EXFOR News (September 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)

3 Lithium 6

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,t	^{4}He	CS	2BLGMOL	Fiss		Conf	82GAITHERS,2,889	82	B.M.Oliver+	23226
p,^{3}He	^{4}He	CS	3AULAML	6.4+05	2.9+06	Jour	NP/A,224,(2),349	May 74	G.P.Johnston+	A1407
p,^{3}He	^{4}He	DA	3AULAML	6.4+05	2.9+06	Jour	NP/A,224,(2),349	May 74	G.P.Johnston+	A1407

5 Boron 10

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,α	^{7}Li	CSP	2ZZZGEL	1.5+06	5.6+06	Jour	NIM/A,562,737	06	G.Giorginis+	22854
n,α	^{7}Li	?	2ZZZGEL	1.5+06	5.6+06	Jour	NIM/A,562,737	06	G.Giorginis+	22854
n,x+α	inclusive	CS	2BLGMOL	Fiss		Conf	82GAITHERS,2,889	82	B.M.Oliver+	23226

6 Carbon 12

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
γ,el	^{12}C	DA	2SWDLND	6.1+07	7.7+07	Jour	PL/B,274,275	92	M.Ludwig+	M0875
γ,inel	^{12}C	DA	2GERMNZ	1.7+07	5.0+07	Jour	NP/A,506,307	90	K.P.Schelhaas+	M0876
γ,inel	^{12}C	DAP	2GERMNZ	1.4+07	9.9+07	Jour	NP/A,506,307	90	K.P.Schelhaas+	M0876
n,α	^{9}Be	CSP	2GERPTB	1.1+07	1.8+07	Rept	PTB-N-8	92	D.Schmidt+	23228
n,α	^{9}Be	CSP	2ZZZGEL	7.5+06	9.6+06	Priv	GIORGINIS	Apr 14	G.Giorginis+	23229
n,α	^{9}Be	?	2ZZZGEL	7.5+06	9.6+06	Priv	GIORGINIS	Apr 14	G.Giorginis+	23229
p,^{3}He+α	^{6}Li	CS	4RUSITE	5.0+07	5.0+07	Jour	YF,27,7	78	I.G.Golikov+	A0018
p,p+^{3}He	^{9}Be	CS	4RUSITE	5.0+07	5.0+07	Jour	IZV,43,148	79	A.I.Vdovin+	A0050
p,p+t+^{3}He	^{6}Li	CS	4RUSITE	5.0+07	5.0+07	Jour	IZV,43,148	79	A.I.Vdovin+	A0050

7 Nitrogen 14

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,2α	^{7}Be	CS	4RUSITE	5.0+07	5.0+07	Jour	IZV,43,148	79	A.I.Vdovin+	A0050
p,2d	^{11}C	CS	4RUSITE	5.0+07	5.0+07	Jour	YF,27,7	78	I.G.Golikov+	A0018
p,2p	^{13}C	CS	4RUSITE	5.0+07	5.0+07	Jour	YF,27,7	78	I.G.Golikov+	A0018
p,2p+^{6}Li	^{7}Li	CS	4RUSITE	5.0+07	5.0+07	Jour	IZV,43,148	79	A.I.Vdovin+	A0050
p,2p+d	^{11}B	CS	4RUSITE	5.0+07	5.0+07	Jour	IZV,43,148	79	A.I.Vdovin+	A0050
p,^{3}He+^{6}Li	^{6}Li	CS	4RUSITE	5.0+07	5.0+07	Jour	IZV,43,148	79	A.I.Vdovin+	A0050
p,p+t+α	^{7}Be	CS	4RUSITE	5.0+07	5.0+07	Jour	IZV,43,148	79	A.I.Vdovin+	A0050

8 Oxygen 16

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,α	^{13}C	CSP	2ZZZGEL	3.9+06	9.0+06	Conf	2007NICE,1,525	07	G.Giorginis+	23040
p,2p	^{15}N	CS	4RUSITE	5.0+07	5.0+07	Jour	YF,27,7	78	I.G.Golikov+	A0018
p,d+t	^{12}N	CS	4RUSITE	5.0+07	5.0+07	Jour	YF,27,7	78	I.G.Golikov+	A0018
p,p+^{6}He	^{10}C	CS	4RUSITE	5.0+07	5.0+07	Jour	IZV,43,148	79	A.I.Vdovin+	A0050
p,p+3α	^{4}He	CS	4RUSITE	5.0+07	5.0+07	Jour	IZV,43,148	79	A.I.Vdovin+	A0050
p,p+^{7}Be	^{9}Be	CS	4RUSITE	5.0+07	5.0+07	Jour	YF,27,7	78	I.G.Golikov+	A0018
p,p+^{3}He	^{13}C	CS	4RUSITE	5.0+07	5.0+07	Jour	IZV,43,148	79	A.I.Vdovin+	A0050
p,p+^{3}He+α	^{9}Be	CS	4RUSITE	5.0+07	5.0+07	Jour	IZV,43,148	79	A.I.Vdovin+	A0050

9 Fluorine 19

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,α	^{16}N	CS	3INDTRM	4.7+06	4.7+06	Jour	NP,83,407	66	S.M.Bharathi+	33061
n,α	^{16}N	DA	3INDTRM	4.7+06	4.7+06	Jour	NP,83,407	66	S.M.Bharathi+	33061

11 Sodium 23

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,p	^{26}Mg	CS	1USAANL	1.4+06	2.4+06	Jour	PRL,112,152701	14	S.Almaraz-Calderon+	C2107
α,p	^{26}Mg	CSP	1USAANL	1.4+06	2.4+06	Jour	PRL,112,152701	14	S.Almaraz-Calderon+	C2107
α,p	^{26}Mg	DAP	1USAANL	2.1+06	2.1+06	Jour	PRL,112,152701	14	S.Almaraz-Calderon+	C2107

12 Magnesium 24

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,p	^{24}Na	CS	2JPNKTO	Fiss		Conf	93VAIL,720	93	K.Kobayashi	23230
p,el	^{24}Mg	DA	1USARUT	5.6+06	6.2+06	Jour	PR,177,1656	69	B.Teitelman+	C2056
p,inel	^{24}Mg	DAP	1USARUT	5.6+06	6.2+06	Jour	PR,177,1656	69	B.Teitelman+	C2056

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	?	2GERIFS			Conf	68WASH,2,885	Mar 68	H.K.Vonach+	20815
n,p	^{27}Mg	CS	2JPNKTO	Fiss		Conf	93VAIL,720	93	K.Kobayashi	23230
n,p	^{27}Mg	DAE	2SWTZUR	1.3+07	1.8+07	Jour	NC,9,280	58	L.Colli+	23214

14 Silicon 28

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,α	^{25}Mg	CSP	2FR SAC	1.4+07	1.5+07	Jour	NC,23,(6),1140	Mar 62	D.Blanc+	21361
p,el	^{28}Si	DA	1USARUT	5.8+06	7.4+06	Jour	PR,177,1656	69	B.Teitelman+	C2056
p,inel	^{28}Si	DAP	1USARUT	5.8+06	7.4+06	Jour	PR,177,1656	69	B.Teitelman+	C2056
α,n	^{31}S	DAP	1USAANL	2.2+07	2.2+07	Jour	PR/C,89,045804	14	D.T.Doherty+	C2106

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	SPC	3CZRUJV	4.0+02	4.0+02	Rept	UJV-1705	66	F.Becvar+	31744

21 Scandium 45

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
$n,2n$	^{44}Sc	CS	3CPRNPC			Jour	RCA,101,607	13	J.Luo+	32712

22 Titanium 46

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,p	^{46}Sc	CS	2JPNKTO	Fiss		Conf	93VAIL,720	93	K.Kobayashi	23230

22 Titanium 47

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,p	^{47}Sc	CS	2JPNKTO	Fiss		Conf	93VAIL,720	93	K.Kobayashi	23230

22 Titanium 48

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,p	^{48}Sc	CS	2JPNKTO	Fiss		Conf	93VAIL,720	93	K.Kobayashi	23230

24 Chromium 50

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,x	^{56}Mn	TT	2UK BIR	2.0+07	3.8+07	Jour	ARI,39,1197	88	J.Zweit+	A0468

24 Chromium 53

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{12}C,x+n	inclusive	CSP	4RUSKUR	5.4+07	5.4+07	Jour	IZV,43,2192	79	O.V.Bochkarev+	A0036

25 Manganese 55

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,2n	^{54}Mn	CS	2JPNKTO	Fiss		Conf	91JUELIC,,68	91	O.Horibe+	23223

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	2JPNKTO	Fiss		Conf	93VAIL,720	93	K.Kobayashi	23230

26 Iron 56

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,p	^{56}Mn	CS	2JPNKTO	Fiss		Conf	93VAIL,720	93	K.Kobayashi	23230

27 Cobalt 59

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,α	^{56}Mn	CS	2GERPTB	Fiss		Conf	82ANTWER,,429	82	W.Mannhart	21817
n,γ		RP	3AULAUA	1.3+02	1.3+02	Rept	AAEC/TM-466	68	T.Wall	31734
n,γ	^{60}Co	RI	3AULAUA		5.0-01	Rept	AAEC/TM-466	68	T.Wall	31734

28 Nickel

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,x+p	inclusive	DAE	2ITYCIS	1.4+07	1.4+07	Jour	NC,13,730	Aug 59	L.Colli+	21264
n,x+p	inclusive	DAE	2SWTZUR	1.4+07	1.8+07	Jour	NC,9,280	58	L.Colli+	23214
p,x	^{55}Co	CS	1USAORL	6.2+06	4.0+07	Rept	AIP-1525,520	13	C.U.Jost+	C2108
p,x	^{56}Ni	CS	1USAORL	2.1+07	4.0+07	Rept	AIP-1525,520	13	C.U.Jost+	C2108

28 Nickel 58

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,2n	^{57}Ni	CS	2GERPTB	Fiss		Conf	82ANTWER,,429	82	W.Mannhart	21817
n,2n	^{57}Ni	CS	2JPNKTO	Fiss		Conf	91JUELIC,,68	91	O.Horibe+	23223
n,p	^{58}Co	CS	2JPNKTO	Fiss		Conf	93VAIL,720	93	K.Kobayashi	23230
n,x	^{57}Co	CS	2GERPTB	Fiss		Conf	82ANTWER,,429	82	W.Mannhart	21817
n,x	^{57}Co	CS	2JPNKTO	Fiss		Conf	91JUELIC,,68	91	O.Horibe+	23223

28 Nickel 60

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,p	^{60}Co	CS	2GERPTB	Fiss		Conf	82ANTWER,,429	82	W.Mannhart	21817

28 Nickel 61

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,x+n	inclusive	CSP	4RUSKUR	5.3+07	5.3+07	Jour	IZV,43,2192	79	O.V.Bochkarev+	A0036

28 Nickel 62

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
^{3}He,x+n	inclusive	CSP	4RUSKUR	4.1+07	4.1+07	Jour	IZV,43,2192	79	O.V.Bochkarev+	A0036

29 Copper

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,x+p	inclusive	DAE	2ITYCIS	1.4+07	1.4+07	Jour	NC,13,730	Aug 59	L.Colli+	21264
p,x	^{62}Zn	CS	1USAORL	1.5+07	4.0+07	Rept	AIP-1525,520	13	C.U.Jost+	C2108

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	2JPNKTO	Fiss		Conf	93VAIL,720	93	K.Kobayashi	23230

40 Zirconium 90

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,2n	^{89}Zr	CS	2JPNKTO	Fiss		Conf	93VAIL,720	93	K.Kobayashi	23230

41 Niobium 93

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,2n	^{92}Nb	CS	2GERPTB	Fiss		Conf	82GAITHERS,1,433	82	W.G.Alberts+	23225
n,2n	^{92}Nb	CS	2JPNKTO	Fiss		Conf	93VAIL,720	93	K.Kobayashi	23230
n,inel	^{93}Nb	CS	2GERPTB	Fiss		Conf	82GAITHERS,1,433	82	W.G.Alberts+	23225

42 Molybdenum

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,x+p	inclusive	DAE	2ITYCIS	1.4+07	1.4+07	Jour	NC,13,730	Aug 59	L.Colli+	21264

42 Molybdenum 92

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,α	^{89}Zr	CS	2GERJUL	1.5+07	1.5+07	Conf	71CANT,,121	Sep 71	S.M.Qaim+	20554
n,p	^{92}Nb	CS	2GERJUL	1.5+07	1.5+07	Conf	71CANT,,121	Sep 71	S.M.Qaim+	20554

44 Ruthenium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,x	^{101}Tc	CS	3CPRNPC	1.4+07	1.5+07	Jour	JRN,296,1225	13	Junhualuo+	32715

44 Ruthenium 101

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,p	^{101}Tc	CS	3CPRNPC	1.4+07	1.5+07	Jour	JRN,296,1225	13	Junhualuo+	32715

46 Palladium 104

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,inel	^{104}Pd	?	2ZZZGEL	5.0+04	3.4+06	Conf	97TRIEST,1,586	May 97	A.Meister+	22405

46 Palladium 105

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,inel	^{105}Pd	?	2ZZZGEL	5.0+04	3.4+06	Conf	97TRIEST,1,586	May 97	A.Meister+	22405

46 Palladium 106

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,inel	^{106}Pd	?	2ZZZGEL	5.0+04	3.4+06	Conf	97TRIEST,1,586	May 97	A.Meister+	22405

46 Palladium 108

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,inel	^{108}Pd	?	2ZZZGEL	5.0+04	3.4+06	Conf	97TRIEST,1,586	May 97	A.Meister+	22405

46 Palladium 110

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,inel	^{110}Pd	?	2ZZZGEL	1.0+05	3.4+06	Conf	97TRIEST,1,586	May 97	A.Meister+	22405

47 Silver

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,x+p	inclusive	DAE	2ITYCIS	1.4+07	1.4+07	Jour	NC,13,730	Aug 59	L.Colli+	21264

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	3AULAUA		5.0-01	Rept	AAEC/TM-466	68	T.Wall	31734
n,inel	^{115}In	CS	2JPNKTO	Fiss		Conf	93VAIL,720	93	K.Kobayashi	23230

50 Tin 122

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

n,γ	^{123}Sn	CS	3INDAUW	2.4+04	2.4+04	Jour	JPJ,35,8	73	M.Sriramachandramurty+	31712

53 Iodine 127

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
$n,2n$	^{126}I	CS	2BLGMOL	Fiss		Jour	RCA,9,57	68	P.Deregge+	23224
n,p	^{127}Te	CS	2BLGMOL	Fiss		Jour	RCA,9,57	68	P.Deregge+	23224

55 Caesium 133

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{134}Cs	CS	3INDAUW	2.4+04	2.4+04	Jour	JPJ,35,8	73	M.Sriramachandramurty+	31712

65 Terbium 159

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
$n,2n$	^{158}Tb	CS	3CPRNPC	1.4+07	1.5+07	Jour	JRN,300,819	14	Junhualuo+	32716
n,α	^{156}Eu	CS	3CPRNPC	1.4+07	1.5+07	Jour	JRN,300,819	14	Junhualuo+	32716
n,p	^{159}Gd	CS	3CPRNPC	1.4+07	1.5+07	Jour	JRN,300,819	14	Junhualuo+	32716

68 Erbium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,tot		CS	2GERMUN	3.4-04	2.5-03	Prog	EANDC(E)-066,29	66	K.Knorr	22505

68 Erbium 167

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,p	^{167}Ho	CS	3CPRNPC	1.4+07	1.5+07	Jour	IPC,92,28	13	Junhualuo+	32714

74 Tungsten 186

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{187}W	RI	3AULAUA		5.0-01	Rept	AAEC/TM-466	68	T.Wall	31734

79 Gold 197

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,el	^{197}Au	AMP	2ZZZGEL	4.0+03	1.1+05	Jour	EPJ/A,49,144	13	I.Sirakov+	23222
n,γ	^{198}Au	CS	2ZZZCER	5.0+03	4.0+05	Jour	PR/C,83,034608	11	C.Lederer+	23152
n,γ	^{198}Au	RI	3AULAUA		5.0-01	Rept	AAEC/TM-466	68	T.Wall	31734
n,tot		CS	2ZZZGEL	7.4+00	1.0+38	Jour	EPJ/A,49,144	13	I.Sirakov+	23222

90 Thorium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,tot		CST	2SWDAE	4.0-03	2.8-02	Rept	AE-222	Mar 66	S.F.Beshai	20161

90 Thorium 229

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,fis		CS	2JPNKTO	2.5-02	2.5-02	Jour	NSE,139,273	01	K.Kobayashi+	22647

90 Thorium 232

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,sct	^{232}Th	CSP	2UK ALD	2.0+06	2.0+06	Jour	NP,65,236	Mar 65	R.Batchelor+	21019
$p,3n$	^{230}Pa	CS	1USAORL	1.3+07	4.0+07	Rept	AIP-1525,520	13	C.U.Jost+	C2108
$p,4n$	^{229}Pa	CS	1USAORL	2.5+07	4.0+07	Rept	AIP-1525,520	13	C.U.Jost+	C2108

90 Thorium 233

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,γ	^{234}Th	RI	2JPNKTO		5.0-01	Conf	2004SANTA,1,664	04	H.Chatani	22874

91 Protactinium 231

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
$n,2n$	^{230}Pa	CS	2JPNKTO	Fiss		Jour	JRN,120,185	88	T.Hashimoto+	23227
n,γ	^{232}Pa	CS	2JPNKTO	Maxwl		Jour	JRN,120,185	88	T.Hashimoto+	23227

92 Uranium 235

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,abs		ALF	2UK HAR	3.5-01	2.0+02	Rept	AERE-M-1670	Feb 66	F.D.Brooks+	20938
n,fis		CS	2UK HAR	3.5-01	2.0+02	Rept	AERE-M-1670	Feb 66	F.D.Brooks+	20938
n,fis	Many	FY	3CPRAEP	2.5-02	2.5-02	Jour	CST,47,(4),517	13	Yangyang+	32721
n,fis		NU	2FR SAC	2.0+00	4.5+01	Conf	73ROCH,2,201	Aug 73	J.Frehaut+	22592
n,γ	^{236}U	CS	2UK HAR	3.5-01	2.0+02	Rept	AERE-M-1670	Feb 66	F.D.Brooks+	20938
n,tot		CS	2UK HAR	3.5-01	2.0+02	Rept	AERE-M-1670	Feb 66	F.D.Brooks+	20938

92 Uranium 238

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,sct	^{238}U	CSP	2UK ALD	2.0+06	2.0+06	Jour	NP,65,236	Mar 65	R.Batchelor+	21019

93 Neptunium 237

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,el	^{237}Np	CS	2ZZZGEL	4.4+01	5.2+01	Jour	NSE,70,155	May 79	L.Mewissen+	20725
n,tot		CS	2ZZZGEL	4.0+01	4.0+01	Jour	NSE,70,155	May 79	L.Mewissen+	20725

94 Plutonium 238

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,fis	Many	FY	4UZ UZB			Jour	NESE,3,72	13	G.A.Abdullaeva+	31741

98 Californium 252

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
0,fis	Many	FY	3INDTRM	Spont		Jour	JRN,82,263	84	A.G.C.Nair+	33048
0,fis	Many	FY	3INDTRM	Spont		Jour	JRN,91,291	85	B.S.Tomar+	33049
0,fis	Many	FY	3INDTRM	Spont		Jour	JRN,125,85	88	A.Ramaswami+	33050
0,fis	Many	FY	3INDTRM	Spont		Jour	NP/A,502,307	89	S.B.Manohar+	33062
0,fis	Many	?	3INDTRM	Spont		Jour	JRN,125,85	88	A.Ramaswami+	33050
0,fis	Many	?	3INDTRM	Spont		Jour	NP/A,502,307	89	S.B.Manohar+	33062