EXFOR News (April 2019)

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 the NRDC Coordinator (Naohiko Otsuka n.otsuka@iaea.org) for inclusion in the EXFOR News distribution list as well as any question on EXFOR.

[1] N. Otuka, E. Dupont, V. Semkova 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 $\mathrm{d}\Omega_1/\mathrm{d}\Omega_2/\mathrm{d}E'$	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), 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 #
	n,el	^{1}H	DA	2BLGLVN	2.9+07	7.3+07	Jour	NP/A,615,220	97	S.Benck+	23440
	n,tot		CS	2FR SAC	6.3+08	1.1+09	Jour	PL/B,189,241	87	F.Lehar+	23429
	n,tot		CST	2GERMUN	9.0-04	7.9-02	Rept	ORNL-TR-5153	70	W.D.Seiffert	23423
	n,tot		KER	2BLGLVN	4.0+06	7.3+07	Jour	NP/A,615,220	97	S.Benck+	23440

1 Hydrogen 2

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,tot		CST	2GERMUN	9.0-04	8.0-02	Rept	ORNL-TR-5153	70	W.D.Seiffert	23423

1 Hydrogen

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,ths	Benzyl compound	DA	2GERMUN	2.2-02	1.0-01	Jour	NUK,7,286	65	C.Hofmeyr	23426
*	n,ths	Organic compound	DAE	1USAORL	5.0-02	7.0-01	Jour	ANS,867,117	17	C.Wendorff+	14509
	n,ths	Heavy water	DA	2GERMUN	2.2-02	1.0-01	Jour	NUK,7,281	65	S.Kornbichler	23427
	n,ths	Heavy water	?	2GERMUN	2.2-02	1.0-01	Jour	NUK,7,281	65	S.Kornbichler	23427
	n,tot		CS	2FR ILL			Jour	JAC,15,15	82	R.P.May+	23425
	n,tot		CST	2GERMUN	9.0-04	8.0-02	Rept	ORNL-TR-5153	70	W.D.Seiffert	23423
	n,ths	Phenyl compound	DA	2GERMUN	2.2-02	1.0-01	Jour	NUK,7,286	65	C.Hofmeyr	23426
	n,ths	Phenyl compound	?	2GERMUN	2.2-02	1.0-01	Jour	NUK,7,286	65	C.Hofmeyr	23426
*	n,ths	Polyethylene	DAE	1USAORL	5.0-02	5.0+00	Conf	2015WASH,,361	15	C.Wendorff+	14508
	n,ths	Water	DA	2GERMUN	2.2-02	1.0-01	Jour	NUK,7,265	65	H.-D.Lemmel	23422
*	n,ths	Water	DAE	1USAORL	5.5-02	5.0+00	Conf	2015WASH,,361	15	C.Wendorff+	14508
	n,ths	Water	?	2GERMUN	2.2-02	1.0-01	Jour	NUK,7,265	65	H.-D.Lemmel	23422
	n,tot		CS	2FR ILL			Jour	JAC,15,15	82	R.P.May+	23425
	n,tot		CST	2FR ILL			Jour	JAC,15,15	82	R.P.May+	23425

4 Beryllium 7

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,el		RP	2ZZZCER	1.3+04	3.5+06	Jour	PRL,121,042701	18	L.Damone+	23399
*	n,p	^{7}Li	CS	2ZZZCER	1.0-02	2.0+06	Jour	PRL,121,042701	18	L.Damone+	23399

6 Carbon

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

n,tot		KER	2GERPTB	1.5+07	1.7+07	Jour	PMB,31,601	86	G.Buehler+	23432
p,x	^{6}Li	CS	1USANAL	3.0+11	3.0+11	Jour	PL/B,57,186	75	G.M.Raisbeck+	C2361
p,x	^{7}Li	CS	1USANAL	3.0+11	3.0+11	Jour	PL/B,57,186	75	G.M.Raisbeck+	C2361
p,x	^{7}Li	?	1USANAL	3.0+11	3.0+11	Jour	PL/B,57,186	75	G.M.Raisbeck+	C2361
p,x	^{7}Be	?	1USANAL	3.0+11	3.0+11	Jour	PL/B,57,186	75	G.M.Raisbeck+	C2361
p,x	^{9}Be	CS	1USANAL	3.0+11	3.0+11	Jour	PL/B,57,186	75	G.M.Raisbeck+	C2361
p,x	^{10}Be	CS	1USANAL	3.0+11	3.0+11	Jour	PL/B,57,186	75	G.M.Raisbeck+	C2361
p,x	^{10}Be	?	1USANAL	3.0+11	3.0+11	Jour	PL/B,57,186	75	G.M.Raisbeck+	C2361
n,tot		KER	2GERPTB	1.4+07	2.0+07	Jour	PMB,37,1957	92	P.Pihet+	23434
n,tot		KER	2SWTPSI	2.6+07	3.8+07	Jour	PMB,37,1265	92	H.Schuhmacher+	23433
n,tot		KER	2SWTPSI	2.6+07	3.8+07	Conf	91JUELIC,,586	91	U.J.Schrewe+	23433
n,tot		?	2SWTPSI	2.6+07	3.8+07	Jour	PMB,37,1265	92	H.Schuhmacher+	23433
n,tot		?	2SWTPSI	2.6+07	3.8+07	Conf	91JUELIC,,586	91	U.J.Schrewe+	23433

6 Carbon 12

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
n,n+2α	^{4}He	KER	2BLGLVN	1.1+07	3.5+07	Jour	RR,97,253	84	B.Antolkovic+	23439
n,n+2α	^{4}He	KER	2GERPTB	1.2+07	1.9+07	Jour	NSE,107,1	91	B.Antolkovic+	22231
n,n+2α	^{4}He	?	2BLGLVN	1.1+07	3.4+07	Jour	RR,97,253	84	B.Antolkovic+	23439
n,n+α	^{8}Be	CSP	2GERPTB			Jour	NSE,107,1	91	B.Antolkovic+	22231
n,tot		KER	2GERPTB	1.4+07	2.0+07	Jour	PMB,37,1957	92	P.Pihet+	23434
n,tot		KER	2SWTPSI	2.6+07	3.8+07	Jour	PMB,37,1265	92	H.Schuhmacher+	23433
n,tot		KER	2SWTPSI	2.6+07	3.8+07	Conf	91JUELIC,,586	91	U.J.Schrewe+	23433
n,tot		KER	2BLGLVN	3.0+06	7.3+07	Jour	AND,76,26	00	I.Slypen+	22718
n,tot		?	2GERPTB	1.4+07	2.0+07	Jour	PMB,37,1957	92	P.Pihet+	23434
n,x+α	inclusive	DE	2BLGLVN	1.5+07	2.6+07	Jour	RR,97,253	84	B.Antolkovic+	23439
n,x+α	inclusive	KER	2BLGLVN	9.0+06	7.3+07	Jour	AND,76,26	00	I.Slypen+	22718
n,x+d	inclusive	KER	2BLGLVN	1.8+07	7.3+07	Jour	AND,76,26	00	I.Slypen+	22718
n,x+p	inclusive	KER	2BLGLVN	1.5+07	7.3+07	Jour	AND,76,26	00	I.Slypen+	22718
n,x+t	inclusive	KER	2BLGLVN	2.3+07	7.3+07	Jour	AND,76,26	00	I.Slypen+	22718
p,x	^{7}Be	CS	1USAANL	3.1+09	1.2+10	Jour	NP/B,5,188	68	A.F.Stehney+	C2360
p,x	^{11}C	CS	1USACHI	2.8+08	4.0+08	Jour	PR,95,649(SA2)	54	S.D.Warshaw+	C2359
p,x	^{11}C	CS	1USABRK	4.1+09	4.1+09	Jour	PR,117,1361	60	N.Horwitz+	C0221

7 Nitrogen 14

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
n,α	^{11}B	DAP	2SWDFOA	5.9+06	6.9+06	Jour	PS,5,175	72	G.Nystroem+	20249
n,p	^{14}C	DAP	2SWDFOA	6.9+06	6.9+06	Jour	PS,5,175	72	G.Nystroem+	20249

8 Oxygen 16

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
n,tot		KER	2BLGLVN	3.0+06	6.3+07	Jour	AND,72,1	99	S.Benck+	22724
n,x+α	inclusive	KER	2BLGLVN	4.0+06	6.3+07	Jour	AND,72,1	99	S.Benck+	22724
n,x+d	inclusive	KER	2BLGLVN	1.2+07	6.3+07	Jour	AND,72,1	99	S.Benck+	22724

	n,x+p	inclusive	KER	2BLGLVN	1.2+07	6.3+07	Jour	AND,72,1	99	S.Benck+	22724
	n,x+t	inclusive	KER	2BLGLVN	1.8+07	6.3+07	Jour	AND,72,1	99	S.Benck+	22724

9 Fluorine

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,ths	F compound	DAE	1USAORL	5.0-02	7.0-01	Jour	ANS,867,117	17	C.Wendorff+	14509

10 Neon

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,abs		CST	2GERMUN	2.5-02	2.5-02	Jour	ZN/A,15,828	60	T.Springer+	22546
n,tot		CST	2GERMUN	3.0+00	3.0+00	Jour	ZN/A,15,828	60	T.Springer+	22546

11 Sodium 23

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,tot		CS	2GERKFK	2.9+05	3.2+07	Jour	PL/B,29,417	69	S.Cierjacks+	20719

12 Magnesium

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,tot		KER	2GERPTB	1.4+07	1.9+07	Jour	PMB,31,601	86	G.Buehler+	23432

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		Rept	KURRI-AR-4,94	71	K.Kanda+	23401

13 Aluminium 27

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
n,tot		KER	2GERPTB	1.4+07	1.9+07	Jour	PMB,31,601	86	G.Buehler+	23432
p,x	^{7}Be	CS	1USANAL	3.0+11	3.0+11	Jour	PR/C,19,962	79	S.B.Kaufman+	C2368
p,x	^{7}Be	?	1USANAL	3.0+11	3.0+11	Jour	PR/C,19,962	79	S.B.Kaufman+	C2368
p,x	^{11}C	CS	1USANAL	3.0+11	3.0+11	Jour	PR/C,19,962	79	S.B.Kaufman+	C2368
p,x	^{11}C	?	1USANAL	3.0+11	3.0+11	Jour	PR/C,19,962	79	S.B.Kaufman+	C2368
p,x	^{13}N	CS	1USANAL	3.0+11	3.0+11	Jour	PR/C,19,962	79	S.B.Kaufman+	C2368

	p,x	^{13}N	?	1USANAL	3.0+11	3.0+11	Jour	PR/C,19,962	79	S.B.Kaufman+	C2368
	p,x	^{18}F	CS	1USANAL	3.0+11	3.0+11	Jour	PR/C,19,962	79	S.B.Kaufman+	C2368
	p,x	^{18}F	?	1USANAL	3.0+11	3.0+11	Jour	PR/C,19,962	79	S.B.Kaufman+	C2368
	p,x	^{22}Na	CS	1USANAL	3.0+11	3.0+11	Jour	PR/C,19,962	79	S.B.Kaufman+	C2368
	p,x	^{22}Na	?	1USANAL	3.0+11	3.0+11	Jour	PR/C,19,962	79	S.B.Kaufman+	C2368
	p,x	^{24}Na	CS	1USABNL	2.2+09	2.2+09	Jour	PR,94,775(PB1)	54	A.Turkevich	C2363
	p,x	^{24}Na	CS	1USANAL	3.0+11	3.0+11	Jour	PR/C,19,962	79	S.B.Kaufman+	C2368
	p,x	^{24}Na	?	1USANAL	3.0+11	3.0+11	Jour	PR/C,19,962	79	S.B.Kaufman+	C2368
	p,x	^{27}Mg	CS	1USABNL	6.0+08	2.8+10	Jour	PR,168,1331	68	A.M.Poskanzer+	C2357

14 Silicon

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,ths	SI oxide	DAE	1USAORL	5.0-02	7.0-01	Conf	2015WASH,,361	15	C.Wendorff+	14508

16 Sulphur 33

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,α		RP	2ZZZCER	1.3+04	3.0+05	Jour	PR/C,97,064603	18	J.Praena+	23398
*	n,α	^{30}Si	CS	2ZZZCER	1.0+04	3.0+05	Jour	PR/C,97,064603	18	J.Praena+	23398

18 Argon

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,abs		CST	2GERMUN	2.5-02	2.5-02	Jour	ZN/A,15,828	60	T.Springer+	22546

20 Calcium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,ths	CA compound	DAE	1USAORL	5.0-02	7.0-01	Jour	ANS,867,117	17	C.Wendorff+	14509

20 Calcium 40

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,tot		CS	2ZZZGEL	3.0+02	1.9+05	Rept	EUR-27559	15	C.Paradela+	23405

22 Titanium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
n,tot		CS	2GERKIL	9.4-02	7.3-01	Jour	AKE,12,385	67	U.Schmidt	23424

23 Vanadium

Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
				Min	Max		Ref Vol Page			
p,x	Many	FY	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{7}Be	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{11}C	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{13}N	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{18}F	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{22}Ne	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{24}Ne	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{22}Na	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{24}Na	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{27}Mg	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{28}Mg	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{28}Al	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{29}Al	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{30}P	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{32}P	CS	1USABNL	3.0+09	3.0+09	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{37}S	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{38}S	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{34}Cl	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{38}Cl	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{39}Cl	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{36}Ar	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{37}Ar	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{39}Ar	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{41}Ar	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{42}Ar	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{38}K	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{42}K	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{43}K	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{44}K	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{47}Ca	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{49}Ca	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{43}Sc	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{44}Sc	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{46}Sc	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{47}Sc	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{48}Sc	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{45}Ti	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{47}V	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{48}V	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{48}Cr	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{49}Cr	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366
p,x	^{51}Cr	CS	1USABNL	3.0+09	2.9+10	Jour	PR/C,7,2452	73	L.Husain+	C2366

23 Vanadium 51

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	^{12}C,x	^{57}Co	CS	1USAYAL	2.9+07	1.3+08	Thes	STEARNS	62	C.M.Stearns	C2376
	^{12}C,x	^{58}Co	CS	1USAYAL	2.9+07	1.3+08	Thes	STEARNS	62	C.M.Stearns	C2376
	^{12}C,x	^{61}Co	CS	1USAYAL	2.9+07	5.0+07	Thes	STEARNS	62	C.M.Stearns	C2376

26 Iron 54

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,inel	^{54}Fe	CS	2ZZZGEL	1.4+06	1.8+07	Jour	EPJ/A,54,183	18	A.Olacel+	23461
*	n,inel	^{54}Fe	CSP	2ZZZGEL		1.8+07	Jour	EPJ/A,54,183	18	A.Olacel+	23461

27 Cobalt 59

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	α,2n	^{61}Cu	CS	1USABNL	1.8+07	4.0+07	Thes	STEARNS	62	C.M.Stearns	C2376
	α,x	^{57}Co	CS	1USABNL	2.7+07	4.8+07	Thes	STEARNS	62	C.M.Stearns	C2376
	α,x	^{58}Co	CS	1USABNL	1.4+07	4.8+07	Thes	STEARNS	62	C.M.Stearns	C2376
	α,x	^{61}Co	CS	1USABNL	1.8+07	3.9+07	Thes	STEARNS	62	C.M.Stearns	C2376

28 Nickel 58

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,p	^{58}Co	CS	2JPNKTO	Fiss		Rept	KURRI-AR-4,94	71	K.Kanda+	23401

28 Nickel 62

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,2n	^{61}Cu	CS	1USAMIN	1.6+07	4.0+07	Thes	STEARNS	62	C.M.Stearns	C2376
	p,2p	^{61}Co	CS	1USAMIN	2.4+07	4.0+07	Thes	STEARNS	62	C.M.Stearns	C2376
	p,x	^{57}Co	CS	1USAMIN	2.6+07	4.0+07	Thes	STEARNS	62	C.M.Stearns	C2376
	p,x	^{58}Co	CS	1USAMIN	1.6+07	4.0+07	Thes	STEARNS	62	C.M.Stearns	C2376

29 Copper

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,x	Many	CS	1USABNL	2.2+09	2.2+09	Jour	PR,94,775(PB5)	54	N.Sugarman+	C2364
	p,x	Many	CS	1USANAL	4.0+11	4.0+11	Jour	PR/C,24,2038	81	G.D.Cole+	C2369
	p,x	^{34}Cl	?	1USACHI	2.0+08	2.0+08	Jour	PR/C,8,594	73	C.K.Garrett+	C1915

	p,x	^{39}Cl	CS	1USACHI	2.0+08	2.0+08	Jour	PR/C,8,594	73	C.K.Garrett+	C1915
	p,x	^{44}Sc	CS	1USACHI	2.0+08	2.0+08	Jour	PR/C,8,594	73	C.K.Garrett+	C1915
	p,x	^{44}Sc	?	1USACHI	2.0+08	2.0+08	Jour	PR/C,8,594	73	C.K.Garrett+	C1915
	p,x	^{46}Sc	CS	1USACHI	2.0+08	2.0+08	Jour	PR/C,8,594	73	C.K.Garrett+	C1915
	p,x	^{47}Sc	CS	1USACHI	2.0+08	2.0+08	Jour	PR/C,8,594	73	C.K.Garrett+	C1915
	p,x	^{48}Sc	CS	1USACHI	2.0+08	2.0+08	Jour	PR/C,8,594	73	C.K.Garrett+	C1915
	p,x	^{48}Sc	CS	1USANAL	4.0+11	4.0+11	Jour	PR/C,24,2038	81	G.D.Cole+	C2369
	p,x	^{52}Mn	CS	1USACHI	2.0+08	2.0+08	Jour	PR/C,8,594	73	C.K.Garrett+	C1915
	p,x	^{56}Mn	CS	1USACHI	2.0+08	2.0+08	Jour	PR/C,8,594	73	C.K.Garrett+	C1915
	p,x	^{52}Fe	CS	1USACHI	2.0+08	2.0+08	Jour	PR/C,8,594	73	C.K.Garrett+	C1915
	p,x	^{59}Fe	CS	1USACHI	2.0+08	2.0+08	Jour	PR/C,8,594	73	C.K.Garrett+	C1915
	p,x	^{57}Ni	CS	1USACHI	2.0+08	2.0+08	Jour	PR/C,8,594	73	C.K.Garrett+	C1915
	p,x	^{64}Cu	CS	1USABNL	2.2+09	2.2+09	Jour	PR,94,775(PB1)	54	A.Turkevich	C2363
	^{12}C,x	Many	CS	1USABRK	1.8+10	1.8+10	Jour	PR/C,24,2038	81	G.D.Cole+	C2369
	^{12}C,x	^{48}Sc	CS	1USABRK	1.8+10	1.8+10	Jour	PR/C,24,2038	81	G.D.Cole+	C2369

32 Germanium 73

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,0		RP	2ZZZCER		8.0+03	Jour	PL/B,790,458	19	C.Lederer-Woods+	23451
*	n,γ		RP	2ZZZCER		1.4+04	Jour	PL/B,790,458	19	C.Lederer-Woods+	23451
*	n,γ	^{74}Ge	CS	2ZZZCER	Maxwl	3.0+05	Jour	PL/B,790,458	19	C.Lederer-Woods+	23451

40 Zirconium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,ths	Zirconium hydride	DA	2GERMUN	2.2-02	1.0-01	Jour	NUK,7,281	65	S.Kornbichler	23427
	n,tot		CS	2GERKIL	5.2-02	7.3-01	Jour	AKE,12,385	67	U.Schmidt	23424
	n,tot		CST	2GERKIL	9.3-02	3.9-01	Jour	AKE,12,385	67	U.Schmidt	23424

41 Niobium 93

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,γ	^{94}Nb	CS	2JPNTIT	1.5+04	1.0+05	Jour	PNE,82,107	15	T.Katabuchi+	23465

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	CS	2JPNTIT	1.5+04	1.0+05	Jour	PNE,82,107	15	T.Katabuchi+	23465
	n,inel	^{103}Rh	CS	2JPNKTO	Fiss		Rept	KURRI-AR-4,94	71	K.Kanda+	23401

47 Silver

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,x	Many	CS	1USANAL	4.0+11	4.0+11	Jour	PR/C,24,2038	81	G.D.Cole+	C2369
	p,x	^{48}Sc	CS	1USANAL	4.0+11	4.0+11	Jour	PR/C,24,2038	81	G.D.Cole+	C2369
	^{12}C,x	Many	CS	1USABRK	1.8+10	1.8+10	Jour	PR/C,24,2038	81	G.D.Cole+	C2369
	^{12}C,x	^{48}Sc	CS	1USABRK	1.8+10	1.8+10	Jour	PR/C,24,2038	81	G.D.Cole+	C2369

49 Indium 115

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,2n	^{114}In	CS	2FR FR	1.4+07	1.4+07	Jour	NIM/B,99,513	95	B.Antonot+	23428
*	n,γ	^{116}In	CS	2JPNTIT	1.5+04	1.0+05	Jour	PNE,82,107	15	T.Katabuchi+	23465
	n,inel	^{115}In	CS	2JPNKTO	Fiss		Rept	KURRI-AR-4,94	71	K.Kanda+	23401

51 Antimony 135

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	0,β^-	^{135}Te	NUD	2SF JYV	Decay		Jour	EPJ/CS,146,01004	17	J.Agramunt+	23463

51 Antimony 136

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	0,β^-	^{135}Te	NUD	2SF JYV	Decay		Jour	PR/C,98,034310	18	R.Caballero-Folch+	23441

52 Tellurium 136

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	0,β^-	^{136}I	NUD	2SF JYV	Decay		Jour	PR/C,98,034310	18	R.Caballero-Folch+	23441

52 Tellurium 137

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	0,β^-	^{137}I	NUD	2SF JYV	Decay		Jour	EPJ/CS,146,01004	17	J.Agramunt+	23463

52 Tellurium 138

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	0,β^-	^{138}I	NUD	2SF JYV	Decay		Jour	EPJ/CS,146,01004	17	J.Agramunt+	23463

53 Iodine 127

Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
π^-,x	^{117}I	CS	1USALAS	2.1+08	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^+,x	^{117}I	CS	1USALAS	6.0+07	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^-,x	^{118}I	CS	1USALAS	1.0+08	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^+,x	^{118}I	CS	1USALAS	6.0+07	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^-,x	^{119}I	CS	1USALAS	1.0+08	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^+,x	^{119}I	CS	1USALAS	6.0+07	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^-,x	^{120}I	CS	1USALAS	1.0+08	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^+,x	^{120}I	CS	1USALAS	6.0+07	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^+,x	^{121}I	CS	1USALAS	6.0+07	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^-,x	^{121}I	CS	1USALAS	6.0+07	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^-,x	^{122}I	CS	1USALAS	1.0+08	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^+,x	^{122}I	CS	1USALAS	6.0+07	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^+,x	^{123}I	CS	1USALAS	6.0+07	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^-,x	^{123}I	CS	1USALAS	6.0+07	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^+,x	^{124}I	CS	1USALAS	6.0+07	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^-,x	^{124}I	CS	1USALAS	6.0+07	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^+,x	^{125}I	CS	1USALAS	6.0+07	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^-,x	^{125}I	CS	1USALAS	6.0+07	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^+,x	^{126}I	CS	1USALAS	6.0+07	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^-,x	^{126}I	CS	1USALAS	6.0+07	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^+,x	^{121}Xe	CS	1USALAS	6.0+07	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^+,x	^{122}Xe	CS	1USALAS	6.0+07	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^+,x	^{123}Xe	CS	1USALAS	6.0+07	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^+,x	^{125}Xe	CS	1USALAS	6.0+07	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
π^+,x	^{127}Xe	CS	1USALAS	6.0+07	3.5+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370
p,x	Many	CS	1USALAS	5.0+08	5.0+08	Jour	PR/C,27,1146	83	Y.Ohkubo+	C2370

53 Iodine 138

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	0,β^-	^{138}Xe	NUD	2SF JYV	Decay		Jour	EPJ/CS,146,01004	17	J.Agramunt+	23463

53 Iodine 139

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	0,β^-	^{139}Xe	NUD	2SF JYV	Decay		Jour	EPJ/CS,146,01004	17	J.Agramunt+	23463

53 Iodine 140

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	0,β^-	^{140}Xe	NUD	2SF JYV	Decay		Jour	EPJ/CS,146,01004	17	J.Agramunt+	23463

55 Caesium 148

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	0,β^-	^{148}Ba	NUD	2ZZZCER	Decay		Jour	JP/CS,966,012024	18	G.Benzoni+	23464

55 Caesium 149

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	0,β^-	^{149}Ba	NUD	2ZZZCER	Decay		Jour	JP/CS,966,012024	18	G.Benzoni+	23464

55 Caesium 150

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	0,β^-	^{150}Ba	NUD	2ZZZCER	Decay		Jour	JP/CS,966,012024	18	G.Benzoni+	23464

64 Gadolinium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,x	Many	CS	1USANAL	4.0+11	4.0+11	Jour	PR/C,24,2038	81	G.D.Cole+	C2369
	p,x	^{48}Sc	CS	1USANAL	4.0+11	4.0+11	Jour	PR/C,24,2038	81	G.D.Cole+	C2369
	^{12}C,x	Many	CS	1USABRK	1.8+10	1.8+10	Jour	PR/C,24,2038	81	G.D.Cole+	C2369
	^{12}C,x	^{48}Sc	CS	1USABRK	1.8+10	1.8+10	Jour	PR/C,24,2038	81	G.D.Cole+	C2369

64 Gadolinium 155

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,0		RP	2ZZZCER			Jour	EPJ/A,55,9	19	M.Mastromarco+	23400
*	n,el		RP	2ZZZCER	2.7-02	1.8+02	Jour	EPJ/A,55,9	19	M.Mastromarco+	23400
*	n,γ		RP	2ZZZCER	2.7-02	1.8+02	Jour	EPJ/A,55,9	19	M.Mastromarco+	23400
*	n,γ	^{156}Gd	CS	2ZZZCER	2.5-02	1.0+03	Jour	EPJ/A,55,9	19	M.Mastromarco+	23400

64 Gadolinium 157

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,0		RP	2ZZZCER			Jour	EPJ/A,55,9	19	M.Mastromarco+	23400
*	n,el		RP	2ZZZCER	3.1-02	3.1+02	Jour	EPJ/A,55,9	19	M.Mastromarco+	23400
*	n,γ		RP	2ZZZCER	3.1-02	3.1+02	Jour	EPJ/A,55,9	19	M.Mastromarco+	23400
*	n,γ	^{158}Gd	CS	2ZZZCER	2.5-02	1.0+03	Jour	EPJ/A,55,9	19	M.Mastromarco+	23400

66 Dysprosium 161

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,0		RP	2JPNJAE		6.4+01	Jour	EPJ/A,54,226	18	S.G.Shin+	23462
*	n,γ	^{162}Dy	CS	2JPNJAE	1.0+00	3.0+02	Jour	EPJ/A,54,226	18	S.G.Shin+	23462

66 Dysprosium 162

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,0		RP	2JPNJAE			Jour	EPJ/A,54,226	18	S.G.Shin+	23462
*	n,γ	^{163}Dy	CS	2JPNJAE	1.0+00	3.0+02	Jour	EPJ/A,54,226	18	S.G.Shin+	23462

66 Dysprosium 163

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,0		RP	2JPNJAE		1.9+02	Jour	EPJ/A,54,226	18	S.G.Shin+	23462
*	n,γ	^{164}Dy	CS	2JPNJAE	1.0+00	3.0+02	Jour	EPJ/A,54,226	18	S.G.Shin+	23462

66 Dysprosium 164

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,0		RP	2JPNJAE			Jour	EPJ/A,54,226	18	S.G.Shin+	23462
*	n,γ	^{165}Dy	CS	2JPNJAE	1.0+00	3.0+02	Jour	EPJ/A,54,226	18	S.G.Shin+	23462

73 Tantalum

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,x	Many	CS	1USABNL	2.8+10	2.8+10	Jour	PR/C,10,156	74	Y.Y.Chu+	C2367
	p,x	Many	CS	1USANAL	4.0+11	4.0+11	Jour	PR/C,24,2038	81	G.D.Cole+	C2369
	p,x	^{48}Sc	CS	1USANAL	4.0+11	4.0+11	Jour	PR/C,24,2038	81	G.D.Cole+	C2369
	^{12}C,x	Many	CS	1USABRK	1.8+10	1.8+10	Jour	PR/C,24,2038	81	G.D.Cole+	C2369
	^{12}C,x	^{48}Sc	CS	1USABRK	1.8+10	1.8+10	Jour	PR/C,24,2038	81	G.D.Cole+	C2369

73 Tantalum 181

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,inel	^{181}Ta	CS	2FR FR	1.4+07	1.4+07	Jour	NIM/B,99,513	95	B.Antonot+	23428

74 Tungsten 182

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,2n	^{181}W	CS	2FR FR	1.4+07	1.4+07	Jour	NIM/B,99,513	95	B.Antonot+	23428

77 Iridium 191

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,2n	^{190}Ir	CS	2GRCATH	1.5+07	2.1+07	Jour	PR/C,98,034607	18	A.Kalamara+	23442
*	n,3n	^{189}Ir	CS	2GRCATH	1.7+07	2.1+07	Jour	PR/C,98,034607	18	A.Kalamara+	23442

79 Gold 197

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	p,x	Many	CS	1USANAL	4.0+11	4.0+11	Jour	PR/C,24,2038	81	G.D.Cole+	C2369
	p,x	^{48}Sc	CS	1USANAL	4.0+11	4.0+11	Jour	PR/C,24,2038	81	G.D.Cole+	C2369
	^{12}C,x	Many	CS	1USABRK	1.8+10	1.8+10	Jour	PR/C,24,2038	81	G.D.Cole+	C2369
	^{12}C,x	^{48}Sc	CS	1USABRK	1.8+10	1.8+10	Jour	PR/C,24,2038	81	G.D.Cole+	C2369

82 Lead

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,tot		CS	2JPNKTO	2.5+04	2.5+04	Thes	HANATANI	Sep 45	K.Hanatani	23397
	n,x	^{206}Pb	CS	2FR FR	1.4+07	1.4+07	Jour	NIM/B,99,513	95	B.Antonot+	23428
	n,x	^{207}Pb	CS	2FR FR	1.4+07	1.4+07	Jour	NIM/B,99,513	95	B.Antonot+	23428

82 Lead 204

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,2n	^{203}Pb	CS	2JPNKTO	Fiss		Rept	KURRI-AR-4,94	71	K.Kanda+	23401
	n,inel	^{204}Pb	CS	2JPNKTO	Fiss		Rept	KURRI-AR-4,94	71	K.Kanda+	23401

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	2FR FR	1.4+07	1.4+07	Jour	NIM/B,99,513	95	B.Antonot+	23428

83 Bismuth 209

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,2n	^{208}Bi	CS	2FR FR	1.4+07	1.4+07	Jour	NIM/B,99,513	95	B.Antonot+	23428

90 Thorium 232

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,fis		?	2JPNTOH	1.3+07	1.5+07	Rept	INDC(JPN)-98,220	85	K.Kanda+	21963
	p,x	Many	CS	1USABNL	2.8+10	2.8+10	Jour	PR/C,4,1671	71	E.M.Franz+	C2365

92 Uranium

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
	n,el	^{nat}U	CS	2JPNKTO	2.5+04	2.5+04	Thes	HANATANI	Sep 45	K.Hanatani	23397
*	n,fis	Many	FY	2SF JYV	1.2+07	1.2+07	Jour	EPJ/A,54,33	18	A.Mattera+	23414
*	n,fis	^{129}Sn	FY	2SF JYV	1.2+07	1.2+07	Jour	EPJ/A,54,33	18	A.Mattera+	23414
*	n,fis	^{130}Sn	FY	2SF JYV	1.2+07	1.2+07	Jour	EPJ/A,54,33	18	A.Mattera+	23414
*	n,fis	^{131}Sn	FY	2SF JYV	1.2+07	1.2+07	Jour	EPJ/A,54,33	18	A.Mattera+	23414
*	n,fis	^{130}Sb	FY	2SF JYV	1.2+07	1.2+07	Jour	EPJ/A,54,33	18	A.Mattera+	23414
*	n,fis	^{132}Sb	FY	2SF JYV	1.2+07	1.2+07	Jour	EPJ/A,54,33	18	A.Mattera+	23414
	n,γ		CS	2JPNKTO	2.5+04	2.5+04	Thes	HANATANI	Sep 45	K.Hanatani	23397
	n,tot		CS	2JPNKTO	2.5+04	2.5+04	Thes	HANATANI	Sep 45	K.Hanatani	23397
	p,x	Many	CS	1USABNL	2.8+10	2.8+10	Jour	PR/C,4,1671	71	E.M.Franz+	C2365
	p,x	Many	CS	1USANAL	4.0+11	4.0+11	Jour	PR/C,24,2038	81	G.D.Cole+	C2369
	p,x	^{48}Sc	CS	1USANAL	4.0+11	4.0+11	Jour	PR/C,24,2038	81	G.D.Cole+	C2369
	^{12}C,x	Many	CS	1USABRK	1.8+10	1.8+10	Jour	PR/C,24,2038	81	G.D.Cole+	C2369
	^{12}C,x	^{48}Sc	CS	1USABRK	1.8+10	1.8+10	Jour	PR/C,24,2038	81	G.D.Cole+	C2369

92 Uranium 235

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Energy (eV) Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	n,fis		FY	2ZZZGEL	2.6-01	1.2+03	Jour	PR/C,98,044615	18	A.Goeoek+	23444
	n,fis	Many	FY	2FR ILL	Maxwl		Jour	NP/A,369,1	81	C.Wagemans+	21752
*	n,fis	Many	KE	2ZZZGEL	2.6-01	1.2+03	Jour	PR/C,98,044615	18	A.Goeoek+	23444
	n,fis		KE	2FR ILL	Maxwl		Jour	NP/A,369,1	81	C.Wagemans+	21752

	n,fis	Many	KE	2FR ILL	Maxwl		Jour	NP/A,369,1	81	C.Wagemans+	21752
*	n,fis	Many	NU	2ZZZGEL	2.6-01	1.2+03	Jour	PR/C,98,044615	18	A.Goeoek+	23444
*	n,fis		NUF	2ZZZGEL	2.6-01	1.2+03	Jour	PR/C,98,044615	18	A.Goeoek+	23444
*	n,fis	Many	NUF	2ZZZGEL	2.6-01	1.2+03	Jour	PR/C,98,044615	18	A.Goeoek+	23444
*	n,fis		NUF	2ZZZGEL	2.6-01	1.2+03	Jour	PR/C,98,044615	18	A.Goeoek+	23444
*	n,fis	Many	NUF	2ZZZGEL	2.6-01	1.2+03	Jour	PR/C,98,044615	18	A.Goeoek+	23444
	n,fis	Many	?	2GERMNZ	Maxwl		Priv	DENSCHLAG	Jun 77	H.O.Denschlag+	20878
	n,fis	^{2}H	FY	2FR ILL	Maxwl		Jour	NP/A,346,461	80	P.D'Hondt+	21705
	n,fis	^{3}H	FY	2FR ILL	Maxwl		Jour	NP/A,346,461	80	P.D'Hondt+	21705
	n,fis	^{6}He	FY	2FR ILL	Maxwl		Jour	NP/A,346,461	80	P.D'Hondt+	21705

92 Uranium 238

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	n,fis	γ	FY	2FR CAD	1.6+06	1.5+07	Jour	PR/C,98,054604	18	J.-M.Laborie+	23447
*	n,fis	γ	FY	2FR PAR	1.9+06	4.8+06	Jour	PR/C,98,014612	18	L.Qi+	23417
*	n,fis	γ	KE	2FR CAD	1.6+06	1.5+07	Jour	PR/C,98,054604	18	J.-M.Laborie+	23447
	n,fis		?	2JPNTOH	1.3+07	1.5+07	Rept	INDC(JPN)-98,220	85	K.Kanda+	21963

93 Neptunium 237

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
	n,fis		?	2JPNTOH	1.3+07	1.5+07	Rept	INDC(JPN)-98,220	85	K.Kanda+	21963

94 Plutonium 241

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
	n,0		RP	2FR SAC		1.0+02	Conf	71KNOX,2,836	71	J.Blons+	20484
	n,el		RP	2FR SAC		1.0+02	Conf	71KNOX,2,836	71	J.Blons+	20484
	n,fis		RP	2FR SAC		1.0+02	Conf	71KNOX,2,836	71	J.Blons+	20484

98 Californium 252

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
*	0,fis	γ	FY	2FR PAR	Spont		Jour	PR/C,98,014612	18	L.Qi+	23417
*	0,fis		?	2ZZZGEL	Spont		Jour	PR/C,98,044615	18	A.Goeoek+	23444

100 Fermium 257

	Reaction	Product	Quant.	Lab.	Energy (eV)		Type	Documentation	Date	Author	Data #
					Min	Max		Ref Vol Page			
	0,fis	^{4}He	FY	2BLGGHT	Spont		Jour	NP/A,742,291	04	C.Wagemans+	22896

104 Rutherfordium 255

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	0,fis		KE	2GERGSI	Spont		Jour	APP/B,49,605	18	P.Mosat+	23443

104 Rutherfordium 256

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	0,fis		KE	2GERGSI	Spont		Jour	APP/B,49,605	18	P.Mosat+	23443

104 Rutherfordium 258

	Reaction	Product	Quant.	Lab.	Energy (eV) Min	Max	Type	Documentation Ref Vol Page	Date	Author	Data #
*	0,fis		KE	2GERGSI	Spont		Jour	APP/B,49,605	18	P.Mosat+	23443