejchikov 87B	angp
	Avdejchikov 87F	angp, p
16.82	Avdejchikov 87G	angp, p
^{3}He X		
16.51	Abashidze 85B	a-dep, angp
^{4}He X		
16.51	Abashidze 85B	a-dep, angp
2p X		
8	Budilov 90	angp, cor, p

^{4}He ^{197}Au

inelastic		
0.4323	Dubar 89	cs

^{4}He Pb

π^{+} X		
2.569 – 5.838	Lhote 87	a-dep, mult
π^{-} X		
2.569 – 5.838	Lhote 87	a-dep, mult
p X		
19.24	Adyasevich 85B	angp, p

^{4}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
π^+ mult[grey] X		
5.838	Lhote 89	mult
π^- mult[grey] X		
5.838	Lhote 89	mult

^{4}He ^{208}Pb

mult[fragt] X		
11.96	Grabez 88	mult

^{4}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
^3H_S X		
18	Abdurakhimov 89C	–
^4H_S X		
18	Abdurakhimov 89C	cs
	Avramenko 88	cs, p
fragb X		
18	Anikina 86D	angp, cs
grey X		
90.2 – 99	Antonchik 87	angp, mult, p, pt
0Λ charged$^-$ X		
18	Anikina 86D	mult
$p\ \pi^+$ X		
16.8	Grishin 88B	mass
Λ charged$^-$ X		
18	Anikina 86D	mult
^{3}He π^- X		
18	Avramenko 88	cs, p
^{4}He π^- X		
18	Avramenko 88	cs, p
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

He p

charged X		
(88)	Bell 86B	angp, p, pt
charged$^+$ X		
(62)	Bell 85B	p, pt
charged$^-$ X		
(62)	Bell 85B	p, pt
π^0 X		
(88)	Fredriksson 87	angp, pt
He X		
7	Banaigs 86	angp
anomalon X		
17.7	Bano 86	cs
He p		
17.9	Ableev 85	angp
2charged X		
(88)	Bell 85C	cor
2p X		
16.8	Armutlijsky 86B	cor
p mult[charged] (neutrals)		
(88)	Bell 86B	angp, mult, p, pt
^{3}H 2p		
8.6	Glagolev 86	cs
^{3}He p n		
8.6	Glagolev 86	cs
2deuteron p		
8.6	Glagolev 86	cs
deuteron 2p n		
8.6	Glagolev 86	cs
3p 2n		
8.6	Glagolev 86	cs

He He

X		
(126)	Lloydowen 86	cs
charged X		
(125)	Bell 86B	angp, p, pt
(248)	Breakstone 86F	mult, pt
charged$^+$ X		
(125)	Bell 85B	mult, p, pt
charged$^-$ X		
(125)	Bell 86	mult, p
	Bell 85B	mult, p, pt
π^0 X		
(124)	Angelis 87	angp, pt
	Richard 87	a-dep, p, pt
(126)	Fredriksson 87	angp, pt
π^+ X		
(124)	Breakstone 85D	cs
π^- X		
(124)	Breakstone 85D	cs
ϕ X		
(126 – 176)	Akesson 85F	cs
K^+ X		
(124)	Breakstone 85D	cs
K^- X		
(124)	Breakstone 85D	cs
p X		
(124)	Breakstone 85D	cs
(125)	Bell 85B	p, pt
$\bar{p}$ X		
(124)	Breakstone 85D	cs
2He		
17.9	Ableev 85	angp
(126)	Lloydowen 86	angp, cs
	Akesson 84B	angp
DD < X > He		
(126)	Lloydowen 86	angp, cs
2charged X		
(125)	Bell 85C	cor
π^+ charged X		
(126 – 176)	Akesson 85F	mult
π^- charged X		
(126 – 176)	Akesson 85F	mult
2π^+ X		
(126)	Akesson 86F	cor, pt
2π^- X		
(126)	Akesson 86F	cor, pt
K^+ charged X		
(126 – 176)	Akesson 85F	mult
K^- charged X		
(126 – 176)	Akesson 85F	mult
K^+ K^- X		
(126 – 176)	Akesson 85F	cs
2K^+ X		
(126)	Akesson 85B	cor
(126 – 176)	Akesson 85F	cs
2K^- X		
(126)	Akesson 85B	cor
(126 – 176)	Akesson 85F	cs
2He X		
(126)	Cavasinni 85	ang, cs, mult
p mult[charged] (neutrals)		
(125)	Bell 86	mult, p
	Bell 86B	angp, mult, p, pt
He ^{3}H p		
(125)	Bell 85	pt
He 2deuteron		
(125)	Bell 85	p, pt
He p frag		
(125)	Bell 85	p, pt
He deuteron p n		
(125)	Bell 85	p, pt
2He π^+ π^-		
(126)	Akesson 85D	–
4charged (neutrals)		
125.1	Angelis 86	mult, p

He Li

A X		
17.74	Stock 87	angp
18	Anikina 85B	angp, pol

He Be

^{3}He X		
16.64	Abashidze 84	p
^{3}H X		
16.64	Abashidze 84	p
He X		
16.64	Abashidze 84	p

He ^{12}C

^{3}He X		
16.64	Abashidze 84	p
^{3}H X		
16.64	Abashidze 84	p
He X		
16.64	Abashidze 84	p

He C

charged X		
18	Anikina 86B	a-dep, angp, cs, mult
π^+ X		
16.8	Simich 86	mult, p
π^- X		
16.8	Baatar 90	angp, et, p, pt
	Simich 86	mult, p
	Agakishiev 84B	angp, mult, p, pt
	Agakishiev 84E	a-dep, angp, mult
	Armutlijsky 84	p
p X		
16.8	Armutlijsky 86C	angp, mult, p
	Agakishiev 84E	a-dep, ang, angp, col, mult
dibaryon X		
16.8	Agakishiev 84E	cs
exotic X		
17.9	Ableev 86	cs
longlived X		
17.9	Ableev 86	cs
C 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		
16.8	Agakishiev 86B	mult
π^- charged X		
16.8	Agakishiev 86B	angp, mult, p, pt
p charged X		
16.8	Agakishiev 86B	angp, mult, p, pt
$p\ \pi^-$ X		
16.8	Gulkanyan 88	ang, angp, cor, p, pt
2p X		
16.8	Balea 86	p
	Agakishiev 84E	mass
mult[π^-] mult[fragt] mult[fragb] X		
18	Anikina 85	cor, mult

He Ne

charged X		
18	Anikina 86B	a-dep, angp, cs, mult
mult[π^-] mult[fragt] mult[fragb] X		
18	Anikina 85	cor, mult

He Al

charged X		
18	Anikina 86B	a-dep, angp, cs, mult
Al He		
17.9	Ableev 85	angp

He ^{27}Al

^{3}He X		
16.64	Abashidze 84	p
^{3}H X		
16.64	Abashidze 84	p
He X		
16.64	Abashidze 84	p

He ^{54}Fe

He X		
0.6659 – 0.9535	Machner 85	p

He ^{58}Ni

deuteron X		
1.031	Machner 85	p
He X		
0.7259 – 1.031	Machner 85	cs
^{58}Ni He		
1.493 – 2.388	Bonin 86	angp, cs
He p X		
1.031	Machner 85	p

He ^{61}Ni

He X		
0.6828	Machner 85	p

He Cu

charged X		
18	Anikina 86B	a-dep, angp, cs, mult
Cu He		
17.9	Ableev 85	angp
mult[π^-] mult[fragt] mult[fragb] X		
18	Anikina 85	cor, mult

He ^{64}Cu

^{3}He X		
16.64	Abashidze 84	p
^{3}H X		
16.64	Abashidze 84	p
He X		
16.64	Abashidze 84	p

He ^{90}Zr

He X		
0.8515	Machner 85	angp

He ^{108}Ag

^{6}Li X		
16.64	Abashidze 85	angp
^{7}Li X		
16.64	Abashidze 85	angp
^{8}Li X		
16.64	Abashidze 85	angp
^{3}He X		
16.64	Abashidze 84	p
^{3}H X		
16.64	Abashidze 84	p
He X		
16.64	Abashidze 84	p

He ^{116}Sn

^{116}Sn He		
1.493 – 2.388	Bonin 86	angp, cs

He Ta

charged X		
16.8	Kutsidi 86	mult
mult[charged] X		
16.8	Kutsidi 86	mult

He ^{197}Au

^{6}Li X		
16.64	Abashidze 85	angp
^{7}Li X		
16.64	Abashidze 85	angp
^{8}Li X		
16.64	Abashidze 85	angp
^{3}He X		
16.64	Abashidze 84	p
^{3}H X		
16.64	Abashidze 84	p
He X		
16.64	Abashidze 84	p

He Pb

charged X		
18	Anikina 86B	a-dep, angp, cs, mult
mult[n] X		
18	Voronko 88	cs
mult[π^-] mult[fragt] mult[fragb] X		
18	Anikina 85	cor, mult

He ^{208}Pb

^{208}Pb He		
1.145	Morsch 85	angp, cs, pwa
1 493 – 2.388	Bonin 86	angp, cs

He nucleus

X		
< 60	Sengupta 89	cs
< 803.7	Singh 88B	cs
$10^3 - 10^5$	Kawamura 89	–
π^- X		
17.74	Stock 87	mult
mult[black] mult[shower]		
48	Claesson 85	mult

^{6}He Be

inelastic		
(282.5)	Tanihata 85	cs

^{6}He C

inelastic		
(326.1)	Tanihata 85	cs
^{3}He X		
8.686	Kobayashi 88	cs, pt

^{6}He C

^{4}He X		
8.686	Kobayashi 88	cs, pt

^{6}He Al

inelastic		
(489.1)	Tanihata 85	cs

^{6}He nucleus

inelastic		
8.758	Kobayashi 89C	a-dep, cs
^{5}He n X		
8.758	Kobayashi 89C	a-dep, cs
^{4}He 2n X		
8.758	Kobayashi 89C	a-dep, cs

^{6}Li Be

frag X		
8.686	Tanihata 86	cs

^{6}Li C

inelastic		
8.686	Tanihata 88	a-dep, cs
frag X		
8.686	Tanihata 86	cs

^{6}Li Al

frag X		
8.686	Tanihata 86	cs

^{6}Li ^{40}Ca

p X		
0.5397	Machner 85	angp
He X		
0.5292 – 1.304	Machner 85	angp, p

Li nucleus

inelastic		
1206	Baroni 90	cs

^{7}Be Be

frag X		
10.13	Tanihata 86	cs

^{7}Be C

frag X		
10.13	Tanihata 86	cs

^{7}Be Al

frag X		
10.13	Tanihata 86	cs

^{7}Li He

^{7}Li$_S$ X		
18	Avramenko 87	cs
^{7}Be π^- X		
18	Avramenko 87	cs

^{7}Li Be

frag X		
10.13	Tanihata 86	cs

^{7}Li C

frag X		
10.13	Tanihata 86	cs

^{7}Li Al

frag X		
10.13	Tanihata 86	cs

^{8}He Be

inelastic		
(326.1)	Tanihata 85	cs

^{8}He C

inelastic		
(376.5)	Tanihata 85	cs

^{8}He C			
^{6}He X	11.58	Kobayashi 88	cs, pt
^{4}He X	11.58	Kobayashi 88	cs, pt
^{8}He Al			
inelastic	(564.6)	Tanihata 85	cs
^{8}Li Be			
frag X	11.58	Tanihata 86	cs
^{8}Li C			
frag X	11.58	Tanihata 86	cs
^{8}Li Al			
frag X	11.58	Tanihata 86	cs
^{8}Bor Be			
inelastic	11.58	Tanihata 88	a-dep. cs
^{8}Bor C			
inelastic	11.58	Tanihata 88	a-dep. cs
^{8}Bor Al			
inelastic	11.58	Tanihata 88	a-dep. cs
^{9}Li Be			
frag X	13.03	Tanihata 86	cs
^{9}Li C			
frag X	13.03	Tanihata 86	cs
^{9}Li Al			
frag X	13.03	Tanihata 86	cs
^{9}Li nucleus			
inelastic	13.14	Kobayashi 89C	a-dep, cs
^{8}Li *n* X	13.14	Kobayashi 89C	a-dep, cs
^{7}Li 2*n* X	13.14	Kobayashi 89C	a-dep, cs
Be Be			
frag X	13.04	Tanihata 86	cs
Be C			
frag X	13.04	Tanihata 86	cs
Be Al			
frag X	13.04	Tanihata 86	cs
Be nucleus			
inelastic	1808	Baroni 90	cs
^{10}Be Be			
frag X	14.48	Tanihata 86	cs
^{10}Be C			
frag X	14.48	Tanihata 86	cs
^{10}Be Al			
frag X	14.48	Tanihata 86	cs
Bor nucleus			
inelastic	2010	Baroni 90	cs
^{11}Bor C			
^{10}Be X	*16.06*	*Kobayashi 89B*	*pt*
^{10}Be *n* X	16.06	Kobayashi 89B	pt
^{11}Li Be			
inelastic	15.92	Kobayashi 89	a-dep, cs
frag X	15.92	Tanihata 86	cs
^{11}Li C			
inelastic	15.92	Kobayashi 89	a-dep, cs
^{6}He X	15.92	Kobayashi 88	cs, pt
^{6}Li X	15.92	Kobayashi 88	cs, pt
^{7}Li X	15.92	Kobayashi 88	cs, pt
^{8}He X	15.92	Kobayashi 88	cs, pt
^{8}Li X	15.92	Kobayashi 88	cs, pt
^{9}Li X	15.92	Kobayashi 89 Kobayashi 88	a-dep, cs cs
^{3}He X	15.92	Kobayashi 88	cs, pt
^{4}He X	15.92	Kobayashi 88	cs, pt
frag X	15.92	Tanihata 86	cs
^{11}Li Al			
inelastic	15.92	Kobayashi 89	a-dep, cs
frag X	15.92	Tanihata 86	cs
^{11}Li Cu			
inelastic	15.92	Kobayashi 89	a-dep, cs
^{9}Li X	15.92	Kobayashi 89	a-dep, cs
^{11}Li Pb			
inelastic	15.92	Kobayashi 89	a-dep, cs
^{6}He X	*15.92*	*Kobayashi 88*	*cs, pt*
^{9}Li X	15.92	Kobayashi 89 Kobayashi 88	a-dep, cs cs, pt
^{11}Li nucleus			
inelastic	16.06	Kobayashi 89C	a-dep, cs
^{10}Li *n* X	16.06	Kobayashi 89C	a-dep, cs
^{9}Li 2*n* X	16.06	Kobayashi 89C	a-dep, cs
^{11}Be Be			
inelastic	15.93	Tanihata 88	a-dep, cs
^{11}Be C			
inelastic	15.93	Tanihata 88	a-dep, cs
^{11}Be Al			
inelastic	15.93	Tanihata 88	a-dep, cs
^{11}Be nucleus			
inelastic	*16.06*	*Kobayashi 89C*	a-dep, cs
^{10}Be *n* X	16.06	Kobayashi 89C	a-dep, cs
^{9}Be 2*n* X	16.06	Kobayashi 89C	a-dep, cs
^{12}Be Be			
inelastic	17.37	Tanihata 88	a-dep, cs
^{12}Be C			
inelastic	17.37	Tanihata 88	a-dep, cs
^{12}Be Al			
inelastic	17.37	Tanihata 88	a-dep, cs
^{12}C *p*			
π^{-} X	54	Gazdzicki 85	angp, pt
Λ X	54	Gazdzicki 85	angp, pt
mult[He] X	4.5	Khan 89	mult
fragb X	51.99 54	Bogdanov 88 Khan 88	cs a-dep, mult
^{12}C ^{12}C			
inelastic	0.8196 – 2.607	Dubar 89	cs
^{11}C X	53.83	Kozma 89B	cs
2^{12}C	5.874 – 7.709	Mermaz 86	–
***p* X**	4.883	Kristiansson 85	ang. cor
anomalon X	50.76	Bayman 87	–
***p* γ X**	34.62	Roche 84	–
deuteron γ X	34.62	Roche 84	–
2*p* X	*4.883*	*Kristiansson 85*	*ang. cor*
2deuteron X	4.883	Kristiansson 85	ang. cor
2^{3}H X	4.883	Kristiansson 85	ang. cor
2He X	4.883	Kristiansson 85	ang. cor
^{12}C C			
inelastic	50.4	Grigalashvil 88	cs
charged X	54	*Anikina 86B*	a-dep, angp, cs, mult
charged^{-} X	54	Anikina 89	mult
mult[charged^{-}] X	54	Anikina 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

^{12}C C

π^+ X	53.83	Kurepin 88	a-dep, angp
π^- X	18	Gazdzicki 85	angp, pt
	53.83	Kurepin 88	a-dep, angp
	54	Gazdzicki 85	angp, pt
mult[π^-] X	54	Anikina 89	mult
K^+ X	53.83	Kurepin 88	a-dep, angp
K^- X	53.83	Kurepin 88	a-dep, angp
p X	41.73	Adyasevich 87B	angp
	54	Anikina 85C	a-dep, angp, p
Λ X	18	Gazdzicki 85	angp, pt
	54	Gazdzicki 85	angp, pt
deuteron X	41.73	Adyasevich 87B	angp
		Adyasevich 85C	angp, p
	54	Anikina 85C	a-dep, angp, p
^{3}H X	41.73	Adyasevich 87B	angp
	54	Anikina 85C	a-dep, angp, p
mult[frag] mult[charged] X	54	Anikina 89	mult
mult[π^-] mult[fragt] mult[fragb] X	54	Anikina 85	cor, mult

^{12}C Ne

charged X	54	Anikina 86B	a-dep, angp, cs, mult
π^- X	54	Gazdzicki 85	angp, pt
Λ X	54	Gazdzicki 85	angp, pt
2π^- fragb X	54	Abdurakhimov 88	angp, cor
mult[π^-] mult[fragt] mult[fragb] X	54	Anikina 85	cor, mult

^{12}C Al

p X	54	Anikina 85C	a-dep, angp, p
deuteron X	54	Anikina 85C	a-dep, angp, p
^{3}H X	54	Anikina 85C	a-dep, angp, p

^{12}C ^{27}Al

inelastic	0.8196 – 2.607	Dubar 89	cs
^{24}Na X	53.83	Damdinsuren 87	cs

^{12}C Si

charged X	54	Anikina 86B	a-dep, angp, cs, mult

^{12}C ^{55}Mn

^{24}Na X	53.83	Kozma 90B	angp, p
		Kozma 88B	cs
^{28}Mg X	53.83	Kozma 90B	angp, p

^{12}C ^{55}Mn

^{28}Mg X		Kozma 88B	cs
^{42}KK X	53.83	Kozma 88B	cs
^{43}KK X	53.83	Kozma 88B	cs
^{43}Sc X	53.83	Kozma 88B	cs
^{44}Sc X	53.83	Kozma 88B	cs
^{46}Sc X	53.83	Kozma 88B	cs
^{47}Sc X	53.83	Kozma 88B	cs
^{48}Cr X	53.83	Kozma 88B	cs
^{48}Sc X	53.83	Kozma 88B	cs
^{48}Va X	53.83	Kozma 88B	cs
^{51}Cr X	53.83	Kozma 88B	cs
^{52}Mn X	53.83	Kozma 88B	cs
^{52}Fe X	53.83	Kozma 88B	cs
^{54}Mn X	53.83	Kozma 88B	cs
^{56}Co X	53.83	Kozma 88B	cs
^{56}Mn X	53.83	Kozma 88B	cs
^{56}Ni X	53.83	Kozma 88B	cs
^{57}Co X	53.83	Kozma 88B	cs
^{57}Ni X	53.83	Kozma 88B	cs
^{58}Co X	53.83	Kozma 88B	cs
^{59}Fe X	53.83	Kozma 88B	cs
^{60}Co X	53.83	Kozma 88B	cs
^{65}Zn X	53.83	Kozma 88B	cs
frag X	53.83	Kozma 88B	cs

^{12}C Ni

^{24}Na X	53.83	Kozma 88B	cs
^{28}Mg X	53.83	Kozma 88B	cs
^{42}KK X	53.83	Kozma 88B	cs
^{43}KK X	53.83	Kozma 88B	cs
^{43}Sc X	53.83	Kozma 88B	cs
^{44}Sc X	53.83	Kozma 88B	cs
^{46}Sc X	53.83	Kozma 88B	cs
^{47}Sc X	53.83	Kozma 88B	cs
^{48}Cr X	53.83	Kozma 88B	cs
^{48}Sc X	53.83	Kozma 88B	cs
^{48}Va X	53.83	Kozma 88B	cs
^{51}Cr X	53.83	Kozma 88B	cs

^{12}C Ni

^{52}Mn X	53.83	Kozma 88B	cs
^{52}Fe X	53.83	Kozma 88B	cs
^{54}Mn X	53.83	Kozma 88B	cs
^{55}Co X	53.83	Kozma 88B	cs
^{56}Co X	53.83	Kozma 88B	cs
^{56}Mn X	53.83	Kozma 88B	cs
^{56}Ni X	53.83	Kozma 88B	cs
^{57}Co X	53.83	Kozma 88B	cs
^{57}Ni X	53.83	Kozma 88B	cs
^{58}Co X	53.83	Kozma 88B	cs
^{59}Fe X	53.83	Kozma 88B	cs
^{60}Co X	53.83	Kozma 88B	cs
^{61}Cu X	53.83	Kozma 88B	cs
^{65}Zn X	53.83	Kozma 88B	cs
frag X	53.83	Kozma 88B	cs

^{12}C ^{59}Co

^{24}Na X	53.83	Kozma 90B	angp, p
		Kozma 88B	cs
^{28}Mg X	53.83	Kozma 90B	angp, p
		Kozma 88B	cs
^{42}KK X	53.83	Kozma 88B	cs
^{43}KK X	53.83	Kozma 88B	cs
^{43}Sc X	53.83	Kozma 88B	cs
^{44}Sc X	53.83	Kozma 88B	cs
^{46}Sc X	53.83	Kozma 88B	cs
^{47}Sc X	53.83	Kozma 88B	cs
^{48}Cr X	53.83	Kozma 88B	cs
^{48}Sc X	53.83	Kozma 88B	cs
^{48}Va X	53.83	Kozma 88B	cs
^{51}Cr X	53.83	Kozma 88B	cs
^{52}Mn X	53.83	Kozma 88B	cs
^{52}Fe X	53.83	Kozma 88B	cs
^{54}Mn X	53.83	Kozma 88B	cs
^{55}Co X	53.83	Kozma 88B	cs
^{56}Co X	53.83	Kozma 88B	cs
^{56}Ni X	53.83	Kozma 88B	cs
^{57}Co X	53.83	Kozma 88B	cs
^{57}Ni X	53.83	Kozma 88B	cs

$^{12}C\ ^{59}Co$

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

^{12}C Cu

charged X	54	Anikina 86B	a-dep, angp, cs, mult
^{24}Na X	53.83	Kozma 88B	cs
^{28}Mg X	53.83	Kozma 88B	cs
^{42}KK X	53.83	Kozma 88B	cs
^{43}KK X	53.83	Kozma 88B	cs
^{43}Sc X	53.83	Kozma 88B	cs
^{44}Sc X	53.83	Kozma 88B	cs
^{46}Sc X	53.83	Kozma 88B	cs
^{47}Sc X	53.83	Kozma 88B	cs
^{48}Cr X	53.83	Kozma 88B	cs
^{48}Sc X	53.83	Kozma 88B	cs
^{48}Va X	53.83	Kozma 88B	cs
^{51}Cr X	53.83	Kozma 88B	cs
^{52}Mn X	53.83	Kozma 88B	cs
^{52}Fe X	53.83	Kozma 88B	cs
^{54}Mn X	53.83	Kozma 88B	cs
^{55}Co X	53.83	Kozma 88B	cs
^{56}Co X	53.83	Kozma 88B	cs
^{56}Mn X	53.83	Kozma 88B	cs
^{56}Ni X	53.83	Kozma 88B	cs
^{57}Co X	53.83	Kozma 88B	cs
^{57}Ni X	53.83	Kozma 88B	cs
^{58}Co X	53.83	Kozma 88B	cs
^{59}Fe X	53.83	Kozma 88B	cs
^{60}Co X	53.83	Kozma 88B	cs
^{61}Cu X	53.83	Kozma 88B	cs
^{65}Zn X	53.83	Kozma 88B	cs
π^- X	53.83	Baldin 88	angp
p X	41.73	Adyasevich 87B	angp
	54	Anikina 85C	a-dep, angp, p
$\bar{p}$ X	53.83	Baldin 88	angp
deuteron X	41.73	Adyasevich 87B	angp
		Adyasevich 85C	angp, p
	54	Anikina 85C	a-dep, angp, p
^{3}H X	41.73	Adyasevich 87B	angp
	54	Anikina 85C	a-dep, angp, p
frag X	53.83	Kozma 88B	cs
$2\pi^-$ fragb X	53.95	Abdurakhimov 89	angp, cor
	54	Abdurakhimov 88	angp, cor
mult[π^-] mult[fragt] mult[fragb] X	54	Anikina 85	cor, mult

$^{12}C\ ^{64}Cu$

^{24}Na X	53.83	Kozma 90B	angp, p
^{28}Mg X	53.83	Kozma 90B	angp, p

$^{12}C\ ^{89}Yt$

inelastic	0.8196	Dubar 89	cs
	0.8196 – 2.607	Dubar 89	cs

^{12}C Zr

charged X	54	Anikina 86B	a-dep, angp, cs, mult

^{12}C Ag

inelastic	53.83	Kozma 90	cs
Ru X	53.83	Kozma 90	cs
Rh X	53.83	Kozma 90	cs
Pd X	53.83	Kozma 90	cs
Ag* X	53.83	Kozma 90	cs
Na X	53.83	Kozma 90	cs
Mg X	53.83	Kozma 90	cs
KK X	53.83	Kozma 90	cs
Sc X	53.83	Kozma 90	cs
Mn X	53.83	Kozma 90	cs
^{55}Co X	53.83	Kozma 90	cs
Fe X	53.83	Kozma 90	cs
^{57}Co X	53.83	Kozma 90	cs
Zn X	53.83	Kozma 90	cs
Ga X	53.83	Kozma 90	cs
As X	53.83	Kozma 90	cs
Se X	53.83	Kozma 90	cs
Br X	53.83	Kozma 90	cs
Kr X	53.83	Kozma 90	cs
Rb X	53.33	Kozma 90	cs
Yt X	53.83	Kozma 90	cs
Zr X	53.83	Kozma 90	cs
Nb X	53.83	Kozma 90	cs
Mo X	53.83	Kozma 90	cs
Tc X	53.83	Kozma 90	cs

$^{12}C\ ^{108}Ag$

^{24}Na X	53.83	Kozma 90B	angp, p
^{28}Mg X	53.83	Kozma 90B	angp, p

^{12}C Sn

p X	41.73	Adyasevich 87B	angp
deuteron X	41.73	Adyasevich 87B	angp
		Adyasevich 85C	angp, p
^{3}H X	41.73	Adyasevich 87B	angp

^{12}C Ta

charged X	50.4	Boldea 85	mult
mult[charged] X	50.4	Boldea 85	mult
^{24}Na X	53.83	Kozma 89	angp
^{28}Mg X	53.83	Kozma 89	angp
π^- X	50.4	Boldea 85	mult
fragt X	53.83	Kozma 89	cs
grey X	50.4	Boldea 85	mult
mult[fragb] X	50.4	Boldea 85	mult
mult[grey] X	50.4	Boldea 85	mult
2hadron (hadrons)	50.4	Boldea 85	et

$^{12}C\ ^{181}Ta$

^{24}Na X	53.83	Kozma 90B	angp, p
^{28}Mg X	53.83	Kozma 90B	angp, p
2frag (frags)	53.83	Damdinsuren 88	p

^{12}C Au

^{37}Ar X	25	Hufner 85	angp
fragt X	25 – 48	Hufner 85	p

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

inelastic	53.83	Kozma 90	cs
		Kozma 88	cs
Rh X	53.83	Kozma 90	cs
		Kozma 88	cs
Sb X	53.83	Kozma 90	cs
		Kozma 88	cs
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

Te X			
		Kozma 88	cs
Xe X			
	53.83	Kozma 90	cs
		Kozma 88	cs
Ba X			
	53.83	Kozma 90	cs
		Kozma 88	cs
Pr X			
	53.83	Kozma 90	cs
		Kozma 88	cs
Eu X			
	53.83	Kozma 90	cs
		Kozma 88	cs
Gd X			
	53.83	Kozma 90	cs
		Kozma 88	cs
Tb X			
	53.83	Kozma 90	cs
		Kozma 88	cs
Dy X			
	53.83	Kozma 90	cs
		Kozma 88	cs
Yb X			
	53.83	Kozma 90	cs
		Kozma 88	cs
Lu X			
	53.83	Kozma 90	cs
		Kozma 88	cs
Hf X			
	53.83	Kozma 90	cs
		Kozma 88	cs
Re X			
	53.83	Kozma 90	cs
		Kozma 88	cs
Na X			
	53.83	Kozma 90	cs
		Kozma 88	cs
^{24}Na X			
	53.83	Kozma 90B	angp, p
Mg X			
	53.83	Kozma 90	cs
		Kozma 88	cs
^{28}Mg X			
	53.83	Kozma 90B	angp, p
Sc X			
	53.83	Kozma 90	cs
		Kozma 88	cs
Va X			
	53.83	Kozma 90	cs
		Kozma 88	cs
Mn X			
	53.83	Kozma 90	cs
		Kozma 88	cs
Fe X			
	53.83	Kozma 90	cs
		Kozma 88	cs
Zn X			
	53.83	Kozma 90	cs
		Kozma 88	cs
As X			
	53.83	Kozma 90	cs
		Kozma 88	cs
Se X			
	53.83	Kozma 90	cs
		Kozma 88	cs
Rb X			
	53.83	Kozma 90	cs
		Kozma 88	cs
^{87}Yt X			
	53.83	Kozma 90	cs
		Kozma 88	cs
Nb X			
	53.83	Kozma 90	cs
		Kozma 88	cs
Tc X			
	53.83	Kozma 90	cs

^{12}C ^{197}Au

Tc X			
		Kozma 88	cs
fragt X			
	53.83	Damdinsuren 88B	cs

^{12}C Pb

charged X			
	54	Anikina 86B	a-dep, angp, cs, mult
π^+ X			
	53.83	Kurepin 88	a-dep, angp
π^- X			
	53.83	Kurepin 88	a-dep, angp
mult[htrack] X			
	54	Krasnov 88	mult
K^+ X			
	53.83	Kurepin 88	a-dep, angp
K^- X			
	53.83	Kurepin 88	a-dep, angp
p X			
	34.62	Roche 84	-
	41.73	Adyasevich 88B	angp
		Adyasevich 87B	angp
	54	Anikina 85C	a-dep, angp, p
deuteron X			
	34.62	Roche 84	-
	41.73	Adyasevich 87B	angp
		Adyasevich 85C	angp, p
	54	Anikina 85C	a-dep, angp, p
^{3}H X			
	41.73	Adyasevich 87B	angp
	54	Anikina 85C	a-dep, angp, p
fragt X			
	53.83	Damdinsuren 89	cs
$\pi^\pm$ mult[htrack] X			
	54	Krasnov 88	mult
p γ X			
	34.62	Roche 84	-
deuteron γ X			
	34.62	Roche 84	-
2p X			
	41.73	Adyasevich 88B	angp, p
		Lebedev 88	angp, p
γ fragt X			
	34.62	Roche 84	-
htrack mult[htrack] X			
	54	Krasnov 88	angp, mult
mult[htrack] black X			
	54	Krasnov 88	mult
mult[htrack] shower X			
	54	Krasnov 88	mult, mult, p
mult[π^-] mult[fragt] mult[fragb] X			
	54	Anikina 85	cor, mult

^{12}C ^{208}Pb

mult[charged] X			
	11.42 – 34.62	Hallman 85	angp, mult
^{208}Pb ^{12}C			
	5.874 – 7.709	Mermaz 86	-
π^0 X			
	11.42 – 34.62	Hallman 85	angp, mult
$\pi^\pm$ X			
	11.42 – 34.62	Hallman 85	angp, mult
mult[$\pi^\pm$] X			
	11.42 – 34.62	Hallman 85	angp, mult
mult[π^0] X			
	11.42 – 34.62	Hallman 85	angp, mult

^{12}C ^{232}Th

^{24}Na X			
	53.83	Kozma 90B	angp, p
^{28}Mg X			
	53.83	Kozma 90B	angp, p
fragt X			
	53.83	Kozma 89C	cs

^{12}C ^{238}U

fragt X			
	53.83	Kozma 89C	cs

^{12}C U

^{24}Na X			
	53.83	Kozma 90B	angp, p
^{28}Mg X			
	53.83	Kozma 90B	angp, p

^{12}C nucleus

inelastic			
	4.5	Khan 89	cs
	54	Anikina 86D	cs
charged$^-$ X			
	54	Anikina 86D	mult
mult[charged] X			
	54	Ghosh 90B	mult, p
mult[charged$^-$] X			
	54	Anikina 86D	mult
hypernucleus X			
	49.2	Andreeva 86B	-
$\pi^\pm$ X			
	54	Vokal 88	p
		Leskin 86	p
mult[htrack] X			
	54	Khan 88	a-dep, mult
meson^0 X			
	54	Elnadi 88	cs
p X			
	4.5	Ghosh 90	angp, p, pt
	54	Leskin 86	p
dibaryon($S = -2$) X			
	50.4	Shahbazyan 88	cs, mass
^{4}He X			
	39.63 – 64.21	Abdurazakova 88	pt
He X			
	54	Ghosh 85	cs
mult[He] X			
	4.5	Khan 89	mult
mult[p] X			
	54	Ghosh 87	mult
anomalon X			
	53.95	Bayman 87	-
	54	Ghosh 85	cs
black X			
	54	Khan 88	a-dep, angp, mult
frag X			
	49.2	Andreeva 86B	p
fragb X			
	4.5	Ghosh 90	angp, p, pt
		Khan 89	mult
	54	Khan 88	a-dep, mult
		Anikina 86D	angp, cs
grey X			
	54	Khan 88	a-dep, angp, mult
	90.2 – 99	Antonchik 87	angp, mult, p, pt
htrack X			
	54	Ghosh 86	mult
mult[black] X			
	54	Babaev 90	ang
		Khan 88	a-dep, mult
mult[grey] X			
	54	Babaev 90	ang

^{12}C nucleus

mult[grey] X		Khan 88	a-dep, mult
mult[shower] X	54	Babaev 90	ang
		Ghosh 89D	mult, p
		Khan 88	a-dep, mult
shower X	54	Khan 88	a-dep, angp, mult
	?	Ghosh 86	-
0Λ charged$^-$ X	54	Anikina 86D	angp, mult
e^- e^+ X	54	Elnadi 88	mass
p π^+ X	50.4	Grishin 88B	mass
Λ charged$^-$ X	54	Anikina 86D	angp, mult
p Σ^- X	50.4	Shahbazyan 88	cs, mass
2Λ X	50.4	Shahbazyan 88	cs, mass
fragb charged$^-$ X	54	Anikina 86D	angp, mult
fragb mult[charged] X	4.5	Khan 89	mult
fragb mult[charged$^-$] X	54	Anikina 86D	angp, angp, mult, mult, p, pt
mult[htrack] shower X	54	Khan 88	cor, mult
p (p's) X	54	Ghosh 87	angp, mult
anomalon fragt X	53.95	Bayman 87	-
black grey X	90.2 – 99	Antonchik 87	angp, mult, p, pt
black mult[black] X	54	Ghosh 86	mult
black mult[grey] X	54	Khan 88	cor, mult
		Ghosh 86	mult
black mult[shower] X	54	Ghosh 86	mult
grey mult[shower] X	54	Ghosh 86	mult
htrack mult[black] X	54	Ghosh 86	mult
htrack mult[grey] X	54	Ghosh 86	mult
htrack mult[shower] X	54	Khan 88	cor, mult
		Ghosh 86	mult
mult[black] grey X	54	Ghosh 86	mult
mult[black] mult[fragb] X	54	Babaev 90	ang
mult[black] mult[grey] X	54	Babaev 90	ang
mult[black] mult[shower] X	54	Babaev 90	ang
mult[black] shower X	54	Ghosh 86	angp, mult
mult[grey] mult[fragb] X	54	Babaev 90	ang
mult[grey] mult[shower] X	54	Babaev 90	ang

^{12}C nucleus

mult[grey] shower X	54	Ghosh 86	mult
mult[shower] mult[fragb] X	54	Babaev 90	ang
2fragb X	39.63 – 64.21	Abdurazakova 88	ang, cor
2shower fragb X	4.5	Ghosh 89C	cor, p, pt

^{12}Bor Be

inelastic	17.38	Tanihata 88	a-dep, cs

^{12}Bor C

inelastic	17.38	Tanihata 88	a-dep, cs

^{12}Bor Al

inelastic	17.38	Tanihata 88	a-dep, cs

C p

K_S X	50.4	Agakishiev 85	angp, cs, mult, p, pt
n X	50.4	Bekmirzaev 88C	mult, p
Λ X	50.4	Agakishiev 85	angp, cs, mult, p, pt
n (fragb) mult[charged$^+$] mult[charged$^-$] X	50.4	Bekmirzaev 88C	mult

C C

charged X	27.6	Grigalashvil 88	a-dep, mult
	50.4	Mekhtiev 88	et, mult
		Bialkowska 86	p, pt
charged$^-$ X	27.6	Grigalashvil 88	a-dep, mult
	50.4	Grigalashvil 88	a-dep, mult
mult[charged] X	50.4	Agakishiev 89C	mult
		Mekhtiev 88	et
mult[charged$^+$] X	50.4	Agakishiev 89C	mult
mult[charged$^-$] X	27.6	Grigalashvil 88	a-dep, mult
	50.4	Agakishiev 89C	mult
		Grigalashvil 88	a-dep, mult
γ X	50.4	Gulkanyan 88B	p, pt
π^0 X	50.4	Gulkanyan 88B	p, pt
		Gulkanyan 88C	mult, p
π^+ X	50.4	Gulkanyan 88C	mult, p
		Simich 86	mult, p
		Ameev 85	angp, p, pt
π^- X	17.74	Stock 87	mult
	50.4	Baatar 90	angp, et, p, pt
		Agakishiev 89B	angp, mult, p
		Gulkanyan 88B	p, pt
		Gulkanyan 88C	mult, p
		Kanarek 88	angp

C C

π^- X		Grishin 87	p
		Simich 86	mult, p
		Ameev 85	angp, p, pt
		Armutlijsky 85	a-dep, angp, p
		Agakishiev 84B	angp, mult, p, pt
		Agakishiev 84E	a-dep, angp, mult
		Armutlijsky 84	angp, p, pt
π X	50.4	Gulkanyan 88C	mult, p
mult[π^-] X	50.4	Agakishiev 89C	angp, mult, p, pt
K_S X	50.4	Agakishiev 85	angp, cs, mult, p, pt
p X	4.2	Gulkanyan 88D	a-dep, angp, cor, cs, mult, p
	17.52	Stock 87	angp
		Hamagaki 85	angp
	17.52 – 53.22	Schurman 87	angp, p
	41.73	Adyasevich 85	a-dep, cs, p
	50.4	Kanarek 88	angp, p
		Armutlijsky 87C	col, mult
		Grishin 87	p
		Armutlijsky 86C	angp, mult, p
		Agakishiev 84E	a-dep, ang, angp, col, mult
n X	50.4	Bekmirzaev 88C	angp, mult, p
Λ X	50.4	Panagiotou 89	p, pol, pt
		Iovchev 87	pol
		Agakishiev 85	angp, cs, mult, p, pt
	53.22	Schurman 87	angp, p
		Stock 87	angp
	54	Panagiotou 89	p, pol, pt
		Anikina 85B	angp, pol
deuteron X	17.52	Hamagaki 85	angp
dibaryon X	50.4	Agakishiev 84E	cs
^{3}H X	17.52	Hamagaki 85	angp
mult[p] X	4.2	Gulkanyan 88D	mult
	50.4	Baldin 88C	angp, cor, pt
		Armutlijsky 87C	col, mult
2charged$^+$ X	4.2	Angelov 88	ang, cor
π^+ charged X	50.4	Agakishiev 86B	mult
π^+ charged$^+$ X	4.2	Angelov 88	ang, cor
π^- charged X	50.4	Agakishiev 86B	angp, mult, p, pt
π^- charged$^+$ X	4.2	Angelov 88	ang, cor
π^- mult[charged] X	50.4	Agakishiev 89	angp, et
2π^- X	4.2	Angelov 88	ang, 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.

C C

π^+ π^- X		
4.2	Angelov 88	ang, cor
π^0 mult[π^-] X		
50.4	Gulkanyan 87C	cor, mult
π^- mult[π^-] X		
50.4	Agakishiev 89	angp, mult
***p* charged X**		
50.4	Agakishiev 86B	angp, mult, p, pt
***p* charged$^+$ X**		
4.2	Angelov 88	ang, cor
***p* π^- X**		
4.2	Angelov 88	ang, cor
50.4	Gulkanyan 88	ang, angp, cor, p, pt
2*p* X		
4.2	Angelov 88	ang, cor
50.4	Pluta 88B	angp, cor, p
	Zielinsky 88	cs, mass
	Grishin 87	p
	Armutlijsky 86B	cor
	Agakishiev 84E	mass
π^- 0fragb X		
50.4	Agakishiev 89B	angp, mult, p
mult[*p*] π^- X		
50.4	Agakishiev 89	angp, p
γ anomalon X		
50.4	Cheplakov 85	p
γ frag X		
50.4	Cheplakov 85	p
π hadron X		
4.2	Lyubimov 88	col
mult[γ] mult[fragb] X		
50.4	Gulkanyan 87C	mult
mult[π^0] mult[fragb] X		
50.4	Gulkanyan 87C	mult
***p* (*p*'s) X**		
50.4	Angelov 88	angp, col
2fragb X		
4.2	Angelov 88	ang, cor
***p* mult[charged] (neutrals)**		
50.4	Ameev 85	mult, p
2*p* (*p*'s) X		
50.4	Agakishiev 89C	angp, mult, p, pt
3*p* (*p*'s) X		
4.2	Lyubimov 88	col

C Ne

π^- X		
17.74	Stock 87	mult
Λ X		
53.22	Stock 87	angp
54	Anikina 85B	angp pol

C Si

π^- X		
17.74	Stock 87	mult

C Cu

π^- X		
17.74	Stock 87	mult
***p* X**		
54	Anikina 86C	angp
Λ X		
53.22	Stock 87	angp
54	Anikina 85B	angp, pol
deuteron X		
54	Anikina 86C	angp

C Cu

^{3}H X		
54	Anikina 86C	angp

C Zr

π^- X		
17.74	Stock 87	mult
Λ X		
53.22	Stock 87	angp
54	Anikina 85B	angp, pol

C Sn

***p* X**		
41.73	Adyasevich 85	a-dep, cs, p

C Ta

inelastic		
50.4	Batskovich 88	cs
charged X		
27.6	Grigalashvil 88	a-dep, mult
50.4	Batskovich 88	cor, mult
	Bialkowska 86	p, pt
	Kutsidi 86	mult
charged$^-$ X		
27.6	Grigalashvil 88	a-dep, mult
mult[charged] X		
27.6	Grigalashvil 88	a-dep, mult
50.4	Mekhtiev 88	et
	Kutsidi 86	mult
?	Batskovich 88	cor, mult
mult[charged$^-$] X		
27.6	Grigalashvil 88	a-dep, mult
γ X		
50.4	Gulkanyan 88B	p, pt
π^0 X		
50.4	Gulkanyan 88B	p, pt
	Gulkanyan 88C	mult, p
	Gulkanyan 87D	mult
π^+ X		
50.4	Gulkanyan 88C	mult, p
π^- X		
50.4	Batskovich 88	cor, mult
	Gulkanyan 88B	p, pt
	Gulkanyan 88C	mult, p
	Gulkanyan 87D	mult
	Armutlijsky 85	a-dep, angp, p
π X		
50.4	Gulkanyan 88C	mult, p
mult[γ] X		
50.4	Gulkanyan 88C	p, pt
mult[π^+] X		
50.4	Gulkanyan 88C	p, pt
mult[π^-] X		
50.4	Gulkanyan 88C	p, pt
K_S X		
50.4	Jovchev 85	angp, p, pt
***p* X**		
4.2	Gulkanyan 88D	a-dep, angp, cor, cs, mult, p
50.4	Armutlijsky 89	a-dep, angp, mult, p, pt
	Gasparyan 85	angp, p
	Gasparyan 84B	angp, mult, p, pt
Λ X		
50.4	Panagiotou 89	p, pol, pt
	Jovchev 87	pol
	Jovchev 85	angp, p, pt
fragb X		
50.4	Batskovich 88	cor, mult

C Ta

K_S charged$^+$ X		
50.4	Jovchev 85	mult
K_S charged$^-$ X		
50.4	Jovchev 85	mult
K_S π^0 X		
50.4	Jovchev 85	mult
***p* π^- X**		
50.4	Gasparyan 84B	angp, mult, p, pt
Λ charged$^+$ X		
50.4	Jovchev 85	mult
Λ charged$^-$ X		
50.4	Jovchev 85	mult
Λ π^0 X		
50.4	Jovchev 85	mult
***p*(spect) K_S X**		
50.4	Jovchev 85	mult
2*p* X		
50.4	Gasparyan 84B	angp, mult, p, pt
***p*(spect) Λ X**		
50.4	Jovchev 85	mult
mult[π^0] mult[grey] X		
50.4	Gulkanyan 87B	mult
K_S fragb X		
50.4	Jovchev 85	mult
Λ fragb X		
50.4	Jovchev 85	mult
mult[π^-] (fragb) mult[charged] X		
50.4	Batskovich 88	angp, cor, mult

C Pb

π^- X		
17.74	Stock 87	mult
***p* X**		
41.73	Adyasevich 85	a-dep, cs, p
54	Anikina 86C	angp
Λ X		
53.22	Stock 87	angp
54	Anikina 85B	angp, pol
deuteron X		
54	Anikina 86C	angp
^{3}H X		
54	Anikina 86C	angp
2*p* X		
41.73	Adyasevich 89	angp, cor
γ fragb 400charged X		
(> 2643)	Burnett 86	angp, p, pt

C nucleus

inelastic		
2411	Baroni 90	cs
***p* X**		
23.01	Antonchik 90B	angp, mult, p
***p* π^- X**		
11.42 – 38.39	Stock 87	mult
mult[*p*] mult[π^+] mult[π^-] X		
53.96	Okonov 88	cor, mult

^{13}Bor Be

inelastic		
18.82	Tanihata 88	a-dep, cs

^{13}Bor C

inelastic		
18.82	Tanihata 88	a-dep, cs

^{13}Bor Al

inelastic		
18.82	Tanihata 88	a-dep, cs

^{14}Bor Be

inelastic		
19.3	Tanihata 88	a-dep, cs

^{14}Bor C

inelastic		
19.3	Tanihata 88	a-dep, cs

^{14}Bor Al

inelastic		
19.3	Tanihata 88	a-dep, cs

^{14}Be C

inelastic		
20.27	Tanihata 88	a-dep, cs

^{14}Nit Cu

e^+ X		
3.863	Beard 85B	angp, p

^{14}Nit nucleus

^{4}He X		
39.63 – 64.21	Abdurazakova 88	pt
mult[black] X		
40.6	Babaev 90	ang
mult[grey] X		
40.6	Babaev 90	ang
mult[shower] X		
40.6	Babaev 90	ang
mult[black] mult[fragb] X		
40.6	Babaev 90	ang
mult[black] mult[grey] X		
40.6	Babaev 90	ang
mult[black] mult[shower] X		
40.6	Babaev 90	ang
mult[grey] mult[fragb] X		
40.6	Babaev 90	ang
mult[grey] mult[shower] X		
40.6	Babaev 90	ang
mult[shower] mult[fragb] X		
40.6	Babaev 90	ang
2fragb X		
39.63 – 64.21	Abdurazakova 88	ang, cor

Nit nucleus

inelastic		
2813	Baroni 90	cs

^{15}Bor Be

inelastic		
20.76	Tanihata 88	a-dep, cs

^{15}Bor C

inelastic		
20.76	Tanihata 88	a-dep, cs

^{15}Bor Al

inelastic		
20.76	Tanihata 88	a-dep, cs

^{16}O *p*

mult[charged] X		
62.76	Glagolev 89	mult
hypernucleus X		
46.15	Bartke 89	cs
mult[charged] (neutrals)		
(45.3 – 79.09)	Brechtmann 88B	cs
2charged (neutrals)		
62.76	Glagolev 89	cs
frag X		
(45.3 – 79.09)	Brechtmann 88B	cs
2charged (neutrals) inelastic		
62.76	Glagolev 89	cs

^{16}O *p*

π^- mult[charged] X		
62.76	Glagolev 89	mult
$0\pi^-$ mult[charged] X		
62.76	Glagolev 89	mult
mult[π^-] mult[charged] X		
62.76	Glagolev 89	cor, mult
mult[fragb] mult[charged] X		
62.76	Glagolev 89	cor, mult
mult[π^-] mult[fragb] X		
62.76	Glagolev 89	cor, mult
$2\pi^-$ mult[charged] X		
62.76	Glagolev 89	mult
$3\pi^-$ mult[charged] X		
62.76	Glagolev 89	mult

^{16}O He

inelastic		
(86.63 – 155.6)	Pugh 88	cs

^{16}O ^{12}C

^{15}O X		
10	Hufner 85	p

^{16}O C

X		
(148.9 – 268.9)	Albrecht 87	et, p
charged X		
(148.9 – 268.9)	Albrecht 88	a-dep, et, p
(268.9)	Lund 88	p
	Schmidt 87	p
***mult[charged]* X**		
232	Remsberg 88	mult
(148.9 – 268.9)	Albrecht 88	mult
	Otterlund 88B	mult, p
(268.9)	Albrecht 89D	cor, mult, p
	Lund 88	mult
mult[charged] (neutrals)		
(148.9 – 268.9)	Brechtmann 88B	cs
	Franz 88B	cor, et, mult, p
(268.9)	Schmidt 87	mult
γ X		
(148.9 – 268.9)	Lohner 88	pt
(268.9)	Albrecht 88B	pt
	Schmidt 87	pt
π^0 X		
974.8	Lohner 88	pt
(148.9 – 268.9)	Albrecht 88B	pt
(268.9)	Franz 88B	angp, pt
	Lohner 88	angp, pt
	Schmidt 87	pt
***p* X**		
(268.9)	Schmidt 88	p, pt
baryon X		
974.8	Schmidt 88	p
(268.9)	Schmidt 88	mult, p
	Schmidt 87	mult, p
frag X		
(148.9 – 268.9)	Brechtmann 88B	cs
fragb X		
(268.9)	Tannenbaum 89	p
hadron X		
(148.9 – 268.9)	Lund 88	cs
	Sorensen 88	cs, et, p
	Schmidt 87	et
(268.9)	Heck 88	et
	Schmidt 87	p
mult[hadron] X		
(148.9 – 268.9)	Tannenbaum 89	et, p
mult[neutral] X		
(148.9 – 268.9)	Tannenbaum 89	et, p

^{16}O C

2γ X		
(268.9)	Lohner 88	mass
	Schmidt 87	mass
fragt fragb X		
(268.9)	Franz 88B	cor, mult, p
mult[π^-] mult[fragt] mult[fragb] X		
72	Anikina 85	cor, mult

^{16}O Ne

inelastic		
(192.9 – 348.4)	Pugh 88	cs
charged X		
72	Anikina 86B	a-dep, angp, cs, mult
π^- X		
72	Gazdzicki 85	angp, pt
Λ X		
72	Gazdzicki 85	angp, pt
$2\pi^-$ fragb X		
72	Abdurakhimov 88	angp, cor
mult[π^-] mult[fragt] mult[fragb] X		
72	Anikina 85	cor, mult

^{16}O Al

inelastic		
(403.1)	Barnes 88	cs
charged X		
(223.3 – 403.1)	Akesson 89B	cor, et, p
mult[charged] X		
(223.3 – 403.1)	Akesson 89B	cor, *mult*, *p*
frag X		
(223.3 – 403.1)	Brechtmann 88B	cs
hadron X		
(223.3 – 403.1)	Akesson 88	a-dep, angp, et
	Corriveau 88	et
(403.1)	Odyniec 89	et
	Pugh 88	et
mult[hadron] X		
(223.3 – 403.1)	Tannenbaum 89	et, p
mult[neutral] X		
(403.1)	Tannenbaum 89	et, p
shower X		
(403.1)	Barnes 88	cs

^{16}O ^{27}Al

inelastic		
0.946	Dubar 89	cs

^{16}O Cu

X		
(345.2 – 620)	Albrecht 87	et, p
inelastic		
(345.2 – 620)	Bamberger 88B	cs
	Pugh 88	cs
charged X		
(345.2 – 620)	Albrecht 90C	a-dep, et, p
	Albrecht 88	a-dep, et, p
	Bamberger 88B	et, mult, p
	Otterlund 88B	a-dep, p
(620)	Lund 88	p
	Schmidt 87	p
charged$^-$ X		
(345.2 – 620)	Bamberger 88B	et, mult, p
mult[charged] X		
232	Remsberg 88	mult
(345.2 – 620)	Albrecht 88	mult
	Otterlund 88B	mult, p
(620)	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}O Cu

neutral X

232	Remsberg 88	p
	Tannenbaum 88	et, p

mult[charged] (neutrals)

(345.2 – 620)	Brechtmann 88B	cs
	Franz 88B	cor, et, mult, p
(620)	Schmidt 87	mult

$\pi^\pm$ X

(345.2 – 620)	Albrecht 90C	a-dep, et, p

$J/\psi(1S)$ X

(620)	Sonderegger 89	cs, et

mult[γ] X

232	Abbott 87	p
246.5	Tannenbaum 87	p

p X

(620)	Schmidt 88	p, pt

baryon X

974.8	Schmidt 88	p
(345.2 – 620)	Albrecht 90C	a-dep, et, p
(620)	Schmidt 88	mult, p

fragb X

(620)	Tannenbaum 89	p

hadron X

974.8	Heck 88	p
(345.2 – 620)	Heck 88	et
	Lund 88	cs
	Sorensen 88	cs, et, p
	Schmidt 87	et
(620)	Odyniec 89	et
	Pugh 88	et
	Schmidt 87	p

mult[hadron] X

(345.2 – 620)	Tannenbaum 89	et, p

mult[neutral] X

14.5	Tannenbaum 89	et, p
(345.2 – 620)	Tannenbaum 89	et, p

$\mu^- \mu^+$ X

(620)	Sonderegger 89	cs, et, et, mass

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

(620)	Sonderegger 89	et, mass

fragt fragb X

(620)	Franz 88B	cor, mult, p

mult[π^-] mult[fragt] mult[fragb] X

72	Anikina 85	cor, mult

^{16}O Ag

X

(454.1 – 810.2)	Albrecht 87	et, p

charged X

(454.1 – 810.2)	Albrecht 90C	a-dep, et, p
	Akesson 89B	cor, et, p
	Albrecht 88	a-dep, et, p
	Otterlund 88B	a dep, p
(810.2)	Lund 88	p
	Schmidt 87	p

mult[charged] X

(454.1 – 810.2)	Akesson 89B	cor, mult, p
	Albrecht 88	mult
	Otterlund 88B	mult, p
(810.2)	Lund 88	mult

mult[charged] (neutrals)

(454.1 – 810.2)	Brechtmann 88B	cs
	Franz 88B	cor, et, mult, p
(810.2)	Schmidt 87	mult

$\pi^\pm$ X

(454.1 – 810.2)	Albrecht 90C	a-dep, et, p

^{16}O Ag

p X

(810.2)	Schmidt 88	p, pt

baryon X

974.8	Schmidt 88	p
(454.1 – 810.2)	Albrecht 90C	a-dep, et, p
(810.2)	Schmidt 88	mult, p

frag X

(454.1 – 810.2)	Brechtmann 88B	cs

fragb X

(810.2)	Tannenbaum 89	p

hadron X

974.8	Heck 88	p
(454.1 – 810.2)	Akesson 88	a-dep, angp, et
	Corriveau 88	et
	Heck 88	et
	Lund 88	cs
	Sorensen 88	cs, et, p
	Schmidt 87	et
(810.2)	Odyniec 89	et
	Pugh 88	et
	Schmidt 87	p

mult[hadron] X

(454.1 – 810.2)	Tannenbaum 89	et, p

mult[neutral] X

(454.1 – 810.2)	Tannenbaum 89	et, p

fragt fragb X

(810.2)	Franz 88B	cor, mult, p

^{16}O Wt

charged X

(602.9 – 1063)	Akesson 89B	cor, et, p
(1063)	Schukraft 88	et, p

charged$^-$ X

(1063)	Akesson 89E	cs, et, pt
	Bartels 88	pt
	Schukraft 88B	p, pt

mult[charged] X

(602.9 – 1063)	Akesson 89B	cor, mult, p
(1063)	Schukraft 88	mult, p

γ X

(1063)	Akesson 89D	cs, et, pt
	Bartels 88	pt

π^0 X

(1063)	Akesson 89D	cs, et, pt

hadron X

(602.9 – 1063)	Akesson 88	a-dep, angp, et
	Corriveau 88	et

mult[hadron] X

(602.9 – 1063)	Tannenbaum 89	et, p

^{16}O Au

X

(625.8 – 1102)	Albrecht 87	et, p

inelastic

(625.8 – 1102)	Bamberger 88B	cs
	Pugh 88	cs

charged X

(625.8 – 1102)	Albrecht 90C	a-dep, et, p
	Albrecht 88	a-dep, et, p
	Bamberger 88B	et, mult, p
	Lund 88	p
	Otterlund 88B	a-dep, p
(1102)	Schmidt 87	p

charged$^-$ X

974.8	Pugh 88	pt
	Strobele 88	cor, cs, mult, p
(625.8 – 1102)	Bamberger 89	mult, p, pt

^{16}O Au

charged$^-$ X

	Odyniec 89	p, pt
	Bamberger 88B	et, mult, p
(1102)	Pugh 89	pt
	Bamberger 88	mult, p
	Humanic 88	mult, p
	Pugh 88	angp, p, pt

mult[charged] X

232	Remsberg 88	mult
(625.8 – 1102)	Albrecht 88	mult
	Lund 88	mult
	Otterlund 88B	mult, p
(1102)	Albrecht 89D	cor, mult, p
	Lund 89	mult, p
	Otterlund 88B	cor, et, mult

neutral X

232	Remsberg 88	p
	Tannenbaum 88	et, p

mult[charged] (neutrals)

(625.8 – 1102)	Franz 88B	cor, et, mult, p
(1102)	Schmidt 87	mult

γ X

(625.8 – 1102)	Albrecht 88B	pt
	Lohner 88	pt
	Schmidt 87	pt
(1102)	London 89	pt
	Lund 89	angp, pt

π^0 X

(625.8 – 1102)	Albrecht 88B	pt
	Franz 88B	angp, pt
	Lohner 88	angp, pt
	Schmidt 87	pt
(1102)	London 89	pt
	Lund 89	angp, pt

$\pi^\pm$ X

(625.8 – 1102)	Albrecht 90C	a-dep, et, p

π^- X

(1102)	London 89	angp
	Odyniec 89	pt
	Pugh 89	pt

$J/\psi(1S)$ X

(1102)	Bartke 89	et, pt

$\psi(2S)$ X

(1102)	Bartke 89	et, pt

mult[γ] X

232	Abbott 87	p
246.5	Tannenbaum 87	p

K^0 X

(1102)	Odyniec 89	mult, pt

K_S X

(625.8 – 1102)	Bamberger 89	mult, p, pt
	Vesztergombi 88	cs, p, pt
(1102)	London 89	angp
	Pugh 89	pt, pt

p X

(1102)	Albrecht 90C	pt
	Schmidt 88	et, p, pt

Λ X

(625.8 – 1102)	Bamberger 89	mult, p, pt
	Vesztergombi 88	cs, p, pt
(1102)	London 89	angp
	Odyniec 89	mult, pt
	Pugh 89	pt, pt

$\bar{\Lambda}$ X

(625.8 – 1102)	Vesztergombi 88	cs, p, pt
(1102)	London 89	angp
	Odyniec 89	mult, pt

^{16}O Au

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

^{16}O 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
3π^- X		
(1102)	Odyniec 89	angp, cor

^{16}O ^{197}Au

^{196}Au X		
(627.4 – 1104)	Hill 88	cs

^{16}O Hg

q X		
231.5	Shaw 87	–
974.8 – 1935	Calloway 89	–

^{16}O Pb

inelastic		
(643.3 – 1131)	Barnes 88	cs
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	et
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
μ^- μ^+ X		
(1131)	Bussiere 88	mass
2μ^- X + 2μ^+ X		
(1131)	Bussiere 88	mass
$J/\psi(1S)$ neutral X		
(1131)	Bussiere 88	cs, et, pt
hadron charged X		
(1131)	Tannenbaum 87	cor, mult, p
	Bamberger 86	cor, mult, p
μ^- μ^+ neutral X		
(1131)	Bussiere 88	et
2μ^- neutral X + 2μ^+ neutral X		
(1131)	Bussiere 88	et
mult[π^-] mult[fragt] mult[fragb] X		
72	Anikina 85	cor, mult

^{16}O ^{238}U

2μ^+ X		
(1214)	Sonderegger 88	mass, pt
2μ^- X		
(1214)	Sonderegger 88	mass, pt
2μ^- X + 2μ^+ X		
(1214)	Sonderegger 88	pt
2μ^+ (neutrals) X		
(1214)	Sonderegger 88	et
2μ^- (neutrals) X		
(1214)	Sonderegger 88	et
2μ^- (neutrals) X + 2μ^+ (neutrals) X		
974.8	Sonderegger 88	et, pt
^{24}Na 2frag (frags)		
(694 – 1214)	Aleklett 87	–
^{44}Sc 2frag (frags)		
(694 – 1214)	Aleklett 87	–
^{46}Sc 2frag (frags)		
(694 – 1214)	Aleklett 87	–
^{48}Sc 2frag (frags)		
(694 – 1214)	Aleklett 87	–

^{16}O U

$J/\psi(1S)$ X		
(1215)	Baglin 89	cs, et
	London 89	et, pt
	Sonderegger 89	cs, et, pt
μ^- μ^+ X		
(1215)	Baglin 89	cs, et, et, mass
	London 89	et, mass, pt
	Sonderegger 89	cs, et, et, mass, pt
2μ^- X + 2μ^+ X		
(1215)	Baglin 89	et, mass
	Sonderegger 89	et, mass

^{16}O nucleus

X		
44.47 – 3215	Otterlund 88	cs
248.1 – 3215	Adamovich 88B	cs
3215	Ramello 88	cs
inelastic		
43.94 – 3200	London 89	cs
44.47	Judek 86	cs
248.1 – 3215	Barbier 88B	cs
974.8 – 3215	Sengupta 89B	cs
	Bamberger 88B	cs
	Singh 88	cs
3215	Baroni 90	cs
	Romano 89	cs
	Ramello 88	cs
charged X		
974.8 – 3215	Bamberger 88B	et, mult, p
3215	Akesson 90	cor, et, mult, p
	London 89	a-dep, p
	Romano 89	et, mult, p
	Ramello 88	et, p, pt
	Jain 87	angp, mult
charged$^-$ X		
72	Anikina 86D	mult
974.8 – 3215	Bamberger 88B	et, mult, p
mult[charged] X		
974.8 – 3215	Sengupta 88	cor, mult, p
3215	Holynski 89	mult
mult[charged$^-$] X		
72	Anikina 86D	mult
neutral X		
232	Remsberg 88	p
	Tannenbaum 88	et, p
mult[charged] (neutrals)		
974.8 – 3215	Buschbeck 89	mult, p
	Brechtmann 88B	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.

^{16}O nucleus

mult[γ] X		
232	Abbott 87	p
246.5	Tannenbaum 87	p
mult[htrack] X		
248.1 – 974.8	Adamovich 88D	mult
3215	Otterlund 88	mult
	Ramello 88	mult
^{4}He X		
974.8 – 3215	Ardito 87	cs
He X		
974.8	Sengupta 89	mult
974.8 – 3215	Sengupta 89B	cs
3215	Otterlund 88	angp, mult
	Singh 88B	cs
0fragb X		
974.8 – 3215	Sengupta 89B	cs
charm X		
3215	Aoki 89	cs
mult[He] X		
974.8	Sengupta 89	cs
974.8 – 3215	Sengupta 89B	cs, mult
anomalon X		
46.15	Bayman 87	–
72	Avdejchikov 85	cs
black X		
974.8 – 3215	Ardito 87	cor, cs
3215	Adamovich 89C	mult
	Ramello 88	angp, mult
	Tretyakova 88	mult
frag X		
974.8 – 3215	Brechtmann 88B	cs
fragb X		
72	Avdejchikov 85	cs
974.8 – 3215	Ardito 87	cs
3215	Romano 89	angp, p
	Otterlund 88	cs
fragt X		
974.8 – 3215	Ardito 87	mult
grey X		
90.2 – 99	Antonchik 87	angp, mult, p, pt
248.1 – 3215	Adamovich 89D	angp, mult
974.8 – 3215	Ardito 87	cor
3215	Adamovich 89C	mult
	Tretyakova 88	mult
htrack X		
44.47	Judek 86	angp, mult
3215	Ramello 88	angp, mult
	Tretyakova 88	mult
mult[black] X		
248.1 – 974.8	Adamovich 88D	mult
3215	Adamovich 89C	mult
mult[fragb] X		
3215	Ramello 88	mult
mult[grey] X		
46.15 – 3215	Adamovich 89D	mult
3215	Adamovich 89C	mult
mult[neutral] X		
14.5	Tannenbaum 89	et, 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
3215	Romano 89	et, mult
	Adamovich 88	mult
	Stenlund 88	ang, angp, cor, cor, mult, mult, p, p
	Tretyakova 88	cor, mult, p

^{16}O nucleus

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
248.1 – 3215	Tannenbaum 89	p
	Adamovich 88B	mult, p
974.8 – 3215	Jain 90	mult, p
	Singh 88	mult, p
3215	Tretyakova 88	mult
black X + grey X		
974.8 – 3215	Ardito 87	mult
shower X + fragb X		
248.1 – 3215	Adamovich 88C	angp, p
nucleus mult[fragb]		
3215	Romano 89	cs
0Λ charged$^-$ X		
72	Anikina 86D	angp, mult
nucleus Li X		
3215	Baroni 90	cs, p
nucleus Be X		
3215	Baroni 90	cs, p
2π^- X		
3215	London 89	angp, cor, pt
Λ charged$^-$ X		
72	Anikina 86D	angp, mult
He mult[htrack] X		
974.8	Sengupta 89	mult
3215	Singh 88B	cs
2^{4}He X		
974.8 – 3215	Ardito 87	cs
mult[He] mult[htrack] X		
974.8	Sengupta 89	cs
fragb charged X		
3215	London 89	cor, mult, p
fragb charged$^-$ X		
72	Anikina 86D	angp, mult
fragb mult[charged$^-$] X		
72	Anikina 86D	angp, angp, mult, mult, p, pt
mult[htrack] fragb X		
3215	Otterlund 88	mult
mult[htrack] mult[shower] X		
248.1 – 974.8	Adamovich 88D	mult
mult[htrack] shower X		
248.1 – 974.8	Adamovich 88D	mult, p
248.1 – 3215	Adamovich 88B	cor, mult, p
^{4}He black X		
974.8 – 3215	Ardito 87	cs
mult[shower] 0fragb X		
974.8 – 3215	Romano 89	mult
3215	Jain 90B	cor, mult, p
shower 0fragb X		
974.8 – 3215	Jain 90	mult, p
^{15}Nit *p* X		
3215	Ramello 88	pt
^{15}O *n* X		
7.761 – 3200	Bartke 89	a-dep, cs
black fragb X		
974.8 – 3215	Ardito 87	cs
black grey X		
90.2 – 99	Antonchik 87	angp, mult, p, pt
grey mult[shower] X		
248.1 – 3215	Adamovich 89D	mult
grey shower X		
3215	Otterlund 88	cor, mult

^{16}O nucleus

htrack mult[fragb] X		
3215	Ramello 88	mult
shower mult[shower] X		
3215	Adamovich 88	p
2shower X		
46.15	Ghosh 89B	cor, p
nucleus ^{12}C ^{4}He		
974.8 – 3215	Ardito 87	cs
nucleus ^{15}Nit *p*		
974.8 – 3215	Ardito 87	ang, cs, pt
3215	Baroni 90	cs, p
nucleus C He		
3215	Baroni 90	cs, p
2^{4}He black X		
974.8 – 3215	Ardito 87	cs
3^{4}He X		
974.8 – 3215	Ardito 87	cs
mult[htrack] black (fragbs) X		
3215	Tretyakova 88	mult
mult[htrack] grey (fragbs) X		
3215	Tretyakova 88	mult
mult[htr]amult[shower] (fragbs) X		
3215	Tretyakova 88	mult
mult[htrack] shower (fragbs) X		
3215	Tretyakova 88	mult
shower mult[shower] 0fragb X		
974.8 – 3215	Singh 89	cor, mult, p
charm mult[shower] fragb X		
3215	Aoki 89	cs, mult
htrack mult[shower] fragb X		
248.1 – 3215	Barbier 88B	mult
htrack shower fragb X		
248.1 – 3215	Barbier 88B	cs, mult, p
3215	Otterlund 88	p
3shower X		
46.15	Ghosh 89B	cor, p
nucleus C 2*p*		
3215	Baroni 90	cs, p
nucleus Bor He *p*		
3215	Baroni 90	cs, p
3^{4}He black X		
974.8 – 3215	Ardito 87	cs
4^{4}He X		
974.8 – 3215	Ardito 87	cs
4shower X		
46.15	Ghosh 89B	cor, p
nucleus Bor 3*p*		
3215	Baroni 90	cs, p
nucleus 4He		
3215	Baroni 90	cs, p
4^{4}He black X		
974.8 – 3215	Ardito 87	cs
nucleus 3He 2*p*		
3215	Baroni 90	cs, p
nucleus 2He 4*p*		
3215	Baroni 90	cs, p
nucleus He 6*p*		
3215	Baroni 90	cs, p

O C

mult[charged] (neutrals)		
(148.9 – 268.9)	Ritter 88	et, mult

O Ne

π^- X		
70.95	Stock 87	mult
Λ 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)
(454.1 – 810.2) Ritter 88 et, mult

O Wt

mult[charged] (neutrals)
(1063) Ritter 88 et, mult

O Au

mult[charged] (neutrals)
(625.8 – 1102) Ritter 88 et, mult
(1102) Ritter 88 et, mult

O Pb

π^- X
70.95 Stock 87 mult

Λ X
70.95 Stock 87 angp
72 Panagiotou 89 p, pol, pt
Anikina 85B angp, pol

O U

ω mult[charged] (neutrals) +
ρ^0 mult[charged] (neutrals)
(1212) Abreu 89 cs

ϕ mult[charged] (neutrals)
(1212) Abreu 89 cs

μ^- μ^+ mult[charged] (neutrals)
(1212) Abreu 89 et, mass

O nucleus

p X
30.67 Antonchik 90B angp, mult, p

mult[p] mult[π^+] mult[π^-] X
71.94 Okonov 88 cor, mult

Fl C

inelastic
79.8 Grigalashvil 88 cs

charged$^-$ X
79.8 Grigalashvil 88 a-dep, mult

mult[charged$^-$] X
79.8 Grigalashvil 88 a-dep, mult

^{19}Fl C

fragb X
76 Golovin 88 cs

^{19}Fl Mg

charged$^-$ X
85.5 Anikina 89 mult

mult[charged$^-$] X
85.5 Anikina 89 mult

mult[π^-] X
85.5 Anikina 89 mult

mult[frag] mult[charged] X
85.5 Anikina 89 mult

^{19}Fl Al

fragb X
76 Golovin 88 cs

^{19}Fl Cu

fragb X
76 Golovin 88 cs

^{19}Fl In

fragb X
76 Golovin 88 cs

^{19}Fl Wt

fragb X
76 Golovin 88 cs

^{19}Fl Bi

fragb X
76 Golovin 88 cs

^{19}Fl U

fragb X
76 Golovin 88 cs

^{20}Ne Ne

charged X
90 Anikina 86B a-dep, angp, cs, mult

^{20}Ne ^{27}Al

inelastic
1.058 – 3.357 Dubar 89 cs

^{20}Ne Zr

charged X
90 Anikina 86B a-dep, angp, cs, mult

^{20}Ne Ag

inelastic
3.357 Dubar 89 cs

^{20}Ne Ta

fragt X
8 Hufner 85 p

^{20}Ne Au

fragt X
7.6 Hufner 85 p

^{20}Ne ^{197}Au

p X
3.842 – 3.881 Machner 85 p

^{20}Ne nucleus

mult[charged] X
16.11 Aggarwal 85B angp, cs, p

π^- X
55.59 Shor 89 angp

K^- X
55.59 Shor 89 angp

p X
16.11 Aggarwal 85B angp, cs, p

$\bar{p}$ X
55.59 Shor 89 angp

He X
16.11 Aggarwal 85B angp, cs, p

mult[He] X
16.11 Aggarwal 85B angp, cs, p

mult[p] X
16.11 Aggarwal 85B angp, cs, p

mult[He] mult[neutral]
16.11 Aggarwal 85B angp, cs, p

mult[p] mult[neutral]
16.11 Aggarwal 85B angp, cs, p

Nit Li X
16.11 Aggarwal 85B angp, cs, p

mult[He] mult[charged] X
16.11 Aggarwal 85B angp, cs, p

^{20}Ne nucleus

mult[p] mult[charged] X
16.11 Aggarwal 85B angp, cs, p

fragb mult[charged$^-$] X
90 Anikina 86D angp, mult, p, pt

Nit 2Li X
16.11 Aggarwal 85B angp, cs, p

2Li He X
16.11 Aggarwal 85B angp, cs, p

Nit Li He X
16.11 Aggarwal 85B angp, cs, p

mult[He] 2frag (frags)
16.11 Aggarwal 85B angp, cs, p

mult[p] 2frag (frags)
16.11 Aggarwal 85B angp, cs, p

Nit Li 2He X
16.11 Aggarwal 85B angp, cs, p

mult[He] 6charged X
16.11 Aggarwal 85B angp, cs, p

mult[p] 6charged X
16.11 Aggarwal 85B angp, cs, p

Ne $f_2(1270)$

π^+ X
29.28 Gosset 89 angp, p

π^- X
29.28 Gosset 89 angp, p

Ne Na

π^+ X
29.28 Gosset 89 angp, p

π^- X
29.28 Gosset 89 angp, p

n X
18.81 – 29.04 Madey 85 angp, p

Ne Nb

π^+ X
29.28 Gosset 89 angp, p

π^- X
29.28 Gosset 89 angp, p

Ne Au

fragt X
5 – 42 Hufner 85 p
42 Hufner 85 p

Ne Pb

charged X
19.09 – 29.28 Bastid 89 angp, p

mult[charged] (neutrals)
19.09 – 29.28 Bastid 89 mult

π^+ X
29.28 Gosset 89 angp, p

π^- X
29.28 Gosset 89 angp, p

K^+ X
57.81 Schnetzer 89 angp, cs, p
Stock 87 angp

n X
18.81 – 29.04 Madey 85 angp, p

2charged (chargeds) (neutrals)
19.09 – 29.28 Bastid 89 angp, 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.

Ne U

charged X		
19.09	Schurman 87	angp, p

Ne nucleus

charged X		
19.09 – 29.28	Bastid 89	angp, p
mult[charged] (neutrals)		
19.09 – 29.28	Bastid 89	mult
π^{+} X		
79.82	Dubinina 88	angp, p
π^{-} X		
57.81	Schurman 87	angp, p
79.82	Dubinina 88	angp, p
K^{+} X		
57.81	Schnetzer 89	angp, cs, p
	Schurman 87	angp, p
	Stock 87	angp
p X		
19.09 – 57.81	Schurman 87	angp, p
29.28	Stock 87	angp
38.44	Antonchik 90B	angp, mult, p
deuteron X		
19.09 – 29.28	Schurman 87	angp, p
^{3}H X		
19.09 – 29.28	Schurman 87	angp, p
$\pi^{\pm}$ mult[htrack] X		
79.82	Dubinina 88	angp, p
$0\pi^{\pm}$ mult[htrack] X		
79.82	Dubinina 88	angp, p
$p\ \pi^{+}$ X		
29.28	Lhote 89	mass
$p\ \pi^{-}$ X		
19.09 – 64.09	Stock 87	mult
2charged (chargeds) (neutrals)		
19.09 – 29.28	Bastid 89	angp, mult, p
mult[p] mult[π^{+}] mult[π^{-}] X		
90.05	Okonov 88	cor, mult

^{22}Ne p

fragb X		
88.55	Bogdanov 88	cs, mult

^{22}Ne ^{12}C

mult[charged] (neutrals)		
90.2	Elnaghy 87B	mult

^{22}Ne nucleus

mult[charged] X		
90.2	Bannik 87	angp, mult, p
hypernucleus X		
90.2	Andreeva 86B	-
mult[charged] (neutrals)		
90.2	Elnaghy 87B	mult
$\pi^{\pm}$ X		
99	Vokal 88	p
	Leskin 86	p
π^{+} X		
90.2	Shabratova 86	angp, p
π^{-} X		
90.2	Shabratova 86	angp, p
meson^{0} X		
99	Elnadi 88	·
p X		
90.2	Andreeva 88B	angp
	Shabratova 86	angp, p
99	Vokal 88	p
	Leskin 86	p
deuteron X		
99	Vokal 88	p

^{22}Ne nucleus

^{3}H X		
99	Vokal 88	p
^{4}He X		
39.63 – 64.21	Abdurazakova 88	pt
He X		
90.2	Andreeva 88B	angp
anomalon X		
90.2	Alekseeva 88	angp, cs
90.81	Bayman 87	
black X		
90.2	Andreeva 89	mult, p
	Lepekhin 89	mult
	Andreeva 88	angp, mult, pt
	Andreeva 86	angp, mult
	Vokalova 85	angp, mult, p
frag X		
4.1	Elnaghy 87	mult
90.2	Andreeva 86B	p
	Vokalova 85	angp, mult, p
fragb X		
90.2	Lepekhin 89	mult
	Andreeva 88C	angp, pt
fragt X		
90.2	Lepekhin 89	mult
grey X		
90.2	Andreeva 89	mult, p
	Lepekhin 89	mult
	Andreeva 88	angp, mult, pt
	Andreeva 86	angp, mult
	Vokalova 85	angp, mult, p
90.2 – 99	Antonchik 87	angp, mult, p, pt
99	Vokal 88	p
mult[black] X		
90.2	Babaev 90	ang
	Bannik 87	angp, mult, p
mult[fragb] X		
90.2	Andreeva 88C	col, cor
	Bannik 87	angp, mult, p
mult[fragt] X		
90.2	Bannik 87	angp, mult, p
mult[grey] X		
90.2	Babaev 90	ang
	Bannik 87	angp, mult, p
mult[shower] X		
90.2	Babaev 90	ang
	Lepekhin 89	ang, angp, col
	Bannik 87	angp, mult, p
shower X		
90.2	Andreeva 89	mult, p
	Lepekhin 89	mult
	Andreeva 88	angp, mult, pt
	Krasnov 86	angp
	Vokalova 85	angp, mult, p
99	Vokal 88	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

^{22}Ne nucleus

mult[grey] (neutrals)		
	Andreeva 86	mult
	Krasnov 86	mult
mult[shower] (neutrals)		
90.2	Andreeva 89	mult, p
	Krasnov 86	mult
2charged X		
90.2	Krasnov 87	cor
$e^{-}\ e^{+}$ X		
54	Elnadi 88	mass
$\pi^{\pm}$ mult[htrack] X		
99	Vokal 88	angp, mult, p, pt
p mult[htrack] X		
99	Vokal 88	angp, mult, p, pt
He mult[htrack] X		
90.2	Andreeva 88B	angp, cor, mult, pt
mult[He] mult[htrack] X		
90.2	Andreeva 88B	mult
$\pi^{\pm}$ fragb X		
99	Vokal 88	angp, mult, p, pt
p fragb X		
99	Vokal 88	angp, mult, p, pt
black frag X		
4.1	Elnaghy 87	mult
black fragt X		
90.2	Krasnov 87	cor
black grey X		
90.2 – 99	Antonchik 87	angp, mult, p, pt
black jet X		
90.2	Lepekhin 89	mult
black shower X		
90.2	Krasnov 87	cor
fragb jet X		
90.2	Lepekhin 89	mult
fragt jet X		
90.2	Lepekhin 89	mult
grey frag X		
4.1	Elnaghy 87	mult
grey fragt X		
90.2	Krasnov 87	cor
grey jet X		
90.2	Lepekhin 89	mult
grey shower X		
90.2	Krasnov 87	cor
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

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

^{24}Mg 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

^{24}Mg nucleus

anomalon X		
108	Karev 88	
	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	Grigalashvil 88	cs
charged$^-$ X		
102	Grigalashvil 88	a-dep, mult

Mg C

mult[charged$^-$] X		
102	Grigalashvil 88	a-dep, mult

Mg Pb

mult[htrack] X		
108	Krasnov 88	mult
$\pi^\pm$ 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
$\pi^\pm$ mult[htrack] X		
79.82	Dubinina 88	angp, p
0$\pi^\pm$ mult[htrack] X		
79.82	Dubinina 88	angp, p

^{28}Si Al

fragb X		
431.3	Tannenbaum 89	p
mult[hadron] X		
280	Tannenbaum 89	et, p
mult[neutral] X		
406	Tannenbaum 89	et, p
fragb mult[neutral] X		
431.3	Tannenbaum 89	p

^{28}Si ^{28}Si

π^- X		
67.41 – 77.83	Shor 89	angp
80.78	Carroll 89	angp
K^+ X		
77.83	Shor 89	angp
K^- X		
67.41 – 77.83	Shor 89	angp
80.78	Barasch 85	angp
$\bar{p}$ X		
67.41 – 77.83	Shor 89	angp
80.78	Carroll 89	angp
exotic X		
80.78	Abachi 85	angp
longlived X		
80.78	Abachi 85	angp
q X		
80.78	Abachi 85	angp

^{28}Si Cu

mult[hadron] X		
280	Tannenbaum 89	et, p
mult[neutral] X		
406	Tannenbaum 89	et, p

^{28}Si Ag

mult[neutral] X		
406	Tannenbaum 89	et, p

^{28}Si Au

fragb X		
431.3	Tannenbaum 89	p
mult[neutral] X		
406	Tannenbaum 89	et, p
fragb mult[neutral] X		
431.3	Tannenbaum 89	p

^{28}Si ^{197}Au

π^+ X		
408	Abbott 90	p, pt
π^- X		
408	Abbott 90	p, pt
K^+ X		
408	Abbott 90	p, pt
K^- X		
408	Abbott 90	p, pt
p X		
408	Abbott 90	p, pt

^{28}Si Pb

mult[hadron] X		
280	Tannenbaum 89	et, p

^{28}Si 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	Braunmunzing 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	80.83	Schurman 87	angp, p

Si Cu

hadron X	305	Braunmunzing 88	et, p

Si Au

neutral X	406	Remsberg 88	p
π^+ X	431.4	Miake 88	angp, p
π^- X	431.4	Miake 88	angp, p
K^+ X	431.4	Miake 88	angp, p
K^- X	431.4	Miake 88	angp, p

Si Pb

hadron X	305	Braunmunzing 88	et, p
mult[γ] mult[frag] X	(6578)	Burnett 85D	angp, mult, p, pt

Si nucleus

mult[γ] mult[frag] X	$112 \cdot 10^3$	Burnett 85D	angp, mult, p, pt

^{32}S p

frag X	(31.42 – 113.8)	Brechtmann 88	cs
charged (chargeds) (neutrals)	(31.42 – 113.8)	Brechtmann 88	cs

^{32}S C

frag X	(46.71 – 380.6)	Brechtmann 88	cs
charged (chargeds) (neutrals)	(46.71 – 380.6)	Brechtmann 88	cs

^{32}S Al

inelastic	(569.8)	Andersen 89	a-dep, cs
neutral X	464	Tannenbaum 88	p
frag X	(70.35 – 569.8)	Brechtmann 88	cs
fragb X	464	Tannenbaum 88	p
	(569.8)	Andersen 89	a-dep, cs
		Price 88	cs
hadron X	(569.8)	Akesson 88C	a-dep, cor, et, p
		Schukraft 88B	a-dep, et, p
mult[neutral] X	(569.8)	Tannenbaum 89	et, p
shower X	(569.8)	Andersen 89	a-dep, cs
charged (chargeds) (neutrals)	(70.35 – 569.8)	Brechtmann 88	cs
fragb neutral X	464	Tannenbaum 88	cor, p

^{32}S ^{32}S

Λ X	(619.1)	Panagiotou 89	p, pol, pt

^{32}S S

charged$^-$ X	(621.1)	Odyniec 89	p, pt
π^- X	(621.1)	Odyniec 89	pt
		Pugh 89	pt
K^0 X	(621.1)	Odyniec 89	pt
K_S X	(621.1)	Pugh 89	pt
p X	(621.1)	Odyniec 89	p, pt
		Pugh 89	pt
Λ X	(621.1)	Odyniec 89	pt
		Pugh 89	pt
$\overline{\Lambda}$ X	(621.1)	Odyniec 89	pt
mult[hadron] X	(621.1)	Odyniec 89	cor, et, p

^{32}S Fe

inelastic	(820.1)	Andersen 89	a-dep, cs
fragb X	(820.1)	Andersen 89	a-dep, cs
shower X	(820.1)	Andersen 89	a-dep, cs

^{32}S Cu

inelastic	(875)	Andersen 89	a-dep, cs
neutral X	464	Tannenbaum 88	p
frag X	(111.7 – 875)	Brechtmann 88	cs
fragb X	(875)	Andersen 89	a-dep, cs
		Price 88	cs
mult[hadron] X	(875)	Odyniec 89	cor, et, p
shower X	(875)	Andersen 89	a-dep, cs
charged (chargeds) (neutrals)	(111.7 – 875)	Brechtmann 88	cs

^{32}S Ag

inelastic	(1142)	Andersen 89	a-dep, cs
neutral X	464	Tannenbaum 88	p
frag X	(146.5 – 1142)	Brechtmann 88	cs
fragb X	(1142)	Andersen 89	a-dep, cs
hadron X	(1142)	Akesson 88C	a-dep, cor, et, p
		Schukraft 88B	a-dep, et, p
mult[hadron] X	(1142)	Odyniec 89	cor, et, p
mult[neutral] X	(1142)	Tannenbaum 89	et, p
shower X	(1142)	Andersen 89	a-dep, cs
charged (chargeds) (neutrals)	(146.5 – 1142)	Brechtmann 88	cs

^{32}S Wt

charged X	(1494)	Akesson 90	cor, et, mult, p
charged$^-$ X	(1494)	Akesson 89E	cs, et, pt
		Schukraft 88B	et, p, pt
mult[charged] (neutrals)	(1494)	Ritter 88	et, mult
γ X	(1494)	Akesson 89D	cs, et, pt
		Schukraft 88B	pt
π^0 X	(1494)	Akesson 89D	cs, et, pt
Λ X	(1494)	Abatzis 90	p, pt
$\overline{\Lambda}$ X	(1494)	Abatzis 90	p, pt
hadron X	(1494)	Akesson 88C	a-dep, cor, et, p
		Schukraft 88B	a-dep, et, p
mult[neutral] X	(1494)	Tannenbanm 89	et, p
charged$^-$ mult[charged] X	(1494)	Abatzis 90	mult, p
$p\,\pi^-$ X	(1494)	Abatzis 90	mass
$\bar{p}\,\pi^+$ X	(1494)	Abatzis 90	mass
Λ mult[charged] X	(1494)	Abatzis 90	mult, p
$\overline{\Lambda}$ mult[charged] X	(1494)	Abatzis 90	mult, p

^{32}S Pt

charged$^-$ X	(1540)	Akesson 89E	cs, et, pt
γ X	(1540)	Akesson 89D	cs, et, pt
π^0 X	(1540)	Akesson 89D	cs, et, pt
hadron X	(1540)	Akesson 88C	a-dep, cor, et, p
		Schukraft 88B	a-dep, et, p
mult[neutral] X	(1540)	Tannenbaum 89	et, p
$\mu^-\,\mu^+$ X	(1540)	London 89	mass
		Schukraft 88B	mass, p, pt
$2\mu^-$ X + $2\mu^+$ X	(1540)	Schukraft 88B	mass, p

^{32}S Au

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

^{32}S Au

shower mult[shower] X	(1547)	Adamovich 89	mult, p

^{32}S Hg

q X	(1562)	Calloway 89	–

^{32}S Pb

inelastic	(1588)	Andersen 89	a-dep, cs
frag X	(1588)	Brechtmann 88	cs
fragb X	(1588)	Andersen 89	a-dep, cs
		Price 88	cs
hadron X	(1588)	Akesson 88C	a-dep, cor, et, p
		Schukraft 88B	a-dep, et, p
mult[neutral] X	(1588)	Tannenbaum 89	et, p
shower X	(1588)	Andersen 89	a-dep, cs
charged (chargeds) (neutrals)	(1588)	Brechtmann 88	cs

^{32}S U

$J/\psi(1S)$ X	(1703)	Sonderegger 89	cs, et, pt
hadron X	(1703)	Akesson 88C	a-dep, cor, et, p
		Schukraft 88B	a-dep, et, p
mult[neutral] X	(1703)	Tannenbaum 89	et, p
$\mu^- \mu^+$ X	(1703)	Sonderegger 89	cs, et, et, mass, pt
$2\mu^-$ X + $2\mu^+$ X	(1703)	Sonderegger 89	et, mass

^{32}S nucleus

inelastic	6430	Baroni 90	cs
		Romano 89	cs
		Sengupta 89B	cs
		Singh 88	cs
charged X	6430	Akesson 90	cor, et, mult, p
mult[charged] X	6430	Holynski 89	mult
		Sengupta 88	cor, mult, p
mult[charged] (neutrals)	6430	Buschbeck 89	mult, p
He X	6430	Sengupta 89B	cs
		Singh 88B	cs
0fragb X	6430	Sengupta 89B	cs
mult[He] X	1950 – 6430	Sengupta 89B	mult
	6430	Sengupta 89B	cs
frag X	42.86 – 6430	Brechtmann 88	cs
fragb X	6430	Romano 89	angp, p
hadron X	6430	London 89	et, 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
shower X	6430	Jain 90	mult, p
		Adamovich 89	mult, p
		Adamovich 89B	mult
		Singh 88	mult, p
nucleus mult[fragb]	6430	Romano 89	cs
2charged$^-$ X	6430	Romano 89	angp, cor
nucleus ^{16}O X	6430	Baroni 90	cs, p
nucleus Fl X	6430	Baroni 90	cs, p
nucleus Ne X	6430	Baroni 90	cs, p
nucleus Na X	6430	Baroni 90	cs, p
nucleus Mg X	6430	Baroni 90	cs, p
charged (chargeds) (neutrals)	42.86 – 6430	Brechtmann 88	cs
He mult[htrack] X	6430	Singh 88B	cs
nucleus He X	6430	Baroni 90	cs, p
mult[shower] 0fragb X	6430	Jain 90B	cor, mult, p
		Romano 89	mult
shower 0fragb X	6430	Jain 90	mult, p
shower mult[shower] X	6430	Adamovich 89	mult, p
nucleus Ph p	6430	Baroni 90	cs, p
nucleus Si He	6430	Baroni 90	cs, p
shower mult[shower] 0fragb X	6430	Singh 89	cor, mult, p
nucleus Si 2p	6430	Baroni 90	cs, p
nucleus Al He p	6430	Baroni 90	cs, p
nucleus Al 3p	6430	Baroni 90	cs, p

S U

ω mult[charged] (neutrals) + ρ^0 mult[charged] (neutrals)	(1699)	Abreu 89	cs
ϕ mult[charged] (neutrals)	(1699)	Abreu 89	cs
$\mu^- \mu^+$ mult[charged] (neutrals)	(1699)	Abreu 89	et, mass

Ar Pb

p X	57.41	Stock 87	angp
mult[γ] mult[frag] X	(3885)	Burnett 85D	angp, mult, p, pt

Ar nucleus

charged X	100.8	Stock 87	mult
π^- X	37.47 – 100.8	Stock 87	mult
π^- X	57.41	Lhote 89	angp
p X	57.41	Lhote 89	angp
		Schurman 87	angp, p
	57.41 – 100.8	Stock 87	angp
He X	109	Jain 85	–
p π^- X	37.47 – 125.4	Stock 87	mult
π^- mult[grey] X	45.35 – 98.68	Lhote 89	mult
p 4charged-hadron X	57.41	Schurman 87	angp, p

^{40}Ar C

fragt X	8.1	Hufner 85	p

^{40}Ar ^{40}Ar

π^+ X	58.38	Schurman 87	angp, p

^{40}Ar Cu

^{24}Na X	102.7	Dersch 85	angp, cs
^{28}Mg X	102.7	Dersch 85	angp, cs
anomalon X	63.08 – 102.7	Tolstov 87	p
frag X	102.7	Dersch 85	angp, cs
2frag (frags)	63.08 – 102.7	Tolstov 87	p

^{40}Ar ^{208}Pb

mult[charged] X	102.7	Hallman 85	angp, mult
γ X	102.7	Hallman 85	angp, mult
π^0 X	102.7	Hallman 85	angp, mult
$\pi^\pm$ X	102.7	Hallman 85	angp, mult
mult[$\pi^\pm$] X	102.7	Hallman 85	angp, mult
mult[π^0] X	102.7	Hallman 85	angp, mult

^{40}Ar nucleus

charged X	67.68 – 76.69	Antonchik 90	mult
π^+ X	58.38	Stock 87	angp
π^- X	58.38 – 102.7	Stock 87	angp
p X	76.69	Antonchik 90B	angp, mult, p, pt
He X	76.69	Antonchik 90B	angp, mult, p, pt
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

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^{40}Ar nucleus

shower X		
67.68 – 76.69	Antonchik 90	mult
mult[htrack] charged X		
67.68 – 76.69	Antonchik 90	mult
mult[htrack] black X		
67.68 – 76.69	Antonchik 90	mult
mult[htrack] fragb X		
67.68 – 76.69	Antonchik 90	mult
mult[htrack] grey X		
67.68 – 76.69	Antonchik 90	mult
mult[htrack] shower X		
67.68 – 76.69	Antonchik 90	mult

Ca Ca

charged X		
22 – 70	Gustafsson 88	p, pt
mult[p] X		
38.09 – 70	Gustafsson 88	col, mult, p
	Doss 86	col, mult, p
e^- e^+ X		
67.73	Naudet 88C	mass, pt
	Roche 88	mass, pt
67.73 – 111.2	Roche 89	cs, mass, pt
109.1	Roche 87	cs, mass, pt
111.2	Naudet 88C	mass
	Roche 88	mass

Ca Pb

mult[γ] mult[frag] X		
(2786)	Burnett 85D	angp, mult, p, pt
γ fragb 451charged (chargeds) X		
(5276)	Burnett 86	angp, p, pt
γ fragb 670charged X		
(2786)	Burnett 86	angp, p, pt

Ca nucleus

charged X		
$12 \cdot 10^3$	Chernavskaya 87	p, pt
p X		
$600 - 8 \cdot 10^3$	Gagarin 89	angp, p
p mult[htrack] X		
$600 - 8 \cdot 10^3$	Gagarin 89	angp, p
mult[γ] mult[frag] X		
$48 \cdot 10^5$	Burnett 85D	angp, mult, p, pt
γ fragb 760charged X		
$4 \cdot 10^6$	Burnett 86	angp, p, pt

Ti Pb

267charged X		
1973	Burnett 87	angp, p
p 267charged X		
1973	Burnett 87	mult
γ fragb 415charged (chargeds) X		
(4264)	Burnett 86	angp, p, pt

Ti nucleus

265charged X		
1315	Burnett 87	angp, p
p 265charged X		
1315	Burnett 87	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.

$a_2(1320)^+$
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.

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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.

heavy-lepton^0
Kim 89E
Riles 89
Riles 89B
Weinstein 89
Kamae 88
Wu 87
Perl 85
$e^- e^+$ **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
μ^- **X**
Mishra 87
ν_μ **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

$\overline{\text{heavy-lepton}}^0$
Akrawy 90I
Burchat 90
Decamp 89E
Behrend 88C
Perl 85
$e^+ q \bar{q}$
Sakai 89
Shaw 89
$e^- e^+ \bar{\nu}_e$
Sakai 89
Shaw 89
$\mu^+ e^- \bar{\nu}_e$
Sakai 89
Shaw 89
Gan 88
$\mu^+ q \bar{q}$
Sakai 89
Shaw 89
$\mu^- e^+ \bar{\nu}_\mu$
Gan 88
$\mu^- e^+ \bar{\nu}_\tau \bar{\nu}_\mu \nu_e$
Gan 88
$\tau^- e^+ \bar{\nu}_\tau$
Sakai 89
Shaw 89

$\overline{\text{heavy-lepton}}^0$
$\tau^- \mu^+ \bar{\nu}_\tau$
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
Daum 87
$e^- e^+ \nu_\mu$
Bernardi 88
Bernardi 85
$\mu^- e^+ \nu_e$
Coopersarkar 85
$\mu^- \mu^+ \nu_\mu$
Coopersarkar 85
$\pi^+ \mu^-$
Coopersarkar 85

Hf
Kozma 90
Kozma 88

^{173}Hf
Butsev 85

higgs
Abreu 90F
Decamp 90H
Komamiya 90
Franzini 87
Wu 87
Adeva 85
Albrecht 85L
Rosner 85E
2γ
Druzhinin 88
2hadron (hadrons)
Adachi 90C
Decamp 89C
Decamp 89H
Bartel 85E
Behrend 85
2higgs
Komamiya 89
2jet
Abreu 90C
Akrawy 90J
Akrawy 90N
Decamp 90E
$\bar{b} b$
Decamp 90E
$\bar{c} c$
Abreu 90C
$e^\pm$ **X**
Igarashi 87
$e^- e^+$
Barr 90B
Auge 89B
Davier 89
Decamp 89C
Decamp 89H
Egli 89
Gilman 89
Snyder 89
Baker 87
hadron$^+$ hadron$^-$
Decamp 89C
Decamp 89H

higgs
higgs hadron (hadrons)
Bartel 85E
Behrend 85
jet X
Ash 85D
$K^*(892)^+ K^-$
Alam 89
$K^*(892)^- K^+$
Alam 89
$K^*(892)^0 \overline{K}^*(892)^0$
Alam 89
$K^*(892)^0 \overline{K}^0$
Alam 89
$\overline{K}^*(892)^0 K^0$
Alam 89
$K^+ K^-$
Alam 89
Albrecht 89J
Geer 89
Halling 89
$\mu^\pm$ **X**
Igarashi 87
$\mu^- \mu^+$
Abe 89R
Alam 89
Atiya 89
Decamp 89C
Decamp 89H
Geer 89
Gilman 89
Halling 89
Komamiya 89
Selen 89
Prokoshkin 87C
Landsberg 85
$p \bar{p}$
Albrecht 89J
$\pi^+ \pi^-$
Abe 89R
Alam 89
Albrecht 89J
Geer 89
Halling 89
Druzhinin 88
$q \bar{q}$ **higgs**
Low 89
$q \bar{q}$
Low 89
$\tau^- \tau^+$
Abreu 90C
Akrawy 90J
Akrawy 90N
Decamp 89C
Decamp 89H
Bartel 86D
Albrecht 85C

higgs$^+$
Abrams 89F
Kim 89E
Wu 87
2jet X
Ouldsaada 88B
$c \bar{q}$
Ouldsaada 88B
Behrend 87C
$c \bar{s}$
Abreu 90
Akrawy 90D
Decamp 90
$\tau^+ \nu_\tau$
Abreu 90
Adachi 90C
Akrawy 90D
Decamp 90
Felcini 89
Ouldsaada 88B
Behrend 87C

higgs$^\pm$
2hadron (hadrons)
Wu 87

higgs$^\pm$
$\nu \tau^\pm$
Wu 87

higgs$^-$
Abreu 90
Adachi 90C
Abrams 89F
Kim 89E
Ouldsaada 88B
Wu 87
$\bar{c} q$
Behrend 87C
$\bar{c} s$
Akrawy 90D
Decamp 90
$\tau^- \bar{\nu}_\tau$
Akrawy 90D
Decamp 90
Felcini 89
Behrend 87C

higgsino
Abe 89F
Kamae 88
Ansari 87D
Behrend 87
Bartel 85E
Behrend 85
jet X
Sakai 90

htrack
Gill 90
Abduzhamilov 88C
Barbier 88B
Khan 88
Krasnov 88
Otterlund 88
Ramello 88
Shivpuri 88
Shivpuri 88B
Tretyakova 88
Abdurazakova 87
Abduzhamilov 87
Fredriksson 87
Shivpuri 87B
Ghosh 86
Judek 86

hypernucleus
Bartke 89
Campagnolle 89
Ameeva 87
Bocquet 87
Fredriksson 87
Bocquet 86
Dabrowski 86
Gal 86B
Yamazaki 86
Batusov 85
Berrada 85
Milner 85B
Yamazaki 85
nucleus p
Grace 85

hyperon
Bogolyubsky 88F
Bolonkin 88
Bityukov 87
Bystricky 87
Landsberg 87
Bityukov 86B

$\overline{\text{hyperon}}$
Bogolyubsky 88F

^{119}I
Butsev 85

^{120}I
Butsev 85

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$K^*(892)^0$

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
Karnaukhov 86
Toki 86
Aihara 85
Derrick 85F

$K^- \pi^+$
Albrecht 89L

$K_L \gamma$
Carlsmith 86

$K_S \pi^0$
Berger 89

$\pi^- \mu^+ \nu_\mu$
Hirata 89B

$K^*(\text{unspec})$

Wu 87

$K^*(\text{unspec})^+$

$K^+ \pi^+ \pi^-$
Karnaukhov 87

$K^*(\text{unspec})^-$

$K^- \pi^+ \pi^-$
Karnaukhov 87

$K^*(\text{unspec})^0$

$K^+ \pi^+ 2\pi^-$
Karnaukhov 87

$\overline{K}^*(1370)^0$

$K^*(892)^- \pi^+$
Aston 88I
Aston 86B

$\overline{K}^*(892)^0 \pi^0$
Aston 86B

$K^- \pi^+$
Aston 88I

$\overline{K}^0 \pi^+ \pi^-$
Aston 88I
Aston 86B

$\overline{K}^0 \rho^0$
Aston 88I

$\overline{K}^*(1680)^0$

$K^*(892)^- \pi^+$
Aston 88I
Aston 86B

$\overline{K}^*(892)^0 \pi^0$
Aston 86B

$K^- \pi^+$
Albrecht 89L
Aston 88I

$\overline{K}^0 \pi^+ \pi^-$
Aston 88I
Aston 86B

$\overline{K}^0 \rho^0$
Aston 88I
Aston 86B

$K^*(892)$

Toki 88B
Aston 86B
Aston 85
Tsukerman 85B

$K^- \pi^+$
Adler 89D

$K^*(892)$

$\overline{K} \pi$
Toki 87

$\overline{K}^*(892)^0$

Anjos 90
Armstrong 90
Bai 90
Barlag 90C
Chliapnikov 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
Brient 87
Kolanoski 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
Cowara 85
Schindler 85

$K^+ \pi^-$
Albrecht 89L

$K^- \pi^+$
Alvarez 90C
Anjos 90B
Barlag 90
Abachi 89D
Adler 89E
Agababyan 89
Aguilarbenit 89
Alam 89
Aston 89B
Breakstone 89

$\overline{K}^*(892)^0$

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
Alam 86
Althoff 86D
Armstrong 86D
Aston 86
Aston 86B
Toki 86
Derrick 85F
Jawahery 85

$\overline{K}^*(\text{unspec})^0$

$K^- \, 2\pi^+ \, \pi^-$
Karnaukhov 87

$K^- \pi^+$
Aston 86

K^+

$2\pi^+ \pi^- \gamma$
Barmin 89B

$2\pi^+ \pi^-$
Phillips 89
Tanimori 89B
Ansorge 88
Barmin 86

$2\pi^0 e^+ \nu_e$
Barmin 88B

$e^+ \nu_e$
Bernardi 88
Bernardi 85

$\mu^+ \nu_\mu \gamma$
Demidov 89
Numao 89
Barmin 87
Akiba 85

$\mu^+ \nu_\mu$
Phillips 89
Tanimori 89B
Ansorge 88
Bernardi 88
Bernardi 85
Yamanaka 85

$\mu^- \, 2\mu^+ \nu_\mu$
Atiya 89
Littenberg 89
Selen 89

$\pi^+ 2\pi^0$
Tanimori 89B

π^+ axion
Baker 87

$\pi^+ e^- e^+$
Gilman 89
Littenberg 89
Lubatti 89
Baker 87

π^+ higgs
Atiya 89
Gilman 89
Selen 89
Baker 87

$\pi^+ \mu^+ e^-$
Gilman 89
Littenberg 89
Lubatti 89
Campagnari 88

$\pi^+ \mu^- \mu^+$
Atiya 89
Gilman 89
Littenberg 89
Selen 89

K^+

$\pi^+ \nu \overline{\nu}$
Atiya 90
Littenberg 89
Numao 89

$\pi^+ \nu_e \overline{\nu}_e$
Gilman 89

$\pi^+ \pi^0$
Phillips 89
Tanimori 89B
Ansorge 88
Campagnari 88
Landsberg 85

$\pi^0 e^+ \nu_e$
Tanimori 89B
Barmin 86

$\pi^0 \mu^+ \nu_\mu$
Phillips 89
Tanimori 89B

K^-

$2\pi^0 e^- \overline{\nu}_e$
Bolotov 85B

$2\pi^0 \pi^- \gamma$
Bolotov 85C

$2\pi^0 \pi^-$
Bolotov 85

$3\pi^0 e^- \overline{\nu}_e$
Bolotov 88

$\pi^+ 2\pi^-$
Ansorge 88

$\pi^- 2\gamma$
Bolotov 86

$\pi^- 3\gamma$
Bolotov 87

$\pi^- 4\gamma$
Bolotov 86

$\pi^0 e^- \overline{\nu}_e \gamma$
Bolotov 85B

$\pi^0 e^- \overline{\nu}_e$
Bolotov 88

$\pi^0 \pi^- \gamma$
Bolotov 86B

$\pi^0 \pi^-$
Ansorge 88
Bolotov 86

K^0

$2\pi^0$
Hirata 89B

$e^- e^+$
Barmin 86B

$\pi^+ \pi^-$
Adler 89B
Adler 89C
Hirata 89B
Aleev 88B

$K_0^*(1950)^-$

$\overline{K}^0 \pi^-$
Bird 88

$\overline{K}_0^*(1430)^0$

$K^- \pi^+$
Aston 88B
Aston 88I

$\overline{K}_0^*(1950)^0$

Aston 88I

$K_1(1270)^+$

$K^+ \rho^0$
Albrecht 89L

$K_1(1270)^-$

Adler 89D
Browder 89

$K^- \pi^+ \pi^-$
Adler 89E
Dejongh 89

$K^- \rho^0$
Albrecht 89L

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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.

Detector: see the *Detector 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
BNL	
BNL-673-593	
MPS	Bensinger 85
BNL-701	
COMB	Franklin 87
BNL-702	
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.

AERE-HELIOS-NS

—		
	CNTR	Schmiedmayer 88

ANIK-MEA

—		
	SPEC	Keizer 85

ANL

ANL-E-412		
	DBC-12FT	Mann 86
ANL-E-435		
	SPEC	Auer 86
		Auer 86B
ANL-E-441		
	EMS	Finley 85
ANL-E-447		
	SPEC	Auer 88
ANL-E-451		
	EMS	Wicklund 87
		Wicklund 85
?		
	HEBC-50CM	Dalitz 90

BNL

BNL-673-593		
	MPS	Bensinger 85
BNL-701		
	COMB	Franklin 87
BNL-702		
	COMB	Snow 85
BNL-723		
	SPEC	Gall 88
		Hertzog 88
BNL-726		
	WIRE	Christenson 85
BNL-732		
	CALO	Chiang 86
BNL-734		
	CALO	Abe 89E
		Ahrens 88
		Ahrens 87C
		Abe 86B
		Abe 86D
		Ahrens 86
		Ahrens 85
		Ahrens 85B
BNL-737		
	DBC-7FT	Kitagaki 86
BNL-742		
	WIRE	Fickinger 86B
		Ashford 85
		Ashford 85B
BNL-744		
	COMB	Dukes 87
		Sullivan 87
BNL-747		
	MPS	Etkin 88
		Longacre 87
		Longacre 86B
		Etkin 85
BNL-748		
	DAS	Court 86
		Cameron 85B
		Raymond 85
BNL-749		
	SPEC	Blatt 85
BNL-751		
	MPS-II	Bensinger 88
BNL-755		
	DAS	Baller 88
		Blazey 85
		Heppelmann 85
BNL-758		
	SPEC	Milner 85B
BNL-759		
	SPEC	Grace 85
BNL-767		
	WIRE	Armstrong 87B
		Armstrong 86C
BNL-769		
	MPS-II	Cason 89
		Rath 89
		Longacre 86
BNL-771		
	MPS-II	Birman 88
		Reeves 86
		Chung 85
BNL-772		
	SPEC	Daftari 87
		Bridges 86
		Bridges 86B
BNL-773		
	SPEC	Chrien 86
BNL-774		
	SPEC	Chrien 86
BNL-775		
	CALO	Ahrens 87
		Ahrens 87B
BNL-776		
	COMB	Blumenfeld 89
		Krizmanic 89
		Lile 89
BNL-777		
	CNTR	Lubatti 89
	SPEC	Campagnari 88
		Baker 87
BNL-778		
	SPEC	Mahi 88
		Sangster 87
BNL-780		
	WIRE	Schaffner 89
		Greenlee 88
		Jastrzembski 88
BNL-781		
	SPEC	Chrien 86
BNL-782		
	DAS	Khiari 89
BNL-785		
	SAS	Saroff 90
BNL-787		
	SPEC	Atiya 90
		Atiya 89
		Selen 89
BNL-788		
	SPEC	Chrien 86
BNL-789		
	WIRE	Senlh 87
BNL-791		
	SPEC	Mathiazhagan 89
		Mathiazhagan 89B
		Cousins 88
BNL-794		
	DAS	Crabb 88
BNL-795		
	CNTR	Mutchler 88
BNL-801		
	OTHER	Shaw 87
BNL-802		
	SAS	Abbott 90
		Miake 88
		Remsberg 88
		Tannenbaum 88
		Abbott 87
BNL-811		
	CNTR	Hessey 89
		Whitehouse 89
BNL-814		
	CALO	Braunmunzing 88
	SPEC	Braunmunzing 88
BNL-816		
	CALO	Astier 89
		Astier 89B
BNL-817		
	MPS	Bonner 89
		Bonner 88
		Bonner 87
BNL-828		
	SPEC	Chrien 88
BNL-845		
	PHOTON	Ohl 90
	SPEC	Ohl 90
BNL-851		
	CNTR	Lubatti 89
?		
	DBC-30IN	Bridges 86D
	DBC-80IN	Clarke 86
	EMUL	Ghosh 89B
	HBC-30IN	Parkin 86
		Koiso 84
	PLASTIC	Hoffmann 88
	SPEC	Heppelmann 89
		Carroll 88
	WIRE	Heppelmann 89
		Carroll 88

BONN

	CNTR	Breuker 85
	DAS	Bock 85B
	MANY	Meyer 88B
	PLASTIC	Delima 90B
		Delima 89
	SAS	Althoff 89
	SPEC	Schablitzky 89
		Stenz 86
		Cramer 85
		Brefeld 84

BONN-500

	CNTR	Arends 85
	WIRE	Arends 85

CERN-ISR

CERN-R-110		
	SPEC	Angelis 90
		Angelis 87
		Angelis 86
		Angelis 85
CERN-R-209		
	COMB	Antreasyan 86B
CERN-R-210		
	COMB	*Lloydowen* 86
		Carboni 85
		Cavasinni 85
CERN-R-211		
	CNTR	Amos 85
CERN-R-416		
	SFM	Breakstone 85E
CERN-R-418		
	SFM	Bell 86
		Bell 86B
		Breakstone 86F
		Bell 85
		Bell 85B
		Bell 85C
		Bell 85D
		Breakstone 85D
CERN-R-419		
	SFM	Breakstone 90
		Geist 89
		Breakstone 88
		Breakstone 87
		Breakstone 86
		Breakstone 86B
		Breakstone 86D
		Breakstone 86E
		Breakstone 86G
		Breakstone 85
		Breakstone 85C
CERN-R-420		
	SFM	Breakstone 89
		Breakstone 89B
		Breakstone 88B
		Breakstone 88C
		Fabbri 88
		Breakstone 86C
		Breakstone 86F
		Breakstone 85B
CERN-R-608		
	SPEC	Chauvat 87
		Smith 87
		Smith 86B
		Chauvat 85
		Erhan 85
		Smith 85B
		Smith 85D
CERN-R-704		
	COMB	Baglin 89B
		Baglin 89C

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.*

CERN-PBAR/P

		Hanni 85
		Bagnaia 84E
CERN-UA-004	UA4	Bernard 87
		Bernard 86
		Bernard 86B
		Bernard 85
		Bozzo 85
CERN-UA-005	UA5	Ansorge 89
		Ansorge 89B
		Ansorge 89C
		Pelzer 89
		Ansorge 88
		Asman 88
		Eckart 88
		Ansorge 87
		Burow 87
		Holl 86
		Schmickler 86
		Alner 85
		Alner 85B
		Alner 85C
		Alner 84B
CERN-UA-005-2	UA5	Ansorge 87
		Alner 86
		Alner 86B
		Alner 86C
		Ansorge 86
		Alner 85D
		Geichgimbel 85
CERN-UA-006	DAS	Breedon 89
		Bernasconi 88
		Antille 87
		Bernasconi 87
CERN-UA-007	CALO	Pare 90
CERN-UA-008	UA2	Bonino 88
	WIRE	Bonino 88
?	OTHER	Lyons 87

CERN-PS

CERN-PS-136	CERN-MUNICH	Rybicki 86
CERN-PS-137	DAS	Delesquen 89
		Fujisaki 88
		Delesquen 85
CERN-PS-159	SPEC	Pigot 85
CERN-PS-160	RMS	Candlin 88
CERN-PS-166	SPEC	Bertini 84
CERN-PS-174	CNTR	Gorringe 85
CERN-PS-180	HLBC-BEBC	Angelini 86
CERN-PS-181	CHARM	Bergsma 88
CERN-PS-191	CALO	Bernardi 88
		Bernardi 86
		Bernardi 85
CERN-PS-196	STRC	Balestra 86B
CERN-T-227	HBC-2M	Hemingway 84
CERN-T-237	HBC-2M	Markytan 89
CERN-T-239	HBC-2M	Cresti 86
CERN-T-243	HBC-BEBC	Chakrabarti 85
CERN-T-250	HBC-2M	Cresti 86
?	CNTR	Bertin 88
	DBC-2M	Stopa 87

CERN-PS

		Boos 86B
	EMUL	Shivpuri 86
		Azimov 85
		Claesson 85
	HBC-2M	Karnaukhov 87
		Karnaukhov 86
	HBC-81CM	Banerjee 86C
		Banerjee 85
—	EMUL	Azimov 85G

CERN-SC

CERN-IS-010	SPEC	Reesager 90
CERN-SC-094	OMICRON	Felipcic 89
		Kernel 89
		Kernel 89B
?	SPEC	Kristiansson 85

CERN-SPS

CERN-EMU-001	EMUL	Adamovich 89
		Adamovich 89C
		Adamovich 89D
		Adamovich 88
		Adamovich 88B
		Adamovich 88C
		Stenlund 88
		Tretyakova 88
CERN-EMU-002	PLASTIC	Price 88
		Gerbier 87
CERN-EMU-007	EMUL	Holynski 89
CERN-EMU-008	EMUL	Jain 90
		Jain 90B
		Sengupta 89
		Sengupta 89B
		Singh 89
		Sengupta 88
		Singh 88
		Singh 88B
		Jain 87
CERN-EMU-009	EMUL	Baroni 90
CERN-NA-001	SPEC	Amendolia 87
		Amendolia 87B
CERN-NA-002	EMC	Aubert 89
		Nagy 89
		Aubert 87
		Arneodo 85B
		Aubert 85B
		Aubert 85D
		Aubert 85E
CERN-NA-003	SPEC	Badier 86
		Badier 85
		Badier 85B
		Badier 85C
		Badier 85D
		Badier 85E
		Badier 85F
		Bardadinotwi 85
CERN-NA-004	SPEC	Benvenuti 89
		Benvenuti 89B
		Benvenuti 89C
		Benvenuti 87
		Benvenuti 87B
		Benvenuti 87C
		Benvenuti 87D
		Benvenuti 86
		Bari 85
		Benvenuti 85
		Kopp 85
CERN-NA-005	STRC	Allday 88
		Derado 88
		Dengler 86C

CERN-SPS

		Klar 84
CERN-NA-007	SPEC	Capraro 87
		Amendolia 86
		Amendolia 86B
		Amendolia 85
CERN-NA-009	EMC	Derado 90
		Arneodo 89
		Nagy 89
		Arneodo 88B
		Arneodo 87
		Arneodo 87C
		Arneodo 86C
		Arneodo 86D
		Arneodo 86E
		Arneodo 86H
		Aubert 86C
		Arneodo 85
		Arneodo 85B
		Aubert 85
		Aubert 85C
		Aubert 84C
CERN-NA-010	SPEC	Bordalo 88
		Guanziroli 88
		Bordalo 87
		Bordalo 87B
		Falciano 86
		Grossmanhand 86
		Betev 85
		Betev 85B
		Ereditato 85
		Falciano 85
CERN-NA-011	ACCMOR	Becker 87
		Palka 87
		Palka 87B
		Dijkstra 86
		Dijkstra 86C
		Dijkstra 86D
		Bailey 85
		Bailey 85B
		Bailey 85C
CERN-NA-012	GAMS-4000	Boutemeur 89
		Boutemeur 88
		Alde 87D
		Alde 86
CERN-NA-012-2	GAMS-4000	Alde 88B
		Alde 88E
		Iddir 88
		Alde 87
		Alde 87C
CERN-NA-014	SPEC	Alvarez 90
		Alvarez 90B
		Alvarez 90C
		Wormser 89B
		Auge 86
		Auge 86B
		Barate 86
		Astbury 85
CERN-NA-014-2	SPEC	Wormser 89
		Roudeau 88
		Barate 86B
CERN-NA-016	EHS	Aguilarbenit 85F
	HBC-LEBC-RAP	Aguilarbenit 85F
CERN-NA-022	EHS	Ajinenko 90
		Ajinenko 90B
		Agababyan 89
		Aivazyan 89
		Ajinenko 89
		Ajinenko 89B
		Ajinenko 89C
		Ajinenko 89D
		Ajinenko 89E
		Adamus 88
		Adamus 88B
		Adamus 88C
		Adamus 88F

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.

CERN-SPS

		Atkinson 85C
		Atkinson 85D
		Atkinson 85E
		Atkinson 85F
		Atkinson 84F
CERN-WA-058		
	EMUL	Forino 87
		Adamovich 86E
	OMEGAPRIME	Forino 87
		Adamovich 86E
CERN-WA-059		
	HLBC-BEBC	Aliport 89
		Guy 89
		Marage 89
		Matsinos 89
		Wittek 89
		Wittek 88
		Marage 87
		Varvell 87
		Wittek 87
		Marage 86
		Baton 85
		Fitch 85
CERN-WA-062		
	SPEC	Bourquin 86
		Biagi 85
CERN-WA-064		
	SPEC	Belkacem 85
CERN-WA-066		
	HLBC-BEBC-HYB	Talebzadeh 87
		Grassler 86
		Coopersarkar 85
		Coopersarkar 85B
CERN-WA-067		
	OMEGAPRIME	Booth 86
		Booth 85
CERN-WA-069		
	OMEGA	Apsimon 90
		Apsimon 89
		Dieter 89
		Holzkamp 88
		Korsgen 88
		Rotscheidt 88
		Soldnerrembo 87
CERN-WA-070		
	OMEGA	Bonvin 90
		Bonesini 89
		Bonesini 89B
		Bonvin 89
		Bonesini 88
		Bonesini 88B
		Bonesini 87
CERN-WA-071		
	OMEGAPRIME	Adamovich 86B
CERN-WA-072		
	OMEGAPRIME	Abreu 85
CERN-WA-074		
	OMEGA	Armstrong 87C
		Armstrong 86F
		Armstrong 85
CERN-WA-075		
	EMUL	Aoki 89
		Romano 89
		Aoki 88
		Aoki 87
		Arnold 87B
		Albanese 85
	SPEC	Arnold 87B
CERN-WA-076		
	OMEGA	Armstrong 90
		Armstrong 89
		Armstrong 89B
		Armstrong 89C
		Armstrong 89D
		Armstrong 89E
		Armstrong 89F
		Armstrong 88
		Armstrong 87
		Armstrong 86
		Armstrong 86B
		Armstrong 86D
		Armstrong 86E
		Vassiliadis 85
CERN-WA-077		
	OMEGAPRIME	Benayoun 87B

CERN-SPS

		Benayoun 86
CERN-WA-078		
	SPEC	Catanesi 89
		Catanesi 88
		Cobbaert 88
		Cobbaert 88B
		Cobbaert 87B
		Catanesi 86
CERN-WA-080		
	PLASTIC-BALL	Albrecht 90C
		Albrecht 89D
		Albrecht 89M
		Lund 89
		Albrecht 88
		Albrecht 88B
		Franz 88B
		Lohner 88
		Lund 88
		Otterlund 88B
		Schmidt 88
		Sorensen 88
		Albrecht 87
		Schmidt 87
CERN-WA-085		
	OMEGAPRIME	Abatzis 90
?		
	CALO	Muraki 84
	CNTR	Bertin 86
	EMUL	Ahmad 90
		Tariq 90
		Ahmad 89
		Ardito 87
		Ahrar 86
		Ahmad 85B
		Muraki 84
	PLASTIC	Brechtmann 88B
		Hoffmann 88
—		
	MANY	Ritter 88
	PLASTIC	Brechtmann 88

CESR

CESR-CLEO		
	CLEO	Alexander 90
		Avery 90
		Bortoletto 90
		Bowcock 90
		Alam 89
		Alam 89B
		Alexander 89
		Artuso 89
		Avery 89B
		Bebek 89
		Bortoletto 89
		Bortoletto 89B
		Bowcock 89
		Bowcock 89B
		Chen 89
		Chen 89B
		Chen 89C
		Drell 89
		Fulton 89
		Fulton 89B
		Halling 89
		Jensen 89
		Kreinick 89
		Miller 89
		Avery 88
		Bortoletto 88
		Bowcock 88
		Haas 88
		Alam 87
		Alam 87B
		Avery 87
		Baringer 87
		Bartoletto 87
		Bean 87
		Bean 87B
		Bebek 87
		Bebek 87B
		Behrends 87
		Bowcock 87
		Csorna 87
		Csorna 87B
		Gentile 87

CESR

		Alam 86
		Bartoletto 86
		Bean 86
		Bebek 86
		Besson 86
		Bowcock 86
		Csorna 86
		Haas 86
		Heltsley 86
		Avery 85
		Behrends 85
		Behrends 85B
		Besson 85
		Bowcock 85
		Chen 85
		Csorna 85
		Haas 85
		Mestayer 85
CESR-CUSB		
	CUSB	Franzini 87
		Tuts 87
		Mageras 86
		Han 85
		Lovelock 85
CESR-CUSB-II		
	CUSB-II	Kaarsberg 89
		Kaarsberg 87

CIT-PELLETRON

—		
	PLASTIC	Savage 88C
		Savage 86B

COSM

UNDERGROUND-FREJUS		
	FREJUS	Berger 89B
		Longuemare 89
		Perdereau 89
		Perdereau 89B
		Longuemare 88
		Berger 86C
		Berger 86D
UNDERGROUND-IMB		
	IMB	Gajewski 89
		Losecco 89
		Bionta 88
		Bionta 87B
		Losecco 87
		Losecco 87B
		Losecco 85
		Losecco 85B
UNDERGROUND-KAMIOKA-I		
	KAMIOKANDE-I	Oyama 86
UNDERGROUND-KAMIOKA-II		
	KAMIOKANDE-II	Hirata 90
		Hirata 90B
		Hirata 89
		Hirata 89B
		Hirata 89C
		Hirata 89D
		Suzuki 89
		Takita 89B
		Totsuka 89B
		Hirata 88B
		Hirata 88C
		Hirata 88D
		Hirata 88E
		Zhang 88
UNDERGROUND-LSD		
	LSD	Aglietta 86B
		Battistoni 86C
UNDERGROUND-MACRO		
	EAS-TOP	Bellotti 89E
	MACRO	Bellotti 89C
		Bellotti 89E
		Bellotti 89F
		Bellotti 89H
		Klein 89B
UNDERGROUND-NUSEX		
	NUSEX	Aglietta 89
		Calicchio 87
		Dadykin 87
		Battistoni 86B
		Battistoni 85

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.

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.

FNAL-TEV

FNAL-400	SPEC	Shipbaugh 88B
		Coteus 87
		Coteus 87B
		Cumalat 87
		Cumalat 87B
		Diesburg 87
		Filaseta 87B
		Shipbaugh 87
FNAL-508	EMUL	Abduzhamilov 89
		Abduzhamilov 88B
		Abduzhamilov 88C
		Barbier 88
		Abdurazakova 87
		Abduzhamilov 87
FNAL-516	TPS	Sliwa 83
FNAL-557	FMPS	Gomez 86
		Gomez 86B
FNAL-581-704	CALO	Akchurin 89
		Underwood 89
	SPEC	Akchurin 89
		Underwood 89
FNAL-605	SPEC	Brown 89
		Jaffe 89
		Yoshida 89
		Jaffe 88
		Brown 86
		Brown 86B
		Crittenden 86
		Hsiung 85
FNAL-621	WIRE	Grossman 87
FNAL-632	HLBC-15FT-HYB	Aderholz 89
FNAL-672	FMPS	Kartik 90
		Stewart 90
		De 89
		Gomez 86
FNAL-691	TPS	Anjos 90
		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	SPEC	Bonner 88B
FNAL-706	FMPS	De 89
FNAL-711	CALO	Streets 89
	SPEC	Streets 89
FNAL-723	OTHER	Reiner 86
FNAL-731	SPEC	Patterson 90
		Yamanaka 90
		Papadimitrio 89
		Winstein 89
		Yamanaka 89
		Gibbons 88
		Hsiung 88
FNAL-743	FMPS	Ammar 88B
		Ammar 87
		Ammar 86B
	HBC-LEBC-HYB	Ammar 88B
		Ammar 87
		Ammar 86B
FNAL-744	LAB-E	Foudas 88
		Foudas 88B
		Schumm 88
		Merritt 87
		Merritt 87B
FNAL-745	HLBC-1M	Kitagaki 88
FNAL-747	OTHER	Matis 88
		Matis 86
FNAL-750	EMUL	Shivpuri 87B
FNAL-751	EMUL	Jain 87B
		Jain 86
FNAL-770	LAB-E	Mishra 89B
FNAL-774	SPEC	Bross 89
?	SPEC	Mishra 90
		Guo 89
		Kaplan 89

FRAS-ADONE

—	CNTR	Barnabei 86
		Desantics 86

GANIL

—	COMB	Bougault 90

GRON-CYC

—	CNTR	Klinken 88

IND-CYC

—	CNTR	Krofcheck 87
		Sowinski 87
		Anderson 85B
		Goodman 85
		Krofcheck 85
		Wagner 85
		Wang 85D
		Warner 85
	SPEC	Dickey 85
		Glover 85B
		Rapaport 85
	WIRE	Meyer 85D
		Segel 85
		Wang 85D

INRU-240

—	CNTR	Dubar 89

ITEP

ITEP-E-741	HLBC-1M	Vorobiev 84C
ITEP-E-761	HLBC-1M	Barmin 88B
		Barmin 87
		Barmin 86
		Barmin 86C
		Barmin 85
ITEP-E-762	MTS	Abramov 89B
		Abramov 88
		Abramov 87
		Abramov 85
ITEP-E-763	HBC-2M	Andryakov 89
		Brovkin 89
		Drutskoy 89
		Drutskoy 88
		Perepelitsa 88
		Aleshin 87
		Aleshin 87C
		Aleshin 87D
		Andryakov 87
		Drutskoy 87
		Drutskoy 87B
		Mikhajlichen 87
		Perepelitsa 87
		Aleshin 86
		Aleshin 86B
		Aleshin 85
		Arutyunyants 85
		Aleshin 84
ITEP-E-771	BAS	Vorobiev 89B
		Vorobiev 88D
		Vorobiev 86B
		Bayukov 85C
		Bayukov 85D
		Bayukov 85E
		Bayukov 85F
		Gavrilov 85B
		Vorobiev 85B
ITEP-E-781	TISS-3	Arefiev 87
		Arefiev 86
		Arefiev 86B
ITEP-E-782	HBC-80CM	Abdullin 90
		Abdullin 89
		Abdullin 89B
		Abdullin 89C
		Abdullin 89D
		Abdullin 89E
		Abdullin 89F
		Abdullin 89G
		Abdullin 88
		Abdullin 88B
		Abdullin 88C
		Abdullin 88D
		Blinov 88
		Abdullin 87
		Blinov 87B
		Blinov 86
		Blinov 85
		Blinov 85D
		Blinov 84B
ITEP-E-784	MTS	Abramov 89C
ITEP-E-801	SPIN	Alekseev 89
		Alekseev 88B
		Budkovsky 85
ITEP-E-802	HLBC-DIANA	Demidov 89
		Barmin 86B
ITEP-E-804	TISS-3	Arefiev 90
		Arefiev 90B
ITEP-E-811	SPEC	Balats 87
		Berezin 86
ITEP-E-812	ISTRA-3	Burgov 87
		Buklej 86
		Burgov 86
		Burgov 85
ITEP-E-813	BAS	Vlasov 90
		Vorobiev 90
		Vorobiev 90B
		Bayukov 89
		Bayukov 89B
		Bayukov 89C
		Vlasov 89
		Vlasov 89B
		Vorobiev 89C
		Bayukov 88
		Vlasov 88
		Vorobiev 88E
		Vorobiev 87B
		Vorobiev 87C
		Bayukov 86
		Vlasov 86
		Vorobiev 86

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.

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

LENI-SC-108	DBC-35CM	Andreev 88
		Andreev 88B
		Andreev 87B
		Andreev 87C
		Andreev 85
		Andreev 84
?	CNTR	Gavrin 89
		Baturin 88
	EMUL	Filatov 88
	MEGA	Mitropolskii 87
	SPEC	Amelin 90
		Aleksandrov 89
		Gornov 88
		Abaev 87
		Aleksandrov 87B
		Gornov 87
		Gornov 87B
		Gornov 86B
	SPRK	Vovchenko 86
		Vovchenko 85

LVLN-CYC

—	OTHER	Michel 85

MANY

CERN-EMU-001	EMUL	Adamovich 90
?	MANY	Landsberg 89
		Zielinsky 88
--	EMUL	Takibaev 90
		Adamovich 89B
		Adamovich 89E
		Kumar 89
		May 89B
		Atageldieva 88
		Jain 88B
		Otterlund 88
		Holynski 86B
		Kim 85
	MANY	Bagdasaryan 90
		Chliapnikov 90
		Aliev 89
		Artuso 89B
		Barbarogalti 89
		Bartke 89
		Bethke 89B
		Buschbeck 89
		Eggert 89
		Fayard 89
		Franzini 89
		Gilman 89
		Guaraldo 89
		Guaraldo 89B
		Hayes 89
		Hayes 89B
		Hohler 89
		Holder 89
		Itep 89
		Jenni 89
		Kass 89
		Klein 89C
		Kopke 89
		Krauss 89
		Lach 89
		Lhote 89
		Littenberg 89
		London 89
		Marshall 89
		Maruyama 89
		Mattig 89
		Murtagh 89
		Panagiotou 89
		Peyaud 89
		Piccolo 89
		Schindler 89
		Tannenbaum 89
		Tosello 89
		Zhukin 89
		Albrow 88
		Arends 88

MANY

		Augustin 88C
		Barish 88
		Bertini 88B
		Bethke 88B
		Chan 88
		Desantics 88
		Dieckmann 88
		Franklin 88
		Gan 88
		Gan 88B
		Gidal 88C
		Grivaz 88
		Hitlin 88
		Hoffman 88
		Kamae 88
		Levy 88
		Liu 88
		Purohit 88
		Salvini 88
		Schmitz 88
		Sedlak 88
		Sugahara 88B
		Sulyaev 88
		Thorndike 88
		Toki 88B
		Totsuka 88
		Amaglobeli 87
		Arndt 87
		Baldin 87
		Bayman 87
		Berger 87B
		Bystricky 87
		Couchot 87
		Danilov 87
		Davier 87
		Fredriksson 87
		Gittelman 87
		Grab 87
		Hofmann 87
		Hofmann 87B
		Kolanoski 87
		Luth 87
		Prokoshkin 87
		Prokoshkin 87C
		Richard 87
		Schindler 87
		Schurman 87
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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.

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.

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 $^{+}, ^{++}, ^{0}, ^{-}, ^{--}$. For antiparticles, we use the actual charge of the antiparticle, as in $\overline{\Delta}^{--}$. All antiparticles are spelled with the suffix "`BAR`" appended to the English portion of the names, as "`PBAR`" for $\overline{p}$, "`DELTABAR(1900S31)0`" for $\overline{\Delta}(1900S_{31})^{0}$, and "`CHARMBAR`" for $\overline{charm}$, 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, "π^{+}'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

PARTICLENAME	COMPUTERNAME	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
($\pi^{\pm}$'s)	(PI+-S)	Zero or more $\pi^{\pm}$'s
(π^0's)	(PI0S)	Zero or more π^0's
(π's)	(PIONS)	Zero or more pions
(p's)	(PROTONS)	Zero or more protons
0 fragb	0FRAGB	Exactly zero beam fragments
0 γ	0GAMMA	Exactly zero γ's
0 htrack	0HTRACK	Exactly zero heavy tracks
0 jet	0JET	Exactly zero jets
0 K_S	0KS	Exactly zero K_S's
0 Λ	0LAMBDA	Exactly zero Λ's
0 $\overline{\Lambda}$	0LAMBDABAR	Exactly zero $\overline{\Lambda}$'s
0$\mu^{\pm}$	0MU+-	Exactly zero muons
0 ν_e	0NUE	Exactly zero ν_e's
0 $\overline{\nu}_e$	0NUEBAR	Exactly zero $\overline{\nu}_e$'s
0 ν_{μ}	0NUMU	Exactly zero ν_{μ}'s
0 $\overline{\nu}_{\mu}$	0NUMUBAR	Exactly zero $\overline{\nu}_{\mu}$'s
0 p	0P	Exactly zero protons
0 π	0PI	Exactly zero pions
0 π^+	0PI+	Exactly zero π^+'s
0 $\pi^{\pm}$	0PI+-	Exactly zero π^+'s and π^-'s
0 π^-	0PI-	Exactly zero π^-'s
0 π^0	0PI0	Exactly zero π^0's
0 strange	0STRANGE	Exactly zero strange particles
0 vee	0VEE	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
Ag*	AG*	Excited silver nucleus
^{104}Ag	AG104	Silver-104 radioactive isotope
^{104}Ag*	AG104*	Excited silver-104 radioactive isotope
^{105}Ag	AG105	Silver-105 radioactive isotope
^{108}Ag	AG108	Silver-108 nucleus
^{111}Ag	AG111	Silver-111 radioactive isotope
Al	AL	Aluminum nucleus
Al*	AL*	Excited aluminum nucleus
^{26}Al	AL26	Aluminum-26 nucleus

PARTICLENAME	COMPUTERNAME	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
^{71}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	
axion	AXION	Hypothesized light Higgs scalar boson
B	B	$B(5270)$ bottom meson
B(unspec)	B(UNSPEC)	Meson of unspecified mass with antibeauty quark
B^{*}	B*	Excited bottom meson
B^{*} (unspec)	B*(UNSPEC)	Vector beauty meson
B^{*+}	B*+	
B^{*-}	B*-	
B^{*0}	B*0	
$\overline{B}^{*0}$	B*BAR0	
B^{+}	B+	$B(5270)^{+}$ bottom meson
B^{-}	B-	$B(5270)^{-}$ bottom meson
B_S	B/S	Beauty-antistrange meson
$\overline{B}_S$	B/SBAR	Antibeauty-strange meson
B^{0}	B0	$B(5270)^{0}$ bottom meson
$b_1(1235)^{+}$	B1(1235)+	"Buddha" meson
$b_1(1235)^{-}$	B1(1235)-	"Buddha" meson
$b_1(1235)^{0}$	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
$\overline{\text{baryon}}$	BARYONBAR	Unspecified antibaryon
baryonium	BARYONIUM	Unspecified nucleon-antinucleon particle
baryonium($S = +1$)	BARYONIUM(S=+1)	Strange mesons that couple predominately to baryon-antibaryon
baryonium($S = -1$)	BARYONIUM(S=-1)	Strange mesons that couple predominately to baryon-antibaryon
$\overline{B}$	BBAR	$\overline{B}(5270)$ antibottom meson
$\overline{B}$(unspec)	BBAR(UNSPEC)	Meson of unspecified mass with beauty quark
$\overline{B}^{0}$	BBAR0	$\overline{B}(5270)^{0}$ antibottom meson
Be	BE	Beryllium nucleus
^{10}Be	BE10	Beryllium-10 nucleus
^{10}Be$_{SS}$	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

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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.

PARTICLENAME	COMPUTERNAME	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
$\overline{\text{bottom}}$	BOTTOMBAR	Unspecified particle with naked antibottom
b	BQ	Bottom quark
$\bar{b}$	BQBAR	Antibottom quark
b'	BQPRIME	Bottom quark of fourth generation
$\bar{b}'$	BQPRIMEBAR	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
$\overline{\text{charm}}$	CHARMBAR	Unspecified anticharmed particle
charmed-meson	CHARMED-MESON	Unspecified charmed meson
$\overline{\text{charmed-meson}}$	CHARMED-MESONBAR	Unspecified anticharmed meson
charmed-nucleus	CHARMED-NUCLEUS	Unspecified charmed nucleus
χ(unspec)	CHI(UNSPEC)	Unspecified radiative decay product of $\psi(2S)$
χ_b(unspec)	CHI/B(UNSPEC)	Bottomonium meson
$\chi_{b0}(1P)$	CHI/B0(1P)	Bottomonium meson
$\chi_{b0}(2P)$	CHI/B0(2P)	Bottomonium meson
$\chi_{b1}(1P)$	CHI/B1(1P)	Bottomonium meson
$\chi_{b1}(2P)$	CHI/B1(2P)	Bottomonium meson
$\chi_{b2}(1P)$	CHI/B2(1P)	Bottomonium meson
$\chi_{b2}(2P)$	CHI/B2(2P)	Bottomonium meson
$\chi_c(3455)\dagger$	CHI/C(3455)	Radiative decay product of $\psi(2S)$

PARTICLENAME	COMPUTERNAME	EXPLANATION
χ_c(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}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	`C0`	Cobalt nucleus
^{54}Co	`C054`	Cobalt-54 nucleus
^{55}Co	`C055`	Cobalt-55 nucleus
^{56}Co	`C056`	Cobalt-56 nucleus
^{57}Co	`C057`	Cobalt-57 nucleus
^{58}Co	`C058`	Cobalt-58 nucleus
^{59}Co	`C059`	Cobalt-59 nucleus
^{60}Co	`C060`	Cobalt-60 nucleus
^{61}Co	`C061`	Cobalt-61 nucleus
^{62}Co	`C062`	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}Cu*	`CU65*`	Excited copper-65 nucleus
^{67}Cu	`CU67`	Copper-67 nucleus
D	`D`	D^+ or D^0 charmed meson
D(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
$\bar{D}^*(2010)^0$	`D*BAR(2010)0`	Excited anticharmed nonstrange meson
$\bar{D}^*(2150)^0$†	`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(unspec)$^+$	`D/S(UNSPEC)+`	Unspecified charmed positive strange meson
D_S^*	`D/S*`	Was $F^*(2140)$. Excited charmed strange meson
$D_S^*(2547)^+$†	`D/S*(2547)+`	
$D_S^*(2547)^-$†	`D/S*(2547)-`	
$D_S^*(2790)^+$	`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`	
$\bar{D}_1(2420)^0$	`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.

PARTICLENAME	COMPUTERNAME	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
$\overline{\text{deuteron}}$	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
d	DQ	Down quark
$\overline{d}$	DQBAR	Antidown quark
Dy	DY	Dysprosium nucleus
^{157}Dy	DY157	Dysprosium-157 radioactive isotope
^{163}Dy	DY163	Dysprosium-163 radioactive isotope
^{163}Dy*	DY163*	Excited dysprosium-163 radioactive isotope
e^{*+}	E*+	Excited positron
$e^{*\pm}$	E*+-	Excited positron or electron
e^{*-}	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 $\iota(1440)$ - glueball candidate
η_b	ETA/B	Lowest mass $J^P = 0^-$ $b\overline{b}$ 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 $q\overline{q}$ or qqq model
exotic-meson	EXOTIC-MESON	Reported manifestly exotic $\overline{\Lambda}\Delta$ meson
exotic-nucleon	EXOTIC-NUCLEON	Cannot be formed of qqq
$f_0(1240)$	F0(1240)	Was $g_S(1240)$
$f_0(1400)$	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 $K\overline{K}$ 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)	

PARTICLENAME	COMPUTERNAME	EXPLANATION
$f_4(2050)$	F4(2050)	Was $h(2030)$. $I = 0$, $J^P = 4^+$ meson resonance
$f_4(2220)$	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	FRAGT	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
gluinium	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
hadron(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
$^3\overline{\text{He}}$	HE3BAR	Antihelium-3 nucleus
^{4}He	HE4	Helium-4 nucleus
^{5}He	HE5	Helium-5 nucleus
^{5}He$_S$	HE5/S	Helium-5 hypernucleus with strangeness=−1
^{6}He	HE6	Helium-6 nucleus
^{6}He$_{SS}$	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±	HEAVY-LEPTON+	Unspecified charged heavy lepton
heavy-lepton$^-$	HEAVY-LEPTON-	Unspecified negative heavy lepton
heavy-lepton^0	HEAVY-LEPTON0	Unspecified neutral heavy lepton
$\overline{\text{heavy-lepton}}^0$	HEAVY-LEPTONBAR0	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
^{196}Hg	HG196	Mercury-196 nucleus
higgs	HIGGS	Higgs boson
higgs$^+$	HIGGS+	Positive Higgs boson
higgs$^\pm$	HIGGS+-	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.

PARTICLENAME	COMPUTERNAME	EXPLANATION
higgs⁻	HIGGS-	*Negative Higgs boson*
higgsino	HIGGSINO	*Spin-1/2 supersymmetric partner of any Higgs boson*
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
$\overline{\text{hyperon}}$	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}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^*(unspec)	K*(UNSPEC)	Unspecified K^*
K^*(unspec)$^+$	K*(UNSPEC)+	Unspecified K^{*+}
K^*(unspec)$^-$	K*(UNSPEC)-	Unspecified K^{*-}
K^*(unspec)^0	K*(UNSPEC)0	Unspecified K^{*0}
$\overline{K}^*(1370)^0$	K*BAR(1370)0	
$\overline{K}^*(1680)^0$	K*BAR(1680)0	
$K^*(892)$	K*BAR(892)	
$\overline{K}^*(892)^0$	K*BAR(892)0	
$\overline{K}^*$(unspec)^0	K*BAR(UNSPEC)0	Unspecified $\overline{K}^{*0}$
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)-	
$\overline{K}_0^*(1430)^0$	K0*BAR(1430)0	Was $\kappa(1350)$. Claimed different than $K^*(1430)$
$\overline{K}_0^*(1950)^0$	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 $Q(1400)^0$
$\overline{K}_1(1270)^0$	K1BAR(1270)0	Was $\overline{Q}_1(1280)^0$
$\overline{K}_1(1400)^0$	K1BAR(1400)0	Was $\overline{Q}_1(1400)^0$
$K_2^*(1430)^+$	K2*(1430)+	
$K_2^*(1430)^-$	K2*(1430)-	
$K_2^*(1430)^0$	K2*(1430)0	
$\overline{K}_2^*(1430)^0$	K2*BAR(1430)0	
$\overline{K}_2^*(1980)^0$	K2*BAR(1980)0	
$K_3^*(1780)^+$	K3*(1780)+	
$K_3^*(1780)^-$	K3*(1780)-	
$K_3^*(1780)^0$	K3*(1780)0	
$\overline{K}_3^*(1780)^0$	K3*BAR(1780)0	

PARTICLENAME	COMPUTERNAME	EXPLANATION
$K_4^*(2045)^+$	K4*(2045)+	
$K_4^*(2045)^-$	K4*(2045)-	
$K_4^*(2045)^0$	K4*(2045)0	
$\overline{K}_4^*(2045)^0$	K4*BAR(2045)0	
$\overline{K}_5^*(2380)^0$	K5*BAR(2380)0	
kaon	KAON	Kaon or antikaon of unspecified charge
$\overline{K}$	KBAR	K^- or $\overline{K}^0$ meson
$\overline{K}^0$	KBAR0	Ordinary $\overline{K}^0$ 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)	
^{38}KK	KK38	Potassium-38 nucleus – note name is not same as chemical symbol
^{40}KK	KK40	Potassium-40 nucleus – note name is not same as chemical symbol
^{42}KK	KK42	Potassium-42 nucleus – note name is not same as chemical symbol
^{43}KK	KK43	Potassium-43 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
Kr	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	Lantanium-132 radioactive isotope
^{139}La	LA139	Lanthanum-139 nucleus
Λ	LAMBDA	Ordinary Λ hyperon
$\Lambda(1405\,S_{01})$	LAMBDA(1405S01)	
$\Lambda(1520\,D_{03})$	LAMBDA(1520D03)	
$\Lambda N(2130\,^3S_1)^+$†	LAMBDA-N(2130/3S1)+	$S=-1$ *dibaryon resonance*
Λ_c^+	LAMBDA/C+	$\Lambda_c(2281)^+$ $I=0$ charmed baryon
$\overline{\Lambda}_c^-$	LAMBDA/CBAR-	$\overline{\Lambda}_c(2281)$ $I=0$ charmed antibaryon
$\overline{\Lambda}$	LAMBDABAR	Ordinary $\overline{\Lambda}$ antihyperon
lepton-quark	LEPTO-QUARK	
ℓ	LEPTON	Unspecified lepton
ℓ^+	LEPTON+	Unspecified positive lepton
$\ell^\pm$	LEPTON+-	Unspecified charged lepton
ℓ^-	LEPTON-	Unspecified negative lepton
lepton-colored	LEPTON-COLOR	Unspecified lepton carrying color
ℓ^0	LEPTON0	Unspecified neutral lepton
$\overline{\ell}^0$	LEPTONBAR0	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}Li$_S$	LI7/S	Hypernucleus with Λ instead of neutron
^{8}Li	LI8	Lithium-8 nucleus
^{9}Li	LI9	Lithium-9 nucleus
^{9}Li$_S$	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	MESON0	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 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.

PARTICLENAME	COMPUTERNAME	EXPLANATION
^{56}Mn	MN56	Manganese-56 nucleus
Mo	MO	Molybdenum nucleus
^{100}Mo	MO100	Molybdenum-100 nucleus
^{90}Mo	MO90	Molybdenum-90 radioactive isotope
^{90}Mo*	MO90*	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
μ^{*+}	MU*+	Excited μ^+
$\mu^{*\pm}$	MU*+-	Excited charged muon
μ^{*-}	MU*-	Excited μ^-
μ^+	MU+	Ordinary μ^+ lepton
$\mu^\pm$	MU+-	Ordinary charged muon
μ^-	MU-	Ordinary μ^- lepton
muonium	MUEATOM	μ^+e^- atom
$\overline{\text{muonium}}$	MUEATOMBAR	μ^-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 $\eta(549)$
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[$K^\pm$]	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[$\overline{\Lambda}$]	MULT(LAMBDABAR)	Multiplicity distribution for $\overline{\Lambda}$
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[$\overline{p}$]	MULT(PBAR)	Multiplicity distribution for antiproton
mult[π^+]	MULT(PI+)	Multiplicity distribution for π^+
mult[$\pi^\pm$]	MULT(PI+-)	Multiplicity distribution for π^+ or π^-
mult[π^-]	MULT(PI-)	Multiplicity distribution for π^-
mult[π^0]	MULT(PI0)	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

PARTICLENAME	COMPUTERNAME	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	
$N(1520\,B)^+$†	N(1520B)+	Bump in production experiment
$N(1680\,F_{15})^+$	N(1680F15)+	
$N(1680\,F_{15})^0$	N(1680F15)0	
$N(1700\,B)^+$†	N(1700B)+	Bump in production experiment
$N(2100\,B)^+$†	N(2100B)+	
n(spect)	N(SPECT)	Spectator neutron
$N^*(\text{unspec})^+$	N*(UNSPEC)+	I = unspecified, $S = 0$ baryon of unspecified mass
$N^*_{5/2}(1380)^{+++}$†	N*5/2(1380)+++	Exotic baryon
$N^*_{5/2}(1390)^{+++}$†	N*5/2(1390)+++	$I = 5/2$ nonstrange baryon (exotic)
$N^*_{5/2}(1480)^{+++}$†	N*5/2(1480)+++	$I = 5/2$ nonstrange baryon (exotic)
$N^*_{5/2}(1650)^{+++}$†	N*5/2(1650)+++	$I = 5/2$, $S = 0$ baryon (exotic)
$N^*_{5/2}(1760)^{+++}$†	N*5/2(1760)+++	Exotic baryon
$N^*_{5/2}(2070)^{+++}$†	N*5/2(2070)+++	Exotic baryon
$N^*_{5/2}(\text{unspec})^{+++}$†	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}Nb*	NB92*	Excited niobium-92 radioactive isotope
^{93}Nb	NB93	Niobium-93 nucleus
$\overline{n}$	NBAR	Antineutron
$\overline{N}N(I = 0)$	NBARN(I=0)	$\overline{N}N$ $I = 0$ initial state (and elastic final state)
$\overline{N}N(I = 1)$	NBARN(I=1)	$\overline{N}N$ $I = 1$ 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}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
$NN(2900)^1H_6{}^{++}$†	NN(2900/1H6)++	Dibaryon resonance
$NN(2900)^1H_6{}^0$†	NN(2900/1H6)0	Dibaryon resonance
nonres	NONRES	Unspecified nonresonant state
^{237}Np	NP237	Neptunium-237 nucleus
^{237}Np*	NP237*	Excited neptunium-237 nucleus
$N\phi(1950)$†	NPHI(1950)0	Reported baryon with $s\overline{s}$ and 3 other quarks
ν	NU	Unspecified neutrino or antineutrino
ν^*	NU*	Excited generic neutrino. Different with *heavy-lepton*^{0}
$\overline{\nu}^*$	NU*BAR	Excited generic anti-neutrino. Different with *heavy-lepton*^{0}
$\overline{\nu}$	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
$\overline{\nu}_e$	NUEBAR	Antielectron neutrino
ν_μ	NUMU	Muon neutrino
$\overline{\nu}_\mu$	NUMUBAR	Antimuon 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.

ParticleName	ComputerName	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
$^{12}O^*$	O12*	Excited oxygen-12 nucleus
^{14}O	O14	Oxygen-14 nucleus
^{15}O	O15	Oxygen-15 nucleus
^{16}O	O16	Oxygen-16 nucleus
$^{16}O^*$	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 = 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
$\omega_3(1670)$	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
$^{202}Pb^*$	PB202*	Excited lead-202 radioactive isotope
^{203}Pb	PB203	Lead-203 radioactive isotope
$^{204}Pb^*$	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	Palladium nucleus
^{100}Pd	PD100	Palladium-100 radioactive isotope
Ph	PH	Phosphorus nucleus – note name is not same as chemical symbol
^{30}Ph	PH30	Phosphorus-30 nucleus – note name is not same as chemical symbol
ϕ	PHI(1020)	
$\phi(1680)$	PHI(1680)	
$\phi_3(1850)$	PHI3(1850)	Bump in K^+K^- mass
photino	PHOTINO	Spin-1/2 supersymmetric partner of the photon
π	PI	Pion of unspecified charge
π^+	PI+	Ordinary π^+ meson
$\pi^\pm$	PI+-	Ordinary π^+ or π^- meson
π^-	PI-	Ordinary π^- meson
π^0	PI0	Ordinary π^0 meson
$\pi_2(1670)^-$	PI2(1670)-	Was $A(1680)^-$
$\pi_2(1670)^0$	PI2(1670)0	Was $A(1680)^0$
$\text{atom}(\pi\mu)$	PIMUATOM	π-μ coulomb bound state
$\pi\pi(L=0)$	PIPI(L=0)	$\pi\pi$ S-wave state
pomeron	POMERON	
positronium	POSITRONIUM	
positronium*	POSITRONIUM*	Excited positronium
Pr	PR	Praseodymium nucleus
$^{138}Pr^*$	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

PARTICLENAME	COMPUTERNAME	EXPLANATION
$\bar{q}$	QUARKBAR	Antiquark of charge 2/3
Rb	RB	Rubidium nucleus
^{81}Rb	RB81	Rubidium-81 radioactive isotope
^{81}Rb*	RB81*	*Excited rubidium-81 radioactive isotope*
Re	RE	Rhenium nucleus
Rb	RH	Rhodium nucleus
$\rho(1450)^0$	RHO(1450)0	
$\rho(1700)$	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}Ru*	RU100*	Excited ruthenium-100 nucleus
^{103}Ru	RU103	Ruthenium-103 radioactive isotope
S	S	Sulfur nucleus
^{28}S	S28	Sulfur-28 nucleus
^{28}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
^{110}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
Se*	SE*	Excited selenium nucleus
^{73}Se	SE73	Selenium-73 radioactive isotope
^{76}Se	SE76	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}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
$\Sigma_c(2510)^{++}$†	SIGMA/C(2510)++	Charmed baryon
$\bar{\Sigma}_c(2455)^{--}$	SIGMA/CBAR(2455)--	$I = 1$ charmed antibaryon
$\bar{\Sigma}_c(2455)^0$	SIGMA/CBAR(2455)0	$I = 1$ charmed antibaryon
Σ^0	SIGMA0	Ordinary Σ^0 hyperon
$\bar{\Sigma}(1385\,P_{13})^+$	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.*

PARTICLENAME	COMPUTERNAME	EXPLANATION
$\bar{\Sigma}(1385\,P_{13})^-$	SIGMABAR(1385P13)-	
$\bar{\Sigma}(1385\,P_{13})^0$	SIGMABAR(1385P13)0	
$\bar{\Sigma}^+$	SIGMABAR+	Ordinary $\bar{\Sigma}^+$ antihyperon
$\bar{\Sigma}^-$	SIGMABAR-	Ordinary $\bar{\Sigma}^-$ antihyperon
$\bar{\Sigma}^0$	SIGMABAR0	Ordinary $\bar{\Sigma}^0$ antihyperon
$\tilde{\ell}$	SLEPTON	Spin-0 supersymmetric lepton partner
$\tilde{\ell}^+$	SLEPTON+	Positive spin-0 supersymmetric lepton partner
$\tilde{\ell}^-$	SLEPTON-	Negative spin-0 supersymmetric lepton partner
Sm	SM	Samarium nucleus
$^{150}\mathrm{Sm}$	SM150	Samarium-150 nucleus
$^{152}\mathrm{Sm}$	SM152	Samarium-152 nucleus
$^{152}\mathrm{Sm}^*$	SM152*	Excited samarium-152 nucleus
$\tilde{\mu}^+$	SMUON+	Spin-0 supersymmetric partner of μ^+
$\tilde{\mu}^-$	SMUON-	Spin-0 supersymmetric partner of μ^-
Sn	SN	Tin nucleus
Sn^*	SN*	Excited tin nucleus
$^{112}\mathrm{Sn}$	SN112	Tin-112 nucleus
$^{115}\mathrm{Sn}$	SN115	Tin-115 nucleus
$^{116}\mathrm{Sn}$	SN116	Tin-116 nucleus
$^{116}\mathrm{Sn}^*$	SN116*	Excited tin-116 nucleus
$^{118}\mathrm{Sn}$	SN118	Tin-118 nucleus
$^{120}\mathrm{Sn}$	SN120	Tin-120 nucleus
$^{122}\mathrm{Sn}$	SN122	Tin-122 nucleus
$^{124}\mathrm{Sn}$	SN124	Tin-124 nucleus
$\tilde{\nu}$	SNU	Spin-0 supersymmetric partner of the neutrino
$\bar{\tilde{\nu}}$	SNUBAR	Spin-0 supersymmetric partner of the antineutrino
$\tilde{\nu}_e$	SNUE	Spin-0 supersymmetric partner of the ν_e
$\bar{\tilde{\nu}}_e$	SNUEBAR	Spin-0 supersymmetric partner of the $\bar{\nu}_e$
$\tilde{\nu}_\mu$	SNUMU	Spin-0 supersymmetric partner of ν_μ
$\bar{\tilde{\nu}}_\mu$	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
$\tilde{q}$	SQUARK	Spin-0 supersymmetric quark partner
$\bar{\tilde{q}}$	SQUARKBAR	Spin-0 supersymmetric antiquark partner
star	STAR	High charged multiplicity final state
$\tilde{\tau}^+$	STAU+	Spin-0 supersymmetric partner of τ^+ lepton
$\tilde{\tau}^-$	STAU-	Spin-0 supersymmetric partner of τ^- lepton
strange	STRANGE	Unspecified strange particle
supernucleus	SUPERNUCLEUS	Super heavy nucleus
Ta	TA	Tantalum nucleus
$^{181}\mathrm{Ta}$	TA181	Tantalum-181 nucleus
tachyon$^+$	TACHYON+	
tachyon$^-$	TACHYON-	
τ^*	TAU*	Excited τ of unspecified charge
τ^{*+}	TAU*+	Excited τ^+
τ^{*-}	TAU*-	Excited τ^-
τ^+	TAU+	Ordinary τ^+ lepton
$\tau^\pm$	TAU+-	Ordinary τ lepton of unspecified charge
τ^-	TAU-	Ordinary τ^- lepton
Tb	TB	Terbium nucleus
$^{149}\mathrm{Tb}$	TB149	Terbium-149 nucleus
$^{159}\mathrm{Tb}$	TB159	Terbium-159 nucleus
Tc	TC	Technetium nucleus
$^{93}\mathrm{Tc}$	TC93	Technetium-93 radioactive isotope
$^{93}\mathrm{Tc}^*$	TC93*	Excited technetium-93 radioactive isotope
$^{94}\mathrm{Tc}$	TC94	Technetium-94 radioactive isotope
$^{94}\mathrm{Tc}^*$	TC94*	Excited technetium-94 radioactive isotope
$^{95}\mathrm{Tc}$	TC95	Technetium-95 radioactive isotope
$^{98}\mathrm{Tc}$	TC98	Technetium-98 nucleus
Te	TE	Tellurium nucleus
$^{117}\mathrm{Te}$	TE117	Tellurium-117 radioactive isotope
$^{124}\mathrm{Te}$	TE124	Tellurium-124 nucleus
$^{125}\mathrm{Te}$	TE125	Tellurium-125 nucleus
$^{128}\mathrm{Te}$	TE128	Tellurium-128 nucleus
$^{130}\mathrm{Te}$	TE130	Tellurium-130 nucleus
technipion$^+$	TECHNIPION+	Positive technicolor pion
technipion$^-$	TECHNIPION-	Negative technicolor pion
Th	TH	Thorium nucleus
$^{232}\mathrm{Th}$	TH232	Thorium-232 nucleus
Ti	TI	Titanium nucleus
$^{40}\mathrm{Ti}$	TI40	Titanium-40 nucleus
$^{40}\mathrm{Ti}^*$	TI40*	Excited titanium-40 nucleus
$^{46}\mathrm{Ti}$	TI46	Titanium-46 nucleus
$^{48}\mathrm{Ti}$	TI48	Titanium-48 nucleus
$^{198}\mathrm{Tl}$	TL198	Thallium-198 radioactive isotope
$^{198}\mathrm{Tl}^*$	TL198*	Excited thallium-198 radioactive isotope

ParticleName	ComputerName	Explanation
^{200}Tl	TL200	Thallium-200 radioactive isotope
Tm	TM	Thulium nucleus
top	TOP	Unspecified particle with naked top
$\overline{\text{top}}$	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
^{3}H	TRITIUM	Tritium nucleus
$\overline{\text{tritium}}$	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
$\Upsilon(10860)$	UPSI(10860)	
$\Upsilon(11020)$	UPSI(11020)	
$\Upsilon(1S)$	UPSI(1S)	
$\Upsilon(2S)$	UPSI(2S)	
$\Upsilon(3S)$	UPSI(3S)	
$\Upsilon(4S)$	UPSI(4S)	
Υ(unspec)	UPSI(UNSPEC)	Unspecified Υ particle
u	UQ	Up quark
$\bar{u}$	UQBAR	Antiup quark
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 $K^-p \to$ X
$X(1700)$	X(1700)	
$X(1935)^0$†	X(1935)0	Was $S(1935)^0$
$X(2200)$	X(2200)	
$X(3100)$	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
$X(3100)^{--}$	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	
Ξ^*(unspec)	XI*(UNSPEC)	I = 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
$\overline{\Xi}_c(2460)^-$	XI/CBAR(2460)-	Baryon with quark content usc

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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.

PARTICLENAME	COMPUTERNAME	EXPLANATION
$\Xi_c(2460)^0$	`XI/CBAR(2460)0`	Charmed strange antibaryon
Ξ^0	`XI0`	Ordinary Ξ^0 hyperon
$\bar{\Xi}(1530\,P_{13})^+$	`XIBAR(1530P13)+`	
$\bar{\Xi}(1530\,P_{13})^0$	`XIBAR(1530P13)0`	
$\bar{\Xi}^+$	`XIBAR+`	Ordinary $\bar{\Xi}^+$ antihyperon
$\bar{\Xi}^0$	`XIBAR0`	Ordinary $\bar{\Xi}^0$ antihyperon
Y^*(unspec)	`Y*(UNSPEC)`	I = unspecified, $S = -1$ baryon of unspecified mass
$Y^*(\text{unspec})^0$	`Y*(UNSPEC)0`	I = unspecified, $S = -1$ baryon of unspecified mass
Yb	`YB`	Ytterbium nucleus
Yt	`YT`	Yttrium nucleus – note name is not same as chemical symbol
^{84}Yt	`YT84`	Yttrium-84 radioactive isotope – note name is not same as chemical symbol
^{86}Yt	`YT86`	Yttrium-86 radioactive isotope – note name is not same as chemical symbol
^{87}Yt	`YT87`	Yttrium-87 radioactive isotope – note name is not same as chemical symbol
^{87}Yt*	`YT87*`	Excited yttrium-87 radioactive isotope – note name is not same as chemical symbol
^{89}Yt	`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
Zn	`ZN`	Zinc nucleus
^{62}Zn	`ZN62`	Zinc-62 nucleus
^{63}Zn	`ZN63`	Zinc-63 nucleus
^{65}Zn	`ZN65`	Zinc-65 nucleus
^{72}Zn	`ZN72`	Zinc-72 nucleus
Z'	`ZPRIME`	Additional Z-boson
Zr	`ZR`	Zirconium nucleus
^{86}Zr	`ZR86`	Zirconium-86 radioactive isotope
^{89}Zr	`ZR89`	Zirconium-89 radioactive isotope
^{90}Zr	`ZR90`	Zirconium-90 nucleus
^{92}Zr	`ZR92`	Zirconium-92 nucleus
^{94}Zr	`ZR94`	Zirconium-94 nucleus
^{96}Zr	`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	EXPLANATION
AERE-HELIOS-NS	HELIOS neutron source at Harwell
ANIK-MEA	MEA e^- linac at NIKHEF
ANL	Argonne (ZGS) proton synchrotron (12.7 GeV/c p_{lab})
BNL	Brookhaven (AGS) proton synchrotron (33 GeV/c p_{lab})
BONN	Bonn electron synchrotron (2.5 GeV/c p_{lab})
BONN-500	Bonn electron synchrotron (500 MeV/c p_{lab})
CERN-ISR	CERN proton-proton collider (62 GeV E_{cm})
CERN-LEAR	CERN low-energy antiproton ring
CERN-LEP	CERN large electron-positron collider (120 GeV E_{cm})
CERN-PBAR/P	CERN $\bar{p}p$ collider (540 GeV E_{cm})
CERN-PS	CERN proton synchrotron (28 GeV/c p_{lab})
CERN-SC	CERN synchrocyclotron (600 MeV T_{lab})
CERN-SPS	CERN super proton synchrotron (450 GeV/c p_{lab})
CESR	Cornell electron-positron storage ring (12 GeV E_{cm})
CIT-PELLETRON	California Institute of Technology 3-MeV Pelletron accelerator
COSM	Cosmic rays
COSM-CYGNUS-X-3	Local source of cosmic ray particles from direction of Cygnus X-3
COSM-HERCULES-X-1	Local source of cosmic ray particles from direction of Hercules X-1
COSM-LMC-X-4	Local source of cosmic ray particles from direction of LMC-X-4
COSM-SN1987A	Local source of cosmic ray particles from direction of SN 1987A
COSM-SUN	Local source of cosmic ray particles from direction of the Sun
DARE-NINA	Daresbury electron synchrotron (5.2 GeV/c p_{lab})
DARM-LINAC	Darmstadt 65 MeV/c p_{lab} linac
DESY	Hamburg Deutches electron synchrotron (7.5 GeV/c p_{lab})
DESY-DORIS-II	DESY DORIS upgraded in 1977 (11.2 GeV E_{cm})
DESY-PETRA	DESY electron-positron collider (40 GeV E_{cm})
DGSI	Darmstadt heavy ion facility
FNAL	FNAL proton synchrotron (500 GeV/c p_{lab})
FNAL-COLLIDER	FNAL $\bar{p}p$ collider (2000 GeV E_{cm})
FNAL-TEV	FNAL fixed target machine (1000 GeV)
FRAS-ADONE	Frascati electron-positron ring (3 GeV E_{cm})
GANIL	Two coupled isochronous cyclotrons for heavy ions
IND-CYC	Indiana University cyclotron facility
INRU-240	Cyclotron of Institute for Nuclear Research, Academy of Science Ukr. SSR
ITEP	ITEP Moscow proton synchrotron (7 GeV/c p_{lab})
JINR	JINR Dubna proton synchrotron (10 GeV/c p_{lab})
JINR-600	JINR Dubna synchrocyclotron (600 MeV T_{lab})
KEK-PF-LINAC	KEK electron linac (2.5 GeV) for photon factory and TRISTAN
KEK-PS	KEK proton synchrotron (12 GeV p_{lab})
KEK-TRISTAN	KEK electron-positron collider (64 GeV E_{cm})
KHAR	Electron linear accelerator (2 GeV p_{lab}) at Kharkov Physico-Technical Inst., Ukr. Acad. Sci.
LAMPF	Los Alamos meson/proton factory
LASER	Laser as a source of γ's
LBL-BEVALAC	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-CYC-184IN	LBL 184-inch cyclotron (934 MeV for ^{4} He). Shut down in 1987
LEBD-650	Lebedev Physics Inst. synchrotron (650 MeV/c p_{lab})
LEBD-PAHRA	Lebedev Physics Inst. 1.2 GeV electron synchrotron
LENI	Leningrad Inst. of Nucl. Phys. synchrocyclotron (1 GeV T_{lab})
LVLN-CYC	Isochronous cyclotron at University of Louvain
MANY	Used (rarely) for reviews and compilations
MANZ-LINAC	Electron LINAC at Mainz (300 MeV/c p_{lab})
MIT-BLA	MIT electron LINAC (780 MeV E_{lab})
MSU-CYC	Michigan State Univ. superconducting cyclotron to 40 MeV
MUNT	Accelerator of the Munich Technical University (Munich. FRG)
NBS-LINAC	Linear 100 MeV accelerator
NONE	No accelerator used
NOVO-VEPP-2M	Electron-positron storage ring at Novosibirsk (1.4 GeV E_{cm})
NOVO-VEPP-4	Electron-positron ring at Novosibirsk, also a synchrotron radiation source (7–10.4 GeV E_{cm})
ORSA	Orsay electron linear accelerator (2 GeV/c p_{lab})
ORSA-CYC	Orsay synchrocyclotron (150 MeV/c p_{lab})
ORSA-DCI	Orsay electron-positron storage ring (3.4 GeV E_{cm})
PSI	Schweizerische Inst. für Nuklearforschung (590 MeV T_{lab})
REACTOR	General nuclear reactor
SAAC-CYC	National Accelerator Center Cyclotron, South Africa
SACL	Saclay (Saturne) proton synchrotron (3 GeV/c p_{lab})
SACL-LINAC	Saclay electron LINAC
SACL-SATURNE-II	Saclay proton, deuteron, alpha accelerator (2.55 GeV T_{lab})
SERP	IHEP Serpukhov proton synchrotron (76 GeV/c p_{lab})
SIEG-BEVALAC	Accelerator at Siegen Univ. (FRG)
SLAC	Stanford electron linear accelerator (40 GeV/c p_{lab})
SLAC-NPI	Stanford nuclear physics injector
SLAC-PEP	Stanford electron-positron ring (30 GeV E_{cm})
SLAC-SLC	Stanford linear electron-positron collider (100 GeV E_{cm})
SLAC-SPEAR	Stanford electron-positron ring (8.4 GeV E_{cm})
TMSK	Tomsk electron synchrotron (1.5 GeV/c p_{lab})
TOKY	INS Tokyo electron synchrotron (1.3 GeV/c p_{lab})
TRIUMF	Canadian TRIangle University Meson Facility (520 MeV T_{lab})
VAN-DE-GRAAFF	General Van-de-Graaff accelerator
YERE-ARUS	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.

DETECTOR	ACCELERATOR	EXPLANATION
2-GAMMA	SLAC-PEP	System of forward detectors for studying mainly the 2-γ 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	
AMY	KEK-TRISTAN	High resolution lepton detector
ARGUS	DESY-DORIS	
ASP	SLAC-PEP	Anomalous single photon detector
ASTERIX	CERN-PS	Antiproton stop experiment with trigger on initial x rays
BAKSAN	UNDERGROUND	
BAS	ITEP	Spectrometer without magnetic field
BBR	COSM	Cosmic-ray facility at the Black Birch Range in New Zealand
BIS	SERP	JINR spectrometer, now at IHEP, Serpukhov
BIS-2	SERP	Upgrade of BIS
BIS-2M	SERP	Modification of BIS-2
CALLIOPE	CERN-LEAR	Magnetic spectrometer at LEAR
CALO	many	Calorimeter
CASCADE	SERP	Single crystal target, goniometer, magnetic spectrometer
CCM	FNAL-TEV	Chicago cyclotron magnet spectrometer
CDF	FNAL-COLLIDER	Collider detector at Fermilab
CDHS	CERN-SPS	CERN-Dortmund-Heidelberg-Saclay-Bologna neutrino detector at SPS (135 tons)
CELLO	DESY-PETRA	
CERN-MUNICH	CERN-PS	CERN-Max Planck I (Munich) spectrometer
CHARM	CERN-SPS	CERN-Hamburg-Amsterdam-Rome-Moscow neutrino detector
CLEO	CESR	Solenoidal magnetic spectrometer
CLOUD	many	Cloud chamber
CMD	NOVO-VEPP-2M	
CNTR	many	Counters (no chambers)
COMB	many	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
COVER	COSM	Shower detector at Baksan
CRYS-BALL	SLAC-SPEAR	Crystal ball
CRYS-BOX	LAMPF	Crystal array detector
CUSB	CESR	High resolution calorimeter
CUSB-II	CESR	Upgraded CUSB detector
CYCLOPS	FNAL	
CYGNUS	COSM	An air-shower array located around the end station of the LAMPF accelerator in Los Alamos. Uses the LAMPF-225 neutrino detector as a muon detector, with an effective area for muon detection of about 44 m^2.
DAS	many	Double arm spectrometer
DBC-12FT	ANL	Deuterium bubble chamber
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	Cosmic ray muon spectrometer
DELCO	SLAC-PEP	
DELOS	PSI	
DELPHI	CERN-LEP	LEP detector
DEUTRON-2	YERE	Modification of DEUTRON detector
DIOGENE	SACL-SATURNE-II	Pictorial drift chamber
DISC	JINR	
DISC-3	JINR	Double-arm magnetic spectrometer
DLS	LBL-BEVALAC	Double arm spectrometer
DM1	ORSA-DCI	Magnetic detector at Orsay
DM2	ORSA-DCI	Detecteur magnetique no. 2
EAS-TOP	COSM	Extended air shower detector on top of the Gran Sasso Mt., at the Gran Sasso National Laboratory, L'Aquila, Italy
EHS	CERN-SPS	European hybrid spectrometer
ELSSY	MIT-BLA	Electron spectrometer system
EMC	CERN-SPS	European muon collaboration
EMS	ANL	Effective mass spectrometer
EMUL	many	Emulsion. Also used for detectors like PLASTIC where tracks are "frozen" in a solid medium
EPICS	LAMPF	Energetic pion spectrometer and detection system
EPOS	DARM-LINAC	Electron-positron solenoid spectrometer
FANCY	KEK-PS	Forward and cylindrical detector system, large acceptance spectrometer covering both projectile and target regions
FAS-1	ITEP	
FLYSEYE	COSM	FLY'S EYE cosmic ray detector
FMPS	FNAL	Multiparticle spectrometer at Fermilab
FODS	SERP	Double-arm spectrometer
FREJUS	UNDERGROUND	Proton decay experiment, tracking calorimeter in the Alps

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	RHEL,SLAC	Hydrogen bubble chamber
HBC-80CM	ITEP,DESY,CERN-PS	Hydrogen bubble chamber
HBC-81CM	SACL	Hydrogen bubble chamber
HBC-BEBC	CERN-PS	
HBC-BEBC-HYB	CERN-PS	
HBC-LEBC-HYB	CERN-SPS	Little European bubble chamber with hybrid system
HBC-LEBC-RAP	CERN-SPS	Little European Bubble Chamber made of lexan
HBC-LUDMILA	SERP	Also known as DUBNA chamber, but at Serpukhov
HBC-LUDMILA-TST	SERP	Also known as DUBNA chamber, but at Serpukhov
HBC-MIRA	SERP	4.5m × 1.6m × 1.1m cold chamber
HEBC-50CM	ANL,ANL	Northwestern 50-cm helium bubble chamber at ANL
HEBC-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 × 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
ISTRA	SERP	
ISTRA-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
LAHRS	LAMPF	High resolution proton spectrometer
LAS	LAMPF	
LASS	SLAC	Large aperture solenoid spectrometer
LEPTON-F	SERP	
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	SLAC-SPEAR spectrometer system (not related to MARK-II)
MARK-J	DESY-PETRA	
MASPIC	JINR	
MD-1	NOVO-VEPP-4	
MEGA	LAMPF	Array of electron and photon spectrometers
MIS	SERP	Multiparticle spectrometer
MMS	FNAL	Multimuon 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
PI0SPEC	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	$4.7 \times 0.9 \times 0.8$ 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 filling 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-1	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.

DataDescriptor	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