EXFOR News (May 2015)

New experimental data available from Nuclear Reaction Data Centres

EXFOR [1] is a world-wide data library for experimental neutron, charged-particle and photon induced reaction data compiled by the International Network of the Nuclear Reaction Data Centres (NRDC)[a] co-ordinated by the IAEA Nuclear Data Section. Regularly updated web retrieval databases are available at IAEA-NDS as well as NNDC, NEADB, JAEA, JCPRG and CDFE.

This News lists newly created EXFOR entries as well as revised EXFOR entries where new data subentries are added. Entries from articles pubslished in past 10 years are flagged by asterisks (*). Please send an email to N.Otsuka (NRDC Coordinator n.otsuka@iaea.org) for inclusion in the EXFOR News distribution list as well as any question on EXFOR.

[1] N.Otuka et al., Nucl.Data.Sheets **120**(2014)272.

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 dΩ_1/dΩ_2/dE'	NUD	Delayed fission neutron multiplicity $\bar{\nu}_d$
D3E	Triple differential dΩ/dE'_1/dE'_2	NUF	Fragment neutrons
D4A	Quadruple diff. dΩ_1/dΩ_2/dE'_1/dE'_2	POL	Polarization
DA	Differential d/dΩ	POD	Differential polarization
DAA	Double differential dΩ_1/dΩ_2	PY	Product yield (other than fission)
DAE	Double differential dΩ/dE'	RI	Resonance integral
DAP	Partial differential d/dΩ	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	η-value $\bar{\nu}\sigma_{\rm fis}/(\sigma_{\rm capt}+\sigma_{\rm fis})$	TTD	Differential thick target yield, d/dΩ
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), 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 #
*	^{56}Ni,d	^{55}Ni	?	1USAMSU	2.1+09	2.1+09	Jour	PL/B,736,137	14	A.Sanetullaev+	C2132

1 Hydrogen 2

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	γ,el	^{2}H		2SWDLND	7.0+07	1.1+08	Jour	PRL,113,262506	14	L.S.Myers+	G0045
*	d,γ	^{4}He		3CPRAEP	7.0+03	7.0+03	Jour	CPH/C,33,350	09	Zhoujing+	D0527
*	d,γ	^{4}He	?	3CPRAEP	7.0+03	7.0+03	Jour	CPH/C,33,350	09	Zhoujing+	D0527

1 Hydrogen 3

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,el	^{3}H		4UKRIJD	6.8+06	6.8+06	Conf	76BAKU,,171	76	A.E.Borzakovskyi+	D5113

2 Helium 3

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	γ,n+p	^{1}H		1USADKE	1.3+07	1.5+07	Jour	PR/C,89,024002	14	G.Laskaris+	L0181
*	γ,x+π^0	inclusive		2GERMNZ	2.0+08	4.5+08	Jour	EPJ/A,50,173	14	S.Costanza+	G0044
*	γ,x+π^+	inclusive	?	2GERMNZ	2.0+08	4.5+08	Jour	EPJ/A,50,173	14	S.Costanza+	G0044

2 Helium 4

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{14}C,el	^{4}He	?	1USAFSU			Jour	PR/C,90,024327	14	M.L.Avila+	C2131
*	^{20}Ne,el	^{4}He	?	1USATAM			Jour	EPJ/CS,66,03005	14	M.Barbui+	C2134

3 Lithium 6

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	^{3}He,2d	^{5}Li		4UKRIJD	9.5+07	9.5+07	Jour	BAS,56,136	92	S.A.Gaidaenko+	D5110
	^{3}He,d+^{3}He	^{4}He		4UKRIJD	9.5+07	9.5+07	Jour	BAS,56,136	92	S.A.Gaidaenko+	D5110
	^{3}He,p+d	^{6}Li		4UKRIJD	9.5+07	9.5+07	Jour	BAS,56,136	92	S.A.Gaidaenko+	D5110
	^{3}He,p+d+d	^{4}He		4UKRIJD	9.5+07	9.5+07	Jour	BAS,56,136	92	S.A.Gaidaenko+	D5110

	^{3}He,t+^{3}He	^{3}He	4UKRIJD	9.5+07	9.5+07	Jour	BAS,56,136	92	S.A.Gaidaenko+	D5110
	α,d+α	^{4}He	4UKRIJD	9.6+07	9.6+07	Jour	BAS,56,136	92	S.A.Gaidaenko+	D5110
	α,t+^{3}He	^{4}He	4UKRIJD	9.6+07	9.6+07	Jour	BAS,56,136	92	S.A.Gaidaenko+	D5110
*	^{16}O,d	^{20}Ne	1USAFSU	1.3+07	1.3+07	Jour	PR/C,90,042801	14	M.L.Avila+	C2141

3 Lithium 7

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{14}N,el	^{7}Li		3POLWWA	8.0+07	8.0+07	Jour	EPJ/A,50,159	14	A.T.Rudchik+	D5095
*	^{14}N,inel	^{7}Li		3POLWWA	8.0+07	8.0+07	Jour	EPJ/A,50,159	14	A.T.Rudchik+	D5095

4 Beryllium 9

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	d,n	^{10}B		1USANOT	1.6+07	1.6+07	Jour	EPJ/CS,66,03026	14	M.Febbraro+	C2135
*	^{28}Mg,x	^{27}Na		1USAMSU	2.6+09	2.6+09	Jour	PR/C,90,064615	14	K.Wimmer+	C2143
*	^{36}Si,x	^{35}Al		1USAMSU	2.8+09	3.5+09	Jour	PR/C,90,034301	14	S.R.Stroberg+	C2140
*	^{36}Si,x	^{35}Si		1USAMSU	2.8+09	3.5+09	Jour	PR/C,90,034301	14	S.R.Stroberg+	C2140
*	^{38}Si,x	^{37}Al		1USAMSU	3.0+09	3.3+09	Jour	PR/C,90,034301	14	S.R.Stroberg+	C2140
*	^{38}Si,x	^{37}Si		1USAMSU	3.0+09	3.3+09	Jour	PR/C,90,034301	14	S.R.Stroberg+	C2140
*	^{40}Si,x	^{39}Al		1USAMSU	3.2+09	3.2+09	Jour	PR/C,90,034301	14	S.R.Stroberg+	C2140
*	^{40}Si,x	^{39}Si		1USAMSU	3.2+09	3.2+09	Jour	PR/C,90,034301	14	S.R.Stroberg+	C2140

5 Boron 11

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	d,n	^{12}C		1USANOT	1.6+07	1.6+07	Jour	EPJ/CS,66,03026	14	M.Febbraro+	C2135

6 Carbon

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	d,el	$^{\rm nat}$C		3HUNDEB	7.4+05	2.0+06	Jour	NIM/B,328,59	14	L.Csedreki+	D4300

6 Carbon 12

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	γ,n	^{11}C		1USASUI		6.5+07	Jour	PR,143,724	66	B.C.Cook+	L0115
	γ,n	^{11}C		1USACHI	1.9+07	3.8+07	Jour	PR,106,300	57	B.C.Cook+	L0131
	γ,n	^{11}C		1USASUI	1.9+07	6.5+07	Jour	PR,143,724	66	B.C.Cook+	L0115
*	γ,x	^{7}Be		4UKRKFT	3.4+07	8.5+07	Jour	YF,77,851	14	A.N.Dovbnua+	G4053
	γ,x+n	inclusive		1USACHI	1.8+07	3.8+07	Jour	PR,106,300	57	B.C.Cook+	L0131

*	d,p	^{13}C		3HUNDEB	1.4+06	1.5+06	Jour	NIM/B,342,184	15	L.Csedreki+	D4316
*	d,p	^{13}C		3HUNDEB	7.4+05	2.0+06	Jour	NIM/B,328,59	14	L.Csedreki+	D4300
*	^{18}O,fus			1USAFSU	6.0+06	1.4+07	Jour	PR/C,90,041603	14	T.K.Steinbach+	C2142

6 Carbon 13

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	γ,abs			1USACHI	5.0+06	3.0+07	Jour	PR,106,300	57	B.C.Cook+	L0131
	γ,n	^{12}C		1USACHI	5.5+06	4.0+07	Jour	PR,106,300	57	B.C.Cook+	L0131
	γ,p	^{12}B		1USACHI	1.8+07	3.7+07	Jour	PR,106,300	57	B.C.Cook+	L0131
	γ,x+n	inclusive		1USACHI	5.0+06	3.8+07	Jour	PR,106,300	57	B.C.Cook+	L0131
*	d,n	^{14}N		1USANOT	1.6+07	1.6+07	Jour	EPJ/CS,66,03026	14	M.Febbraro+	C2135

7 Nitrogen

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	d,el	^{nat}N		3HUNDEB	6.5+05	2.0+06	Jour	NIM/B,328,20	14	L.Csedreki+	D4299

7 Nitrogen 14

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	γ,x	^{7}Be		4UKRKFT		3.9+07	Jour	VAT/I,5/93,31	14	M.S.Glaznev+	G4052
*	γ,x	^{7}Be		4UKRKFT	4.5+07	8.5+07	Jour	YF,77,851	14	A.N.Dovbnua+	G4053
	p,γ	^{15}O		3AULCBR	2.0+05	1.0+06	Jour	NP,49,666	63	D.F.Hebbard+	D0764
*	d,n	^{15}O		1USANOT	1.6+07	1.6+07	Jour	EPJ/CS,66,03026	14	M.Febbraro+	C2135
*	d,p	^{15}N		3HUNDEB	6.5+05	2.0+06	Jour	NIM/B,328,20	14	L.Csedreki+	D4299
*	α,el	^{14}N		2JPNKTO	2.0+06	5.4+06	Jour	NIM/B,343,1	15	K.Yasuda+	E2469

7 Nitrogen 15

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	d,n	^{16}O		1USANOT	1.6+07	1.6+07	Jour	EPJ/CS,66,03026	14	M.Febbraro+	C2135

8 Oxygen 16

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	γ,n	^{15}O		1USASUI	1.6+07	6.5+07	Jour	PR,143,712	66	B.C.Cook+	L0110
*	γ,x	^{7}Be		4UKRKFT	4.4+07	5.5+07	Jour	YF,77,851	14	A.N.Dovbnua+	G4053

9 Fluorine 19

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	d,n	^{20}Ne		1USANOT	1.6+07	1.6+07	Jour	EPJ/CS,66,03026	14	M.Febbraro+	C2135

12 Magnesium 24

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	γ,n	^{23}Mg	?	1USASUI		6.4+07	Jour	NP/A,127,474	69	D.W.Anderson+	L0162

13 Aluminium 27

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	γ,el			1USATNL	3.0+06	3.0+06	Jour	PR/C,90,054315	14	C.T.Angell+	L0198
	γ,n	^{26}Al	?	1USASUI		6.3+07	Jour	PR,183,978	69	D.W.Anderson+	L0150
	π^+,x	^{22}Ne		1USALAS	1.0+08	1.0+08	Jour	PRL,35,1170	75	H.E.Jackson+	C2149
	π^+,x	^{23}Na		1USALAS	1.0+08	1.0+08	Jour	PRL,35,1170	75	H.E.Jackson+	C2149
	π^+,x	^{23}Mg		1USALAS	1.0+08	1.0+08	Jour	PRL,35,1170	75	H.E.Jackson+	C2149
	π^+,x	^{24}Mg		1USALAS	1.0+08	1.0+08	Jour	PRL,35,1170	75	H.E.Jackson+	C2149
	π^+,x	^{26}Mg		1USALAS	1.0+08	1.0+08	Jour	PRL,35,1170	75	H.E.Jackson+	C2149
	π^+,x	^{26}Al		1USALAS	1.0+08	1.0+08	Jour	PRL,35,1170	75	H.E.Jackson+	C2149
	α,non			4UKRIJD	2.6+07	2.6+07	Conf	72KIEV,,68(1)	72	L.V.Dubar+	D5117

14 Silicon 28

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	γ,n	^{27}Si	?	1USASUI		6.5+07	Jour	PR,183,978	69	D.W.Anderson+	L0150
*	d,p	^{29}Si		3HUNDEB	6.5+05	2.0+06	Jour	NIM/B,328,20	14	L.Csedreki+	D4299

16 Sulphur 32

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	γ,n	^{31}S	?	1USASUI		6.6+07	Jour	NP/A,156,74	70	D.W.Anderson+	L0200
	γ,x	^{30}P		1USASUI		6.2+07	Jour	NP/A,156,74	70	D.W.Anderson+	L0200

20 Calcium 40

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	γ,2n	^{38}Ca		1USASUI		6.2+07	Jour	NP,83,(3),584	66	D.W.Anderson+	L0088
	γ,n	^{39}Ca	?	1USASUI		6.2+07	Jour	NP,83,(3),584	66	D.W.Anderson+	L0088

	γ,x+n	inclusive		3AULAML		3.0+07	Jour	NP,54,549	64	J.E.E.Baglin+	G0046
	π^-,x	^{24}Mg		1USALAS	2.2+08	2.2+08	Jour	PRL,35,1170	75	H.E.Jackson+	C2149
	π^-,x	^{28}Si		1USALAS	2.2+08	2.2+08	Jour	PRL,35,1170	75	H.E.Jackson+	C2149
	π^-,x	^{32}S		1USALAS	2.2+08	2.2+08	Jour	PRL,35,1170	75	H.E.Jackson+	C2149
	π^-,x	^{36}Ar		1USALAS	2.2+08	2.2+08	Jour	PRL,35,1170	75	H.E.Jackson+	C2149
	π^-,x	^{37}Ar		1USALAS	2.2+08	2.2+08	Jour	PRL,35,1170	75	H.E.Jackson+	C2149
*	^{40}Ca,fus			2ITYPAD	4.9+07	6.5+07	Jour	PR/C,85,024607	12	G.Montagnoli+	D0758

20 Calcium 48

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{40}Ca,fus			2ITYPAD	4.6+07	6.5+07	Jour	PR/C,82,041601	10	C.L.Jiang+	D0759
*	^{48}Ca,fus			2ITYPAD	4.6+07	6.1+07	Jour	PL/B,679,95	09	A.M.Stefanini+	D0760

22 Titanium 49

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,γ	^{50}V		4UKRKFT	8.4+05	2.6+06	Jour	IZV,50,2016	86	I.D.Fedorets+	D5004

23 Vanadium 51

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
π^-,x	^{48}Ti		1USALAS	2.2+08	2.2+08	Jour	PRL,35,1170	75	H.E.Jackson+	C2149
p,γ	^{52}Cr		4UKRKFT	1.2+06	2.2+06	Conf	82KIEV,,301	82	B.A.Nemashkalo+	D5119

26 Iron

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
α,non			4UKRIJD	2.6+07	2.6+07	Conf	72KIEV,,68(1)	72	L.V.Dubar+	D5117

26 Iron 56

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
p,γ	^{57}Co		4UKRKFT	1.5+06	2.9+06	Conf	80LENGRD,,302	80	S.A.Pysmehetskyi+	D5112

26 Iron 58

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

	p,γ	^{59}Co		4UKRKFT	1.5+06	2.9+06	Conf	80LENGRD,,302	80	S.A.Pysmehetskyi+	D5112

27 Cobalt 59

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,non			4UKRIJD	2.6+07	2.6+07	Conf	72KIEV,,68(1)	72	L.V.Dubar+	D5117

28 Nickel

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	p,x	^{55}Co		2BLGLVN	7.4+06	6.4+07	Jour	ARI,92,73	14	N.Amjed+	D4301
*	p,x	^{56}Co		2BLGLVN	1.8+07	6.4+07	Jour	ARI,92,73	14	N.Amjed+	D4301
*	p,x	^{57}Co		2BLGLVN	6.5+06	6.4+07	Jour	ARI,92,73	14	N.Amjed+	D4301
*	p,x	^{58}Co		2BLGLVN	4.2+06	6.4+07	Jour	ARI,92,73	14	N.Amjed+	D4301
*	p,x	^{56}Ni		2BLGLVN	1.1+07	6.4+07	Jour	ARI,92,73	14	N.Amjed+	D4301
*	p,x	^{57}Ni		2BLGLVN	1.3+07	6.4+07	Jour	ARI,92,73	14	N.Amjed+	D4301
*	p,x	^{60}Cu		2BLGLVN	7.4+06	1.7+07	Jour	ARI,92,73	14	N.Amjed+	D4301
*	p,x	^{61}Cu		2BLGLVN	4.2+06	1.7+07	Jour	ARI,92,73	14	N.Amjed+	D4301
	α,non			4UKRIJD	2.6+07	2.6+07	Conf	72KIEV,,68(1)	72	L.V.Dubar+	D5117
*	^{58}Ni,x	^{46}Fe		1USAMSU	9.3+09	9.3+09	Jour	PR/C,90,014311	14	M.Pomorski+	C2133
*	^{58}Ni,x	^{48}Ni		1USAMSU	9.3+09	9.3+09	Jour	PR/C,90,014311	14	M.Pomorski+	C2133

28 Nickel 58

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	p,^{3}He	^{56}Co		3SAFITH	8.0+07	1.2+08	Jour	PR/C,91,024614	15	J.J.Vanzyl+	D0766
	^{3}He,el	^{58}Ni		1USAINU	2.7+08	2.7+08	Jour	PRM,27,747	86	P.P.Singh+	C2150
	^{3}He,inel	^{58}Ni		1USAINU	2.7+08	2.7+08	Jour	PRM,27,747	86	P.P.Singh+	C2150
	^{3}He,x+d	inclusive		4UKRIJD	9.5+07	9.5+07	Jour	BAS,56,749	92	S.A.Gaidaenko+	D5111
	^{3}He,x+p	inclusive		4UKRIJD	9.5+07	9.5+07	Jour	BAS,56,749	92	S.A.Gaidaenko+	D5111
	^{3}He,x+t	inclusive		4UKRIJD	9.5+07	9.5+07	Jour	BAS,56,749	92	S.A.Gaidaenko+	D5111

28 Nickel 60

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	π^+,x	^{52}Cr		1USALAS	3.8+08	3.8+08	Jour	PRL,35,1170	75	H.E.Jackson+	C2149
	π^+,x	^{56}Fe		1USALAS	3.8+08	3.8+08	Jour	PRL,35,1170	75	H.E.Jackson+	C2149

28 Nickel 64

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	^{3}He,x+d	inclusive		4UKRIJD	9.5+07	9.5+07	Jour	BAS,56,749	92	S.A.Gaidaenko+	D5111
	^{3}He,x+p	inclusive		4UKRIJD	9.5+07	9.5+07	Jour	BAS,56,749	92	S.A.Gaidaenko+	D5111
	^{3}He,x+t	inclusive		4UKRIJD	9.5+07	9.5+07	Jour	BAS,56,749	92	S.A.Gaidaenko+	D5111
	α,non			4UKRIJD	2.6+07	2.6+07	Conf	72KIEV,,68(1)	72	L.V.Dubar+	D5117

29 Copper

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,non			4UKRIJD	2.6+07	2.6+07	Conf	72KIEV,,68(1)	72	L.V.Dubar+	D5117

29 Copper 63

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,non			4UKRIJD	2.6+07	2.6+07	Conf	72KIEV,,68(1)	72	L.V.Dubar+	D5117

29 Copper 65

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,γ	^{66}Zn		4UKRKFT	1.2+06	3.0+06	Conf	81SAMAR,323	81	N.I.Reva+	D5118
	p,γ+n	^{65}Zn		4UKRKFT	2.4+06	3.0+06	Conf	81SAMAR,323	81	N.I.Reva+	D5118
	α,non			4UKRIJD	2.6+07	2.6+07	Conf	72KIEV,,68(1)	72	L.V.Dubar+	D5117

30 Zinc

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	d,x	^{58}Co		2JPNIPC	1.2+07	2.3+07	Jour	NIM/B,346,8	15	M.U.Khandaker+	E2473
*	d,x	^{64}Cu		2JPNIPC	8.3+06	2.3+07	Jour	NIM/B,346,8	15	M.U.Khandaker+	E2473
*	d,x	^{67}Cu		2JPNIPC	1.4+07	2.3+07	Jour	NIM/B,346,8	15	M.U.Khandaker+	E2473
*	d,x	^{65}Zn		2JPNIPC	2.6+06	2.3+07	Jour	NIM/B,346,8	15	M.U.Khandaker+	E2473
*	d,x	^{69}Zn		2JPNIPC	2.6+06	2.3+07	Jour	NIM/B,346,8	15	M.U.Khandaker+	E2473
*	d,x	^{66}Ga		2JPNIPC	2.6+06	2.3+07	Jour	NIM/B,346,8	15	M.U.Khandaker+	E2473
*	d,x	^{67}Ga		2JPNIPC	2.6+06	2.3+07	Jour	NIM/B,346,8	15	M.U.Khandaker+	E2473
	α,non			4UKRIJD	2.7+07	2.7+07	Conf	72KIEV,,68(1)	72	L.V.Dubar+	D5117

31 Gallium

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

*	p,x	^{68}Ge		2BLGVUB	1.1+07	3.7+07	Jour	RCA,101,481	13	R.Adam-Rebeles+	D4321
*	p,x	^{69}Ge		2BLGVUB	7.7+06	3.7+07	Jour	RCA,101,481	13	R.Adam-Rebeles+	D4321
*	d,x	^{68}Ge		2BLGVUB	1.8+07	5.0+07	Jour	RCA,101,481	13	R.Adam-Rebeles+	D4321
*	d,x	^{69}Ge		2BLGVUB	5.1+06	5.0+07	Jour	RCA,101,481	13	R.Adam-Rebeles+	D4321

40 Zirconium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	p,x	^{85}Sr		3HUNDEB	3.5+07	6.6+07	Jour	NIM/B,343,173	15	F.Szelecsenyi+	D4317
*	p,x	^{85}Y		3HUNDEB	4.2+07	6.6+07	Jour	NIM/B,343,173	15	F.Szelecsenyi+	D4317
*	p,x	^{86}Y		3HUNDEB	2.2+07	6.6+07	Jour	NIM/B,343,173	15	F.Szelecsenyi+	D4317
*	p,x	^{87}Y		2JPNIPC	1.2+07	1.4+07	Jour	ARI,90,149	14	M.Murakami+	E2466
*	p,x	^{87}Y		3HUNDEB	1.4+07	6.6+07	Jour	NIM/B,343,173	15	F.Szelecsenyi+	D4317
*	p,x	^{88}Y		3HUNDEB	1.4+07	6.6+07	Jour	NIM/B,343,173	15	F.Szelecsenyi+	D4317
*	p,x	^{88}Y		2JPNIPC	8.6+06	1.4+07	Jour	ARI,90,149	14	M.Murakami+	E2466
*	p,x	^{90}Y		3HUNDEB	1.8+07	6.6+07	Jour	NIM/B,343,173	15	F.Szelecsenyi+	D4317
*	p,x	^{91}Y		3HUNDEB	1.2+07	6.6+07	Jour	NIM/B,343,173	15	F.Szelecsenyi+	D4317
*	p,x	^{86}Zr		3HUNDEB	4.8+07	6.6+07	Jour	NIM/B,343,173	15	F.Szelecsenyi+	D4317
*	p,x	^{87}Zr		3HUNDEB	4.0+07	6.6+07	Jour	NIM/B,343,173	15	F.Szelecsenyi+	D4317
*	p,x	^{88}Zr		3HUNDEB	2.4+07	6.6+07	Jour	NIM/B,343,173	15	F.Szelecsenyi+	D4317
*	p,x	^{89}Zr		3HUNDEB	1.6+07	6.6+07	Jour	NIM/B,343,173	15	F.Szelecsenyi+	D4317
*	p,x	^{95}Zr		3HUNDEB	1.4+07	6.6+07	Jour	NIM/B,343,173	15	F.Szelecsenyi+	D4317
*	p,x	^{95}Zr		2JPNIPC	9.5+06	1.4+07	Jour	ARI,90,149	14	M.Murakami+	E2466
*	p,x	^{89}Nb		3HUNDEB	1.8+07	6.6+07	Jour	NIM/B,343,173	15	F.Szelecsenyi+	D4317
*	p,x	^{90}Nb		3HUNDEB	7.0+06	6.6+07	Jour	NIM/B,343,173	15	F.Szelecsenyi+	D4317
*	p,x	^{90}Nb		2JPNIPC	7.5+06	1.4+07	Jour	ARI,90,149	14	M.Murakami+	E2466
*	p,x	^{91}Nb		2JPNIPC	6.4+06	1.4+07	Jour	ARI,90,149	14	M.Murakami+	E2466
*	p,x	^{91}Nb		3HUNDEB	7.9+06	6.3+07	Jour	NIM/B,343,173	15	F.Szelecsenyi+	D4317
*	p,x	^{92}Nb		3HUNDEB	3.0+06	6.6+07	Jour	NIM/B,343,173	15	F.Szelecsenyi+	D4317
*	p,x	^{92}Nb		2JPNIPC	6.4+06	1.4+07	Jour	ARI,90,149	14	M.Murakami+	E2466
*	p,x	^{95}Nb		2JPNIPC	6.4+06	1.4+07	Jour	ARI,90,149	14	M.Murakami+	E2466
*	p,x	^{95}Nb		3HUNDEB	8.9+06	6.6+07	Jour	NIM/B,343,173	15	F.Szelecsenyi+	D4317
*	p,x	^{96}Nb		3HUNDEB	3.0+06	5.4+07	Jour	NIM/B,343,173	15	F.Szelecsenyi+	D4317
*	p,x	^{96}Nb		2JPNIPC	6.4+06	1.4+07	Jour	ARI,90,149	14	M.Murakami+	E2466

40 Zirconium 90

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	^{3}He,el	^{90}Zr		1USAINU	2.7+08	2.7+08	Jour	PRM,27,747	86	P.P.Singh+	C2150
	^{3}He,inel	^{90}Zr		1USAINU	2.7+08	2.7+08	Jour	PRM,27,747	86	P.P.Singh+	C2150

46 Palladium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{3}He,x	^{103}Ag		3HUNDEB	1.4+07	2.7+07	Jour	ARI,94,191	14	M.Al-Abyad+	D4315
*	^{3}He,x	^{104}Ag		3HUNDEB	1.8+07	2.7+07	Jour	ARI,94,191	14	M.Al-Abyad+	D4315
*	^{3}He,x	^{105}Ag		3HUNDEB	1.2+07	2.7+07	Jour	ARI,94,191	14	M.Al-Abyad+	D4315

*	^{3}He,x	^{106}Ag	3HUNDEB	1.2+07	2.7+07	Jour	ARI,94,191	14	M.Al-Abyad+	D4315
*	^{3}He,x	^{110}Ag	3HUNDEB	1.2+07	2.7+07	Jour	ARI,94,191	14	M.Al-Abyad+	D4315
*	^{3}He,x	^{111}Ag	3HUNDEB	1.2+07	2.7+07	Jour	ARI,94,191	14	M.Al-Abyad+	D4315
*	^{3}He,x	^{112}Ag	3HUNDEB	1.4+07	2.7+07	Jour	ARI,94,191	14	M.Al-Abyad+	D4315
*	^{3}He,x	^{104}Cd	3HUNDEB	1.8+07	2.7+07	Jour	ARI,94,191	14	M.Al-Abyad+	D4315
*	^{3}He,x	^{105}Cd	3HUNDEB	1.5+07	2.7+07	Jour	ARI,94,191	14	M.Al-Abyad+	D4315
*	^{3}He,x	^{107}Cd	3HUNDEB	1.2+07	2.7+07	Jour	ARI,94,191	14	M.Al-Abyad+	D4315
*	^{3}He,x	^{111}Cd	3HUNDEB	1.1+07	2.7+07	Jour	ARI,94,191	14	M.Al-Abyad+	D4315

48 Cadmium 112

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	p,2n	^{111}In		2BLGVUB	1.0+07	3.5+07	Jour	RCA,102,1111	14	A.Hermanne+	D4320
*	p,3n	^{110}In		2BLGVUB	2.0+07	3.5+07	Jour	RCA,102,1111	14	A.Hermanne+	D4320
*	p,4n	^{109}In		2BLGVUB	2.8+07	3.5+07	Jour	RCA,102,1111	14	A.Hermanne+	D4320

48 Cadmium 114

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	p,2n	^{113}In		2BLGVUB	9.3+06	2.4+07	Jour	RCA,102,1111	14	A.Hermanne+	D4320
*	p,n	^{114}In		2BLGVUB	5.2+06	2.4+07	Jour	RCA,102,1111	14	A.Hermanne+	D4320

50 Tin 116

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	^{3}He,el	^{116}Sn		1USAINU	2.7+08	2.7+08	Jour	PRM,27,747	86	P.P.Singh+	C2150
	^{3}He,inel	^{116}Sn		1USAINU	2.7+08	2.7+08	Jour	PRM,27,747	86	P.P.Singh+	C2150

54 Xenon 128

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	γ,abs			1USATNL	5.8+06	8.8+06	Jour	PR/C,90,054310	14	R.Massarczyk+	L0199

54 Xenon 134

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	γ,abs			1USATNL	5.8+06	8.8+06	Jour	PR/C,90,054310	14	R.Massarczyk+	L0199

54 Xenon 143

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	γ,abs			1USATNL	5.8+06	8.8+06	Jour	PR/C,90,054310	14	R.Massarczyk+	L0199

59 Praseodymium 141

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	γ,n	^{140}Pr		1USASUI		6.5+07	Jour	PR,143,730	66	B.C.Cook+	L0072

60 Neodymium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	d,x	^{139}Ce		2BLGLVN	9.7+06	4.9+07	Jour	NIM/B,325,15	14	F.Tarkanyi+	D4306
*	d,x	^{142}Pr		2BLGLVN	3.0+07	4.9+07	Jour	NIM/B,325,15	14	F.Tarkanyi+	D4306
*	d,x	^{139}Nd		2BLGLVN	2.2+07	4.9+07	Jour	NIM/B,325,15	14	F.Tarkanyi+	D4306
*	d,x	^{141}Nd		2BLGLVN	2.2+07	4.9+07	Jour	NIM/B,325,15	14	F.Tarkanyi+	D4306
*	d,x	^{147}Nd		2BLGLVN	9.7+06	4.9+07	Jour	NIM/B,325,15	14	F.Tarkanyi+	D4306
*	d,x	^{149}Nd		2BLGLVN	2.2+07	4.9+07	Jour	NIM/B,325,15	14	F.Tarkanyi+	D4306
*	d,x	^{143}Pm		2BLGLVN	2.1+07	4.9+07	Jour	NIM/B,325,15	14	F.Tarkanyi+	D4306
*	d,x	^{144}Pm		2BLGLVN	9.7+06	4.9+07	Jour	NIM/B,325,15	14	F.Tarkanyi+	D4306
*	d,x	^{146}Pm		2BLGLVN	9.7+06	4.9+07	Jour	NIM/B,325,15	14	F.Tarkanyi+	D4306
*	d,x	^{148}Pm		2BLGLVN	9.7+06	4.9+07	Jour	NIM/B,325,15	14	F.Tarkanyi+	D4306
*	d,x	^{149}Pm		2BLGLVN	9.7+06	4.9+07	Jour	NIM/B,325,15	14	F.Tarkanyi+	D4306
*	d,x	^{150}Pm		2BLGLVN	2.2+07	4.9+07	Jour	NIM/B,325,15	14	F.Tarkanyi+	D4306
*	d,x	^{151}Pm		2BLGLVN	9.7+06	4.9+07	Jour	NIM/B,325,15	14	F.Tarkanyi+	D4306

62 Samarium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	d,x	^{143}Pm		2BLGLVN	5.4+06	4.9+07	Jour	NIM/B,333,12	14	F.Tarkanyi+	D4307
*	d,x	^{144}Pm		2BLGLVN	1.6+07	4.9+07	Jour	NIM/B,333,12	14	F.Tarkanyi+	D4307
*	d,x	^{146}Pm		2BLGLVN	8.6+06	4.9+07	Jour	NIM/B,333,12	14	F.Tarkanyi+	D4307
*	d,x	^{148}Pm		2BLGLVN	7.6+06	4.9+07	Jour	NIM/B,333,12	14	F.Tarkanyi+	D4307
*	d,x	^{149}Pm		2BLGLVN	3.9+07	4.9+07	Jour	NIM/B,333,12	14	F.Tarkanyi+	D4307
*	d,x	^{150}Pm		2BLGLVN	6.6+06	4.9+07	Jour	NIM/B,333,12	14	F.Tarkanyi+	D4307
*	d,x	^{151}Pm		2BLGLVN	1.4+07	4.9+07	Jour	NIM/B,333,12	14	F.Tarkanyi+	D4307
*	d,x	^{145}Sm		2BLGLVN	6.6+06	4.9+07	Jour	NIM/B,333,12	14	F.Tarkanyi+	D4307
*	d,x	^{153}Sm		2BLGLVN	5.4+06	4.9+07	Jour	NIM/B,333,12	14	F.Tarkanyi+	D4307
*	d,x	^{145}Eu		2BLGLVN	5.4+06	4.9+07	Jour	NIM/B,333,12	14	F.Tarkanyi+	D4307
*	d,x	^{146}Eu		2BLGLVN	5.4+06	4.9+07	Jour	NIM/B,333,12	14	F.Tarkanyi+	D4307
*	d,x	^{147}Eu		2BLGLVN	5.4+06	4.9+07	Jour	NIM/B,333,12	14	F.Tarkanyi+	D4307
*	d,x	^{148}Eu		2BLGLVN	5.4+06	4.9+07	Jour	NIM/B,333,12	14	F.Tarkanyi+	D4307
*	d,x	^{149}Eu		2BLGLVN	5.4+06	4.9+07	Jour	NIM/B,333,12	14	F.Tarkanyi+	D4307
*	d,x	^{150}Eu		2BLGLVN	5.4+06	4.9+07	Jour	NIM/B,333,12	14	F.Tarkanyi+	D4307
*	d,x	^{152}Eu		2BLGLVN	5.4+06	4.9+07	Jour	NIM/B,333,12	14	F.Tarkanyi+	D4307

*	d,x	^{154}Eu		2BLGLVN	6.6+06	2.6+07	Jour	NIM/B,333,12	14	F.Tarkanyi+	D4307
*	d,x	^{155}Eu		2BLGLVN	5.4+06	4.9+07	Jour	NIM/B,333,12	14	F.Tarkanyi+	D4307

64 Gadolinium 154

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	p,d	^{153}Gd		1USABRK	2.5+07	2.5+07	Jour	PR/C,90,044323	14	T.J.Ross+	C2138

64 Gadolinium 158

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	p,d	^{157}Gd		1USABRK	2.5+07	2.5+07	Jour	PR/C,90,044323	14	T.J.Ross+	C2138

68 Erbium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	p,x	^{165}Tm		3KORKRM	1.9+07	4.5+07	Jour	NDS,119,249	14	T.Y.Song+	D7008
*	p,x	^{166}Tm		3KORKRM	1.9+07	4.5+07	Jour	NDS,119,249	14	T.Y.Song+	D7008
*	p,x	^{167}Tm		3IRNKRJ	6.0+06	1.5+07	Jour	RCA,100,915	12	N.Zandi+	D0765

68 Erbium 162

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	α,γ	^{166}Yb		3HUNDEB	1.1+07	1.6+07	Jour	PL/B,735,40	14	G.G.Kiss+	D4318
*	α,n	^{165}Yb		3HUNDEB	1.2+07	1.6+07	Jour	PL/B,735,40	14	G.G.Kiss+	D4318

70 Ytterbium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	d,x	^{165}Tm		2BLGLEU	4.0+07	4.8+07	Jour	NIM/B,336,37	14	F.Tarkanyi+	D4308
*	d,x	^{167}Tm		2BLGLEU	2.2+07	4.8+07	Jour	NIM/B,336,37	14	F.Tarkanyi+	D4308
*	d,x	^{168}Tm		2BLGLEU	1.3+07	4.8+07	Jour	NIM/B,336,37	14	F.Tarkanyi+	D4308
*	d,x	^{173}Tm		2BLGLEU	1.3+07	4.8+07	Jour	NIM/B,336,37	14	F.Tarkanyi+	D4308
*	d,x	^{169}Yb		2BLGLEU	1.3+07	4.8+07	Jour	NIM/B,336,37	14	F.Tarkanyi+	D4308
*	d,x	^{175}Yb		2BLGLEU	1.3+07	4.8+07	Jour	NIM/B,336,37	14	F.Tarkanyi+	D4308
*	d,x	^{177}Yb		2BLGLEU	1.3+07	4.8+07	Jour	NIM/B,336,37	14	F.Tarkanyi+	D4308
*	d,x	^{167}Lu		2BLGLEU	1.3+07	4.8+07	Jour	NIM/B,336,37	14	F.Tarkanyi+	D4308
*	d,x	^{169}Lu		2BLGLEU	1.3+07	4.8+07	Jour	NIM/B,336,37	14	F.Tarkanyi+	D4308
*	d,x	^{170}Lu		2BLGLEU	1.3+07	4.8+07	Jour	NIM/B,336,37	14	F.Tarkanyi+	D4308
*	d,x	^{171}Lu		2BLGLEU	1.3+07	4.8+07	Jour	NIM/B,336,37	14	F.Tarkanyi+	D4308
*	d,x	^{172}Lu		2BLGLEU	1.3+07	4.8+07	Jour	NIM/B,336,37	14	F.Tarkanyi+	D4308

*	d,x	^{173}Lu		2BLGLEU	1.3+07	4.8+07	Jour	NIM/B,336,37	14	F.Tarkanyi+	D4308
*	d,x	^{177}Lu		2BLGLEU	1.3+07	1.4+07	Jour	NIM/B,336,37	14	F.Tarkanyi+	D4308

72 Hafnium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	p,x	^{175}Hf		2JPNIPC	1.1+07	1.4+07	Jour	ARI,90,149	14	M.Murakami+	E2466
*	p,x	^{175}Ta		2JPNIPC	1.2+07	1.4+07	Jour	ARI,90,149	14	M.Murakami+	E2466
*	p,x	^{176}Ta		2JPNIPC	5.9+06	1.4+07	Jour	ARI,90,149	14	M.Murakami+	E2466
*	p,x	^{177}Ta		2JPNIPC	5.9+06	1.4+07	Jour	ARI,90,149	14	M.Murakami+	E2466
*	p,x	^{178}Ta		2JPNIPC	5.9+06	1.4+07	Jour	ARI,90,149	14	M.Murakami+	E2466
*	p,x	^{179}Ta		2JPNIPC	7.0+06	1.4+07	Jour	ARI,90,149	14	M.Murakami+	E2466

82 Lead 208

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	^{3}He,el	^{208}Pb		1USAINU	2.7+08	2.7+08	Jour	PRM,27,747	86	P.P.Singh+	C2150
	^{3}He,inel	^{208}Pb		1USAINU	2.7+08	2.7+08	Jour	PRM,27,747	86	P.P.Singh+	C2150

90 Thorium 232

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	p,fis	Many		3INDTRM			Jour	EPJ/A,49,133	13	H.Naik+	D7009

92 Uranium 233

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	γ,fis	^{90}Rb		4UKRIEP		1.7+07	Jour	YFE,15,(3),215	14	I.M.Vyshnevskyi+	G4055
*	γ,fis	^{133}Te		4UKRIEP		1.7+07	Jour	YFE,15,(3),215	14	I.M.Vyshnevskyi+	G4055
*	γ,fis	^{134}I		4UKRIEP		1.7+07	Jour	YFE,15,(3),215	14	I.M.Vyshnevskyi+	G4055
*	γ,fis	^{135}Xe		4UKRIEP		1.7+07	Jour	YFE,15,(3),215	14	I.M.Vyshnevskyi+	G4055
	γ,x+n	inclusive		1USALRL	5.8+06	1.8+07	Jour	PR/C,34,2201	Dec 86	B.L.Berman+	L0058

92 Uranium 234

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	γ,x+n	inclusive		1USALRL	6.8+06	1.8+07	Jour	PR/C,34,2201	Dec 86	B.L.Berman+	L0058

92 Uranium 235

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	γ,fis	^{132}Sb		4UKRIEP		1.8+07	Abst	ISINN-22,85	14	I.M.Vyshnevskyi+	G4054
*	γ,fis	^{131}Te		4UKRIEP		1.8+07	Abst	ISINN-22,85	14	I.M.Vyshnevskyi+	G4054
*	γ,fis	^{133}Te		4UKRIEP		1.7+07	Jour	YFE,15,(2),111	14	I.M.Vyshnevskyi+	G4051
*	γ,fis	^{133}Te		4UKRIEP		1.8+07	Abst	ISINN-22,85	14	I.M.Vyshnevskyi+	G4054
*	γ,fis	^{132}I		4UKRIEP		1.8+07	Abst	ISINN-22,85	14	I.M.Vyshnevskyi+	G4054
*	γ,fis	^{134}I		4UKRIEP		1.7+07	Jour	YFE,15,(2),111	14	I.M.Vyshnevskyi+	G4051
*	γ,fis	^{134}I		4UKRIEP		1.8+07	Abst	ISINN-22,85	14	I.M.Vyshnevskyi+	G4054
*	γ,fis	^{135}Xe		4UKRIEP		1.7+07	Jour	YFE,15,(2),111	14	I.M.Vyshnevskyi+	G4051
*	γ,fis	^{135}Xe		4UKRIEP		1.8+07	Abst	ISINN-22,85	14	I.M.Vyshnevskyi+	G4054

93 Neptunium 237

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	γ,fis	^{132}Sb		4UKRIEP		1.8+07	Abst	ISINN-22,85	14	I.M.Vyshnevskyi+	G4054
*	γ,fis	^{131}Te		4UKRIEP		1.8+07	Abst	ISINN-22,85	14	I.M.Vyshnevskyi+	G4054
*	γ,fis	^{133}Te		4UKRIEP		1.8+07	Abst	ISINN-22,85	14	I.M.Vyshnevskyi+	G4054
*	γ,fis	^{132}I		4UKRIEP		1.8+07	Abst	ISINN-22,85	14	I.M.Vyshnevskyi+	G4054
*	γ,fis	^{135}Xe		4UKRIEP		1.8+07	Abst	ISINN-22,85	14	I.M.Vyshnevskyi+	G4054
	γ,x+n	inclusive		1USALRL	5.5+06	1.8+07	Jour	PR/C,34,2201	Dec 86	B.L.Berman+	L0058

94 Plutonium 239

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	γ,fis	^{132}Sb		4UKRIEP		1.8+07	Abst	ISINN-22,85	14	I.M.Vyshnevskyi+	G4054
*	γ,fis	^{131}Te		4UKRIEP		1.8+07	Abst	ISINN-22,85	14	I.M.Vyshnevskyi+	G4054
*	γ,fis	^{133}Te		4UKRIEP		1.8+07	Abst	ISINN-22,85	14	I.M.Vyshnevskyi+	G4054
*	γ,fis	^{132}I		4UKRIEP		1.8+07	Abst	ISINN-22,85	14	I.M.Vyshnevskyi+	G4054
*	γ,fis	^{134}I		4UKRIEP		1.8+07	Abst	ISINN-22,85	14	I.M.Vyshnevskyi+	G4054
*	γ,fis	^{135}Xe		4UKRIEP		1.8+07	Abst	ISINN-22,85	14	I.M.Vyshnevskyi+	G4054
	γ,x+n	inclusive		1USALRL	5.6+06	1.8+07	Jour	PR/C,34,2201	Dec 86	B.L.Berman+	L0058

95 Americium 241

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	γ,fis	^{90}Rb		4UKRIEP		9.8+06	Jour	YFE,15,(3),215	14	I.M.Vyshnevskyi+	G4055
*	γ,fis	^{133}Te		4UKRIEP		9.8+06	Jour	YFE,15,(3),215	14	I.M.Vyshnevskyi+	G4055
*	γ,fis	^{134}I		4UKRIEP		9.8+06	Jour	YFE,15,(3),215	14	I.M.Vyshnevskyi+	G4055
*	γ,fis	^{135}Xe		4UKRIEP		9.8+06	Jour	YFE,15,(3),215	14	I.M.Vyshnevskyi+	G4055

95 Americium 243

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{18}O,5n	^{256}Lr		2JPNJAE	9.3+07	9.9+07	Jour	RCA,102,211	14	N.Sato+	E2465

96 Curium 248

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{14}N,6n	^{256}Lr		2JPNIPC	9.1+07	9.1+07	Jour	RCA,102,211	14	N.Sato+	E2465

98 Californium 249

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	^{11}B,4n	^{256}Lr		2JPNJAE	5.7+07	6.3+07	Jour	RCA,102,211	14	N.Sato+	E2465
*	^{11}B,4n	^{256}Lr	?	2JPNJAE	5.7+07	7.2+07	Jour	RCA,102,211	14	N.Sato+	E2465