

The Network of Nuclear Reaction Data Centres (NRDC)

EXFOR : Recent Compilation (Added in March 2008)

EXFOR is a world-wide database for experimental neutron induced, charged-particle induced and photonuclear reaction compiled by Nuclear Reaction Data Centres Network coordinated by IAEA Nuclear Data Section. This list gives newly compiled data to EXFOR. *This list consists of tables titled by target nuclide.*

Retrieval service is available at:

<http://www.jcprg.org/exfor/> (JCPRG)

<http://www-nds.iaea.org/exfor/> IAEA Nuclear Data Section (IAEA-NDS)

<http://www.nndc.bnl.gov/exfor/> National Nuclear Data Center (NNDC)

<http://cdfe.sinp.msu.ru/exfor/> Centre for Photonuclear Experiments Data (CDFE)

<http://www.nea.fr/html/dbdata/x4/> NEA Data Bank (NEA-DB)

http://www.ippe.obninsk.ru/podr/cjd/page4_9_cjd.html Center Jadernykh Dan-nykh(CJD)

Quantity code

ALF	Alpha	FY	Fission product yield
AMP	Length or amplitude	INT	Cross section integral over incident energy
CHG	Fragment charge	KE	Kinetic energy
CS	Cross section	KER	Kerma factor
CSN	Differential with respect to number of particles	MLT	Multiplicity
CSP	Partial cross section	NQ	Nuclear quantity
CST	Temperature dependent cross section	NU	Nu
D3A	Triple differential $d\Omega_1/d\Omega_2/dE'$	NUD	Nu delayed
D3E	Triple differential $d\Omega/dE'_1/dE'_2$	NUF	Fragment neutrons
D4A	Quadruple diff. $d\Omega_1/d\Omega_2/dE'_1/dE'_2$	POL	Polarization
DA	Differential $d/d\Omega$	POD	Differential polarization
DAA	Double differential $d\Omega_1/d\Omega_2$	PY	Product yield (other than fission)
DAE	Double differential $d\Omega/dE'$	RI	Resonance integral
DAP	Partial differential $d/d\Omega$	RP	Resonance parameter
DAT	Temperature-dependent Legendre coefficient	RR	Reaction rate
DE	Differential d/dE'	SIF	Self indication
DEP	Energy spectrum for specific group	SPC	Gamma spectrum
DP	Diff. by linear momentum of outgoing part.	TSL	Thermal scattering
DT	Diff. by 4-momentum transfer squared	TT	Thick target yield
ETA	Eta	TTD	Differential thick target yield, $d/d\Omega$
EVL	Evaluation	TTP	Partial thick target yield

Special codes in outgoing particle field

abs	Absorption	fus	Fusion	sct	Scattering	tot	Total
el	Elastic	inel	Inelastic	tcx	Total charge changing		
fis	Fission	non	Nonelastic	ths	Thermal scattering		

Special codes in incident energy field

Fast	Fast reactor spectrum average	Maxw	Maxwellian spectrum average
Fiss	Fission spectrum average	Spont	Spontaneous (for fission)

1 Hydrogen 2										
Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>p,el</i>	² H	DA	1USALAS	1.9+06	3.0+06	Jour	NIM/B,261,405	07	D.J.Desimone+	C1574

3 Lithium 6										
Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,t</i>	⁴ He	CS	4RUSKUR	9.1+03	7.3+05	Jour	DOK,111,(4),791	56	G.V.Gorlov+	40708

4 Beryllium 9										
Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
¹⁰ C, <i>inel</i>	⁹ Be	CSP	1USATAM	1.1+08	1.1+08	Jour	PR/C,75,51304	07	R.J.Charity+	C1580

6 Carbon 12										
Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,inel</i>	¹² C	CSP	4RUSLEB	1.4+07	1.4+07	Book	NEJTRONFIZ,324	Apr 61	V.V.Nefedov+	41229
<i>α,el</i>	¹² C	DA	1USAANL	4.0+06	1.3+07	Jour	NP/A,180,282	72	T.P.Marvin+	C1360
⁷ Li, <i>α</i>	¹⁵ N	DAP	1USAFSU	3.4+07	3.4+07	Jour	NIM/B,261,1005	07	F.J.Rodriguez+	C1575

8 Oxygen 16										
Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,inel</i>	¹⁶ O	CSP	4RUSLEB	1.4+07	1.4+07	Book	NEJTRONFIZ,324	Apr 61	V.V.Nefedov+	41229

11 Sodium 23										
Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,non</i>		CS	4RUSFEI	2.5+06	2.5+06	Book	NEJTRONFIZ,294	61	G.N.Lovchikova+	41256
<i>p,el</i>	²³ Na	DA	1USAKAN	5.7+05	1.5+06	Jour	PR,104,376	Oct 56	N.P.Baumann+	C0854

12 Magnesium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation		Date	Author	Data #
				Min	Max		Ref	Vol Page			
$n,inel$	^{nat}Mg	CSP	4RUSLEB	1.4+07	1.4+07	Book	NEJTRONFIZ,324		Apr 61	V.V.Nefedov+	41229

13 Aluminium 27

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation		Date	Author	Data #
				Min	Max		Ref	Vol Page			
$n,inel$	^{27}Al	CSP	4RUSLEB	1.4+07	1.4+07	Book	NEJTRONFIZ,324		Apr 61	V.V.Nefedov+	41229

16 Sulphur 32

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation		Date	Author	Data #
				Min	Max		Ref	Vol Page			
p,d	^{31}S	DAP	1USAORL	3.2+07	3.2+07	Jour	PR/C,76,15803		07	Z.Ma+	C1582

16 Sulphur 33

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation		Date	Author	Data #
				Min	Max		Ref	Vol Page			
p,el	^{33}S	DA	1USATNL	1.4+06	3.8+06	Jour	PR/C,40,1959		89	J.R.Vanhoy+	C1561

24 Chromium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation		Date	Author	Data #
				Min	Max		Ref	Vol Page			
n,γ		CS	4RUSKUR	1.0+03	2.0+04	Jour	YK,1991,(4),40		Dec 91	M.A.Voskanyan+	41504

26 Iron

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation		Date	Author	Data #
				Min	Max		Ref	Vol Page			
$n,inel$	^{nat}Fe	CSP	4RUSLEB	1.4+07	1.4+07	Book	NEJTRONFIZ,324		Apr 61	V.V.Nefedov+	41229

29 Copper

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation		Date	Author	Data #
				Min	Max		Ref	Vol Page			
$n,inel$	^{nat}Cu	CSP	4RUSLEB	1.4+07	1.4+07	Book	NEJTRONFIZ,324		Apr 61	V.V.Nefedov+	41229

32

Germanium

82

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation		Date	Author	Data #
				Min	Max		Ref	Vol Page			
<i>d,p</i>	⁸³ Ge	DAP	1USAORL	3.3+08	3.3+08	Jour	PR/C,76,44302		07	J.S.Thomas+	C1577

34

Selenium

84

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation		Date	Author	Data #
				Min	Max		Ref	Vol Page			
<i>d,p</i>	⁸⁵ Se	DAP	1USAORL	3.8+08	3.8+08	Jour	PR/C,76,44302		07	J.S.Thomas+	C1577

38

Strontium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation		Date	Author	Data #
				Min	Max		Ref	Vol Page			
<i>n,non</i>		CS	4RUSFEI	2.5+06	2.5+06	Book	NEJTRONFIZ,294		61	G.N.Lovchikova+	41256

42

Molybdenum

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation		Date	Author	Data #
				Min	Max		Ref	Vol Page			
<i>n,non</i>		CS	4RUSFEI	2.5+06	2.5+06	Book	NEJTRONFIZ,294		61	G.N.Lovchikova+	41256

50

Tin

114

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation		Date	Author	Data #
				Min	Max		Ref	Vol Page			
<i>n,inel</i>	¹¹⁴ Sn	SPC	4RUSKUR	Fiss		Conf	90LENING,,76		Apr 90	S.M.Zlitni+	41033

56

Barium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation		Date	Author	Data #
				Min	Max		Ref	Vol Page			
<i>n,non</i>		CS	4RUSFEI	2.5+06	2.5+06	Book	NEJTRONFIZ,294		61	G.N.Lovchikova+	41256

64

Gadolinium

158

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation		Date	Author	Data #
				Min	Max		Ref	Vol Page			
<i>n,γ</i>		?	4ZZZDUB	2.2+01	1.1+03	Jour	NP/A,724,14		Aug 03	C.Granja+	41443

94 Plutonium 238

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n</i> ,fis		CS	4RUSFEI	1.5+05	1.5+07	Conf	97TRiest,1,488	May 97	B.I.Fursov+	41303
<i>n</i> ,fis		?	4RUSFEI	1.5+05	1.5+07	Conf	97TRiest,1,488	May 97	B.I.Fursov+	41303

94 Plutonium 239

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n</i> ,fis		CS	4RUSFEI	2.9+05	2.5+06	Jour	AE,13,(4),366	62	G.N.Smirenkin+	40650
<i>n</i> ,fis	Many	KE	4RUSLIN	2.5-02	3.0-01	Conf	2004SANTA,1,1003	04	O.A.Batenkov+	41502
<i>n</i> ,fis	Many	NU	4RUSLIN	2.5-02	3.0-01	Conf	2004SANTA,1,1003	04	O.A.Batenkov+	41502
<i>n</i> ,fis		?	4RUSFEI	1.0+06	2.5+06	Rept	ICD-4,339	67	G.N.Smirenkin+	40027
<i>n</i> ,fis		?	4RUSLIN	2.5-02	3.0-01	Conf	2004SANTA,1,1003	04	O.A.Batenkov+	41502
<i>n</i> ,fis		?	4RUSFEI	3.3+05	2.6+06	Rept	ICD-4,339	67	G.N.Smirenkin+	40027
<i>n</i> ,fis		?	4RUSFEI	3.5+05	2.5+06	Jour	AE,13,(4),366	62	G.N.Smirenkin+	40650
<i>n</i> ,fis	Many	?	4UZ UZB	Maxwl		Jour	IZV,70,(5),673	May 06	Yu.N.Koblik+	41493

95 Americium 242

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n</i> ,fis		CS	4RUSFEI	1.3+05	1.5+07	Conf	97TRiest,1,488	May 97	B.I.Fursov+	41303
<i>n</i> ,fis		?	4RUSFEI	1.3+05	1.5+07	Conf	97TRiest,1,488	May 97	B.I.Fursov+	41303

96 Curium 245

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n</i> ,fis		CS	4RUSFEI	1.3+05	1.5+07	Conf	97TRiest,1,488	May 97	B.I.Fursov+	41303
<i>n</i> ,fis		?	4RUSFEI	1.3+05	1.5+07	Conf	97TRiest,1,488	May 97	B.I.Fursov+	41303

96 Curium 247

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n</i> ,fis		CS	4RUSFEI	1.4+05	1.5+07	Conf	97TRiest,1,488	May 97	B.I.Fursov+	41303
<i>n</i> ,fis		?	4RUSFEI	1.4+05	1.5+07	Conf	97TRiest,1,488	May 97	B.I.Fursov+	41303