

Japan Charged-Particle Nuclear Reaction Data Group (JCPRG)

EXFOR : Recent Compilation List (Added in Apr 2005)

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Retrieval service is available at:

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Quantity code

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

Special codes in outgoing particle field

abs	Absorption	fus	Fusion	non	Nonelastic	ths	Thermal scattering
el	Elastic	inel	Inelastic	sct	Scattering	tot	Total
f	Fission	incl	Inclusive	tcc	Total charge changing		

Special codes in incident energy field

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

1 Hydrogen 1

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,el	^1H	DA	1USAINU	1.9+08		Jour	PRL,94,082303	05	M.Sarsour+	13986
$^{11}\text{Be},inel$	^1H	DAP	1USAMSU	7.0+08		Jour	PL/B,596,54	04	A.Shrivastava+	C1172
$^{17}\text{O},\gamma$		RP	1USANCA	6.7+05		Jour	NP/A,748,351	05	R.Fitzgerald+	C1160
$^{38}\text{S},el$	^1H	DA	1USAMSU	3.9+07		Jour	NP/A,616,295	97	T.Suomijarvi+	C1149
$^{38}\text{S},inel$	^1H	DAP	1USAMSU	1.5+09		Jour	NP/A,616,295	97	T.Suomijarvi+	C1149
$^{36}\text{Ar},el$	^1H	DA	1USAMSU	1.2+09		Jour	PR/C,63,014604	00	H.Scheit+	C1150
$^{36}\text{Ar},inel$	^1H	DAP	1USAMSU	1.2+09		Jour	PR/C,63,014604	00	H.Scheit+	C1150
$^{40}\text{Ar},inel$	^1H	DA	1USAMSU	1.6+09		Jour	NP/A,616,295	97	T.Suomijarvi+	C1149
$^{42}\text{Ar},el$	^1H	DA	1USAMSU	1.4+09		Jour	PR/C,63,014604	00	H.Scheit+	C1150
$^{42}\text{Ar},inel$	^1H	DAP	1USAMSU	1.4+09		Jour	PR/C,63,014604	00	H.Scheit+	C1150
$^{44}\text{Ar},el$	^1H	DA	1USAMSU	1.5+09		Jour	PR/C,63,014604	00	H.Scheit+	C1150
$^{44}\text{Ar},inel$	^1H	DAP	1USAMSU	1.5+09		Jour	PR/C,63,014604	00	H.Scheit+	C1150

1 Hydrogen 2

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
γ,n	^1H	CS	2JPNAIS	2.3+06	4.6+06	Jour	PR/D,68,072001	03	K.Y.Hara+	M0668
γ,n	^1H	DA	1USAANL	7.1+08	1.7+09	Jour	PR/C,48,1864	93	S.J.Freedman+	M0666

2 Helium 4

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
γ,n	^3He	DA	4UKRKFT	4.0+07	8.0+07	Jour	YF,59,18	96	Yu.P.Lyakhno+	M0667
γ,n	^3He	POD	4UKRKFT	4.0+07	8.0+07	Jour	YF,59,18	96	Yu.P.Lyakhno+	M0667
γ,p	^3H	POD	4UKRKFT	4.0+07	8.0+07	Jour	YF,59,18	96	Yu.P.Lyakhno+	M0667

4 Beryllium 9

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$^{12}\text{Be},^{10}\text{Be}$	^{11}Be	CSP	1USAMSU	9.4+08		Jour	PRL,85,266	00	A.Navin+	C1153

5 Boron 8

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
α,p	^{11}C	?	1USAANL	7.3+05	1.8+06	Jour	NP/A,746,354	04	K.E.Rehm+	C1133

6 Carbon 12

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,el</i>	¹² C	DA	2JPNJAE	7.5+07		Jour	NSTS,2,(1),204	Aug 02	M.Ibaraki+	22480
<i>n,p</i>	¹² B	DAP	1CANTMF	3.0+08		Jour	PR/C,47,2751	93	R.Pourang+	13962
<i>p,el</i>	¹² C	DA	1USATNL	1.4+07		Jour	PRL,45,703	Sep 80	W.J.Thompson+	C1177
<i>p,el</i>	¹² C	POD	1USATNL	1.4+07		Jour	PRL,45,703	Sep 80	W.J.Thompson+	C1177
<i>p,tot</i>		RP	1USATNL	1.4+07		Jour	PRL,45,703	Sep 80	W.J.Thompson+	C1177
³ He, <i>d</i>	¹³ N	DAP	1USACLU	2.6+07		Jour	PR/C,22,2282	80	R.J.Peterson+	C1181
α , <i>inel</i>	¹² C	DAP	1USATAM	2.4+08		Jour	PR/C,57,2748	97	D.H.Youngblood+	C1113
⁶ Li, <i>d</i>	¹⁶ O	POD	1USAFSU	5.0+07		Jour	PR/C,59,2574	99	T.L.Drummer+	C1155
⁹ Li, <i>el</i>	¹² C	DA	1USAMSU	5.4+08		Jour	PR/C,67,014601	03	D.Peterson+	C1146
⁹ Li, <i>el</i>	¹² C	DA	1USAMSU	5.4+08		Jour	PR/C,54,1262	96	M.Zahar+	C1147
¹¹ Li, <i>el</i>	¹² C	DA	1USAMSU	5.4+08		Jour	PR/C,67,014601	03	D.Peterson+	C1146
¹¹ Li, <i>el</i>	¹² C	DA	1USAMSU	6.4+08		Jour	PRL,69,2631	92	J.J.Kolata+	C1148
¹¹ C, <i>el</i>	¹² C	DA	1USAMSU	6.2+08		Jour	PRL,69,2631	92	J.J.Kolata+	C1148
¹² C, ⁶ He	¹⁸ Ne	DAP	1USAYAL	8.0+07		Jour	PR/C,54,1999	96	K.I.Hahn+	C1144

6 Carbon 13

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>d,el</i>	¹³ C	DA	1USACLU	1.8+07		Jour	NP/A,425,469	84	R.J.Peterson+	C1179
<i>d,p</i>	¹⁴ C	DAP	1USACLU	1.8+07		Jour	NP/A,425,469	84	R.J.Peterson+	C1179

6 Carbon 14

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
α , <i>el</i>	¹⁴ C	DA	1USACLU	3.5+07		Jour	NP/A,425,469	84	R.J.Peterson+	C1179
α , <i>inel</i>	¹⁴ C	DAP	1USACLU	3.5+07		Jour	NP/A,425,469	84	R.J.Peterson+	C1179

7 Nitrogen 14

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,el</i>	¹⁴ N	DA	1USATNL	1.1+07	1.7+07	Jour	CNP,11,1	89	L.Anli+	13979
<i>n,el</i>	¹⁴ N	POD	1USATNL	1.0+07	1.7+07	Jour	CNP,11,1	89	L.Anli+	13979
<i>n,γ</i>	¹⁵ N	DAP	1USATNL	5.6+06	1.3+07	Jour	PR/C,25,89	82	S.A.Wender+	13978
<i>n,p</i>	¹⁴ C	CS	1USALAS	2.4-02	4.2+00	Jour	PR/C,48,439	93	P.E.Koehler	13974

7 Nitrogen 15

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,p</i>	¹⁵ C	DAP	1CANTMF	2.9+05	2.9+08	Jour	PR/C,43,639	91	A.Celler+	13985

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Oxygen

16

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
γ,n	incl	CS	4RUSMOS	2.0+07	2.5+07	Jour	YF,67,2131	04	V.V.Varlamov+	M0661
$n,2n$	^{15}O	CSP	1USALAS	1.7+07	1.7+08	Jour	NSE,138,105	01	R.O.Nelson+	13973
n,α	incl	CS	2BLGLVN	6.3+07	3.4+07	Jour	EPJ/A,3,149	98	S.Benck+	22724
n,α	incl	DA	2BLGLVN	3.4+07	6.3+07	Jour	EPJ/A,3,149	98	S.Benck+	22724
n,α	incl	DAE	2BLGLVN	3.4+07	6.3+07	Jour	EPJ/A,3,149	98	S.Benck+	22724
n,α	incl	DE	2BLGLVN	6.3+07	3.4+07	Jour	EPJ/A,3,149	98	S.Benck+	22724
n,d	incl	CS	2BLGLVN	6.3+07	2.8+07	Jour	EPJ/A,3,149	98	S.Benck+	22724
n,d	incl	DA	2BLGLVN	2.8+07	6.3+07	Jour	EPJ/A,3,149	98	S.Benck+	22724
n,d	incl	DAE	2BLGLVN	2.8+07	6.3+07	Jour	EPJ/A,3,149	98	S.Benck+	22724
n,d	incl	DE	2BLGLVN	2.8+07	6.3+07	Jour	EPJ/A,3,149	98	S.Benck+	22724
n,el	^{16}O	DA	1USATNL	1.0+07	1.7+07	Jour	CNP,11,1	89	L.Anli+	13979
n,el	^{16}O	POD	1USATNL	1.0+07	1.7+07	Jour	CNP,11,1	89	L.Anli+	13979
n,γ	^{17}O	CSP	1USALAS	6.9+06	1.7+08	Jour	NSE,138,105	01	R.O.Nelson+	13973
$n,incl$	^{16}O	CSP	1USALAS	4.7+06	1.0+08	Jour	NSE,138,105	01	R.O.Nelson+	13973
$n,incl$	^{16}O	DAP	1USALAS	6.6+06	1.6+07	Jour	NSE,138,105	01	R.O.Nelson+	13973
n,p	^{16}N	CSP	1USALAS	5.5+06	1.0+08	Jour	NSE,138,105	01	R.O.Nelson+	13973
n,p	incl	CS	2BLGLVN	6.3+07	2.8+07	Jour	EPJ/A,3,149	98	S.Benck+	22724
n,p	incl	DA	2BLGLVN	2.8+07	6.3+07	Jour	EPJ/A,3,149	98	S.Benck+	22724
n,p	incl	DAE	2BLGLVN	2.8+07	6.3+07	Jour	EPJ/A,3,149	98	S.Benck+	22724
n,p	incl	DE	2BLGLVN	2.8+07	6.3+07	Jour	EPJ/A,3,149	98	S.Benck+	22724
n,t	incl	CS	2BLGLVN	6.3+07	4.1+07	Jour	EPJ/A,3,149	98	S.Benck+	22724
n,t	incl	DA	2BLGLVN	4.1+07	6.3+07	Jour	EPJ/A,3,149	98	S.Benck+	22724
n,t	incl	DAE	2BLGLVN	4.1+07	6.3+07	Jour	EPJ/A,3,149	98	S.Benck+	22724
n,t	incl	DE	2BLGLVN	4.1+07	6.3+07	Jour	EPJ/A,3,149	98	S.Benck+	22724
n,x	^{12}C	CSP	1USALAS	6.8+06	1.7+08	Jour	NSE,138,105	01	R.O.Nelson+	13973
n,x	^{13}C	CSP	1USALAS	6.7+06	1.7+08	Jour	NSE,138,105	01	R.O.Nelson+	13973
n,x	^{14}N	CSP	1USALAS	1.7+07	1.7+08	Jour	NSE,138,105	01	R.O.Nelson+	13973
n,x	^{15}N	CSP	1USALAS	1.3+07	1.7+08	Jour	NSE,138,105	01	R.O.Nelson+	13973
$^3\text{He},n$	^{18}Ne	DAP	1USAWAU	1.4+07		Jour	PR/C,54,1999	96	K.I.Hahn+	C1144

8

Oxygen

22

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
γ,n	incl	CS	2GERGSI	7.4+06	2.6+07	Jour	PRL,86,5442	01	A.Leistenschneider+	M0662

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Fluorine

17

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
p,α	^{14}O	CS	1USAANL	2.2+06	3.7+06	Jour	PRL,82,3964	99	B.Harss+	C1154

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Fluorine

19

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
p,α	^{16}O	TTD	1USAOHO	1.4+06	4.0+06	Jour	NIM/A,505,1	03	B.J.Micklich+	C1164

10

Neon

20

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$^3\text{He},n$	^{22}Mg	DAP	1USACLU	2.5+07		Jour	NP/A,457,317	86	W.P.Alford+	C1174

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Sodium

23

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,inel	^{23}Na	CSP	4UKRKGU	1.5+07		Jour	YF,28,(1),16	Jul 78	Yu.E.Kozyr'+	40596

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Magnesium

24

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,p	^{24}Na	CS	2TUKANR	8.2+06		Jour	RCA,92,63	04	Y.Agus+	22853
p,el		RP	1USATNL	2.2+05	4.2+05	Jour	NP/A,660,349	99	D.C.Powell+	C1142
p,γ		RP	1USATNL	2.2+05	4.2+05	Jour	NP/A,660,349	99	D.C.Powell+	C1142
p,tot		RP	1USATNL	2.2+05	4.2+05	Jour	NP/A,660,349	99	D.C.Powell+	C1142
$^3\text{He},n$	^{26}Si	DAP	1USACLU	2.5+07		Jour	NP/A,457,317	86	W.P.Alford+	C1174
α,el	^{24}Mg	DA	1USATAM	2.4+08		Jour	PR/C,60,014604	99	D.H.Youngblood+	C1156
α,inel	^{24}Mg	DAP	1USATAM	2.4+08		Jour	PR/C,60,014604	99	D.H.Youngblood+	C1156

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Aluminium

27

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
γ,abs		CS	2ITYFRA	6.9+07		Jour	JP/G,19,2145	93	O.A.P.Tavares+	M0665
γ,f		CS	2ITYFRA	6.9+07		Jour	JP/G,19,2145	93	O.A.P.Tavares+	M0665
γ,f		?	2ITYFRA	6.9+07		Jour	JP/G,19,2145	93	O.A.P.Tavares+	M0665
$n,0$		RP	1USAORL	0.0+00		Conf	99SANTA,,737	99	K.H.Guber+	13958
n,α	^{24}Na	CS	2TUKANR	8.4+06		Jour	RCA,92,63	04	Y.Agus+	22853
n,p		^{27}Mg	CS	2TUKANR	6.5+06		Jour	RCA,92,63	04	Y.Agus+
d,α	^{25}Mg	CSP	1USAOHO	5.0+06	7.0+06	Jour	PR/C,62,044616	00	S.I.Al-Quraishi+	C1151
d,el	^{27}Al	DA	1USAOHO	5.0+06	7.0+06	Jour	PR/C,62,044616	00	S.I.Al-Quraishi+	C1151
d,n	^{28}Si	CSP	1USAOHO	5.0+06	7.0+06	Jour	PR/C,62,044616	00	S.I.Al-Quraishi+	C1151
d,p	^{28}Al	CSP	1USAOHO	5.0+06	7.0+06	Jour	PR/C,62,044616	00	S.I.Al-Quraishi+	C1151

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Silicon

28

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,γ	^{29}Si	CS	1USAORL	2.5-02	7.0+05	Jour	NST,2,346	02	K.H.Guber+	13961
n,γ	^{29}Si	CS	1USAORL	5.0+03	5.0+04	Jour	PR/C,67,062802	03	K.H.Guber+	13960
n,p	^{28}Al	DAP	1CANTMF	3.0+08		Jour	PR/C,47,2751	93	R.Pourang+	13962
d,el	^{28}Si	DA	1USACLU	1.8+07		Jour	NP/A,391,413	82	R.J.Peterson+	C1171
d,inel	^{28}Si	DAP	1USACLU	1.8+07		Jour	NP/A,391,413	82	R.J.Peterson+	C1171
d,p	^{29}Si	DAP	1USACLU	1.8+07		Jour	NP/A,391,413	82	R.J.Peterson+	C1171
α,tot	CS	1USAMSU		1.2+08	2.2+08	Jour	PR/C,54,1700	96	R.E.Warner+	C0919
$^6\text{He},\alpha$	^{30}Si	CS	1USAMSU	0.0+00	3.3+08	Jour	PR/C,54,1700	96	R.E.Warner+	C0919
$^6\text{He},\text{tot}$	CS	1USAMSU		8.2+07	3.3+08	Jour	PR/C,54,1700	96	R.E.Warner+	C0919
$^8\text{He},\alpha$	^{32}Si	?	1USAMSU	0.0+00	4.3+08	Jour	PR/C,54,1700	96	R.E.Warner+	C0919
$^8\text{He},\text{tot}$	CS	1USAMSU		9.8+07	4.3+08	Jour	PR/C,54,1700	96	R.E.Warner+	C0919
$^6\text{Li},\text{tot}$	CS	1USAMSU		1.2+08	3.7+08	Jour	PR/C,54,1700	96	R.E.Warner+	C0919
$^7\text{Li},\text{tot}$	CS	1USAMSU		1.2+08	3.9+08	Jour	PR/C,54,1700	96	R.E.Warner+	C0919
$^8\text{Li},\text{tot}$	CS	1USAMSU		2.0+08	4.5+08	Jour	PR/C,54,1700	96	R.E.Warner+	C0919
$^9\text{Li},\text{tot}$	CS	1USAMSU		2.8+08	5.1+08	Jour	PR/C,54,1700	96	R.E.Warner+	C0919
$^{11}\text{Li}, ^9\text{Li}$	^{30}Si	CS	1USAMSU	0.0+00	6.3+08	Jour	PR/C,54,1700	96	R.E.Warner+	C0919
$^{11}\text{Li},\text{tot}$	CS	1USAMSU		2.5+08	6.3+08	Jour	PR/C,54,1700	96	R.E.Warner+	C0919
$^{10}\text{Be},\text{tot}$	CS	1USAMSU		2.1+08	6.4+08	Jour	PR/C,54,1700	96	R.E.Warner+	C0919

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Silicon

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Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,γ	^{30}Si	CS	1USAORL	5.0+03	5.0+04	Jour	PR/C,67,062802	03	K.H.Guber+	13960

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Silicon

30

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,γ	^{31}Si	CS	1USAORL	5.0+03	5.0+04	Jour	PR/C,67,062802	03	K.H.Guber+	13960

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Sulphur

32

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$^3\text{He},n$	^{34}Ar	DAP	1USACLU	2.5+07		Jour	NP/A,457,317	86	W.P.Alford+	C1174

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Sulphur

33

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,α	^{30}Si	CS	1USALAS	1.0+04	2.8+05	Jour	NIM/A,361,270	95	P.E.Koehler+	13972

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Chlorine

35

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,γ	^{36}Cl	CS	1USAORL	2.5-02	5.0+05	Jour	NST,2,346	02	K.H.Guber+	13961

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Argon

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,ths	^{nat}Ar	AMP	4ZZZDUB	2.5-02		Jour	YF,66,(1),59	Jan 03	T.I.Enik+	41422
n,ths	^{nat}Ar	CS	4ZZZDUB	2.5-02		Jour	YF,66,(1),59	Jan 03	T.I.Enik+	41422

18

Argon

36

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$n,0$		RP	4ZZZDUB	0.0+00		Jour	YF,66,(1),59	Jan 03	T.I.Enik+	41422
n,ths	^{36}Ar	NQ	4ZZZDUB	2.5-02		Jour	YF,66,(1),59	Jan 03	T.I.Enik+	41422
$^3\text{He},n$	^{38}Ca	DAP	1USACLU	2.5+07		Jour	NP/A,457,317	86	W.P.Alford+	C1174

18

Argon

40

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$n,0$		RP	4ZZZDUB	0.0+00		Jour	YF,66,(1),59	Jan 03	T.I.Enik+	41422
n,ths	^{40}Ar	NQ	4ZZZDUB	2.5-02		Jour	YF,66,(1),59	Jan 03	T.I.Enik+	41422

20

Calcium

40

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
γ,n	^{39}Ca	?	4RUSMOS	1.7+07	2.6+07	Jour	YF,13,1141	71	B.S.Ishkhanov+	M0659
n,p	^{40}K	DA	1USADAV	6.6+07		Conf	84OHIO,,143	84	C.M.Castaneda+	13983

22

Titanium

46

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,p	^{46}Sc	CS	2TUKANR	6.2+06		Jour	RCA,92,63	04	Y.Agus+	22853

22 Titanium 47

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,p	^{47}Sc	CS	2TUKANR	5.2+06		Jour	RCA,92,63	04	Y.Agus+	22853

22 Titanium 48

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$n,0$		RP	4ZZZDUB	0.0+00		Jour	YF,66,(1),47	Jan 03	A.V.Voinov+	41437
n,γ		RP	4ZZZDUB	1.0+04		Jour	YF,66,(1),47	Jan 03	A.V.Voinov+	41437
n,p	^{48}Sc	CS	2TUKANR	8.7+06		Jour	RCA,92,63	04	Y.Agus+	22853

23 Vanadium 51

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma,2n$	^{49}V	CS	4RUSMOS	2.0+07	2.8+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
$\gamma,2n$	^{49}V	INT	4RUSMOS	2.0+07	2.9+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	CS	4RUSMOS	1.3+07	2.8+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	INT	4RUSMOS	1.0+07		Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	^{50}V	CS	4RUSMOS	1.0+07	2.8+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	^{50}V	INT	4RUSMOS	1.0+07	2.8+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635

24 Chromium 52

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,γ		SPC	1USABNL	1.6+03		Jour	NP/A,334,35	80	J.Kopecky+	22711
n,γ		SPC	2NEDRCN	Maxwl		Jour	NP/A,334,35	80	J.Kopecky+	22711

26 Iron 54

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,p	^{54}Mn	CS	2TUKANR	5.7+06		Jour	RCA,92,63	04	Y.Agus+	22853
p,t	^{52}Fe	DAP	1USACLU	8.0+07	2.5+07	Jour	NP/A,367,13	81	P.D.Kunz+	C1166

26 Iron 56

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,γ		?	4UKRKGU	1.5+07		Jour	YF,27,616	Mar 78	Yu.E.Kozyr'+	41316
$n,\gamma+n$	^{56}Fe	CS	4UKRKGU	1.5+07		Jour	YF,27,616	Mar 78	Yu.E.Kozyr'+	41316
n,inel	^{56}Fe	CSP	4UKRKGU	1.5+07		Jour	YF,27,616	Mar 78	Yu.E.Kozyr'+	41316

<i>n</i> ,inel	⁵⁶ Fe	DE	4UKRKGU	1.5+07		Jour	YF,27,616	Mar 78	Yu.E.Kozyr'+	41316
<i>n</i> , <i>n</i>	incl	DE	4UKRKGU	1.5+07		Jour	YF,27,616	Mar 78	Yu.E.Kozyr'+	41316
<i>n</i> , <i>p</i>	⁵⁶ Mn	CS	2TUKANR	7.7+06		Jour	RCA,92,63	04	Y.Agus+	22853
<i>d</i> , α	⁵⁴ Mn	CSP	1USAOHO	5.0+06	7.0+06	Jour	PR/C,62,044616	00	S.I.Al-Quraishi+	C1151
<i>d</i> ,el	⁵⁶ Fe	DA	1USAOHO	5.0+06	7.0+06	Jour	PR/C,62,044616	00	S.I.Al-Quraishi+	C1151
<i>d</i> , <i>n</i>	⁵⁷ Co	CSP	1USAOHO	5.0+06	7.0+06	Jour	PR/C,62,044616	00	S.I.Al-Quraishi+	C1151
<i>d</i> , <i>p</i>	⁵⁷ Fe	CSP	1USAOHO	5.0+06	7.0+06	Jour	PR/C,62,044616	00	S.I.Al-Quraishi+	C1151

26 Iron 58

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
⁵⁸ Fe,x	Many	PY	1USATAM	1.7+09	2.7+09	Jour	PR/C,71,024602	05	D.V.Shetty+	C1178
⁵⁸ Ni,x	Many	PY	1USATAM	1.7+09	2.7+09	Jour	PR/C,71,024602	05	D.V.Shetty+	C1178

27 Cobalt 59

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n</i> , α	⁵⁶ Mn	CS	2TUKANR	8.2+06		Jour	RCA,92,63	04	Y.Agus+	22853
<i>n</i> ,el	⁵⁹ Co	DA	1USATNL	1.0+07	1.6+07	Rept	TUNL-30	91	M.M.Nagadi+	13980
<i>n</i> , γ + <i>n</i>	⁵⁹ Co	CS	4UKRKGU	1.5+07		Jour	YF,27,616	Mar 78	Yu.E.Kozyr'+	41316
<i>n</i> ,inel	⁵⁹ Co	CSP	4UKRKGU	1.5+07		Jour	YF,27,616	Mar 78	Yu.E.Kozyr'+	41316
<i>n</i> ,inel	⁵⁹ Co	DE	4UKRKGU	1.5+07		Jour	YF,27,616	Mar 78	Yu.E.Kozyr'+	41316
<i>n</i> , <i>n</i>	incl	DAE	4UKRKGU	1.5+07		Jour	YF,27,616	Mar 78	Yu.E.Kozyr'+	41316
<i>n</i> , <i>n</i>	incl	DE	4UKRKGU	1.5+07		Jour	YF,27,616	Mar 78	Yu.E.Kozyr'+	41316

28 Nickel 58

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n</i> , <i>p</i>	⁵⁸ Co	CS	2TUKANR	5.4+06		Jour	RCA,92,63	04	Y.Agus+	22853
α ,el	⁵⁸ Ni	DA	1USANOT	8.1+06	9.6+06	Jour	PR/C,67,024602	03	L.R.Gasques+	C1165
α ,inel	⁵⁸ Ni	DAP	1USATAM	2.4+08		Jour	PR/C,61,067307	00	Y.W.Lui+	C1152
⁶ He,el	⁵⁸ Ni	DA	1USANOT	9.0+06		Jour	PR/C,67,024602	03	L.R.Gasques+	C1165
⁸ B, ⁷ Be	⁵⁹ Cu	DA	1USANOT	2.6+07		Jour	PRL,84,1862	00	V.Guimaraes+	C1161
⁸ B, ⁷ Be	⁵⁹ Cu	DAE	1USANOT	2.6+07		Jour	PR/C,63,024616	01	J.J.Kolata+	C1162
⁵⁸ Fe,x	Many	PY	1USATAM	1.7+09	2.7+09	Jour	PR/C,71,024602	05	D.V.Shetty+	C1178
⁵⁸ Ni,x	Many	PY	1USATAM	1.7+09	2.7+09	Jour	PR/C,71,024602	05	D.V.Shetty+	C1178

29 Copper 63

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
γ , <i>n</i>	⁶² Cu	CS	4RUSMOS	1.0+07	2.5+07	Jour	YF,67,2131	04	V.V.Varlamov+	M0661

30

Zinc

64

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,p	^{64}Cu	CS	2TUKANR	5.4+06		Jour	RCA,92,63	04	Y.Agus+	22853

32

Germanium

70

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,p	^{70}Ga	DAE	1CANTMF	2.0+08		Jour	PR/C,45,997	92	M.C.Vetterli+	13976

32

Germanium

72

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,p	^{72}Ga	DAE	1CANTMF	2.0+08		Jour	PR/C,45,997	92	M.C.Vetterli+	13976

33

Arsenic

75

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma,2n$	^{73}As	CS	4RUSMOS	1.8+07	2.9+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
$\gamma,2n$	^{73}As	INT	4RUSMOS	1.8+07	3.0+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	INT	4RUSMOS	1.0+07		Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	^{74}As	CS	4RUSMOS	1.0+07	2.9+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	^{74}As	INT	4RUSMOS	9.9+06	3.0+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635

34

Selenium

76

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,p	^{76}As	DAE	1CANTMF	2.0+08		Jour	PR/C,55,2802	97	R.L.Helmer+	13975

39

Yttrium

89

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma,2n$	^{87}Y	CS	4RUSMOS	2.0+07	2.8+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
$\gamma,2n$	^{87}Y	INT	4RUSMOS	2.1+07	2.8+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	CS	4RUSMOS	1.1+07	2.7+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	INT	4RUSMOS	1.1+07		Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	^{88}Y	CS	4RUSMOS	1.1+07	2.8+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	^{88}Y	INT	4RUSMOS	1.1+07	2.8+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
p,inel	^{89}Y	CS	1USALRL	1.8+07	4.0+07	Prog	UCRL-115738-5,1	93	H.I.West+	C1159
p,x	^{87}Sr	CS	1USALRL	2.0+07	4.0+07	Prog	UCRL-115738-5,1	93	H.I.West+	C1159

<i>p,x</i>	⁸⁷ Zr	CS	1USALRL	2.7+07	4.0+07	Prog	UCRL-115738-5,1	93	H.I.West+	C1159
<i>d,inel</i>	⁸⁹ Y	CS	1USALRL	2.1+07	3.9+07	Prog	UCRL-115738-5,1	93	H.I.West+	C1159
<i>d,x</i>	⁸⁷ Sr	CS	1USALRL	2.9+06	3.9+07	Prog	UCRL-115738-5,1	93	H.I.West+	C1159
<i>d,x</i>	⁸⁷ Zr	CS	1USALRL	3.1+07	3.9+07	Prog	UCRL-115738-5,1	93	H.I.West+	C1159

40 Zirconium 90

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma,2n$	⁸⁸ Zr	CS	4RUSMOS	2.1+07	2.8+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
$\gamma,2n$	⁸⁸ Zr	INT	4RUSMOS	2.2+07	2.8+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	CS	4RUSMOS	1.2+07	2.6+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	CS	4RUSMOS	1.2+07	2.8+07	Jour	YF,14,27	71	B.S.Ishkhanov+	M0658
γ,n	incl	INT	4RUSMOS	1.2+07		Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	⁸⁹ Zr	CS	4RUSMOS	1.2+07	2.8+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	⁸⁹ Zr	INT	4RUSMOS	1.2+07	2.6+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
$\alpha,inel$	⁹⁰ Zr	DAP	1USATAM	2.4+08		Jour	PR/C,69,054312	04	H.L.Clark+	C1115
⁶ Li,el	⁹⁰ Zr	DA	1USAORL	7.0+07		Jour	PR/C,47,629	93	D.J.Horen+	C1176
⁶ Li,inel	⁹⁰ Zr	DAP	1USAORL	7.0+07		Jour	PR/C,47,629	93	D.J.Horen+	C1176

40 Zirconium 92

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
³ He,t	⁹² Nb	DAP	1USACLU	3.4+07		Jour	NP/A,445,408	85	M.A.Rumore+	C1175
⁶ Li,el	⁹² Zr	DA	1USAORL	7.0+07		Jour	PR/C,47,629	93	D.J.Horen+	C1176
⁶ Li,inel	⁹² Zr	DAP	1USAORL	7.0+07		Jour	PR/C,47,629	93	D.J.Horen+	C1176

40 Zirconium 94

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
⁶ Li,el	⁹⁴ Zr	DA	1USAORL	7.0+07		Jour	PR/C,47,629	93	D.J.Horen+	C1176
⁶ Li,inel	⁹⁴ Zr	DAP	1USAORL	7.0+07		Jour	PR/C,47,629	93	D.J.Horen+	C1176

40 Zirconium 96

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
⁶ Li,el	⁹⁶ Zr	DA	1USAORL	7.0+07		Jour	PR/C,47,629	93	D.J.Horen+	C1176
⁶ Li,inel	⁹⁶ Zr	DAP	1USAORL	7.0+07		Jour	PR/C,47,629	93	D.J.Horen+	C1176

41 Niobium 93

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

<i>n,2n</i>	⁹² Nb	CS	4UKRKGU	1.5+07		Jour	YF,26,(5),927	Nov 77	Yu.E.Kozur'+	41435
<i>n,2n</i>	⁹² Nb	DE	4UKRKGU	1.5+07		Jour	YF,26,(5),927	Nov 77	Yu.E.Kozur'+	41435
<i>n,γ</i>	⁹⁴ Nb	CS	2GERKFK	1.0+04	6.4+04	Jour	NSE,80,(4),630	Apr 82	G.Reffo+	21796
<i>n,γ+n</i>	⁹³ Nb	CS	4UKRKGU	1.5+07		Jour	YF,26,(5),927	Nov 77	Yu.E.Kozur'+	41435
<i>n,incl</i>	⁹³ Nb	CS	4UKRKGU	1.5+07		Jour	YF,26,(5),927	Nov 77	Yu.E.Kozur'+	41435
<i>n,incl</i>	⁹³ Nb	DE	4UKRKGU	1.5+07		Jour	YF,26,(5),927	Nov 77	Yu.E.Kozur'+	41435
<i>n,n</i>	incl	DE	4UKRKGU	1.5+07		Jour	YF,26,(5),927	Nov 77	Yu.E.Kozur'+	41435
<i>n,n+γ</i>	⁹³ Nb	CSP	4UKRKGU	1.5+07		Jour	YF,26,(5),927	Nov 77	Yu.E.Kozur'+	41435
<i>p,d</i>	⁹² Nb	DAP	1USACLU	2.6+07		Jour	NP/A,423,350	84	M.A.Rumore+	C1167

43

Technetium

99

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation			Date	Author	Data #
				Min	Max		Ref	Vol	Page			
<i>n,γ</i>	¹⁰⁰ Tc	CSP	1USALAS	Maxwl		Jour	NST,41,1033	04	K.Furutaka+	13959		

44

Ruthenium

102

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation			Date	Author	Data #
				Min	Max		Ref	Vol	Page			
<i>p,d</i>	¹⁰¹ Ru	DAP	1USACLU	2.6+07		Jour	JP/G,12,745	86	S.A.Dickey+	C1168		

45

Rhodium

103

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation			Date	Author	Data #
				Min	Max		Ref	Vol	Page			
<i>n,γ</i>	¹⁰⁴ Rh	CS	2GERKFK	1.1+04	6.5+04	Jour	NSE,80,(4),630	Apr 82	G.Reffo+	21796		
<i>n,γ</i>	¹⁰⁴ Rh	CS	2JPNKTO	3.3-03	8.1+04	Jour	NSE,144,94	03	S.Lee+	22828		
<i>n,incl</i>	¹⁰³ Rh	CS	2TUKANR	4.8+06		Jour	RCA,92,63	04	Y.Agus+	22853		

49

Indium

115

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation			Date	Author	Data #
				Min	Max		Ref	Vol	Page			
<i>γ,2n</i>	¹¹³ In	CS	4RUSMOS	1.6+07	3.1+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635		
<i>γ,2n</i>	¹¹³ In	INT	4RUSMOS	1.6+07	2.4+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635		
<i>γ,n</i>	incl	INT	4RUSMOS	9.1+06		Jour	YK,1-2,48	03	V.V.Varlamov+	M0635		
<i>γ,n</i>	¹¹⁴ In	CS	4RUSMOS	9.3+06	3.1+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635		
<i>γ,n</i>	¹¹⁴ In	INT	4RUSMOS	8.9+06	3.1+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635		
<i>n,incl</i>	¹¹⁵ In	CS	2TUKANR	5.0+06		Jour	RCA,92,63	04	Y.Agus+	22853		

50

Tin

116

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation			Date	Author	Data #
				Min	Max		Ref	Vol	Page			
<i>γ,2n</i>	¹¹⁴ Sn	CS	4RUSMOS	1.7+07	2.9+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635		

$\gamma,2n$	^{114}Sn	INT	4RUSMOS	1.7+07	3.0+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	CS	4RUSMOS	9.6+06	2.9+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	INT	4RUSMOS	9.6+06		Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	^{115}Sn	CS	4RUSMOS	9.9+06	2.9+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	^{115}Sn	INT	4RUSMOS	9.4+06	3.0+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
α,el	^{116}Sn	DA	1USATAM	2.4+08		Jour	PR/C,57,2887	98	H.L.Clark+	C1117
$\alpha,incl$	^{116}Sn	DAP	1USATAM	2.4+08		Jour	PR/C,57,2887	98	H.L.Clark+	C1117

50 Tin 117

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma,2n$	^{115}Sn	CS	4RUSMOS	1.6+07	3.1+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
$\gamma,2n$	^{115}Sn	INT	4RUSMOS	1.6+07	2.1+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	CS	4RUSMOS	9.7+06	3.1+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	INT	4RUSMOS	9.7+06		Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	^{116}Sn	CS	4RUSMOS	9.9+06	3.1+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	^{116}Sn	INT	4RUSMOS	8.9+06	3.1+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635

50 Tin 118

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma,2n$	^{116}Sn	CS	4RUSMOS	1.6+07	3.1+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
$\gamma,2n$	^{116}Sn	INT	4RUSMOS	1.6+07	3.1+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	CS	4RUSMOS	9.1+06	3.1+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	INT	4RUSMOS	9.1+06		Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	^{117}Sn	CS	4RUSMOS	9.3+06	3.1+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	^{117}Sn	INT	4RUSMOS	9.3+06		Jour	YK,1-2,48	03	V.V.Varlamov+	M0635

50 Tin 120

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma,2n$	^{118}Sn	CS	4RUSMOS	1.5+07	3.0+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
$\gamma,2n$	^{118}Sn	INT	4RUSMOS	1.6+07	3.0+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	CS	4RUSMOS	8.9+06	3.0+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	INT	4RUSMOS	8.9+06		Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	^{119}Sn	CS	4RUSMOS	9.0+06	3.0+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	^{119}Sn	INT	4RUSMOS	9.1+06		Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
n,p	^{120}In	DAE	1CANTMF	3.0+08		Jour	PR/C,57,3191	98	S.A.Long+	13970
n,p	^{120}In	DAP	1CANTMF	3.0+08		Jour	PR/C,47,2751	93	R.Pourang+	13962
p,d	^{119}Sn	DAP	1USACLU	2.6+07		Jour	NP/A,377,137	82	S.A.Dickey+	C1169
$^{22}\text{Ne},\alpha$	incl	DAE	1USATAM	1.9+08		Jour	NP/A,569,93	94	R.K.Choudhury+	C1163

50 Tin 124

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma,2n$	^{122}Sn	CS	4RUSMOS	1.4+07	3.1+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
$\gamma,2n$	^{122}Sn	INT	4RUSMOS	1.4+07	2.2+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	CS	4RUSMOS	8.5+06	3.1+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	INT	4RUSMOS	8.5+06		Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	^{123}Sn	CS	4RUSMOS	8.7+06	3.1+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	^{123}Sn	INT	4RUSMOS	8.5+06	2.2+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
d,p	^{125}Sn	DAP	1USAORL	5.6+08		Jour	PR/C,70,067602	04	K.L.Jones+	C1158

52 Tellurium 126

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$^{16}\text{O},\alpha$	incl	DAE	1USATAM	1.8+08		Jour	NP/A,569,93	94	R.K.Choudhury+	C1163

53 Iodine 127

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma,2n$	^{125}I	CS	4RUSMOS	1.4+07	2.8+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
$\gamma,2n$	^{125}I	INT	4RUSMOS	1.6+07	2.8+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	CS	4RUSMOS	8.8+06	2.9+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	INT	4RUSMOS	8.8+06		Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	^{126}I	CS	4RUSMOS	9.0+06	2.9+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	^{126}I	INT	4RUSMOS	9.1+06	3.0+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
$n,0$		RP	2ZZZGEL	0.0+00	7.5+00	Conf	2004SANTA,	Oct 04	G.Noguere+	22686
n,el		RP	2ZZZGEL	7.5+00		Conf	2004SANTA,	Oct 04	G.Noguere+	22686
n,γ	^{128}I	CS	2ZZZGEL	3.4+03	9.6+04	Conf	2004SANTA,	Sep 04	G.Noguere+	22869
n,γ	^{128}I	RR	2ZZZGEL	3.2+00	1.2+05	Conf	2004SANTA,	Sep 04	G.Noguere+	22869

53 Iodine 129

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
γ,n	^{128}I	CS	3DDRJNA	9.0+06	2.2+07	Jour	APPL/B,77,387	03	J.Magill+	M0660
$n,0$		RP	2ZZZGEL	0.0+00	1.0+00	Conf	2004SANTA,	Oct 04	G.Noguere+	22686
n,el		RP	2ZZZGEL	1.0+00		Conf	2004SANTA,	Oct 04	G.Noguere+	22686
n,γ	^{130}I	CS	2ZZZGEL	3.4+03	9.6+04	Conf	2004SANTA,	Sep 04	G.Noguere+	22868
n,γ	^{130}I	RR	2ZZZGEL	1.6+00	1.1+05	Conf	2004SANTA,	Sep 04	G.Noguere+	22868

55 Cesium 133

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
$\gamma,2n$	^{131}Cs	CS	4RUSMOS	1.6+07	2.9+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635

$\gamma,2n$	^{131}Cs	INT	4RUSMOS	1.6+07	3.0+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	CS	4RUSMOS	9.1+06	3.0+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	INT	4RUSMOS	9.1+06		Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	^{132}Cs	CS	4RUSMOS	9.3+06	2.9+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	^{132}Cs	INT	4RUSMOS	9.1+06	2.4+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635

56 Barium 134

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,inel	^{134}Ba	CSP	1USAKTY	2.0+06	3.0+06	Jour	NP/A,548,249	92	B.Fazekas+	13967

56 Barium 138

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,inel	^{138}Ba	DAP	4RUSKUR	Fiss		Jour	YF,66,(1),19	Jan 03	L.I.Govor+	41436
n,inel	^{138}Ba	POL	4RUSKUR	Fiss		Jour	YF,66,(1),19	Jan 03	L.I.Govor+	41436
n,inel	^{138}Ba	?	4RUSKUR	Fiss		Jour	YF,66,(1),19	Jan 03	L.I.Govor+	41436

58 Cerium 140

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,el	^{140}Ce	DA	1USAKTY	7.5+06		Jour	PR/C,63,014606	00	Gangchen+	13957
n,inel	^{140}Ce	DAP	1USAKTY	7.5+06		Jour	PR/C,63,014606	00	Gangchen+	13957

58 Cerium 142

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,el	^{142}Ce	DA	1USAKTY	7.5+06		Jour	PR/C,63,014606	00	Gangchen+	13957

59 Praesodymium 141

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
n,γ	^{142}Pr	CS	2JPNKTO	Maxwl	1.4+05	Jour	NST,40,(7),447	Jul 03	J.Yoon+	22865

62 Samarium 154

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
α,inel	^{154}Sm	DAP	1USATAM	2.4+08		Jour	PR/C,60,067302	99	D.H.Youngblood+	C1157

64 Gadolinium 155

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,el</i>	¹⁵⁵ Gd	DA	2FR BRC	2.5+06	4.1+06	Jour	PR/C,61,034306	00	E.Bauge+	22726
<i>n,inel</i>	¹⁵⁵ Gd	DAP	2FR BRC	2.5+06	4.1+06	Jour	PR/C,61,034306	00	E.Bauge+	22726

64 Gadolinium 156

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,el</i>	¹⁵⁶ Gd	DA	2FR BRC	2.5+06	4.1+06	Jour	PR/C,61,034306	00	E.Bauge+	22726
<i>n,inel</i>	¹⁵⁶ Gd	DAP	2FR BRC	2.5+06	4.1+06	Jour	PR/C,61,034306	00	E.Bauge+	22726

64 Gadolinium 157

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,el</i>	¹⁵⁷ Gd	DA	2FR BRC	2.5+06	4.1+06	Jour	PR/C,61,034306	00	E.Bauge+	22726
<i>n,inel</i>	¹⁵⁷ Gd	DAP	2FR BRC	2.5+06	4.1+06	Jour	PR/C,61,034306	00	E.Bauge+	22726

64 Gadolinium 158

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,el</i>	¹⁵⁸ Gd	DA	2FR BRC	2.5+06	4.1+06	Jour	PR/C,61,034306	00	E.Bauge+	22726
<i>n,inel</i>	¹⁵⁸ Gd	DAP	2FR BRC	2.5+06	4.1+06	Jour	PR/C,61,034306	00	E.Bauge+	22726

64 Gadolinium 160

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,el</i>	¹⁶⁰ Gd	DA	2FR BRC	2.5+06	4.1+06	Jour	PR/C,61,034306	00	E.Bauge+	22726
<i>n,inel</i>	¹⁶⁰ Gd	DAP	2FR BRC	2.5+06	4.1+06	Jour	PR/C,61,034306	00	E.Bauge+	22726

65 Terbium 159

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>γ,2n</i>	¹⁵⁷ Tb	CS	4RUSMOS	1.4+07	2.8+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
<i>γ,2n</i>	¹⁵⁷ Tb	INT	4RUSMOS	1.5+07	2.8+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
<i>γ,n</i>	incl	CS	4RUSMOS	8.6+06	2.7+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
<i>γ,n</i>	incl	INT	4RUSMOS	8.6+06		Jour	YK,1-2,48	03	V.V.Varlamov+	M0635

<i>n,γ</i>	¹⁸² Ta	CS	2GERKFK	1.2+04	6.0+04	Jour	NSE,80,(4),630	Apr 82	G.Reffo+	21796
<i>n,inel</i>	¹⁸¹ Ta	CSP	1USAANL	4.6+05	1.5+06	Rept	ANL-NDM-160	05	A.B.Smith	13965
<i>n,p</i>	¹⁸¹ Hf	DAE	1CANTMF	3.0+08		Jour	PR/C,57,3191	98	S.A.Long+	13970

74 Tungsten 182

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,el</i>	¹⁸² W	DA	2FR BRC	3.4+06		Jour	PR/C,23,136	81	J.P.Delaroche+	22513
<i>n,el</i>	¹⁸² W	DA	1USAOHO	4.9+06	6.0+06	Jour	NP/A,442,234	85	J.R.M. Annand+	13966
<i>n,inel</i>	¹⁸² W	DAP	2FR BRC	3.4+06		Jour	PR/C,23,136	81	J.P.Delaroche+	22513
<i>n,inel</i>	¹⁸² W	DAP	1USAOHO	4.9+06	6.0+06	Jour	NP/A,442,234	85	J.R.M. Annand+	13966

74 Tungsten 183

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,el</i>	¹⁸³ W	DA	2FR BRC	3.4+06		Jour	PR/C,23,136	81	J.P.Delaroche+	22513
<i>n,inel</i>	¹⁸³ W	DAP	2FR BRC	3.4+06		Jour	PR/C,23,136	81	J.P.Delaroche+	22513

74 Tungsten 184

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,el</i>	¹⁸⁴ W	DA	2FR BRC	3.4+06		Jour	PR/C,23,136	81	J.P.Delaroche+	22513
<i>n,el</i>	¹⁸⁴ W	DA	1USAOHO	4.8+06	6.0+06	Jour	NP/A,442,234	85	J.R.M. Annand+	13966
<i>n,inel</i>	¹⁸⁴ W	DAP	2FR BRC	3.4+06		Jour	PR/C,23,136	81	J.P.Delaroche+	22513
<i>n,inel</i>	¹⁸⁴ W	DAP	1USAOHO	4.9+06	6.0+06	Jour	NP/A,442,234	85	J.R.M. Annand+	13966

74 Tungsten 186

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>γ,n</i>	¹⁸⁵ W	CS	2JPN AIS	7.3+06	1.1+07	Jour	PR/C,69,032801	04	P.Mohr+	M0663
<i>n,el</i>	¹⁸⁶ W	DA	2FR BRC	3.4+06		Jour	PR/C,23,136	81	J.P.Delaroche+	22513
<i>n,inel</i>	¹⁸⁶ W	DAP	2FR BRC	3.4+06		Jour	PR/C,23,136	81	J.P.Delaroche+	22513

78 Platinum 196

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
<i>n,inel</i>	¹⁹⁶ Pt	DAP	1USA KTY	3.3+06		Jour	PR/C,48,2603	93	D.P.Diprete+	13968
<i>n,inel</i>	¹⁹⁶ Pt	DE	1USA KTY	2.5+06	3.5+06	Jour	PR/C,48,2603	93	D.P.Diprete+	13968

92 Uranium 233

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

<i>n,f</i>	CS		4RUSRI	1.9+06		Jour	YK,1986,(4),19	Dec 86	I.D.Alkhozov+	40927
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92 Uranium 235

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

<i>n,f</i>	KE		1USALAS	4.1+05	1.9+08	Jour	PRL,94,052701	05	T.Ethvignot+	13964
<i>n,f</i>	NU		1USALAS	4.1+05	1.9+08	Jour	PRL,94,052701	05	T.Ethvignot+	13964
<i>n,f</i>	NU		1USALTI	5.0+05	3.5+06	Jour	NP/A,591,41	95	P.Staples+	13982

92 Uranium 238

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

$\gamma,2n$	²³⁶ U	CS	4RUSMOS	1.1+07	1.8+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
$\gamma,2n$	²³⁶ U	INT	4RUSMOS	1.1+07	1.8+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	CS	4RUSMOS	5.3+06	1.8+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	incl	INT	4RUSMOS	5.3+06		Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	²³⁷ U	CS	4RUSMOS	5.4+06	1.8+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
γ,n	²³⁷ U	INT	4RUSMOS	6.2+06	1.8+07	Jour	YK,1-2,48	03	V.V.Varlamov+	M0635
<i>n,f</i>	KE		1USALAS	1.7+06	1.8+08	Jour	PRL,94,052701	05	T.Ethvignot+	13964
<i>n,f</i>	NU		1USALAS	1.7+06	1.8+08	Jour	PRL,94,052701	05	T.Ethvignot+	13964
<i>n,p</i>	²³⁸ Pa	DAE	1CANTMF	3.2+08		Jour	PR/C,57,3191	98	S.A.Long+	13970

93 Neptunium 237

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

<i>n,f</i>	CS		4RUSRI	1.9+06		Jour	YK,1986,(4),19	Dec 86	I.D.Alkhozov+	40927
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94 Plutonium 239

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

<i>n,el</i>	²³⁹ Pu	?	1USALOW	5.7+05	7.0+05	Jour	NSE,122,366	96	G.Yue+	13984
<i>n,f</i>	NU		1USALTI	5.0+05	3.5+06	Jour	NP/A,591,41	95	P.Staples+	13982
<i>n,inel</i>	²³⁹ Pu	CSP	1USALOW	5.7+05	7.0+05	Jour	NSE,122,366	96	G.Yue+	13984
<i>n,inel</i>	²³⁹ Pu	DAP	1USALOW	5.7+05	7.0+05	Jour	NSE,122,366	96	G.Yue+	13984

104**Rutherfordium****262**

Reaction	Product	Quantity	Lab.	Energy (eV)		Type	Documentation Ref Vol Page	Date	Author	Data #
				Min	Max					
0,f	Many	FY	1USABRK	Spont		Jour	PR/C,53,2893	96	M.R.Lane+	13981