

LA-3322-MS

290  
7-14-65

MASTER

**LOS ALAMOS SCIENTIFIC LABORATORY**  
LOS ALAMOS [REDACTED] **of the** [REDACTED] NEW MEXICO  
**University of California**

Bibliography of  
Cross Section and Scattering Data  
for the Reactions D + D and T + D

PATENT CLEARANCE OBTAINED. RELEASE TO  
THE PUBLIC IS APPROVED. PROCEDURES  
ARE ON FILE IN THE RECEIVING SECTION.

UNITED STATES  
ATOMIC ENERGY COMMISSION  
CONTRACT W-7405-ENG. 36

## **DISCLAIMER**

**This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency Thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.**

## **DISCLAIMER**

**Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.**

## LEGAL NOTICE

This report was prepared as an account of Government sponsored work. Neither the United States, nor the Commission, nor any person acting on behalf of the Commission:

A. Makes any warranty or representation, expressed or implied, with respect to the accuracy, completeness, or usefulness of the information contained in this report, or that the use of any information, apparatus, method, or process disclosed in this report may not infringe privately owned rights; or

B. Assumes any liabilities with respect to the use of, or for damages resulting from the use of any information, apparatus, method, or process disclosed in this report.

As used in the above, "person acting on behalf of the Commission" includes any employee or contractor of the Commission, or employee of such contractor, to the extent that such employee or contractor of the Commission, or employee of such contractor prepares, disseminates, or provides access to, any information pursuant to his employment or contract with the Commission, or his employment with such contractor.

This list of references has been prepared in response to a specific request and is confined to the limits of that request. It does not claim to be either an exhaustive or critical compilation and has not been edited, reviewed, or verified for accuracy. The inclusion of a particular reference to material is in no way to be construed as an endorsement of the information contained in that material.

Printed in USA. Price \$1.00. Available from the

Clearinghouse for Federal Scientific  
and Technical Information,  
National Bureau of Standards,  
U. S. Department of Commerce,  
Springfield, Virginia

LA-3322-MS  
UC-34, PHYSICS  
TID-4500 (42nd Ed.)

**LOS ALAMOS SCIENTIFIC LABORATORY**  
**LOS ALAMOS [REDACTED] of the [REDACTED] NEW MEXICO**  
**University of California**

Report written: March 9, 1965

Report distributed: July 7, 1965

**Bibliography of**  
**Cross Section and Scattering Data**  
**for the Reactions D + D and T+ D**

by

R. V. Winsor

**TIIIS PAGE  
WAS INTENTIONALLY  
LEFT BLANK**

## INTRODUCTION

References to cross section and scattering data for the D + D and D + T reactions for incident energies up to 1 Mev are presented. The report and journal literature since 1955 has been covered. Pertinent Los Alamos Scientific Laboratory reports have been included no matter what their age. Some references to classified literature have been included.

The references have been arranged alphabetically by first author or by corporate author and by title when there is more than one reference by any one author.

The source of the reference has been indicated in each case. Sources searched and the abbreviations used were:

ACR	Abstracts of Classified Reports
AECU-4246	Harris and Stearns bibliography
NSA	Nuclear Science Abstracts
PA	Physics Abstracts

**THIS PAGE  
WAS INTENTIONALLY  
LEFT BLANK**

A. I. Akhiezer and A. G. Sitenko.

DIFFRACTIVE SCATTERING OF FAST DEUTERONS.

Doklady Akad. Nauk SSSR. 107, 385-8 (1956) (in Russian)

Soviet Phys. (Doklady) 1, 180-3 (1956) (English Translation)

NSA 10:9653; NSA 12:5728

H. V. Argo, R. F. Taschek, et al.

CROSS SECTIONS OF THE D( $t, n$ )He<sup>4</sup> REACTION FOR 80 TO 1200-kev TRITONS.

LADC-1122 (AECU-1964; AECU-2006) n.d.

NSA 6:3390; NSA 6:3676

A. H. Armstrong, L. Cranberg, and R. L. Henkel.

NEUTRONS FROM THE D-D AND P-D REACTIONS.

Bull. Am. Phys. Soc. 1, 346 (1956)

AECU-4246

W. R. Arnold, J. A. Phillips, et al.

ABSOLUTE CROSS SECTION FOR THE REACTION T( $d, n$ )He<sup>4</sup> FROM 10 TO 120 kev.

LA-1479, Oct. 1952.

NSA 7:1791

W. R. Arnold, J. A. Phillips, et al.

CROSS SECTIONS FOR THE D( $d, n$ )He<sup>3</sup> AND D( $d, p$ )H<sup>3</sup> REACTIONS FROM 14 TO 110 kev.

LA-1480, Oct. 1952.

NSA 7:1509

W. R. Arnold, J. A. Phillips, et al.

CROSS SECTIONS FOR THE REACTIONS D( $d, p$ )T, D( $d, n$ )He<sup>3</sup>, T( $d, n$ )He<sup>4</sup> AND He<sup>3</sup>( $d, p$ )He<sup>4</sup> BELOW 120 kev.

Phys. Rev. 93, 483-97 (1954)

AECU-2687 (1953?)

AECU-4246; NSA 7:6623

C. P. Baker, M. G. Holloway, et al.

CROSS SECTION FOR THE REACTION D( $t, \alpha$ )n.

LADC-540 (AECD-2226), Sept. 1943.

NSA 1:1160

E. M. Balabanov, I. Ia. Barit, et al.

MEASUREMENT OF THE EFFECTIVE CROSS SECTION FOR THE  $D(t,n)He^4$  REACTION  
IN THE DEUTERON ENERGY RANGE 40-730 kev.

Soviet J. Atomic Energy (English Translation) Suppl. n. 5, 43-52  
(1958)

NSA 13:1729

E. M. Balabanov, I. Ia. Barit, et al.

MEASUREMENTS OF THE YIELDS AND EFFECTIVE CROSS SECTIONS OF THE  
 $D(t,n)He^4$  AND  $D(d,p)T$  REACTIONS USING THICK TARGETS OF HEAVY ICE.

Soviet J. Atomic Energy (English Translation) Suppl. n. 5, 37-42  
(1958)

NSA 13:1728

Iu. G. Balashko and I. Ia. Barit.

SCATTERING OF DEUTERONS ON DEUTERIUM AND TRITIUM AT SMALL ENERGIES.

Zhur. Eksp. i Teoret. Fiz. 34, n. 4, 1034-6 (1958) (in Russian)  
NSA 12:12008; PA 63:2600

S. J. Bame, Jr. and J. E. Perry, Jr.

$T(d,n)He^4$  REACTION.

Phys. Rev. 107, n. 6, 1616-20 (1957)

Bull. Am. Phys. Soc. 1, 93 (1956)

PA 60:9877; AECU-4246

E. Baumgartner, L. Brown, et al.

SOURCE OF POLARIZED DEUTERONS AND THE VERIFICATION OF ALIGNMENT WITH  
THE  $T(d,n)He^4$  REACTION.

Phys. Rev. Letters 5, n. 4, 154-6 (1960)

PA 63:17431

Elbert W. Bennett, Pablo L. Okhuysen, et al.

MEASUREMENT OF TOTAL AND DIFFERENTIAL CROSS SECTIONS BY FAST COINCIDENCE  
DETECTION OF D-D NEUTRONS AND THEIR HELIUM-3 RECOILS.

Bull. Am. Phys. Soc. 2, 232 (1957)

AECU-4246

Jack Benveniste and Jerry Zenger.

INFORMATION ON THE NEUTRONS PRODUCED IN THE  $H^3(d,n)He^4$  REACTION.

UCRL-4266, Jan. 1954.

NSA 10:2173; AECU-4246

L. Blumberg and S. I. Schlesinger.

RELATIVISTIC TABLES OF ENERGY AND ANGLE RELATIONSHIPS FOR THE  
 $T(p,n)He^3$  AND  $T(d,n)He^4$  REACTIONS.

AECU-3118, May 1956.

NSA 11:592

H. J. Boersma, C. C. Jonker, et al.  
ANGULAR AND ENERGY DEPENDENCE OF THE POLARIZATION OF D-D NEUTRONS.  
Nucl. Phys. 46, 660-8 (1963)  
NSA 18:9122

T. W. Bonner.  
CROSS SECTION FOR THE REACTION T(d,n)He<sup>4</sup>.  
AECU-939, Aug. 1950.  
NSA 4:6744

D. L. Booth, G. Preston, and P. F. D. Shaw.  
CROSS SECTION AND ANGULAR DISTRIBUTIONS OF THE D-D REACTIONS BETWEEN  
40 AND 90 kev.  
Proc. Phys. Soc. (London) A69, Pt. 3, 265-70 (1956)  
NSA 11:707; PA 59:6160; AECU-4246

Olle Brander.  
ELASTIC D-D SCATTERING IN THE IMPULSE APPROXIMATION. EXPRESSIONS FOR  
THE M-MATRIX.  
Nucl. Phys. 36, n. 1, 82-108 (1962)  
NSA 16:27945; PA 65:18193

J. G. Brennan.  
EXTRAPOLATION PROCEDURE FOR THE LOW-ENERGY DEUTERON-DEUTERON REACTION  
CROSS SECTION.  
Phys. Rev. 111, n. 6, 1592-6 (1958)  
NSA 13:1700; PA 62:2798

E. Bretcher and A. P. French.  
LOW ENERGY CROSS SECTION OF THE D-D REACTION AND ANGULAR DISTRIBUTION  
OF THE PROTONS EMITTED.  
LADC-240 (AECD-2570), Sept. 17, 1946.  
NSA 2:1987

E. Bretcher and A. P. French.  
LOW-ENERGY CROSS-SECTION OF THE D-T REACTION AND ANGULAR DISTRIBUTION  
OF THE ALPHA PARTICLES EMITTED.  
Phys. Rev. 75, 1154-60 (1949).  
LADC-537 (AECD-2211), Nov. 15, 1946.  
NSA 2:2150; NSA 1:1010

E. Bretcher, A. P. French, and F. G. P. Seidl.  
LOW ENERGY YIELD OF D(D,p)H<sup>3</sup> AND THE ANGULAR DISTRIBUTION OF THE  
EMITTED PROTONS.  
Phys. Rev. 73, 815 (1948)  
(ref. in NSA 1:263)

W. Buss, H. Waeffler, and B. Ziegler.  
RADIATIVE CAPTURE OF DEUTERONS BY  $H^3$ .  
Phys. Letters 4, n. 3, 198-9 (1963)  
NSA 17:21059; PA 66:17356

S. T. Butler.  
DIRECT NUCLEAR REACTIONS.  
Phys. Rev. 106, 272-83 (1957)  
AECU-4246

Francis Cambou and Henri Reme.  
STUDY OF TRITIUM-LOADED THIN TARGETS USED IN ACCELERATORS PRODUCING  
FAST NEUTRONS BY THE REACTION  $T(d,n)$ .  
J. Phys. (Paris) 25, Suppl. to n. 3, 61A-3A (1964) (in French)  
NSA 18:34375

Paul R. Chagnon and George E. Owen.  
ANGULAR DISTRIBUTION OF THE D+D NEUTRONS.  
Phys. Rev. 101, 1798-1803 (1956)  
NSA 10:7936

J. P. Conner, T. W. Bonner, and J. R. Smith.  
STUDY OF THE  $H^3(d,n)He^4$  REACTION.  
Phys. Rev. 88, 468-76 (1952)  
NSA 7:329

John N. Cooper.  
COMPARISON OF THE NEUTRON YIELDS FROM LOW VOLTAGE SOURCES.  
AECU-3204 (TM-225-54-51), Oct. 6, 1954.  
NSA 10:9818; AECU-4246

John Joseph Coyne.  
ENERGY DEPENDENCE OF THE D-D REACTION CROSS SECTION AT LOW ENERGIES.  
Thesis, Washington, D. C., The Catholic Univ. of America, 1962.  
NSA 17:9297

W. H. Cramer and A. B. Marcus.  
ELASTIC AND INELASTIC SCATTERING OF LOW VELOCITY  $D^+$  AND  $D_2^+$  IN  
DEUTERIUM.  
J. Chem. Phys. 32, n. 1, 186-8 (1960)  
NSA 14:8011; PA 63:4168

V. A. Davidenko, A. M. Kucher, et al.  
DETERMINATION OF THE TOTAL CROSS SECTION FOR THE  $D(d,n)He^3$  REACTION  
IN THE ENERGY REGION 20-220 kev.  
Soviet J. Atomic Energy (English Translation) Suppl. n. 5, 7-12  
(1958)  
NSA 13:1725

L. M. Delves.

DEUTERON CAPTURE BY DEUTERONS AND THE STRUCTURE OF  ${}^4\text{He}$ .

Austral. J. Phys. 15, n. 1, 59-68 (1962)

PA 65:9931

P. S. Dubbeldam, C. C. Jonker, and H. J. Boersma.

ENERGY AND ANGULAR DEPENDENCE OF THE LEFT-RIGHT ASYMMETRY OF D-D NEUTRONS SCATTERED BY CARBON.

Nucl. Phys. 15, n. 3, 452-63 (1960)

NSA 14:13147; PA 63:7606

V. P. Dzhelepov, P. F. Ermolov, et al.

CATALYSIS OF THE  $\text{d} + \text{d} \rightarrow \text{He}^3 + \text{n}$  FUSION REACTION BY NEGATIVE MUONS.

Zhur. Eksp. i Teoret. Fiz. 46, 2042-5 (1964) (in Russian)

NSA 18:34617

Klaus Fiebiger.

INVESTIGATION OF THE NEUTRON YIELD OF REACTION  $\text{D}(\text{d}, \text{n})\text{He}$  BY THE BOMBARDMENT OF METALS WITH DEUTERONS.

Z. Naturforsch. 11a, n. 7, 607-8 (1956) (in German)

NSA 10:11532; PA 60:710; AECU-4246

W. A. Fowler, C. C. Lauritsen, and A. V. Tollestrup.

INVESTIGATIONS OF THE CAPTURE OF PROTONS AND DEUTERONS BY DEUTERONS.

Phys. Rev. 76, 1767-8 (1949)

NSA 4:799

A. P. French.

THE D + D CROSS SECTION AT LOW ENERGIES.

Phys. Rev. 73, 1474 (1948)

NSA 1:263

J. C. Fuller and D. C. Ralph.

ANGULAR DISTRIBUTION OF NEUTRONS FROM THE REACTION  $\text{D}(\text{d}, \text{n})\text{He}^3$  AT 100 kev.

Bull. Am. Phys. Soc. 29, 33-4 (1954).

AECU-4246

J. C. Fuller, W. E. Dance, and D. C. Ralph.

ANGULAR DISTRIBUTION OF THE  $\text{D}(\text{d}, \text{n})\text{He}^3$  REACTION BELOW 1 Mev.

Phys. Rev. 108, n. 1, 91-3 (1957)

NSA 12:1721; AECU-4246; PA 60:9878

A. Galonsky and C. H. Johnson.

CROSS SECTIONS FOR THE  $\text{T}(\text{d}, \text{n})\text{He}^4$  REACTION.

Phys. Rev. 104, n. 2, 421-5 (1956)

PA 60:2649; AECU-4246

A. S. Ganeev, A. M. Govorov, et al.

THE D-D REACTION IN THE DEUTERON ENERGY RANGE 100-1000 kev.

Soviet J. Atomic Energy (English Translation) Suppl. n. 5, 21-36  
(1958)

NSA 13:1727

Murrey D. Goldberg.

NEUTRON SOURCES -- CROSS SECTIONS AND ANGULAR DISTRIBUTIONS.

BNL-6765 (1963)

NSA 17:15249

Jose Gonzalez-Vidal and William H. Wade.

SURVEY OF TRITIUM-PRODUCING NUCLEAR REACTIONS.

Phys. Rev. 120, n. 4, 1354-9 (1960) (UCRL-9102)

NSA 15:3477; PA 63:20425

A. M. Govorov, Li Ga En, et al.

ALPHA-PARTICLE SPECTRA AND THE DIFFERENTIAL CROSS-SECTIONS OF THE  
REACTION  $H^3(t,2n)He^4$  AT AN ANGLE OF 90°.

Zhur. Eksp. i Teoret. Fiz. 41, n. 3 (9), 703-7 (1961) (in Russian)

Soviet Phys. JETP 14, n. 3, 508-11 (1962) (English Translation)

PA 64:19292; PA 65:22658

E. M. Gunnerson and G. James.

ON THE EFFICIENCY OF THE REACTION  $H^3(d,n)He^4$  IN TITANIUM TRITIDE  
BOMBARDED WITH DEUTERONS.

Nucl. Instr. Methods 8, n. 2, 173-84 (1960)

NSA 15:2185; PA 64:5792

D. P. Hale and R. D. Present.

MIRROR REACTIONS  $H^3(d,n)He^4$  AND  $He^3(d,p)He^4$ .

Phys. Rev. 99, n. 5, 1366-7 (1955)

NSA 9:7547; PA 58:9918

Soliska Harris and Helen Stearns.

BIBLIOGRAPHY OF NEUTRON YIELDS FROM THE REACTIONS p + T, d + D, AND  
d + T (1954 TO SEPTEMBER 1957).

AECU-4246, Sept. 13, 1957.

NSA 13:19598

R. L. Henkel, J. E. Perry, Jr., and R. K. Smith.

BREAKUP OF DEUTERONS ON H, T,  $He^3$ , AND  $He^4$ .

Phys. Rev. 99, 1050-2 (1955)

NSA 9:7159

Alfred Hofmann.

INVESTIGATION OF d-d REACTIONS IN ALUMINUM SELF-TARGETS.

Z. Phys. 74, n. 1, 57-67 (1963) (in German)

NSA 17:26240; PA 66:17325

L. N. Katsaurov.

INVESTIGATION OF THE REACTION D(T,n)He<sup>4</sup> BY THE METHOD OF THIN TARGETS  
IN THE ENERGY REGION FROM 40 TO 750 kev.

Fiz. Inst. Akad. Nauk SSSR 14, 224-62 (1962) (in Russian)

NSA 17:34970

E. Lacombe, D. Magnac-Valette and P. Cuer.

ENERGY EVOLVED BY A THERMONUCLEAR PLASMA OF DEUTERIUM.

C. R. Acad. Sci. (Paris) 246, n. 5, 744-6 (1958) (in French)

PA 61:4330

K. G. McNeill.

NOTE ON THE BRANCHING RATIO OF THE D-D REACTIONS.

Phil. Mag. 46 (7), 800-4 (1955)

NSA 9:6492; AECU-4246

P. C. Macq.

DIRECT INTERACTION OF DEUTERONS, TRITONS, He<sup>3</sup> AND ALPHA PARTICLES.

p. 211-19 of "Physique Nucleaire des Basses Energies". Louvain,  
Belg., Librairie L. Wouters, 1962. (in French)

NSA 19:1686

D. Magnac-Valette, E. Lacombe, et al.

DETERMINATION OF THE CROSS SECTIONS OF THE REACTION D + D = p + T +  
4.03 Mev. AT ENERGIES LESS THAN 15 kev.

J. Phys. Radium 21, n. 2, 125-6 (1960) (in French)

NSA 14:15289; PA 64:7289

C. Mahaux.

APPLICATIONS OF THE ONE-LEVEL APPROXIMATION IN THE THEORY OF RESONANCES  
WITH COMPLEX ENERGY.

Bull. Soc. Roy. Sci. Liege 32, n. 1-2, 70-7 (1963) (in French)

NSA 17:22579; PA 66:22358

C. Mahaux.

CONTRIBUTION TO THE STUDY OF THE REACTIONS He<sup>3</sup>(d,p)He<sup>4</sup>, H<sup>3</sup>(d,n)He<sup>4</sup>,  
AND N<sup>15</sup>(p,α)C<sup>12</sup>.

p. 262-71 of "Physique Nucleaire des Basses Energies". Louvain,  
Belg., Librairie L. Wouters, 1962.

NSA 19:1690

V. I. Mamasakhlisov and T. G. Gachechiladze.  
DEUTERON-DEUTERON INTERACTIONS.

Trudy Inst. Fiz. Akad. Nauk, Georgian SSR. 5, 29-35 (1957)  
(in Russian)  
NSA 13:4098

C. Milone and R. Ricamo.  
DIFFERENTIAL CROSS-SECTION FOR THE D(d,n) REACTION.  
Nuovo Cimento 22 (10), n. 1, 116-22 (1961)  
NSA 16:5885; PA 65:480

Nuclear Cross Sections Advisory Group, AEC.  
REPORTS TO THE AEC NUCLEAR CROSS SECTIONS ADVISORY GROUP.

TID-5180, p. 2-48, Secret, Dec. 1953.  
WASH-1006, June 1958; WASH-1042, Feb. 1963; WASH-1013, Nov. 1958.  
ACR 10:147; NSA 13:5003; NSA 17:36669; NSA 13:5821

Jay Orear, A. H. Rosenfeld, and R. A. Schluter, eds.  
REACTIONS OF LIGHT NUCLEI, sect. IB of NUCLEAR PHYSICS OF FUNDAMENTAL  
PARTICLES; PROCEEDINGS OF THE INTERNATIONAL CONFERENCE, SEPTEMBER 17  
TO 22, 1951.  
NP-3591 (sect. IB) n.d.  
NSA 6:1859

M. Paic, B. Antolkovic, et al.  
COMPARATIVE MEASUREMENTS OF YIELDS OF D-D NEUTRONS FROM DIFFERENT  
TARGETS.  
Nucl. Instr. Methods 23, n. 1, 19-23 (1963)  
NSA 17:32768; PA 66:19652

Pieter Jelte Pasma.  
POLARIZATION MEASUREMENTS ON d-D AND d-T NEUTRONS.  
'S-Gravenhage, Excelsior (1957)  
NSA 12:11051

P. J. Pasma.  
POLARIZATION MEASUREMENTS ON D + D AND T + D NEUTRONS GENERATED BY  
LOW ENERGY DEUTERONS.  
Nucl. Phys. 6, 141-50 (1958)  
NSA 12:7993; PA 61:6151

R. B. Perkins and J. E. Simmons.  
T(d,n)He<sup>4</sup> REACTION AS A SOURCE OF POLARIZED NEUTRONS.  
Phys. Rev. 124, n. 4, 1153-4 (1961)  
NSA 16:11012; PA 65:293

C. H. Poppe, C. H. Holbrow, and R. R. Borchers.

NEUTRONS FROM D + T AND D + H.

Phys. Rev. 129, n. 2, 733-9 (1963)

NSA 17:7241; PA 66:6290

W. S. Porter, B. Roth, and J. L. Johnson.

THEORY OF THE REACTIONS  $H^3(d,p)He^4$ .

Phys. Rev. 111, n. 6, 1578-85 (1958)

PA 62:1770

G. Preston, P. F. D. Shaw, and S. A. Young.

CROSS-SECTIONS AND ANGULAR DISTRIBUTIONS OF THE D-D REACTIONS BETWEEN  
150 AND 450 kev.

Proc. Roy. Soc. (London) 226A, 206-16 (1954)

NSA 9:792; PA 58:1195; AECU-4246

Henri Rème.

ÉTUDE DES CIBLES MINCES CHARGÉES DE TRITIUM UTILISÉES DANS LES  
ACCELÉRATEURS PRODUISANT DES NEUTRONS RAPIDES PAR LA RÉACTION (D-T)  
(Thèse). [STUDY OF THIN TARGETS LOADED WITH TRITIUM UTILIZED IN AC-  
CELERATORS PRODUCING FAST NEUTRONS BY THE (d,T) REACTION (Thesis)].

NP-14123 (1962)

NSA 18:37817

J. R. Rook and L. J. B. Goldfarb.

USE OF POLARIZED DEUTERONS IN THE D - D REACTION.

p. 571-3 of "Nuclear Forces and the Few-Nucleon Problem. Vol. II,"  
T. C. Griffith and E. A. Power, eds., New York, Pergamon Press, 1960.  
NSA 15:6729

J. R. Rook and L. J. B. Goldfarb.

USE OF POLARIZED DEUTERONS TO STUDY THE D + D REACTIONS.

Nucl. Phys. 17, n. 1, 79-93 (1961)

NSA 15:32757; PA 64:16914

Louis Rosen, T. M. Putnam, and J. E. Brolley, Jr.

D + D REACTION CROSS-SECTIONS.

Bull. Am. Phys. Soc. 1, 245-6 (1956)

AECU-4246

L. Rosen, J. E. Brolley, Jr., and W. S. Hall.

$T(d,2n)He^3$  REACTION.

Bull. Am. Phys. Soc. 2, 208 (1957)

AECU-4246

Lawrence Ruby and Richard B. Crawford.

ANISOTROPY FACTORS FOR THE DETERMINATION OF TOTAL NEUTRON YIELD FROM  
THE D(d,n)He<sup>3</sup> AND T(d,n)He<sup>4</sup> REACTIONS.

Nucl. Instr. Methods 24, 413-7 (1963) (UCRL-10752)

UCRL-10752 (Suppl.), Apr. 9, 1963.

NSA 18:34815; NSA 17:28254

E. W. Saker and J. D. L. H. Wood.

CALCULATED NEUTRON YIELD FROM TITANIUM-TRITIUM TARGETS UNDER DEUTERON  
BOMBARDMENT.

SERL-TR-M-61, Sept. 18, 1958.

NSA 16:21358

Zdzislaw Sawa.

PROTON ANGULAR DISTRIBUTIONS FROM d + D REACTION FOR DEUTERON ENERGIES  
0.5 - 0.9 Mev.

Arkiv. Fysik 18, 365-8 (1960)

NSA 15:9978

Earl Morrow Sawyer.

STUDIES OF CERTAIN PROTON-TARGET AND DEUTERON-TARGET REACTIONS IN THE  
ENERGY RANGE OF 0.1 TO 0.6 Mev.

Thesis, Gainesville, Fla., Univ. of Florida, 1960.

NSA 18:739

George A. Sawyer and Louis C. Burkhardt.

SEARCH FOR THE REACTION T(d, $\gamma$ )He<sup>5</sup>.

LA-1695, Aug. 24, 1954.

Phys. Rev. 98, n. 5, 1305-7 (1955)

NSA 8:6310; PA 58:7371

R. E. Segel and S. S. Hanna.

POLARIZATION IN THE H<sup>2</sup>(d,p)H<sup>3</sup> REACTION.

Phys. Rev. 106, 536-9 (1957)

NSA 11:6939

N. A. Shakun, A. K. Walter, and A. P. Klyucharev.

POLARIZATION OF PROTONS FROM THE REACTION D(d,p)H<sup>3</sup>.

Ukrain. Fiz. Zhur. 7, n. 4, 383-6 (1962) (in Ukrainian)

NSA 16:31120; PA 65:20438

A. G. Sitenko and E. Ismatov.

DEUTERON SCATTERING IN NUCLEAR MATTER.

Nucl. Phys. 55, 443-8 (1964)

NSA 18:36604

W. R. Stratton, G. D. Freier, et al.  
ELASTIC SCATTERING OF DEUTERONS BY TRITONS.  
Phys. Rev. 88, 257-61 (1952)  
NSA 7:367

Y. K. Tai and Y. C. Hsu.  
ANGULAR DISTRIBUTION OF PROTONS FROM THE d(d,p) REACTION.  
Nucl. Phys. 46, n. 2, 153-60 (1963)  
NSA 17:39853; PA 66:22218

R. B. Theus, W. I. McGarry, and L. A. Beach.  
NOTE ON THE BRANCHING RATIO OF THE D-D REACTIONS.  
NP-12415, p. 40-5, July-Sept. 1962.  
NSA 17:8937

David Thomas and John G. Goshorn, Jr.  
CALIBRATION OF THE T(d,n) $\text{He}^4$  YIELD FROM THE NUCLEAR DEFENSE LABORATORY'S POSITIVE ION ACCELERATOR.  
NDL-TM-6, July 1962.  
NSA 17:5412

U. Timm, H. Neuert, and B. Elsner.  
THE ANGULAR DISTRIBUTION OF PARTICLES FROM THE D-D REACTIONS IN THE REGION OF LOW D-ENERGIES.  
Z. Phys. 139, n. 4, 425-32 (1954) (in German)  
PA 58:2177

J. L. Tuck.  
THE DD AND TD CROSS SECTIONS.  
LA-1190(Del.), May 10, 1951.  
NSA 13:11379

J. L. Tuck.  
THERMONUCLEAR REACTION RATES.  
Nucl. Fusion 1, 201-2 (1961)  
NSA 15:32870

V. V. Volkov, P. E. Vorotnikov, et al.  
INVESTIGATION OF THE D-D REACTION IN THE DEUTERON ENERGY RANGE OF 0.20-1.75 Mev.  
Soviet J. Atomic Energy (English Translation) Suppl. n. 5, 13-20 (1958)  
NSA 13:1726

A. von Engel and C. C. Goodyear.

FUSION CROSS-SECTION MEASUREMENTS WITH DEUTERONS OF LOW ENERGY.

Proc. Roy. Soc. (London) A264, 445-57 (1961)

NSA 16:4861; PA 64:19555

Roland Weisbeck.

INVESTIGATIONS ON SELF-TARGETS FOR THE D(d,n) $\text{He}^3$  REACTION.

Z. Angew. Phys. 12, n. 12, 529-38 (1960) (in German)

NSA 15:10099; PA 64:9872

W. A. Wenzel and Ward Whaling.

CROSS SECTION AND ANGULAR DISTRIBUTION OF THE D(d,p)T REACTION.

Phys. Rev. 88, 1149-54 (1952)

NSA 7:991