

Neutron scattering lengths and cross sections



ZSymbA	p or T _{1/2}	I	b _c	b ₊	b ₋	c	σ _{coh}	σ _{inc}	σ _{scatt}	σ _{abs}
0-N-1	10.3 MIN	1/2	-37.0(6)	0	-37.0(6)		43.01(2)		43.01(2)	0
1-H			-3.7409(11)				1.7568(10)	80.26(6)	82.02(6)	0.3326(7)
1-H-1	99.985	1/2	-3.7423(12)	10.817(5)	-47.420(14)	+/-	1.7583(10)	80.27(6)	82.03(6)	0.3326(7)
1-H-2	0.0149	1	6.674(6)	9.53(3)	0.975(60)		5.592(7)	2.05(3)	7.64(3)	0.000519(7)
1-H-3	12.26 Y	1/2	4.792(27)	4.18(15)	6.56(37)		2.89(3)	0.14(4)	3.03(5)	< 6.0E-6
2-He			3.26(3)				1.34(2)	0	1.34(2)	0.00747(1)
2-He-3	0.00013	1/2	5.74(7)	4.7(5)	8.8(1.4)	E	4.42(10)	1.6(4)	6.0(4)	5333.0(7.0)
2-He-4	0.99987	0	3.26(3)				1.34(2)	0	1.34(2)	0
3-Li			-1.90(3)				0.454(10)	0.92(3)	1.37(3)	70.5(3)
3-Li-6	7.5	1	2.0(1)	0.67(14)	4.67(17)	+/-	0.51(5)	0.46(5)	0.97(7)	940.0(4.0)
3-Li-7	92.5	3/2	-2.22(2)	-4.15(6)	1.00(8)	+/-	0.619(11)	0.78(3)	1.40(3)	0.0454(3)
4-Be-9	100	3/2	7.79(1)				7.63(2)	0.0018(9)	7.63(2)	0.0076(8)
5-B			5.30(4)				3.54(5)	1.70(12)	5.24(11)	767.0(8.0)
5-B-10	19.4	3	-0.2(4)	-4.2(4)	5.2(4)		0.144(6)	3.0(4)	3.1(4)	3835.0(9.0)
5-B-11	80.2	3/2	6.65(4)	5.6(3)	8.3(3)		5.56(7)	0.21(7)	5.77(10)	0.0055(33)
6-C			6.6484(13)				5.551(2)	0.001(4)	5.551(3)	0.00350(7)
6-C-12	98.89	0	6.6535(14)				5.559(3)	0	5.559(3)	0.00353(7)
6-C-13	1.11	1/2	6.19(9)	5.6(5)	6.2(5)	+/-	4.81(14)	0.034(11)	4.84(14)	0.00137(4)
7-N			9.36(2)				11.01(5)	0.50(12)	11.51(11)	1.90(3)
7-N-14	99.635	1	9.37(2)	10.7(2)	6.2(3)		11.03(5)	0.50(12)	11.53(11)	1.91(3)
7-N-15	0.365	1/2	6.44(3)	6.77(10)	6.21(10)		5.21(5)	0.00005(10)	5.21(5)	0.000024(8)
8-O			5.805(4)				4.232(6)	0.000(8)	4.232(6)	0.00019(2)
8-O-16	99.75	0	5.805(5)				4.232(6)	0	4.232(6)	0.00010(2)
8-O-17	0.039	5/2	5.6(5)	5.52(20)	5.17(20)		4.20(22)	0.004(3)	4.20(22)	0.236(10)
8-O-18	0.208	0	5.84(7)				4.29(10)	0	4.29(10)	0.00016(1)
9-F-19	100	1/2	5.654(12)	5.632(10)	5.767(10)	+/-	4.017(14)	0.0008(2)	4.018(14)	0.0096(5)
10-Ne			4.566(6)				2.620(7)	0.008(9)	2.628(6)	0.039(4)
10-Ne-20	90.5	0	4.631(6)				2.695(7)	0	2.695(7)	0.036(4)
10-Ne-21	0.27	3/2	6.66(19)				5.6(3)	0.05(2)	5.7(3)	0.67(11)
10-Ne-22	9.2	0	3.87(1)				1.88(1)	0	1.88(1)	0.046(6)
11-Na-23	100	3/2	3.63(2)	6.42(4)	-1.00(6)	+/-	1.66(2)	1.62(3)	3.28(4)	0.530(5)
12-Mg			5.375(4)				3.631(5)	0.08(6)	3.71(4)	0.063(3)
12-Mg-24	78.99	0	5.49(18)				4.03(4)	0	4.03(4)	0.050(5)
12-Mg-25	10	5/2	3.62(14)	4.73(30)	1.76(20)	+/-	1.65(13)	0.28(4)	1.93(14)	0.19(3)

ZSymbA	p or T _{1/2}	I	b _c	b ₊	b ₋	c	σ _{coh}	σ _{inc}	σ _{scatt}	σ _{abs}
12-Mg-26	11	0	4.89(15)				3.00(18)	0	3.00(18)	0.0382(8)
13-Al-27	100	5/2	3.449(5)	3.67(2)	3.15(2)		1.495(4)	0.0082(6)	1.503(4)	0.231(3)
14-Si			4.15071(22)				2.1633(10)	0.004(8)	2.167(8)	0.171(3)
14-Si-28	92.2	0	4.106(6)				2.120(6)	0	2.120(6)	0.177(3)
14-Si-29	4.7	1/2	4.7(1)	4.50(15)	4.7(4)	+/-	2.78(12)	0.001(2)	2.78(12)	0.101(14)
14-Si-30	3.1	0	4.58(8)				2.64(9)	0	2.64(9)	0.107(2)
15-P-31	100	1/2	5.13(1)			+/-	3.307(13)	0.005(10)	3.312(16)	0.172(6)
16-S			2.847(1)				1.0186(7)	0.007(5)	1.026(5)	0.53(1)
16-S-32	95	0	2.804(2)				0.9880(14)	0	0.9880(14)	0.54(4)
16-S-33	0.74	3/2	4.74(19)			+/-	2.8(2)	0.3(6)	3.1(6)	0.54(4)
16-S-34	4.2	0	3.48(3)				1.52(3)	0	1.52(3)	0.227(5)
16-S-36	0.02	0	3.0(1.0)*				1.1(8)	0	1.1(8)	0.15(3)
17-Cl			9.5792(8)				11.528(2)	5.3(5)	16.8(5)	33.5(3)
17-Cl-35	75.77	3/2	11.70(9)	16.3(2)	4.0(3)	+/-	17.06(6)	4.7(6)	21.8(6)	44.1(4)
17-Cl-37	24.23	3/2	3.08(6)	3.10(7)	3.05(7)	+/-	1.19(5)	0.001(3)	1.19(5)	0.433(6)
18-Ar			1.909(6)				0.458(3)	0.225(5)	0.683(4)	0.675(9)
18-Ar-36	0.34	0	24.9(7)				77.9(4)	0	77.9(4)	5.2(5)
18-Ar-38	0.07	0	3.5(3.5)				1.5(3.1)	0	1.5(3.1)	0.8(5)
18-Ar-40	99.59	0	1.7				0.421(3)	0	0.421(3)	0.660(9)
19-K			3.67(2)				1.69(2)	0.27(11)	1.96(11)	2.1(1)
19-K-39	93.3	3/2	3.79(2)	5.15	1.51	+/-	1.76(2)	0.25(11)	2.01(11)	2.1(1)
19-K-40	0.012	4	3.1(1.0)*				1.1(6)	0.5(5)*	1.6(9)	35.0(8.0)
19-K-41	6.7	3/2	2.69(8)				0.91(5)	0.3(6)	1.2(6)	1.46(3)
20-Ca			4.70(2)				2.78(2)	0.05(3)	2.83(2)	0.43(2)
20-Ca-40	96.94	0	4.78(5)				2.90(2)	0	2.90(2)	0.41(2)
20-Ca-42	0.64	0	3.36(10)				1.42(8)	0	1.42(8)	0.68(7)
20-Ca-43	0.13	7/2	-1.56(9)				0.31(4)	0.5(5)	0.8(5)	6.2(6)
20-Ca-44	2.13	0	1.42(6)				0.25(2)	0	0.25(2)	0.88(5)
20-Ca-46	0.003	0	3.55(21)				1.6(2)	0	1.6(2)	0.74(7)
20-Ca-48	0.18	0	0.39(9)				0.019(9)	0	0.019(9)	1.09(14)
21-Sc-45	100	7/2	12.1(1)	6.91(22)	18.99(28)	+/-	19.0(3)	4.5(3)	23.5(6)	27.5(2)
22-Ti			-3.370(13)				1.485(2)	2.87(3)	4.35(3)	6.09(13)
22-Ti-46	8	0	4.72(5)				3.05(7)	0	3.05(7)	0.59(18)
22-Ti-47	7.5	5/2	3.53(7)	0.46(23)	7.64(13)		1.66(11)	1.5(2)	3.2(2)	1.7(2)
22-Ti-48	73.7	0	-5.86(2)				4.65(3)	0	4.65(3)	7.84(25)
22-Ti-49	5.5	7/2	0.98(5)	2.6(3)	-1.2(4)		0.14(1)	3.3(3)	3.4(3)	2.2(3)
22-Ti-50	5.3	0	5.88(10)				4.80(12)	0	4.80(12)	0.179(3)
23-V			-0.443(14)				0.01838(12)	5.08(6)	5.10(6)	5.08(4)

ZSymbA	p or T _{1/2}	I	b _c	b ₊	b ₋	c	σ _{coh}	σ _{inc}	σ _{scatt}	σ _{abs}
23-V-50	0.25	6	7.6(6)*				7.3(1.1)	0.5(5)*	7.8(1.0)	60.0(40.0)
23-V-51	99.75	7/2	-0.402(2)	4.93(25)	-7.58(28)	+/-	0.0203(2)	5.07(6)	5.09(6)	4.9(1)
24-Cr			3.635(7)				1.660(6)	1.83(2)	3.49(2)	3.05(6)
24-Cr-50	4.35	0	-4.50(5)				2.54(6)	0	2.54(6)	15.8(2)
24-Cr-52	83.8	0	4.914(15)				3.042(12)	0	3.042(12)	0.76(6)
24-Cr-53	9.59	3/2	-4.20(3)	1.16(10)	-13.0(2)		2.22(3)	5.93(17)	8.15(17)	18.1(1.5)
24-Cr-54	2.36	0	4.55(10)				2.60(11)	0	2.60(11)	0.36(4)
25-Mn-55	100	5/2	-3.750(18)	-4.93(46)	-1.46(33)		1.75(2)	0.40(2)	2.15(3)	13.3(2)
26-Fe			9.45(2)				11.22(5)	0.40(11)	11.62(10)	2.56(3)
26-Fe-54	5.8	0	4.2(1)				2.2(1)	0	2.2(1)	2.25(18)
26-Fe-56	91.7	0	10.1(2)				12.42(7)	0	12.42(7)	2.59(14)
26-Fe-57	2.19	1/2	2.3(1)				0.66(6)	0.3(3)*	1.0(3)	2.48(30)
26-Fe-58	0.28	0	15(7)				28.0(26.0)	0	28.0(26.0)	1.28(5)
27-Co-59	100	7/2	2.49(2)	-9.21(10)	3.58(10)	+/-	0.779(13)	4.8(3)	5.6(3)	37.18(6)
28-Ni			10.3(1)				13.3(3)	5.2(4)	18.5(3)	4.49(16)
28-Ni-58	67.88	0	14.4(1)				26.1(4)	0	26.1(4)	4.6(3)
28-Ni-60	26.23	0	2.8(1)				0.99(7)	0	0.99(7)	2.9(2)
28-Ni-61	1.19	3/2	7.60(6)				7.26(11)	1.9(3)	9.2(3)	2.5(8)
28Ni-62	3.66	0	-8.7(2)				9.5(4)	0	9.5(4)	14.5(3)
28-Ni-64	1.08	0	-0.37(7)				0.017(7)	0	0.017(7)	1.52(3)
29-Cu			7.718(4)				7.485(8)	0.55(3)	8.03(3)	3.78(2)
29-Cu-63	69.1	3/2	6.477(13)			+/-	5.2(2)	0.006(1)	5.2(2)	4.50(2)
29-Cu-65	30.9	3/2	10.204(20)			+/-	14.1(5)	0.40(4)	14.5(5)	2.17(3)
30-Zn			5.680(5)				4.054(7)	0.077(7)	4.131(10)	1.11(2)
30-Zn-64	48.9	0	5.23(4)				3.42(5)	0	3.42(5)	0.93(9)
30-Zn-66	27.8	0	5.98(5)				4.48(8)	0	4.48(8)	0.62(6)
30-Zn-67	4.1	5/2	7.58(8)	5.8(5)	10.1(7)	+/-	7.18(15)	0.28(3)	7.46(15)	6.8(8)
30-Zn-68	18.6	0	6.04(3)				4.57(5)	0	4.57(5)	1.1(1)
30-Zn-70	0.62	0	6.9(1.0)*				4.5(1.5)	0	4.5(1.5)	0.092(5)
31-Ga			7.288(2)				6.675(4)	0.16(3)	6.83(3)	2.75(3)
31-Ga-69	60	3/2	8.043(16)	6.3(2)	10.5(4)	+/-	7.80(4)	0.091(11)	7.89(4)	2.18(5)
31-Ga-71	40	3/2	6.170(11)	5.5(6)	7.8(1)	+/-	5.15(5)	0.084(8)	5.23(5)	3.61(10)
32-Ge			8.185(20)				8.42(4)	0.18(7)	8.60(6)	2.20(4)
32-Ge-70	20.7	0	10.0(1)				12.6(3)	0	12.6(3)	3.0(2)
32-Ge-72	27.5	0	8.51(10)				9.1(2)	0	9.1(2)	0.8(2)
32-Ge-73	7.7	9/2	5.02(4)	8.1(4)	1.2(4)		3.17(5)	1.5(3)	4.7(3)	15.1(4)
32-Ge-74	36.4	0	7.58(10)				7.2(2)	0	7.2(2)	0.4(2)
32-Ge-76	7.7	0	8.2(1.5)				8.0(3.0)	0	8.0(3.0)	0.16(2)

ZSymbA	p or T _{1/2}	I	b _c	b ₊	b ₋	c	σ _{coh}	σ _{inc}	σ _{scatt}	σ _{abs}
33-As-75	100	3/2	6.58(1)	6.04(5)	7.47(8)	+/-	5.44(2)	0.060(10)	5.50(2)	4.5(1)
34-Se			7.970(9)				7.98(2)	0.32(6)	8.30(6)	11.7(2)
34-Se-74	0.9	0	0.8(3.0)				0.1(6)	0	0.1(6)	51.8(1.2)
34-Se-76	9	0	12.2(1)				18.7(3)	0	18.7(3)	85.0(7.0)
34-Se-77	7.5	0	8.25(8)				8.6(2)	0.05(25)	8.65(16)	42.0(4.0)
34-Se-78	23.5	0	8.24(9)				8.5(2)	0	8.5(2)	0.43(2)
34-Se-80	50	0	7.48(3)				7.03(6)	0	7.03(6)	0.61(5)
34-Se-82	8.84	0	6.34(8)				5.05(13)	0	5.05(13)	0.044(3)
35-Br			6.79(2)				5.80(3)	0.10(9)	5.90(9)	6.9(2)
35-Br-79	50.49	3/2	6.79(7)			+/-	5.81(2)	0.15(6)	5.96(13)	11.0(7)
35-Br-81	49.31	3/2	6.78(7)			+/-	5.79(12)	0.05(2)	5.84(12)	2.7(2)
36-Kr			7.81(2)				7.67(4)	0.01(14)	7.68(13)	25.0(1.0)
36-Kr-78	0.35	0						0		6.4(9)
36-Kr-80	2.5	0						0		11.8(5)
36-Kr-82	11.6	0						0		29.0(20.0)
36-Kr-83	11.5	9/2								185.0(30.0)
36-Kr-84	57	0						0	6.6	0.113(15)
36-Kr-86	17.3	0	8.07(26)				8.2(4)	0	8.2(4)	0.003(2)
37-Rb			7.08(2)				6.32(4)	0.5(4)	6.8(4)	0.38(1)
37-Rb-85	72.17	5/2	7.07(10)				6.2(2)	0.5(5)*	6.7(5)	0.48(1)
37-Rb-87	27.83	3/2	7.27(12)				6.6(2)	0.5(5)*	7.1(5)	0.12(3)
38-Sr			7.02(2)				6.19(4)	0.06(11)	6.25(10)	1.28(6)
38-Sr-84	0.56	0	5.0(2.0)				6.0(2.0)	0	6.0(2.0)	0.87(7)
38-Sr-86	9.9	0	5.68(5)				4.04(7)	0	4.04(7)	1.04(7)
38-Sr-87	7	9/2	7.41(7)				6.88(13)	0.5(5)*	7.4(5)	16.0(3.0)
38-Sr-88	82.6	0	7.16(6)				6.42(11)	0	6.42(11)	0.058(4)
39-Y-89	100	1/2	7.75(2)	8.4(2)	5.8(5)	+/-	7.55(4)	0.15(8)	7.70(9)	1.28(2)
40-Zr			7.16(3)				6.44(5)	0.02(15)	6.46(14)	0.185(3)
40-Zr-90	51.48	0	6.5(1)				5.1(2)	0	5.1(2)	0.011(59)
40-Zr-91	11.23	5/2	8.8(1)	7.9(2)	10.1(2)	+/-	9.5(2)	0.15(4)	9.7(2)	1.17(10)
40-Zr-92	17.11	0	7.5(2)				6.9(4)	0	6.9(4)	0.22(6)
40-Zr-94	17.4	0	8.3(2)				8.4(4)	0	8.4(4)	0.0499(24)
40-Zr-96	2.8	0	5.5(1)				3.8(1)	0	3.8(1)	0.0229(10)
41-Nb-93	100	9/2	7.054(3)	7.06(4)	7.35(4)	+/-	6.253(5)	0.0024(3)	6.255(5)	1.15(6)
42-Mo			6.715(20)				5.67(3)	0.04(5)	5.71(4)	2.48(4)
42-Mo-92	15.48	0	6.93(8)				6.00(14)	0	6.00(14)	0.019(2)
42-Mo-94	9.1	0	6.82(7)				5.81(12)	0	5.81(12)	0.015(2)
42-Mo-95	15.72	5/2	6.93(7)				6.00(10)	0.5(5)*	6.5(5)	13.1(3)

ZSymbA	p or T _{1/2}	I	b _c	b ₊	b ₋	c	σ _{coh}	σ _{inc}	σ _{scatt}	σ _{abs}
42-Mo-96	16.53	0	6.22(6)				4.83(9)	0	4.83(9)	0.5(2)
42-Mo-97	9.5	5/2	7.26(8)				6.59(15)	0.5(5)*	7.1(5)	2.5(2)
42-Mo-98	23.78	0	6.60(7)				5.44(12)	0	5.44(12)	0.127(6)
42-Mo-100	9.6	0	6.75(7)				5.69(12)	0	5.69(12)	0.4(2)
43-Tc-99	210000 Y	9/2	6.8(3)				5.8(5)	0.5(5)*	6.3(7)	20.0(1.0)
44-Ru			7.02(2)				6.21(5)	0.4(1)	6.6(1)	2.56(13)
44-Ru-96	5.8	0						0		0.28(2)
44-Ru-98	1.9	0						0		< 8.0
44-Ru-99	12.7	5/2								6.9(1.0)
44-Ru-100	12.6	0						0		4.8(6)
44-Ru-101	17.07	5/2								3.3(9)
44-Ru-102	31.61	0						0		1.17(7)
44-Ru-104	18.58	0						0		0.31(2)
45-Rh-103	100	1/2	5.90(4)	8.15(6)	6.74(6)		4.34(6)	0.3(3)*	4.6(3)	144.8(7)
46-Pd			5.91(6)				4.39(9)	0.093(9)	4.48(9)	6.9(4)
46-Pd-102	1	0	7.7(7)*				7.5(1.4)	0	7.5(1.4)	3.4(3)
46-Pd-104	11	0	7.7(7)*				7.5(1.4)	0	7.5(1.4)	0.6(3)
46-Pd-105	22.33	5/2	5.5(3)			+/-	3.8(4)	0.8(1.0)	4.6(1.1)	20.0(3.0)
46-Pd-106	27.33	0	6.4(4)				5.1(6)	0	5.1(6)	0.304829
46-Pd-108	26.71	0	4.1(3)				2.1(3)	0	2.1(3)	8.5(5)
46-Pd-110	11.8	0	7.7(7)*				7.5(1.4)	0	7.5(1.4)	0.226(31)
47-Ag			5.922(7)				4.407(10)	0.58(3)	4.99(3)	63.3(4)
47-Ag-107	51.8	1/2	7.555(11)	8.14(9)	5.8(3)	+/-	7.17(2)	0.13(3)	7.30(4)	37.6(1.2)
47-Ag-109	48.2	1/2	4.165(11)	3.24(8)	6.9(2)	+/-	2.18(1)	0.32(5)	2.50(5)	91.0(1.0)
48-Cd			4.83(5)			E	3.04(6)	3.46(13)	6.50(12)	2520.0(50.0)
48-Cd-106	1.2	0	5.0(2.0)*				3.1(2.5)	0	3.1(2.5)	1.0(2.0)
48-Cd-108	0.9	0	5.31(24)				3.7(1)	0	3.7(1)	1.1(3)
48-Cd-110	12.39	0	5.78(8)				4.4(1)	0	4.4(1)	11.0(1.0)
48-Cd-111	12.75	1/2	6.47(8)				5.3(2)	0.3(3)*	5.6(4)	24.0(5.0)
48-Cd-112	24.07	0	6.34(6)				5.1(2)	0	5.1(2)	2.2(5)
48-Cd-113	12.36	1/2	-8.0(1)			E	12.1(4)	0.3(3)*	12.4(5)	20600.0(400.0)
48-Cd-114	28.86	0	7.48(5)				7.1(2)	0	7.1(2)	0.34(2)
48-Cd-116	7.58	0	6.26(9)				5.0(2)	0	5.0(2)	0.075(13)
49-In			4.065(20)				2.08(2)	0.54(11)	2.62(11)	193.8(1.5)
49-In-113	4.28	9/2	5.39(6)				3.65(8)	0.000037(5)	3.65(8)	12.0(1.1)
49-In-115	95.72	9/2	4.00(3)	2.1(1)	6.4(4)		2.02(2)	0.55(11)	2.57(11)	202.0(2.0)
50-Sn			6.225(2)				4.871(3)	0.022(5)	4.892(6)	0.626(9)
50-Sn-112	1	0	6.0(1.0)*				4.5(1.5)	0	4.5(1.5)	1.00(11)

ZSymbA	p or T _{1/2}	I	b _c	b ₊	b ₋	c	σ _{coh}	σ _{inc}	σ _{scatt}	σ _{abs}
50-Sn-114	0.66	0	6.0(3)				4.8(5)	0	4.8(5)	0.114(30)
50-Sn-115	0.35	1/2	6.0(1.0)*				4.5(1.5)	0.3(3)*	4.8(1.5)	30.0(7.0)
50-Sn-116	14.3	0	6.10(1)				4.42(7)	0	4.42(7)	0.14(3)
50-Sn-117	7.61	1/2	6.59(8)	0.22(10)	-0.23(10)		5.28(8)	0.3(3)*	5.6(3)	2.3(5)
50-Sn-118	24.03	0	6.23(4)				4.63(8)	0	4.63(8)	0.22(5)
50-Sn-119	8.58	1/2	6.28(3)	0.14(10)	0.0(1)		4.71(8)	0.3(3)*	5.0(3)	2.2(5)
50-Sn-120	32.86	0	6.67(4)				5.29(8)	0	5.29(8)	0.14(3)
50-Sn-122	4.72	0	5.93(3)				4.14(7)	0	4.14(7)	0.18(2)
50-Sn-124	5.94	0	6.15(3)				4.48(8)	0	4.48(8)	0.133(5)
51-Sb			5.57(3)				3.90(4)	0.00(7)	3.90(6)	4.91(5)
51-Sb-121	57.25	5/2	5.71(6)	5.7(2)	5.8(2)		4.10(9)	0.0003(19)	4.10(19)	5.75(12)
51-Sb-123	42.75	7/2	5.38(7)	5.2(2)	5.4(2)		3.64(9)	0.001(4)	3.64(9)	3.8(2)
52-Te			5.68(2)				4.23(4)	0.09(6)	4.32(5)	4.7(1)
52-Te-120	0.09	0	5.3(5)				3.5(7)	0	3.5(7)	2.3(3)
52-Te-122	2.4	0	3.8(2)				1.8(2)	0	1.8(2)	3.4(5)
52-Te-123	0.87	1/2	-0.05(25)	-1.2(2)	3.5(2)		0.002(3)	0.52(5)	0.52(5)	418.0(30.0)
52-Te-124	4.61	0	7.95(10)				8.0(2)	0	8.0(2)	6.8(1.3)
52-Te-125	6.99	1/2	5.01(8)	4.9(2)	5.5(2)		3.17(10)	0.008(8)	3.18(10)	1.55(16)
52-Te-126	18.71	0	5.55(7)				3.88(10)	0	3.88(10)	1.04(15)
52-Te-128	31.79	0	5.88(8)				4.36(10)	0	4.36(10)	0.215(8)
52-Te-130	34.48	0	6.01(7)				4.55(11)	0	4.55(11)	0.29(6)
53-I-127	100	5/2	5.28(2)	6.6(2)	3.4(2)		3.50(3)	0.31(6)	3.81(7)	6.15(6)
54-Xe			4.69(4)				3.04(4)	0		23.9(1.2)
54-Xe-124	0.1	0						0		165.0(20.0)
54-Xe-126	0.09	0						0		3.5(8)
54-Xe-128	1.9	0						0		< 8.0
54-Xe-129	26.14	1/2								21.0(5.0)
54-Xe-130	3.3	0						0		< 26.0
54-Xe-131	21.18	3/2								85.0(10.0)
54-Xe-132	26.89	0						0		0.45(6)
54-Xe-134	10.4	0						0		0.265(20)
54-Xe-136	8.9	0						0		0.26(2)
55-Cs-133	100	7/2	5.42(2)			+/-	3.69(15)	0.21(5)	3.90(6)	29.0(1.5)
56-Ba			5.07(3)				3.23(4)	0.15(11)	3.38(10)	1.1(1)
56-Ba-130	0.1	0	-3.6(6)				1.6(5)	0	1.6(5)	30.0(5.0)
56-Ba-132	0.09	0	7.8(3)				7.6(6)	0	7.6(6)	7.0(8)
56-Ba-134	2.4	0	5.7(1)				4.08(14)	0	4.08(14)	2.0(1.6)
56-Ba-135	6.59	3/2	4.66(10)				2.74(12)	0.5(5)*	3.2(5)	5.8(9)

ZSymbA	p or T _{1/2}	I	b _c	b ₊	b ₋	c	σ _{coh}	σ _{inc}	σ _{scatt}	σ _{abs}
56-Ba-136	7.81	0	4.90(8)				3.03(10)	0	3.03(10)	0.68(17)
56-Ba-137	11.32	3/2	6.82(10)				5.86(17)	0.5(5)*	6.4(5)	3.6(2)
56-Ba-138	71.66	0	4.83(8)				2.94(10)	0	2.94(19)	0.27(14)
57-La			8.24(4)				8.53(8)	1.13(19)	9.66(17)	8.97(2)
57-La-138	0.09	5	8.0(2.0)*				8.0(4.0)	0.5(5)*	8.5(4.0)	57.0(6.0)
57-La-139	99.91	7/2	8.24(4)	11.4(3)	4.5(4)	+/-	8.53(8)	1.13(15)	9.66(17)	8.93(4)
58-Ce			4.84(2)				2.94(2)	0.00(10)	2.94(10)	0.63(4)
58-Ce-136	0.19	0	5.76(9)				4.23(13)	0	4.23(13)	7.3(1.5)
58-Ce-138	0.26	0	6.65(9)				5.64(15)	0	5.64(15)	1.1(3)
58-Ce-140	88.48	0	4.81(9)				2.94(11)	0	2.94(11)	0.57(4)
58-Ce-142	11.07	0	4.72(9)				2.84(11)	0	2.84(11)	0.95(5)
59-Pr-141	100	5/2	4.58(5)				2.64(6)	0.015(3)	2.66(6)	11.5(3)
60-Nd			7.69(5)				7.43(19)	9.2(8)	16.6(8)	50.5(1.2)
60-Nd-142	27.11	0	7.7(3)				7.5(6)	0	7.5(6)	18.7(7)
60-Nd-143	12.17	7/2	14.0(2.0)*				25.0(7.0)	55.0(7.0)	80.0(2.0)	337.0(10.0)
60-Nd-144	23.85	0	2.8(3)				1.0(2)	0	1.0(2)	3.6(3)
60-Nd-145	8.5	7/2	14.0(2.0)*				25.0(7.0)	5.0(5.0)*	30.0(9.0)	42.0(2.0)
60-Nd-146	17.22	0	8.7(2)				9.5(4)	0	9.5(4)	1.4(1)
60-Nd-148	5.7	0	5.7(3)				4.1(4)	0	4.1(4)	2.5(2)
60-Nd-150	5.6	0	5.28(20)				3.5(3)	0	3.5(3)	1.2(2)
61-Pm-147	2.62 Y	7/2	12.6(4)				20.0(1.3)	1.3(2.0)	21.3(1.5)	168.4(3.5)
62-Sm			0.00(5)			E	0.422(9)	39.0(3.0)	39.4(3.0)	5922.0(56.0)
62-Sm-144	3.1	0	-3.0(4.0)*				1.0(3.0)	0	1.0(3.0)	0.7(3)
62-Sm-147	15	7/2	14.0(3.0)				25.0(11.0)	14.0(19.0.)	39.0(16.0)	57.0(3.0)
62-Sm-148	11.2	0	-3.0(4.0)*				1.0(3.0)	0	1.0(3.0)	2.4(6)
62-Sm-149	13.8	7/2	18.7(28)			E	63.5(6)	137.0(5.0)	200.0(5.0)	42080.0(400.0)
62-Sm-150	7.4	0	14.0(3.0)				25.0(11.0)	0	25.0(11.0)	104.0(4.0)
62-Sm-152	26.7	0	-5.0(6)				3.1(8)	0	3.1(8)	206.0(6.0)
62-Sm-154	22.8	0	8.0(1.0)				11.0(2.0)	0	11.0(2.0)	8.4(5)
63-Eu			5.3(3)			E	6.57(4)	2.5(4)	9.2(4)	4530.0(40.0)
63-Eu-151	47.8	5/2				E	5.5(2)	3.1(4)	8.6(4)	9100.0(100.0)
63-Eu-153	52.8	5/2	8.22(12)				8.5(2)	1.3(7)	9.8(7)	312.0(7.0)
64-Gd			9.5(2)			E	29.3(8)	151.0(2.0)	180.0(2.0)	49700.0(125.0)
64-Gd-152	0.2	0	10.0(3.0)*				13.0(8.0)	0	13.0(8.0)	735.0(20.0)
64-Gd-154	2.2	0	10.0(3.0)*				13.0(8.0)	0	13.0(8.0)	85.0(12.0)
64-Gd-155	14.9	3/2	13.8(3)			E	40.8(4)	25.0(6.0)	66.0(6.0)	61100.0(400.0)
64-Gd-156	20.6	0	6.3(4)				5.0(6)	0	5.0(6)	1.5(1.2)
64-Gd-157	15.7	3/2	4.0(2.0)			E	650.0(4.0)	394.0(7.0)	1044.0(8.0)	259000.0(700.0)

ZSymbA	p or T _{1/2}	I	b _c	b ₊	b ₋	c	σ _{coh}	σ _{inc}	σ _{scatt}	σ _{abs}
64-Gd-158	24.7	0	9.0(2.0)				10.0(5.0)	0	10.0(5.0)	2.2(2)
64-Gd-160	21.7	0	9.15(5)				10.52(11)	0	10.52(11)	0.77(2)
65-Tb-159	100	3/2	7.34(2)	6.8(2)	8.1(2)	+/-	6.84(6)	0.004(3)	6.84(6)	23.4(4)
66-Dy			16.9(3)				35.9(8)	54.4(1.2)	90.3(9)	994.0(13.0)
66-Dy-156	0.06	0	6.1(5)				4.7(8)	0	4.7(8)	33.0(3.0)
66-Dy-158	0.1	0	6.0(4.0)*				5.0(6.0)	0	5.(6.)	43.0(6.0)
66-Dy-160	2.3	0	6.7(4)				5.6(7)	0	5.6(7)	56.0(5.0)
66-Dy-161	18.9	5/2	10.3(4)				13.3(1.0)	3.0(1.0)	16.0(1.0)	600.0(25.0)
66-Dy-162	25.5	0	-1.4(5)				0.25(18)	0	0.25(18)	194.0(10.0)
66-Dy-163	24.9	5/2	5.0(4)	6.1(5)	3.5(5)		3.1(5)	0.21(19)	3.3(5)	124.0(7.0)
66-Dy-164	28.2	0	49.4(5)				307.0(3.0)	0	307.0(3.0)	2840.0(40.0)
67-Ho-165	100	7/2	8.44(3)	6.9(2)	10.3(2)	+/-	8.06(8)	0.36(3)	8.42(16)	64.7(1.2)
68-Er			7.79(2)				7.63(4)	1.1(3)	8.7(3)	159.0(4.0)
68-Er-162	0.14	0	9.01(11)				9.7(4)	0	9.7(4)	19.0(2.0)
68-Er-164	1.6	0	7.95(14)				8.4(4)	0	8.4(4)	13.0(2.0)
68-Er-166	33.4	0	10.51(19)				14.1(5)	0	14.1(5)	19.6(1.5)
68-Er-167	22.9	7/2	3.06(5)	5.3(3)	0.0(3)		1.1(2)	0.13(6)	1.2(2)	659.0(16.0)
68-Er-168	27	0	7.43(8)				6.9(7)	0	6.9(7)	2.74(8)
68-Er-170	15	0	9.61(6)				11.6(1.2)	0	11.6(1.2)	5.8(3)
69-Tm-169	100	1/2	7.07(3)			+/-	6.28(5)	0.10(7)	6.38(9)	100.0(2.0)
70-Yb			12.41(3)				19.42(9)	4.0(2)	23.4(2)	34.8(8)
70-Yb-168	0.14	0	-4.07(2)			E	2.13(2)	0	2.13(2)	2230.0(40.0)
70-Yb-170	3	0	6.8(1)				5.8(2)	0	5.8(2)	11.4(1.0)
70-Yb-171	14.3	1/2	9.7(1)	6.5(2)	19.4(4)		11.7(2)	3.9(2)	15.6(3)	48.6(2.5)
70-Yb-172	21.9	0	9.5(1)				11.2(2)	0	11.2(2)	0.8(4)
70-Yb-173	16.3	5/2	9.56(10)	2.5(2)	13.3(3)		11.5(2)	3.5	15	17.1(1.3)
70-Yb-174	31.8	0	19.2(1)				46.8(5)	0	46.8(5)	69.4(5.0)
70-Yb-176	12.7	0	8.7(1)				9.6(2)	0	9.6(2)	2.85(5)
71-Lu			7.21(3)				6.53(5)	0.7(4)	7.2(4)	74.0(2.0)
71-Lu-175	97.4	7/2	7.28(9)				6.59(5)	0.6(4)	7.2(4)	21.0(3.0)
71-Lu-176	2.6	7	6.1(2)				4.7(2)	1.2(3)	5.9	2065.(35.)
72-Hf			7.77(14)				7.6(3)	2.6(5)	10.2(4)	104.1(5)
72-Hf-174	0.184	0	10.9(1.1)				15.0(3.0)	0	15.0(3.0)	561.0(35.0)
72-Hf-176	5.2	0	6.61(18)				5.5(3)	0	5.5(3)	23.5(3.1)
72-Hf-177	18.5	0	0.8(1.0)*				0.1(2)	0.1(3)	0.2(2)	373.0(10.0)
72-Hf-178	27.2	0	5.9(2)				4.4(3)	0	4.4(3)	84.0(4.0)
72-Hf-179	13.8	9/2	7.46(16)				7.0(3)	0.14(2)	7.1(3)	41.0(3.0)
72-Hf-180	35.1	0	13.2(3)				21.9(1.0)	0	21.9(1.0)	13.04(7)

ZSymbA	p or T _{1/2}	I	b _c	b ₊	b ₋	c	σ _{coh}	σ _{inc}	σ _{scatt}	σ _{abs}
73-Ta			6.91(7)				6.00(12)	0.01(17)	6.01(12)	20.6(5)
73-Ta-180	0.012	9	7.0(2.0)*				6.2(3.5)	0.5(5)*	7.0(4.0)	563.0(60.0)
73-Ta-181	99.98	7/2	6.91(7)			+/-	6.00(12)	0.011(2)	6.01(12)	20.5(5)
74-W			4.755(18)				2.97(2)	1.63(6)	4.60(6)	18.3(2)
74-W-180	0.13	0	5.0(3.0)*				3.0(4.0)	0	3.0(4.0)	30.0(20.0)
74-W-182	26.3	1/2	7.04(4)				6.10(7)	0	6.10(7)	20.7(5)
74-W-183	14.3	1/2	6.59(4)	6.3(4)	7.0(4)		5.36(7)	0.3(3)*	5.7(3)	10.1(3)
74-W-184	30.7	0	7.55(6)				7.03(11)	0	7.03(11)	1.7(1)
74-W-186	28.6	0	-0.73(4)				0.065(7)	0	0.065(7)	37.9(6)
75-Re			9.2(2)				10.6(5)	0.9(6)	11.5(3)	89.7(1.0)
75-Re-185	37.5	5/2	9.0(3)				10.2(7)	0.5(9)	10.7(6)	112.0(2.0)
75-Re-187	62.5	5/2	9.3(3)				10.9(7)	1.0(6)	11.9(4)	76.4(1.0)
76-Os			10.7(2)				14.4(5)	0.3(8)	14.7(6)	16.0(4.0)
76-Os-184	0.02	0	10.0(2.0)*				13.0(5.0)	0	13.0(5.0)	3000.0(150.0)
76-Os-186	1.6	0	12.0(1.7)				17.0(5.0)	0	17.0(5.0)	80.0(13.0)
76-Os-187	1.6	1/2	10.0(2.0)*				13.0(5.0)	0.3(3)*	13.0(5.0)	320.0(10.0)
76-Os-188	13.3	0	7.8(3)				7.3(6)	0	7.3(6)	4.7(5)
76-Os-189	16.1	3/2	11.0(3)				14.4(8)	0.5(5)*	14.9(9)	25.0(4.0)
76-Os-190	26.4	0	11.4(3)				15.2(8)	0	15.2(8)	13.1(3)
76-Os-192	41	0	11.9(4)				16.6(1.2)	0	16.6(1.2)	2.0(1)
77-Ir			10.6(3)				14.1(8)	0.0(3.0)	14.0(3.0)	425.0(2.0)
77-Ir-191	37.4	3/2								954.0(10.0)
77-Ir-193	62.6	3/2								111.0(5.0)
78-Pt			9.60(1)				11.58(2)	0.13(11)	11.71(11)	10.3(3)
78-Pt-190	0.01	0	9.0(1.0)				10.0(2.0)	0	10.0(2.0)	152.0(4.0)
78-Pt-192	1.78	0	9.9(5)				12.3(1.2)	0	12.3(1.2)	10.0(2.5)
78-Pt-194	32.9	0	10.55(8)				14.0(2)	0	14.0(2)	1.44(19)
78-Pt-195	33.8	1/2	8.91(9)	9.5(3)	7.2(3)	+/-	9.8(2)	0.13(4)	9.9(2)	27.5(1.2)
78-Pt-196	25.3	0	9.89(8)				12.3(2)	0	12.3(2)	0.72(4)
78-Pt-198	7.2	0	7.8(1)				7.6(2)	0	7.6(2)	3.66(19)
79-Au-197	100	3/2	7.90(7)	6.26(10)	9.90(14)	+/-	7.32(12)	0.43(5)	7.75(13)	98.65(9)
80-Hg			12.595(45)				20.24(5)	6.6(1)	26.8(1)	372.3(4.0)
80-Hg-196	0.15	0	30.3(1.0)			E	115.0(8.0)	0	115.0(8.0)	3080.0(180.0)
80-Hg-198	10.1	0						0		2.0(3)
80-Hg-199	16.9	0	16.9(4)			E	36.0(2.0)	30.0(3.0)	66.0(2.0)	2150.0(48.0)
80-Hg-200	23.1	0						0		< 60.0
80-Hg-201	13.2	3/2								7.8(2.0)
80-Hg-202	29.7	0	11.002(43)				15.2108(2)	0	15.2108(2)	4.89(5)

ZSymbA	p or T _{1/2}	I	b _c	b ₊	b ₋	c	σ _{coh}	σ _{inc}	σ _{scatt}	σ _{abs}
80-Hg-204	6.8	0						0		0.43(10)
81-Tl			8.776(5)				9.678(11)	0.21(15)	9.89(15)	3.43(6)
81-Tl-203	29.5	1/2	8.51(8)	9.08(10)	6.62(10)		6.14(28)	0.14(4)	6.28(28)	11.4(2)
81-Tl-205	70.5	1/2	8.87(7)	5.15(10)	9.43(10)	+/-	11.39(17)	0.007(1)	11.40(17)	0.104(17)
82-Pb			9.401(2)				11.115(7)	0.0030(7)	11.118(7)	0.171(2)
82-Pb-204	1.4	0	10.893(78)				12.3(2)	0	12.3(2)	0.65(7)
82-Pb-206	24.1	0	9.221(78)				10.68(12)	0	10.68(12)	0.0300(8)
82-Pb-207	22.1	1/2	9.286(16)			+/-	10.82(9)	0.002(2)	10.82(9)	0.699(10)
82-Pb-208	52.4	0	9.494(30)				11.34(5)	0	11.34(5)	0.00048(3)
83-Bi-209	100	9/2	8.532(2)	8.26(1)	8.74(1)		9.148(4)	0.0084(19)	9.156(4)	0.0338(7)
84-Po										
85-At										
86-Rn										
87-Fr										
88-Ra-226	1620 Y	0	10.0(1.0)				13.0(3.0)	0	13.0(3.0)	12.8(1.5)
89-Ac										
90-Th-232	100	0	10.31(3)				13.36(8)	0	13.36(8)	7.37(6)
91-Pa-231	32500 Y	3/2	9.1(3)				10.4(7)	0.1(3.3)	10.5(3.2)	200.6(2.3)
92-U			8.417(5)				8.903(11)	0.005(16)	8.908(11)	7.57(2)
92-U-233	159000 Y	5/2	10.1(2)				12.8(5)	0.1(6)	12.9(3)	574.7(1.0)
92-U-234	0.005	0	12.4(3)				19.3(9)	0	19.3(9)	100.1(1.3)
92-U-235	0.72	7/2	10.50(3)				13.78(11)	0.2(2)	14.0(2)	680.9(1.1)
92-U-238	99.27	0	8.407(7)				8.871(11)	0	8.871(11)	2.68(2)
93-Np-237	2140000 Y	5/2	10.55(10)				14.0(3)	0.5(5)*	14.5(6)	175.9(2.9)
94-Pu-239	24400 Y	1/2	7.7(1)				7.5(2)	0.2(6)	7.7(6)	1017.3(2.1)
94-Pu-240	6540 Y	0	3.5(1)				1.54(9)	0	1.54(9)	289.6(1.4)
94-Pu-242	376000 Y	0	8.1(1)				8.2(2)	0	8.2(2)	18.5(5)
95-Am-243	7370 Y	5/2	8.3(2)				8.7(4)	0.3(2.6)	9.0(2.6)	75.3(1.8)
96-Cm-244	17.9 Y	0	9.5(3)				11.3(7)	0	11.3(7)	16.2(1.2)
96-Cm-246	4700Y	0	9.3(2)				10.9(5)	0	10.9(5)	1.36(17)
96-Cm-248	340000Y	0	7.7(2)				7.5(4)	0	7.5(4)	3.00(26)