EXFOR News (October 2014)

New experimental data available from Nuclear Reaction Data Centres

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Quantity codes

ALF	α-value ($\sigma_{\rm capt}/\sigma_{\rm fis}$)	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	Fission neutron multiplicity $\bar{\nu}$
D3A	Triple differential $\mathrm{d}\Omega_1/\mathrm{d}\Omega_2/\mathrm{d}E'$	NUD	Delayed fission neutron multiplicity $\bar{\nu}_d$
D3E	Triple differential $\mathrm{d}\Omega/\mathrm{d}E'_1/\mathrm{d}E'_2$	NUF	Fragment neutrons
D4A	Quadruple diff. $\mathrm{d}\Omega_1/\mathrm{d}\Omega_2/\mathrm{d}E'_1/\mathrm{d}E'_2$	POL	Polarization
DA	Differential $\mathrm{d}/\mathrm{d}\Omega$	POD	Differential polarization
DAA	Double differential $\mathrm{d}\Omega_1/\mathrm{d}\Omega_2$	PY	Product yield (other than fission)
DAE	Double differential $\mathrm{d}\Omega/\mathrm{d}E'$	RI	Resonance integral
DAP	Partial differential $\mathrm{d}/\mathrm{d}\Omega$	RP	Resonance parameter
DAT	Temperature-dependent Legendre coefficient	RR	Reaction rate
DE	Differential $\mathrm{d}/\mathrm{d}E'$	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	η-value $\bar{\nu}\sigma_{\rm fis}/(\sigma_{\rm capt}+\sigma_{\rm fis})$	TTD	Differential thick target yield, $\mathrm{d}/\mathrm{d}\Omega$
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)

[a] NNDC (USA), NEADB (France), NDS (Austria), CJD (Russia), CNDC (China), ATOMKI (Hungary), NDPCI (India), JAEA (Japan), JCPRG (Japan), KAERI (Korea), CAJaD (Russia), CDFE (Russia), CNPD (Russia), UkrNDC (Ukraine)

1 Hydrogen 1

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,el	^{1}H	POD	2JPNTOK	4.8+07	4.8+07	Jour	JPJ,33,871	72	T.Hasegawa+	E2312
^{20}C,inel	^{1}H	?	2JPNIPC	8.3+08	8.3+08	Jour	PR/C,79,011302	09	Z.Elekes+	E2399
^{28}Ne,inel	^{1}H	?	2JPNIPC	1.5+09	1.5+09	Jour	PR/C,89,054307	14	S.Michimasa+	E2456
^{30}Ne,inel	^{1}H	?	2JPNIPC	1.3+09	1.3+09	Jour	PR/C,89,054307	14	S.Michimasa+	E2456
^{21}Na,0		RP	2JPNIPC			Jour	PR/C,89,015804	14	L.Y.Zhang+	E2434
^{21}Na,el	^{1}H	?	2JPNIPC	6.3+05	3.9+06	Jour	PR/C,89,015804	14	L.Y.Zhang+	E2434
^{32}Mg,inel	^{1}H	?	2JPNIPC	1.9+09	1.9+09	Jour	PR/C,89,054307	14	S.Michimasa+	E2456
^{34}Mg,inel	^{1}H	?	2JPNIPC	1.7+09	1.7+09	Jour	PR/C,89,054307	14	S.Michimasa+	E2456
^{36}Mg,inel	^{1}H	?	2JPNIPC	1.6+09	1.6+09	Jour	PR/C,89,054307	14	S.Michimasa+	E2456

2 Helium 3

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,η+X	n	CS	2GERMNZ			Jour	EPJ/A,49,154	13	L.Witthauer+	G0040
γ,η+X	n	?	2GERMNZ	6.6+08	1.4+09	Jour	EPJ/A,49,154	13	L.Witthauer+	G0040
γ,η+X	^{1}H	CS	2GERMNZ			Jour	EPJ/A,49,154	13	L.Witthauer+	G0040
γ,η+X	^{1}H	?	2GERMNZ	6.6+08	1.4+09	Jour	EPJ/A,49,154	13	L.Witthauer+	G0040
γ,x+η	inclusive	CS	2GERMNZ			Jour	EPJ/A,49,154	13	L.Witthauer+	G0040
γ,x+η	inclusive	DA	2GERMNZ	6.6+08	1.4+09	Jour	EPJ/A,49,154	13	L.Witthauer+	G0040

2 Helium 4

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,n+p	^{2}H	DA	4UKRKFT	5.0+07	7.0+07	Jour	VAT/I,3/85,187	13	M.S.Glaznev+	G4050
γ,n+p	^{2}H	DE	4UKRKFT	2.4+07	8.0+07	Jour	VAT/I,3/85,187	13	M.S.Glaznev+	G4050
γ,n+p	^{2}H	DP	4UKRKFT	6.0+07	7.0+07	Jour	VAT/I,3/85,187	13	M.S.Glaznev+	G4050
γ,n+p	^{2}H	?	4UKRKFT	5.0+07	7.0+07	Jour	VAT/I,3/85,187	13	M.S.Glaznev+	G4050
α,γ	^{8}Be	CSP	3INDTRM	2.2+07	2.6+07	Jour	PRL,94,122502	05	V.M.Datar+	D6214

3 Lithium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

3 Lithium 6

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #

^{18}O,^{7}Li	^{17}O	DAP	3POLWWA	1.1+08	1.1+08	Jour	NP/A,927,209	14	A.T.Rudchik+	D5097

5 Boron 10

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,tot		CS	1USAORL	2.5-02	2.5-02	Conf	60VIENNA,535	60	R.Block+	14393

6 Carbon

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x+γ	inclusive	PY	2JPNTOK	5.2+07	5.2+07	Jour	NIM,151,493	78	T.Nakamura+	E2454
p,x+n	inclusive	PY	2JPNTOK	3.0+07	3.0+07	Jour	NSE,83,444	83	T.Nakamura+	E2453
p,x+n	inclusive	PY	2JPNTOK	5.2+07	5.2+07	Jour	NIM,151,493	78	T.Nakamura+	E2454
p,x+n	inclusive	?	2JPNTOK	3.0+07	3.0+07	Jour	NSE,83,444	83	T.Nakamura+	E2453
d,x+γ	inclusive	PY	2JPNTOK	3.3+07	3.3+07	Jour	PR/C,29,1307	84	K.Shin+	E2343
^{3}He,x+γ	inclusive	PY	2JPNTOK	6.5+07	6.5+07	Jour	PR/C,29,1307	84	K.Shin+	E2343
α,x+γ	inclusive	PY	2JPNTOK	6.5+07	6.5+07	Jour	PR/C,29,1307	84	K.Shin+	E2343
^{20}Mg,inel	$^{\rm nat}$C	CSP	2JPNIPC	1.2+09	1.2+09	Jour	PR/C,78,024306	08	N.Iwasa+	E2398
^{37}Mg,x	^{36}Mg	CS	2JPNIPC	8.9+09	8.9+09	Jour	PRL,112,242501	14	N.Kobayashi+	E2458
^{37}Mg,x	^{36}Mg	CSP	2JPNIPC	8.9+09	8.9+09	Jour	PRL,112,242501	14	N.Kobayashi+	E2458
^{37}Mg,x	^{36}Mg	DP	2JPNIPC			Jour	PRL,112,242501	14	N.Kobayashi+	E2458

6 Carbon 12

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,el	^{12}C	DA	2SWDLND	6.6+07	1.1+08	Jour	PR/C,89,035202	14	L.S.Myers+	G0037
γ,x	^{7}Be	CS	4UKRKFT		8.5+07	Jour	VAT/I,6/88,192	13	A.N.Dovbnya+	G4048
^{6}Li,el	^{12}C	DA	3BZLUSP	2.6+07	2.6+07	Jour	PR/C,89,024306	14	M.R.D.Rodrigues+	D0718

7 Nitrogen 14

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,x	^{7}Be	CS	4UKRKFT		8.5+07	Jour	VAT/I,6/88,192	13	A.N.Dovbnya+	G4048
n,ths	^{14}N	?	2FR ILL			Jour	EUL,103,12001	13	D.J.Salvat+	23203

11 Sodium 23

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{24}Na	CS	2GERKFK	Maxwl		Jour	ASP,97,95	83	H.Beer+	23220
n,γ	^{24}Na	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

12 Magnesium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

13 Aluminium 27

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,α	^{24}Na	CS	2JPNJAE	1.4+07	1.4+07	Rept	JAEA-C-2006-009,89	06	K.Arakita+	23216
n,γ	^{28}Al	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388
n,p	^{27}Mg	CS	2JPNWER	3.0+05		Jour	RCA,102,369	14	M.S.Uddin+	23238
p,x	^{6}He	DAE	2GERJUL	1.2+06	2.5+06	Jour	PR/C,89,054617	14	M.Fidelus+	D0733
p,x	^{6}Li	DAE	2GERJUL	1.2+06	2.5+06	Jour	PR/C,89,054617	14	M.Fidelus+	D0733
p,x	^{7}Li	DAE	2GERJUL	1.2+06	2.5+06	Jour	PR/C,89,054617	14	M.Fidelus+	D0733
p,x	^{8}Li	DAE	2GERJUL	1.2+06	2.5+06	Jour	PR/C,89,054617	14	M.Fidelus+	D0733
p,x	^{9}Li	DAE	2GERJUL	1.2+06	2.5+06	Jour	PR/C,89,054617	14	M.Fidelus+	D0733
p,x	^{7}Be	CS	2SWDUPP	4.1+07	9.8+07	Jour	RCA,65,81	94	B.Scholten+	D0054
p,x	^{7}Be	DAE	2GERJUL	1.2+06	2.5+06	Jour	PR/C,89,054617	14	M.Fidelus+	D0733
p,x	^{9}Be	DAE	2GERJUL	1.2+06	2.5+06	Jour	PR/C,89,054617	14	M.Fidelus+	D0733
p,x	^{10}Be	DAE	2GERJUL	1.2+06	2.5+06	Jour	PR/C,89,054617	14	M.Fidelus+	D0733
p,x	^{10}B	DAE	2GERJUL	1.2+06	2.5+06	Jour	PR/C,89,054617	14	M.Fidelus+	D0733
p,x	^{11}B	DAE	2GERJUL	1.2+06	2.5+06	Jour	PR/C,89,054617	14	M.Fidelus+	D0733
p,x	^{12}B	DAE	2GERJUL	1.2+06	2.5+06	Jour	PR/C,89,054617	14	M.Fidelus+	D0733
p,x+α	inclusive	DAE	2GERJUL	1.2+06	2.5+06	Jour	PR/C,89,054617	14	M.Fidelus+	D0733
p,x+d	inclusive	DAE	2GERJUL	1.2+06	2.5+06	Jour	PR/C,89,054617	14	M.Fidelus+	D0733
p,x+^{3}He	inclusive	DAE	2GERJUL	1.2+06	2.5+06	Jour	PR/C,89,054617	14	M.Fidelus+	D0733
p,x+p	inclusive	DAE	2GERJUL	1.2+06	2.5+06	Jour	PR/C,89,054617	14	M.Fidelus+	D0733
p,x+t	inclusive	DAE	2GERJUL	1.2+06	2.5+06	Jour	PR/C,89,054617	14	M.Fidelus+	D0733
^{7}Be,el	^{27}Al	DA	3BZLUSP	1.0+07	1.5+07	Jour	PR/C,89,044611	14	V.Morcelle+	D0738
^{12}C,^{11}B	^{28}Si	DAP	3INDTRM	7.3+07	8.5+07	Jour	PS,T150,014011	12	Aparajitadey+	D6215
^{12}C,el	^{27}Al	DA	3INDTRM	7.3+07	8.5+07	Jour	PS,T150,014011	12	Aparajitadey+	D6215

14 Silicon

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

14 Silicon 28

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,el	^{28}Si	DA	4UKRKFT	1.5+06	3.0+06	Jour	IZV,22,871	58	A.K.Valter+	D5103
p,el	^{28}Si	POD	4UKRKFT	1.7+06	2.2+06	Jour	ZET,35,1386	58	P.V.Sorokin+	D5104
^{11}B,el	^{28}Si	DA	3INDTRM	6.4+07	6.4+07	Jour	PS,T150,014011	12	Aparajitadey+	D6215

15 Phosphorus 31

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{32}P	CSP	3CPRAEP	Maxwl		Jour	CNP,11,(2),43	89	Zengxiantang+	31423
n,γ	^{32}P	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

16 Sulphur

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

17 Chlorine

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

17 Chlorine 35

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{36}Cl	?	2JPNKTO	2.5-02	2.5-02	Jour	ARI,73,60	13	M.Shibata+	23207

19 Potassium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

20 Calcium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388
p,el	^{nat}Ca	POD	2JPNTOK	5.4+07	5.4+07	Jour	JPJ,33,871	72	T.Hasegawa+	E2312

20 Calcium 40

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #

n,α	^{37}Ar	DA	3INDSAH	1.4+07	1.4+07	Jour	NP,55,127	64	O.N.Koul	33065

21 Scandium 45

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{46}Sc	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

22 Titanium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

22 Titanium 46

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,p	^{46}Sc	CS	2JPNWER	3.0+05		Jour	RCA,102,369	14	M.S.Uddin+	23238

22 Titanium 47

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,p	^{47}Sc	CS	2JPNWER	3.0+05		Jour	RCA,102,369	14	M.S.Uddin+	23238

23 Vanadium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,x	^{7}Be	CS	2SWDUPP	4.3+07	9.7+07	Jour	RCA,65,81	94	B.Scholten+	D0054

23 Vanadium 51

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{52}V	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388
p,γ		RP	3INDTAT	7.4+05	1.3+06	Jour	PRM,3,186	74	A.Roy+	D6216

24 Chromium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

25 Manganese 55

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{56}Mn	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

26 Iron

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388
p,x+γ	inclusive	PY	2JPNTOK	5.2+07	5.2+07	Jour	NIM,151,493	78	T.Nakamura+	E2454
p,x+n	inclusive	PY	2JPNTOK	3.0+07	3.0+07	Jour	NSE,83,444	83	T.Nakamura+	E2453
p,x+n	inclusive	PY	2JPNTOK	5.2+07	5.2+07	Jour	NIM,151,493	78	T.Nakamura+	E2454
d,x+γ	inclusive	PY	2JPNTOK	3.3+07	3.3+07	Jour	PR/C,29,1307	84	K.Shin+	E2343
^{3}He,x+γ	inclusive	PY	2JPNTOK	6.5+07	6.5+07	Jour	PR/C,29,1307	84	K.Shin+	E2343
α,x+γ	inclusive	PY	2JPNTOK	6.5+07	6.5+07	Jour	PR/C,29,1307	84	K.Shin+	E2343

26 Iron 54

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,p	^{54}Mn	CS	2JPNWER	3.0+05		Jour	RCA,102,369	14	M.S.Uddin+	23238

26 Iron 56

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{57}Fe	CS	2JPNTIT	5.5+05	5.5+05	Jour	NIM/B,268,440	10	T.Wang+	23103
n,γ	^{57}Fe	MLT	2JPNTIT	5.5+05	5.5+05	Jour	NIM/B,268,440	10	T.Wang+	23103

26 Iron 57

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{58}Fe	CS	2JPNTIT	5.5+05	5.5+05	Jour	NIM/B,268,440	10	T.Wang+	23103
n,γ	^{58}Fe	MLT	2JPNTIT	5.5+05	5.5+05	Jour	NIM/B,268,440	10	T.Wang+	23103

27 Cobalt 59

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{60}Co	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

28 Nickel

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

28 Nickel 58

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,0		RP	2ZZZCER			Jour	PR/C,89,014605	14	P.Zugec+	23210
n,γ		RP	2ZZZCER	-7.8+04	-1.2+04	Jour	PR/C,89,014605	14	P.Zugec+	23210
n,γ	^{59}Ni	CS	2ZZZCER	Maxwl	4.0+05	Jour	PR/C,89,014605	14	P.Zugec+	23210

28 Nickel 62

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,0		RP	2ZZZCER			Jour	PR/C,89,025810	14	C.Lederer+	23195
n,γ		RP	2ZZZCER		2.0+05	Jour	PR/C,89,025810	14	C.Lederer+	23195
n,γ	^{63}Ni	CS	2ZZZCER	Maxwl		Jour	PR/C,89,025810	14	C.Lederer+	23195

28 Nickel 63

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{64}Ni	CS	2ZZZCER	1.0+04	2.7+05	Jour	PR/C,89,025810	14	C.Lederer+	23195

29 Copper

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388
p,x+γ	inclusive	PY	2JPNTOK	5.2+07	5.2+07	Jour	NIM,151,493	78	T.Nakamura+	E2454
p,x+n	inclusive	PY	2JPNTOK	3.0+07	3.0+07	Jour	NSE,83,444	83	T.Nakamura+	E2453
p,x+n	inclusive	PY	2JPNTOK	5.2+07	5.2+07	Jour	NIM,151,493	78	T.Nakamura+	E2454
p,x+n	inclusive	?	2JPNTOK	3.0+07	3.0+07	Jour	NSE,83,444	83	T.Nakamura+	E2453
d,x+γ	inclusive	PY	2JPNTOK	3.3+07	3.3+07	Jour	PR/C,29,1307	84	K.Shin+	E2343
^{3}He,x+γ	inclusive	PY	2JPNTOK	6.5+07	6.5+07	Jour	PR/C,29,1307	84	K.Shin+	E2343
α,x+γ	inclusive	PY	2JPNTOK	6.5+07	6.5+07	Jour	PR/C,29,1307	84	K.Shin+	E2343

29 Copper 63

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{64}Cu	CS	3INDAUW	2.4+04	2.4+04	Jour	JPJ,35,8	73	M.Sriramachandramurty+	31712
n,γ	^{64}Cu	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388
n,inel	^{63}Cu	CSP	1USALAS	1.3+06	1.2+08	Jour	PR/C,87,064607	13	M.S.Boswell+	14370
n,p	^{63}Ni	CSP	1USALAS	1.5+06	1.7+08	Jour	PR/C,87,064607	13	M.S.Boswell+	14370

29 Copper 65

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
$n,2n$	^{64}Cu	CSP	1USALAS	1.0+06	1.7+08	Jour	PR/C,87,064607	13	M.S.Boswell+	14370
n,γ	^{66}Cu	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388
n,inel	^{65}Cu	CSP	1USALAS	2.6+06	1.8+07	Jour	PR/C,87,064607	13	M.S.Boswell+	14370
n,p	^{65}Ni	CSP	1USALAS	5.1+06	2.0+07	Jour	PR/C,87,064607	13	M.S.Boswell+	14370

30 Zinc

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

30 Zinc 64

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,p	^{64}Cu	CS	3BANSAV	1.5+06	1.5+06	Jour	RCA,102,473	14	M.S.Uddin+	31740

30 Zinc 67

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,p	^{67}Cu	CS	3BANSAV	1.5+06	1.5+06	Jour	RCA,102,473	14	M.S.Uddin+	31740

31 Gallium 69

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{70}Ga	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

31 Gallium 71

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{72}Ga	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

32 Germanium 76

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,inel	^{76}Ge	CS	2ZZZGEL	5.7+05	2.2+06	Jour	PR/C,88,054613	13	C.Rouki+	23204
n,inel	^{76}Ge	CSP	2ZZZGEL	5.7+05	1.5+07	Jour	PR/C,88,054613	13	C.Rouki+	23204
n,inel	^{76}Ge	DAP	2ZZZGEL	5.7+05	1.5+07	Jour	PR/C,88,054613	13	C.Rouki+	23204

33 Arsenic 75

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{76}As	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

34 Selenium 74

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{75}Se	CS	3INDAUW	2.4+04	2.4+04	Jour	JPJ,35,8	73	M.Sriramachandramurty+	31712
n,γ	^{75}Se	?	2BLGMOL	5.0-01		Jour	JRN,300,599	14	L.Sneyers+	23236

34 Selenium 80

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{81}Se	CS	3INDAUW	2.4+04	2.4+04	Jour	JPJ,35,8	73	M.Sriramachandramurty+	31712

35 Bromine 79

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{80}Br	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

35 Bromine 81

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #

n,γ	^{82}Br	CS	3INDAUW	2.4+04	2.4+04	Jour	JPJ,35,8	73	M.Sriramachandramurty+	31712

37 Rubidium 85

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{86}Rb	CS	3INDAUW	2.4+04	2.4+04	Jour	JPJ,35,8	73	M.Sriramachandramurty+	31712

38 Strontium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

39 Yttrium 89

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{90}Y	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388
α,3n	^{90}Nb	CS	3INDVEC	3.4+07	6.0+07	Jour	IPA,37,791	99	A.K.Chaubey+	D6217
α,4n	^{89}Nb	CS	3INDVEC	4.4+07	6.0+07	Jour	IPA,37,791	99	A.K.Chaubey+	D6217
α,n	^{92}Nb	CS	3INDVEC	1.8+07	3.0+07	Jour	IPA,37,791	99	A.K.Chaubey+	D6217

40 Zirconium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

41 Niobium 93

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{94}Nb	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388
p,x	^{7}Be	CS	2SWDUPP	3.9+07	9.5+07	Jour	RCA,65,81	94	B.Scholten+	D0054
p,x+α	inclusive	DAE	3SAFITH	1.6+08	1.6+08	Jour	PR/C,89,034616	14	S.S.Dimitrova+	D0735
p,x+α	inclusive	POD	3SAFITH	1.6+08	1.6+08	Jour	PR/C,89,034616	14	S.S.Dimitrova+	D0735

42 Molybdenum

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388
n,inel	^{nat}Mo	DAP	1CANMON	1.4+07	1.4+07	Jour	PHY,28,1011	62	M.K.Machwe	33064

n,sct	^{nat}Mo	DAP	1CANMON	1.4+07	1.4+07	Jour	PHY,28,1011	62	M.K.Machwe	33064

42 Molybdenum 92

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,α	^{89}Zr	CS	2GERPTB	7.7+06	1.4+07	Jour	EPJ/CS,66,03077	14	V.Semkova+	23233
n,p	^{92}Nb	CS	2JPNWER	3.0+05		Jour	RCA,102,369	14	M.S.Uddin+	23238
n,p	^{92}Nb	CS	2GERPTB	8.1+06	1.4+07	Jour	EPJ/CS,66,03077	14	V.Semkova+	23233

42 Molybdenum 95

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,p	^{95}Nb	CS	2GERPTB	7.7+06	1.3+07	Jour	EPJ/CS,66,03077	14	V.Semkova+	23233

42 Molybdenum 96

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,p	^{96}Nb	CS	2GERPTB	8.9+06	1.3+07	Jour	EPJ/CS,66,03077	14	V.Semkova+	23233

42 Molybdenum 97

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,p	^{97}Nb	CS	2GERPTB	8.9+06	1.3+07	Jour	EPJ/CS,66,03077	14	V.Semkova+	23233

42 Molybdenum 98

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,α	^{95}Zr	CS	2GERPTB	1.2+07	1.3+07	Jour	EPJ/CS,66,03077	14	V.Semkova+	23233
n,p	^{98}Nb	CS	2GERPTB	1.1+07	1.4+07	Jour	EPJ/CS,66,03077	14	V.Semkova+	23233

42 Molybdenum 100

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,2n	^{99}Mo	CS	2GERPTB	8.9+06	1.4+07	Jour	EPJ/CS,66,03077	14	V.Semkova+	23233
n,α	^{97}Zr	CS	2GERPTB	1.1+07	1.4+07	Jour	EPJ/CS,66,03077	14	V.Semkova+	23233

45 Rhodium 103

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{104}Rh	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

46 Palladium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

46 Palladium 105

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{106}Pd	CS	2JPNTIT	2.0+04	7.1+04	Jour	NST,51,(5),671	14	K.Terada+	23187
n,γ	^{106}Pd	CS	2JPNTIT	5.5+05	5.5+05	Jour	JRN,300,235	14	T.Wang+	23232
n,γ	^{106}Pd	CS	2JPNTIT	5.8+05	5.8+05	Jour	NST,51,(5),671	14	K.Terada+	23187
n,γ	^{106}Pd	MLT	2JPNTIT	4.7+04	5.8+05	Jour	NST,51,(5),671	14	K.Terada+	23187

46 Palladium 108

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{109}Pd	CS	3INDAUW	2.4+04	2.4+04	Jour	JPJ,35,8	73	M.Sriramachandramurty+	31712

47 Silver

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

47 Silver 107

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{108}Ag	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

47 Silver 109

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{110}Ag	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

48 Cadmium 112

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,n	^{111}Cd	CS	4UKRIEP	1.2+07	1.8+07	Jour	YFE,13,(2),140	12	V.O.Zheltonozhsky+	G4040

48 Cadmium 116

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,n	^{115}Cd	CS	4UKRIEP		2.0+07	Jour	YFE,13,(2),140	12	V.O.Zheltonozhsky+	G4040

49 Indium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		CS	1USAORL	2.7+02	3.1+05	Conf	60VIENNA,535	60	R.Block+	14393

49 Indium 113

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{114}In	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388
n,inel	^{113}In	CS	2JPNWER	3.0+05		Jour	RCA,102,369	14	M.S.Uddin+	23238

49 Indium 115

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{116}In	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

50 Tin

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

51 Antimony 121

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #

n,γ	^{122}Sb	CS	3INDAUW	2.4+04	2.4+04	Jour	JPJ,35,8	73	M.Sriramachandramurty+	31712
n,γ	^{122}Sb	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

51 Antimony 123

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{124}Sb	CS	3INDAUW	2.4+04	2.4+04	Jour	JPJ,35,8	73	M.Sriramachandramurty+	31712
n,γ	^{124}Sb	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

52 Tellurium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

53 Iodine 127

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{128}I	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

54 Xenon 124

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{125}Xe	CS	2GERKFK	Maxwl		Jour	ASP,97,95	83	H.Beer+	23220

54 Xenon 132

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{133}Xe	CS	2GERKFK	Maxwl		Jour	ASP,97,95	83	H.Beer+	23220

54 Xenon 134

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{135}Xe	CS	2GERKFK	Maxwl		Jour	ASP,97,95	83	H.Beer+	23220

56 Barium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

56 Barium 138

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{139}Ba	CS	3INDAUW	2.4+04	2.4+04	Jour	JPJ,35,8	73	M.Sriramachandramurty+	31712

57 Lanthanum

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

57 Lanthanum 139

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,0		RP	1USABNL	7.4-01	7.4-01	Conf	69STUDSVIK,,105	69	W.R.Kane+	14390

58 Cerium 140

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{141}Ce	CS	3INDAUW	2.4+04	2.4+04	Jour	JPJ,35,8	73	M.Sriramachandramurty+	31712

59 Praseodymium 141

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{142}Pr	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

62 Samarium 144

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
$n,2n$	^{143}Sm	CS	2JPNJAE	1.4+07	1.4+07	Rept	JAEA-C-2006-009,89	06	K.Arakita+	23216

62 Samarium 151

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,tot		CS	1USAORL	2.5-02	2.5-02	Conf	60VIENNA,535	60	R.Block+	14393

62 Samarium 152

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{153}Sm	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

63 Europium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		CS	1USARPI	1.0-02	2.0+02	Jour	ANE,69,74	14	G.Leinweber+	14382
n,tot		CS	1USARPI	1.0-02	2.0+02	Jour	ANE,69,74	14	G.Leinweber+	14382

63 Europium 151

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,0		RP	1USARPI			Jour	ANE,69,74	14	G.Leinweber+	14382
n,γ	^{152}Eu	RI	1USARPI	5.0-01	2.0+07	Jour	ANE,69,74	14	G.Leinweber+	14382
n,tot		CS	1USARPI	Maxwl		Jour	ANE,69,74	14	G.Leinweber+	14382

63 Europium 153

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,0		RP	1USARPI			Jour	ANE,69,74	14	G.Leinweber+	14382
n,γ	^{154}Eu	CS	1USARPI	2.2-03	2.0+02	Jour	ANE,69,74	14	G.Leinweber+	14382
n,γ	^{154}Eu	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388
n,γ	^{154}Eu	RI	1USARPI	5.0-01	2.0+07	Jour	ANE,69,74	14	G.Leinweber+	14382
n,tot		CS	1USARPI	Maxwl	2.0+02	Jour	ANE,69,74	14	G.Leinweber+	14382

65 Terbium 159

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{6}Li,x	^{158}Dy	CS	3INDTRM	2.2+07	3.7+07	Jour	PR/C,83,064606	11	M.K.Pradhan+	D6186
^{6}Li,x	^{159}Dy	CS	3INDTRM	2.2+07	3.7+07	Jour	PR/C,83,064606	11	M.K.Pradhan+	D6186
^{6}Li,x	^{160}Dy	CS	3INDTRM	2.2+07	3.7+07	Jour	PR/C,83,064606	11	M.K.Pradhan+	D6186
^{6}Li,x	^{161}Ho	CS	3INDTRM	2.2+07	3.7+07	Jour	PR/C,83,064606	11	M.K.Pradhan+	D6186

67 Holmium 165

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,2n	^{164}Ho	CS	3CPRNPC			Jour	PR/C,89,014604	14	Junhualuo+	32717

70 Ytterbium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,x	^{172}Tm	CS	2GERKIG	1.5+07	1.5+07	Jour	ARI,85,128	14	B.Pandey+	23221
n,x	^{173}Tm	CS	2GERKIG	1.5+07	1.5+07	Jour	ARI,85,128	14	B.Pandey+	23221
d,x	^{169}Yb	CS	2JPNIPC	1.9+06	2.4+07	Jour	NIM/B,335,8	14	M.U.Khandaker+	E2457
d,x	^{175}Yb	CS	2JPNIPC	1.9+06	2.4+07	Jour	NIM/B,335,8	14	M.U.Khandaker+	E2457
d,x	^{177}Yb	CS	2JPNIPC	1.9+06	2.4+07	Jour	NIM/B,335,8	14	M.U.Khandaker+	E2457
d,x	^{169}Lu	CS	2JPNIPC	1.6+07	2.4+07	Jour	NIM/B,335,8	14	M.U.Khandaker+	E2457
d,x	^{170}Lu	CS	2JPNIPC	8.4+06	2.4+07	Jour	NIM/B,335,8	14	M.U.Khandaker+	E2457
d,x	^{171}Lu	CS	2JPNIPC	1.9+06	2.4+07	Jour	NIM/B,335,8	14	M.U.Khandaker+	E2457
d,x	^{172}Lu	CS	2JPNIPC	1.9+06	2.4+07	Jour	NIM/B,335,8	14	M.U.Khandaker+	E2457
d,x	^{173}Lu	CS	2JPNIPC	4.0+06	2.4+07	Jour	NIM/B,335,8	14	M.U.Khandaker+	E2457
d,x	^{174}Lu	CS	2JPNIPC	4.0+06	2.4+07	Jour	NIM/B,335,8	14	M.U.Khandaker+	E2457
d,x	^{176}Lu	CS	2JPNIPC	5.7+06	2.4+07	Jour	NIM/B,335,8	14	M.U.Khandaker+	E2457
d,x	^{177}Lu	CS	2JPNIPC	5.7+06	2.4+07	Jour	NIM/B,335,8	14	M.U.Khandaker+	E2457

70 Ytterbium 174

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,α	^{171}Er	CS	2GERKIG	1.5+07	1.5+07	Jour	ARI,85,128	14	B.Pandey+	23221
n,p	^{174}Tm	CS	2GERKIG	1.5+07	1.5+07	Jour	ARI,85,128	14	B.Pandey+	23221

70 Ytterbium 176

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,α	^{173}Er	CS	2GERKIG	1.5+07	1.5+07	Jour	ARI,85,128	14	B.Pandey+	23221
n,inel	^{176}Yb	CS	2GERKIG	1.5+07	1.5+07	Jour	ARI,85,128	14	B.Pandey+	23221
n,p	^{176}Tm	CS	2GERKIG	1.5+07	1.5+07	Jour	ARI,85,128	14	B.Pandey+	23221

72 Hafnium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

72 Hafnium 180

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{181}Hf	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

73 Tantalum 181

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{182}Ta	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

74 Tungsten 186

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{187}W	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

75 Rhenium 185

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{186}Re	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

75 Rhenium 187

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{188}Re	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

76 Osmium 189

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,0		RP	1USABNL	6.7+00	6.7+00	Conf	69STUDSVIK,,105	69	W.R.Kane+	14390

77 Iridium 191

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{192}Ir	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388
n,γ	^{192}Ir	?	2BLGMOL	5.0-01		Jour	JRN,300,609	14	C.Chilian+	23235

77 Iridium 193

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{194}Ir	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388
n,γ	^{194}Ir	?	2BLGMOL	5.0-01		Jour	JRN,300,609	14	C.Chilian+	23235

78 Platinum

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

78 Platinum 194

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{3}He,2n	^{195}Hg	CS	3CZRUJF	2.2+07	2.4+07	Jour	BAS,78,361	14	E.I.Voskoboynik+	D0737
^{3}He,x	^{194}Au	CS	3CZRUJF	2.2+07	2.4+07	Jour	BAS,78,361	14	E.I.Voskoboynik+	D0737
^{3}He,x	^{196}Au	CS	3CZRUJF	2.2+07	2.4+07	Jour	BAS,78,361	14	E.I.Voskoboynik+	D0737

79 Gold 197

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{198}Au	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388
p,x	^{7}Be	CS	2SWDUPP	4.0+07	9.3+07	Jour	RCA,65,81	94	B.Scholten+	D0054
^{3}He,2n	^{198}Tl	CS	3CZRUJF	1.7+07	2.4+07	Jour	BAS,78,361	14	E.I.Voskoboynik+	D0737
^{3}He,3n	^{197}Tl	CS	3CZRUJF	1.7+07	2.4+07	Jour	BAS,78,361	14	E.I.Voskoboynik+	D0737
^{3}He,x	^{196}Au	CS	3CZRUJF	1.4+07	2.4+07	Jour	BAS,78,361	14	E.I.Voskoboynik+	D0737
^{3}He,x	^{198}Au	CS	3CZRUJF	1.4+07	2.4+07	Jour	BAS,78,361	14	E.I.Voskoboynik+	D0737
^{3}He,x	^{197}Hg	CS	3CZRUJF	1.7+07	2.4+07	Jour	BAS,78,361	14	E.I.Voskoboynik+	D0737

80 Mercury

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

81 Thallium 203

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{204}Tl	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

81 Thallium 205

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{206}Tl	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

82 Lead

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,fis	Many	FY	4UKRKFT		9.1+07	Jour	UZHV,33,92	13	O.S.Shevchenko+	G4049
n,γ		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388
p,x+γ	inclusive	PY	2JPNTOK	5.2+07	5.2+07	Jour	NIM,151,493	78	T.Nakamura+	E2454
p,x+n	inclusive	PY	2JPNTOK	3.0+07	3.0+07	Jour	NSE,83,444	83	T.Nakamura+	E2453
p,x+n	inclusive	PY	2JPNTOK	5.2+07	5.2+07	Jour	NIM,151,493	78	T.Nakamura+	E2454
d,x+γ	inclusive	PY	2JPNTOK	3.3+07	3.3+07	Jour	PR/C,29,1307	84	K.Shin+	E2343
^{3}He,x+γ	inclusive	PY	2JPNTOK	6.5+07	6.5+07	Jour	PR/C,29,1307	84	K.Shin+	E2343
α,x+γ	inclusive	PY	2JPNTOK	6.5+07	6.5+07	Jour	PR/C,29,1307	84	K.Shin+	E2343
^{20}Mg,inel	^{nat}Pb	CSP	2JPNIPC	1.2+09	1.2+09	Jour	PR/C,78,024306	08	N.Iwasa+	E2398
^{37}Mg,x	^{36}Mg	CS	2JPNIPC	9.0+09	9.0+09	Jour	PRL,112,242501	14	N.Kobayashi+	E2458
^{37}Mg,x	^{36}Mg	CSP	2JPNIPC	9.0+09	9.0+09	Jour	PRL,112,242501	14	N.Kobayashi+	E2458

82 Lead 206

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
$n,2n$	^{205}Pb	CS	2JPNJAE	1.4+07	1.4+07	Rept	JAEA-C-2006-009,89	06	K.Arakita+	23216

82 Lead 208

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
$n,2n$	^{207}Pb	CS	2JPNJAE	1.4+07	1.4+07	Rept	JAEA-C-2006-009,89	06	K.Arakita+	23216
^{20}C,inel	^{208}Pb	CSP	2JPNIPC	7.5+08	7.5+08	Jour	PR/C,79,011302	09	Z.Elekes+	E2399
^{24}Ne,el	^{208}Pb	DA	2FR GAN	1.9+08	1.9+08	Jour	EPJ/A,45,287	10	G.Benzoni+	D0732
^{24}Ne,inel	^{208}Pb	DA	2FR GAN	1.9+08	1.9+08	Jour	EPJ/A,45,287	10	G.Benzoni+	D0732
^{24}Ne,inel	^{208}Pb	DAP	2FR GAN	1.9+08	1.9+08	Jour	EPJ/A,45,287	10	G.Benzoni+	D0732
^{24}Ne,sct	^{208}Pb	DA	2FR GAN	1.9+08	1.9+08	Jour	EPJ/A,45,287	10	G.Benzoni+	D0732
^{24}Ne,x	^{23}F	DA	2FR GAN	1.9+08	1.9+08	Jour	EPJ/A,45,287	10	G.Benzoni+	D0732
^{24}Ne,x	^{25}Ne	DA	2FR GAN	1.9+08	1.9+08	Jour	EPJ/A,45,287	10	G.Benzoni+	D0732

83 Bismuth 209

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #

n,fis		CS	2SWDUPP	4.5+07	7.3+07	Conf	96KALMAR,2,618	96	V.P.Eismont+	23217
n,fis		?	2SWDUPP	4.5+07	7.3+07	Conf	96KALMAR,2,618	96	V.P.Eismont+	23217
n,γ	^{210}Bi	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

90 Thorium 232

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,fis		DA	2ZZZCER	1.1+06	1.3+08	Jour	NIM/A,743,79	14	D.Tarrio+	23209
n,fis	Many	FY	3INDTRM	5.4+06	1.0+07	Jour	NSE,176,106	14	P.M.Prajapati+	33047
n,γ	^{233}Th	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

92 Uranium 233

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,abs		ETA	1USAORL	1.4-01	3.0+00	Conf	60VIENNA,535	60	R.Block+	14393

92 Uranium 235

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,fis		CS	1USALRL	1.5+04	5.0+05	Conf	70HELSINKI,2,65	Jun 70	C.D.Bowman+	10170
n,fis		RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388
n,fis	^{99}Mo	FY	3CPRAEP	5.7+05	1.5+06	Jour	CST,47,1473	13	Fengjing+	32718
n,tot		CS	1USALRL	1.0+00	4.6+01	Jour	NSE,35,350	69	R.L.Bramlett+	10134

92 Uranium 238

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,fis		KE	2FR BRC	5.2+06	5.2+06	Jour	PPRC,47,144	13	A.Sardet+	23218
n,fis		NU	1USALAS	1.4+06	1.9+07	Jour	NIM/A,745,99	14	B.Laurent+	14384
n,γ	^{239}U	RI	1USAORL	4.9-01		Conf	55GENEVA,5,96	55	R.L.Macklin+	14388

93 Neptunium 239

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{240}Np	CS	1USAORL	2.5-02	2.5-02	Conf	55GENEVA,7,258	55	J.Halperin+	14389

94 Plutonium 239

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,abs		ALF	1USALAS	1.0+01	1.0+03	Jour	PR/C,89,034610	14	S.Mosby+	14383
n,fis		NU	1USARPI	1.2-02	9.0+01	Jour	PRL,22,195	69	S.Weinstein+	12513
n,γ		RP	1USABNL	1.8+01	1.8+01	Conf	70HELSINKI,1,377	70	R.E.Chrien+	14386
n,γ	^{240}Pu	CS	1USALAS	1.0+01	1.0+03	Jour	PR/C,89,034610	14	S.Mosby+	14383
n,γ	^{240}Pu	CS	1USAORL	2.5-02	2.5-02	Conf	55GENEVA,7,258	55	J.Halperin+	14389
n,γ	^{240}Pu	INT	1USALAS	1.0+01	1.0+03	Jour	PR/C,89,034610	14	S.Mosby+	14383
n,γ	^{240}Pu	SPC	1USABNL	1.1+00	1.1+00	Conf	70HELSINKI,1,377	70	R.E.Chrien+	14386

94 Plutonium 240

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{241}Pu	CS	1USARPI	6.0+03	3.0+04	Jour	NSE,49,153	Oct 72	R.W.Hockenbury+	10127

95 Americium 241

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,0		RP	2ZZZCER			Jour	PR/C,89,044609	14	K.Fraval+	23237
n,el		RP	2ZZZCER		3.2+02	Jour	PR/C,89,044609	14	K.Fraval+	23237
n,γ	^{242}Am	CS	2ZZZCER	2.5-02	2.5-02	Jour	PR/C,89,044609	14	K.Fraval+	23237
n,γ	^{242}Am	RI	2ZZZCER		5.0-01	Jour	PR/C,89,044609	14	K.Fraval+	23237

95 Americium 242

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,fis	Many	FY	2FR ILL	2.5-02	2.5-02	Jour	EPJ/CS,62,06002	13	Ch.Amouroux+	23208
n,fis	Many	KE	2FR ILL	2.5-02	2.5-02	Jour	EPJ/CS,62,06002	13	Ch.Amouroux+	23208

97 Berkelium 249

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{48}Ca,3n	^{294}*	CS	2GERGSI		2.6+08	Jour	PRL,112,172501	14	J.Khuyagbaatar+	D0731

98 Californium 252

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
0,fis	Many	CHG	3CPRCPR	Spont		Jour	NIM/A,697,7	13	Taofengwang+	32708
0,fis	Many	FY	1USALRL	Spont		Conf	58GENEVA,15,212	58	H.R.Bowman+	14387

0,fis	^{nat}G	FY	1USALRL	Spont	Conf	58GENEVA,15,212	58	H.R.Bowman+	14387
0,fis		NU	1USALRL	Spont	Conf	58GENEVA,15,212	58	H.R.Bowman+	14387
0,fis	Many	NU	1USALRL	Spont	Conf	58GENEVA,15,212	58	H.R.Bowman+	14387
0,fis		NUF	1USALRL	Spont	Conf	58GENEVA,15,212	58	H.R.Bowman+	14387