Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	G. Gürdal and F. G. Kondev	NDS 113,1315 (2012)	1-Aug-2011

Q(β^-)=−8392 *15*; S(n)=11282 *16*; S(p)=6643 *15*; Q(α)=−1135 *14* 2012Wa38
Note: Current evaluation has used the following Q record −8394 1511282 166644 14-1138 14 2011AuZZ.

^{110}Sn Levels

Cross Reference (XREF) Flags

A	^{110}Sb ε decay	E	Coulomb excitation
B	^{94}Mo(^{19}F,p2nγ)	F	^{112}Sn(p,t)
C	^{98}Mo(^{16}O,4nγ)	G	^{113}In(p,4nγ), ^{112}Sn(p,p2nγ)
D	^{108}Cd(α,2nγ)	H	^{110}Cd(^{3}He,3nγ),^{104}Pd(^{12}C,α2nγ)

E(level)[†]	J$^\pi$	T$_{1/2}$[#]	XREF	Comments
0.0[@]	0$^+$	4.154 h *4*	ABCDEFGH	%ε=100 T$_{1/2}$: Weighted average of 4.15 h *12* (1973Ka45), 4.0 h *2* (1956Me94), 4.173 h 23 (280γ(t) in 2005Gy02, uncertainty is statistical only), and 4.153 h 4 (280γ(t) in 2009Ra17, uncertainty is statistical only), weighted average of 4.145 h *6* (Au catcher), 4.165 h *9* (Pb catcher) and 4.156 h *7* (Al catcher). Other: 4.1 h (1967Bo43).
1212.02[@] *9*	2$^+$	0.48 ps *4*	ABCDEFGH	B(E2)↑=0.226 *18* J$^\pi$: 1212.01γ E2 to 0$^+$. B(E2)↑: Weighted average of 0.240 *32* from 2007Va22, measured relative to B(E2)↑(3/2$^+$ (g.s.) to 7/2$^+$ (547 keV level))=0.449 *41* for ^{197}Au, and 0.220 *22* from 2007Ce02, measured relative to B(E2)↑(0$^+$ to 2$^+$)=0.0695 *20* for ^{58}Ni. T$_{1/2}$: From adopted B(E2)↑.
2058.0 *4*	(0$^+$,2)		C	J$^\pi$: 846.0γ to 2$^+$.
2121.04 *23*	2$^+$		A FG	XREF: F(2123). J$^\pi$: 908.9γ to 2$^+$; 2120.8γ to 0$^+$; direct population in ^{110}Sb ε decay (J^π=(3$^+$)).
2197.05[@] *10*	4$^+$		ABCD FGH	J$^\pi$: L(p,t)=4; 984.6γ E2 to 2$^+$; band structure.
2309[‡] *3*	0$^+$		F	J$^\pi$: L(p,t)=0.
2455.6 *3*	4$^+$		A CD G	J$^\pi$: 1242.3γ E2 to 2$^+$; direct population in ^{110}Sb ε decay (J^π=(3$^+$)).
2458.42[c] *15*	3$^-$		C F	XREF: F(2462). J$^\pi$: 261.5γ to 4$^+$; 1246.4γ E1 to 2$^+$; L(p,t)=3+4. configuration: possible ν(h$_{11/2}$,d$_{5/2}$) or octupole structure.
2477.68[@] *15*	6$^+$	5.6 ns *3*	BCD FGH	μ=0.072 *18* Q=0.34 *4* XREF: D(2480). J$^\pi$: L(p,t)=6; 280.2γ E2 to 4$^+$. T$_{1/2}$: Weighted average of 5.6 ns 4 (280γ(t), slope analysis in ^{104}Pd(^{12}C,α2nγ), by taking into account the decay of the 8$^-$ isomer at 3765 keV), 5.2 ns *8* (280γ(t), centroid-shift analysis in ^{110}Cd(^{3}He,3n)) and 5.8 ns *4* (280γ(t), slope analysis in ^{110}Cd(^{3}He,3n)) in 1989An14. Others: 8.0 ns *2* (1212γ(t)), 8.4 ns *2* (985γ(t)) and 8.5 ns *4* (282.9γ(t)) in 1980Va13; <7 ns 282.9γ(t) in 1969Ya05. μ: From g=0.012 *3* using $\gamma(\theta$,H,t) in ^{108}Cd(α,2n) (1989Vo17). Q: Using $\gamma(\theta$,H,t) in ^{108}Cd(α,2n) (1989Vo17).
2545.7 *5*	2$^+$		A F	J$^\pi$: L(p,t)=2; 1333.6γ to 2$^+$; 2545.4γ to 0$^+$; direct population in ^{110}Sb ε decay (J^π=(3$^+$)).

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Adopted Levels, Gammas (continued)

^{110}Sn Levels (continued)

E(level)†	Jπ	XREF	Comments
2573‡ *3*	0^+	F	Jπ: L(p,t)=0.
2694.5 *4*	4^+	A F	Jπ: L(p,t)=4; 1482.5γ to 2^+; direct population in ^{110}Sb ε decay ($J^\pi=(3^+)$).
2742.1 *8*	0^+	C F	Jπ: L(p,t)=0; 1530.1γ to 2^+.
2753.67 *16*	6^+	BCD FG	XREF: D(2756). Jπ: L(p,t)=6; 276.08γ M1(+E2) to 6^+.
2800.27& *13*	(6^+)	CD	XREF: D(2804.6). Jπ: 323.1γ to 6^+, 603.4γ to 4^+.
2821.5 *4*	$(2^+,3,4^+)$	A C G	Jπ: 624.4γ to 4^+; 1609.5γ to 2^+; direct population in ^{110}Sb ε decay ($J^\pi=(3^+)$).
2833.6 *3*	2^+	A F	XREF: F(2834). Jπ: L(p,t)=2; 636.5γ to 4^+; 2834.3γ to 0^+; direct population in ^{110}Sb ε decay ($J^\pi=(3^+)$).
2857‡ *3*	2^+	F	Jπ: L(p,t)=2.
2914.8 *10*	2^+	A F	XREF: F(2919). Jπ: L(p,t)=2; 1702.5γ to 2^+; 2915.1γ to 0^+; direct population in ^{110}Sb ε decay ($J^\pi=(3^+)$).
2948.2 *3*	$(3,4^+)$	A G	Jπ: 751.5γ to 4^+; 1735.9γ 2^+; direct population in ^{110}Sb ε decay ($J^\pi=(3^+)$); the absence of γ to 0^+.
2963.82 *14*	5^-	CD G	XREF: D(2967.1). Jπ: 486.0γ E1 to 6^+; 505.8γ to 3^-.
2965‡ *3*	2^+	F	Jπ: L(p,t)=2.
2977.2 *5*	$(2,3,4^+)$	A	Jπ: 1765.3γ to 2^+; direct population in ^{110}Sb ε decay ($J^\pi=(3^+)$).
2983‡	4^+	F	Jπ: L(p,t)=4.
2997‡	(2^+)	F	Jπ: L(p,t)=(2).
3059‡ *3*	4^+	F	Jπ: L(p,t)=4.
3083‡ *3*	2^+	F	Jπ: L(p,t)=2.
3153‡	2^+	F	Jπ: L(p,t)=2.
3182.9 *6*	$(2,3,4^+)$	A	Jπ: 1970.9γ to 2^+; direct population in ^{110}Sb ε decay ($J^\pi=(3^+)$).
3183‡ *3*	0^+	F	Jπ: L(p,t)=0.
3210.9 *4*	(3,4,5)	C f	XREF: f(3216). Jπ: 1013.8γ to 4^+.
3222.6 *3*	$(3,4^+)$	A fG	XREF: f(3216). Jπ: 1025.8γ to 4^+; 2010.1γ to 2^+; direct population in ^{110}Sb ε decay ($J^\pi=(3^+)$); the absence of γ to 0^+.
3249.2 *8*	$(6)^-$	C	Jπ: 285.4γ M1+E2 to 5^-.
3252‡	4^+	F	Jπ: L(p,t)=4.
3320‡	2^+	F	Jπ: L(p,t)=2.
3321.16[a] *18*	(6^+)	C	Jπ: 843.5γ (M1) to 6^+; 865.0γ to 4^+; band member.
3335.2 *5*	(6^+)	C	Jπ: 857.5γ to 6^+.
3355.20[c] *25*	5^-	C F	XREF: F(3357). Jπ: L(p,t)=5; 602.1γ to 6^+; 896.2γ to 3^-; band member.
3416.92 *15*	5^-	C	Jπ: 453.4γ M1+E2 to 5^-; 938.3γ to 6^+; 1219.3γ to 4^+.
3421‡ *3*	2^+	F	Jπ: L(p,t)=2.
3446.8 *5*	$(2,3,4^+)$	A	Jπ: 2234.9γ to 2^+; direct population in ^{110}Sb ε decay ($J^\pi=(3^+)$).
3472‡		F	
3540.5 *7*	4^+	A F	Jπ: L(p,t)=4; 2328.4γ to 2^+; direct population in ^{110}Sb ε decay ($J^\pi=(3^+)$).
3577‡		F	
3594‡		F	
3609‡ *3*	4^+	F	Jπ: L(p,t)=4.
3629.8 *4*	$(3,4^+)$	A	Jπ: 796.2γ to 2^+; 1432.6γ to 4^+; direct population in ^{110}Sb ε decay ($J^\pi=(3^+)$); the absence of γ to 0^+.

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Adopted Levels, Gammas (continued)

^{110}Sn Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$[#]	XREF	Comments
3643[‡]			F	
3687.52[c] *17*	7^-		BCD G	XREF: D(3689.3). Jπ: 1208.8γ E1 to 6^+, 332.0γ to 5^-; band member.
3751[‡] *3*	2^+		F	Jπ: L(p,t)=2.
3765.77[c] *17*	8^-	1.16 ns *10*	BCD G	Jπ: 78.3γ M1+E2 7^-; 1012.3γ M2 to 6^+.
3807[‡]			F	
3812[‡] *3*	2^+		F	Jπ: L(p,t)=2.
3813.09[@] *22*	8^+		BCD	XREF: B(3810.4)D(3814.8). Jπ: 1334.8γ E2 to 6^+. configuration: possible $\nu(g^2_{7/2},d^2_{5/2})$.
3844[‡] *3*	5^-		F	Jπ: L(p,t)=5.
3885.0 *7*	3^-		A F	Jπ: L(p,t)=3; 2673.2γ to 2^+; direct population in ^{110}Sb ε decay ($J^\pi=(3^+)$).
3933.57[c] *18*	9^-	121 ps *19*	BCD	XREF: D(3935.3). Jπ: 167.5γ M1+E2 to 8^-; band member. configuration: possible $\nu(h_{11/2},g_{7/2})$.
3971[‡]			F	
3991.7[&] *3*	(8^+)		C	Jπ: 1191.1γ to (6^+); band member. Member of $\nu[g^2_{7/2}h^2_{11/2}]$ or $\nu[d^2_{5/2}h^2_{11/2}]$ multiplets.
4003.77 *24*	$(7)^+$		C	Jπ: 1249.9γ M1+E2 to 6^+.
4132[‡] *3*	3^-&5^-		F	Jπ: L(p,t)=3+5.
4137.86[a] *20*	(8^+)		C	Jπ: 816.7γ to (6^+); band member.
4158[‡]			F	
4280.6 *7*	(8^+)		C	Jπ: 945.4γ to (6^+). configuration: possible member of $\nu(g^2_{7/2},h^2_{11/2})$ or $\nu(d^2_{5/2},h^2_{11/2})$ multiplets.
4315.7 *3*	$(8)^+$		C	Jπ: 311.7γ M1+E2 to $(7)^+$, 382.7γ to 9^-. configuration: possible member of $\nu(h^2_{11/2})$ multiplet.
4317[‡] *3*	4^+		F	Jπ: L(p,t)=4.
4317.3 *4*	(10)		D	Jπ: 383.7γ D(+Q) to $(9)^-$.
4465[‡]			F	
4501[‡]			F	
4600[‡]			F	
4625.6?			B	E(level): From ^{94}Mo(^{19}F,p2nγ). No γ ray were observed to depopulate this level.
4644[‡]			F	
4780.44[c] *20*	9^-		BC	Jπ: 1092.9γ E2 to 7^-; band member.
4881.07[a] *23*	(10^+)		C	Jπ: 743.2γ to (8^+).
4895.20[c] *20*	10^-	<21 ps	BCD G	XREF: D(4897.2). Jπ: 1129.5γ E2 to 8^-; band member.
5006.1 *6*	$(2,3,4^+)$		A	Jπ: 2172.3γ to 2^+; direct population in ^{110}Sb ε decay ($J^\pi=(3^+)$).
5017.40[@] *23*	(10^+)		C	Jπ: 1203.7γ to (8^+); band member. configuration: possible $\nu(g^2_{7/2}d^2_{5/2})$.
5108.15[c] *23*	11^-	52 ps *16*	BCD	XREF: D(5111.0). Jπ: 1175.3γ E2 to 9^-; band member.
5219.7[&] *4*	(10^+)		C	Jπ: 1227.4γ to (8^+); band member. configuration: possibly a competition between the $\nu(g^2_{7/2},d^2_{5/2})$ and $\nu(h^2_{11/2})$ multiplets.
5228.98[b] *19*	10^+		BC	Jπ: 211.0γ M1+E2 to (10^+); 447.7γ E1 to 9^-; band member.

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Adopted Levels, Gammas (continued)

^{110}Sn Levels (continued)

E(level)[†]	Jπ	XREF		Comments
				configuration: Possible $\nu(h^2_{11/2})$.
5331.27[c] *20*	11^-	CD		XREF: D(5332.4). Jπ: 1397.0γ E2 to 9^-.
5730.8[a] *3*	(12^+)	C		Jπ: 849.7γ to (10^+); band member.
5939.4[d] *3*	(9^-)	C		Jπ: 604.5γ to 11^-;
6037.14[b] *21*	(12^+)	BC		Jπ: 808.2γ (E2) to 10^+; band member.
6066.5[d] *3*	(10^-)	C		Jπ: 127.0γ to (9^-); band member.
6207.13[d] *21*	(11^-)	C		Jπ: 978.2γ to 10^+; 1099.0γ D to 11^-.
6354.9[d] *4*	(12^-)	C		Jπ: 147.7γ to (11^-); 318.0γ to (12^+); band member.
6370.9[c] *11*	(12)	C		Jπ: 1041.0γ to 11^-; band member.
6545.2[c] *5*	(13)	C		Jπ: 1215.3γ to 11^-; band member.
6598.3[a] *4*	(14^+)	C		Jπ: 867.5γ to (12^+); band member.
6613.2?[d] *8*	(13)	C		Jπ: 259.6γ to (12); band member.
6778.04[b] *23*	(14^+)	BC	G	Jπ: 740.9γ E2 to (12^+); band member.
6974.4?[d] *13*	(14)	C		Jπ: 361.2γ to (13); band member.
7541.1[a] *5*	(16^+)	C		Jπ: 942.8γ to (14^+); band member.
7587.9[b] *3*	(16^+)	BC		Jπ: 809.9γ (E2) to (14^+); band member.
8491.8[b] *3*	(18^+)	BC		Jπ: 903.9γ E2 to (16^+); band member.
9495.2[b] *3*	(20^+)	BC		Jπ: 1003.3γ to (18^+); band member.
10501.5?[b] *6*	(22^+)	C		Jπ: 1007.6γ to (20^+); band member.
11516.0?[b] *6*	(24^+)	C		

† From a least-squares fit to Eγ's, unless otherwise stated.
‡ From ^{112}Sn(p,t).
# From recoil-distance method in 1986Ka25, unless otherwise stated.
@ Band(A): g.s. band.
& Band(B): band based on the 2800.27 keV level.
[a] Band(C): band based on the 3321.16 keV level.
[b] Band(D): band based on the 5228.98 keV level.
[c] Band(E): band based on the 2458.42 keV level.
[d] Band(F): band based on the 5939.4 keV level.

Adopted Levels, Gammas (continued)

γ(^{110}Sn)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[@]	δ[&]	α[†]	Comments
1212.02	2^+	1212.01 *9*	100	0.0	0^+	E2		0.000859 *12*	α(K)=0.000740 *11*; α(L)=8.95×10^{-5} *13*; α(M)=1.746×10^{-5} *25*; α(N+..)=1.203×10^{-5} α(N)=3.28×10^{-6} *5*; α(O)=2.83×10^{-7} *4*; α(IPF)=8.47×10^{-6} *12* B(E2)(W.u.)=14.4 *12* E_γ: From ^{108}Cd(α,2nγ). Mult.: DCO=1.00 *9*; A_2=+0.20 *7*, A_4=−0.07 *4* (2005Wo03).
2058.0	$(0^+,2)$	846.0 *4*	100	1212.02	2^+				
2121.04	2^+	908.9[#] *3*	100[#] *8*	1212.02	2^+				
		2120.8[#] *6*	94[#] *5*	0.0	0^+				
2197.05	4^+	985.03 *3*	100	1212.02	2^+	E2		0.001330 *19*	α(K)=0.001155 *17*; α(L)=0.0001421 *20*; α(M)=2.78×10^{-5} *4*; α(N+..)=5.65×10^{-6} α(N)=5.21×10^{-6} *8*; α(O)=4.43×10^{-7} *7* E_γ: From ^{108}Cd(α,2nγ). Mult.: DCO=0.96 *8*; A_2=+0.29 *7*, A_4=−0.01 *1* (2005Wo03); α(K)exp=1.16×10^{-3}; A_2=0.314 *13*, A_4=−0.06 *2* (1980Va13).
2455.6	4^+	1243.3[#] *3*	100[#]	1212.02	2^+	E2		0.000820 *12*	α(K)=0.000702 *10*; α(L)=8.48×10^{-5} *12*; α(M)=1.653×10^{-5} *24*; α(N+..)=1.644×10^{-5} α(N)=3.11×10^{-6} *5*; α(O)=2.68×10^{-7} *4*; α(IPF)=1.306×10^{-5} *19* Mult.: α(K)exp=0.67×10^{-3} *12*; A_2=0.31 *2*, A_4=−0.06 *4* (1980Va13).
2458.42	3^-	261.5 *2*	40 *4*	2197.05	4^+				
		1246.4 *2*	100 *13*	1212.02	2^+	E1		0.000424 *6*	α(K)=0.000319 *5*; α(L)=3.72×10^{-5} *6*; α(M)=7.23×10^{-6} *11*; α(N+..)=6.04×10^{-5} *9* Mult.: A_2=−0.16 *5*, A_4=+0.01 *2* (2005Wo03).
2477.68	6^+	280.2 *3*	100	2197.05	4^+	E2		0.0444	α(K)=0.0372 *6*; α(L)=0.00584 *9*; α(M)=0.001160 *17*; α(N+..)=0.000227 *4* α(N)=0.000213 *3*; α(O)=1.473×10^{-5} *22* B(E2)(W.u.)=1.79 *10* Mult.: DCO=1.20 *13*; A_2=+0.11 *1*, A_4=−0.14 *9*; α(K)exp=0.030 *12*; A_2=0.32 *3*, A_4=−0.07 *10* (1980Va13).
2545.7	2^+	1333.6[#] *5*	100[#] *12*	1212.02	2^+				
		2545.4[#] *15*	35[#] *12*	0.0	0^+				
2694.5	4^+	1482.5[#] *4*	100[#]	1212.02	2^+				
2742.1	0^+	1530.1 *8*	100	1212.02	2^+				
2753.67	6^+	276.08 *6*	100	2477.68	6^+	M1(+E2)	0.0 *2*	0.0354 *7*	α(K)=0.0307 *6*; α(L)=0.00381 *11*; α(M)=0.000747 *22*; α(N+..)=0.000153 *4* E_γ: From ^{108}Cd(α,2nγ). Mult.: DCO=1.18 *25*; A_2=+0.35 *9*, A_4=−0.01 *2*; α(K)exp=0.038 *8*; A_2=0.382 *11*, A_4=0.01 *2* (1980Va13).

$^{110}_{50}Sn_{60}$-5

Adopted Levels, Gammas (continued)

γ(^{110}Sn) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[@]	α[†]	Comments
2800.27	(6$^+$)	323.1 *2*	48 *4*	2477.68	6$^+$			E_γ: 324.6 keV *2* in ^{108}Cd(α,2nγ).
		603.4 *1*	100 *8*	2197.05	4$^+$			
2821.5	(2$^+$,3,4$^+$)	624.4[#] *5*	44[#] *4*	2197.05	4$^+$			
		1609.5[#] *5*	100[#] *8*	1212.02	2$^+$			
2833.6	2$^+$	636.5[#] *4*	100[#] *9*	2197.05	4$^+$			
		1621.4[#] *5*	38[#] *6*	1212.02	2$^+$			
		2834.3[#] *15*	8[#] *4*	0.0	0$^+$			
2914.8	2$^+$	1702.5[#] *12*	100[#] *36*	1212.02	2$^+$			
		2915.1[#] *15*	86[#] *36*	0.0	0$^+$			
2948.2	(3,4$^+$)	751.5[#] *4*	44[#] *4*	2197.05	4$^+$			
		827.1[#] *3*	100[#] *7*	2121.04	2$^+$			
		1735.9[#] *5*	75[#] *4*	1212.02	2$^+$			
2963.82	5$^-$	163.9 *1*	69 *8*	2800.27	(6$^+$)			
		486.0 *1*	100 *8*	2477.68	6$^+$	E1	0.00255 *4*	α(K)=0.00222 *4*; α(L)=0.000266 *4*; α(M)=5.18×10^{-5} *8*; α(N+..)=1.053×10^{-5} *15* α(N)=9.71×10^{-6} *14*; α(O)=8.22×10^{-7} *12* Mult.: DCO=0.56 *22*; A_2=−0.44 *14*, A_4=+0.01 *2*.
		505.8 *2*	85 *8*	2458.42	3$^-$			
2977.2	(2,3,4$^+$)	1765.3[#] *5*	100[#]	1212.02	2$^+$			
3182.9	(2,3,4$^+$)	1970.9 *6*	100	1212.02	2$^+$			
3210.9	(3,4,5)	1013.8 *3*	100	2197.05	4$^+$			
3222.6	(3,4$^+$)	766.8[#] *6*	36[#] *12*	2455.6	4$^+$			
		1025.8[#] *4*	100[#] *12*	2197.05	4$^+$			
		1101.2[#] *6*	33[#] *8*	2121.04	2$^+$			
		2010.1[#] *12*	18[#] *6*	1212.02	2$^+$			
3249.2	(6)$^-$	285.4 *7*	100	2963.82	5$^-$	M1+E2	0.037 *5*	α(K)=0.032 *4*; α(L)=0.0045 *10*; α(M)=0.00089 *21*; α(N+..)=0.00018 *4* α(N)=0.00016 *4*; α(O)=1.26×10^{-5} *14* Mult.: DCO=1.03 *17*; A_2=−0.13 *19*, A_4=+0.04 *7*.
3321.16	(6$^+$)	843.5 *1*	100 *9*	2477.68	6$^+$	(M1)	0.00230 *4*	α(K)=0.00200 *3*; α(L)=0.000240 *4*; α(M)=4.68×10^{-5} *7*; α(N+..)=9.61×10^{-6} *14* α(N)=8.83×10^{-6} *13*; α(O)=7.79×10^{-7} *11* Mult.: DCO=0.53 *13*.
		865.0 *5*	26 *4*	2455.6	4$^+$			
3335.2	(6$^+$)	857.5 *4*	100	2477.68	6$^+$			
3355.20	5$^-$	602.1 *3*	65 *4*	2753.67	6$^+$			
		896.2 *3*	100 *13*	2458.42	3$^-$			
3416.92	5$^-$	453.4 *1*	23 *5*	2963.82	5$^-$	M1+E2	0.00994 *20*	α(K)=0.00856 *23*; α(L)=0.00111 *5*; α(M)=0.000218 *10*;

Adopted Levels, Gammas (continued)

γ(^{110}Sn) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[@]	δ[&]	α[†]	Comments
									α(N+..)=4.42×10^{-5} *15* α(N)=4.08×10^{-5} *16*; α(O)=3.36×10^{-6} *11* Mult.: DCO=1.04 *16*; A_2=+0.36 *20*, A_4=+0.06 *9*.
3416.92	5$^-$	938.3 *3*	30 *5*	2477.68	6$^+$				
		1219.3 *2*	100 *8*	2197.05	4$^+$				
3446.8	(2,3,4$^+$)	1325.6[#] *6*	22[#] *4*	2121.04	2$^+$				
		2234.9[#] *8*	100[#] *12*	1212.02	2$^+$				
3540.5	4$^+$	1419.6[#] *9*	28[#] *8*	2121.04	2$^+$				
		2328.4[#] *8*	100[#] *17*	1212.02	2$^+$				
3629.8	(3,4$^+$)	796.2[#] *7*	32[#] *7*	2833.6	2$^+$				
		1432.6[#] *5*	100[#] *14*	2197.05	4$^+$				
		2417.8[#] *12*	56[#] *14*	1212.02	2$^+$				
3687.52	7$^-$	270.8 *2*	5.8 *3*	3416.92	5$^-$				
		332.0[a] *1*	0.7 *3*	3355.20	5$^-$				
		437.2[a] *3*	2.3 *3*	3249.2	(6)$^-$				
		933.9 *2*	5.5 *3*	2753.67	6$^+$	(E1)		0.000623 *9*	α(K)=0.000544 *8*; α(L)=6.40×10^{-5} *9*; α(M)=1.244×10^{-5} *18*; α(N+..)=2.54×10^{-6} *4* α(N)=2.34×10^{-6} *4*; α(O)=2.03×10^{-7} *3* Mult.: A_2=−0.22 *9*, A_4=+0.01 *1*.
		1208.8 *5*	100 *3*	2477.68	6$^+$	E1		0.000424 *6*	α(K)=0.000337 *5*; α(L)=3.93×10^{-5} *6*; α(M)=7.64×10^{-6} *11*; α(N+..)=4.04×10^{-5} *7* α(N)=1.438×10^{-6} *21*; α(O)=1.252×10^{-7} *18*; α(IPF)=3.89×10^{-5} *6* Mult.: DCO=0.72 *09*; A_2=−0.29 *9*, A_4=+0.01 *1*; α(K)exp=0.67×10^{-3} *8* for unresolved 1209.4-1212.0 doublet in 1980Va13.
3765.77	8$^-$	78.3 *1*	100 *4*	3687.52	7$^-$	M1+E2	+0.05 *3*	1.136 *20*	α(K)=0.979 *16*; α(L)=0.127 *4*; α(M)=0.0250 *9*; α(N+..)=0.00509 *15* α(N)=0.00469 *15*; α(O)=0.000400 *7* B(M1)(W.u.)=0.0153 *16*; B(E2)(W.u.)=5 *+7−5* Mult.: DCO=1.3 *3*; A_2=+0.07 *5*, A_4=+0.06 *3*; 0.07≤α≤1.5 deduced from intensity balance by the authors in 1980Va13. α=1.5 *2* by the evaluators.
		1012.3 *1*	37.7 *22*	2753.67	6$^+$	M2		0.00370 *6*	α(K)=0.00320 *5*; α(L)=0.000398 *6*; α(M)=7.81×10^{-5} *11*; α(N+..)=1.601×10^{-5} *23* α(N)=1.472×10^{-5} *21*; α(O)=1.292×10^{-6} *18* B(M2)(W.u.)=0.160 *18* Mult.: DCO=0.90 *15*; A_2=+0.30 *12*, A_4=−0.06 *7*; α(K)exp=3.8×10^{-3} *12* (1980Va13).
		1287.5[a] *5*	6.5 *7*	2477.68	6$^+$	[M2]		0.00202 *3*	α(K)=0.001752 *25*; α(L)=0.000214 *3*; α(M)=4.19×10^{-5} *6*; α(N+..)=1.344×10^{-5} *19*

$^{110}_{50}Sn_{60}$-7

Adopted Levels, Gammas (continued)

γ(^{110}Sn) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[@]	δ[&]	α[†]	Comments
									α(K)=0.001752 *25*; α(L)=0.000214 *3*; α(M)=4.19×10^{-5} *6*; α(N+..)=1.344×10^{-5} *19* α(N)=7.91×10^{-6} *11*; α(O)=6.97×10^{-7} *10*; α(IPF)=4.83×10^{-6} *8* B(M2)(W.u.)=0.0083 *12*
3813.09	8$^+$	1334.8 *2*	100	2477.68	6$^+$	E2		0.000729 *11*	α(K)=0.000608 *9*; α(L)=7.30×10^{-5} *11*; α(M)=1.423×10^{-5} *20*; α(N+..)=3.37×10^{-5} *5* α(N)=2.68×10^{-6} *4*; α(O)=2.32×10^{-7} *4*; α(IPF)=3.08×10^{-5} *5* Mult.: A_2=+0.36 *15*; A_4=−0.03 *4*; α(K)exp=0.59×10^{-3} *10*; A_2=0.35 *2*, A_4=−0.01 *5* in 1980Va13.
3885.0	3$^-$	1339.2[#] *7*	23[#] *4*	2545.7	2$^+$				
		2673.2[#] *10*	100[#] *17*	1212.02	2$^+$				
3933.57	9$^-$	167.84 *6*	100	3765.77	8$^-$	M1+E2	0.08 *3*	0.1341 *20*	B(M1)(W.u.)=0.034 *6*; B(E2)(W.u.)=6 *5* α(K)=0.1159 *17*; α(L)=0.0147 *3*; α(M)=0.00289 *5*; α(N+..)=0.000589 *10* E_γ: From ^{108}Cd(α,2nγ). Mult.: DCO=1.13 *23*; α(K)exp=0.15 *3*; A_2=−0.090 *10*, A_4=−0.01 *2* (1980Va13). δ: Other: 0.06 *3* (1986Ka25).
3991.7	(8$^+$)	1191.1 *3*	100	2800.27	(6$^+$)				
4003.77	(7)$^+$	1249.9 *2*	100	2753.67	6$^+$	M1+E2		0.00089 *8*	α(K)=0.00076 *7*; α(L)=9.1×10^{-5} *8*; α(M)=1.78×10^{-5} *15*; α(N+..)=1.69×10^{-5} *6* α(N)=3.4×10^{-6} *3*; α(O)=2.9×10^{-7} *3*; α(IPF)=1.33×10^{-5} *9* Mult.: DCO=0.8 *3*; A_2=+0.5 *4*, A_4=+0.13 *10*.
4137.86	(8$^+$)	816.7 *1*	100	3321.16	(6$^+$)				
4280.6	(8$^+$)	945.4 *5*	100	3335.2	(6$^+$)				
4315.7	(8)$^+$	311.7 *2*	100 *9*	4003.77	(7)$^+$	M1+E2		0.029 *3*	α(K)=0.0244 *20*; α(L)=0.0034 *7*; α(M)=0.00067 *13*; α(N+..)=0.000134 *23* α(N)=0.000124 *22*; α(O)=9.7×10^{-6} *8* Mult.: A_2=+0.25 *21*, A_4=+0.02 *2*.
		382.7 *4*	45 *9*	3933.57	9$^-$				
4317.3	(10)	383.7 *3*	100	3933.57	9$^-$	M1(+E2)	0.0 *2*	0.01527	α(K)=0.01326 *19*; α(L)=0.00163 *3*; α(M)=0.000319 *6*; α(N+..)=6.53×10^{-5} *11* α(N)=6.00×10^{-5} *10*; α(O)=5.25×10^{-6} *8* E_γ,I_γ: From ^{108}Cd(α,2nγ). Mult.: A_2=−0.16 *2*, A_4=−0.01 *3*.
4780.44	9$^-$	848.5[a] *9*	6 *3*	3933.57	9$^-$				
		967.4 *4*	8 *3*	3813.09	8$^+$				
		1092.9 *1*	100 *8*	3687.52	7$^-$	E2		0.001060 *15*	α(K)=0.000921 *13*; α(L)=0.0001122 *16*; α(M)=2.19×10^{-5} *3*; α(N+..)=4.47×10^{-6}

Adopted Levels, Gammas (continued)

γ(^{110}Sn) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[@]	α[†]	Comments
								α(K)=0.000921 *13*; α(L)=0.0001122 *16*; α(M)=2.19×10^{-5} *3*; α(N+..)=4.47×10^{-6} α(N)=4.12×10^{-6} *6*; α(O)=3.53×10^{-7} *5* Mult.: A_2=+0.24 *11*, A_4=−0.09 *5*.
4881.07	(10$^+$)	743.2 *1*	100	4137.86	(8$^+$)			
4895.20	10$^-$	1129.5 *1*	100	3765.77	8$^-$	E2	0.000989 *14*	α(K)=0.000858 *12*; α(L)=0.0001043 *15*; α(M)=2.04×10^{-5} *3*; α(N+..)=5.44×10^{-6} α(N)=3.83×10^{-6} *6*; α(O)=3.28×10^{-7} *5*; α(IPF)=1.280×10^{-6} *19* B(E2)(W.u.)>0.47 Mult.: DCO=0.64 *14*; A_2=+0.26 *11*, A_4=−0.08 *7*; α(K)exp=0.57×10^{-3} *12*; A_2=0.42 *7*, A_4=−0.18 *8* (1980Va13).
5006.1	(2,3,4$^+$)	1375.8[#] *9*	6.0[#] *25*	3629.8	(3,4$^+$)			
		2029.1[#] *6*	100[#] *8*	2977.2	(2,3,4$^+$)			
		2172.3[#] *15*	3.0[#] *12*	2833.6	2$^+$			
5017.40	(10$^+$)	1203.7 *2*	100	3813.09	8$^+$			
5108.15	11$^-$	1175.3 *5*	100	3933.57	9$^-$	E2	0.000912 *13*	α(K)=0.000790 *11*; α(L)=9.57×10^{-5} *14*; α(M)=1.87×10^{-5} *3*; α(N+..)=8.05×10^{-6} *12* α(N)=3.51×10^{-6} *5*; α(O)=3.02×10^{-7} *5*; α(IPF)=4.24×10^{-6} *8* B(E2)(W.u.)=0.16 *5* Mult.: DCO=0.94 *18*; A_2=+0.33 *8*, A_4=−0.05 *2*; α(K)exp=0.75×10^{-3} *15*; A_2=0.36 *2*, A_4=−0.11 *5* (1980Va13).
5219.7	(10$^+$)	1227.4 *4*	100	3991.7	(8$^+$)			
5228.98	10$^+$	211.0 *2*	23.5	5017.40	(10$^+$)	M1+E2	0.094 *22*	α(K)=0.079 *17*; α(L)=0.012 *5*; α(M)=0.0024 *9*; α(N+..)=0.00048 *17* α(N)=0.00045 *16*; α(O)=3.2×10^{-5} *7* Mult.: DCO=1.07 *15*; A_2=−0.15 *1*, A_4=−0.20 *22*.
		334.5 *3*	15 *3*	4895.20	10$^-$			
		447.7 *8*	100 *3*	4780.44	9$^-$	E1	0.00310 *5*	α(K)=0.00270 *4*; α(L)=0.000324 *5*; α(M)=6.32×10^{-5} *10*; α(N+..)=1.284×10^{-5} *19* α(N)=1.184×10^{-5} *18*; α(O)=9.99×10^{-7} *15* Mult.: DCO=0.55 *10*; A_2=−0.35 *16*, A_4=+0.001 *3*.
		600.8 *5*	75 *13*	4625.6?				E_γ,I_γ: From ^{94}Mo(^{19}F,p2nγ).
		912.8 *7*	8.8	4315.7	(8)$^+$			
		1295.6 *1*	56 *3*	3933.57	9$^-$	D		Mult.: DCO=0.60 *18*; A_2=+0.4 *4*, A_4=+0.16 *18*.
5331.27	11$^-$	1397.6 *1*	100	3933.57	9$^-$	E2	0.000684 *10*	α(K)=0.000554 *8*; α(L)=6.64×10^{-5} *10*; α(M)=1.293×10^{-5} *19*; α(N+..)=5.03×10^{-5} *7* α(N)=2.43×10^{-6} *4*; α(O)=2.11×10^{-7} *3*; α(IPF)=4.77×10^{-5} *7* Mult.: DCO=0.9 *3*; A_2=+0.19 *8*, A_4=−0.11 *6*; α(K)exp=0.56×10^{-3} *14*; A_2=0.38 *3*, A_4=−0.08 *4* (1980Va13).
5730.8	(12$^+$)	849.7 *2*	100	4881.07	(10$^+$)			

Adopted Levels, Gammas (continued)

γ(^{110}Sn) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[@]	α[†]	Comments
5939.4	(9⁻)	604.5 *6*	100	5331.27	11⁻			
6037.14	(12⁺)	808.2 *1*	100 *6*	5228.98	10⁺	(E2)	0.00210 *3*	α(K)=0.00182 *3*; α(L)=0.000229 *4*; α(M)=4.47×10^{-5} *7*; α(N+..)=9.08×10^{-6} *13* α(N)=8.38×10^{-6} *12*; α(O)=7.02×10^{-7} *10* Mult.: DCO=1.11 *13*; A_2=+0.43 *11*, A_4=−0.01 *1* for 808+810.
		816.9 *4*	8.2 *10*	5219.7	(10⁺)			
		1019.1 *9*	4.1 *10*	5017.40	(10⁺)			
6066.5	(10⁻)	127.0 *1*	100	5939.4	(9⁻)			
6207.13	(11⁻)	140.2 *2*	8 *4*	6066.5	(10⁻)			
		876.0 *4*	32 *4*	5331.27	11⁻			
		978.2 *1*	52 *16*	5228.98	10⁺			
		1099.0 *1*	100 *4*	5108.15	11⁻	D		Mult.: DCO=0.90 *15*.
6354.9	(12⁻)	147.7 *3*	100 *33*	6207.13	(11⁻)			
		318.0 *8*	33 *33*	6037.14	(12⁺)			
6370.9	(12)	1041.0[a] *10*	100	5331.27	11⁻			
6545.2	(13)	1215.3[a] *1*	100	5331.27	11⁻			
6598.3	(14⁺)	867.5 *2*	100	5730.8	(12⁺)			
6613.2?	(13)	259.6[a] *5*	100	6354.9	(12⁻)			
6778.04	(14⁺)	740.9 *1*	100	6037.14	(12⁺)	E2	0.00260 *4*	α(K)=0.00224 *4*; α(L)=0.000285 *4*; α(M)=5.58×10^{-5} *8*; α(N+..)=1.131×10^{-5} *16* α(N)=1.044×10^{-5} *15*; α(O)=8.67×10^{-7} *13* Mult.: DCO=1.02 *10*; A_2=+0.29 *9*; A_4=−0.06 *7*.
6974.4?	(14)	361.2[a] *10*	100	6613.2?	(13)			
7541.1	(16⁺)	942.8 *2*	100	6598.3	(14⁺)			
7587.9	(16⁺)	809.9 *1*	100	6778.04	(14⁺)	(E2)	0.00209 *3*	α(K)=0.00181 *3*; α(L)=0.000227 *4*; α(M)=4.45×10^{-5} *7*; α(N+..)=9.03×10^{-6} *13* α(N)=8.33×10^{-6} *12*; α(O)=6.98×10^{-7} *10* Mult.: DCO=1.11 *13*; A_2=+0.43 *11*, A_4=−0.01 *1* for 808γ+810γ.
8491.8	(18⁺)	903.9 *1*	100	7587.9	(16⁺)	E2	0.001616 *23*	α(K)=0.001401 *20*; α(L)=0.0001739 *25*; α(M)=3.40×10^{-5} *5*; α(N+..)=6.91×10^{-6} α(N)=6.37×10^{-6} *9*; α(O)=5.39×10^{-7} *8* Mult.: A_2=+0.17 *17*; A_4=−0.10 *16* and γ-ray decay pattern.
9495.2	(20⁺)	1003.3 *1*	100	8491.8	(18⁺)	Q		Mult.: A_2=0.19 *10*, A_4=−0.08 *10* in ^{94}Mo(^{19}F,p2nγ).
10501.5?	(22⁺)	1007.6[a] *2*	100	9495.2	(20⁺)			
11516.0?	(24⁺)	1014.5[a] *2*	100	10501.5?	(22⁺)			

[†] Additional information 1.
[‡] From ^{98}Mo(^{16}O,4nγ), unless otherwise stated.

$^{110}_{50}Sn_{60}$-10

Adopted Levels, Gammas (continued)

$\gamma(^{110}Sn)$ (continued)

From ^{110}Sb ε decay.
@ From DCO ratios, $\gamma(\theta)$ and γ-decay pattern in $^{98}Mo(^{16}O,4n\gamma)$, unless otherwise stated.
& From $\gamma(\theta)$ in $^{108}Cd(\alpha,2n\gamma)$.
a Placement of transition in the level scheme is uncertain.

$^{110}_{50}Sn_{60}$-11

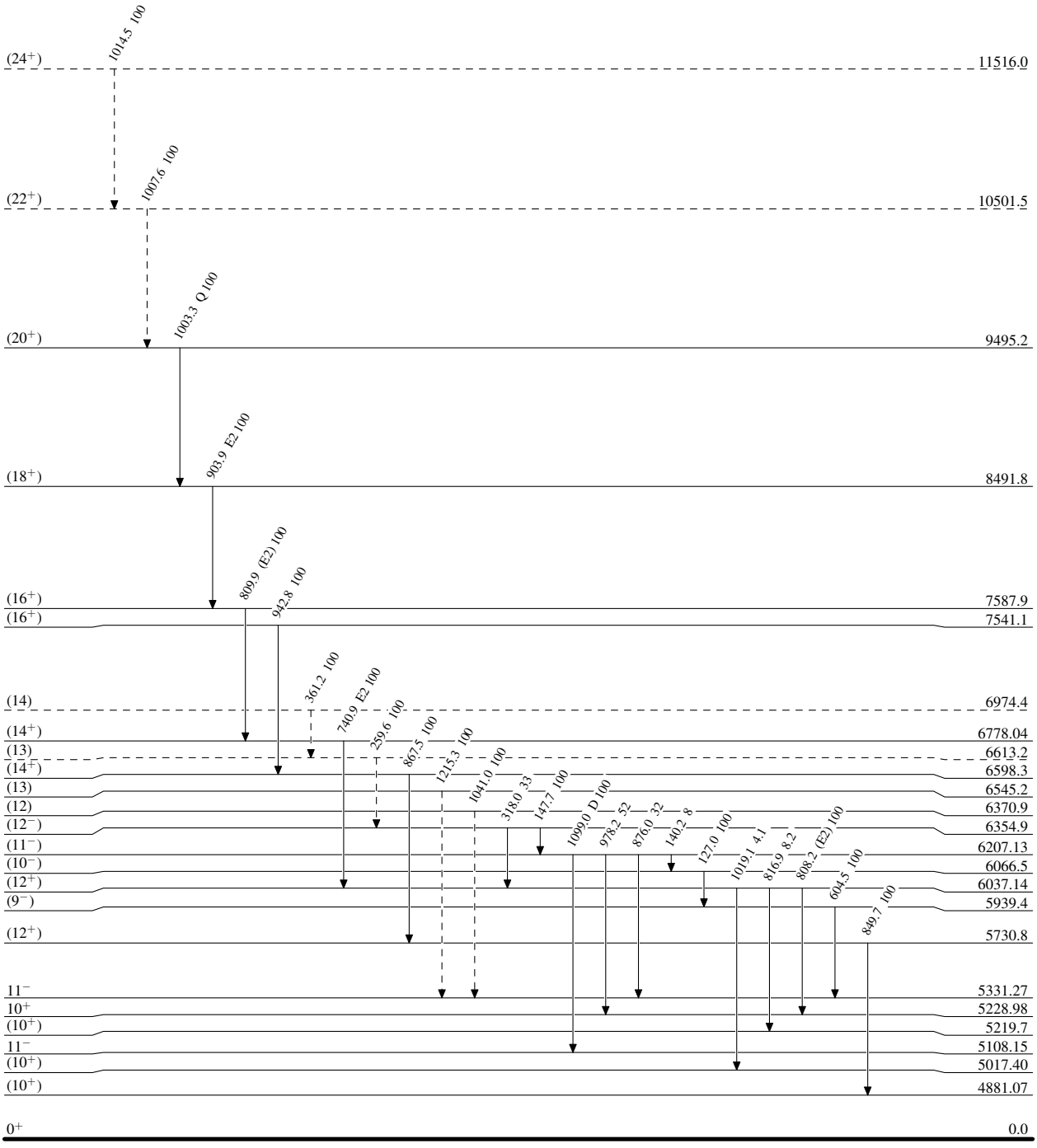
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{110}_{50}Sn_{60}$

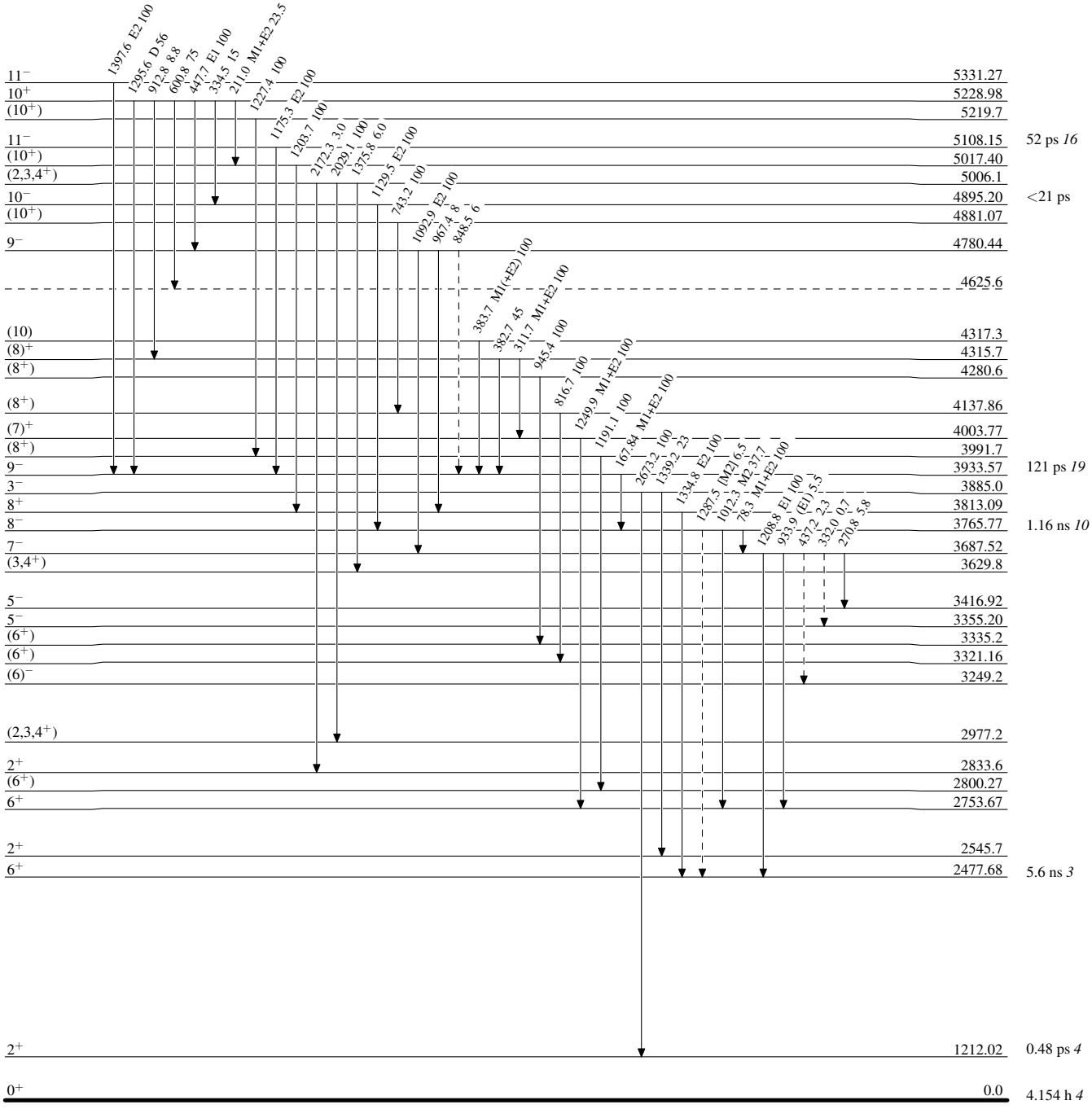
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

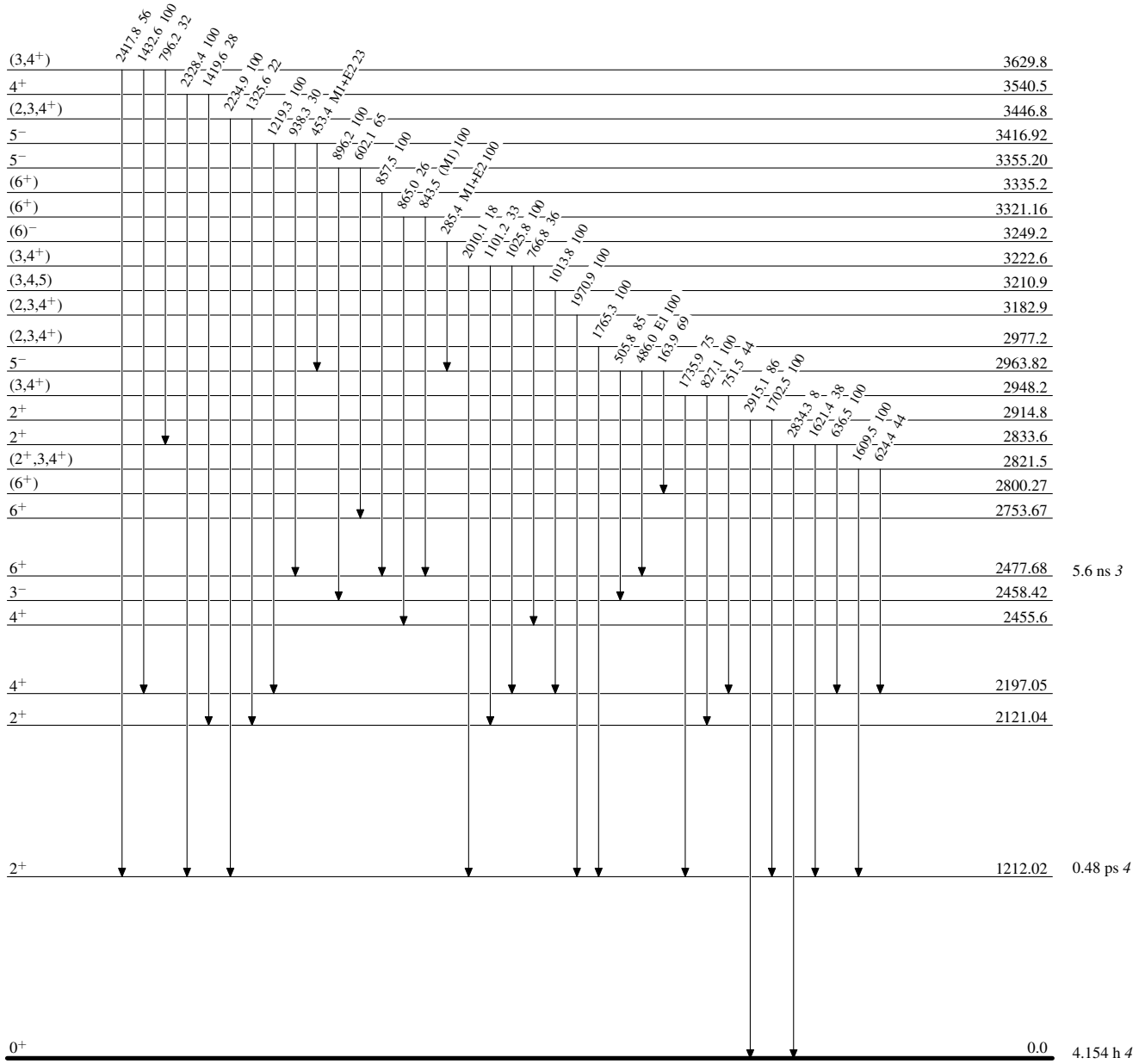


$^{110}_{50}Sn_{60}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

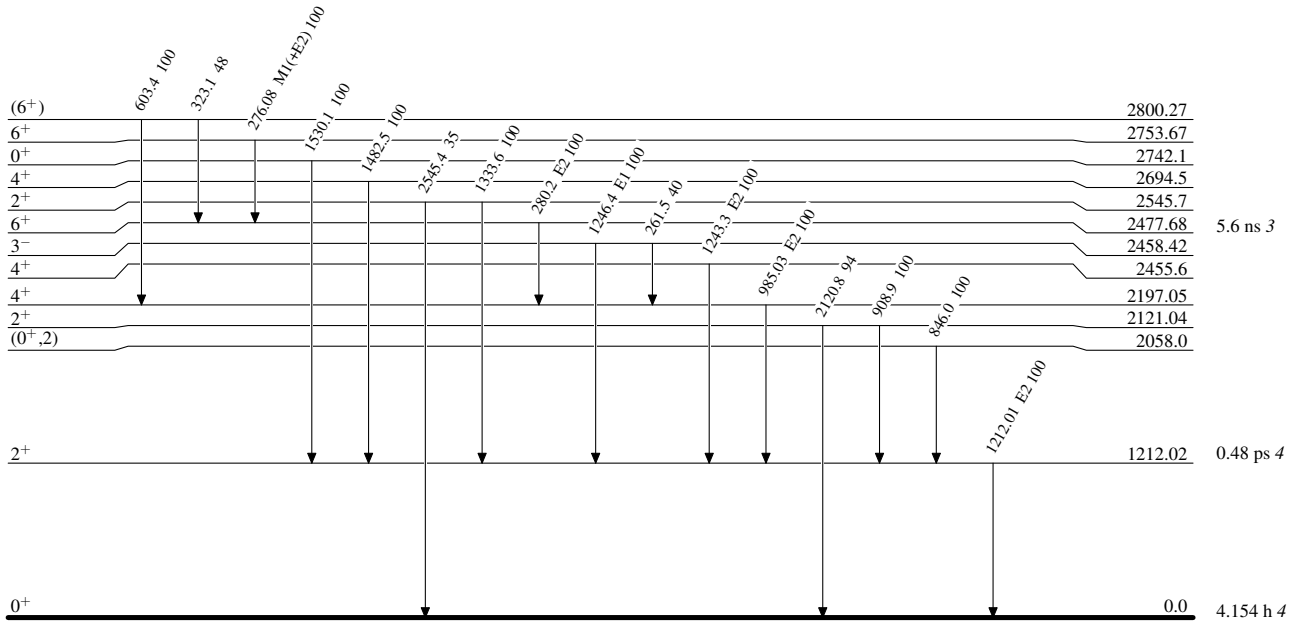


$^{110}_{50}Sn_{60}$

Adopted Levels, Gammas

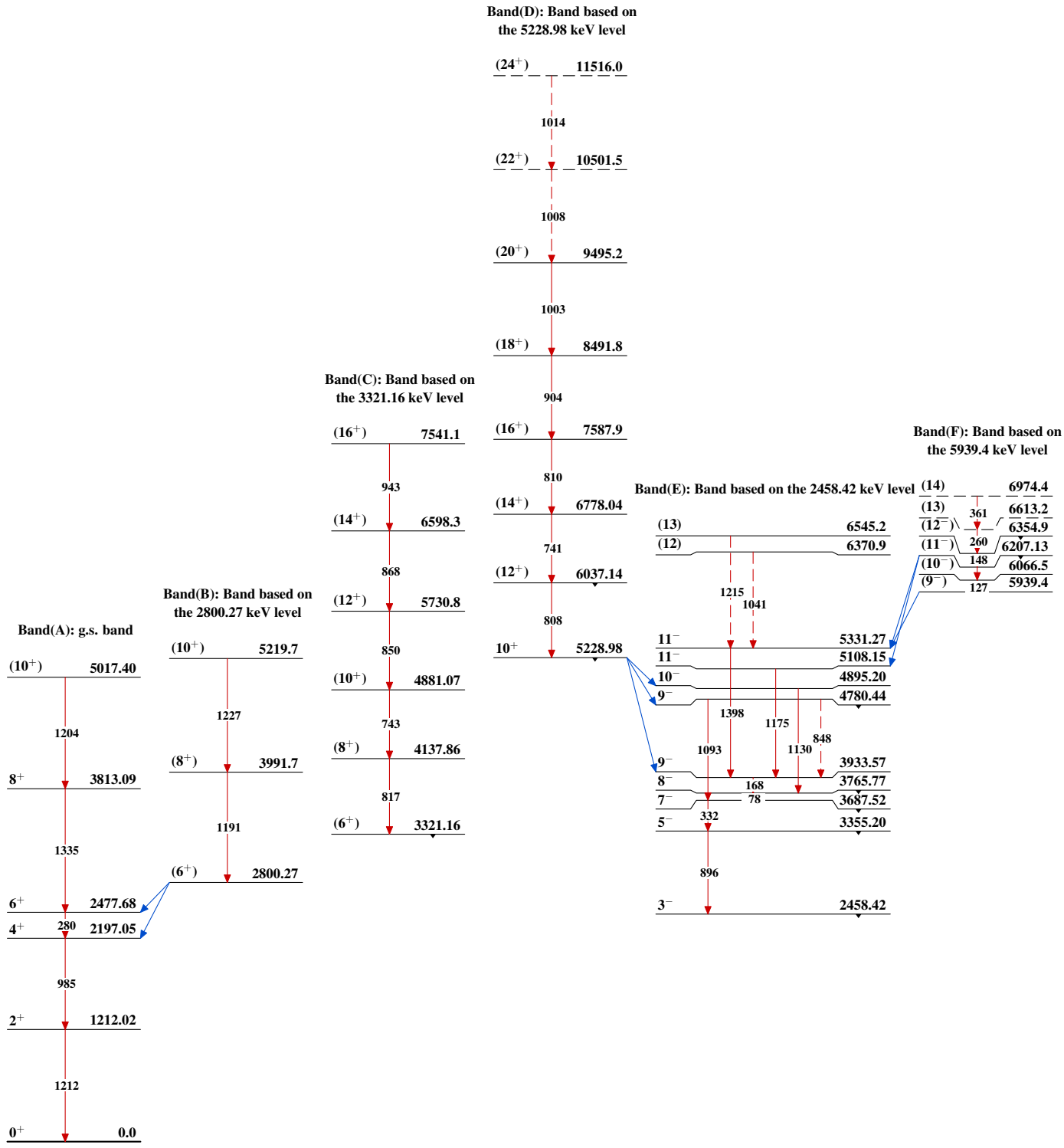
Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{110}_{50}Sn_{60}$

Adopted Levels, Gammas



Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, F. G. Kondev	NDS 124, 157 (2015)	1-Aug-2014

Q(β^-)=−7057 *18*; S(n)=10788 *5*; S(p)=7554 *4*; Q(α)=−1828.3 *12* 2012Wa38

^{112}Sn Levels

Cross Reference (XREF) Flags

A	^{112}In β^- decay	G	^{103}Rh(^{12}C,p2nγ)	M	^{112}Sn(p,p′)
B	^{112}Sb ε decay	H	^{100}Mo(^{16}O,4nγ),^{98}Mo(^{16}O,2nγ)	N	^{114}Sn(p,t)
C	Coulomb excitation	I	^{100}Mo(^{20}Ne,α4nγ)	O	^{110}Cd(^{3}He,n)
D	^{112}Sn(γ,γ')	J	^{110}Cd(^{3}He,nγ),^{112}Cd(^{3}He,3nγ)	P	^{112}Sn(d,d′)
E	^{112}Sn(n,n′γ)	K	^{113}In(p,2nγ)	Q	^{112}Sn(α,α')
F	^{110}Cd(α,2nγ)	L	^{112}Sn(p,p′γ)		

E(level)[†]	J$^\pi$	T$_{1/2}$[‡]	XREF	Comments
0.0[#]	0$^+$	stable	ABCDEFGHIJKLMNOPQ	
1256.69[#] *4*	2$^+$	0.376 ps *5*	BCDEFGHIJKLMN PQ	XREF: K(1258)P(1250)Q(1260). J$^\pi$: L(p,t)=2; 1256.68γ E2 to 0$^+$. T$_{1/2}$: from B(E2)↑ in Coulomb excitation. Others: 0.451 ps *28* from DSAM in 2011Ju01 and 0.37 ps *+7−6* in from DSAM in 2007Or04 (note that the value was initially reported as 0.52 ps *+9−6*, but it was retracted by the authors. B(E2)↑: 0.240 *3*, weighted average of 0.242 *8* (2011Ku05,2010Ku07), 0.240 *20* (2007Va22), 0.229 *5* (1975Gr30), and 0.256 *6* (1970St20). Other: 0.240 *14* (1987Ra01), weighted average of the data in 1975Gr30 and 1970St20. β_2=0.143 *5* (for r$_0$=1.26 fm) (1980Bl07). Other: 0.152 *10* (1968Ma34). μ: +0.21 *7* from g-factor=+0.104 *35* in 2011Wa15. Other: +0.7 *3* in 1980Ha19. Q: −0.09 *10* in 1975Gr30.
2150.87 *5*	2$^+$	1.4 ps *4*	BC E LMN	J$^\pi$: L(p,p′)=2; 2150.9γ E2 to 0$^+$ and 894.17γ M1+E2 to 2$^+$. T$_{1/2}$: from B(E2)↑=0.00065 *20* in Coulomb excitation (1981Jo03).
2190.81 *6*	0$^+$	≥2.7 ps	C E H LMNO Q	XREF: H(2186.9)N(2192)Q(2200). J$^\pi$: L(p,t)=0,L(^{3}He,n)=0; 2190.9 E0 transition to 0$^+$, 934.12γ E2 to 2$^+$. T$_{1/2}$: From B(E2)↑≤0.029.
2247.39[#] *6*	4$^+$	3.3 ps *5*	BC EF HIJKLMN P	XREF: K(2251.0)N(2248)P(2260). J$^\pi$: L(p,t)=4; L(p,p′)=4; 990.69γ E2 to 2$^+$. T$_{1/2}$: from B(E2)(2$^+$ to 4$^+$)=0.032 *5* in Coulomb excitation (1981Jo03). μ: +1.5 *7* from g-factor=+0.38 *18* in 2011Wa15.
2354.21 *6*	3$^-$	0.215 ps *14*	BC EF H LMN PQ	XREF: B(2355.0)N(2355)P(2360)Q(2350). J$^\pi$: L(p,p′)=3; L(p,t)=3; L(α,α')=3; 1097.38γ E1 to 2$^+$. T$_{1/2}$: From DSAM in 2011Ju01; Other: 0.35 *+14−8* ps from DSAM in ^{112}Sn(n,n′γ) (2005Ku28). β_3=0.146 *5* (for r$_0$=1.26 fm) (1980Bl01). Other: 0.203 *15* (1968Ma34). B(E3)=0.087 *12* (1981Jo03) in Coulomb excitation (1981Jo03) and 0.050 *10* in ^{112}Sn(α,α') (1970Br07). μ: −1.4 *28* from g-factor=−0.48 *92* in 2011Wa15.
2476.16 *11*	2$^+$	>2.4 ps	BC E H MN Q	XREF: H(2474.8)M(2475)Q(2500). J$^\pi$: L(p,t)=2; 2475.8γ E2 to 0$^+$.
2520.70 *7*	4$^+$	0.42 ps *14*	BC EFGHI MN P	XREF: I(2520.12)P(2530). J$^\pi$: L(p,t)=4; 1264.07γ E2 to 2$^+$.

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Adopted Levels, Gammas (continued)

^{112}Sn Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$[‡]	XREF	Comments
				$T_{1/2}$: from DSAM in ^{103}Rh(^{12}C,p2nγ) (1990ViZW). Other: >0.8 ps in ^{112}Sn(n,n′γ) (2005Ku28).
2549.22 *14*	6+	13.73 ns *8*	EF HIJK MN	XREF: K(2553.0)M(2550). Jπ: L(p,t)=6; 301.84γ E2 to 4+. $T_{1/2}$: weighted average of of 13.9 ns *2* (1980Va13), 14.0 ns *4* (1969Ya05), 13.2 ns *4* (1981Go17) and 13.7 ns *1* (1981Va15) in ^{110}Cd(α,2nγ) and 12.1 ns *15* (1989An14, 1988Pe17) and 13.6 ns *4* (1989An14) in ^{110}Cd(^{3}He,nγ),^{112}Cd(^{3}He,3nγ). Other >0.5 ps from DSAM in ^{112}Sn(n,n′γ) (2005Ku28). μ: +0.53 *3* (1983Le18), +0.61 *5* (1981Go17), and +0.2 *2* (1981Va15). Q: 0.29 *6* (1975Vi03). configuration: most likely a mixture between $(\nu g_{7/2}^{-1},\nu d_{5/2}^{-1})$ and $(\nu g_{7/2})^{-2}$.
2556.6 *3*	(2+)		B	Jπ: 2556.6γ to 0+; direct population in ^{112}Sb ε decay (J^π=(3+)).
2617.62 *18*	0+	>0.4 ps	E MN	Jπ: L(p,t)=0; 1360.92γ E2 to 2+. $T_{1/2}$: Other: >0.8 ps from B(E2)(0+ ->2+)<0.016 (1981Ba05).
2721.06 *14*	2+	0.8 ps *+10−3*	B E MN	XREF: M(2723). Jπ: L(p,t)=2; L(p,p′)=2; 2721.6γ E2 to 0+.
2756.02 *9*	3+	>0.8 ps	B E M	XREF: M(2760). Jπ: 1499.5γ M1(+E2) to 2+, 508.8γ M1+E2 to 4+.
2765.2 *3*	0+ to 4+	>1.0 ps	E	
2783.66 *14*	4+	0.32 ps *7*	B EFGHI MN P	XREF: B(2784.6)M(2786)P(2800). Jπ: L(p,t)=4; L(p,p′)=4; 1527.2γ E2 to 2+. $T_{1/2}$: wt. average of 0.35 ps *14* in ^{103}Rh(^{12}C,p2nγ) (1990ViZW) and 0.31 ps *+10−6* in ^{112}Sn(n,n′γ) (2005Ku28).
2860 *2*			M	
2913.07 *21*	4+	>0.6 ps	B E M	XREF: M(2915). Jπ: L(p,p′)=4; 1656.3γ E2 to 2+.
2917.39 *10*	2+,3,4+	>1.1 ps	B E	XREF: B(2918.0). Jπ: 669.9γ to 4+, 767.0γ to 2+.
2926.82 *18*	6+	>0.22 ps	EF HI MN	XREF: M(2928). Jπ: L(p,t)=6; 378.6γ M1 to 6+.
2945.70 *13*	4+	>1.1 ps	B EF HI M	XREF: M(2947). Jπ: L(p,p′)=4; 1688.7γ E2 to 2+.
2966.63 *8*	2+	0.5 ps *+8−2*	B E MN	XREF: M(2969)N(2966). Jπ: L(p,t)=2; 612.4γ E1 to 3−; 1709.9γ M1(+E2) to 2+ and 2966.6γ E2 to 0+.
2969.31 *6*		0.29 ps *+21−9*	E P	XREF: P(2970).
2986.4 *3*	0+	>1.7 ps	E MN	XREF: M(2989)N(2988). Jπ: L(p,t)=0; 1729.7γ E2 to 2+.
3078.53 *13*	(2,3)+	>1.2 ps	B E	Jπ: 927.7γ M1+E2 to 2+; 1821.8γ M1+E2 to 2+, and 831.1γ to 4+.
3092.21 *10*	2+	0.25 ps *+8−5*	B E M	XREF: B(3093.3)M(3095). Jπ: L(p,p′)=2; 3092.1γ E2 to 0+.
3113.54 *15*	0+ to 4+		E M	XREF: M(3118). Jπ: 962.67γ to 2+.
3133.42 *11*	5−	>1.0 ps	E H MN	XREF: H(3136.5)M(3137)N(3132). Jπ: L(p,p′)=5; L(p,t)=5; 779.3γ E2 to 3−; 886.0γ E1 to 4+.
3141.1 *4*			E	
3149.28 *21*	4+	0.6 ps *+10−2*	B E M P	XREF: M(3152)P(3150). Jπ: L(p,p′)=4; 1892.2γ E2 to 2+.

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Adopted Levels, Gammas (continued)

^{112}Sn Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$[‡]	XREF	Comments
3248.69 *10*	2^+	>1.1 ps	B E MN	XREF: M(3253). Jπ: L(p,t)=2; 3248.1γ E2 to 0^+.
3272.31 *16*	4^+	0.30 ps *+21−10*	E MN	XREF: M(3278)N(3275). Jπ: L(p,p′)=4; L(p,t)=4; 2016.1γ E2 to 2^+.
3283.60 *21*	2^+		E n	XREF: n(3286). Jπ: L(p,t)=2; 1036.2γ to 4^+.
3286.18 *15*	$(2)^+$	0.22 ps *+15−7*	B E n	XREF: n(3286). Jπ: 2029.4γ M1(+E2) to 2^+ and 3286.2γ to 0^+; direct population in ^{112}Sb ε decay ($J^\pi=(3^+)$).
3288.0 *3*	$(1,2^+)$		E M	XREF: M(3292). Jπ: 1097.2γ to 0^+.
3338.3 *3*	2^+	>0.3 ps	E N	XREF: N(3345). Jπ: 2081.6γ M1+E2 to 2^+; L(p,t)=2.
3353.1 *4*	2^+	>1.4 ps	E	Jπ: 2096.4γ M1+E2 to 2^+ and 3353.0γ E2 γ to 0^+.
3354.38 *15*	$(7)^-$		F HI K M	XREF: H(3355.0)K(3360)M(3360). Jπ: 805.11γ E1 to 6^+; yrast state, but 5^- and 6^- cannot unambiguously be excluded. configuration: possible $\nu d_{3/2}h_{11/2}$ configuration.
3378.9 *3*	0^+ to 4^+		E	Jπ: 1228.0γ to 2^+.
3384.30 *22*	$(3)^-$	0.18 ps *+8−5*	B E M	XREF: M(3387). Jπ: 2127.50γ E1 to 2^+, but 1^- and 2^- cannot unambiguously be excluded.
3397.20 *12*	$2^-,3^-$	0.23 ps *+10−6*	E	Jπ: 1042.95γ M1+E2 to 3^- and 1246.6γ to 2^+.
3400 *3*	4^+		MN	XREF: M(3402). Jπ: L(p,t)=4.
3413.93[@] *12*	6^+[@]	0.6 ps *3*	EFGHI N	Jπ: L(p,t)=4,6; 1166.9γ E2 to 4^+; member of ΔJ=2 sequence. $T_{1/2}$: From DSAM in ^{103}Rh(^{12}C,p2nγ) (1990ViZW).
3417.41 *11*	4^+	>0.4 ps	B E M P	XREF: M(3424)P(3430). Jπ: L(p,p′)=4; 2160.7γ E2 to 2^+.
3430.65 *22*	$(8)^-$	0.61 ns *3*	FGHI	Jπ: 76.3γ M1+E2 to $(7)^-$; no transitions to the 6^+ states. $T_{1/2}$: weighed average of 0.58 ns *6* from γγ(t) in ^{110}Cd(α,2nγ) (1980Va13) and 0.62 ns *4* from recoil distance method in ^{100}Mo(^{16}O,4nγ) (1986Ka25).
3433.9 *5*	(1^-)	1.9 fs *+11−10*	DE M	XREF: D(3434)M(3440). Jπ: 3433.3γ (E1) to 0^+ ; B(E1)=11.5×10^{-5} *11* (2014Oz03), 10.7×10^{-5} *12* (2006Py01).
3445 *3*	4^+		N	
3456.31 *20*	$2^+,3^+$	>0.7 ps	B E	Jπ: 2199.6γ M1+E2 to 2^+; direct population in ^{112}Sb ε decay ($J^\pi=(3^+)$).
3471.7 *3*	4^+	>0.23 ps	E MN	XREF: M(3477)N(3481). Jπ: L(p,t)=4; 951.0γ to 4^+.
3494.00 *21*	2^+ to 6^+		E	Jπ: 1246.6γ to 4^+.
3499.21 *16*	5^-	0.04 ps *+4−2*	E MN	XREF: M(3502)N(3510). Jπ: L(p,t)=5; 979.3γ to 4^+, 1144.2γ to 3^-.
3520.45 *20*	1 to 4^+		E M	XREF: M(3522).
3524.54 *18*	2^+	>0.12 ps	B E	Jπ: 1277.7γ E2 to 4^+; 3524.2γ E2 to 0^+.
3530.15 *14*	$2^+,3,4^+$		B E M	XREF: M(3532). Jπ: 380.8γ to 4^+, 1379.6γ to 2^+.
3553.7 *3*	$(3)^-$	0.17 ps *+11−6*	B E N	Jπ: L(p,t)=3; 2297.0γ to 2^+.
3557.29 *12*		>0.3 ps	E M	XREF: M(3558).
3570	$(0)^+$		O	Jπ: L(^{3}He,n)=0.
3580 *5*	$(4)^+$		M	Jπ: L(p,p′)=4.
3586 *3*	$(2)^+$		N	Jπ: L(p,t)=2.
3604.90 *12*			E	

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Adopted Levels, Gammas (continued)

^{112}Sn Levels (continued)

E(level)†	Jπ	$T_{1/2}$‡	XREF	Comments
3610.97 *11*		0.8 ps *+4–2*	E M	XREF: M(3611).
3624 *3*	(2+,4+)		MN	Jπ: L(p,p′)=(2) in 1980Bl01 supports (2+), while L(p,t)=4 in (2012Gu10) supports 4(+).
3631.03 *24*			E	
3654.34 *15*	2+		E MN	XREF: N(3663). Jπ: L(p,p′)=2; 2397.6γ M1+E2 to 2+.
3693.68 *22*	(9)−	47 ps *7*	FGHI M	XREF: M(3695). Jπ: 263.03γ M1+E2 to (8)−. $T_{1/2}$: From recoil-distance measurements in ^{100}Mo(^{16}O,4nγ) (1986Ka25); Other: 0.69 ps *14* in ^{103}Rh(^{12}C,p2nγ) (1990ViZW).
3726.22 *21*			E MN	XREF: M(3737)N(3715).
3754.4 *3*			E M	XREF: M(3756).
3782.9 *3*			E MN	XREF: M(3773)N(3776).
3813.78 *10*	(2+,3+,4+)		B MN	XREF: M(3815)N(3818). Jπ: 1566.4γ to 4+; direct population in ^{112}Sb ε decay (Jπ=(3+)).
3832 *7*			M	
3857 *7*			M	
3877 *7*			MN	XREF: N(3874).
3914 *7*			MN	XREF: N(3930).
3988 *7*			M	
4031 *7*			MN	XREF: N(4048).
4054 *7*			M	
4077.59@ *14*	8+@	1.0 ps *4*	FGHI MN	XREF: M(4078)N(4091). Jπ: 663.66γ E2 to 6+; band member. $T_{1/2}$: from DSAM in ^{103}Rh(^{12}C,p2nγ) (1990ViZW).
4105 *7*			M	
4141.3 *5*	(1−)		D M	XREF: M(4138). Jπ: 4141.2γ (E1) to 0+. B(E1)=0.7×10−5 *2* (2014Oz03).
4151 *7*			M	
4162.3 *5*	(1−)		D N	XREF: N(4164). Jπ: 4162.2γ (E1) to 0+. B(E1)=1.8×10−5 *2* (2014Oz03).
4171 *7*	4(+)		M	Jπ: L(p,p′)=4.
4193 *7*			M	
4222 *7*			M	
4239 *7*			MN	XREF: N(4241).
4279 *7*			MN	XREF: N(4287).
4330.4 *5*	(1−)		D MN	XREF: M(4325)N(4316). Jπ: 4330.3γ (E1) to 0+. B(E1)=0.5×10−5 *1* (2014Oz03).
4364 *7*			MN	XREF: N(4363).
4402 *7*			M	
4437 *7*			M	
4461 *7*			MN	XREF: N(4455).
4502 *7*			MN	XREF: N(4486).
4544 *7*			M	
4582.61 *25*	(10)−	0.24 ps *7*	FGHI MN	XREF: M(4571)N(4576). Jπ: 1151.94γ E2 to (8)−. $T_{1/2}$: from DSAM in ^{103}Rh(^{12}C,p2nγ) (1990ViZW). Other: <21 ps from RDDS in ^{100}Mo(^{16}O,4nγ) (1986Ka25);
4610 *7*			MN	XREF: N(4629).
4681.0 *3*	(10+)		HI M	XREF: H(4680.2)M(4685).

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Adopted Levels, Gammas (continued)

^{112}Sn Levels (continued)

E(level)†	Jπ	$T_{1/2}$‡	XREF	Comments
				Jπ: 603.1γ to 8^+, 987.4γ to $(9)^-$.
4726.5 *5*	(1^-)		D MN	XREF: M(4738)N(4724). Jπ: 4726.4γ (E1) to 0^+. B(E1)=0.3×10^{-5} *1* (2014Oz03).
4757 *7*			MN	XREF: N(4740).
4794 *7*			M	
4819.37@ *22*	10^+@	0.14 ps *7*	FGHI M	XREF: M(4825). Jπ: 741.8γ E2 to 8^+; band member. $T_{1/2}$: from DSAM in ^{103}Rh(^{12}C,p2nγ) (1990ViZW).
4837.4 *5*	(1^-)		D	Jπ: 4837.3γ (E1) to 0^+. B(E1)=0.7×10^{-5} *1* (2014Oz03).
4850 *7*			M	
4887 *7*			M	
4928.9 *4*	$(11)^-$	<21 ps	F HI M	Jπ: 1235.3γ E2 to $(9)^-$, 345.9γ M1+E2 to $(10)^-$. $T_{1/2}$: from recoil distance method in ^{100}Mo(^{16}O,4nγ) (1986Ka25).
4957 *7*			M	
5057.1 *5*	(1^-)		D M	XREF: M(5059). Jπ: 5057.0γ (E1) to 0^+. B(E1)=3.0×10^{-5} *3* (2014Oz03).
5089 *7*			M	
5128.2 *5*	(1^-)		D M	XREF: M(5116). Jπ: 5128.1γ (E1) to 0^+. B(E1)=4.2×10^{-5} *4*.
5144 *7*			M	
5181 *7*			M	
5246.2 *5*	(1^-)		D	Jπ: 5246.1γ (E1) to 0^+. B(E1)=3.3×10^{-5} *3* (2014Oz03).
5270 *7*			M	
5355 *7*			M	
5480.5 *5*	(1^-)		D	Jπ: 5480.4γ (E1) to 0^+. B(E1)=1.2×10^{-5} *2* (2014Oz03).
5502.6 *5*	(1^-)		D	Jπ: 5502.5γ (E1) to 0^+. B(E1)=1.5×10^{-5} *2* (2014Oz03).
5564.3& *3*	12^+	0.66 ps *14*	FGHI	Jπ: 745.0γ E2 to 10^+; band member. $T_{1/2}$: from DSAM in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45). Other: <0.14 ps in ^{103}Rh(^{12}C,p2nγ) (1990ViZW).
5593.7 *5*	(1^-)		D	Jπ: 5593.6γ (E1) to 0^+. B(E1)=0.7×10^{-5} *1* (2014Oz03).
5617.6 *5*	(1^-)		D	Jπ: 5617.4γ (E1) to 0^+. B(E1)=0.6×10^{-5} *1* (2014Oz03).
5649.1 *5*	(1^-)		D	Jπ: 5648.9γ (E1) to 0^+. B(E1)=0.7×10^{-5} *1* (2014Oz03).
5666.4 *5*	(1^-)		D	Jπ: 5666.2γ (E1) to 0^+. B(E1)=0.4×10^{-5} *1* (2014Oz03).
5684.59 *24*	12^+		F HI	Jπ: 865.2γ E2 to 10^+.
5699.9 *5*	(1^-)		D	Jπ: 5699.7γ (E1) to 0^+. B(E1)=0.5×10^{-5} *1* (2014Oz03).
5748.6 *5*	(1^-)		D	Jπ: 5748.4γ (E1) to 0^+. B(E1)=1.0×10^{-5} *1* (2014Oz03).
5812.7 *5*	(1^-)		D	Jπ: 5812.5γ (E1) to 0^+. B(E1)=0.5×10^{-5} *1* (2014Oz03).
5860.7 *5*	(1^-)		D	Jπ: 5860.5γ (E1) to 0^+. B(E1)=2.3×10^{-5} *4* (2014Oz03).
5884.0 *5*	(1^-)		D	Jπ: 5883.8γ (E1) to 0^+.

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Adopted Levels, Gammas (continued)

^{112}Sn Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$[‡]	XREF	Comments
				B(E1)=1.4×10^{-5} *2* (2014Oz03).
5924.1 *5*	(1$^-$)		D	Jπ: 5923.9γ (E1) to 0$^+$.
				B(E1)=1.5×10^{-5} *2* (2014Oz03).
5976.6 *5*	(1$^-$)		D	Jπ: 5976.4γ (E1) to 0$^+$.
				B(E1)=1.7×10^{-5} *2* (2014Oz03).
6005.0 *10*	(1$^-$)		D	Jπ: 6004.8γ (E1) to 0$^+$.
				B(E1)=3.2×10^{-5} *3* (2014Oz03).
6059.8 *10*	(1$^-$)		D	Jπ: 6059.6γ (E1) to 0$^+$.
				B(E1)=6.1×10^{-5} *6* (2014Oz03).
6080.9 *10*	(1$^-$)		D	Jπ: 6080.7γ (E1) to 0$^+$.
				B(E1)=0.9×10^{-5} *2* (2014Oz03).
6096.9 *10*	(1$^-$)		D	Jπ: 6096.7γ (E1) to 0$^+$.
				B(E1)=3.6×10^{-5} *2* (2014Oz03).
6129.0 *10*	(1$^-$)		D	Jπ: 6128.8γ (E1) to 0$^+$.
				B(E1)=1.4×10^{-5} *2* (2014Oz03).
6150.4 *10*	(1$^-$)		D	Jπ: 6150.2γ (E1) to 0$^+$.
				B(E1)=3.4×10^{-5} *3* (2014Oz03).
6168.3 *10*	(1$^-$)		D	Jπ: 6168.1γ (E1) to 0$^+$.
				B(E1)=1.2×10^{-5} *2* (2014Oz03).
6198.7 *10*	(1$^-$)		D	Jπ: 6198.5γ (E1) to 0$^+$.
				B(E1)=2.2×10^{-5} *2* (2014Oz03).
6224.3 *10*	(1$^-$)		D	Jπ: 6224.1γ (E1) to 0$^+$.
				B(E1)=3.7×10^{-5} *3* (2014Oz03).
6246.4 *10*	(1$^-$)		D	Jπ: 6246.2γ (E1) to 0$^+$.
				B(E1)=1.8×10^{-5} *2* (2014Oz03).
6259.1 *10*	(1$^-$)		D	Jπ: 6259.1γ (E1) to 0$^+$.
				B(E1)=1.5×10^{-5} *2* (2014Oz03).
6272.6 *10*	(1$^-$)		D	Jπ: 6272.4γ (E1) to 0$^+$.
				B(E1)=2.5×10^{-5} *3* (2014Oz03).
6313.3 *10*	(1$^-$)		D	Jπ: 6313.1γ (E1) to 0$^+$.
				B(E1)=2.9×10^{-5} *3* (2014Oz03).
6348.7 *10*	(1$^-$)		D	Jπ: 6348.5γ (E1) to 0$^+$.
				B(E1)=1.5×10^{-5} *2* (2014Oz03).
6362.9[&] *3*	14$^+$	1.2 ps *3*	HI	Jπ: 798.6γ E2 to 12$^+$; band member.
				$T_{1/2}$: from DSAM in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
6388.1 *10*	(1$^-$)		D	Jπ: 6387.9γ (E1) to 0$^+$.
				B(E1)=7.3×10^{-5} *5* (2014Oz03), 5.17×10^{-5} *2* (2008BoZK).
6398.3[a] *5*	(13$^-$)		HI	XREF: H(6399.5).
				Jπ: 1469.4γ to (11)$^-$; band member.
6404.1 *10*	(1$^-$)		D	Jπ: 6403.9γ (E1) to 0$^+$.
				B(E1)=18.4×10^{-5} *13* (2014Oz03), B(E1)=8.47×10^{-5} *3* (2008BoZK).
6428.6 *10*	(1$^-$)		D	Jπ: 6428.4γ (E1) to 0$^+$.
				B(E1)=1.2×10^{-5} *2* (2014Oz03), B(E1)=4.89×10^{-5} *2* (2008BoZK).
6450.0 *10*	(1$^-$)		D	Jπ: 6449.8γ (E1) to 0$^+$.
				B(E1)=1.2×10^{-5} *2* (2014Oz03).
6476.3 *15*	(1$^-$)		D	Jπ: 6476.1γ (E1) to 0$^+$.
				B(E1)=7.46×10^{-5} *4* (2008BoZK).
6520.7 *10*	(1$^-$)		D	Jπ: 6520.5γ (E1) to 0$^+$.
				B(E1)=3.2×10^{-5} *3* (2014Oz03).
6550.1 *10*	(1$^-$)		D	Jπ: 6549.9γ (E1) to 0$^+$.
				B(E1)=0.6×10^{-5} *1* (2014Oz03).
6601.0 *10*	(1$^-$)		D	Jπ: 6600.8γ (E1) to 0$^+$.
				B(E1)=1.7×10^{-5} *2* (2014Oz03).

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Adopted Levels, Gammas (continued)

^{112}Sn Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$[‡]	XREF	Comments
6679.9 *10*	(1⁻)		D	Jπ: 6679.7γ (E1) to 0⁺. B(E1)=0.7×10⁻⁵ *1* (2014Oz03).
6706.7 *10*	(1⁻)		D	Jπ: 6706.5γ (E1) to 0⁺. B(E1)=1.8×10⁻⁵ *2* (2014Oz03).
6715.0 *10*	(1⁻)		D	Jπ: 6714.8γ (E1) to 0⁺. B(E1)=1.5×10⁻⁵ *6* (2014Oz03), 3.03×10⁻⁵ *1* (2008BoZK).
6731.9 *10*	(1⁻)		D	Jπ: 6731.7γ (E1) to 0⁺. B(E1)=2.7×10⁻⁵ *5* (2014Oz03), 2.66×10⁻⁵ *1* (2008BoZK).
6795.5 *10*	(1⁻)		D	Jπ: 6795.3γ (E1) to 0⁺. B(E1)=1.7×10⁻⁵ *2* (2014Oz03), 2.01×10⁻⁵ *1* (2008BoZK).
6818.7 *10*	(1⁻)		D	Jπ: 6818.5γ (E1) to 0⁺. B(E1)=1.3×10⁻⁵ *2* (2014Oz03), 3.16×10⁻⁵ *1* (2008BoZK).
6824.2 *10*	(1⁻)		D	Jπ: 6824.0γ (E1) to 0⁺. B(E1)=1.7×10⁻⁵ *3* (2014Oz03).
6855.9 *10*	(1⁻)		D	Jπ: 6855.7γ (E1) to 0⁺. B(E1)=1.5×10⁻⁵ *2* (2014Oz03).
6871.2 *10*	(1⁻)		D	Jπ: 6871.0γ (E1) to 0⁺. B(E1)=1.7×10⁻⁵ *2* (2014Oz03).
6941.2 *10*	(1⁻)		D	Jπ: 6941.0γ (E1) to 0⁺. B(E1)=3.1×10⁻⁵ *3* (2014Oz03).
6961.5 *10*	(1⁻)		D	Jπ: 6961.3γ (E1) to 0⁺. B(E1)=3.1×10⁻⁵ *5* (2014Oz03).
6982.7 *10*	(1⁻)		D	Jπ: 6982.5γ (E1) to 0⁺. B(E1)=2.1×10⁻⁵ *3* (2014Oz03).
7009.8 *10*	(1⁻)		D	Jπ: 7009.6γ (E1) to 0⁺. B(E1)=0.5×10⁻⁵ *1* (2014Oz03).
7018.7 *10*	(1⁻)		D	Jπ: 7018.5γ (E1) to 0⁺. B(E1)=0.7×10⁻⁵ *1* (2014Oz03).
7025.8 *10*	(1⁻)		D	Jπ: 7025.6γ (E1) to 0⁺. B(E1)=0.7×10⁻⁵ *1* (2014Oz03).
7043.1 *10*	(1⁻)		D	Jπ: 7042.9γ (E1) to 0⁺. B(E1)=2.0×10⁻⁵ *3* (2014Oz03).
7092.8 *10*	(1⁻)		D	Jπ: 7092.6γ (E1) to 0⁺. B(E1)=4.2×10⁻⁵ *4* (2014Oz03).
7167.2 *10*	(1⁻)		D	Jπ: 7167.0γ (E1) to 0⁺. B(E1)=2.8×10⁻⁵ *3* (2014Oz03).
7198.2 *10*	(1⁻)		D	Jπ: 7198.0γ (E1) to 0⁺. B(E1)=4.4×10⁻⁵ *6* (2014Oz03), 2.66×10⁻⁵ *1* (2008BoZK).
7207.1[a] *5*	(15⁻)		HI	XREF: H(7208.5). Jπ: 808.8γ to (13⁻); band member.
7208.1 *10*	1⁻		D	Jπ: 7207.9γ (E1) to 0⁺. B(E1)=1.18×10⁻⁵ *1* (2008BoZK).
7214.2[&] *3*	16⁺	0.55 ps *10*	HI	XREF: H(7213.0). Jπ: 851.3γ E2 to 14⁺; band member. $T_{1/2}$: from DSAM in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
7217.8 *11*	(1⁻)		D	Jπ: 7217.6γ (E1) to 0⁺. B(E1)=1.89×10⁻⁵ *1* (2008BoZK).
7228.1 *10*	(1⁻)		D	Jπ: 7227.8γ (E1) to 0⁺. B(E1)=1.2×10⁻⁵ *2* (2014Oz03), 2.01×10⁻⁵ *1* (2008BoZK).
7248.4 *14*	(1⁻)		D	Jπ: 7248.1γ (E1) to 0⁺. B(E1)=2.01×10⁻⁵ *1* (2008BoZK).
7311.1 *10*	(1⁻)		D	Jπ: 7310.8γ (E1) to 0⁺. B(E1)=1.0×10⁻⁵ *2* (2014Oz03).

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Adopted Levels, Gammas (continued)

^{112}Sn Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$[‡]	XREF	Comments
7389.9 *10*	(1⁻)		D	Jπ: 7389.6γ (E1) to 0⁺. B(E1)=1.3×10⁻⁵ *2* (2014Oz03).
7438.6 *10*	(1⁻)		D	Jπ: 7438.3γ (E1) to 0⁺. B(E1)=1.9×10⁻⁵ *3* (2014Oz03).
7444.1 *10*	(1⁻)		D	Jπ: 7443.8γ (E1) to 0⁺. B(E1)=1.6×10⁻⁵ *3* (2014Oz03).
7468.3 *10*	(1⁻)		D	Jπ: 7468.0γ (E1) to 0⁺. B(E1)=1.3×10⁻⁵ *3* (2014Oz03).
7531.3 *10*	(1⁻)		D	Jπ: 7531.0γ (E1) to 0⁺. B(E1)=2.9×10⁻⁵ *4* (2014Oz03).
7537.2 *10*	(1⁻)		D	Jπ: 7536.9γ (E1) to 0⁺. B(E1)=5.2×10⁻⁵ *6* (2014Oz03).
7559.1 *10*	(1⁻)		D	Jπ: 7558.8γ (E1) to 0⁺. B(E1)=2.1×10⁻⁵ *3* (2014Oz03).
7594.5 *10*	(1⁻)		D	Jπ: 7594.2γ (E1) to 0⁺. B(E1)=1.3×10⁻⁵ *2* (2014Oz03).
7615.3 *10*	(1⁻)		D	Jπ: 7615.0γ (E1) to 0⁺. B(E1)=1.7×10⁻⁵ *3* (2014Oz03).
7859.5 *10*	(1⁻)		D	Jπ: 7859.2γ (E1) to 0⁺. B(E1)=1.2×10⁻⁵ *2* (2014Oz03).
7904.7 *10*	(1⁻)		D	Jπ: 7904.4γ (E1) to 0⁺. B(E1)=1.1×10⁻⁵ *2* (2014Oz03).
7936.7 *10*	(1⁻)		D	Jπ: 7936.4γ (E1) to 0⁺. B(E1)=1.6×10⁻⁵ *2* (2014Oz03).
7988.2 *10*	(1⁻)		D	Jπ: 7987.9γ (E1) to 0⁺. B(E1)=3.4×10⁻⁵ *3* (2014Oz03).
8020.7 *10*	(1⁻)		D	Jπ: 8020.4γ (E1) to 0⁺. B(E1)=2.3×10⁻⁵ *4* (2014Oz03).
8051.6 *10*	(1⁻)		D	Jπ: 8051.3γ (E1) to 0⁺. B(E1)=2.2×10⁻⁵ *3* (2014Oz03).
8069.6 *10*	(1⁻)		D	Jπ: 8069.3γ (E1) to 0⁺. B(E1)=2.6×10⁻⁵ *4* (2014Oz03).
8083.0[a] *5*	(17⁻)		HI	XREF: H(8089.0). Jπ: 875.9γ to (15⁻); band member.
8147.1[&] *4*	18⁺	0.34 ps *+8−10*	HI	XREF: H(8145.0). Jπ: 932.9γ E2 to 16⁺; band member. $T_{1/2}$: from DSAM in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
8194.5 *10*	(1⁻)		D	Jπ: 8194.2γ (E1) to 0⁺. B(E1)=2.7×10⁻⁵ *4* (2014Oz03).
8218.2 *10*	(1⁻)		D	Jπ: 8217.9γ (E1) to 0⁺. B(E1)=1.4×10⁻⁵ *2* (2014Oz03).
8253.6 *10*	(1⁻)		D	Jπ: 8253.3γ (E1) to 0⁺. B(E1)=0.9×10⁻⁵ *2* (2014Oz03).
8448.6 *10*	(1⁻)		D	Jπ: 8448.3γ (E1) to 0⁺. B(E1)=0.7×10⁻⁵ *2* (2014Oz03).
8568.9 *10*	(1⁻)		D	Jπ: 8568.5γ (E1) to 0⁺. B(E1)=0.8×10⁻⁵ *2* (2014Oz03).
8600.4 *10*	(1⁻)		D	Jπ: 8600.0γ (E1) to 0⁺. B(E1)=0.5×10⁻⁵ *2* (2014Oz03).
8750.2 *10*	(1⁻)		D	Jπ: 8749.8γ (E1) to 0⁺. B(E1)=1.1×10⁻⁵ *2* (2014Oz03).
8823.4 *10*	(1⁻)		D	Jπ: 8823.0γ (E1) to 0⁺. B(E1)=1.2×10⁻⁵ *3* (2014Oz03).

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Adopted Levels, Gammas (continued)

^{112}Sn Levels (continued)

E(level)[†]	J^π	$T_{1/2}$[‡]	XREF	Comments
9045.2[a] *6*	(19^-)		HI	XREF: H(9051). J^π: 962.2γ to (17^-); band member.
9050.5 *10*	(1^-)		D	J^π: 9050.1γ (E1) to 0^+. B(E1)=1.6×10^{-5} *4* (2014Oz03).
9095.3 *10*	(1^-)		D	J^π: 9094.9γ (E1) to 0^+. B(E1)=1.0×10^{-5} *2* (2014Oz03).
9150.1 *10*	(1^-)		D	J^π: 9149.7γ (E1) to 0^+. B(E1)=0.9×10^{-5} *3* (2014Oz03).
9186.6[&] *4*	20^+	0.22 ps *6*	HI	XREF: H(9184). J^π: 1039.5γ E2 to 18^+; band member. $T_{1/2}$: from DSAM in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
9329.8 *10*	(1^-)		D	J^π: 9329.4γ (E1) to 0^+. B(E1)=2.1×10^{-5} *5* (2014Oz03).
10076.2[a] *12*	(21^-)		HI	XREF: H(10082). J^π: 1031.0γ to (19^-); band member.
10335.7[&] *5*	22^+	0.14 ps *4*	HI	XREF: H(10332). J^π: 1149.1γ E2 to 20^+; band member. $T_{1/2}$: from DSAM in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
11570.6[&] *7*	(24^+)	<0.35 ps	I	J^π: 1234.9γ to 22^+; band member. $T_{1/2}$: from DSAM in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
12965.1?[&] *13*	(26^+)		I	J^π: 1395.0γ to (24^+); band member.

[†] From a least-squares fit to Eγ.
[‡] From DSAM in ^{112}Sn(n,n$'\gamma$) (2005Ku28), unless otherwise noted.
[#] Ground state band.
[@] Probable member of the ΔJ=2 sequence; configuration=$\pi g_{9/2}^{-2}\otimes\pi g_{7/2}^{2}$.
[&] Band(A): Probable member of a ΔJ=2 band on the 5564.3 ($J^\pi=12^+$) state; configuration=$\pi[g_{9/2}^{-2}g_{7/2}^{2}]\otimes\nu h_{11/2}^{2}$.
[a] Band(B): Probable member of a ΔJ=2 band on the 6398.3 ($J^\pi=13^-$) state; configuration=$\pi[g_{9/2\ 1}h_{11/2}]\otimes\nu h_{11/2}^{2}$.

Adopted Levels, Gammas (continued)

γ(^{112}Sn)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[‡#c]	α[b]	$I_{(\gamma+ce)}$	Comments
1256.69	2+	1256.68 *4*	100	0.0	0+	E2		8.05×10^{-4}		α(K)=0.000687 *10*; α(L)=8.28×10^{-5} *12*; α(M)=1.616×10^{-5} *23* α(N)=3.04×10^{-6} *5*; α(O)=2.62×10^{-7} *4*; α(IPF)=1.523×10^{-5} *22* B(E2)(W.u.)=14.96 *20* Mult.: α(K)exp=0.00060 *8* in ^{110}Cd(α,2nγ) (1979Br07); A_2=0.64 *8* and A_4=−0.82 *8* in Coulomb excitation (2011Wa15); Alternatively, A_2=0.90 *6* and A_4=−0.71 *6* in Coulomb excitation (2011Wa15). A_2=0.243 *5* and A_4=−0.048 *9* in ^{110}Cd(α,2nγ) (1979Br07); DCO=1.01 *6* in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45); Pγ=0.39 in ^{110}Cd(α,2nγ) (1979Br07) and +0.05 *2* in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
2150.87	2+	894.17 *4*	100 *1*	1256.69	2+	M1+E2	−0.28 *6*	0.00199		α(K)=0.00173 *3*; α(L)=0.000207 *3*; α(M)=4.05×10^{-5} *6* α(N)=7.63×10^{-6} *12*; α(O)=6.71×10^{-7} *11* B(M1)(W.u.)=0.017 *5*; B(E2)(W.u.)=1.4 *7* Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
		2150.9 *4*	16.7[@] *11*	0.0	0+	E2		6.53×10^{-4}		α(K)=0.000245 *4*; α(L)=2.88×10^{-5} *4*; α(M)=5.60×10^{-6} *8* α(N)=1.055×10^{-6} *15*; α(O)=9.27×10^{-8} *13*; α(IPF)=0.000372 *6* B(E2)(W.u.)=0.039 *12* Mult.: from γ(θ) in 2005Ku28.
2190.81	0+	934.12 *4*	100	1256.69	2+	E2		1.50×10^{-3}		α(K)=0.001301 *19*; α(L)=0.0001608 *23*; α(M)=3.14×10^{-5} *5* α(N)=5.90×10^{-6} *9*; α(O)=5.00×10^{-7} *7* B(E2)(W.u.)<9.2 E_γ: 928 in ^{100}Mo(^{16}O,4nγ),^{98}Mo(^{16}O,2nγ) (1988Ha20). Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
		2190.9 *5*		0.0	0+	E0			0.1455 *21*	E_γ,Mult.: from ce measurements in ^{112}Sn(p,p′γ) (1981Ba05). $I_{(\gamma+ce)}$: from Ice(K)(2190.9γ)/Ice(K)(934.12γ)=0.55 *10* in ^{112}Sn(p,p′γ) (1981Ba05), α(K)(934.12γ)=0.001301 *19*, Iγ(934.12γ)=100 and Ω_K/Ω_T=0.8942 (2008Ki07).
2247.39	4+	990.69 *4*	100	1256.69	2+	E2		1.31×10^{-3}		α(K)=0.001140 *16*; α(L)=0.0001402 *20*; α(M)=2.74×10^{-5} *4* α(N)=5.14×10^{-6} *8*; α(O)=4.38×10^{-7} *7* B(E2)(W.u.)=5.6 *9* E_γ: 993 in ^{113}In(p,2nγ) (1969Ya05).

$^{112}_{50}Sn_{62}$-10

Adopted Levels, Gammas (continued)

γ(^{112}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[‡#c]	α[b]	Comments
									Mult.: α(K)exp=0.0014 in ^{110}Cd(α,2nγ) (1979Br07); A_2=0.236 *5* and A_4=−0.050 *9* in ^{110}Cd(α,2nγ) (1979Br07); DCO=1.03 *5* in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45); Pγ=+0.07 *3* in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45) and Pγ=0.37 in ^{110}Cd(α,2nγ) (1979Br07);
2354.21	3−	203.2 *2*		2150.87	2+	[E1]		0.0246	α(K)=0.0214 *3*; α(L)=0.00262 *4*; α(M)=0.000510 *8* α(N)=9.51×10^{-5} *14*; α(O)=7.67×10^{-6} *11*
		1097.38 *7*	100	1256.69	2+	E1		4.59×10^{-4}	B(E1)(W.u.)=0.00102 *7* α(K)=0.000401 *6*; α(L)=4.70×10^{-5} *7*; α(M)=9.13×10^{-6} *13* α(N)=1.718×10^{-6} *24*; α(O)=1.492×10^{-7} *21*
									Mult.: A_2=−0.21 *3* and A_4=0.03 *4* in ^{110}Cd(α,2nγ) (1980Va13); Pγ=0.34 *9* in ^{110}Cd(α,2nγ) (1980Va13); α(K)exp<0.0005 in ^{110}Cd(α,2nγ) (1980Va13).
2476.16	2+	286		2190.81	0+				Eγ: from ^{98}Mo(^{16}O,2nγ) (2003Wo15).
		1219.34 *13*	20.5 *24*	1256.69	2+	M1+E2	−0.54 *7*	9.77×10^{-4} *16*	B(M1)(W.u.)<0.00071; B(E2)(W.u.)<0.13 α(K)=0.000845 *14*; α(L)=0.0001006 *16*; α(M)=1.96×10^{-5} *3* α(N)=3.70×10^{-6} *6*; α(O)=3.25×10^{-7} *6*; α(IPF)=8.59×10^{-6} *14* Mult.,δ: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
		2475.8 *3*	100.0 *24*	0.0	0+	E2		7.48×10^{-4}	B(E2)(W.u.)<0.066 α(K)=0.000191 *3*; α(L)=2.23×10^{-5} *4*; α(M)=4.34×10^{-6} *6* α(N)=8.18×10^{-7} *12*; α(O)=7.20×10^{-8} *10*; α(IPF)=0.000529 *8* Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
2520.70	4+	1264.07 *7*	100	1256.69	2+	E2		7.96×10^{-4}	α(K)=0.000679 *10*; α(L)=8.18×10^{-5} *12*; α(M)=1.596×10^{-5} *23* α(N)=3.00×10^{-6} *5*; α(O)=2.59×10^{-7} *4*; α(IPF)=1.648×10^{-5} *24* B(E2)(W.u.)=13 *5*
									Mult.: α(K)exp=0.0007 *2* in ^{110}Cd(α,2nγ) (1979Br07); A_2=0.218 *11* and A_4=−0.07 *2* in ^{110}Cd(α,2nγ) (1979Br07); Pγ=0.53 *8* in ^{110}Cd(α,2nγ) (1979Br07);
2549.22	6+	301.84 *13*	100	2247.39	4+	E2		0.0348	B(E2)(W.u.)=0.496 *3* α(K)=0.0292 *5*; α(L)=0.00448 *7*; α(M)=0.000889 *13* α(N)=0.0001632 *23*; α(O)=1.155×10^{-5} *17*
									Mult.: α(K)exp=0.033 *5* in ^{110}Cd(α,2nγ) (1980Va13); Also, A_2=0.220 *4* and A_4=−0.04 *1* in ^{110}Cd(α,2nγ)(1980Va13); DCO=1.11 *6* in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45) and Pγ=0.31 *6* in ^{110}Cd(α,2nγ) (1980Va13) and +0.06 *3* in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
2556.6	(2+)	2556.6[@] *3*	100[@]	0.0	0+				
2617.62	0+	1360.92 *17*	100	1256.69	2+	E2		7.08×10^{-4}	α(K)=0.000584 *9*; α(L)=7.01×10^{-5} *10*; α(M)=1.367×10^{-5} *20* α(N)=2.57×10^{-6} *4*; α(O)=2.23×10^{-7} *4*; α(IPF)=3.74×10^{-5} *6* B(E2)(W.u.)<9.4 Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).

$^{112}_{50}Sn_{62}$-11

Adopted Levels, Gammas (continued)

γ(^{112}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[‡#c]	α[b]	Comments
2721.06	2+	1464.22 *15*	100[@] *4*	1256.69	2+	M1+E2	0.17 *10*	7.38×10^{-4}	α(K)=0.000589 *9*; α(L)=6.96×10^{-5} *11*; α(M)=1.357×10^{-5} *21* α(N)=2.56×10^{-6} *4*; α(O)=2.26×10^{-7} *4*; α(IPF)=6.28×10^{-5} *10* B(M1)(W.u.)=0.007 *+3−7*; B(E2)(W.u.)=0.08 *+10−8* Mult.,δ: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
		2721.6 *3*	15.9[@] *13*	0.0	0+	E2		8.28×10^{-4}	α(K)=0.0001620 *23*; α(L)=1.89×10^{-5} *3*; α(M)=3.67×10^{-6} *6* α(N)=6.92×10^{-7} *10*; α(O)=6.10×10^{-8} *9*; α(IPF)=0.000643 *9* B(E2)(W.u.)=0.020 *+8−20* Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
2756.02	3+	234.8[@] *3*	5.9[@] *6*	2520.70	4+	[M1+E2]		0.0542	α(K)=0.0469 *7*; α(L)=0.00586 *9*; α(M)=0.001148 *17* α(N)=0.000216 *4*; α(O)=1.88×10^{-5} *3*
		279.5[@] *2*	4.0[@] *4*	2476.16	2+	[M1+E2]		0.0343	α(K)=0.0297 *5*; α(L)=0.00369 *6*; α(M)=0.000723 *11* α(N)=0.0001361 *20*; α(O)=1.188×10^{-5} *17*
		401.3[@] *5*	2.6[@] *6*	2354.21	3−	[E1]		0.00406	B(E1)(W.u.)<0.00011 α(K)=0.00354 *5*; α(L)=0.000425 *7*; α(M)=8.28×10^{-5} *12* α(N)=1.552×10^{-5} *23*; α(O)=1.303×10^{-6} *19*
		508.8[d] *3*		2247.39	4+	M1+E2	0.2 *1*	0.00757	α(K)=0.00658 *10*; α(L)=0.000804 *12*; α(M)=0.0001572 *23* α(N)=2.96×10^{-5} *5*; α(O)=2.59×10^{-6} *4* E_γ: 508.8γ seen in ^{112}Sn(n,n′γ) (2005Ku28) and Iγ(509)/Iγ(1499)=100/18.
		605.1[@] *2*	21.2[@] *13*	2150.87	2+	[M1+E2]		0.00500	α(K)=0.00435 *6*; α(L)=0.000527 *8*; α(M)=0.0001029 *15* α(N)=1.94×10^{-5} *3*; α(O)=1.705×10^{-6} *24*
		1499.5[@] *1*	100[@] *3*	1256.69	2+	M1(+E2)	≤0.08	7.18×10^{-4}	α(K)=0.000562 *8*; α(L)=6.64×10^{-5} *10*; α(M)=1.294×10^{-5} *19* α(N)=2.44×10^{-6} *4*; α(O)=2.16×10^{-7} *3*; α(IPF)=7.42×10^{-5} *11* B(E2)(W.u.)<0.014? Mult.,δ: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
2765.2	0+ to 4+	1508.5 *3*	100	1256.69	2+				
2783.66	4+	536		2247.39	4+				E_γ: from ^{98}Mo(^{16}O,2nγ) (2003Wo15).
		1527.2 *2*	100	1256.69	2+	E2		6.25×10^{-4}	α(K)=0.000466 *7*; α(L)=5.54×10^{-5} *8*; α(M)=1.080×10^{-5} *16* α(N)=2.03×10^{-6} *3*; α(O)=1.770×10^{-7} *25*; α(IPF)=9.08×10^{-5} *13* B(E2)(W.u.)=6.6 *15*

$^{112}_{50}Sn_{62}$-12

Adopted Levels, Gammas (continued)

γ(^{112}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[‡#c]	α[b]	Comments
2913.07	4+	392.8 *5*	12 *3*	2520.70	4+	[M1]		0.01440	Mult.: A_2=−0.09 *3* and A_4=0.7 *2* in ^{110}Cd(α,2nγ) (1979Br07); α(K)=0.01250 *18*; α(L)=0.001535 *22*; α(M)=0.000300 *5* α(N)=5.65×10^{-5} *9*; α(O)=4.95×10^{-6} *8* B(M1)(W.u.)<0.049 I_γ: Iγ(392.3)/Iγ(1656.7)=12.32% in ^{112}Sb ε decay (1976Wi10,1975WiZX).
		665.6 *3*	100 *3*	2247.39	4+	[M1]		0.00399	α(K)=0.00347 *5*; α(L)=0.000419 *6*; α(M)=8.18×10^{-5} *12* α(N)=1.542×10^{-5} *22*; α(O)=1.357×10^{-6} *19* B(M1)(W.u.)<0.084 E_γ: not observed in ^{112}Sb ε decay (1976Wi10,1975WiZX).
		1656.3 *4*	35 *3*	1256.69	2+	E2		5.99×10^{-4}	B(E2)(W.u.)<0.56 α(K)=0.000398 *6*; α(L)=4.72×10^{-5} *7*; α(M)=9.20×10^{-6} *13* α(N)=1.732×10^{-6} *25*; α(O)=1.511×10^{-7} *22*; α(IPF)=0.0001422 *20* Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
2917.39	2+,3,4+	669.9 *1*	100[@] *15*	2247.39	4+				
		767.0 *2*	11.8[@] *8*	2150.87	2+				
2926.82	6+	378.6 *3*	100	2549.22	6+	M1		0.01579	B(M1)(W.u.)<1.8 α(K)=0.01371 *20*; α(L)=0.001685 *24*; α(M)=0.000330 *5* α(N)=6.21×10^{-5} *9*; α(O)=5.44×10^{-6} *8* Mult.: α(K)exp=0.017 *3* in ^{110}Cd(α,2nγ) (1980Va13); A_2=0.365 *8* and A_4=0.00 *2* in ^{110}Cd(α,2nγ) (1980Va13); Pγ=0.67 *5* in ^{110}Cd(α,2nγ) (1980Va13);
2945.70	4+	470		2476.16	2+				E_γ: from ^{98}Mo(^{16}O,2nγ) (2003Wo15).
		794.5 *2*		2150.87	2+	E2		0.00219	α(K)=0.00189 *3*; α(L)=0.000239 *4*; α(M)=4.67×10^{-5} *7* α(N)=8.74×10^{-6} *13*; α(O)=7.31×10^{-7} *11* Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
		1688.7 *3*	100	1256.69	2+	E2		5.96×10^{-4}	B(E2)(W.u.)<1.2 α(K)=0.000384 *6*; α(L)=4.55×10^{-5} *7*; α(M)=8.86×10^{-6} *13* α(N)=1.667×10^{-6} *24*; α(O)=1.456×10^{-7} *21*; α(IPF)=0.0001561 *22*
2966.63	2+	612.4 *1*	28[@] *2*	2354.21	3−	E1		1.50×10^{-3}	Mult.: A_2=0.22 *3* and A_4=0.5 *2* in ^{110}Cd(α,2nγ) (1979Br07); α(K)=0.001307 *19*; α(L)=0.0001555 *22*; α(M)=3.03×10^{-5} *5* α(N)=5.68×10^{-6} *8*; α(O)=4.85×10^{-7} *7* B(E1)(W.u.)=0.00039 *+16−39* I_γ: 12 *3* in ^{112}Sn(n,n′γ) (2005Ku28). Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
		1709.9 *4*	100[@] *4*	1256.69	2+	M1(+E2)	≤0.7	6.36×10^{-4} *12*	α(K)=0.000418 *11*; α(L)=4.93×10^{-5} *12*; α(M)=9.60×10^{-6} *24* α(N)=1.81×10^{-6} *5*; α(O)=1.60×10^{-7} *5*; α(IPF)=0.000157 *3*

$^{112}_{50}Sn_{62}$-13

Adopted Levels, Gammas (continued)

γ(^{112}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[‡#c]	α[b]	Comments
									B(M1)(W.u.)>0.0033?; B(E2)(W.u.)<0.44? I_γ: 37 *9* in ^{112}Sn(n,n′γ) (2005Ku28). Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
2966.63	2+	2966.6 *1*	53[@] *4*	0.0	0+	E2			α(K)=0.0001398 *20*; α(L)=1.624×10^{-5} *23*; α(M)=3.16×10^{-6} *5* α(N)=5.95×10^{-7} *9*; α(O)=5.26×10^{-8} *8*; α(IPF)=0.000752 *11* B(E2)(W.u.)=0.045 *+19−45* I_γ: 100 *12* in ^{112}Sn(n,n′γ) (2005Ku28). Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
2969.31		818.43 *6*		2150.87	2+				
		1712.61 *6*	100	1256.69	2+				
2986.4	0+	1729.7 *3*	100	1256.69	2+	E2		5.94×10^{-4}	B(E2)(W.u.)<0.67 α(K)=0.000367 *6*; α(L)=4.34×10^{-5} *6*; α(M)=8.45×10^{-6} *12* α(N)=1.591×10^{-6} *23*; α(O)=1.391×10^{-7} *20*; α(IPF)=0.0001741 *25*
3078.53	(2,3)+	557.8 *3*	12.0[@] *8*	2520.70	4+				
		831.1 *4*	8.8[@] *19*	2247.39	4+				
		927.7 *2*	97[@] *3*	2150.87	2+	M1+E2	0.60 *+1−2*	0.00176 *3*	α(K)=0.001535 *22*; α(L)=0.000185 *3*; α(M)=3.61×10^{-5} *6* α(N)=6.80×10^{-6} *10*; α(O)=5.94×10^{-7} *9* B(M1)(W.u.)<0.0076; B(E2)(W.u.)<2.6 I_γ: 100.0 19 in ^{112}Sn(n,n′γ) (2005Ku28). Mult.,δ: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
		1821.8 *2*	100[@] *4*	1256.69	2+	M1+E2	−1.3 *+3−5*	6.11×10^{-4} *10*	α(K)=0.000348 *8*; α(L)=4.10×10^{-5} *9*; α(M)=7.99×10^{-6} *17* α(N)=1.51×10^{-6} *4*; α(O)=1.32×10^{-7} *3*; α(IPF)=0.000212 *4* B(M1)(W.u.)<0.00067; B(E2)(W.u.)<0.25 I_γ: 88.7 *19* in ^{112}Sn(n,n′γ) (2005Ku28). Mult.,δ: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
3092.21	2+	1836.0 *3*	100[@] *3*	1256.69	2+	M1+E2	−1.5 *10*	6.09×10^{-4} *20*	α(K)=0.000340 *21*; α(L)=4.01×10^{-5} *24*; α(M)=7.8×10^{-6} *5* α(N)=1.47×10^{-6} *9*; α(O)=1.29×10^{-7} *9*; α(IPF)=0.000219 *7* B(M1)(W.u.)=0.003 *4*; B(E2)(W.u.)=1.9 *+9−10* Mult.,δ: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
		3092.1 *1*	26.2[@] *19*	0.0	0+	E2		9.54×10^{-4}	α(K)=0.0001303 *19*; α(L)=1.513×10^{-5} *22*; α(M)=2.94×10^{-6} *5* α(N)=5.55×10^{-7} *8*; α(O)=4.90×10^{-8} *7*; α(IPF)=0.000805 *12* B(E2)(W.u.)=0.052 *+12−17* Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).

$^{112}_{50}Sn_{62}$-14

Adopted Levels, Gammas (continued)

γ(^{112}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	α[b]	Comments
3113.54	0$^+$ to 4$^+$	962.67 *14*	100	2150.87	2$^+$			
3133.42	5$^-$	779.3 *2*	16.3 *12*	2354.21	3$^-$	E2	0.00229	B(E2)(W.u.)<8.6 α(K)=0.00198 *3*; α(L)=0.000250 *4*; α(M)=4.90×10^{-5} *7* α(N)=9.18×10^{-6} *13*; α(O)=7.66×10^{-7} *11* E_γ: 782 in ^{98}Mo(^{16}O,2nγ) (2003Wo15). Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
		886.0 *1*	100.0 *12*	2247.39	4$^+$	E1	6.91×10^{-4}	B(E1)(W.u.)<0.00036 α(K)=0.000603 *9*; α(L)=7.10×10^{-5} *10*; α(M)=1.381×10^{-5} *20* α(N)=2.60×10^{-6} *4*; α(O)=2.24×10^{-7} *4* Mult.,δ: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
3141.1		990.2 *4*	100	2150.87	2$^+$			
3149.28	4$^+$	901.8 *6*	24[@] *7*	2247.39	4$^+$	[M1+E2]	0.00197	α(K)=0.001718 *25*; α(L)=0.000206 *3*; α(M)=4.01×10^{-5} *6* α(N)=7.57×10^{-6} *11*; α(O)=6.68×10^{-7} *10*
		1892.2 *5*	100[@] *3*	1256.69	2$^+$	E2	6.03×10^{-4}	B(E2)(W.u.)=1.0 *+4−10* α(K)=0.000310 *5*; α(L)=3.65×10^{-5} *6*; α(M)=7.11×10^{-6} *10* α(N)=1.340×10^{-6} *19*; α(O)=1.174×10^{-7} *17*; α(IPF)=0.000248 *4* Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
3248.69	2$^+$	772.44 *24*	25.9[@] *19*	2476.16	2$^+$	[M1+E2]	0.00282	α(K)=0.00245 *4*; α(L)=0.000295 *5*; α(M)=5.75×10^{-5} *8* α(N)=1.084×10^{-5} *16*; α(O)=9.55×10^{-7} *14*
		894.2 *2*	27[@] *19*	2354.21	3$^-$	[E1]	6.79×10^{-4}	α(K)=0.000593 *9*; α(L)=6.97×10^{-5} *10*; α(M)=1.356×10^{-5} *19* α(N)=2.55×10^{-6} *4*; α(O)=2.20×10^{-7} *3* B(E1)(W.u.)<5.7×10^{-5}
		1097.4 *2*		2150.87	2$^+$	[M1+E2]	1.27×10^{-3}	α(K)=0.001106 *16*; α(L)=0.0001317 *19*; α(M)=2.57×10^{-5} *4* α(N)=4.84×10^{-6} *7*; α(O)=4.28×10^{-7} *6*
		1992.25 *12*	22.9[@] *13*	1256.69	2$^+$	M1+E2	6.41×10^{-4}	α(K)=0.000312 *5*; α(L)=3.66×10^{-5} *6*; α(M)=7.13×10^{-6} *10* α(N)=1.345×10^{-6} *19*; α(O)=1.192×10^{-7} *17*; α(IPF)=0.000284 *4* Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
		3248.8 *8*	100.0 *21*	0.0	0$^+$	E2	1.01×10^{-3}	α(K)=0.0001199 *17*; α(L)=1.391×10^{-5} *20*; α(M)=2.70×10^{-6} *4* α(N)=5.10×10^{-7} *8*; α(O)=4.50×10^{-8} *7*; α(IPF)=0.000871 *13* B(E2)(W.u.)<0.025 Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
3272.31	4$^+$	1121.39 *15*	27 *9*	2150.87	2$^+$	E2	1.00×10^{-3}	B(E2)(W.u.)=7 *+4−6* α(K)=0.000872 *13*; α(L)=0.0001060 *15*; α(M)=2.07×10^{-5} *3* α(N)=3.89×10^{-6} *6*; α(O)=3.34×10^{-7} *5*; α(IPF)=9.93×10^{-7} *15* Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
		2016.1 *5*	100 *9*	1256.69	2$^+$	E2	6.24×10^{-4}	B(E2)(W.u.)=1.4 *+5−10* α(K)=0.000276 *4*; α(L)=3.24×10^{-5} *5*; α(M)=6.31×10^{-6} *9* α(N)=1.189×10^{-6} *17*; α(O)=1.043×10^{-7} *15*; α(IPF)=0.000308 *5* Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
3283.60	2$^+$	1036.2 *2*	100	2247.39	4$^+$			

$^{112}_{50}Sn_{62}$-15

Adopted Levels, Gammas (continued)

γ(^{112}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[‡#c]	α[b]	$I_{(\gamma+ce)}$	Comments
3286.18	(2)$^+$	2029.4 *2*	84 *5*	1256.69	2$^+$	M1(+E2)	≤0.4	6.45×10^{-4} *10*		α(K)=0.000298 *5*; α(L)=3.50×10^{-5} *6*; α(M)=6.82×10^{-6} *11* α(N)=1.287×10^{-6} *20*; α(O)=1.139×10^{-7} *18*; α(IPF)=0.000303 *5* B(M1)(W.u.)>0.0047?; B(E2)(W.u.)<0.15? Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28). I_γ: 8 *3* in ^{112}Sn(n,n′γ) (2005Ku28).
		3286.2 *2*	100 *3*	0.0	0$^+$					
3288.0	(1,2$^+$)	1097.2 *3*	100	2190.81	0$^+$					
3338.3	2$^+$	2081.6 *3*	100	1256.69	2$^+$	M1+E2		6.54×10^{-4}		α(K)=0.000285 *4*; α(L)=3.35×10^{-5} *5*; α(M)=6.52×10^{-6} *10* α(N)=1.229×10^{-6} *18*; α(O)=1.090×10^{-7} *16*; α(IPF)=0.000328 *5* Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
3353.1	2$^+$	2096.4 *4*	9 *3*	1256.69	2$^+$	M1+E2		6.57×10^{-4}		α(K)=0.000281 *4*; α(L)=3.30×10^{-5} *5*; α(M)=6.42×10^{-6} *9* α(N)=1.212×10^{-6} *17*; α(O)=1.074×10^{-7} *15*; α(IPF)=0.000335 *5* Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
		3353.0 *5*	100 *3*	0.0	0$^+$	E2		1.04×10^{-3}		B(E2)(W.u.)<0.027 α(K)=0.0001138 *16*; α(L)=1.319×10^{-5} *19*; α(M)=2.56×10^{-6} *4* α(N)=4.83×10^{-7} *7*; α(O)=4.27×10^{-8} *6*; α(IPF)=0.000914 *13* Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
3354.38	(7)$^-$	427.67[&] *10*	5.8[&] *3*	2926.82	6$^+$	E1		0.00347		α(K)=0.00302 *5*; α(L)=0.000363 *5*; α(M)=7.07×10^{-5} *10* α(N)=1.325×10^{-5} *19*; α(O)=1.115×10^{-6} *16* Mult.: A_2=−0.20 *2* and A_4=0.07 *4* in (1980Va13); Pγ=0.38 *5* (1980Va13).
		805.11[&] *7*	100[&] *6*	2549.22	6$^+$	E1		8.38×10^{-4}		α(K)=0.000731 *11*; α(L)=8.63×10^{-5} *12*; α(M)=1.678×10^{-5} *24* α(N)=3.16×10^{-6} *5*; α(O)=2.72×10^{-7} *4* E_γ: 807 *1* in ^{113}In(p,2nγ) (1969Ya05). Mult.: α(K)exp=0.00070 *15* in ^{110}Cd(α,2nγ) (1980Va13); A_2=−0.233 *5* and A_4=−0.01 *1* in ^{110}Cd(α,2nγ) (1980Va13); Pγ=0.37 *5* in ^{110}Cd(α,2nγ) (1980Va13) and +0.06 *3* in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45); DCO=0.71 *13* in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
3378.9	0$^+$ to 4$^+$	1228.0 *3*	100	2150.87	2$^+$					

$^{112}_{50}Sn_{62}$-16

Adopted Levels, Gammas (continued)

γ(^{112}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[‡#c]	α[b]	Comments
3384.30	(3)$^-$	467.2[@] *3*	16.1[@] *15*	2917.39	2$^+$,3,4$^+$				
		2127.3 *3*	100[@] *6*	1256.69	2$^+$	E1		8.44×10^{-4}	α(K)=0.0001324 *19*; α(L)=1.528×10^{-5} *22*; α(M)=2.97×10^{-6} *5* α(N)=5.59×10^{-7} *8*; α(O)=4.91×10^{-8} *7*; α(IPF)=0.000693 *10* B(E1)(W.u.)=0.00014 *+5−7* Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
3397.20	2$^-$,3$^-$	1042.95 *11*	72.4 *17*	2354.21	3$^-$	M1+E2	1.8 *12*	0.00123 *13*	α(K)=0.00107 *11*; α(L)=0.000130 *12*; α(M)=2.54×10^{-5} *23* α(N)=4.8×10^{-6} *5*; α(O)=4.1×10^{-7} *5* B(M1)(W.u.)=0.008 *+9−8*; B(E2)(W.u.)=20 *+9−11*
		1246.6 *3*	100 *17*	2150.87	2$^+$				
3413.93	6$^+$	468.03[&] *13*	32[&] *2*	2945.70	4$^+$	E2		0.00893	α(K)=0.00764 *11*; α(L)=0.001047 *15*; α(M)=0.000206 *3* α(N)=3.83×10^{-5} *6*; α(O)=2.98×10^{-6} *5* B(E2)(W.u.)=1.8×10^2 *10* Mult.: α(K)exp=0.007 *2* in ^{110}Cd(α,2nγ) (1979Br07); A_2=0.32 *6* and A_4=−0.18 *10* in ^{110}Cd(α,2nγ) (1979Br07); Pγ=0.49 *8* in ^{110}Cd(α,2nγ) (1979Br07);
		630.36[&] *12*	56[&] *2*	2783.66	4$^+$	E2		0.00392	B(E2)(W.u.)=7.E+1 *4* α(K)=0.00337 *5*; α(L)=0.000439 *7*; α(M)=8.61×10^{-5} *12* α(N)=1.606×10^{-5} *23*; α(O)=1.310×10^{-6} *19* Mult.: α(K)exp=0.0038 *8* in ^{110}Cd(α,2nγ) (1979Br07); A_2=0.34 *2* and A_4=0.71 *8* in ^{110}Cd(α,2nγ) (1979Br07); Pγ=0.71 *8* in ^{110}Cd(α,2nγ) (1979Br07);
		893.2[&] *2*	38[&] *12*	2520.70	4$^+$	E2		1.66×10^{-3}	B(E2)(W.u.)=9 *6* α(K)=0.001440 *21*; α(L)=0.000179 *3*; α(M)=3.50×10^{-5} *5* α(N)=6.56×10^{-6} *10*; α(O)=5.54×10^{-7} *8*
		1166.9[&] *3*	100[&] *10*	2247.39	4$^+$	E2		9.25×10^{-4}	B(E2)(W.u.)=6 *3* α(K)=0.000801 *12*; α(L)=9.72×10^{-5} *14*; α(M)=1.90×10^{-5} *3* α(N)=3.56×10^{-6} *5*; α(O)=3.06×10^{-7} *5*; α(IPF)=3.50×10^{-6} *6* Mult.: α(K)exp=0.0009 *4* in ^{110}Cd(α,2nγ) (1979Br07); A_2=0.38 *7* and A_4=−0.12 *13* in ^{110}Cd(α,2nγ) (1979Br07); Pγ=0.8 *2* in ^{110}Cd(α,2nγ) (1979Br07);

$^{112}_{50}Sn_{62}$-17

Adopted Levels, Gammas (continued)

γ(^{112}Sn) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.#	δ‡#c	α b	Comments
3417.41	4^+	2160.7 *1*	100	1256.69	2^+	E2		6.56×10^{-4}	B(E2)(W.u.)<0.94 α(K)=0.000243 *4*; α(L)=2.85×10^{-5} *4*; α(M)=5.55×10^{-6} *8* α(N)=1.046×10^{-6} *15*; α(O)=9.19×10^{-8} *13*; α(IPF)=0.000377 *6* Mult.: from γ(θ) in ^{112}Sn(n,n′γ) (2005Ku28).
3430.65	$(8)^-$	76.3& *2*	100&	3354.38	$(7)^-$	M1+E2	0.04 *3*	1.221 *22*	B(M1)(W.u.)=0.0365 *19*; B(E2)(W.u.)=8 *+12−8* α(K)=1.053 *18*; α(L)=0.136 *4*; α(M)=0.0267 *9* α(N)=0.00502 *15*; α(O)=0.000430 *8* Mult.: A_2=−0.15 *2* (1980Va13); A_4=−0.01 *2* in ^{110}Cd(α,2nγ) (1980Va13).
3433.9	(1^-)	3433.8a *5*	100	0.0	0^+	(E1)a		1.50×10^{-3}	α(K)=6.62×10^{-5} *10*; α(L)=7.59×10^{-6} *11*; α(M)=1.473×10^{-6} *21* α(N)=2.78×10^{-7} *4*; α(O)=2.45×10^{-8} *4*; α(IPF)=0.001424 *20* B(E1)(W.u.)=0.0038 *+20−22*
3456.31	$2^+,3^+$	700.3@ *6*	22@ *5*	2756.02	3^+				
		2199.6@ *2*	100@ *6*	1256.69	2^+	M1+E2	2.8 *10*	6.67×10^{-4}	α(K)=0.000238 *5*; α(L)=2.79×10^{-5} *5*; α(M)=5.42×10^{-6} *10* α(N)=1.022×10^{-6} *18*; α(O)=8.99×10^{-8} *17*; α(IPF)=0.000395 *6* B(M1)(W.u.)<0.00045; B(E2)(W.u.)<0.38 Mult.,δ: from ^{112}Sn(n,n′γ) (2005Ku28).
3471.7	4^+	951.0 *3*	100	2520.70	4^+	[M1]		1.75×10^{-3}	α(K)=0.001524 *22*; α(L)=0.000182 *3*; α(M)=3.55×10^{-5} *5* α(N)=6.70×10^{-6} *10*; α(O)=5.91×10^{-7} *9* B(M1)(W.u.)<0.11
3494.00	2^+ to 6^+	1246.6 *2*	100	2247.39	4^+				
3499.21	5^-	979.3 *2*	54 *5*	2520.70	4^+	[E1]		5.69×10^{-4}	B(E1)(W.u.)=0.0027 *+14−27* α(K)=0.000497 *7*; α(L)=5.83×10^{-5} *9*; α(M)=1.134×10^{-5} *16* α(N)=2.13×10^{-6} *3*; α(O)=1.85×10^{-7} *3*
		1144.2 *2*	100 *5*	2354.21	3^-	[E2]		9.63×10^{-4}	B(E2)(W.u.)=1.5×10^{2} *+8−15* α(K)=0.000835 *12*; α(L)=0.0001014 *15*; α(M)=1.98×10^{-5} *3* α(N)=3.72×10^{-6} *6*; α(O)=3.20×10^{-7} *5*; α(IPF)=1.96×10^{-6} *3*
3520.45	1 to 4^+	1166.3 *2*		2354.21	3^-				
		1369.0 *6*		2150.87	2^+				
3524.54	2^+	431.9@ *6*	9.2@ *14*	3092.21	2^+	[M1]		0.01136	α(K)=0.00987 *15*; α(L)=0.001208 *18*; α(M)=0.000236 *4* α(N)=4.45×10^{-5} *7*; α(O)=3.90×10^{-6} *6* B(M1)(W.u.)<0.16
		1277.7@ *5*	22@ *8*	2247.39	4^+	E2		7.82×10^{-4}	α(K)=0.000664 *10*; α(L)=8.00×10^{-5} *12*; α(M)=1.560×10^{-5} *22*

$^{112}_{50}Sn_{62}$-18

Adopted Levels, Gammas (continued)

γ(^{112}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[‡#c]	α[b]	Comments
									α(N)=2.93×10^{-6} *5*; α(O)=2.53×10^{-7} *4*; α(IPF)=1.89×10^{-5} *3* B(E2)(W.u.)<7.2 Mult.: From ^{112}Sn(n,n′γ) in 2005Ku28.
3524.54	2$^+$	2267.80[@] *20*	100[@] *8*	1256.69	2$^+$	M1(+E2)	≥−0.5	6.88×10^{-4} *11*	α(K)=0.000230 *8*; α(L)=2.69×10^{-5} *9*; α(M)=5.24×10^{-6} *18* α(N)=9.9×10^{-7} *4*; α(O)=8.7×10^{-8} *4*; α(IPF)=0.000425 *7* B(M1)(W.u.)<0.0096? Mult.,δ: From ^{112}Sn(n,n′γ) in 2005Ku28.
		3524.2 *10*		0.0	0$^+$	E2		1.10×10^{-3}	α(K)=0.0001048 *15*; α(L)=1.213×10^{-5} *17*; α(M)=2.36×10^{-6} *4* α(N)=4.45×10^{-7} *7*; α(O)=3.93×10^{-8} *6*; α(IPF)=0.000981 *14*
3530.15	2$^+$,3,4$^+$	380.8 *2*		3149.28	4$^+$				
		1009.4[@] *4*	84[@] *19*	2520.70	4$^+$				
		1282.4[@] *4*	65[@] *13*	2247.39	4$^+$				
		1379.6[@] *2*	100[@] *5*	2150.87	2$^+$				
3553.7	(3)$^-$	2297.0 *3*	100	1256.69	2$^+$	[E1]		9.40×10^{-4}	B(E1)(W.u.)=0.00014 *+5−10* α(K)=0.0001179 *17*; α(L)=1.359×10^{-5} *19*; α(M)=2.64×10^{-6} *4* α(N)=4.97×10^{-7} *7*; α(O)=4.37×10^{-8} *7*; α(IPF)=0.000806 *12*
3557.29		1036.1 *4*	16.3 *23*	2520.70	4$^+$				
		1203.1 *1*	100.0 *23*	2354.21	3$^-$				
3604.90		1357.5 *1*	100	2247.39	4$^+$				
3610.97		1460.1 *1*		2150.87	2$^+$				
		2354.1 *5*	100	1256.69	2$^+$				
3631.03		552.5 *2*	100	3078.53	(2,3)$^+$				
3654.34	2$^+$	2397.6 *2*		1256.69	2$^+$	M1+E2	0.52 *6*	7.28×10^{-4}	α(K)=0.000213 *3*; α(L)=2.49×10^{-5} *4*; α(M)=4.84×10^{-6} *7* α(N)=9.13×10^{-7} *13*; α(O)=8.08×10^{-8} *12*; α(IPF)=0.000485 *7*
		3654.3 *2*		0.0	0$^+$	E2		1.14×10^{-3}	α(K)=9.87×10^{-5} *14*; α(L)=1.142×10^{-5} *16*; α(M)=2.22×10^{-6} *4* α(N)=4.19×10^{-7} *6*; α(O)=3.70×10^{-8} *6*; α(IPF)=0.001032 *15* Mult.: assigned by the evaluators; M1+E2 with δ=0.48 *6* in ^{112}Sn(n,n′γ) (2005Ku28) is not consistent with the J^π differences.
3693.68	(9)$^-$	263.03[&] *7*	100[&]	3430.65	(8)$^-$	M1+E2	0.13 *1*	0.0404	B(M1)(W.u.)=0.024 *4*; B(E2)(W.u.)=4.8 *11*

$^{112}_{50}Sn_{62}$-19

Adopted Levels, Gammas (continued)

γ(^{112}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	α[b]	Comments
								α(K)=0.0350 *5*; α(L)=0.00438 *7*; α(M)=0.000859 *13* α(N)=0.0001615 *23*; α(O)=1.401×10^{-5} *20* δ: Also 0.12 *16* in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
3726.22		2469.5 *2*	100	1256.69	2$^+$			
3754.4		1507.0 *3*	100	2247.39	4$^+$			
3782.9		1632.0 *3*	100	2150.87	2$^+$			
3813.78	(2$^+$,3$^+$,4$^+$)	283.8[@] *2*	2.59[@] *24*	3530.15	2$^+$,3,4$^+$			
		900.8[@] *5*	17[@] *3*	2913.07	4$^+$			
		1029.6[@] *7*	43[@] *3*	2783.66	4$^+$			
		1293.6[@] *7*	6[@] *3*	2520.70	4$^+$			
		1459.5[@] *1*	27.1[@] *12*	2354.21	3$^-$			
		1566.4[@] *2*	100.0[@] *24*	2247.39	4$^+$			
4077.59	8$^+$	384		3693.68	(9)$^-$			E_γ: from ^{98}Mo(^{16}O,2nγ) (2003Wo15).
		663.66[&] *8*	100[&]	3413.93	6$^+$	E2	0.00343	α(K)=0.00296 *5*; α(L)=0.000381 *6*; α(M)=7.47×10^{-5} *11* α(N)=1.396×10^{-5} *20*; α(O)=1.146×10^{-6} *16* B(E2)(W.u.)=1.4×10^2 *6* Mult.: α(K)exp=0.0027 *4* in ^{110}Cd(α,2nγ) (1979Br07); A_2=0.375 *9* and A_4=−0.11 *2* in ^{110}Cd(α,2nγ) (1979Br07); DCO=0.93 *9* in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45); Pγ=0.65 *6* in ^{110}Cd(α,2nγ) (1979Br07) and +0.11 *4* in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45);
4141.3	(1$^-$)	4141.2[a] *5*	100	0.0	0$^+$	(E1)[a]	1.78×10^{-3}	α(K)=5.14×10^{-5} *8*; α(L)=5.88×10^{-6} *9*; α(M)=1.141×10^{-6} *16* α(N)=2.15×10^{-7} *3*; α(O)=1.90×10^{-8} *3*; α(IPF)=0.001717 *24*
4162.3	(1$^-$)	4162.2[a] *5*	100	0.0	0$^+$	(E1)[a]	1.78×10^{-3}	α(K)=5.11×10^{-5} *8*; α(L)=5.84×10^{-6} *9*; α(M)=1.134×10^{-6} *16* α(N)=2.14×10^{-7} *3*; α(O)=1.89×10^{-8} *3*; α(IPF)=0.001725 *25*
4330.4	(1$^-$)	4330.3[a] *5*	100	0.0	0$^+$	(E1)[a]	0.00184	α(K)=4.85×10^{-5} *7*; α(L)=5.54×10^{-6} *8*; α(M)=1.075×10^{-6} *15* α(N)=2.03×10^{-7} *3*; α(O)=1.79×10^{-8} *3*; α(IPF)=0.00179 *3*
4582.61	(10)$^-$	1151.94[&] *11*	100[&]	3430.65	(8)$^-$	E2	9.49×10^{-4}	α(K)=0.000824 *12*; α(L)=9.99×10^{-5} *14*; α(M)=1.95×10^{-5} *3* α(N)=3.66×10^{-6} *6*; α(O)=3.15×10^{-7} *5*; α(IPF)=2.42×10^{-6} *4* B(E2)(W.u.)=36 *11* Mult.: α(K)exp=0.0007 *3* in ^{110}Cd(α,2nγ) (1980Va13); A_2=0.344 *15* and A_4=−0.14 *3* in ^{110}Cd(α,2nγ) (1980Va13); Pγ=0.72 *8* in ^{110}Cd(α,2nγ) (1980Va13);
4681.0	(10$^+$)	603.1 *5*	25 *11*	4077.59	8$^+$			E_γ,I_γ: from ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
		987.4 *3*	100 *22*	3693.68	(9)$^-$			E_γ,I_γ: from ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
4726.5	(1$^-$)	4726.4[a] *5*	100	0.0	0$^+$	(E1)[a]	0.00197	α(K)=4.32×10^{-5} *6*; α(L)=4.94×10^{-6} *7*; α(M)=9.59×10^{-7} *14* α(N)=1.81×10^{-7} *3*; α(O)=1.596×10^{-8} *23*; α(IPF)=0.00193 *3*
4819.37	10$^+$	741.8[&] *2*	100[&]	4077.59	8$^+$	E2	0.00259	B(E2)(W.u.)=6.E+2 *3* α(K)=0.00224 *4*; α(L)=0.000284 *4*; α(M)=5.56×10^{-5} *8* α(N)=1.041×10^{-5} *15*; α(O)=8.65×10^{-7} *13*

$^{112}_{50}Sn_{62}$-20

Adopted Levels, Gammas (continued)

γ(^{112}Sn) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.#	α b	Comments
								Mult.: α(K)exp=0.0025 *4* in ^{110}Cd(α,2nγ) (1979Br07); A_2=0.366 *12* and A_4=−0.11 *2* in ^{110}Cd(α,2nγ) (1979Br07); DCO=1.04 *10* for 741.7γ+744.6γ in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45); Pγ=0.53 *5* in ^{110}Cd(α,2nγ) (1979Br07) and +0.25 *11* in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
4837.4	(1⁻)	4837.3[a] *5*	100	0.0	0⁺	(E1)[a]	0.00201	α(K)=4.20×10^{-5} *6*; α(L)=4.79×10^{-6} *7*; α(M)=9.30×10^{-7} *13* α(N)=1.754×10^{-7} *25*; α(O)=1.549×10^{-8} *22*; α(IPF)=0.00196 *3*
4928.9	(11)⁻	345.9 *8*	<8.3	4582.61	(10)⁻	M1+E2	0.0198	α(K)=0.0172 *3*; α(L)=0.00212 *4*; α(M)=0.000415 *7* α(N)=7.82×10^{-5} *12*; α(O)=6.84×10^{-6} *11* E_γ,I_γ,Mult.: from ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
		1235.3& *3*	100& *25*	3693.68	(9)⁻	E2	8.30×10^{-4}	B(E2)(W.u.)>0.28 α(K)=0.000712 *10*; α(L)=8.59×10^{-5} *12*; α(M)=1.676×10^{-5} *24* α(N)=3.15×10^{-6} *5*; α(O)=2.72×10^{-7} *4*; α(IPF)=1.182×10^{-5} *18* Mult.: α(K)exp=0.0007 *2* in ^{110}Cd(α,2nγ) (1980Va13); A_2=0.34 *3* and A_4=−0.13 *3* in ^{110}Cd(α,2nγ) (1980Va13); Pγ=0.72 *8* in ^{110}Cd(α,2nγ) (1980Va13);
5057.1	(1⁻)	5057.0[a] *5*	100	0.0	0⁺	(E1)[a]	0.00207	α(K)=3.96×10^{-5} *6*; α(L)=4.53×10^{-6} *7*; α(M)=8.78×10^{-7} *13* α(N)=1.656×10^{-7} *24*; α(O)=1.462×10^{-8} *21*; α(IPF)=0.00203 *3*
5128.2	(1⁻)	5128.1[a] *5*	100	0.0	0⁺	(E1)[a]	0.00209	α(K)=3.89×10^{-5} *6*; α(L)=4.45×10^{-6} *7*; α(M)=8.62×10^{-7} *12* α(N)=1.627×10^{-7} *23*; α(O)=1.436×10^{-8} *21*; α(IPF)=0.00205 *3*
5246.2	(1⁻)	5246.1[a] *5*	100	0.0	0⁺	(E1)[a]	0.00213	α(K)=3.78×10^{-5} *6*; α(L)=4.32×10^{-6} *6*; α(M)=8.38×10^{-7} *12* α(N)=1.580×10^{-7} *23*; α(O)=1.395×10^{-8} *20*; α(IPF)=0.00208 *3*
5480.5	(1⁻)	5480.4[a] *5*	100	0.0	0⁺	(E1)[a]	0.00220	α(K)=3.58×10^{-5} *5*; α(L)=4.08×10^{-6} *6*; α(M)=7.92×10^{-7} *11* α(N)=1.494×10^{-7} *21*; α(O)=1.320×10^{-8} *19*; α(IPF)=0.00216 *3*
5502.6	(1⁻)	5502.5[a] *5*	100	0.0	0⁺	(E1)[a]	0.00220	α(K)=3.56×10^{-5} *5*; α(L)=4.06×10^{-6} *6*; α(M)=7.88×10^{-7} *11* α(N)=1.487×10^{-7} *21*; α(O)=1.313×10^{-8} *19*; α(IPF)=0.00216 *3*
5564.3	12⁺	745.0& *2*	100& *19*	4819.37	10⁺	E2	0.00256	B(E2)(W.u.)=8.E+1 *3* α(K)=0.00221 *4*; α(L)=0.000281 *4*; α(M)=5.50×10^{-5} *8* α(N)=1.029×10^{-5} *15*; α(O)=8.56×10^{-7} *12* Mult.: α(K)exp=0.0024 *6* in ^{110}Cd(α,2nγ) (1979Br07); A_2=0.27 *4* and A_4=−0.05 *6* in ^{110}Cd(α,2nγ) (1979Br07); DCO=1.04 *10* for 741.7+744.6 in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45); Pγ=0.61 *12* in ^{110}Cd(α,2nγ) (1979Br07) and +0.27 *11* in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
		883.2 *3*	40 *11*	4681.0	(10⁺)	[E2]	1.70×10^{-3}	α(K)=0.001478 *21*; α(L)=0.000184 *3*; α(M)=3.60×10^{-5} *5* α(N)=6.74×10^{-6} *10*; α(O)=5.69×10^{-7} *8* B(E2)(W.u.)=14 *6* E_γ,I_γ: from ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
5593.7	(1⁻)	5593.6[a] *5*	100	0.0	0⁺	(E1)[a]	0.00223	α(K)=3.49×10^{-5} *5*; α(L)=3.98×10^{-6} *6*; α(M)=7.72×10^{-7} *11* α(N)=1.456×10^{-7} *21*; α(O)=1.286×10^{-8} *18*; α(IPF)=0.00219 *3*

$^{112}_{50}Sn_{62}$-21

Adopted Levels, Gammas (continued)

γ(^{112}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	α[b]	Comments
5617.6	(1⁻)	5617.4[a] *5*	100	0.0	0⁺	(E1)[a]	0.00223	α(K)=3.47×10⁻⁵ *5*; α(L)=3.96×10⁻⁶ *6*; α(M)=7.68×10⁻⁷ *11* α(N)=1.448×10⁻⁷ *21*; α(O)=1.279×10⁻⁸ *18*; α(IPF)=0.00219 *3*
5649.1	(1⁻)	5648.9[a] *5*	100	0.0	0⁺	(E1)[a]	0.00224	α(K)=3.45×10⁻⁵ *5*; α(L)=3.93×10⁻⁶ *6*; α(M)=7.62×10⁻⁷ *11* α(N)=1.438×10⁻⁷ *21*; α(O)=1.270×10⁻⁸ *18*; α(IPF)=0.00220 *3*
5666.4	(1⁻)	5666.2[a] *5*	100	0.0	0⁺	(E1)[a]	0.00225	α(K)=3.43×10⁻⁵ *5*; α(L)=3.91×10⁻⁶ *6*; α(M)=7.59×10⁻⁷ *11* α(N)=1.432×10⁻⁷ *20*; α(O)=1.265×10⁻⁸ *18*; α(IPF)=0.00221 *3*
5684.59	12⁺	865.21[&] *9*	100[&]	4819.37	10⁺	E2	0.00179	α(K)=0.001550 *22*; α(L)=0.000193 *3*; α(M)=3.78×10⁻⁵ *6* α(N)=7.08×10⁻⁶ *10*; α(O)=5.97×10⁻⁷ *9* Mult.: α(K)exp=0.0024 *7* in ^{110}Cd(α,2nγ) (1979Br07); A_2=0.40 *6* and A_4=−0.12 *10* in ^{110}Cd(α,2nγ) (1979Br07); Pγ=0.7 *2* in ^{110}Cd(α,2nγ) (1979Br07); E_γ: from ^{100}Mo(^{16}O,4nγ) (1988Ha20).
		1004		4681.0	(10⁺)			
5699.9	(1⁻)	5699.7[a] *5*	100	0.0	0⁺	(E1)[a]	0.00225	α(K)=3.41×10⁻⁵ *5*; α(L)=3.89×10⁻⁶ *6*; α(M)=7.54×10⁻⁷ *11* α(N)=1.422×10⁻⁷ *20*; α(O)=1.256×10⁻⁸ *18*; α(IPF)=0.00221 *4*
5748.6	(1⁻)	5748.4[a] *5*	100	0.0	0⁺	(E1)[a]	0.00226	α(K)=3.37×10⁻⁵ *5*; α(L)=3.84×10⁻⁶ *6*; α(M)=7.46×10⁻⁷ *11* α(N)=1.407×10⁻⁷ *20*; α(O)=1.243×10⁻⁸ *18*; α(IPF)=0.00223 *4*
5812.7	(1⁻)	5812.5[a] *5*	100	0.0	0⁺	(E1)[a]	0.00228	α(K)=3.32×10⁻⁵ *5*; α(L)=3.79×10⁻⁶ *6*; α(M)=7.35×10⁻⁷ *11* α(N)=1.387×10⁻⁷ *20*; α(O)=1.225×10⁻⁸ *18*; α(IPF)=0.00224 *4*
5860.7	(1⁻)	5860.5[a] *5*	100	0.0	0⁺	(E1)[a]	0.00230	α(K)=3.29×10⁻⁵ *5*; α(L)=3.75×10⁻⁶ *6*; α(M)=7.28×10⁻⁷ *11* α(N)=1.373×10⁻⁷ *20*; α(O)=1.213×10⁻⁸ *17*; α(IPF)=0.00226 *4*
5884.0	(1⁻)	5883.8[a] *5*	100	0.0	0⁺	(E1)[a]	0.00230	α(K)=3.27×10⁻⁵ *5*; α(L)=3.73×10⁻⁶ *6*; α(M)=7.24×10⁻⁷ *11* α(N)=1.366×10⁻⁷ *20*; α(O)=1.207×10⁻⁸ *17*; α(IPF)=0.00226 *4*
5924.1	(1⁻)	5923.9[a] *5*	100	0.0	0⁺	(E1)[a]	0.00231	α(K)=3.25×10⁻⁵ *5*; α(L)=3.70×10⁻⁶ *6*; α(M)=7.18×10⁻⁷ *10* α(N)=1.354×10⁻⁷ *19*; α(O)=1.197×10⁻⁸ *17*; α(IPF)=0.00228 *4*
5976.6	(1⁻)	5976.4[a] *5*	100	0.0	0⁺	(E1)[a]	0.00233	α(K)=3.21×10⁻⁵ *5*; α(L)=3.66×10⁻⁶ *6*; α(M)=7.10×10⁻⁷ *10* α(N)=1.340×10⁻⁷ *19*; α(O)=1.184×10⁻⁸ *17*; α(IPF)=0.00229 *4*
6005.0	(1⁻)	6004.8[a] *10*	100	0.0	0⁺	(E1)[a]		
6059.8	(1⁻)	6059.6[a] *10*	100	0.0	0⁺	(E1)[a]		
6080.9	(1⁻)	6080.7[a] *10*	100	0.0	0⁺	(E1)[a]		
6096.9	(1⁻)	6096.7[a] *10*	100	0.0	0⁺	(E1)[a]		
6129.0	(1⁻)	6128.8[a] *10*	100	0.0	0⁺	(E1)[a]		
6150.4	(1⁻)	6150.2[a] *10*	100	0.0	0⁺	(E1)[a]		
6168.3	(1⁻)	6168.1[a] *10*	100	0.0	0⁺	(E1)[a]		
6198.7	(1⁻)	6198.5[a] *10*	100	0.0	0⁺	(E1)[a]		
6224.3	(1⁻)	6224.1[a] *10*	100	0.0	0⁺	(E1)[a]		
6246.4	(1⁻)	6246.2[a] *10*	100	0.0	0⁺	(E1)[a]		
6259.1	(1⁻)	6258.9[a] *10*	100	0.0	0⁺	(E1)[a]		
6272.6	(1⁻)	6272.4[a] *10*	100	0.0	0⁺	(E1)[a]		
6313.3	(1⁻)	6313.1[a] *10*	100	0.0	0⁺	(E1)[a]		
6348.7	(1⁻)	6348.5[a] *10*	100	0.0	0⁺	(E1)[a]		
6362.9	14⁺	678.1 *8*	<4	5684.59	12⁺	[E2]	0.00324	α(K)=0.00280 *4*; α(L)=0.000360 *6*; α(M)=7.05×10⁻⁵ *11*

$^{112}_{50}Sn_{62}$-22

Adopted Levels, Gammas (continued)

γ(^{112}Sn) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.#	α[b]	Comments
								α(N)=1.318×10^{-5} *19*; α(O)=1.084×10^{-6} *16* B(E2)(W.u.)=2.0 *+21−20* E_γ,I_γ: from ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
6362.9	14$^+$	798.6 *1*	100 *16*	5564.3	12$^+$	E2	0.00216	B(E2)(W.u.)=44 *15* α(K)=0.00187 *3*; α(L)=0.000235 *4*; α(M)=4.61×10^{-5} *7* α(N)=8.63×10^{-6} *12*; α(O)=7.22×10^{-7} *11* E_γ,I_γ: from ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45). Mult.: DCO=0.99 *12* in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45); Pol_{DCO}=+0.08 *3* in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
6388.1	(1$^-$)	6387.9[a] *10*	100	0.0	0$^+$	(E1)[a]		E_γ: Other: 6384.9 keV *4* in 2008BoZK.
6398.3	(13$^-$)	1469.4 *4*	100	4928.9	(11)$^-$			E_γ,I_γ: from ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45). 1471 in ^{100}Mo(^{16}O,4nγ) (1988Ha20).
6404.1	(1$^-$)	6403.9[a] *10*	100	0.0	0$^+$	(E1)[a]		E_γ: Other:6402.0 keV *2* in 2008BoZK.
6428.6	(1$^-$)	6428.4[a] *10*	100	0.0	0$^+$	(E1)[a]		E_γ: Other: 6431.6 keV 8 in 2008BoZK.
6450.0	(1$^-$)	6449.8[a] *10*	100	0.0	0$^+$	(E1)[a]		
6476.3	(1$^-$)	6476.1[a] *15*	100	0.0	0$^+$	(E1)[a]		
6520.7	(1$^-$)	6520.5[a] *10*	100	0.0	0$^+$	(E1)[a]		
6550.1	(1$^-$)	6549.9[a] *10*	100	0.0	0$^+$	(E1)[a]		
6601.0	(1$^-$)	6600.8[a] *10*	100	0.0	0$^+$	(E1)[a]		
6679.9	(1$^-$)	6679.7[a] *10*	100	0.0	0$^+$	(E1)[a]		
6706.7	(1$^-$)	6706.5[a] *10*	100	0.0	0$^+$	(E1)[a]		
6715.0	(1$^-$)	6714.8[a] *10*	100	0.0	0$^+$	(E1)[a]		E_γ: Other: 6718.7 keV *13* in 2008BoZK.
6731.9	(1$^-$)	6731.7[a] *10*	100	0.0	0$^+$	(E1)[a]		E_γ: Other: 6735.2 keV *14* in 2008BoZK.
6795.5	(1$^-$)	6795.3[a] *10*	100	0.0	0$^+$	(E1)[a]		E_γ: Other: 6791.6 keV *23* in 2008BoZK.
6818.7	(1$^-$)	6818.5[a] *10*	100	0.0	0$^+$	(E1)[a]		E_γ: 6819.4 keV *11* in 2008BoZK.
6824.2	(1$^-$)	6824.0[a] *10*	100	0.0	0$^+$	(E1)[a]		
6855.9	(1$^-$)	6855.7[a] *10*	100	0.0	0$^+$	(E1)[a]		
6871.2	(1$^-$)	6871.0[a] *10*	100	0.0	0$^+$	(E1)[a]		
6941.2	(1$^-$)	6941.0[a] *10*	100	0.0	0$^+$	(E1)[a]		
6961.5	(1$^-$)	6961.3[a] *10*	100	0.0	0$^+$	(E1)[a]		
6982.7	(1$^-$)	6982.5[a] *10*	100	0.0	0$^+$	(E1)[a]		
7009.8	(1$^-$)	7009.6[a] *10*	100	0.0	0$^+$	(E1)[a]		
7018.7	(1$^-$)	7018.5[a] *10*	100	0.0	0$^+$	(E1)[a]		
7025.8	(1$^-$)	7025.6[a] *10*	100	0.0	0$^+$	(E1)[a]		
7043.1	(1$^-$)	7042.9[a] *10*	100	0.0	0$^+$	(E1)[a]		
7092.8	(1$^-$)	7092.6[a] *10*	100	0.0	0$^+$	(E1)[a]		
7167.2	(1$^-$)	7167.0[a] *10*	100	0.0	0$^+$	(E1)[a]		
7198.2	(1$^-$)	7198.0[a] *10*	100	0.0	0$^+$	(E1)[a]		E_γ: Other: 7199.6 keV *9* in 2008BoZK.
7207.1	(15$^-$)	808.8 *3*	100	6398.3	(13$^-$)			E_γ,I_γ: from ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
7208.1	1$^-$	7207.9[a] *10*	100	0.0	0$^+$	(E1)[a]		
7214.2	16$^+$	851.3 *1*	100	6362.9	14$^+$	E2	0.00186	B(E2)(W.u.)=72 *13* α(K)=0.001609 *23*; α(L)=0.000201 *3*; α(M)=3.93×10^{-5} *6* α(N)=7.37×10^{-6} *11*; α(O)=6.20×10^{-7} *9*

$^{112}_{50}Sn_{62}$-23

Adopted Levels, Gammas (continued)

γ(^{112}Sn) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.#	α b	Comments
								E_γ,I_γ: from ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
								Mult.: DCO=1.05 *13* in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45); Pol_{DCO}=+0.24 *14* in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
7217.8	(1$^-$)	7217.6[a] *11*	100	0.0	0$^+$	(E1)[a]		
7228.1	(1$^-$)	7227.8[a] *10*	100	0.0	0$^+$	(E1)[a]		E_γ: 7229.3 keV *14* in 2008BoZK.
7248.4	(1$^-$)	7248.1[a] *14*	100	0.0	0$^+$	(E1)[a]		
7311.1	(1$^-$)	7310.8[a] *10*	100	0.0	0$^+$	(E1)[a]		
7389.9	(1$^-$)	7389.6[a] *10*	100	0.0	0$^+$	(E1)[a]		
7438.6	(1$^-$)	7438.3[a] *10*	100	0.0	0$^+$	(E1)[a]		
7444.1	(1$^-$)	7443.8[a] *10*	100	0.0	0$^+$	(E1)[a]		
7468.3	(1$^-$)	7468.0[a] *10*	100	0.0	0$^+$	(E1)[a]		
7531.3	(1$^-$)	7531.0[a] *10*	100	0.0	0$^+$	(E1)[a]		
7537.2	(1$^-$)	7536.9[a] *10*	100	0.0	0$^+$	(E1)[a]		
7559.1	(1$^-$)	7558.8[a] *10*	100	0.0	0$^+$	(E1)[a]		
7594.5	(1$^-$)	7594.2[a] *10*	100	0.0	0$^+$	(E1)[a]		
7615.3	(1$^-$)	7615.0[a] *10*	100	0.0	0$^+$	(E1)[a]		
7859.5	(1$^-$)	7859.2[a] *10*	100	0.0	0$^+$	(E1)[a]		
7904.7	(1$^-$)	7904.4[a] *10*	100	0.0	0$^+$	(E1)[a]		
7936.7	(1$^-$)	7936.4[a] *10*	100	0.0	0$^+$	(E1)[a]		
7988.2	(1$^-$)	7987.9[a] *10*	100	0.0	0$^+$	(E1)[a]		
8020.7	(1$^-$)	8020.4[a] *10*	100	0.0	0$^+$	(E1)[a]		
8051.6	(1$^-$)	8051.3[a] *10*	100	0.0	0$^+$	(E1)[a]		
8069.6	(1$^-$)	8069.3[a] *10*	100	0.0	0$^+$	(E1)[a]		
8083.0	(17$^-$)	868.8 *4*	38 *15*	7214.2	16$^+$			E_γ,I_γ: from ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
		875.9 *3*	100 *30*	7207.1	(15$^-$)			E_γ,I_γ: from ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
8147.1	18$^+$	932.9 *2*	100	7214.2	16$^+$	E2	1.50×10^{-3}	B(E2)(W.u.)=73 *+22−18*
								α(K)=0.001304 *19*; α(L)=0.0001613 *23*; α(M)=3.15×10^{-5} *5*
								α(N)=5.91×10^{-6} *9*; α(O)=5.01×10^{-7} *7*
								E_γ,I_γ: from ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
								Mult.: DCO=1.06 *19* in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45); Pol_{DCO}=+0.22 *14* in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
8194.5	(1$^-$)	8194.2[a] *10*	100	0.0	0$^+$	(E1)[a]		
8218.2	(1$^-$)	8217.9[a] *10*	100	0.0	0$^+$	(E1)[a]		
8253.6	(1$^-$)	8253.3[a] *10*	100	0.0	0$^+$	(E1)[a]		
8448.6	(1$^-$)	8448.3[a] *10*	100	0.0	0$^+$	(E1)[a]		
8568.9	(1$^-$)	8568.5[a] *10*	100	0.0	0$^+$	(E1)[a]		
8600.4	(1$^-$)	8600.0[a] *10*	100	0.0	0$^+$	(E1)[a]		
8750.2	(1$^-$)	8749.8[a] *10*	100	0.0	0$^+$	(E1)[a]		
8823.4	(1$^-$)	8823.0[a] *10*	100	0.0	0$^+$	(E1)[a]		
9045.2	(19$^-$)	962.2 *4*	100	8083.0	(17$^-$)			E_γ,I_γ,Mult.: from ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
9050.5	(1$^-$)	9050.1[a] *10*	100	0.0	0$^+$	(E1)[a]		
9095.3	(1$^-$)	9094.9[a] *10*	100	0.0	0$^+$	(E1)[a]		
9150.1	(1$^-$)	9149.7[a] *10*	100	0.0	0$^+$	(E1)[a]		

$^{112}_{50}Sn_{62}$-24

Adopted Levels, Gammas (continued)

$\gamma(^{112}Sn)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	α[b]	Comments
9186.6	20^+	1039.5 *2*	100	8147.1	18^+	E2	1.18×10^{-3}	B(E2)(W.u.)=66 *18* α(K)=0.001026 *15*; α(L)=0.0001256 *18*; α(M)=2.45×10^{-5} *4* α(N)=4.61×10^{-6} *7*; α(O)=3.93×10^{-7} *6* E_γ,I_γ: from ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45). Mult.: DCO=1.00 *21* in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
9329.8	(1^-)	9329.4[a] *10*	100	0.0	0^+	(E1)[a]		
10076.2	(21^-)	1031.0 *10*	100	9045.2	(19^-)			E_γ,I_γ: from ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
10335.7	22^+	1149.1 *3*	100	9186.6	20^+	E2	9.54×10^{-4}	B(E2)(W.u.)=63 *18* α(K)=0.000828 *12*; α(L)=0.0001005 *14*; α(M)=1.96×10^{-5} *3* α(N)=3.68×10^{-6} *6*; α(O)=3.17×10^{-7} *5*; α(IPF)=2.24×10^{-6} *4* E_γ,I_γ: from ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45). Mult.: DCO=1.13 *23* in ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
11570.6	(24^+)	1234.9 *5*	100	10335.7	22^+	[E2]	8.30×10^{-4}	B(E2)(W.u.)>18 α(K)=0.000712 *10*; α(L)=8.60×10^{-5} *12*; α(M)=1.678×10^{-5} *24* α(N)=3.15×10^{-6} *5*; α(O)=2.72×10^{-7} *4*; α(IPF)=1.176×10^{-5} *19* E_γ,I_γ: from ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).
12965.1?	(26^+)	1395.0[d] *10*	100	11570.6	(24^+)			E_γ,I_γ: from ^{100}Mo(^{20}Ne,α4nγ) (2007Ga45).

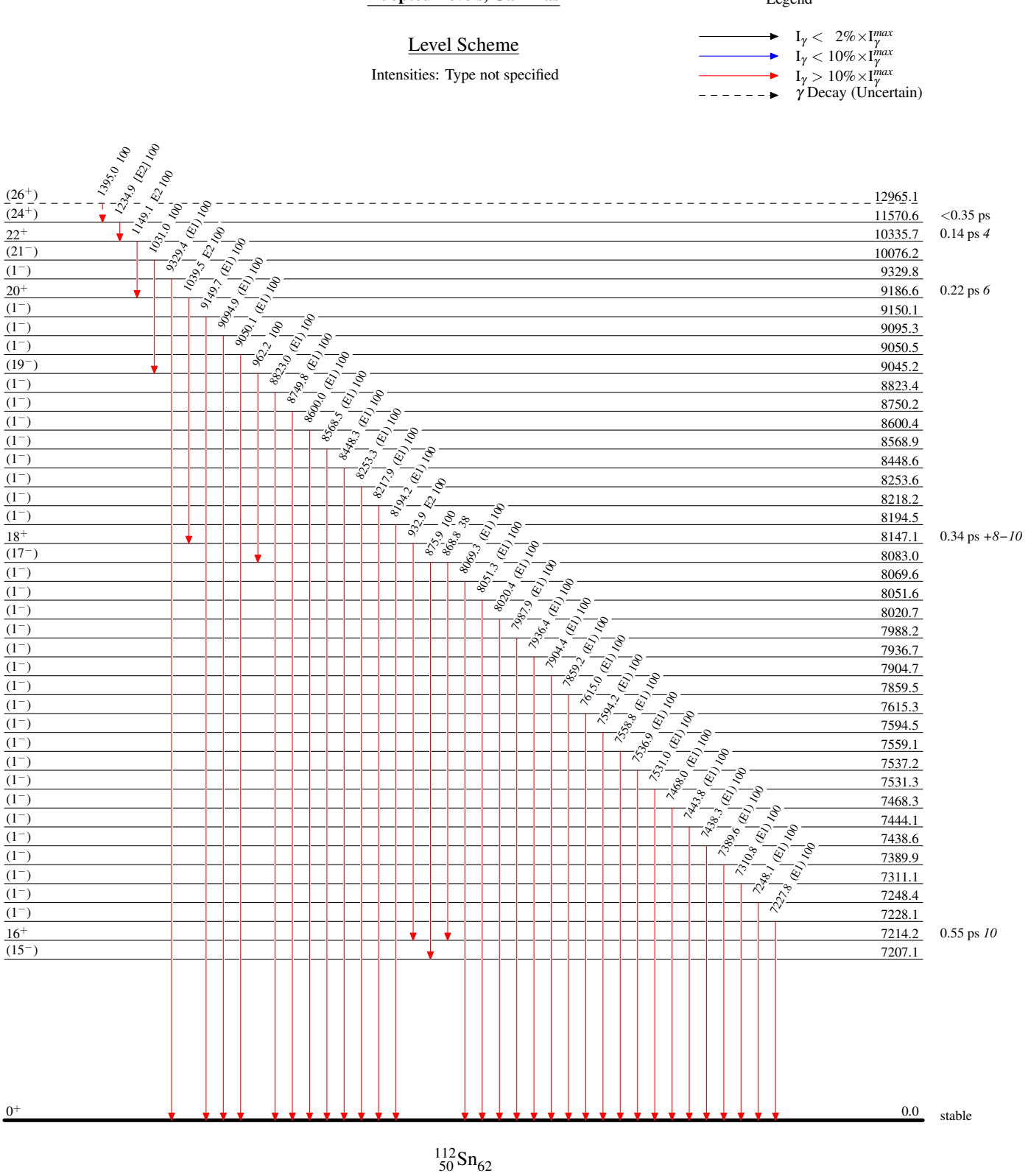
[†] From ^{112}Sn(n,n′γ) (2005Ku28), unless otherwise noted.
[‡] From $\gamma(\theta)$ in ^{112}Sn(n,n′γ) (2005Ku28), unless otherwise noted.
[#] Based on α(K)exp, A_2, A_4 in $\gamma(\theta)$ and γ-linear polarization, unless otherwise noted.
[@] From ^{112}Sb ε decay (1976Wi10,1975WiZX).
[&] From ^{110}Cd(α,2nγ) (1980Va13,1979Br07).
[a] From ^{112}Sn(γ,γ').
[b] Additional information 1.
[c] If no value given it was assumed δ=0.00 for E2/M1, δ=1.00 for E3/M2 and δ=0.10 for the other multipolarities.
[d] Placement of transition in the level scheme is uncertain.

$^{112}_{50}Sn_{62}$-25

Adopted Levels, Gammas

Level Scheme

Intensities: Type not specified

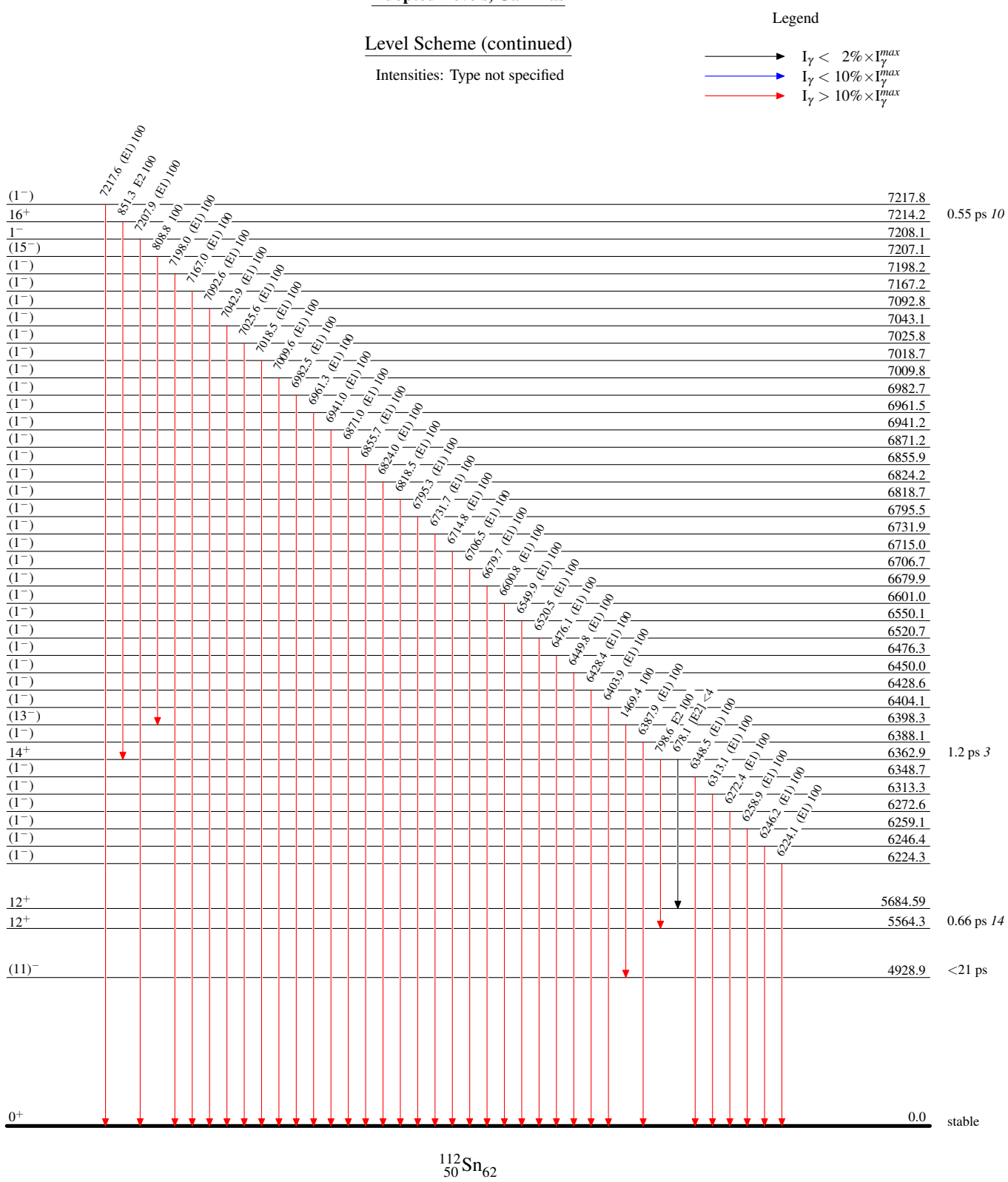


$^{112}_{50}Sn_{62}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

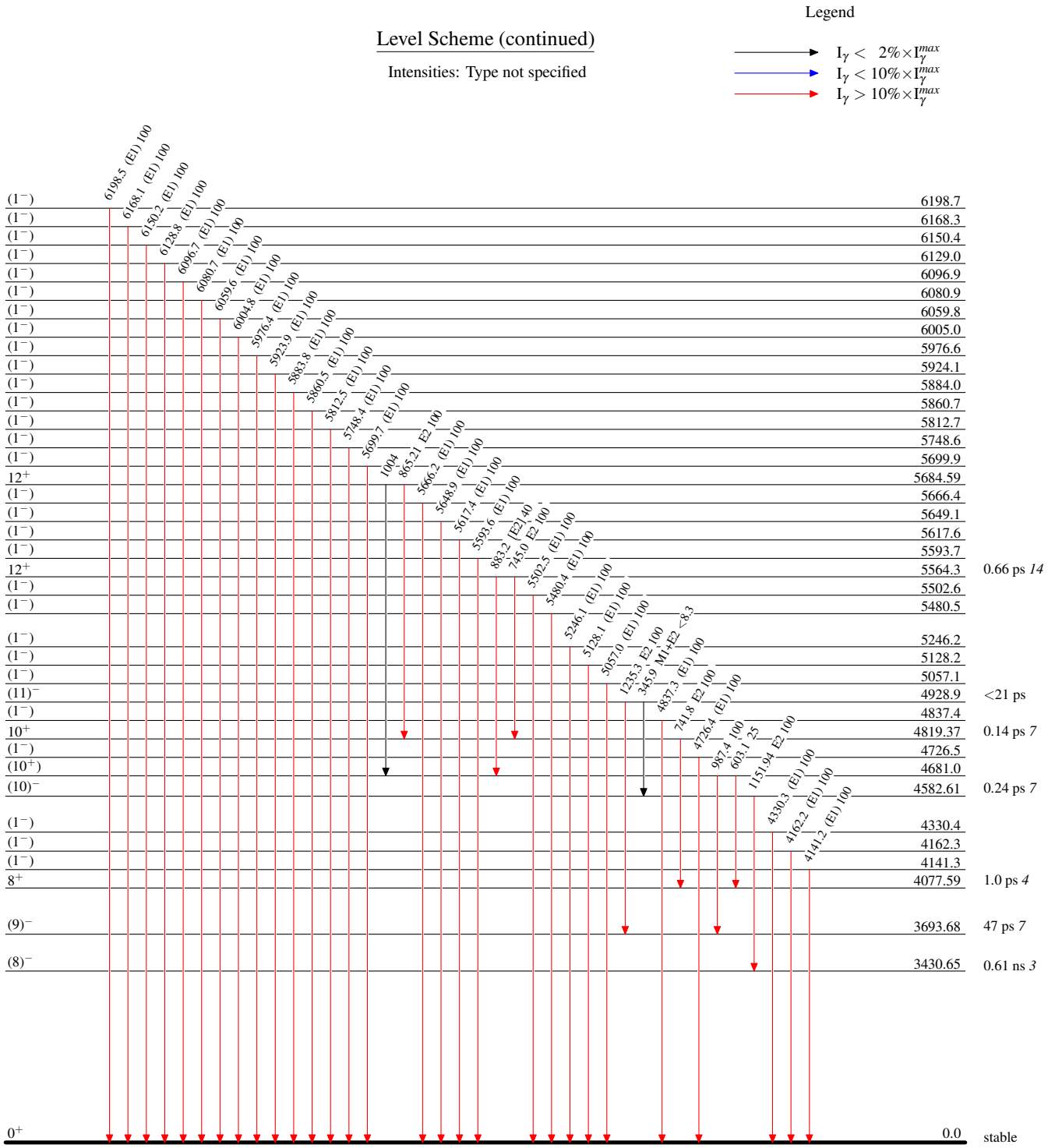


$^{112}_{50}Sn_{62}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

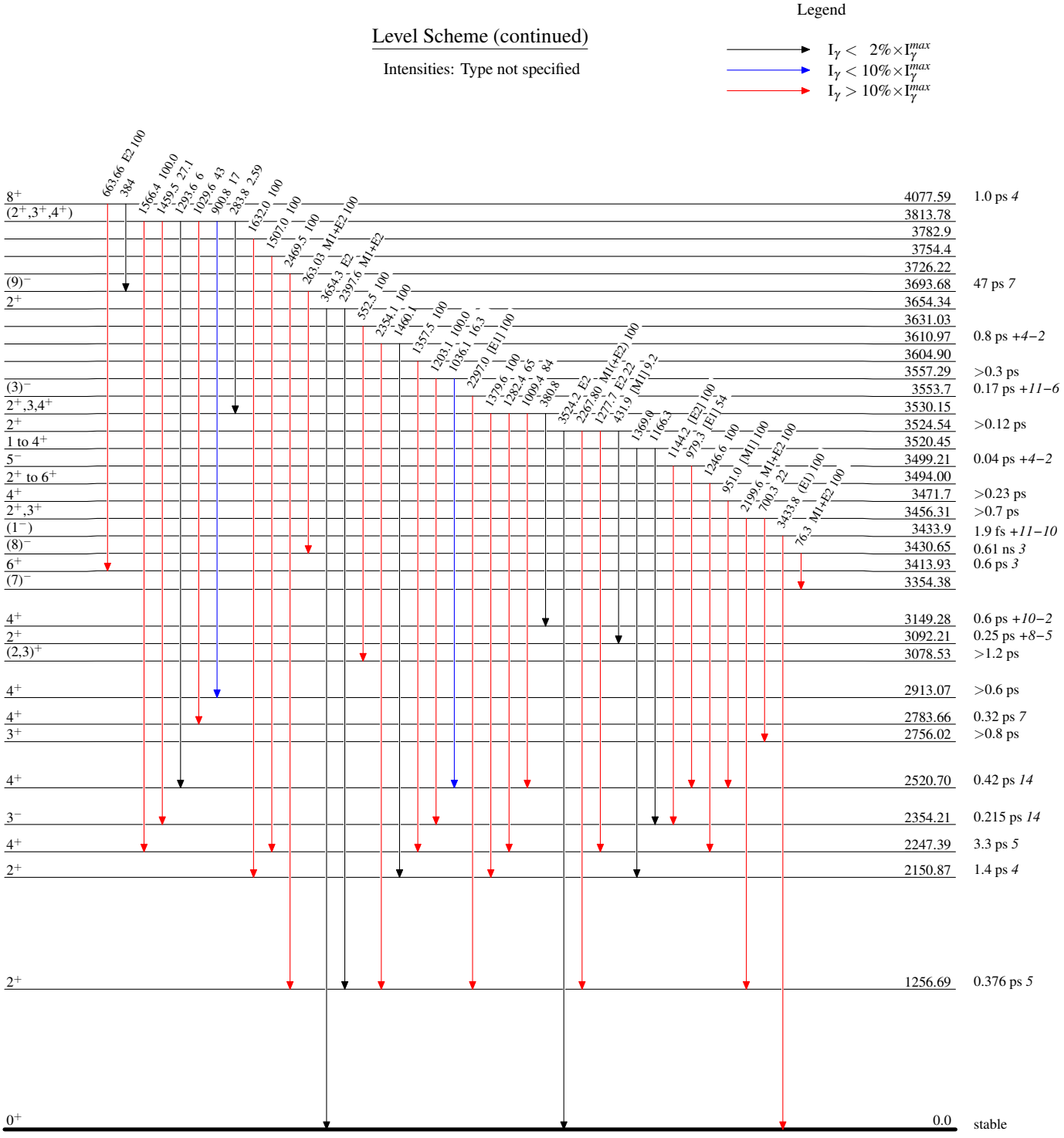


$^{112}_{50}Sn_{62}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

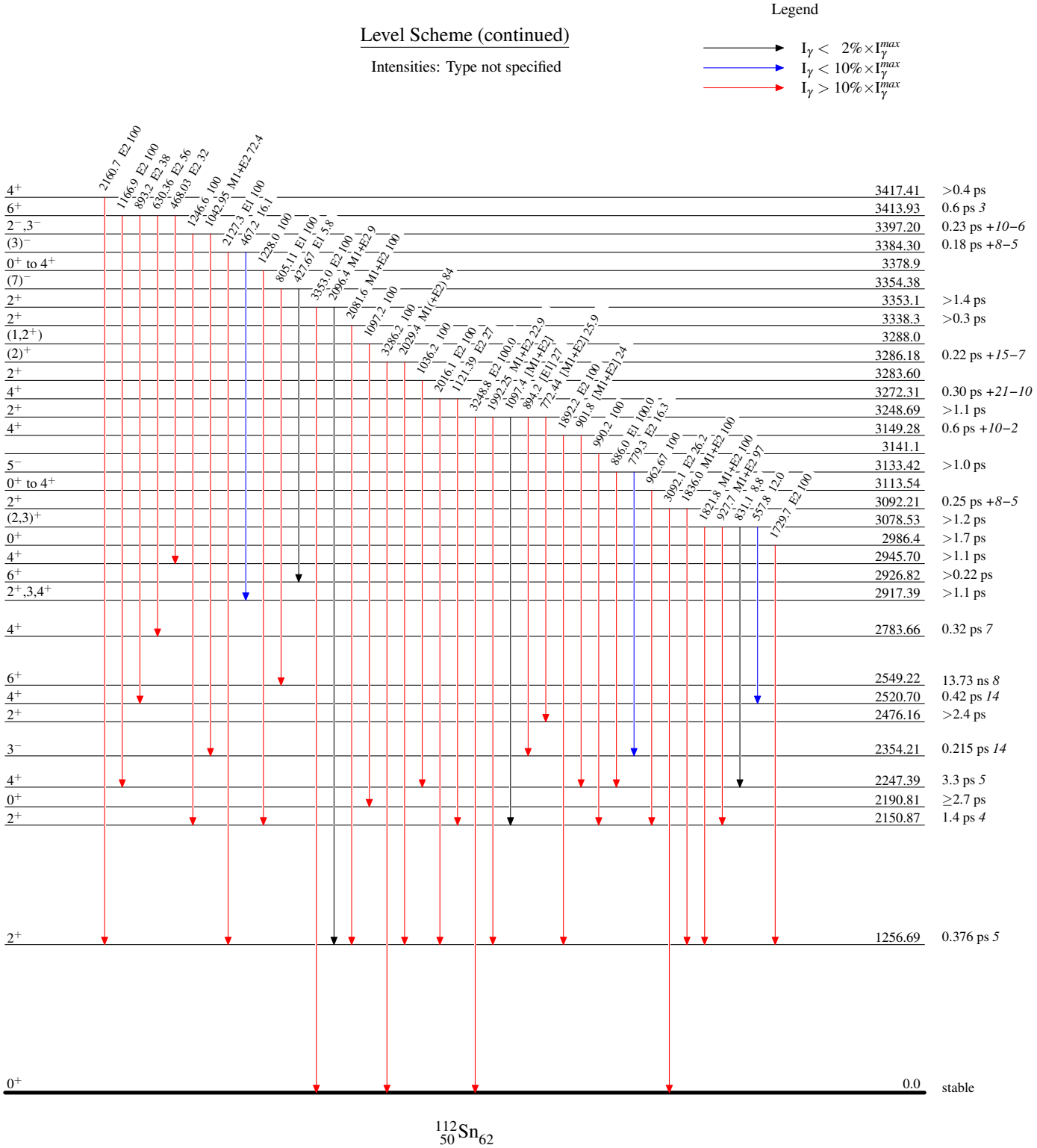


$^{112}_{50}Sn_{62}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

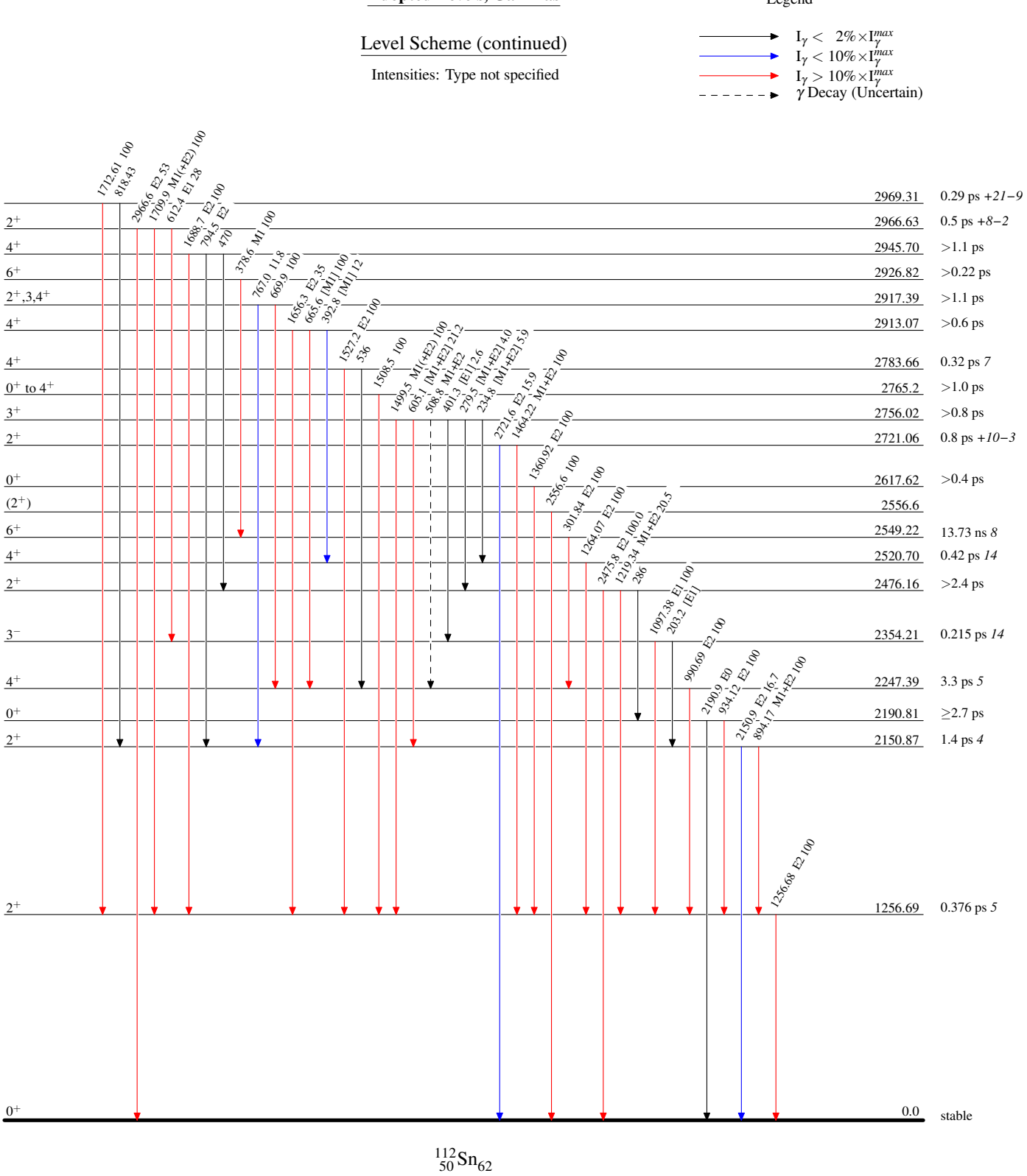


$^{112}_{50}Sn_{62}$

Adopted Levels, Gammas

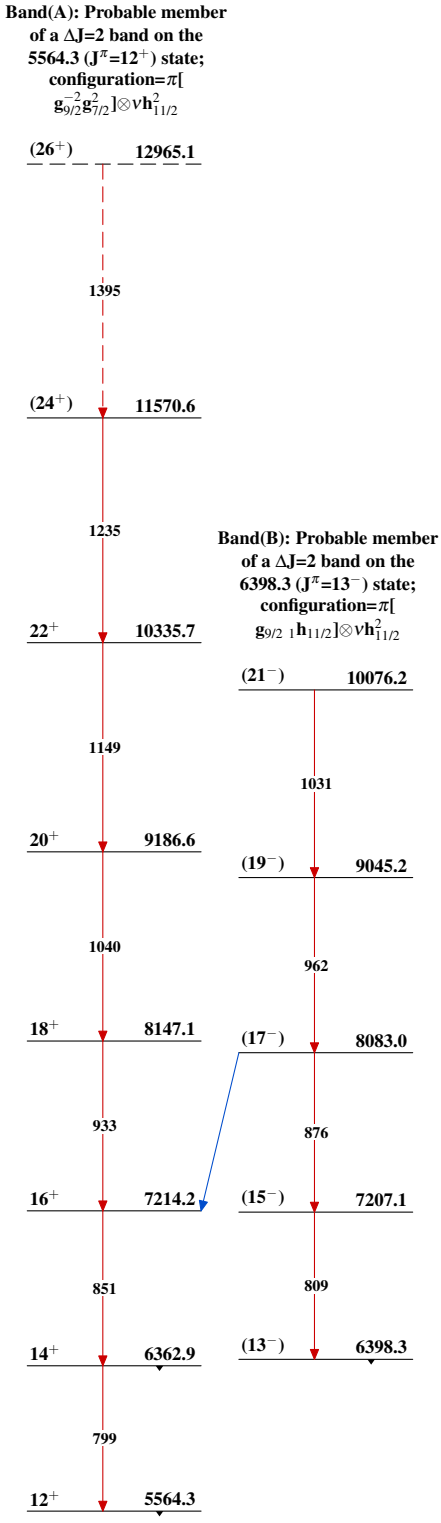
Level Scheme (continued)

Intensities: Type not specified



$^{112}_{50}Sn_{62}$

Adopted Levels, Gammas



$^{112}_{50}Sn_{62}$

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 113,515 (2012)	1-Jan-2012

Q(β^-)=−6062 *22*; S(n)=10300.4 *18*; S(p)=8480.5 *7*; Q(α)=−2633.5 *11* 2012Wa38
Note: Current evaluation has used the following Q record −6063 2210300.5 *188480*.1 *7* −2634.1 *12* 2011AuZZ.

^{114}Sn Levels

Cross Reference (XREF) Flags

A	^{114}In β^- decay	F	^{114}Sn(p,p′γ)	K	^{116}Sn(p,t)
B	^{114}Sb β^+ decay	G	^{114}Sn(d,d′)	L	(HI,xnγ)
C	^{112}Cd(^{3}He,n)	H	^{114}Sn(α,α′)	M	^{114}Sn(n,n′γ)
D	^{112}Cd(α,2nγ)	I	Coulomb excitation	N	^{100}Mo(^{18}O,4nγ)
E	^{112}Sn(t,p)	J	^{115}Sn(d,t)	O	^{114}Cd 2β^- decay

E(level)[†]	J$^\pi$[‡]	T$_{1/2}$[#]	XREF	Comments
0[@]	0$^+$	stable	ABCDEFGHIJKLMNO	
1299.907[@] *7*	2$^+$	0.42 ps *3*	AB DEFG IJKLMN	μ≥0 (1980Ha19,2005St24) g=+0.110 *25*(2011Wa15) J$^\pi$: E2 γ to 0$^+$. T$_{1/2}$: From 2011Ju01 in Coulomb excitation; Others:T$_{1/2\ 1/2}$=0.31 ps *10* (1991ViZW), T$_{1/2\ 1/2}$=0.39 ps *8* (2001Ga52), 0.30 ps *6* (1961An07).
1953.266[&] *21*	0$^+$	6.5 ps *23*	B DEF I K M	J$^\pi$: L(p,t)=0. T$_{1/2}$: from B(E2) (1981Ba05) in Coulomb excitation.
2156.28 *3*	0$^+$	>7.6 ps	DE I K M	J$^\pi$: L(t,p)=0. T$_{1/2}$: from B(E2) (1981Ba05) in Coulomb excitation.
2187.602[@] *11*	4$^+$	5.3 ps *4*	B DE G KLMN	g=+0.09 *7* (2011Wa15) J$^\pi$: L(p,t)=4, E2 γ to 2$^+$. log *ft*=5.9 from 3$^+$ ^{114}Sb g.s. T$_{1/2}$: from (2001Ga52). Other: 1.4 ps>(1991ViZW).
2238.953[&] *13*	2$^+$		B D KLMN	J$^\pi$: γ to 0$^+$ and L(p,t)=2.
2274.990[c] *11*	3$^-$	0.360 ps *21*	B DE KLMN	g=+0.09 *7* (2011Wa15) T$_{1/2}$: From 2011Ju01. Previous: 1.7 ps *+10−7* (1991ViZW) not adopted. J$^\pi$: L(p,t)=3.
2421.67 *22*	0$^+$		JK M	J$^\pi$: L(p,t)=0.
2454.072 *16*	2$^+$		B D K M	J$^\pi$: L(p,t)=2.
2514	3$^-$		K	J$^\pi$: L(p,t)=3.
2514.760 *22*	3$^+$		B D MN	J$^\pi$: M1+E2 to 4$^+$ and from 4$^+$.
2576? *4*	2$^+$		K	J$^\pi$: L(p,t)=2. E(level): not seen in (n,n′γ).
2614.461[&] *16*	4$^+$	0.55 ps *10*	B D KLMN	J$^\pi$: L(p,t)=4. T$_{1/2}$: from (2001Ga52). Other: 1.4 ps *+14−7* (1991ViZW).
2738.4 *5*			D	
2759.7 *5*			D	
2765.36 *4*	4$^+$	0.56 ps *30*	B D KLMN	J$^\pi$: E2 γ from 6$^+$, E2 γ to 2$^+$. T$_{1/2}$: from (2001Ga52). Other: 1.2 ps *5* (1991ViZW).
2815.146[c] *22*	5$^-$	>1.4 ps	DE KLMN	J$^\pi$: L(p,t)=5, E1 γ to 4$^+$.
2859.81 *3*	4$^+$		B DE G K M	J$^\pi$: L(p,t)=4.
2905 *5*	3$^-$		K	J$^\pi$: L(p,t)=3.
2905.12 *5*	3$^-$		B DE M	J$^\pi$: M1+E2 to 4$^+$ and from 4$^+$.
2915.73 *15*	2$^+$		K M	J$^\pi$: L(p,t)=2.
2943.43 *6*	2$^+$		B DE K M	J$^\pi$: L(p,t)=2.

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Adopted Levels, Gammas (continued)

^{114}Sn Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	XREF	Comments
3025	2,3+		e M	Jπ: γ(θ) in (n,n′γ).
3025.29 *6*	0+		K	Jπ: L(p,t)=0.
3028.09 *10*	2,3+		e M	Jπ: γ(θ) in (n,n′γ).
3071.4 *5*			D	
3087.37[c] *7*	7−	733 ns *14*	DE K MN	Q=0.32 *3* (1975Di02,2005St24) μ=−0.567 *4* (2005St24) $T_{1/2}$: from 1980Va13 in (α,2nγ). Jπ: L(p,t)=(7), γ(θ), γ-pol (1979Br07).
3100.1 *5*			D	
3107.1 *5*			D	
3149.79[@] *12*	6+	1.1 ps *3*	D K M	Jπ: L(p,t)=6.
3186.13 *8*	2+		K M	Jπ: L(p,t)=2.
3188.92[&] *5*	6+	2.14 ps *10*	D KLMN	Jπ: L(p,t)=6. $T_{1/2}$: from (2001Ga52). Other: 2.2 ps *+6−3* (1991ViZW).
3190.39 *8*	8−	0.35 ns *20*	D LMN	$T_{1/2}$: from a,γ(t) in ^{112}Cd(α,2nγ) (1978BrZU). Jπ: probable M1 γ to 7−, no γ′s to 6+ or 5−. M1+E2 from 8−.
3207.61 *17*	4+		B D K M	Jπ: L(p,t)=4.
3211.76 *19*	(1,2)		M	Jπ: γ′s to 0+ and 2+.
3226.00 *9*	3−		B D K M	Jπ: L(p,t)=3.
3242.05 *10*	5−,6+		D K M	Jπ: doublet with mixture of 95% L=6, 5% L=5.
3244.39 *7*	6−	>1.4 ps	DE M	Jπ: M1+E2 γ to 5− in (α,2nγ).
3297.3 *5*			D	
3308.4 *6*	0+		K M	Jπ: L(p,t)=0.
3326	2+		K	Jπ: L(p,t)=2.
3326.50 *16*	(1)		M	Jπ: d to g.s.
3357.42 *18*	4+		B DE K M	Jπ: L(p,t)=4, 1995Wi15 gives (2)+?
3363.00 *10*	6−	1.1 ps *+7−3*	DE L	Jπ: L(p,t)=5.
3364.8 *5*	5−		D K	Jπ: L(p,t)=5.
3380.1 *5*			D	
3392.1 *5*			D	
3393.0 *7*			D	
3396.1 *6*	6+		D K	Jπ: L(p,t)=6.
3396.9 *5*	(4−)		D	Jπ: M1+E2 γ to 3− and γ(θ) in (α,2nγ).
3422.7 *9*	0+		K M	Jπ: L(p,t)=0.
3448.37 *10*	4+		K M	Jπ: L(p,t)=4.
3451.8 *3*	0+		K M	Jπ: L(p,t)=0.
3471.4 *3*	6+	0.5 ps *+3−18*	D K M	Jπ: L(p,t)=6.
3478.85 *13*	2+		B D K M	Jπ: L(p,t)=2.
3486 *3*	5−		K	Jπ: L(p,t)=5.
3510.70[c] *10*	9−	7.2 ps *39*	CD KL N	Jπ: M1,E2 γ to 7−, L(p,t)=9. $T_{1/2}$: from (2001Ga52). Other: 2 ps>(1991ViZW).
3514.19 *10*	3−,9−		K M	Jπ: doublet with mixture of 95% L=9, 5% L=3.
3525.36 *16*	3−		B D K	Jπ: L(p,t)=3 ^{146}Gd.
3549 *3*	0+		K	Jπ: L(p,t)=0.
3561.1 *3*	2+		K M	Jπ: doublet with mixture of 93% L=7, 7% L=2,see 3566.47 level.
3566.47 *8*	7−		DE K	Jπ: E2 γ to 5−, M1+E2 γ to (8−), γ(θ) in (α,2nγ), and part of the doublet in (p,t).
3587 *3*	4+		K	Jπ: L(p,t)=4.
3610.71 *20*	5(−)		D	
3654 *3*	4+		K	Jπ: L(p,t)=4.
3658.7 *10*		0.8 ps *+5−3*	D	
3680 *3*	4+		K	Jπ: L(p,t)=4.
3685.15 *21*	6−		D	
3696 *3*	2+		K	Jπ: L(p,t)=2.
3717.83 *12*	7−	1.0 ps *+7−4*	D	

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Adopted Levels, Gammas (continued)

^{114}Sn Levels (continued)

E(level)[†]	Jπ[‡]	T$_{1/2}$[#]	XREF	Comments
3720.4 *5*			D	
3727 *3*	2$^+$		K	Jπ: L(p,t)=2.
3740.03 *20*	0$^+$		K M	Jπ: L(p,t)=0.
3765 *3*	0$^+$		K	Jπ: L(p,t)=0.
3781.98 *8*	2$^+$		B K	Jπ: log *ft*=5.75 via 3$^+$ ^{114}Sb g.s., γ to 0$^+$. L(p,t)=2.
3786 *3*	4$^+$		K	Jπ: L(p,t)=4.
3800 *3*	2$^+$		K	Jπ: L(p,t)=2.
3854.3 *7*			D	
3855.6 *6*			D	
3871 *3*	5$^-$		K	Jπ: L(p,t)=5.
3871.28[&] *9*	8$^+$	1.01 ps *8*	D L N	Jπ: E2 γ to 6$^+$, γ(θ), α(K), γ-pol (1979Br07). T$_{1/2}$: from (2001Ga52). Other: 1.0 ps (1991ViZW).
3876 *3*	2$^+$		K	Jπ: L(p,t)=2.
3889.3 *6*			D	
3939 *6*	3$^-$		K	Jπ: L(p,t)=3.
3971 *3*	2$^+$		K	Jπ: L(p,t)=2.
3971.21 *12*	8$^-$		D L N	Jπ: M1+E2 γ to 7$^-$ and 9$^-$.
3987.6 *5*			D	
3988 *3*	3$^-$		K	Jπ: L(p,t)=3.
3991.39 *12*	2$^+$,3$^+$,4$^+$		B	Jπ: log *ft*=5.4 from 3$^+$ parent.
4000 *3*	4$^+$		K	Jπ: L(p,t)=4.
4029.83 *9*	2$^+$,3$^+$,4$^+$		B K	Jπ: log *ft*=5.4 from 3$^+$ parent.
4043.15 *21*	5$^-$		D K	Jπ: L(p,t)=5.
4046.82[a] *15*	5$^-$		L N	Jπ: this level is the bandhead of the rotational bands with $J^\pi=5^-$.
4057 *3*	6$^+$		K	Jπ: L(p,t)=6.
4088.74[@] *16*	8$^+$		D K	Jπ: E1 γ to 9$^-$ and (7)$^-$, and γ(θ) in (α,2nγ).
4095 *3*	2$^+$		K	Jπ: L(p,t)=2.
4118 *3*	4$^+$		K	Jπ: L(p,t)=4.
4136 *3*	4$^+$		K	Jπ: L(p,t)=4.
4139.69 *13*	10$^+$	218 ps *24*	D L N	Jπ: E1 γ to 9$^-$ and γ(θ) in (α,2nγ). T$_{1/2}$: from (2001Ga52). Other: 0.7 ps>(1991ViZW).
4141.50 *16*	8$^-$		D L N	
4152.5 *10*			D	
4160 *30*			K	
4177 *6*			K	
4220.89[b] *17*	6$^-$		D L N	
4262.0 *5*			D K	
4293.8 *5*			D	
4313.00 *23*	7$^+$		D K	
4322.0 *5*			D	
4338.3 *5*			D	
4353 *6*			K	
4394.1 *5*			D	
4403.0 *5*			D	
4406.4 *5*			D	
4413 *6*	0$^+$		K	Jπ: L(p,t)=0.
4428.6 *9*			D	
4430.36[a] *12*	7$^-$		D L N	
4434.5 *5*			D	
4449.5 *6*			D K	
4472 *6*			K	
4481.5 *9*			D	
4488.5 *6*			D	
4492.0 *5*			D	
4515.0 *5*			D K	

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Adopted Levels, Gammas (continued)

^{114}Sn Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	XREF	Comments
4526.9 *5*			D	
4553.3 *4*	8^+		D	Jπ: E2 γ to 6^+ and γ(θ) in (α,2nγ).
4568.3 *6*			D	
4576 *6*			K	
4583.7 *5*			D	
4593.5 *5*			D K	
4613.0 *5*			D	
4624.1 *4*	7^-		D	
4650.5 *11*			K	
4664.88 *22*	9^-		D	
4669.44[b] *13*	8^-		D L N	
4671.2 *3*	10^-		D	Jπ: E2 γ to 8^- and γ(θ) in (α,2nγ).
4672.77[&] *11*	10^+	0.69 ps *9*	D L N	Jπ: E2 γ to 8^+, γ(θ), α(K), γ-pol (1979Br07). $T_{1/2}$: from (2001Ga52). Other: 0.60 ps *18* (1991ViZW).
4678.7 *7*			D	
4682.1 *11*	(6^+)		D	
4683.1 *5*			D	
4717.7 *5*			D	
4732.2 *5*			D	
4736.38 *16*	10^-		D K	
4766.2 *5*			D	
4766.4 *5*			D	
4787.6 *5*			D	
4788.3 *12*			D	
4797 *6*			K	
4805.8 *6*			D	
4831 *10*			K	
4858.7 *8*			D	
4909 *10*			K	
4916.41 *23*	10^-		D	
4919.30 *12*	9^-		D L N	Jπ: γ to 7^- and from (11^-).
4923.70[a] *13*	9^-		D L N	
4924.3 *9*			D	
4926.9 *5*			D	
4932.3 *6*			D	
4963.58[c] *20*	11^-	0.30 ps *11*	D KL N	
4964.1 *5*			D	
5014.2 *6*			D K	
5039.2 *5*			D	
5054.9 *8*	9^-		D	
5065.4 *6*			D K	
5094.82 *22*	(10^-)		D	
5102.9 *11*			D	
5119.6 *5*			D	
5124.2 *5*			D	
5181.72 *19*	12^+	0.49 ps *+21−14*	D L N	Jπ: tentative, poor γ(θ) and γ-pol (1978BrZU).
5182.15 *23*			D	
5191.4 *6*			D	
5213.5 *4*	10^+		D	Jπ: E1 γ to 9^- and γ(θ) in (α,2nγ).
5214.3[@] *4*	$(10)^+$		D	
5221.6 *3*	$(11)^-$		D	
5221.72 *23*			L	
5226.6 *5*			D	
5233.60[b] *15*	10^-	2.2 ps *6*	D L N	$T_{1/2}$: from (2001Ga52).
5254.9 *4*	$(8,10)^+$		D K	

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Adopted Levels, Gammas (continued)

^{114}Sn Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	XREF	Comments
5280.4 *9*			D	
5299.32 *21*	11^+	0.25 ps *11*	D	Jπ: M1+E2 γ to 10^+ and γ(θ) in (α,2nγ).
5310.72 *23*	$(8,10^+)$		D	
5348.9 *6*			D	
5357.22 *23*	$(8,10)^+$		D	
5372.3 *6*			D	
5419.5 *8*			D	
5445.3 *8*			D	
5468.23 *21*	(12^-)		D	
5488.12 *23*	$(9,11^-)$		D	
5500.1 *5*			D	
5535.3 *5*			D	
5538.7 *5*	$(9,11)^+$		D	Jπ: E1 γ to 10^-.
5548.24[&] *14*	12^+	0.42 ps *9*	D L N	Jπ: E2 γ to 10^+, γ(θ), α(K), γ-pol (1979Br07). $T_{1/2}$: from (2001Ga52). Other: 0.67 ps *18* (1991ViZW).
5554.09[a] *13*	11^-	1.2 ps *4*	D L N	$T_{1/2}$: from (2001Ga52).
5586.6 *7*			D	
5596.9 *11*			D	
5599.4 *6*			D	
5627.92 *23*	$(8,10^+)$		D	
5699.87 *23*	$(9,11^-)$		D	
5707.2 *5*			D	
5735.17 *23*	$(9,11^-)$		D	
5776.26 *17*	12^+		D L	Jπ: E2 γ to 10^+.
5776.7 *6*			D	
5801.1 *8*			D	
5834.93 *23*	$(8,10)^-$		D	
5857.2 *8*			D	
5886.5 *6*			D L	
5892.0 *12*			D	
5920.96 *18*	13^+	1.4 ps *+14−7*	D L N	Jπ: M1+E2 γ to (12^+).
5921.97[b] *17*	12^-	1.05 ps *20*	D L N	$T_{1/2}$: from (2001Ga52).
5956.2 *6*			D	
5974.21 *24*	$(12)^+$		D	
5977.1 *11*			D	
6001.1 *5*			D	
6045.53 *20*	14^+	13.78 ps *8*	D L N	$T_{1/2}$: from (2001Ga52). Other: 0.5 ps *+4−2* (1991ViZW).
6067.8 *6*			D	
6131.7 *6*			D	
6132.3 *6*			D	
6135.1 *3*			L	
6164.5 *6*			D	
6173.9 *8*			D	
6174.9 *8*			D	
6225.6 *6*			D	
6266.23 *23*	14^+		D N	
6279.01[a] *18*	13^-	1.00 ps *24*	D N	$T_{1/2}$: from (2001Ga52).
6341.62[&] *20*	14^+	0.34 ps *8*	D L N	Jπ: stretched E2 γ to 12^+. $T_{1/2}$: from (2001Ga52).
6460.44[c] *24*	$(13)^-$		D L	
6496.4 *6*			D	
6497.3 *3*	$(14)^+$		D L	
6520.5 *6*			D	
6551.0 *3*			L	
6551.1 *3*	15^+	3.62 ps *35*	D L N	Jπ: M1+E2 γ to 14^+ in (α,2nγ) and sys with mirror nuclide

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Adopted Levels, Gammas (continued)

^{114}Sn Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	XREF	Comments
				^{146}Gd.
				$T_{1/2}$: from (2001Ga52).
6552.3 *6*			D	
6610.6 *7*			D	
6690.64 *25*	$(13)^-$		D L N	
6698.3 *6*			D L N	
6715.9[b] *8*	14^-	0.57 ps *33*	D N	$T_{1/2}$: from (2001Ga52).
6725.6 *12*			D	
6925.7 *4*	16^+		D L N	
7115.1[a] *6*	(15^-)	0.40 ps *10*	D L N	$T_{1/2}$: from (2001Ga52).
7204.68[&] *22*	16^+	0.35 ps *4*	L N	Jπ: stretched E2 γ to 14^+.
				$T_{1/2}$: from (2001Ga52).
7205.18 *23*			L	
≈7300			K	Jπ: L(p,t)=8.
7369.7 *6*			D	
7377.1 *8*			D L	
7607.9[b] *9*	(16^-)	0.24 ps *4*	D L N	$T_{1/2}$: from (2001Ga52).
7709.6 *5*			L	
7869.7 *5*			L	
8049.3[a] *6*	(17^-)	0.21 ps *6*	L N	$T_{1/2}$: from (2001Ga52).
8131.4 *5*			L	
8142.7[&] *3*	18^+	0.215 ps *28*	L N	Jπ: stretched E2 γ to 16^+.
				$T_{1/2}$: from (2001Ga52).
8194.4 *4*			L	
≈8300			K	Jπ: L(p,t)=(6).
8357.7 *8*			L	
8587.5[b] *9*	(18^-)	0.097 ps *35*	L N	$T_{1/2}$: from (2001Ga52).
8644.6 *5*			L	
9060.7[a] *6*	(19^-)	0.118 ps *28*	L N	$T_{1/2}$: from (2001Ga52).
9194.9[&] *4*	20^+	0.152 ps *21*	L N	$T_{1/2}$: from (2001Ga52).
9647.5[b] *10*	(20^-)	0.12 ps *6*	L N	$T_{1/2}$: from (2001Ga52).
10113.9[a] *7*	(21^-)	0.12 ps *6*	L N	$T_{1/2}$: from (2001Ga52).
10359.0[&] *5*	(22^+)	0.076 ps *21*	L N	$T_{1/2}$: from (2001Ga52).
10778.3[b] *10*	(22^-)	<0.43 ps	L N	$T_{1/2}$: from (2001Ga52).
11174.7[a] *7*	(23^-)	0.10 ps *6*	L N	$T_{1/2}$: from (2001Ga52).
11609.0[&] *11*	(24^+)	0.042 ps *35*	L N	$T_{1/2}$: from (2001Ga52).
12311.7[a] *12*	(25^-)	<0.35 ps	L N	$T_{1/2}$: from (2001Ga52).
12943.0[&] *15*	(26^+)	<0.18 ps	L N	$T_{1/2}$: from (2001Ga52).
13516.7[a] *16*	(27^-)		L N	
14406.0[&] *18*	(28^+)		L N	
14801.7[a] *19*	(29^-)		L N	
15997.0[&] *21*	(30^+)		L N	
16236.7[a] *21*	(31^-)		L N	
17870.7[a] *24*	(33^-)		L N	

[†] From least-squares fit to Eγ values.
[‡] Where no J^π argument is given, the assignment is based on placement in a band. J^π for levels seen in (α,2nγ) are based on γ(θ), lin pol and side feeding syst.
[#] From 1991ViZW, Doppler shift in (α,2nγ), except were noted otherwise.
[@] Band(A): g.s. band.

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Adopted Levels, Gammas (continued)

^{114}Sn Levels (continued)

& Band(B): $K^{\pi}=0^{+}$ intruder band. Configuration=$((\pi\ g_{7/2})^2(\pi\ g_{9/2})^{-2}(\nu\ h_{11/2})^2)$. "Amsterdam" band.
[a] Band(C): $K^{\pi}=5^{-}$ Band, α=1. Suggested Configuration=$((\pi\ g_{7/2})^2\ (\pi\ g_{9/2})^{-2}\otimes(\nu\ h_{11/2})^2(\nu\ g_{9/2})^{-1})$.
[b] Band(c): $K^{\pi}=5^{-}$ Band, α=0.
[c] Band(D): Negative Parity Band based on 3^{-}.

Adopted Levels, Gammas (continued)

γ(^{114}Sn)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[†]	δ[†]	$I_{(\gamma+ce)}$	Comments
1299.907	2^+	1299.900 *7*	100	0	0^+	E2			B(E2)(W.u.)=15 *3*
1953.266	0^+	653.36 *2*	100	1299.907	2^+				B(E2)(W.u.)=22 *8*
		1953.2		0	0^+	E0		0.34 *7*	E_γ,$I_{(\gamma+ce)}$: from (p,p′γ) (1976Ba32). Authors report Ice(K)/Ice(K)(653γ)=1.00 *20*. Ice/Ice(K)=1.12.
2156.28	0^+	856.37 *3*	100	1299.907	2^+	E2			B(E2)(W.u.)<4.9
2187.602	4^+	887.690 *8*	100	1299.907	2^+	E2			B(E2)(W.u.)=5.9 *5*
2238.953	2^+	285.6 *4*	0.8 *3*	1953.266	0^+				
		939.036 *14*	82.4 *19*	1299.907	2^+	M1+E2	−7.1 +*12*−*19*		
		2238.94 *2*	100 *3*	0	0^+	E2			
2274.990	3^-	975.076 *8*	100	1299.907	2^+	E1			B(E1)(W.u.)=0.00018 *11*
2421.67	0^+	1121.4 *3*	100	1299.907	2^+				
2454.072	2^+	215.8 *6*	2.3 *6*	2238.953	2^+				
		1154.160 *14*	100 *3*	1299.907	2^+	M1+E2	−2.8 +*18*−*95*		
		2454.02 *7*	27 *4*	0	0^+				
2514.760	3^+	327.15 *2*	100	2187.602	4^+	M1+E2	+0.02 +*2*−*1*		
2614.461	4^+	339.5	0.30 *9*	2274.990	3^-	(E1)			B(E1)(W.u.)=3.8×10^{-5} *14* E_γ: from 1995Wi15.
		375.3 *3*	3.2 *5*	2238.953	2^+	E2			B(E2)(W.u.)=1.3×10^2 *3* I_γ: excludes 6.1 *10* from (HI,xnγ). Inclusion would give 3.7 *7*.
		426.8 *4*	2.5 *8*	2187.602	4^+	M1+E2	−0.24 +*6*−*5*		B(E2)(W.u.)=2.8 *17*; B(M1)(W.u.)=0.011 *5*
		1314.550 *14*	100 *3*	1299.907	2^+	E2			B(E2)(W.u.)=7.5 *14*
2738.4		550.8 *5*	100	2187.602	4^+				
2759.7		1459.8 *5*	100	1299.907	2^+				
2765.36	4^+	250.5 *5*	2.7 *11*	2514.760	3^+	M1+E2	−0.1 +*1*−*42*		B(E2)(W.u.)=8 +*17*−*8*; B(M1)(W.u.)=0.06 *5*
		490.7 *8*	<3.6	2274.990	3^-	(E1)			B(E1)(W.u.)=7.E−5 +*9*−*7* E_γ: from 1995Wi15.
		526[@] *1*	<5.5	2238.953	2^+	(E2)			B(E2)(W.u.)=20 +*23*−*20* E_γ: from 2001Ga52.
		1465.44 *4*	100 *4*	1299.907	2^+	E2			B(E2)(W.u.)=4.2 *23*
2815.146	5^-	200.84 *12*	1.3 *3*	2614.461	4^+				I_γ: from Iγ/Iγ(540γ+628γ)=0.012 *3* (1980Va13).
		540.15 *13*	10.5 *3*	2274.990	3^-	E2			B(E2)(W.u.)<25 I_γ: from (α,2nγ), in agreement with 9.7 *8* in (n,n′γ). Iγ=18.9 *16* is reported in (HI,xnγ).
		627.54 *2*	100 *3*	2187.602	4^+	E1			B(E1)(W.u.)<0.00074
2859.81	4^+	1559.89 *3*	100	1299.907	2^+	E2			
2905.12	3^-	290.8 *4*	1.06 *13*	2614.461	4^+				
		390.34 *7*	25.1 *17*	2514.760	3^+	M1+E2			δ: δ=+2.9 *11*, +0.49 +*8*−*4*.
		451.3 *8*	0.32 *13*	2454.072	2^+				
		717.45 *7*	100 *6*	2187.602	4^+	M1+E2	−0.7 +*2*−*4*		
		1605.4 *2*	3.34 *13*	1299.907	2^+				
2915.73	2^+	1615.9 *2*	23.1 *17*	1299.907	2^+	M1+E2			δ: +0.08<δ<1.7.

$^{114}_{50}Sn_{64}$-8

Adopted Levels, Gammas (continued)

γ(^{114}Sn) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[†]	δ[†]	Comments
2915.73	2^+	2915.6 *2*	100 *5*	0	0^+	E2		
2943.43	2^+	489.5 *9*	11 *5*	2454.072	2^+			
		521.4 *3*	7 *3*	2421.67	0^+			
		668.42 *6*	86 *8*	2274.990	3^-			
		704.2 *9*	3.7 *15*	2238.953	2^+			
		990.5 *4*	5.1 *22*	1953.266	0^+			
		1643.60 *14*	100 *4*	1299.907	2^+	M1+E2		δ: δ=−0.61 *15*, −7 *+10−3*.
		2943.8 *4*	3.2 *3*	0	0^+			
3025.29	0^+	1725.37 *6*	100	1299.907	2^+			
3028.09	$2,3^+$	1728.17 *10*	100	1299.907	2^+			
3071.4		1771.5 *5*	100	1299.907	2^+			
3087.37	7^-	272.3 *1*	100	2815.146	5^-	E2		B(E2)(W.u.)=0.0157 *3*
3100.1		285.0 *5*	100	2815.146	5^-			
3107.1		292.0 *5*	100	2815.146	5^-			
3149.79	6^+	334.65 *13*	100 *3*	2815.146	5^-	E1+M2	−0.02 *1*	B(E1)(W.u.)=0.0037 *11*; B(M2)(W.u.)=6.E+1 *+7−6*
		962.3 *3*	90 *3*	2187.602	4^+	E2		B(E2)(W.u.)=9.0 *25*
3186.13	2^+	1886.25 *8*	100 *8*	1299.907	2^+			Mult.: δ=−0.27 *7* or +7 *+5−2*.
		3185.8 *2*	51 *6*	0	0^+			
3188.92	6^+	423.5 *2*	4.1 *8*	2765.36	4^+	E2		B(E2)(W.u.)=19 *4* I_γ: from (α,2nγ). Iγ=9.1 in (HI,xnγ). Not seen in (n,n′γ).
		574.44 *6*	100.0 *20*	2614.461	4^+	E2		B(E2)(W.u.)=101 *6*
		1001.32 *10*	24.0 *14*	2187.602	4^+	E2		B(E2)(W.u.)=1.50 *12*
3190.39	8^-	102.98 *7*	100	3087.37	7^-	M1+E2		B(M1)(W.u.)=0.06 *4*
3207.61	4^+	441.7 *6*	4.0 *6*	2765.36	4^+			
		592.9 *7*	11.0 *17*	2614.461	4^+			
		932.5 *6*	20 *4*	2274.990	3^-			
		1019.9 *5*	42 *3*	2187.602	4^+			
		1907.8 *2*	100 *5*	1299.907	2^+			
3211.76	(1,2)	1912.0 *6*	28 *10*	1299.907	2^+			
		3211.7 *2*	100 *10*	0	0^+			
3226.00	3^-	320.4 *2*	13.4 *12*	2905.12	3^-			E_γ: see 1926.2γ. E_γ: the 772γ is not seen in (n,n′γ). Mult.: δ=+0.05 *5* for J=3 or −7.0 *+27−15* for J=2. E_γ,I_γ: from ε decay. Eγ=1925.80 *8* and Iγ(1926γ)/Iγ(320γ)=20 *7* in (n,n′γ) suggest that the 1926γ may be a multiplet in that reaction.
		771.8 *5*	2.5 *8*	2454.072	2^+			
		1926.2 *1*	100 *5*	1299.907	2^+			
3242.05	$5^-,6^+$	1054.44 *10*	100	2187.602	4^+	(E1)		
3244.39	6^-	157.1 *1*	5.09 *15*	3087.37	7^-			
		429.19 *8*	100.0 *7*	2815.146	5^-	M1+E2	+0.161 *+4−3*	B(E2)(W.u.)<21; B(M1)(W.u.)<0.18
3297.3		1109.7 *5*	100	2187.602	4^+			
3308.4	0^+	2008.5 *6*	100	1299.907	2^+			
3326.50	(1)	1373.2 *3*	76 *10*	1953.266	0^+			
		2026.6 *2*	100 *10*	1299.907	2^+			

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Adopted Levels, Gammas (continued)

γ(^{114}Sn) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[†]	δ[†]	Comments
3326.50	(1)	3326.3 *6*	71 *14*	0	0^+	D		
3357.42	4^+	2057.5 *2*	100	1299.907	2^+			
3363.00	6^-	547.9 *2*	100	2815.146	5^-	M1+E2	−0.08 *2*	B(E2)(W.u.)=2.0 *17*; B(M1)(W.u.)=0.12 *8*
3364.8	5^-	549.7 *5*	100	2815.146	5^-			
3380.1		292.7 *5*	100	3087.37	7^-			
3392.1		203.2 *5*	100	3188.92	6^+			
3393.0		654.6 *5*	100	2738.4				
3396.1	6^+	246.3 *5*	100	3149.79	6^+			
3396.9	(4^-)	1121.9 *5*	100	2274.990	3^-	(M1+E2)	−0.4 *+2−7*	
3422.7	0^+	2122.8 *9*	100	1299.907	2^+			
3448.37	4^+	1209.41 *10*	100 *32*	2238.953	2^+			
		2148.5 *6*	26 *13*	1299.907	2^+			
3451.8	0^+	3451.7 *3*	100	0	0^+			
3471.4	6^+	1283.8 *3*	100	2187.602	4^+	E2		B(E2)(W.u.)=10 *6*
3478.85	2^+	573.9 *5*	41 *5*	2905.12	3^-			
		619.3 *3*	30 *3*	2859.81	4^+			
		963.4 *3*	62 *7*	2514.760	3^+			
		1203.3 *7*	57 *19*	2274.990	3^-			
		1239.9 *5*	67 *14*	2238.953	2^+			
		1526.1 *6*	9 *3*	1953.266	0^+			
		2179.2 *2*	100 *14*	1299.907	2^+			
		3477.7 *6*	9.5 *14*	0	0^+			
3510.70	9^-	320.25 *9*	100	3190.39	8^-	M1+E2	+0.134 *1*	B(E2)(W.u.)=13 *7*; B(M1)(W.u.)=0.09 *5*
3514.19	3^-,9^-	2214.26 *10*	100	1299.907	2^+	M1+E2		Mult.: δ=−0.02 *5* for J=3 or −4.3 *10* for J=2.
3525.36	3^-	1010.5 *7*	12 *4*	2514.760	3^+			
		1072.5 *3*	100 *5*	2454.072	2^+			
		1250.5 *5*	30 *5*	2274.990	3^-			E_γ: Eγ=1249.7 *3* with Mult.=M1+E2, δ=−1.9 *+8−31* is reported in (α,2nγ); however, the much stronger 1072γ is not reported. The 1249.7γ in (α,2nγ) may thus correspond to a different transition from that seen in ε decay.
		1337.2 *2*	14.4 *7*	2187.602	4^+			
3561.1	2^+	1404.8 *3*	46 *14*	2156.28	0^+	E2		
		3561.4 *7*	100 *14*	0	0^+			
3566.47	7^-	203.5 *1*	7.5 *6*	3363.00	6^-			
		322.1 *1*		3244.39	6^-			
		376.2 *2*	100 *3*	3190.39	8^-	M1+E2	+0.05 *2*	
		751.4 *2*	46.8 *14*	2815.146	5^-	E2		
3610.71	$5^{(-)}$	1423.1 *2*	100	2187.602	4^+			
3658.7		1471.1	100	2187.602	4^+			
3685.15	6^-	870.0 *2*	100	2815.146	5^-	M1+E2	−0.13 *+4−5*	
3717.83	7^-	354.8 *2*	26.1 *11*	3363.00	6^-	M1+E2	−0.06 *+4−6*	B(E2)(W.u.)=1.4 *+22−4*; B(M1)(W.u.)=0.06 *5*
		473.5		3244.39	6^-			
		527.4 *2*	100.0 *23*	3190.39	8^-	M1+E2	−0.05 *2*	B(E2)(W.u.)=0.5 *5*; B(M1)(W.u.)=0.08 *6*

$^{114}_{50}Sn_{64}$-10

Adopted Levels, Gammas (continued)

γ(^{114}Sn) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[†]	δ[†]	Comments
3717.83	7⁻	630.5		3087.37	7⁻			
		902.7 *2*	72.7 *23*	2815.146	5⁻	E2		B(E2)(W.u.)=11 *8*
3720.4		1445.4 *5*	100	2274.990	3⁻			
3740.03	0⁺	2440.1 *2*	100	1299.907	2⁺			
3781.98	2⁺	921.9 *4*	19 *5*	2859.81	4⁺			
		1327.6 *2*	11.8 *10*	2454.072	2⁺			
		1507.1 *2*	34 *3*	2274.990	3⁻			
		1594.3 *1*	100 *5*	2187.602	4⁺			
		1829.7 *5*	5.5 *10*	1953.266	0⁺			
		2482.4 *2*	31 *3*	1299.907	2⁺			
		3781.0	0.3	0	0⁺			
3854.3		557.0 *5*	100	3297.3				
3855.6		244.9 *5*	100	3610.71	5⁽⁻⁾			
3871.28	8⁺	682.33 *8*	100	3188.92	6⁺	E2		B(E2)(W.u.)=115 *10*
3889.3		739.5 *5*	100	3149.79	6⁺			
3971.21	8⁻	404.9 *2*	14.6 *7*	3566.47	7⁻	M1+E2	−0.13 *+6−8*	
		460.3 *2*	14.6 *7*	3510.70	9⁻	M1+E2	−0.11 *3*	
		780.8 *2*	29.7 *13*	3190.39	8⁻	M1		
		883.9 *2*	100 *3*	3087.37	7⁻	M1+E2	0.45 *+6−5*	
3987.6		743.2 *5*	100	3244.39	6⁻			
3991.39	2⁺,3⁺,4⁺	634.0 *4*	7.8 *16*	3357.42	4⁺			
		1131.7 *2*	100 *6*	2859.81	4⁺			
		1377.0 *7*	56 *3*	2614.461	4⁺			
		1476.8 *3*	11.2 *13*	2514.760	3⁺			
		1715.9 *2*	34.4 *22*	2274.990	3⁻			
		1804.4 *3*	88 *10*	2187.602	4⁺			
4029.83	2⁺,3⁺,4⁺	1169.7 *2*	76 *6*	2859.81	4⁺			
		1264.7 *5*	43 *8*	2765.36	4⁺			
		1415.2 *4*	7.8 *8*	2614.461	4⁺			
		1515.0 *2*	57 *6*	2514.760	3⁺			
		1576.1 *6*	7.8 *22*	2454.072	2⁺			
		1754.6 *2*	29.7 *19*	2274.990	3⁻			
		1842.5 *2*	100 *6*	2187.602	4⁺			
		2730.5 *3*	43 *6*	1299.907	2⁺			
4043.15	5⁻	1228.0 *2*	100	2815.146	5⁻	M1+E2	+0.6 *2*	
4046.82	5⁻	1859.3 *2*	100	2187.602	4⁺			
4088.74	8⁺	522.3 *3*	10.3 *12*	3566.47	7⁻	E1		
		577.9 *3*	100.0 *23*	3510.70	9⁻	E1		
		939.0 *2*		3149.79	6⁺			
		1001		3087.37	7⁻			
4139.69	10⁺	629.0 *1*	100	3510.70	9⁻	E1		B(E1)(W.u.)=5.3×10^{-6} *6*

Adopted Levels, Gammas (continued)

γ(^{114}Sn) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[†]	δ[†]
4141.50	8⁻	778.5 *2*	42 *5*	3363.00	6⁻	E2	
		951.1 *2*	100 *5*	3190.39	8⁻	M1+E2	+0.6 *+7−9*
		1054.2		3087.37	7⁻		
4152.5		1538.0		2614.461	4⁺		
4220.89	6⁻	174.1 *2*	100	4046.82	5⁻		
		610.3		3610.71	5⁽⁻⁾		
		976.5		3244.39	6⁻		
		1405.8		2815.146	5⁻		
4262.0		899.0 *5*	100	3363.00	6⁻		
4293.8		1049.4 *5*	100	3244.39	6⁻		
4313.00	7⁺	1163.2 *2*	100	3149.79	6⁺	M1+E2	+0.5 *+5−2*
4322.0		959.0 *5*		3363.00	6⁻		
		1077.6		3244.39	6⁻		
4338.3		1093.9 *5*	100	3244.39	6⁻		
4394.1		1031.1 *5*	100	3363.00	6⁻		
4403.0		1214.1 *5*	100	3188.92	6⁺		
4406.4		895.7 *5*	100	3510.70	9⁻		
4428.6		557.3 *5*	100	3871.28	8⁺		
4430.36	7⁻	209.5 *2*	35 *4*	4220.89	6⁻		
		383.6 *2*	30 *4*	4046.82	5⁻	E2	
		1067.3 *2*	57 *9*	3363.00	6⁻		
		1241.4 *2*	100 *9*	3188.92	6⁺		
		1615.4		2815.146	5⁻		
4434.5		923.8 *5*	100	3510.70	9⁻		
4449.5		1207.4 *5*	100	3242.05	5⁻,6⁺		
4481.5		610.2 *5*	100	3871.28	8⁺		
4488.5		175.5 *5*	100	4313.00	7⁺		
4492.0		1676.8 *5*	100	2815.146	5⁻		
4515.0		1270.6 *5*	100	3244.39	6⁻		
4526.9		1338.0 *5*	100	3188.92	6⁺		
4553.3	8⁺	1403.5 *3*	100	3149.79	6⁺	E2	
4568.3		597.1 *5*	100	3971.21	8⁻		
4583.7		1339.3 *5*	100	3244.39	6⁻		
4593.5		1404.6 *5*	100	3188.92	6⁺		
4613.0		1424.1 *5*	100	3188.92	6⁺		
4624.1	7⁻	1152.7 *2*	100	3471.4	6⁺	E1	
4664.88	9⁻	1098.4 *2*	100	3566.47	7⁻	E2	
4669.44	8⁻	239.1 *2*	40 *8*	4430.36	7⁻	M1+E2	−0.6 *+4−27*
		448.6		4220.89	6⁻		
		1158.6		3510.70	9⁻		
		1425.1		3244.39	6⁻		
		1479.0		3190.39	8⁻		

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Adopted Levels, Gammas (continued)

γ(^{114}Sn) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[†]	δ[†]	Comments
4669.44	8^-	1582.1 *2*	100 *8*	3087.37	7^-	M1+E2	+0.7 *+96−3*	
4671.2	10^-	1160.4		3510.70	9^-			
		1480.8 *3*	100	3190.39	8^-	E2		
4672.77	10^+	801.48 *9*	100	3871.28	8^+	E2		B(E2)(W.u.)=76 *10*
4678.7		1940.3 *5*	100	2738.4				
4682.1	(6^+)	1023.4 *2*	100	3658.7		M1+E2	+0.6 *3*	
4683.1		1494.2 *5*	100	3188.92	6^+			
4717.7		1207.0 *5*	100	3510.70	9^-			
4732.2		1487.8 *5*	100	3244.39	6^-			
4736.38	10^-	1225.6 *2*	25.6 *12*	3510.70	9^-	M1+E2	+3.9 *+21−34*	
		1546.0 *2*	100.0 *12*	3190.39	8^-	E2		
4766.2		1199.7 *5*	100	3566.47	7^-			
4766.4		1255.7 *5*	100	3510.70	9^-			
4787.6		1424.6 *5*	100	3363.00	6^-			
4788.3		1129.6 *5*	100	3658.7				
4805.8		492.8 *5*	100	4313.00	7^+			
4858.7		1347.8		3510.70	9^-			
		1387.4		3471.4	6^+			
4916.41	10^-	1405.7 *2*	100.0	3510.70	9^-	M1+E2	+0.8 *+46−2*	
4919.30	9^-	1047.9 *2*		3871.28	8^+			
		1353.0 *2*	35 *4*	3566.47	7^-			
		1408.4		3510.70	9^-			
		1729.0		3190.39	8^-			
		1832.0 *2*	100 *9*	3087.37	7^-	E2		
4923.70	9^-	254.3 *2*	25.0 *25*	4669.44	8^-	M1+E2	−0.03 *+8−19*	
		493.5		4430.36	7^-			
		952.5		3971.21	8^-			
		1052.4		3871.28	8^+			
		1205.8 *2*	87 *5*	3717.83	7^-	E2		
		1413.0 *2*	100 *5*	3510.70	9^-	M1+E2	−0.77 *+11−7*	
		1733.3		3190.39	8^-			
		1836.4		3087.37	7^-			
4924.3		1053.0 *5*	100	3871.28	8^+			
4926.9		1738.0 *5*	100	3188.92	6^+			
4932.3		792.6 *5*	100	4139.69	10^+			
4963.58	11^-	1452.7 *3*	100.0	3510.70	9^-	E2		B(E2)(W.u.)=9 *4*
4964.1		1601.1 *5*	100	3363.00	6^-			
5014.2		1296.4 *5*	100	3717.83	7^-			
5039.2		1676.2 *5*	100	3363.00	6^-			
5054.9	9^-	1183.6 *2*	100	3871.28	8^+	E1		
5065.4		512.1 *5*	100	4553.3	8^+			
5094.82	(10^-)	1584.1 *2*	100 *4*	3510.70	9^-	M1+E2	+1.8 *+31−11*	

$^{114}_{50}Sn_{64}$-13

Adopted Levels, Gammas (continued)

γ(^{114}Sn) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[†]	δ[†]	Comments
5094.82	(10$^-$)	1730.2		3364.8	5$^-$			
5102.9		674.3 *5*	100	4428.6				
5119.6		1608.9 *5*	100	3510.70	9$^-$			
5124.2		1613.5 *5*	100	3510.70	9$^-$			
5181.72	12$^+$	1042.1 *2*	100	4139.69	10$^+$	E2		B(E2)(W.u.)=29 *13*
5182.15		1671.7 *5*	100	3510.70	9$^-$			
5191.4		1051.7 *5*	100	4139.69	10$^+$			
5213.5	10$^+$	1702.8 *3*	100	3510.70	9$^-$	(E1)		
5214.3	(10)$^+$	1125.6 *3*	100 *4*	4088.74	8$^+$			
		1343.1		3871.28	8$^+$			
5221.6	(11)$^-$	1710.9 *3*	100.0	3510.70	9$^-$	E2		
5221.72		1711.0 *2*	100	3510.70	9$^-$			
5226.6		263.0 *5*	100	4963.58	11$^-$			
5233.60	10$^-$	309.9 *3*	24 *3*	4923.70	9$^-$			
		314.4 *3*	24 *3*	4919.30	9$^-$	M1+E2	−0.12 *+8−16*	B(E2)(W.u.)=3 *+4−3*; B(M1)(W.u.)=0.023 *8*
		564.2 *3*	100 *5*	4669.44	8$^-$			
		1092.0 *2*	45 *3*	4141.50	8$^-$	(E2)		B(E2)(W.u.)=0.70 *20*
		1262.4 *2*	89 *12*	3971.21	8$^-$	(E2)		B(E2)(W.u.)=0.67 *21*
		1722.8 *2*	44 *11*	3510.70	9$^-$	M1		B(M1)(W.u.)=0.00026 *10*
5254.9	(8,10)$^+$	1744.2 *3*	100	3510.70	9$^-$	(E1)		
5280.4		629.9 *5*	100	4650.5				
		1409.1 *5*	100	3871.28	8$^+$			
5299.32	11$^+$	1159.6 *2*	100	4139.69	10$^+$	M1+E2	+3.8 *+12−17*	B(E2)(W.u.)=31 *14*; B(M1)(W.u.)=0.004 *3*
5310.72	(8,10$^+$)	1800.0 *2*	100	3510.70	9$^-$	E1		
5348.9		1207.4 *5*	100	4141.50	8$^-$			
5357.22	(8,10)$^+$	1846.5 *2*	100	3510.70	9$^-$	(E1)		
5372.3		1401.1 *5*	100	3971.21	8$^-$			
5419.5		2023.4 *5*	100	3396.1	6$^+$			
5445.3		892.0		4553.3	8$^+$			
		1132.3		4313.00	7$^+$			
5468.23	(12$^-$)	246.5		5221.6	(11)$^-$			
		504.7 *2*	100 *7*	4963.58	11$^-$			
		731.8 *2*	83.3 *24*	4736.38	10$^-$	(E2)		
5488.12	(9,11$^-$)	1977.4 *2*	100	3510.70	9$^-$			
5500.1		1989.4 *5*	100	3510.70	9$^-$			
5535.3		2024.6 *5*	100	3510.70	9$^-$			
5538.7	(9,11)$^+$	867.5 *3*	100	4671.2	10$^-$	E1		
5548.24	12$^+$	875.45 *10*	100	4672.77	10$^+$	E2		B(E2)(W.u.)=80 *18*
5554.09	11$^-$	320.5 *2*	18 *12*	5233.60	10$^-$	M1+E2		
		630.4 *2*	100	4923.70	9$^-$	E2		B(E2)(W.u.)=57 *20*
		634.9 *2*	60 *20*	4919.30	9$^-$	E2		B(E2)(W.u.)=33 *16*
		881.3 *2*	74 *5*	4672.77	10$^+$	E1		B(E1)(W.u.)=0.00010 *4*

$^{114}_{50}Sn_{64}$-14

Adopted Levels, Gammas (continued)

γ(^{114}Sn) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[†]	δ[†]	Comments
5586.6		659.7 *5*	100	4926.9				
5596.9		1168.3 *5*	100	4428.6				
5599.4		928.2 *5*	100	4671.2	10^-			
5627.92	$(8,10^+)$	2117.2 *2*	100	3510.70	9^-	E1		
5699.87	$(9,11^-)$	1027.1 *2*	100	4672.77	10^+	E1		
5707.2		2196.5 *5*	100	3510.70	9^-			
5735.17	$(9,11^-)$	1062.4 *2*	100	4672.77	10^+	E1		
5776.26	12^+	1103.5 *2*	100 *6*	4672.77	10^+	E2		
		1636.5 *3*	71 *6*	4139.69	10^+	E2		
5776.7		228.5 *5*	100	5548.24	12^+			
5801.1		574.6		5226.6				
		1129.9		4671.2	10^-			
5834.93	$(8,10)^-$	2324.2 *2*	100	3510.70	9^-			
5857.2		309.0		5548.24	12^+			
		1184.3		4672.77	10^+			
5886.5		1746.8 *5*	100	4139.69	10^+			
5892.0		789.1 *5*	100	5102.9				
5920.96	13^+	144.7 *2*	9 *1*	5776.26	12^+			
		621.6 *3*	18 *2*	5299.32	11^+	E2		B(E2)(W.u.)=19 *19*
		739.3 *2*	100 *3*	5181.72	12^+	M1+E2	+1.4 *1*	B(E2)(W.u.)=3.E+1 *3*; B(M1)(W.u.)=0.010 *10*
5921.97	12^-	367.9 *2*	26 *4*	5554.09	11^-	M1+E2	−0.4 *+2−6*	B(E2)(W.u.)=7.E+1 *7*; B(M1)(W.u.)=0.075 *22*
		688.4 *2*	100 *7*	5233.60	10^-	E2		B(E2)(W.u.)=84 *18*
5956.2		1283.4 *5*	100	4672.77	10^+			
5974.21	$(12)^+$	1834.5 *2*	100	4139.69	10^+	(E2)		
5977.1		696.7 *5*	100	5280.4				
6001.1		2490.4 *5*	100	3510.70	9^-			
6045.53	14^+	124.7 *2*	11 *2*	5920.96	13^+	(M1+E2)		
		863.8 *2*	100 *3*	5181.72	12^+	E2		B(E2)(W.u.)=2.34 *11*
6067.8		1104.2 *5*	100	4963.58	11^-			
6131.7		949.5 *5*	100	5182.15				
6132.3		1168.7 *5*	100	4963.58	11^-			
6135.1		952.9 *2*	100	5181.72	12^+			
6164.5		982.3 *5*	100	5182.15				
6173.9		705.6		5468.23	(12^-)			
		1210.3		4963.58	11^-			
6174.9		875.4		5299.32	11^+			
		992.9		5182.15				
6225.6		1489.2 *5*	100	4736.38	10^-			
6266.23	14^+	345.2 *2*	100 *3*	5920.96	13^+	M1+E2	+0.21 *+3−2*	
		1084.3 *3*	100 *6*	5182.15		E2		δ: δ(M3/E2)=−0.16 *+17−7*.
6279.01	13^-	357.1 *2*	24 *3*	5921.97	12^-	M1+E2	−2.5 *+24−14*	B(E2)(W.u.)=5.0×10^2 *19*; B(M1)(W.u.)=0.013 *+22−13*
		725.0 *2*	100 *6*	5554.09	11^-	E2		B(E2)(W.u.)=69 *18*

$^{114}_{50}Sn_{64}$-15

Adopted Levels, Gammas (continued)

γ(^{114}Sn) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[†]	δ[†]	Comments
6279.01	13^-	730.8		5548.24	12^+			
		1315.6		4963.58	11^-			
6341.62	14^+	793.3 *2*	84 *3*	5548.24	12^+	E2		B(E2)(W.u.)=74 *18*
		1159.4 *2*	100 *7*	5182.15				
6460.44	$(13)^-$	1496.7 *2*	100	4963.58	11^-	E2		
6496.4		948.1 *5*	100	5548.24	12^+			
6497.3	$(14)^+$	451.8 *2*	100	6045.53	14^+	M1+E2	−0.3 *+4−2*	
6520.5		1556.9 *5*	100	4963.58	11^-			
6551.0		1369.4 *2*	100	5181.72	12^+			
6551.1	15^+	284.9 *2*	10.9 *16*	6266.23	14^+	(M1+E2)		
		505.5 *3*	100 *4*	6045.53	14^+	M1+E2	+0.07 *2*	B(E2)(W.u.)=0.6 *4*; B(M1)(W.u.)=0.042 *5*
6552.3		1004.1 *5*	100	5548.24	12^+			
6610.6		1071.9 *5*	100	5538.7	$(9,11)^+$			
6690.64	$(13)^-$	1142.4 *2*	100	5548.24	12^+	E1		
6698.3		1150.1 *5*	100	5548.24	12^+			
6715.9	14^-	436.9 *2*	8.5 *2*	6279.01	13^-	M1+E2		
		794.0 *2*	100	5921.97	12^-	E2		B(E2)(W.u.)=9.E+1 *6*
6725.6		748.5 *5*	100	5977.1				
6925.7	16^+	374.6 *5*	100 *9*	6551.1	15^+			
		880.2 *5*	<45	6045.53	14^+	E2		
7115.1	(15^-)	399.1 *2*	6.3 *2*	6715.9	14^-	(M1)		B(M1)(W.u.)=0.051 *13*
		836.1 *5*	100	6279.01	13^-	E2		B(E2)(W.u.)=99 *25*
7204.68	16^+	862.9 *2*	63 *6*	6341.62	14^+	E2		B(E2)(W.u.)=40 *7*
		1159.3 *2*	100 *6*	6045.53	14^+			
7205.18		744.6 *2*		6460.44	$(13)^-$			
		926.3 *2*		6279.01	13^-			
7369.7		818.6 *5*	100	6551.1	15^+			
7377.1		880.7 *5*	100	6496.4				
7607.9	(16^-)	492.5 *2*	9.7 *4*	7115.1	(15^-)	(M1)		B(M1)(W.u.)=0.068 *12*
		892.0 *5*	100	6715.9	14^-	E2		
7709.6		783.9 *2*	100	6925.7	16^+			
7869.7		944.0 *2*	100	6925.7	16^+			
8049.3	(17^-)	934.2 *2*	100	7115.1	(15^-)	E2		B(E2)(W.u.)=1.2×10^2 *4*
8131.4		1205.7 *2*	100	6925.7	16^+			
8142.7	18^+	938.0 *2*	100	7204.68	16^+	E2		B(E2)(W.u.)=110 *15* Mult.: from ^{100}Mo(^{18}O,4nγ).
8194.4		1643.3 *2*	100	6551.1	15^+			
8357.7		980.6 *2*	100	7377.1				
8587.5	(18^-)	538[@]	5.1 *7*	8049.3	(17^-)	(M1)		B(M1)(W.u.)=0.07 *3*
		979.6 *2*	100	7607.9	(16^-)	E2		B(E2)(W.u.)=1.9×10^2 *7*
8644.6		1718.9 *2*	100	6925.7	16^+			

$^{114}_{50}Sn_{64}$-16

Adopted Levels, Gammas (continued)

γ(^{114}Sn) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[†]	Comments
9060.7	(19$^-$)	1011.4 *2*	100	8049.3	(17$^-$)	E2	B(E2)(W.u.)=1.4×10^2 *4*
9194.9	20$^+$	1052.2 *2*	100	8142.7	18$^+$	E2	B(E2)(W.u.)=88 *13*
9647.5	(20$^-$)	1059.9 *2*	100	8587.5	(18$^-$)	(E2)	B(E2)(W.u.)=1.1×10^2 *6*
10113.9	(21$^-$)	1053.2 *2*	100	9060.7	(19$^-$)	E2	B(E2)(W.u.)=1.1×10^2 *6*
10359.0	(22$^+$)	1164.1 *2*	100	9194.9	20$^+$	E2	B(E2)(W.u.)=1.1×10^2 *3*
10778.3	(22$^-$)	1130.8 *2*	100	9647.5	(20$^-$)		
11174.7	(23$^-$)	1060.8 *2*	100	10113.9	(21$^-$)	(E2)	B(E2)(W.u.)=1.3×10^2 *8*
11609.0	(24$^+$)	1250	100	10359.0	(22$^+$)		
12311.7	(25$^-$)	1137	100	11174.7	(23$^-$)		
12943.0	(26$^+$)	1334	100	11609.0	(24$^+$)	(E2)	B(E2)(W.u.)>23
13516.7	(27$^-$)	1205	100	12311.7	(25$^-$)		
14406.0	(28$^+$)	1463	100	12943.0	(26$^+$)		
14801.7	(29$^-$)	1285	100	13516.7	(27$^-$)		
15997.0	(30$^+$)	1591	100	14406.0	(28$^+$)		
16236.7	(31$^-$)	1435	100	14801.7	(29$^-$)		
17870.7	(33$^-$)	1634	100	16236.7	(31$^-$)		

[†] From α(K)exp, $\gamma(\theta)$, and γ(pol) in ^{112}Cd(α,2nγ), except as noted.
[‡] From ^{112}Cd(α,2nγ) if available; otherwise, from ^{100}Mo(^{18}O,4nγ).
[#] Weighted average of values from ε decay, (α,2nγ), (n,n$'\gamma$), and (HI,xnγ).
[@] Placement of transition in the level scheme is uncertain.

$^{114}_{50}Sn_{64}$-17

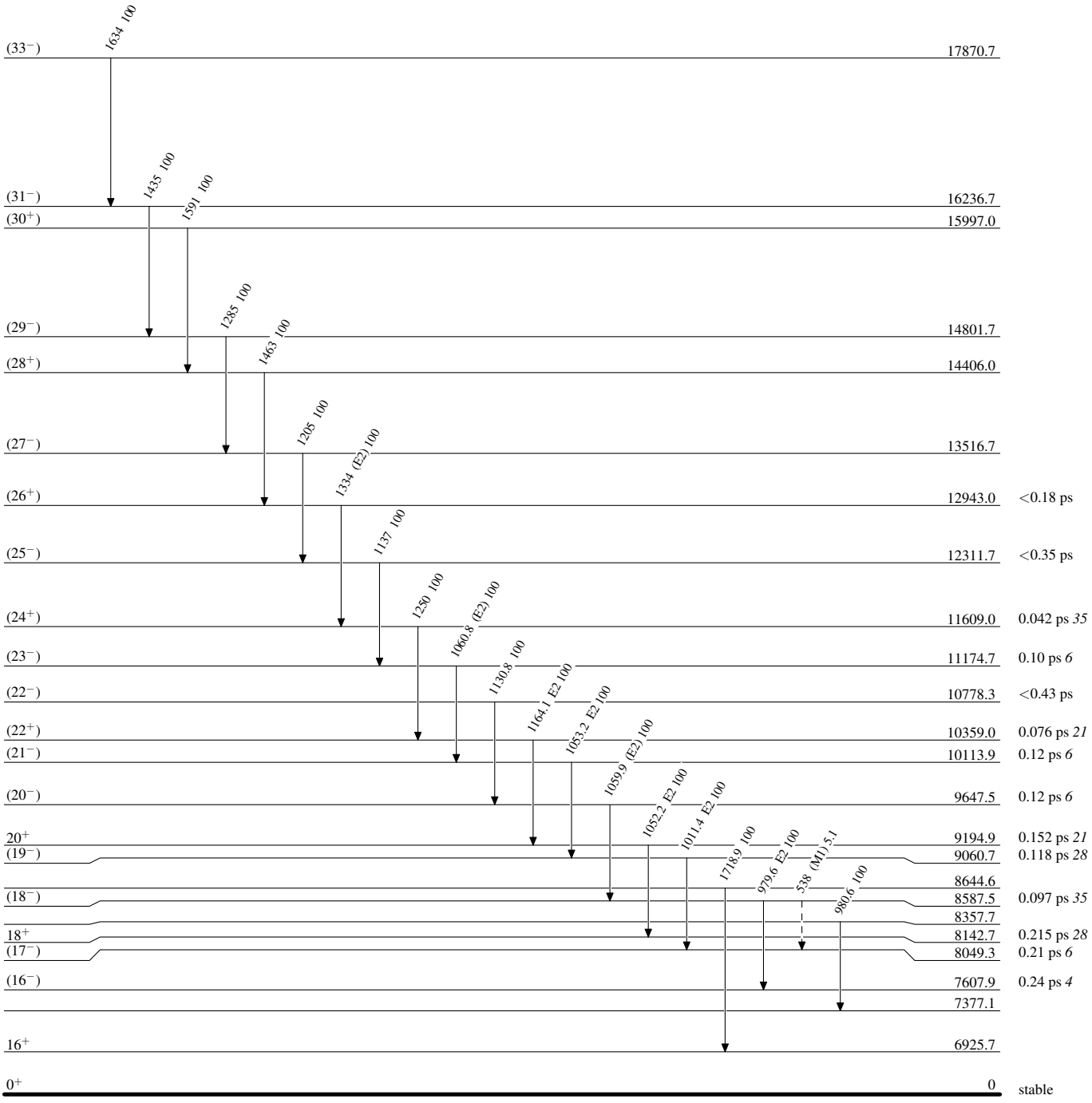
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

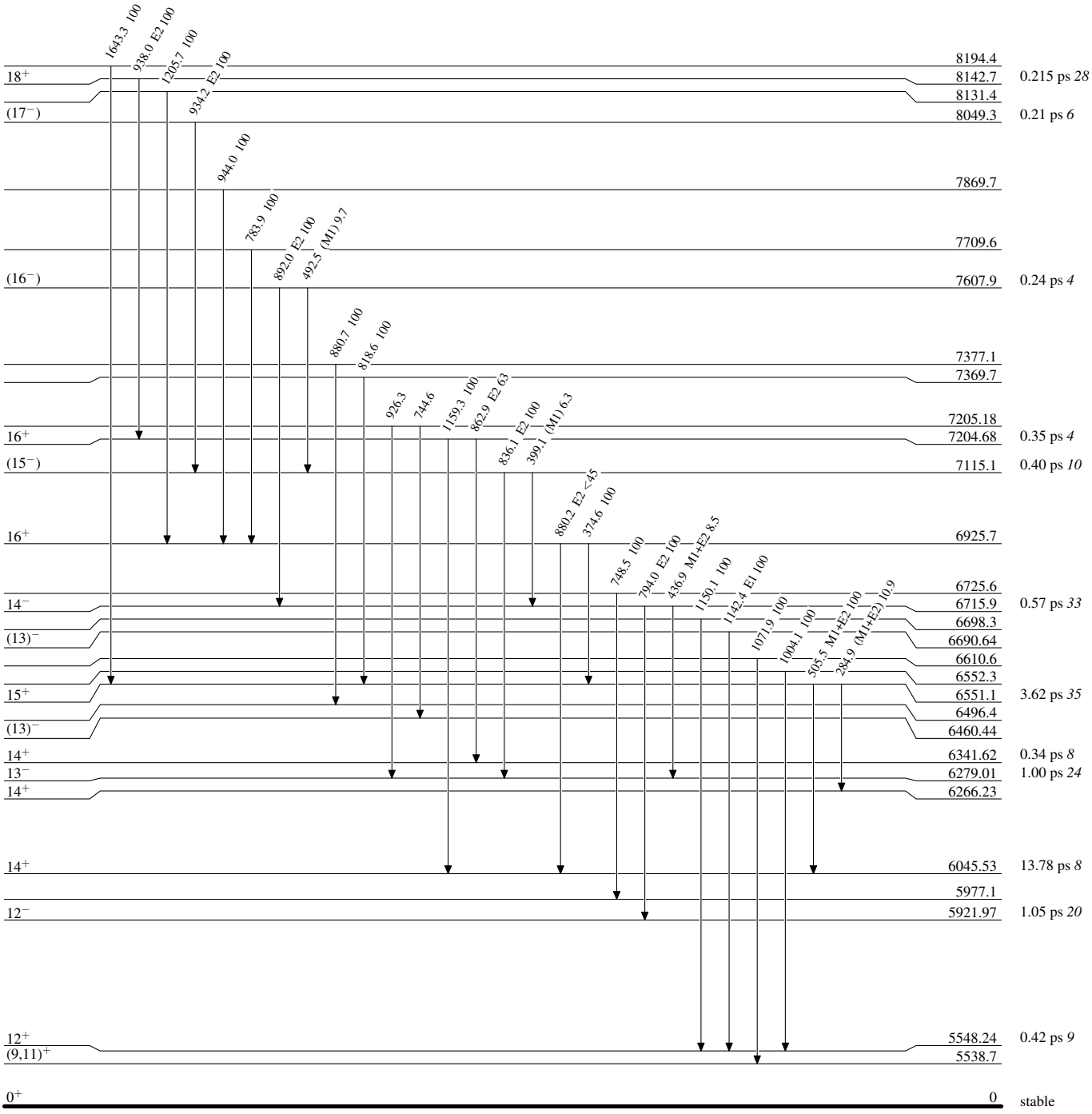


$^{114}_{50}Sn_{64}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

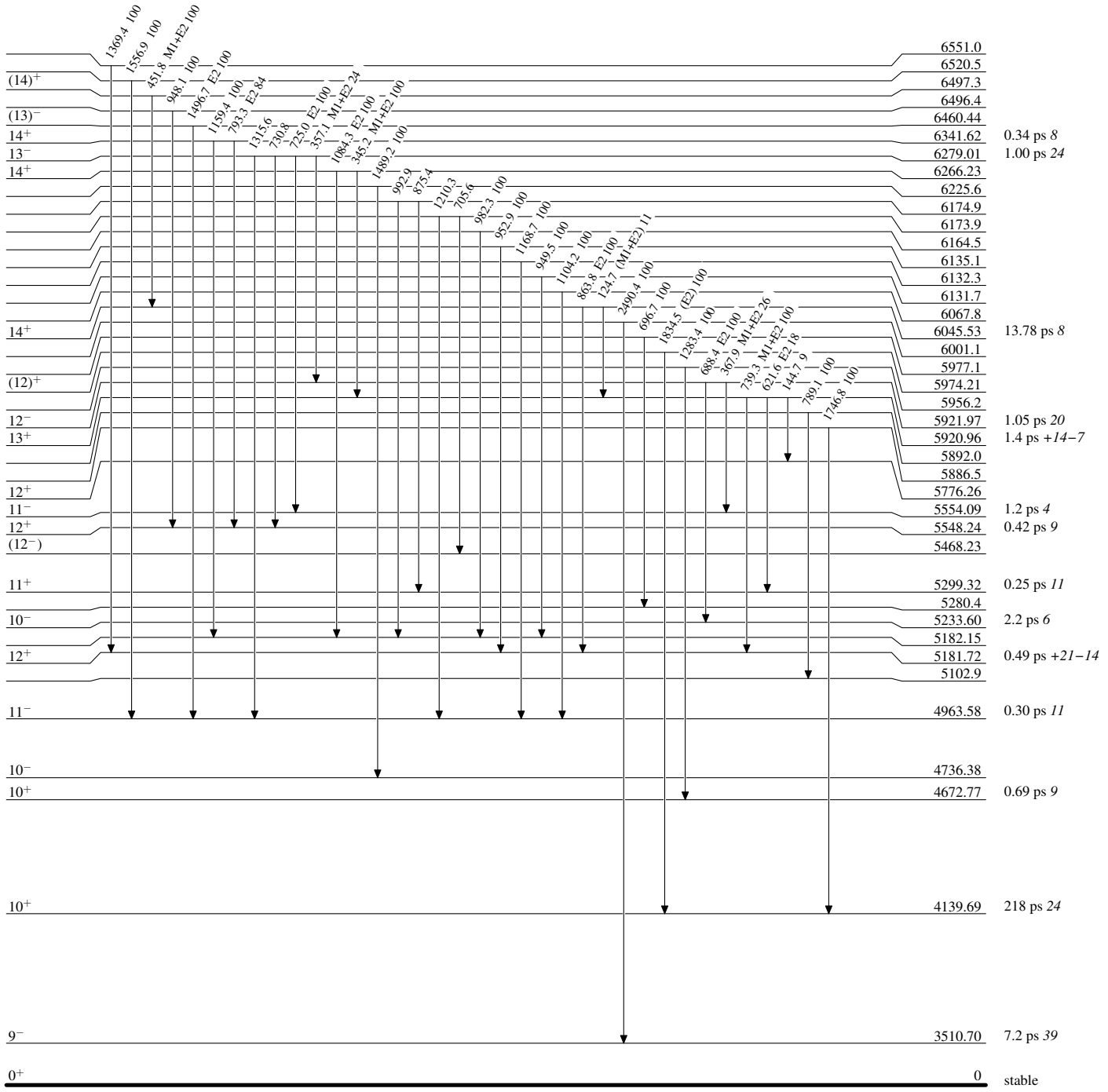


$^{114}_{50}Sn_{64}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

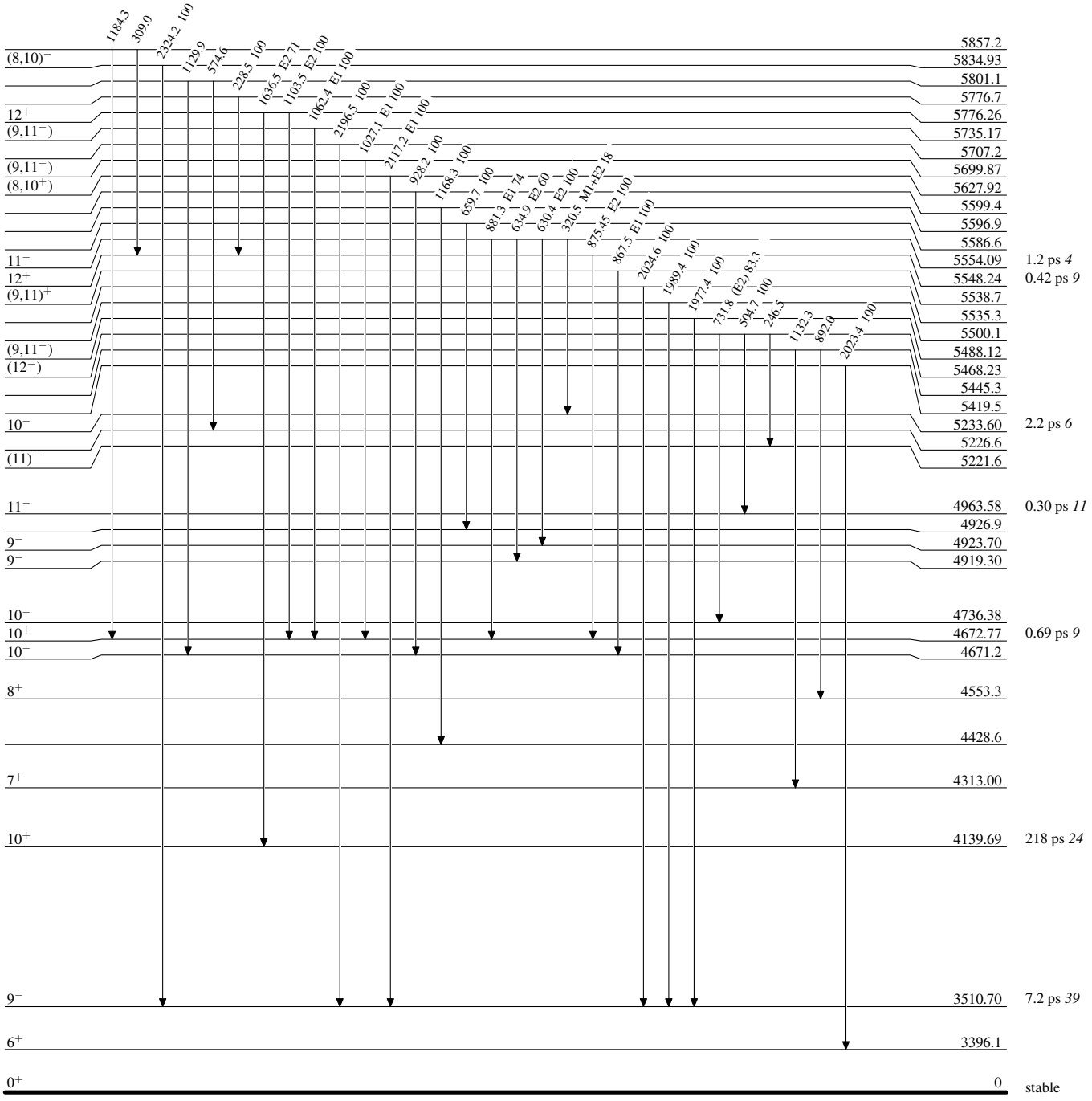


$^{114}_{50}Sn_{64}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

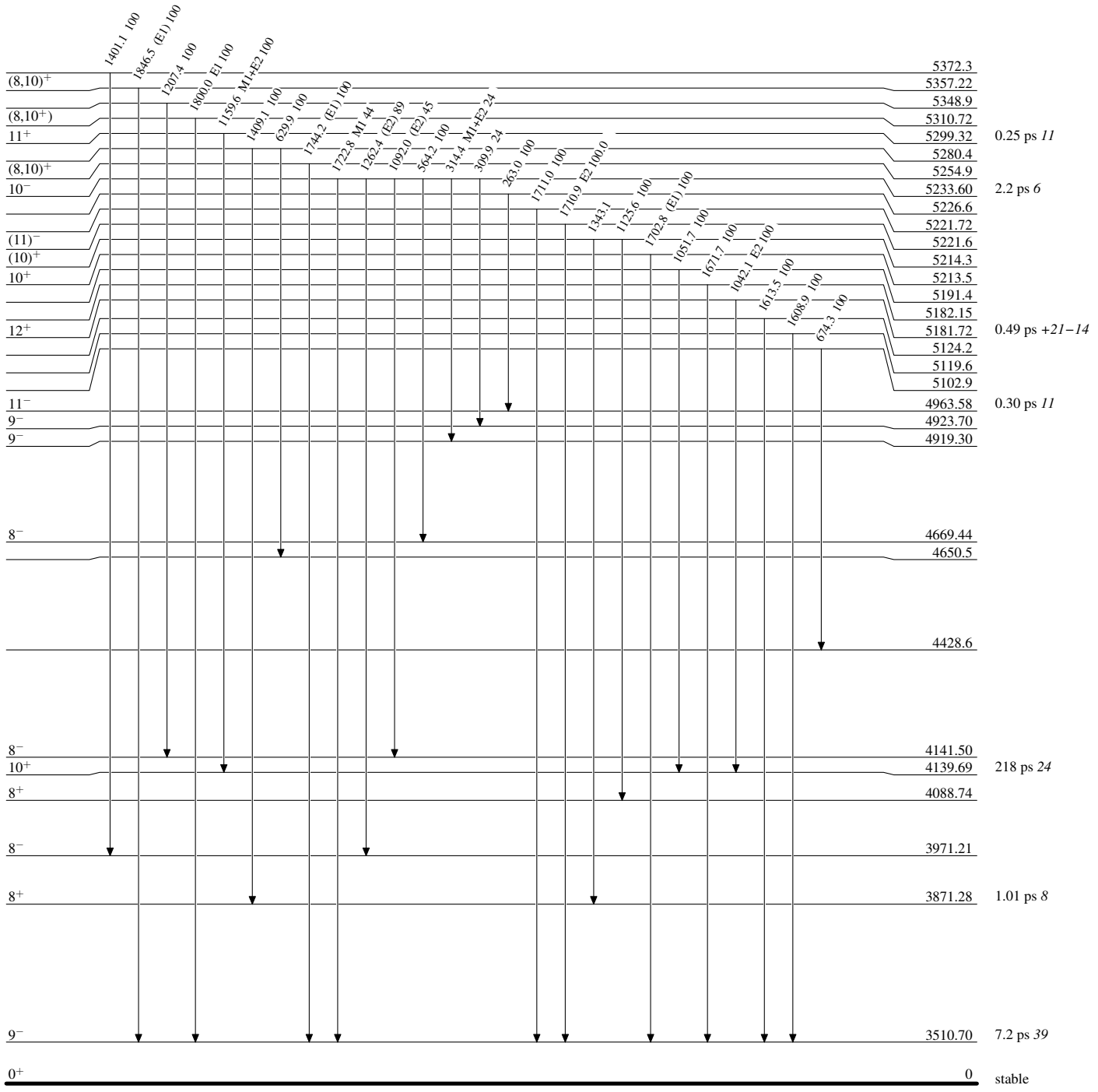


$^{114}_{50}Sn_{64}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

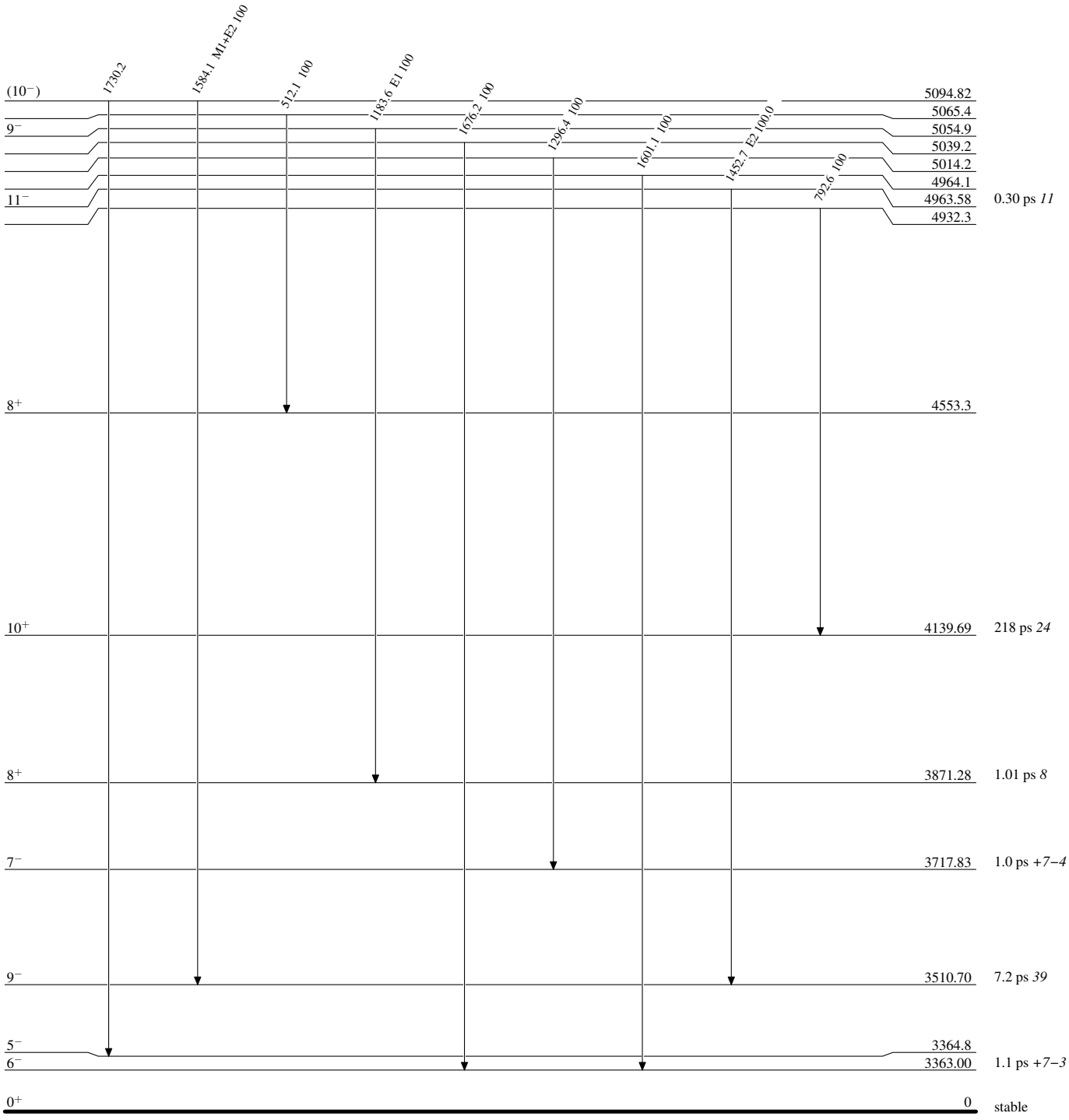


$^{114}_{50}Sn_{64}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

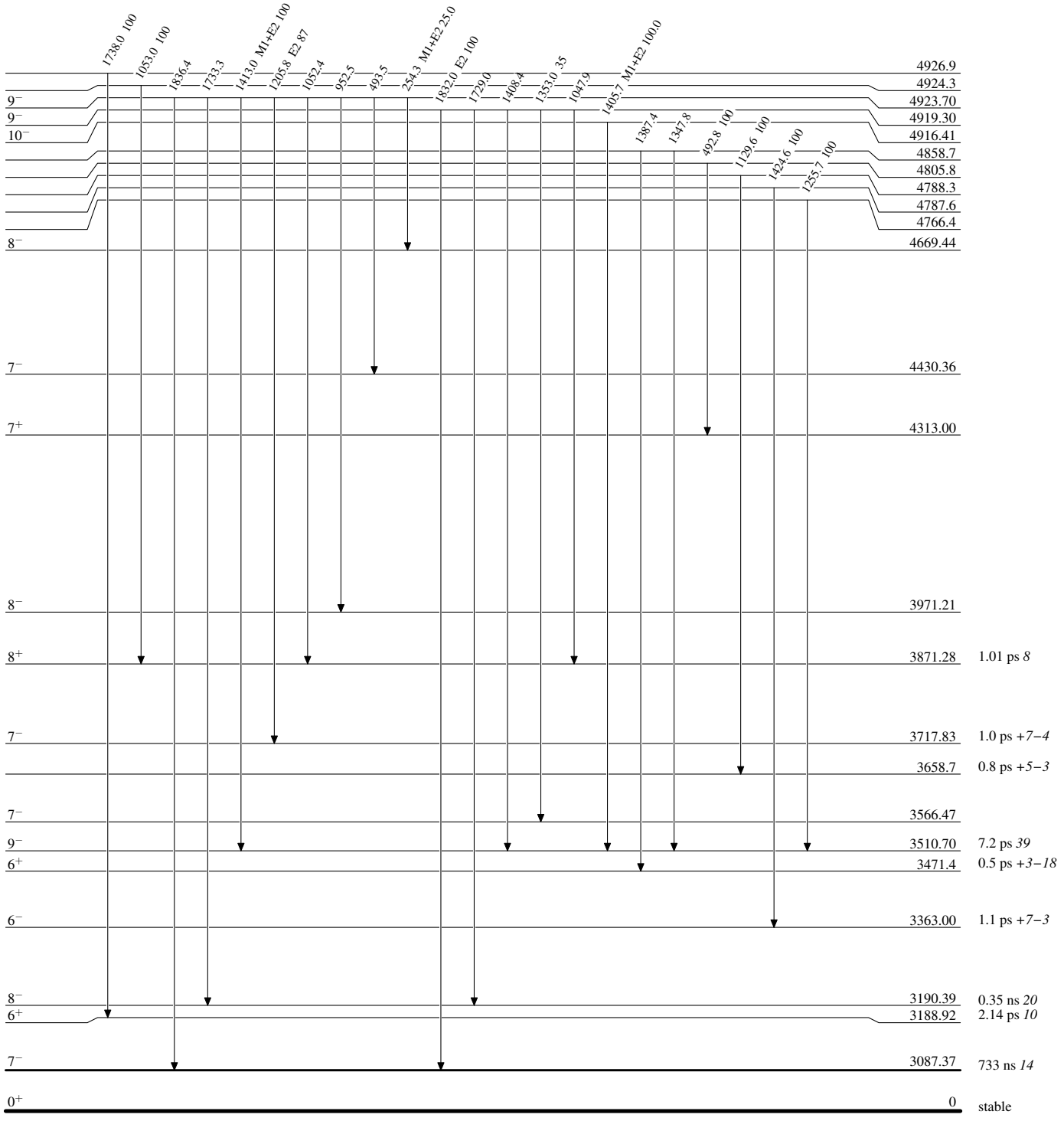


$^{114}_{50}Sn_{64}$

Adopted Levels, Gammas

Level Scheme (continued)

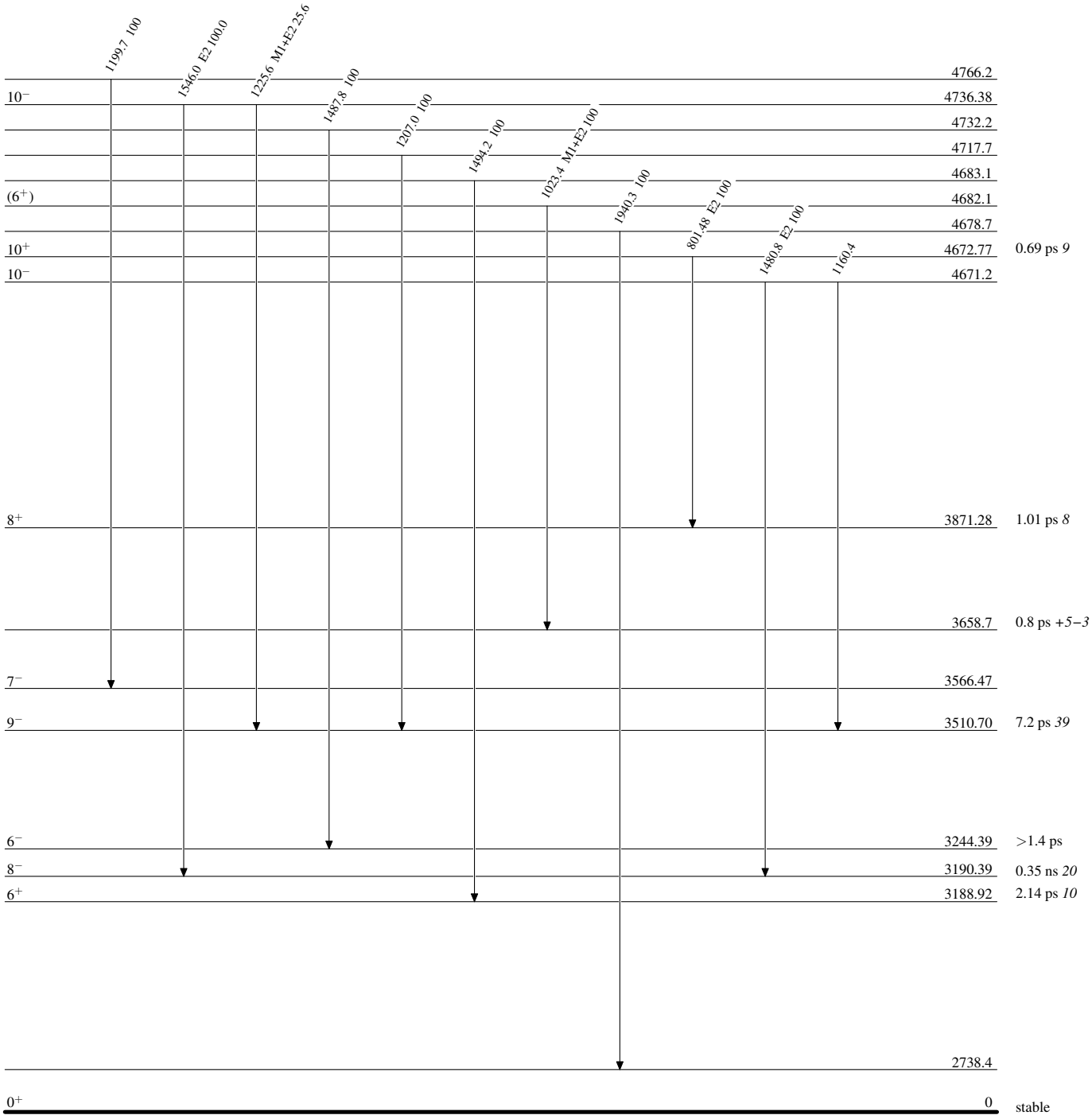
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

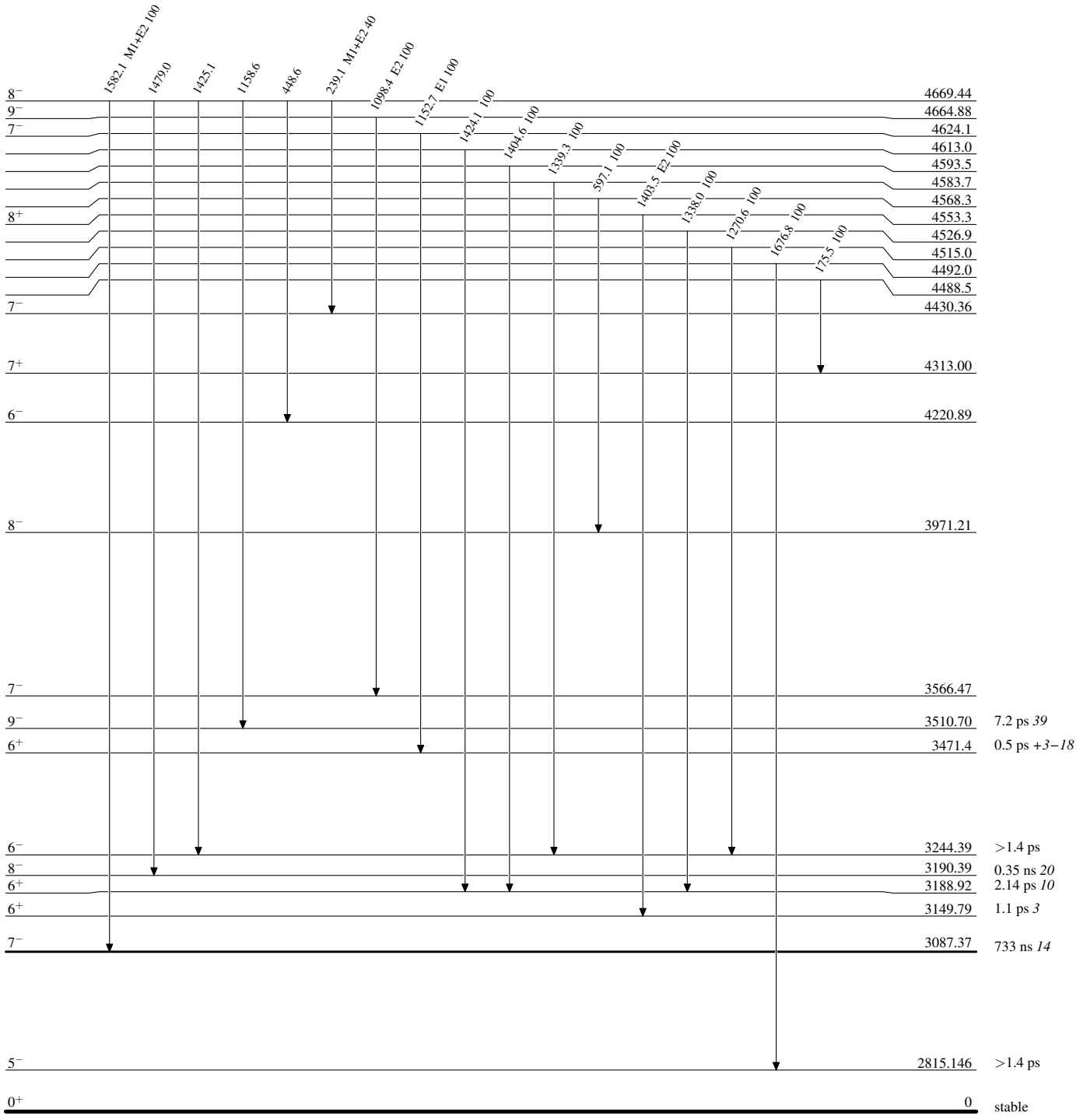


$^{114}_{50}Sn_{64}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

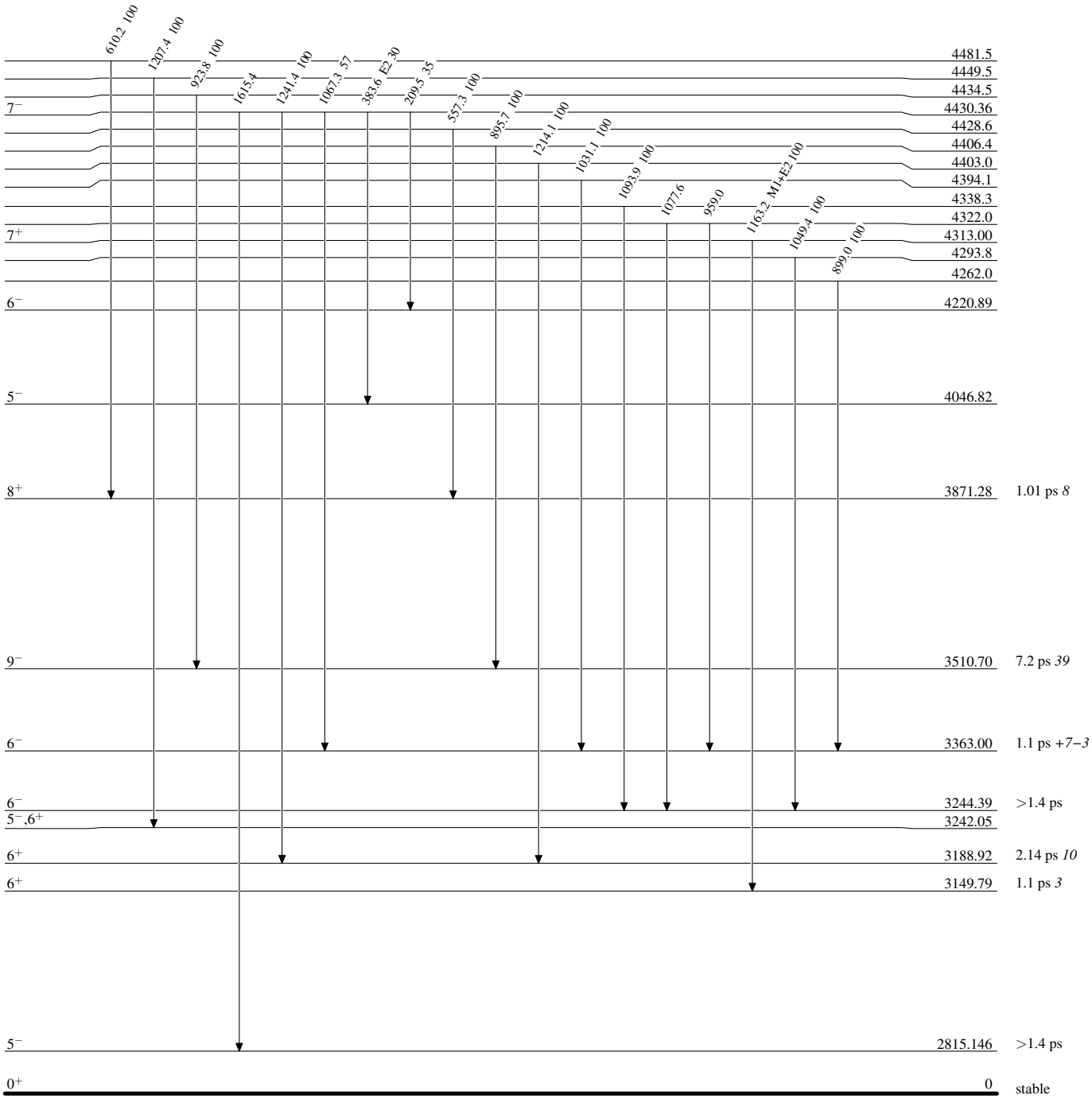


$^{114}_{50}Sn_{64}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

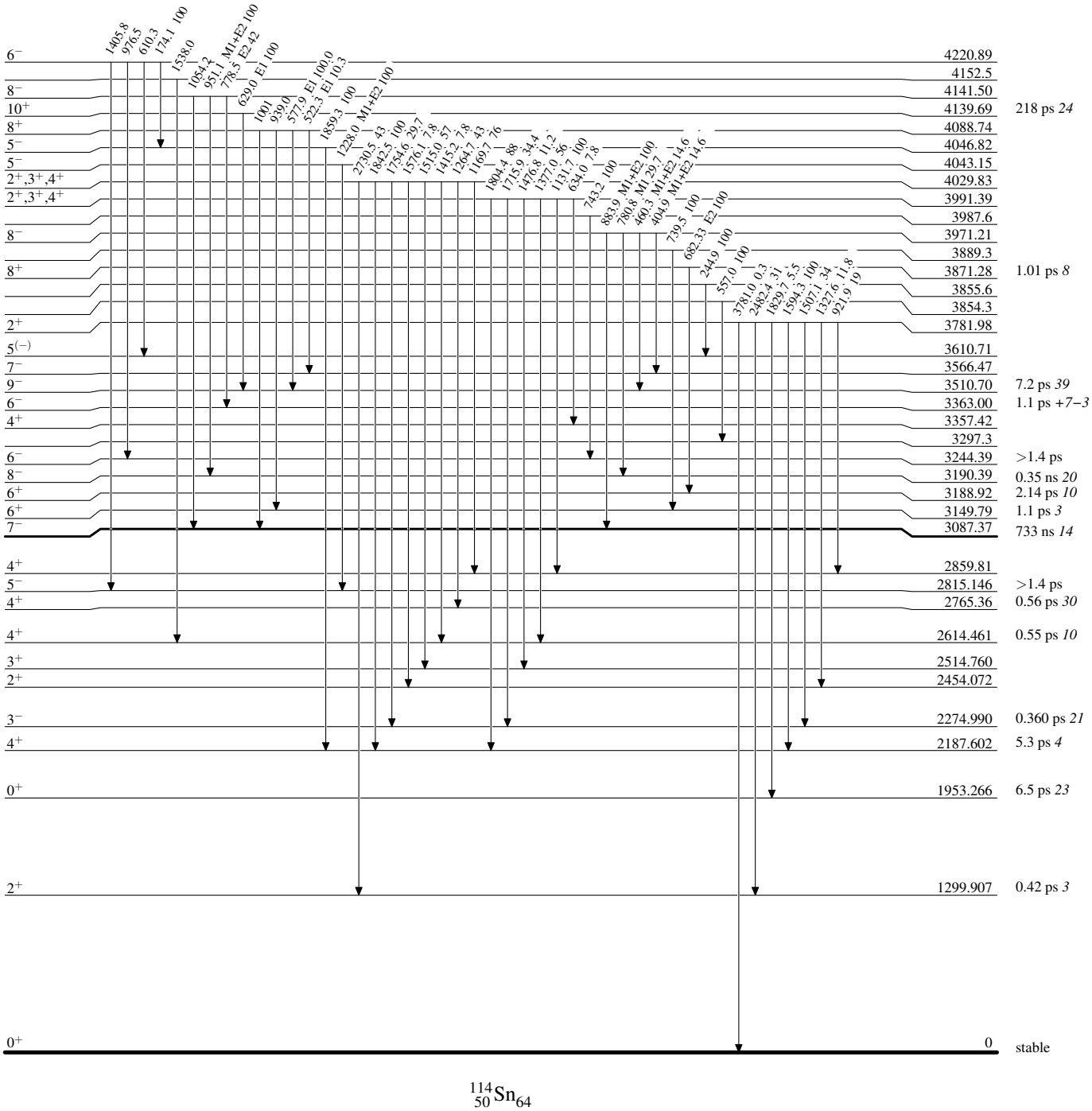


$^{114}_{50}Sn_{64}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

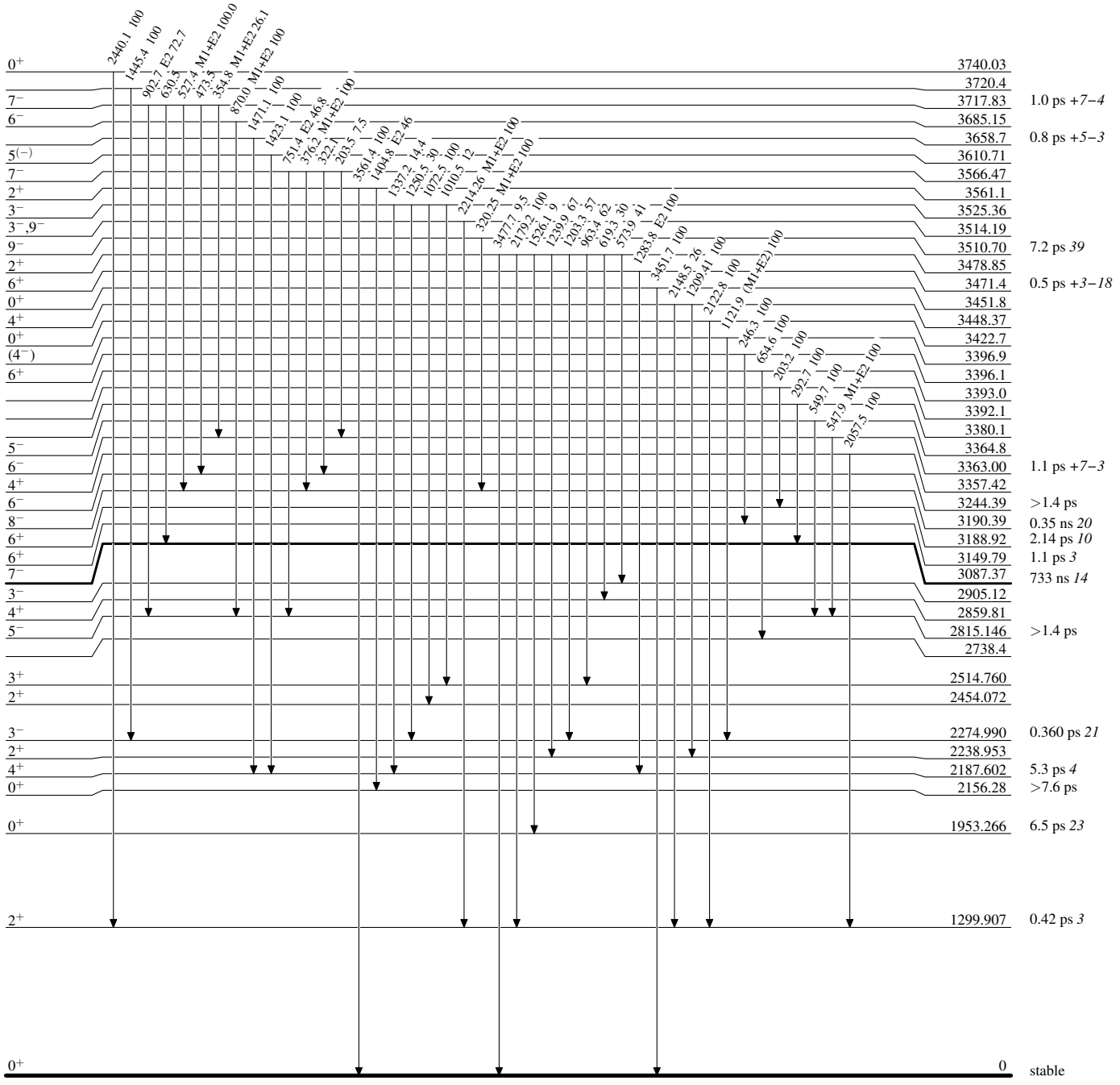


$^{114}_{50}Sn_{64}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

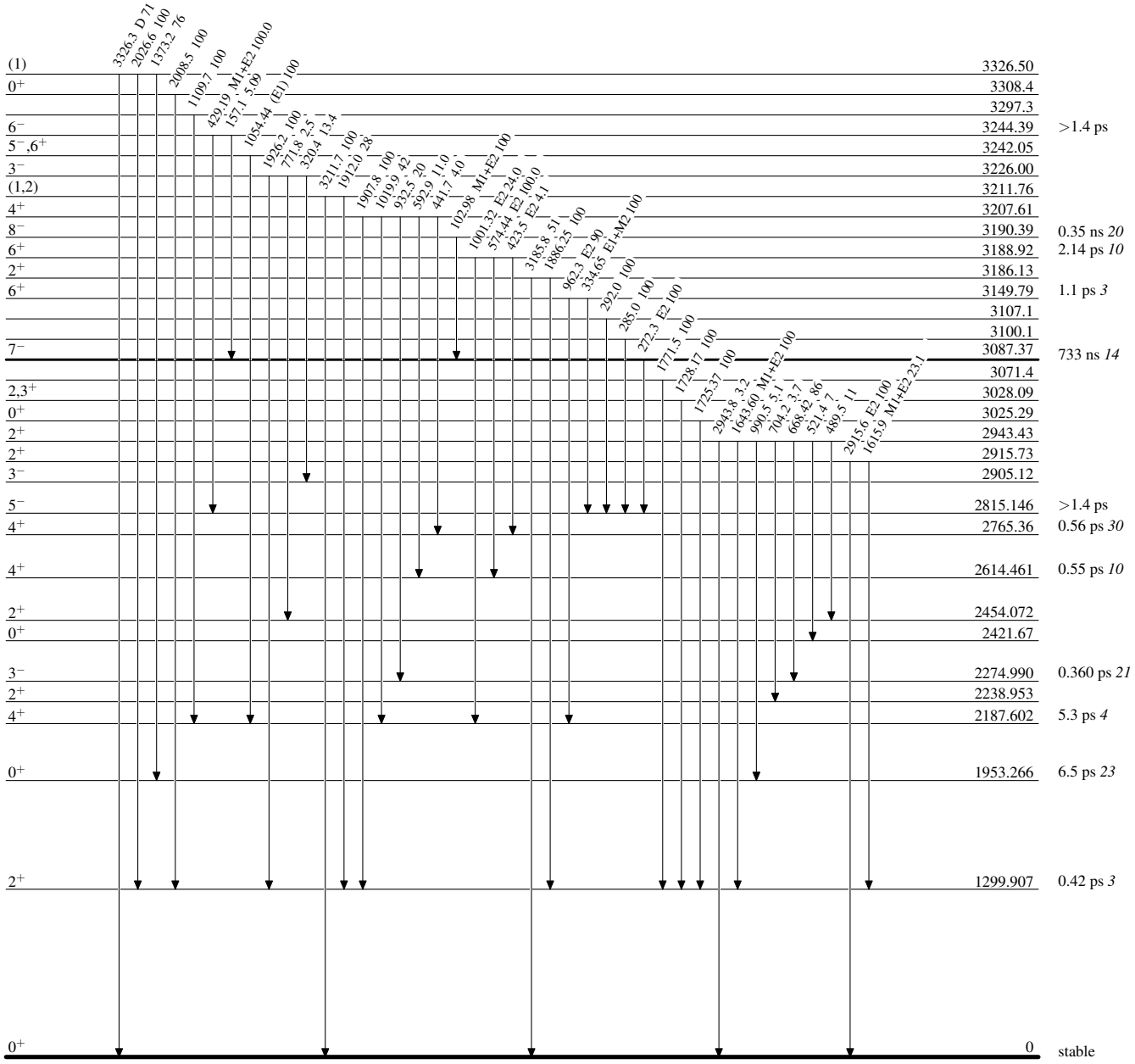


$^{114}_{50}Sn_{64}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



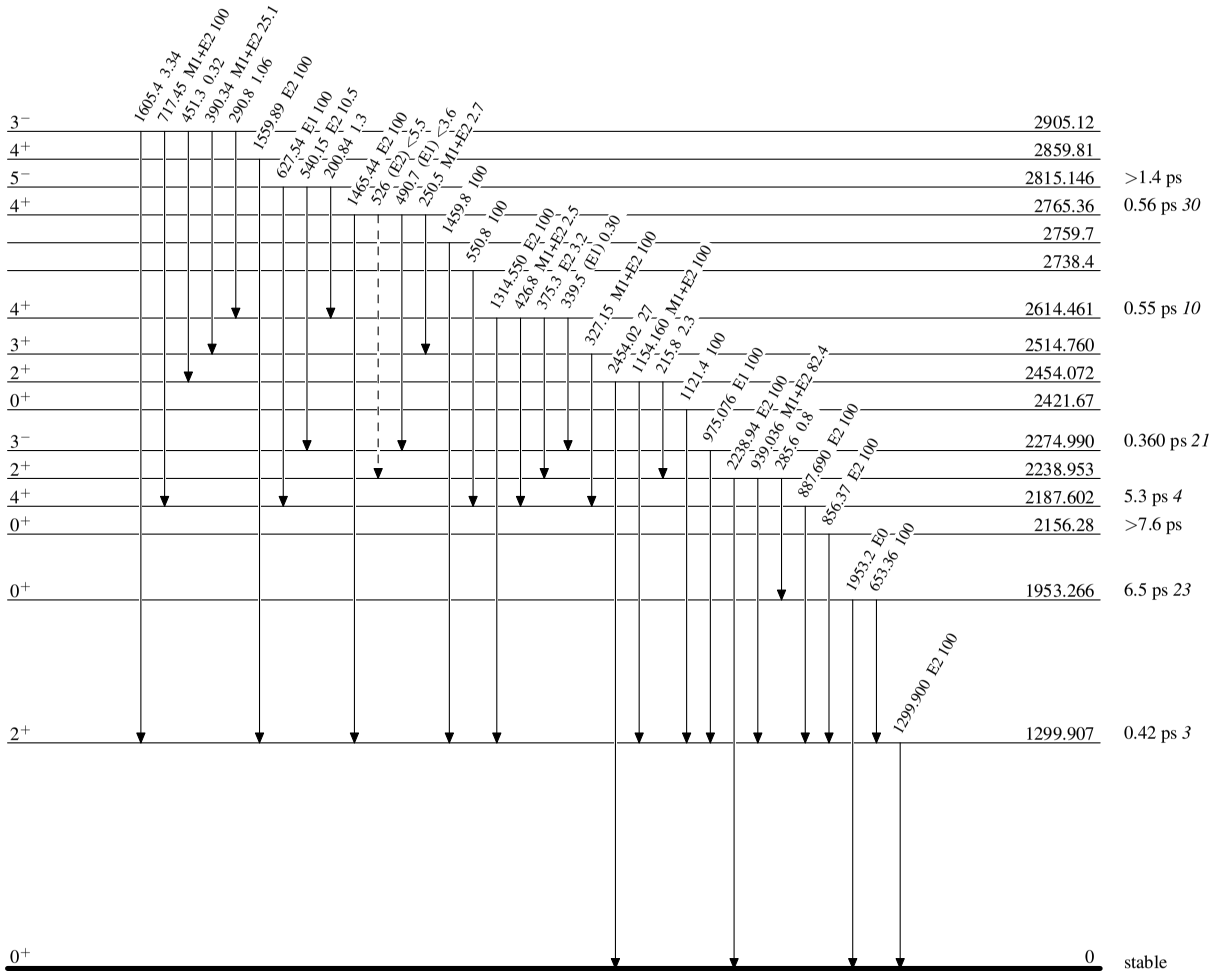
$^{114}_{50}Sn_{64}$

Adopted Levels, Gammas Legend

Level Scheme (continued)

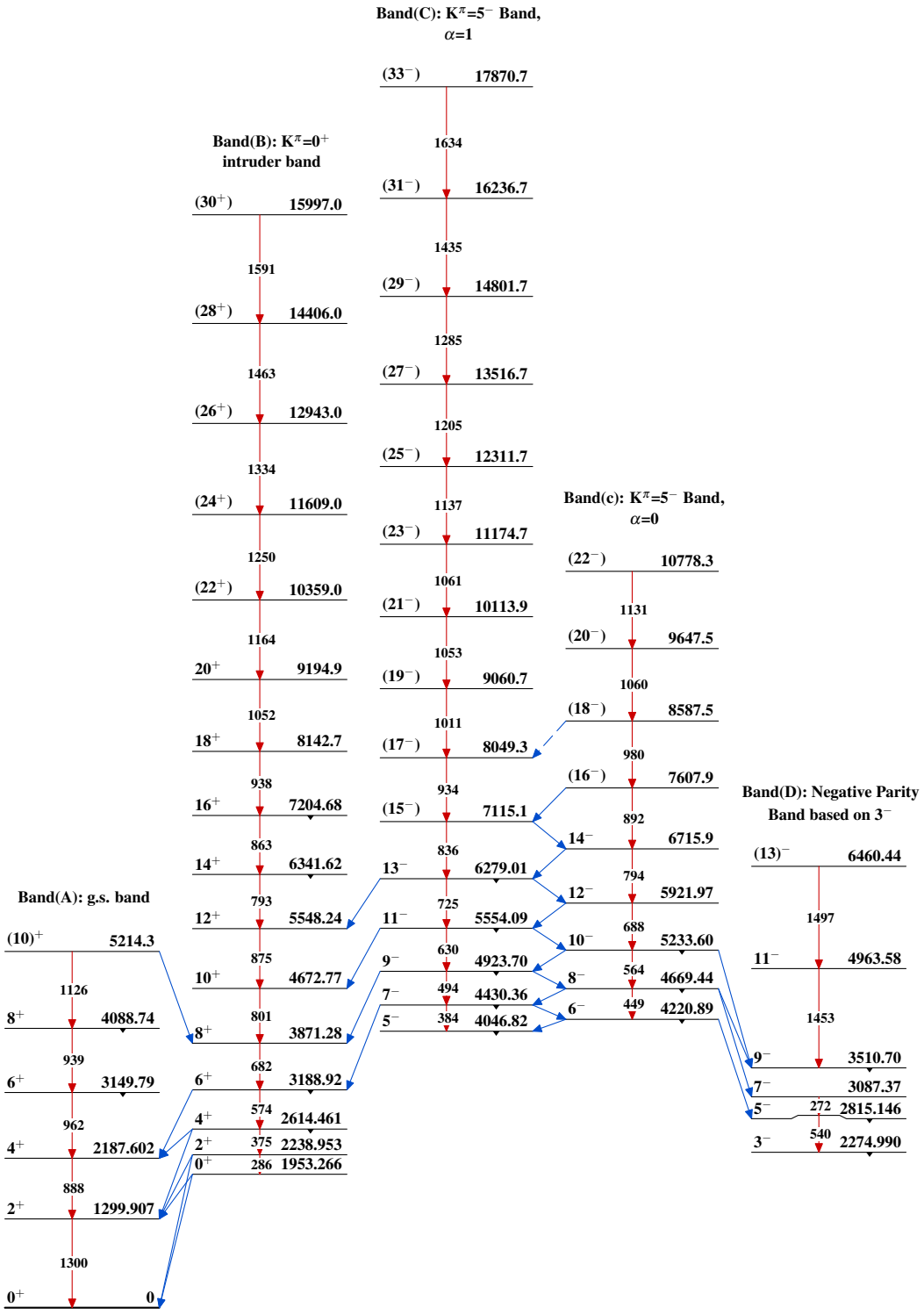
Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{114}_{50}Sn_{64}$

Adopted Levels, Gammas



Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 111,717 (2010)	1-Dec-2009

Q(β^-)=−4704 *6*; S(n)=9563.48 *9*; S(p)=9278.62 *10*; Q(α)=−3375.1 *6* 2012Wa38
Note: Current evaluation has used the following Q record −4707 5 *9563.45 109281* 4 −3374.9 *20* 2003Au03,2009AuZZ.

^{116}Sn Levels

Cross Reference (XREF) Flags

A	Coulomb excitation	J	^{116}In β^- decay (54.29 min)	S	^{114}Cd(^{3}He,n)
B	^{114}Cd(α,2nγ)	K	^{116}Sb ε decay (15.8 min)	T	^{115}In(p,n),(p,p) IAR
C	^{116}Sn(n,n′γ)	L	^{116}Sb ε decay (60.3 min)	U	^{116}Sn(α,α')
D	^{115}In(α,tγ)	M	^{116}Sn(p,p′)	V	^{116}Sn(p,p′γ)
E	^{115}In(^{3}He,d),(α,t)	N	^{104}Ru(^{18}O,α2nγ)	W	^{116}Sn(pol p,p′)
F	^{115}Sn(d,p)	O	^{116}Sn(e,e′)	X	^{116}Sn(d,d′)
G	^{115}Sn(n,γ) E=th	P	^{116}Cd(^{3}He,3nγ)	Y	^{116}Sn(γ,γ')
H	^{117}Sn(d,t),(^{3}He,α)	Q	^{117}Sn(p,d)	Z	^{116}Sn(^{6}Li,^{6}Li′)
I	^{116}In β^- decay (14.10 s)	R	^{118}Sn(p,t)		

E(level)†	Jπ‡	$T_{1/2}$	XREF	Comments
0	0^+	stable		
1293.560 *8*	2^+	0.374 ps *10*	ABCDEFGHIJKLMNOPQR X	Q=−0.17 *4* (1989Ra17,2005St24,1976Li19) μ=−0.32 *18* (2008Ea02) Q: others: +0.07 *10* (1975Gr30), +0.09 *13* (1970Kl06). Jπ: E2 γ to 0^+. $T_{1/2}$: from 1987Ra01 based on an average of available B(E2) and $T_{1/2\ 1/2}$ data; values included in 1987Ra01: 0.49 ps *9* (1962Li10), 0.44 ps *19* (1962Ka28), 0.195 (1975Gr30), 0.33 ps *7* (1963Be14), 0.37 ps *4* (1977Ca14,1981Ca10) via res fluorescence The recent value: 0.51 ps *+20−14* (2007Or04) in (n,n′γ) is in agreement.
1756.864# *24*	0^+	44 ps *6*	ABCD FGHIJK MNO V X	Jπ: E0 to g.s. $T_{1/2}$: average of 1978Ju02 and B(E2) in Coul. ex.
2027.48 *3*	0^+	160 ps *20*	A C FGH K M O S X	Jπ: E0 to g.s. $T_{1/2}$: from 1978Ju02.
2112.323# *15*	2^+	1.89 ps *10*	ABCD GHIJK MNOP X	Jπ: E2 γ to g.s. $T_{1/2}$: from B(E2) in (e,e′). Other: 1.8 ps *+11−5* from B(E2) in Coul. ex.
2225.379 *17*	2^+	2.4 ps *12*	A C EFGHIJK M QR V	Jπ: L(d,p)=2, log *ft*=4.7 from 3^+ parent, excited in Coul. ex. $T_{1/2}$: from B(E2) in Coul. ex.
2266.159 *19*	3^-	0.34 ps *4*	ABCDE GH JKLMNO WX	Jπ: E1 γ to 2^+, L=(p,p′)=3, (972γ)(1293γ)(θ). $T_{1/2}$: from B(E3) in Coul. ex.
2365.975 *21*	5^-	348 ns *19*	BCD fGH J LMNO QR WX	Q=0.26 *1* (1989Ra17,2005St24) μ=−0.376 *3* (1989Ra17,2005St24) Jπ: E2 γ to 3^-, E3 γ to 2^+, L(p,p′)=5. $T_{1/2}$: weighted av of 335 ns *50* from (α,2nγ) (1980Va13) and 350 ns *20* from ε decay (1966Rg02). Others: 370 ns from (α,2nγ) (1973IsZQ), 230 ns *20* from ε decay (1964Bo21).
2390.879 *18*	4^+	0.28 ps *14*	ABCDEfGH JK MNO W	Jπ: E2 γ to 2^+ (1097γ)(1293γ)(θ), L=4 (d,t). $T_{1/2}$: from 1972Ka66, res fluorescence, $T_{1/2\ 1/2}$=0.47 ps *9* from Coul. ex.

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Adopted Levels, Gammas (continued)

^{116}Sn Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$	XREF	Comments
2529.202[#] *18*	4^+	<100 ps	ABCDE GH JK MNO qR WX	Jπ: E2 γ to 2^+, (417γ)(2112γ)(θ), L(p,p′)=4, L=4 (d,t). $T_{1/2}$: from β(417γ) coin (1979Ka01).
2545.71 *3*	(0^+)		A C GHI K M q V	Jπ: primary γ from 0^+,1^+, L=0(d,t).
2585.564 *24*	1^+		C fGH K M	Jπ: based on γ to 0^+ and 2^+, from (n,γ),(n,n′γ).
2650.438 *23*	2^+		C EfGHI K M O	Jπ: L(p,p′)=2, L=2 (d,t).
2773.33 *3*	6^-		BCD fGH LMN Q	Jπ: M1 γ to 5^-, L=5 (d,t).
2790.55 *4*	$(0)^+$		C FG O X	XREF: F(2780). Jπ: L(d,p)=2 gives 2^+, but 1991Ra01 based his argument on cross sections to assign 0^+.
2801.28 *4*	4^+		BCDEfGH JK M O R U W	Jπ: E2 γ to 2^+, L(p,p′)=4, L(p,t)=4.
2843.82 *5*	2^+		C E GH K M	Jπ: L(p,p′)=2 L=2 (d,t).
2908.85 *3*	7^-	0.5 ns *3*	CDE H LMNO	Jπ: M1 γ to 6^-, log *ft*=4.9 from 8^- parent. $T_{1/2}$: from (α,2nγ) (1980Va13). Other: ≤0.5 ns from ε decay (1966Rg02).
2960.03 *3*	2^+		C FGH K M	Jπ: γ to 0^+ in (n,γ), L(d,p)=2.
2996.27 *3*	3^+		C E GH K M	Jπ: L=2+4 (d,t), and measured g7/2 strength (1990Sc12).
3016.44 *7*	$6^{(-)}$		C G	
3032.70[#] *17*	6^+		BCD N	Jπ: E2 γ′s to 4^+, ΔJ=2 collective band.
3046.40 *9*	4^+		CDE GH J M O QR WX	Jπ: L=4 (d,t), E2 γ to 2^+ level.
3088.63 *3*	2^+		C fG K M	Jπ: γ to 0^+, from (n,γ),(n,n′γ).
3096.93 *13*	4^+		CDEf H J w	Jπ: L=4 (d,t), log *ft*=5.6 from 5^+ parent.
3105.18 *17*	5^-		BCD fG M w	Jπ: 1978VaZK suggest (7^-), excit in (n,n′γ), also 7^- in (α,tγ).
3157.73 *7*	3^-,4		C G M QR wx	
3179.68 *6*	3^+		C EFGH K x	Jπ: L=2+4 (^{3}He,d), from (n,γ),(n,n′γ).
3184 *5*	3^-		M x	Jπ: L(p,p′)=3.
3194.32 *6*	0^+		C G M	Jπ: L(p,p′)=0, from (n,γ),(n,n′γ).
3210.00 *5*	7^-	<0.5 ns	BCD L NO W	Jπ: E2 γ to 5^-, log *ft*=5.6 from 8^- parent. $T_{1/2}$: from 1966Rg02.
3227.45 *5*	(2^+)		C Gh m x	Jπ: L=2 (d,t), from (n,γ),(n,n′γ).
3227.95 *11*	8^-		B D L N	Jπ: γ(θ) for M1 γ to 7^-.
3228.06 *14*	2^+		C Gh K m x	Jπ: L=2 (d,t) but not resolved with 3227 level from (n,γ),(n,n′γ).
3236.02 *6*	0^+		C G	
3257.67 *12*	3^-,4^-,5^-		C G M	
3277.6 *5*	6^+		BCDE M	Jπ: L(^{3}He,d)=2.
3288.99 *17*	≤4		C G	
3309.0 *4*	6^-		C	
3314.99 *13*	3^+		C GH	Jπ: L=4 (d,t), J^π=2^+,3^+ from (n,γ),(n,n′γ).
3333.78 *6*	1^-		C G M	Jπ: J^π determined in (pol γ,γ′) experiment 1994Go25.
3344.34 *5*	2^+		C FG X	Jπ: L=2 (d,t), J^π=2 from (n,γ),(n,n′γ).
3350.5 *4*	(5^+)		C	
3371.42 *8*	3^+		C G K	
3379.8 *5*	3^+		DE H M	Jπ: γ decay in (α,tγ).
3416.2 *3*	2^+		C GH K M QR	Jπ: L=2 (d,t), J=2 in (n,γ),(n,n′γ).
3427.91 *14*	4^-		C G	
3453.2 *3*	4,5		C M X	
3469.61 *9*	2^+		C GH M	Jπ: L=2 (d,t).
3492.98 *12*	8^+		B D N	Jπ: from γ(θ) for 584 E1 γ to 7^-.
3507.25 *20*	5^-		C G	
3508.33 *7*	2^+		C G	
3510 *5*	4^+		M	Jπ: L(p,p′)=4.

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Adopted Levels, Gammas (continued)

^{116}Sn Levels (continued)

E(level)†	Jπ‡	$T_{1/2}$	XREF	Comments
3513.6 *3*	$(2)^+$	C E GH K		Jπ: L=2 (d,t), J^π=(2) from (n,γ),(n,n′γ).
3522.66 *25*	9^-	B D LMN W		E(level): 1987Va30 have studied the role of core polarization and of the quenching of the leading shell model configuration in stretched spin states for this state. Jπ: from γ(θ) for M1+E2 γ to 8^-.
3547.16 *17*	10^+	833 ns *30*	B N	Q=0.50 (1989Ra17,2005St24,1975Di02) μ=−2.326 *15* (1989Ra17,2005St24) Jπ: M2 γ to 8^-, E2 γ to 8^+. $T_{1/2}$: from 1978VaZK (time distribution/beam burst of cyclotron).
3551.7 *5*	3^+	C G		
3572.77 *17*	2^+,3	C G m x		
3576.2 *6*	4^+,5	C m x		
3586.63 *10*	2^+	C Gh K m x		
3593.76 *9*	3^+	C Gh K		
3616.3 *4*	4^-	C H		Jπ: L(d,t)=2, J^π=4 in (n,γ),(n,n′γ).
3624.6 *7*	4^+	C M		Jπ: L(p,p′)=4, from (n,γ),(n,n′γ).
3640.7 *7*	$4,5^+$	C		
3648.1 *5*	3^-,5^-	C m		
3658.05 *6*	2^+	C EFG m R		
3706.9 *7*	3^+	C H		Jπ: L=2+4 (d,t).
3711.89 *8*	$(1)^+$	C G m		
3712.4# *3*	8^+	B D N		Jπ: E2 γ to 6^+, ΔJ=2 collective band.
3730.6 *4*	≤3	C G		
3739	3^+	DE H Q		Jπ: L(d,t)=2, γ from 5^+.
3742.90 *18*	3^-	C G m		
3747.9 *4*	≤3	C G K m		
3776.78 *15*	1^+	C GH M		Jπ: L=2 (d,t), J=1 from (n,γ),(n,n′γ).
3787.2 *5*	(6^-)	C f		
3797	$^+$	Ef		Jπ: L=0+2 in (3He,D).
3805.5 *5*	4^+	C F m		
3806.02 *18*	2^+	C FG m		Jπ: L=2 in (p,p′), from (n,γ),(n,n′γ).
3809.3 *8*	2^+,3	C m		
3836.67 *23*	0^+	C G		
3843.66 *19*	2^+,3	C G		
3850.9 *5*	$1,2^+$	C G		
3851? *5*		M		Jπ: probably different from the 3850.9 level $(1,2^+)$ since σ(θ) in (p,p′) requires a high -L component (see comment in (p,p′)).
3886.9 *4*	5^+	DE		Jπ: L(^{3}He,d)=0+2+4. γ to 6^-.
3903.58 *24*	2^+	C G K		
3904.91 *6*	1	C G		
3916.91 *7*	2^+	C G M		Jπ: L(p,p′)=2.
3945.8 *5*	1^+,2^+,3	C e Gh m q		
3950.52 *21*	1^-,2,3	C e Gh m q		
3952.9 *3*	2^+	C e Gh m q		Jπ: L(^{3}He,d)=2, L=2 (d,t).
3973.7 *8*	4^+	C		
3985.5 *2*		L		
4001.10 *7*	$1^{(-)}$	C G		
4013.27 *15*	2^+	C e G r w		Jπ: L(^{3}He,d)=2, primary γ from 0^+,1^+.
4015.1 *6*	$2,3,4^+$	C e r w		
4023 *1*	5^+	DE M		Jπ: L(^{3}He,d)=0+2+4. γ from 7^+.
4026.4 *3*	1	C G m		
4028.5 *5*	≤3	C G		

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Adopted Levels, Gammas (continued)

^{116}Sn Levels (continued)

E(level)[†]	Jπ[‡]	XREF	Comments
4037.2 *4*	2+,3+	C GH	
4075.87 *20*	1+,2+,3+	C GH w	
4077 *10*	4+,5+	DE m w	Jπ: L(^{3}He,d)=0+2+4.
4113.89 *6*	1,2+	C G	
4128.28 *20*	1,2+	C G	
4143.9 *5*	1+,2+,3	C e G m	
4162.108 *24*	2	C e G m	Jπ: (^{3}He,d)=2, primary γ from 0+,1+.
4170.9 *4*	2+	C e G m	
4190.5 *4*	2+,3+,4+	C G	
4200.09 *14*	1	C G m Y	
4201.52 *8*	1,2	C G m	
4211.59 *12*	0+,1,2	C G m S	
4238.15 *22*	2+	C G	
4240	4+,5+	E	Jπ: L(^{3}He,d)=0+2+4.
4251.68 *11*	1	C G m w	
4278.51 *20*	1,2+	C G m w	Jπ: L(^{3}He,d)=2.
4280.7 *7*	2,3−,4	C m w	
4285.0 *4*	(7)+	DE	Jπ: L(^{3}He,d)=2+4, γ's to 8-and 5−. γ to 8− is stronger Than γ to 5−.
4297.1 *5*	≤3	C G	
4308.5 *3*		G	
4340	+	E	Jπ: (^{3}He,d)=2.
4365		E	
4392.62 *8*		E G	
4410.98 *15*		G	
4430.45 *23*		G	
4480.19 *11*		E G	Jπ: L(^{3}He,d)=2.
4496.0 *6*	(10−)	B N	Jπ: probable stretched E2 to 8−. No γ to J<8.
4506.2[#] *4*	10+	B N	Jπ: E2 γ to 8+, ΔJ=2 collective band.
4511.36 *17*		G	
4548.38 *14*	1−	E G Y	
4584.13 *24*		G	
4649.21 *10*		G	
4701.83 *23*	11+	N	
4765 *1*	7+	DE	Jπ: L(^{3}He,d)=2. γ's to 8−,6−,6+.
4840 *10*	(8,10−)	DE w	Jπ: strong feeding to 8−. L(^{3}He,d)=4,5. 1992Sc20 suggest that this state contains part of the fragmented 10−,8− or 8+ configurations.
4852.7 *3*		G w	
4877.07 *14*		G	
4879.5 *6*	(11−)	B N	Jπ: stretched E2 to 9−. No γ to J<9.
4881.95 *23*	12+	N	
4892.55 *21*	1−	E G Y	Jπ: L(^{3}He,d)=2 (1969Sh14), 1986Va02 report L=4.
4925.92 *14*		G	
4940	0+	S	Jπ: L(^{3}He,n)=0.
4952.02 *20*		G	
4980.3 *5*	1	Y	
5055.53 *8*		G	
5066.3 *4*		G	
5085.7 *6*	1	Y	
5161.27 *23*	12+	N	
5174.4 *5*		G	
5242.3 *3*		G	
5329.90 *24*	12+	N	
5357.9 *3*		G	
5390.4[#] *5*	12+	B N	Jπ: E2 γ to 10+, ΔJ=2 collective band.

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Adopted Levels, Gammas (continued)

^{116}Sn Levels (continued)

E(level)[†]	Jπ[‡]	XREF	Comments
5391.2 *6*	1	Y	
5395.5 *3*		G	
5453.5 *4*	1(−)	Y	
5474.9 *3*		G	
5484.24 *22*		G	
5493.2 *6*		G	
5495.91 *23*	13+	N	
5500		DE	
5522.19 *23*	13+	N	
5550.7 *5*	1	Y	
5555.4 *5*	1	Y	
5562.72 *21*		G	
5573.6 *5*	(12+)	N	
5630.2 *5*	1−	Y	
5668.1 *4*		G	
5707.2 *3*		N	
5716.7 *4*		G	
5723.24 *25*	(12−)	G	
5730 *10*		E	
5740 *10*		E	
5767.19 *11*		G	
5780	(−)	DE	Jπ: L(^{3}He,d)=5.
5823.68 *23*	14+	N	
5834.7 *5*	1	Y	
5860	(−)	E	Jπ: L(^{3}He,d)=5.
5923.6 *3*		G	
5929.3 *3*	(13+)	N	
5968.4 *4*		G	
5977.57 *23*	13−	N	
5989.53 *10*		G	
5995.58 *11*		G	
6006.2 *5*	1(−)	Y	
6041.59 *22*		G	
6083.0 *5*	1	Y	
6088.7 *4*	1	Y	
6098.30 *24*	14+	N	
6116.8 *3*		G	
6130.97 *17*		G	
6151.9 *4*		G	
6159.57 *10*		G	
6180.5 *4*	1−	Y	
6198.74 *11*		G	
6213.01 *23*	14−	N	
6216.7 *5*	1−	Y	
6289.0 *4*	1−	Y	
6292.7 *11*	(10−)	DE	Jπ: L(^{3}He,d)=5. γ to 9−.
6313.4[#] *6*	14+	N	
6323.0 *6*	1−	Y	
6339.3 *5*	1−	Y	
6344.08 *23*	15−	N	
6357.7 *3*		G	
6358.0 *6*	(14+)	N	
6363.6 *5*	1	Y	
6371.9 *5*	1−	Y	
6373.0 *3*		G	

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Adopted Levels, Gammas (continued)

^{116}Sn Levels (continued)

E(level)†	Jπ‡	XREF	E(level)†	Jπ‡	XREF
6398.5 *5*	1	Y	7235.5 *11*	1	Y
6405.59 *15*		G	7241.4 *6*	1	Y
6423.1 *5*	1⁻	Y	7246.3 *5*		G
6428.05 *23*		G	7319.9 *7*	1	Y
6436.31 *21*		G	7325.27 *22*		G
6446.5 *5*	1⁻	Y	7353.4 *3*	1⁻	Y
6457.2 *5*	1⁻	Y	7457.3 *6*	(16⁺)	N
6466.1 *10*	1	Y	7479.8 *14*	1⁻	Y
6468.7 *3*		G	7597.8 *10*	1	Y
6472.3 *3*	1⁻	Y	7654.3 *7*	1⁻	Y
6482.59 *17*		G	7659.94 *19*		G
6484.1 *4*	1⁻	Y	7692.77 *18*		G
6507.6 *6*	1⁻	Y	7758.8 *9*	1	Y
6510.55 *9*		G	7826.3 *10*	1(−)	Y
6518.7 *4*	1⁻	Y	7896.6 *8*	1	Y
6532.01 *21*		G	7917.1 *7*	1⁻	Y
6581.9 *6*	1⁻	Y	7925.2 *8*	1(+)	Y
6593.2 *5*	1⁻	Y	7933.7 *6*	1	Y
6654.9 *7*	(1)	Y	7947.0 *8*	1	Y
6659.52 *25*	16⁻	N	7961.1 *6*	1⁻	Y
6663.1 *6*	(15⁺)	N	7991.6 *8*	1⁻	Y
6717.24 *11*		G	8187.4 *7*	1	Y
6741.4 *6*	(1)	Y	8214.3 *6*	1⁻	Y
6749.5 *5*	1	Y	8227.9# *6*	18⁺	N
6754.07 *18*		G	8234.5 *8*	1	Y
6834.1 *3*	1	Y	8247.8 *7*	1	Y
6877.0 *7*	1	Y	8282.9 *9*	1	Y
6889.4 *5*	1⁻	Y	8361.3 *8*	1⁻	Y
6967.3 *5*	1	Y	8427.9 *11*	1	Y
7011.5 *6*	1	Y	8457.9 *8*	1	Y
7035.01 *8*		G	8585.6 *3*		N
7082.15 *25*	17⁻	N	8661.2 *4*		N
7125.6 *5*	1⁻	Y	8739.7 *7*	(1)	Y
7145.8 *6*	1	Y	9141.4 *4*		N
7154.7 *5*	1⁻	Y	9321.9# *12*	(20⁺)	N
7165.0 *6*	1	Y	16198		T
7173.9 *4*		G	16308		T
7203.7 *8*	1	Y	16388		T
7215.3 *6*	1	Y	16478		T
7224.7 *4*		G	16568		T
7229.2# *6*	16⁺	N	17708		T

† From a least-squares fit to the adopted Eγ. Other levels are from the reactions indicated.

‡ From (n,γ),(n,n′γ) (1991Ra01), except where noted otherwise. Values from 1991Ra01 are based on γ(θ), decay modes and σ and σ(E) in (n,n′γ). All the J^π for levels only seen in (γ,γ′) are derived from nuclear resonance fluorescence with polarized γ. J^π for levels seen only in (^{18}O,α2nγ) are based on γγ(q) data.

Band(A): 0^+ intruder band, configuration=$\pi g_{9/2}^{-2} g_{7/2}^{2}$.

Adopted Levels, Gammas (continued)

γ(^{116}Sn)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.	δ	α #	$I_{(\gamma+ce)}$	Comments
1293.560	2^+	1293.558 *15*	100	0	0^+	E2‡		0.00075		B(E2)(W.u.)=12.4 *4* E_γ: from 1994Ga14.
1756.864	0^+	463.25 *3*	100 *6*	1293.560	2^+	[E2]				B(E2)(W.u.)=18 *3*
		1757.06 *21*		0	0^+	E0			0.35 *2*	
2027.48	0^+	733.89 *3*	100	1293.560	2^+	[E2]				B(E2)(W.u.)=0.49 *7*
		2027.3 *10*		0	0^+	E0				
2112.323	2^+	84.9 *5*	0.006 *3*	2027.48	0^+	[E2]		2.86 *8*		B(E2)(W.u.)=7.E+1 *4*
		355.40 *4*	5.0 *5*	1756.864	0^+	E2		0.01861		B(E2)(W.u.)=44 *5*
		818.718 *21*	75 *4*	1293.560	2^+	M1+E2‡	−1.8 *2*	0.00216		B(M1)(W.u.)=0.0021 *4*; B(E2)(W.u.)=7.7 *8*
		2112.312 *22*	100	0	0^+	E2				B(E2)(W.u.)=0.118 *7*
2225.379	2^+	113.1 *10*	<0.0017	2112.323	2^+					
		198.0 *7*	<0.014	2027.48	0^+					
		468.5 *5*	0.52 *11*	1756.864	0^+	[E2]				B(E2)(W.u.)=1.0 *6*
		931.814 *20*	100 *15*	1293.560	2^+	M1+E2	−1.9 *+5−7*			B(M1)(W.u.)=0.0015 *10*; B(E2)(W.u.)=5 *3*
		2225.33 *3*	67 *6*	0	0^+	[E2]				B(E2)(W.u.)=0.05 *3*
2266.159	3^-	972.564 *19*	100 *4*	1293.560	2^+	E1‡				B(E1)(W.u.)=0.00091 *12*
		2266 *1*	0.154 *24*	0	0^+	[E3]				B(E3)(W.u.)=22 *5*
2365.975	5^-	99.802 *11*	100	2266.159	3^-	E2‡		1.624		B(E2)(W.u.)=2.46 *16* E_γ: from 1994Ga14.
		1072.37 *3*	99 *6*	1293.560	2^+	E3‡		0.00229		B(E3)(W.u.)=1.33 *12*
2390.879	4^+	124.75 *7*	0.02 *1*	2266.159	3^-	[E1]				B(E1)(W.u.)=0.00010 *8*
		165.5 *10*	<0.00089	2225.379	2^+					
		278.49 *6*	0.26 *3*	2112.323	2^+	[E2]				B(E2)(W.u.)=9.E+1 *5*
		1097.326 *22*	100 *15*	1293.560	2^+	E2‡				B(E2)(W.u.)=38 *21*
2529.202	4^+	138.327 *8*	11.3 *4*	2390.879	4^+	M1‡		0.2284		B(M1)(W.u.)>0.0084
		262.95 *8*	0.4 *1*	2266.159	3^-	[E1]				B(E1)(W.u.)>5.6×10^{-7}
		303.80 *5*	0.4 *1*	2225.379	2^+	[E2]				B(E2)(W.u.)>0.23
		416.86 *3*	100 *5*	2112.323	2^+	E2‡		0.0126		B(E2)(W.u.)>12
		1235.6 *3*	0.32 *6*	1293.560	2^+	[E2]				B(E2)(W.u.)>0.00017
2545.71	(0^+)	433.9 *3*	3 *1*	2112.323	2^+					
		1252.118 *24*	100 *12*	1293.560	2^+					
2585.564	1^+	360.17 *3*	13 *2*	2225.379	2^+					
		828.79 *7*	6 *18*	1756.864	0^+					
		1292.00 *14*	100 *18*	1293.560	2^+					
		2585.70 *7*	66 *9*	0	0^+					
2650.438	2^+	384.22 *6*	2.0 *4*	2266.159	3^-					
		538.21 *6*	2.8 *5*	2112.323	2^+					
		1356.850 *22*	100 *19*	1293.560	2^+					
		2650.5 *4*	8 *1*	0	0^+					

$^{116}_{50}Sn_{66}$-7

Adopted Levels, Gammas (continued)

γ(^{116}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	δ	α[#]	Comments
2773.33	6^-	407.351 *15*	100	2365.975	5^-	M1(+E2)[‡]	+0.02 *2*		E_γ: from 1994Ga14.
2790.55	$(0)^+$	204.96 *6*	11 *1*	2585.564	1^+				
		565.16 *12*	14 *2*	2225.379	2^+				
		678.28 *5*	68 *8*	2112.323	2^+				
		1496.91 *6*	100	1293.560	2^+				
2801.28	4^+	434.9 *7*	0.36 *8*	2365.975	5^-				
		536.0 *6*	0.35 *8*	2266.159	3^-				
		689.0 *3*	1.6 *3*	2112.323	2^+				
		1507.67 *4*	100 *4*	1293.560	2^+	E2[‡]			
2843.82	2^+	577.36 *25*	1.5 *7*	2266.159	3^-				
		1550.03 *20*	69 *18*	1293.560	2^+				
		2843.85 *7*	100 *24*	0	0^+				
2908.85	7^-	135.511 *10*	56 *6*	2773.33	6^-	M1+E2[‡]	−0.04 *3*	0.2419	B(M1)(W.u.)=0.006 *4*; B(E2)(W.u.)=0.4 *+7−4* E_γ: from 1994Ga14.
		542.867 *15*	100 *6*	2365.975	5^-	E2[‡]		0.00593	B(E2)(W.u.)=0.5 *3* E_γ: from 1994Ga14.
2960.03	2^+	309.75 *22*	2.2 *7*	2650.438	2^+				
		374.52 *4*	15 *2*	2585.564	1^+				
		693.82 *6*	17 *2*	2266.159	3^-				
		1666.38 *5*	52 *7*	1293.560	2^+				
		2960.03 *8*	100 *16*	0	0^+				
2996.27	3^+	194.83 *9*	3.8 *6*	2801.28	4^+				
		466.7 *4*	16 *6*	2529.202	4^+				
		605.34 *6*	22 *3*	2390.879	4^+				
		770.95 *5*	20 *2*	2225.379	2^+				
		1702.68 *4*	100 *16*	1293.560	2^+				
3016.44	$6^{(-)}$	650.46 *6*	100	2365.975	5^-				
3032.70	6^+	503.3 *6*	55.7 *25*	2529.202	4^+	E2			
		641.1 *5*	100 *7*	2390.879	4^+	E2			
3046.40	4^+	245.0 *3*	1.5 *3*	2801.28	4^+				
		655.65 *14*	4.5 *10*	2390.879	4^+				
		781.1 *8*	4.5 *8*	2266.159	3^-				E_γ: Not confirmed by 2006Kr04, could be a single-escape (Se) peak of the 1293.56-keV transition.
		1752.72 *12*	100 *5*	1293.560	2^+	E2			
3088.63	2^+	1331.68 *7*	19 *3*	1756.864	0^+				
		1795.02 *5*	34 *5*	1293.560	2^+				
		3088.58 *4*	100 *20*	0	0^+				
3096.93	4^+	567.7 *3*	24 *7*	2529.202	4^+				
		706.00 *22*	100 *15*	2390.879	4^+				
		730.8 *3*	40 *15*	2365.975	5^-				
		831.0 *3*	31 *6*	2266.159	3^-				

$^{116}_{50}Sn_{66}$-8

Adopted Levels, Gammas (continued)

γ(^{116}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	δ	α[#]	Comments
3105.18	5⁻	331.8 *2*	100 *18*	2773.33	6⁻				
		714.4 *5*	45 *18*	2390.879	4⁺				
		738.8 *5*	73 *25*	2365.975	5⁻				
		839.6 *5*	45 *18*	2266.159	3⁻				
3157.73	3⁻,4	791.75 *6*	100	2365.975	5⁻				
3179.68	3⁺	378.24 *14*	9 *1*	2801.28	4⁺				
		788.81 *8*	27 *3*	2390.879	4⁺				
		1886.12 *10*	100 *21*	1293.560	2⁺				
3194.32	0⁺	1900.72 *5*	100	1293.560	2⁺				
3210.00	7⁻	436.68 *6*	30 *7*	2773.33	6⁻	M1,E2			
		844.001 *19*	100 *10*	2365.975	5⁻	E2[‡]		0.00191	B(E2)(W.u.)>0.060 E_γ: from 1994Ga14.
3227.45	(2⁺)	641.63 *14*	7.5 *11*	2585.564	1⁺				
		698.0 *3*	6 *1*	2529.202	4⁺				
		961.3 *4*	25 *8*	2266.159	3⁻				
		1115.16 *5*	100 *14*	2112.323	2⁺				
3227.95	8⁻	319.1 *1*	100	2908.85	7⁻	M1+E2	+0.11 *1*		
3228.06	2⁺	961.9 *4*	14 *6*	2266.159	3⁻				
		1002.6 *4*	6 *2*	2225.379	2⁺				
		1200.5 *3*	100 *8*	2027.48	0⁺				
		1934.52 *21*	21 *6*	1293.560	2⁺				
3236.02	0⁺	1123.68 *6*	100 *20*	2112.323	2⁺				
		1942.51 *13*	27 *6*	1293.560	2⁺				
3257.67	3⁻,4⁻,5⁻	891.69 *11*	100	2365.975	5⁻				
3277.6	6⁺	748.0 *6*	100	2529.202	4⁺				
3288.99	≤4	1022.83 *17*	100	2266.159	3⁻				
3309.0	6⁻	535.5 *6*		2773.33	6⁻				
		943.1 *4*		2365.975	5⁻				
3314.99	3⁺	1089.56 *14*	24 *10*	2225.379	2⁺				
		1202.9 *3*	100 *14*	2112.323	2⁺				
		2021.3 *5*	17 *7*	1293.560	2⁺				
3333.78	1⁻	3333.73 *6*	100	0	0⁺				
3344.34	2⁺	500.84 *20*	8 *1*	2843.82	2⁺				
		1078.14 *7*	94 *30*	2266.159	3⁻				
		1119.00 *7*	100 *19*	2225.379	2⁺				
		1231.94 *11*	42 *6*	2112.323	2⁺				
		2050.4 *7*	94 *25*	1293.560	2⁺				
3350.5	(5⁺)	355.0 *9*		2996.27	3⁺				
		549.1 *4*		2801.28	4⁺				
3371.42	3⁺	980.42 *22*	18 *14*	2390.879	4⁺				
		1146.03 *22*	31 *6*	2225.379	2⁺				

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Adopted Levels, Gammas (continued)

$\gamma(^{116}Sn)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	δ	α[#]	Comments
3371.42	3^+	2077.82 *10*	100 *14*	1293.560	2^+				
3379.8	3^+	578		2801.28	4^+				
		853		2529.202	4^+				
		989		2390.879	4^+				
3416.2	2^+	831.03 *10*	67 *7*	2585.564	1^+				
		1150.31 *6*	100 *16*	2266.159	3^-				
		2122.3 *7*	83 *15*	1293.560	2^+				
3427.91	4^-	1060.9 *6*	50 *17*	2365.975	5^-				
		1161.80 *14*	100 *17*	2266.159	3^-				
3453.2	4,5	407.5 *3*	100	3046.40	4^+				
		1187.0 *3*	32 *8*	2266.159	3^-				
		3454.9 *15*	100 *20*	0	0^+				
3469.61	2^+	125.7 *3*	2.3 *7*	3344.34	2^+				
		668.5 *4*	8 *2*	2801.28	4^+				
		1244.25 *12*	94 *11*	2225.379	2^+				
		2175.89 *13*	100 *15*	1293.560	2^+				
3492.98	8^+	214.0 *10*		3277.6	6^+				
		264.0 *10*		3227.95	8^-				
		584.16 *12*		2908.85	7^-	E1			
3507.25	5^-	1241.08 *20*	100	2266.159	3^-				
3508.33	2^+	419.60 *12*	50 *8*	3088.63	2^+				
		548.34 *9*	41 *6*	2960.03	2^+				
		664.54 *20*	18 *3*	2843.82	2^+				
		1396.03 *15*	100 *7*	2112.323	2^+				
3513.6	$(2)^+$	2220.1	100 *24*	1293.560	2^+				
		3514.0 *5*	27 *7*	0	0^+				
3522.66	9^-	294.6 *2*	100	3227.95	8^-	M1+E2[‡]	+0.13 *2*		
3547.16	10^+	54.0 *5*	8 *6*	3492.98	8^+	E2		14.4 *6*	B(E2)(W.u.)=3 *3*
		319.1 *1*	100 *21*	3227.95	8^-	M2		0.104	B(M2)(W.u.)=0.44 *13*
3551.7	3^+	2258.1 *5*	100	1293.560	2^+				
3572.77	2^+,3	2279.16 *17*	100	1293.560	2^+				
3576.2	4^+,5	1185.3 *6*	100	2390.879	4^+				
3586.63	2^+	1000.92 *12*	73 *11*	2585.564	1^+				
		1474.45 *19*	81 *13*	2112.323	2^+				
		3586.83 *22*	100 *9*	0	0^+				
3593.76	3^+	1368.38 *9*	100	2225.379	2^+				
		1481.4 *4*	<26	2112.323	2^+				I_γ: from β^- decay. Transition is multiply placed in (n,γ).
3616.3	4^-	1350.1 *4*	100	2266.159	3^-				
3624.6	4^+	2331.0 *7*	100	1293.560	2^+				
3640.7	$4,5^+$	1249.8 *7*	100	2390.879	4^+				
3648.1	3^-,5^-	1257.0 *5*		2390.879	4^+				

Adopted Levels, Gammas (continued)

γ(^{116}Sn) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.
3648.1	3⁻,5⁻	1282.5 *8*		2365.975	5⁻	
3658.05	2⁺	857.19 *15*	31 *5*	2801.28	4⁺	
		1433.40 *14*	18 *4*	2225.379	2⁺	
		1545.42 *7*	50 *14*	2112.323	2⁺	
		3658.5 *15*	100 *20*	0	0⁺	
3706.9	3⁺	1440.7 *7*	100	2266.159	3⁻	
3711.89	(1)⁺	868.04 *6*	45 *5*	2843.82	2⁺	
		3712.06 *16*	100 *21*	0	0⁺	
3712.4	8⁺	679.7 *2*	100	3032.70	6⁺	E2
3730.6	≤3	2437.0 *4*	100	1293.560	2⁺	
3739	3⁺	1348	100	2390.879	4⁺	
3742.90	3⁻	1476.75 *19*	100 *16*	2266.159	3⁻	
		1631.0 *10*	53 *9*	2112.323	2⁺	
		2449.0	44 *7*	1293.560	2⁺	
3747.9	≤3	2454.3 *4*	100	1293.560	2⁺	
3776.78	1⁺	1191.08 *17*	34 *8*	2585.564	1⁺	
		3777.1 *3*	100 *25*	0	0⁺	
3787.2	(6⁻)	1421.2 *5*	100	2365.975	5⁻	
3805.5	4⁺	1693.1 *8*		2112.323	2⁺	
		2511.9 *6*		1293.560	2⁺	
3806.02	2⁺	3805.95 *18*	100	0	0⁺	
3809.3	2⁺,3	1697.0 *8*	100	2112.323	2⁺	
3836.67	0⁺	2543.06 *23*	100	1293.560	2⁺	
3843.66	2⁺,3	1618.7 *6*	18 *7*	2225.379	2⁺	
		1731.8 *4*	22 *6*	2112.323	2⁺	
		2549.85 *22*	100 *18*	1293.560	2⁺	
3850.9	1,2⁺	1584.1 *6*	40 *15*	2266.159	3⁻	
		3852.0 *8*	100 *50*	0	0⁺	
3886.9	5⁺	509	100	3379.8	3⁺	
		791	20	3096.93	4⁺	
		841	15	3046.40	4⁺	
		1086	22	2801.28	4⁺	
		1114	22	2773.33	6⁻	
		1358	11	2529.202	4⁺	
		1494	75	2390.879	4⁺	
		1521	91	2365.975	5⁻	
		1618	68	2266.159	3⁻	
3903.58	2⁺	1678.2 *3*	27 *6*	2225.379	2⁺	
		3903.5 *4*	100 *17*	0	0⁺	
3904.91	1	1877.36 *8*	92 *12*	2027.48	0⁺	
		2148.06 *6*	100 *16*	1756.864	0⁺	
3916.91	2⁺	1650.74 *6*	100	2266.159	3⁻	
3945.8	1⁺,2⁺,3	2652.2 *5*	100	1293.560	2⁺	
3950.52	1⁻,2,3	1684.6 *8*	27 *13*	2266.159	3⁻	
		1724.6 *3*	100 *17*	2225.379	2⁺	
		2657.4 *3*	22 *11*	1293.560	2⁺	
3952.9	2⁺	439.32 *17*	21 *6*	3513.6	(2)⁺	
		3952.5 *4*	100 *17*	0	0⁺	
3973.7	4⁺	1861.4 *8*	100	2112.323	2⁺	
3985.5		1076.72 *13*	100	2908.85	7⁻	
4001.10	1(−)	1210.6 *7*	7 *4*	2790.55	(0)⁺	
		2244.21 *7*	100 *13*	1756.864	0⁺	
		2707.48 *22*	78 *17*	1293.560	2⁺	
4013.27	2⁺	1787.54 *25*	11 *2*	2225.379	2⁺	
		2719.7 *4*	29 *11*	1293.560	2⁺	
		4013.4 *2*	100 *11*	0	0⁺	
4015.1	2,3,4⁺	1902.7 *8*		2112.323	2⁺	
		2721.5 *9*		1293.560	2⁺	
4023	5⁺	136		3886.9	5⁺	
		284		3739	3⁺	
		746		3277.6	6⁺	
4026.4	1	4026.5 *3*	100	0	0⁺	
4028.5	≤3	2734.9 *5*	100	1293.560	2⁺	
4037.2	2⁺,3⁺	1771.2 *5*	32 *6*	2266.159	3⁻	
		2743.5 *4*	100 *36*	1293.560	2⁺	
4075.87	1⁺,2⁺,3⁺	417.4 *4*	100 *35*	3658.05	2⁺	
		1963.67 *23*	73 *13*	2112.323	2⁺	
4077	4⁺,5⁺	189		3886.9	5⁺	
		799		3277.6	6⁺	
		1028		3046.40	4⁺	
		1549		2529.202	4⁺	
		1685		2390.879	4⁺	
		1712		2365.975	5⁻	
4113.89	1,2⁺	1568.02 *20*	11 *3*	2545.71	(0⁺)	
		2357.01 *6*	100 *13*	1756.864	0⁺	
		4113.9 *2*	71 *13*	0	0⁺	
4128.28	1,2⁺	4128.2 *2*	100	0	0⁺	
4143.9	1⁺,2⁺,3	2850.3 *5*	100	1293.560	2⁺	
4162.108	2	1576.74 *21*	21 *5*	2585.564	1⁺	
		1896.49 *19*	46 *6*	2266.159	3⁻	
		2868.48 *2*	100 *22*	1293.560	2⁺	
4170.9	2⁺	2877.5 *4*	100 *21*	1293.560	2⁺	
		4170.4 *6*	82 *23*	0	0⁺	
4190.5	2⁺,3⁺,4⁺	1924.3 *6*	37 *15*	2266.159	3⁻	

$^{116}_{50}Sn_{66}$-11

Adopted Levels, Gammas (continued)

γ(^{116}Sn) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.
4190.5	$2^+,3^+,4^+$	2896.9 *4*	100 *22*	1293.560	2^+	4496.0	(10^-)	1267.9 *5*	100	3227.95	8^-	
4200.09	1	1409.66 *17*	53 *11*	2790.55	$(0)^+$	4506.2	10^+	793.8 *2*	100	3712.4	8^+	E2
		4199.79 *22*	100 *17*	0	0^+	4511.36		1860.4 *3*	34 *5*	2650.438	2^+	
4201.52	1,2	1551.3 *6*	68 *40*	2650.438	2^+			1926.3 *4*	28 *8*	2585.564	1^+	
		1616.06 *14*	55 *7*	2585.564	1^+			2754.7 *3*	100 *22*	1756.864	0^+	
		1935.46 *22*	60 *12*	2266.159	3^-			4511.2 *4*	61 *17*	0	0^+	
		1976.06 *9*	100 *21*	2225.379	2^+	4548.38	1^-	4548.28 *14*	100	0	0^+	
		2907.2 *5*	31 *9*	1293.560	2^+	4584.13		4584.03 *24*	100	0	0^+	
4211.59	$0^+,1,2$	840.14 *11*	24 *3*	3371.42	3^+	4649.21		2535.9 *5*	17 *8*	2112.323	2^+	
		2918.07 *22*	100 *22*	1293.560	2^+			2620.7 *6*	50 *20*	2027.48	0^+	
4238.15	2^+	2944.8 *3*	100 *33*	1293.560	2^+			3356.5 *6*	24 *6*	1293.560	2^+	
		4237.8 *3*	100 *33*	0	0^+			4649.15 *10*	100 *10*	0	0^+	
4251.68	1	835.07 *19*	13 *3*	3416.2	2^+	4701.83	11^+	1154.9 *1*	100	3547.16	10^+	
		4251.64 *12*	100 *19*	0	0^+	4765	7^+	1487	100	3277.6	6^+	
4278.51	$1,2^+$	2984.70 *23*	100 *17*	1293.560	2^+			1537	24	3227.95	8^-	
		4279.0 *4*	20 *6*	0	0^+			1555	80	3210.00	7^-	
4280.7	$2,3^-,4$	2014.5 *7*	100	2266.159	3^-	4840	$(8,10^-)$	1325		3522.66	9^-	
4285.0	$(7)^+$	260	7	4023	5^+			1354		3492.98	8^+	
		1008	27	3277.6	6^+			1936		2908.85	7^-	
		1057	100	3227.95	8^-	4852.7		3558.9 *5*	100 *25*	1293.560	2^+	
		1252	23	3032.70	6^+			4852.6 *3*	100 *25*	0	0^+	
		1375	29	2908.85	7^-	4877.07		2291.68 *25*	50 *7*	2585.564	1^+	
		1512	25	2773.33	6^-			4876.88 *17*	100 *15*	0	0^+	
		1918	48	2365.975	5^-	4879.5	(11^-)	1356.8 *5*	100	3522.66	9^-	
4297.1	≤3	3003.5 *5*	100	1293.560	2^+	4881.95	12^+	1335.2 *1*	100	3547.16	10^+	
4308.5		1517.9 *3*	55 *10*	2790.55	$(0)^+$	4892.55	1^-	3598.4 *5*	100 *17*	1293.560	2^+	
		3015.1 *5*	100 *23*	1293.560	2^+			4892.54 *22*	99 *14*	0	0^+	
4392.62		1165.15 *25*	18 *3*	3227.45	(2^+)	4925.92		2275.6 *6*	28 *6*	2650.438	2^+	
		1303.86 *15*	13 *3*	3088.63	2^+			3632.26 *20*	94 *12*	1293.560	2^+	
		1863.5 *4*	15 *3*	2529.202	4^+			4925.8 *2*	100 *15*	0	0^+	
		2001.8 *3*	14 *3*	2390.879	4^+	4952.02		2301.62 *26*	37 *6*	2650.438	2^+	
		3099.3 *3*	47 *9*	1293.560	2^+			3658.3 *3*	100 *22*	1293.560	2^+	
		4392.54 *12*	100 *17*	0	0^+	5055.53		1711.16 *9*	100 *14*	3344.34	2^+	
4410.98		1882.9 *7*	35 *11*	2529.202	4^+			2211.72 *11*	37 *6*	2843.82	2^+	
		3117.6 *5*	66 *12*	1293.560	2^+	5066.3		3309.4 *4*	100 *33*	1756.864	0^+	
		4410.81 *16*	100 *30*	0	0^+			5066.2 *6*	33 *11*	0	0^+	
4430.45		1586.4 *3*	42 *8*	2843.82	2^+	5161.27	12^+	459.3 *1*	54 *5*	4701.83	11^+	
		2402.2 *7*	100 *28*	2027.48	0^+			1614.7 *1*	100 *5*	3547.16	10^+	
		4431.0 *4*	95 *24*	0	0^+	5174.4		3417.6 *5*	37 *13*	1756.864	0^+	
4480.19		1136.2 *4*	11 *4*	3344.34	2^+			5172.9 *20*	100 *55*	0	0^+	
		2254.72 *24*	52 *8*	2225.379	2^+	5242.3		2282.4 *3*	100 *16*	2960.03	2^+	
		3186.55 *12*	100 *18*	1293.560	2^+			3947.9 *6*	60 *15*	1293.560	2^+	

$^{116}_{50}Sn_{66}$-12

Adopted Levels, Gammas (continued)

γ(^{116}Sn) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.
5329.90	12^+	1783.5 *2*	100	3547.16	10^+	
5357.9		3132.7 *6*	17 *62*	2225.379	2^+	
		3331.0 *7*	100 *25*	2027.48	0^+	
		4064.0 *3*	37 *6*	1293.560	2^+	
5390.4	12^+	884.2 *3*	100	4506.2	10^+	E2
5395.5		2051.5 *7*	100 *32*	3344.34	2^+	
		4101.8 *3*	59 *9*	1293.560	2^+	
5474.9		4181.5 *3*	100 *20*	1293.560	2^+	
		5474.0 *5*	27 *7*	0	0^+	
5484.24		3456.68 *22*	100 *10*	2027.48	0^+	
		5484.5 *9*	30 *10*	0	0^+	
5493.2		5493.1 *6*	100	0	0^+	
5495.91	13^+	166.1 *1*	27.1 *14*	5329.90	12^+	
		334.7 *1*	31 *3*	5161.27	12^+	
		613.8 *1*	73 *4*	4881.95	12^+	
		794.0 *1*	100 *9*	4701.83	11^+	
5500		≈2285	100	3210.00	7^-	
5522.19	13^+	360.9 *1*	100 *5*	5161.27	12^+	
		820.4 *1*	22.7 *23*	4701.83	11^+	
5562.72		2977.2 *4*	60 *20*	2585.564	1^+	
		3296.7 *4*	47 *20*	2266.159	3^-	
		4268.9 *3*	100 *20*	1293.560	2^+	
5573.6	(12^+)	1068.4 *3*	100	4506.2	10^+	
5668.1		3554.5 *7*	100 *33*	2112.323	2^+	
		3911.6 *4*	95 *20*	1756.864	0^+	
5707.2		1005.3 *2*	100	4701.83	11^+	
5716.7		3491.2 *6*	43 *21*	2225.379	2^+	
		4423.0 *4*	100 *14*	1293.560	2^+	
5723.24	(12^-)	844.6 *1*	100	4877.07		
5767.19		3500.4 *3*	79 *11*	2266.159	3^-	
		3740.6 *6*	18 *8*	2027.48	0^+	
		4473.57 *12*	100 *16*	1293.560	2^+	
5780	$(^-)$	≈2260	100	3522.66	9^-	
5823.68	14^+	301.5 *1*	100 *4*	5522.19	13^+	
		662.4 *2*	19 *3*	5161.27	12^+	
		941.6 *1*	57 *3*	4881.95	12^+	
5923.6		3811.2 *6*	60 *20*	2112.323	2^+	
		4629.9 *3*	100 *20*	1293.560	2^+	
5929.3	(13^+)	1050.7 *2*	100	4879.5	(11^-)	
5968.4		3008.2 *5*	100 *40*	2960.03	2^+	
		3578.1 *7*	52 *22*	2390.879	4^+	
		3855.6 *8*	80 *40*	2112.323	2^+	
5977.57	13^-	270.3 *2*	3 *5*	5707.2		
		1095.9 *2*	18.8 *18*	4881.95	12^+	
		1098.9 *1*	100 *4*	4879.5	(11^-)	
5989.53		3764.8 *6*	6 *2*	2225.379	2^+	
		3876.8 *4*	9 *2*	2112.323	2^+	
		4695.85 *10*	100 *11*	1293.560	2^+	
5995.58		3968.18 *20*	72 *12*	2027.48	0^+	
		4701.85 *12*	100 *12*	1293.560	2^+	
6041.59		2944.5 *3*	100 *30*	3096.93	4^+	
		3650.4 *8*	34 *13*	2390.879	4^+	
		3816.3 *3*	100 *30*	2225.379	2^+	
6098.30	14^+	1217.1 *2*	100	4881.95	12^+	
6116.8		3026.8 *6*	91 *23*	3088.63	2^+	
		4360.1 *5*	100 *23*	1756.864	0^+	
		4823.0 *3*	94 *19*	1293.560	2^+	
6130.97		4374.15 *20*	100 *19*	1756.864	0^+	
		4837.0 *3*	33 *7*	1293.560	2^+	
6151.9		3926.4 *6*	29 *15*	2225.379	2^+	
		4858.2 *4*	100 *16*	1293.560	2^+	
6159.57		4865.97 *11*	100 *10*	1293.560	2^+	
		6158.96 *24*	28 *5*	0	0^+	
6198.74		3549.0 *4*	26 *6*	2650.438	2^+	
		3932.5 *4*	29 *7*	2266.159	3^-	
		4441.68 *11*	100 *14*	1756.864	0^+	
		4905.9 *5*	13 *4*	1293.560	2^+	
6213.01	14^-	114.9 *1*	10.5	6098.30	14^+	
		235.4 *1*	89 *3*	5977.57	13^-	
		505.6 *3*	2.9	5707.2		
		717.0 *1*	100 *4*	5495.91	13^+	
6292.7	(10^-)	2770	100	3522.66	9^-	
6313.4	14^+	925.4 *1*	100	5390.4	12^+	
6344.08	15^-	131.1 *1*	100 *3*	6213.01	14^-	
		366.6 *1*	25.0 *13*	5977.57	13^-	
		520.3 *1*	66 *3*	5823.68	14^+	
6357.7		4246.1 *5*	61 *14*	2112.323	2^+	
		4600.4 *3*	100 *25*	1756.864	0^+	
6358.0	(14^+)	970.0 *1*	100	5390.4	12^+	
6373.0		3528.8 *4*	86 *25*	2843.82	2^+	
		5079.6 *4*	100 *25*	1293.560	2^+	
6405.59		4293.18 *15*	100	2112.323	2^+	
6428.05		3626.7 *5*	40 *10*	2801.28	4^+	
		3637.0 *4*	65 *12*	2790.55	$(0)^+$	

$^{116}_{50}Sn_{66}$-13

Adopted Levels, Gammas (continued)

γ(^{116}Sn) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π
6428.05		3842.6 *4*	70 *20*	2585.564	1^+
		4162.4 *6*	100 *25*	2266.159	3^-
6436.31		3592.8 *3*	100 *10*	2843.82	2^+
		3646.6 *6*	20 *10*	2790.55	$(0)^+$
		4209.8 *5*	46 *13*	2225.379	2^+
		5142.2 *4*	44 *12*	1293.560	2^+
6468.7		3677.7 *4*	100 *21*	2790.55	$(0)^+$
		4076.9 *6*	70 *19*	2390.879	4^+
		4712.7 *5*	93 *16*	1756.864	0^+
		5176.4 *15*	58 *25*	1293.560	2^+
6482.59		3393.8 *4*	43 *14*	3088.63	2^+
		3521.4 *7*	36 *14*	2960.03	2^+
		3832.3 *6*	29 *7*	2650.438	2^+
		4092.4 *4*	100 *21*	2390.879	4^+
		4257.5 *7*	29 *7*	2225.379	2^+
		4725.6 *3*	57 *14*	1756.864	0^+
		5188.4 *4*	34 *7*	1293.560	2^+
6510.55		3720.5 *6*	44 *13*	2790.55	$(0)^+$
		3859.9 *8*	19 *13*	2650.438	2^+
		4483.12 *23*	100 *19*	2027.48	0^+
		5216.8 *1*	94 *13*	1293.560	2^+
6532.01		3351.4 *5*	69 *15*	3179.68	3^+
		4306.74 *25*	100 *15*	2225.379	2^+
		5238.4 *6*	28 *6*	1293.560	2^+
6659.52	16^-	315.4 *1*	100 *3*	6344.08	15^-
		447 *1*	1.9 *4*	6213.01	14^-
6663.1	(15^+)	305.1 *1*	100	6358.0	(14^+)
6717.24		4959.7 *3*	32 *49*	1756.864	0^+
		5423.60 *11*	100 *12*	1293.560	2^+
6754.07		3793.6 *6*	33 *11*	2960.03	2^+
		4641.5 *2*	100 *22*	2112.323	2^+
6754.07		5461.1 *4*	89 *22*	1293.560	2^+
7035.01		4449.50 *12*	63 *9*	2585.564	1^+
		4769.4 *10*	26 *14*	2266.159	3^-
		4809.42 *10*	100 *11*	2225.379	2^+
7082.15	17^-	422.6 *1*	100 *3*	6659.52	16^-
		738.1 *1*	16.7 *20*	6344.08	15^-
7173.9		3938.0 *5*	100 *25*	3236.02	0^+
		5062.1 *8*	60 *15*	2112.323	2^+
		5416.3 *6*	75 *25*	1756.864	0^+
7224.7		4135.8 *4*	100 *30*	3088.63	2^+
		5931.4 *6*	23 *8*	1293.560	2^+
7229.2	16^+	915.8 *1*	100	6313.4	14^+
7246.3		5134.2 *6*	100 *33*	2112.323	2^+
		5952.3 *6*	100 *33*	1293.560	2^+
7325.27		4674.6 *3*	100 *17*	2650.438	2^+
		4780.2 *15*	44 *20*	2545.71	(0^+)
		4934.0 *4*	50 *11*	2390.879	4^+
		5298.4 *5*	71 *18*	2027.48	0^+
7457.3	(16^+)	1143.9 *2*	100	6313.4	14^+
7659.94		4816.1 *3*	100 *14*	2843.82	2^+
		5114.1 *3*	92 *17*	2545.71	(0^+)
		5268.8 *4*	48 *16*	2390.879	4^+
7692.77		5427.8 *7*	60 *10*	2266.159	3^-
		5467.1 *2*	100 *10*	2225.379	2^+
		5580.6 *5*	50 *10*	2112.323	2^+
8227.9	18^+	998.7 *1*	100	7229.2	16^+
8585.6		1503.4 *1*	100	7082.15	17^-
8661.2		1579.0 *2*	100	7082.15	17^-
9141.4		480.2 *1*	100	8661.2	
9321.9	(20^+)	1094.0 *10*	100	8227.9	18^+

† Average of all available data; otherwise noted.

‡ From ce data in ^{116}Sb decay and (α,2nγ).

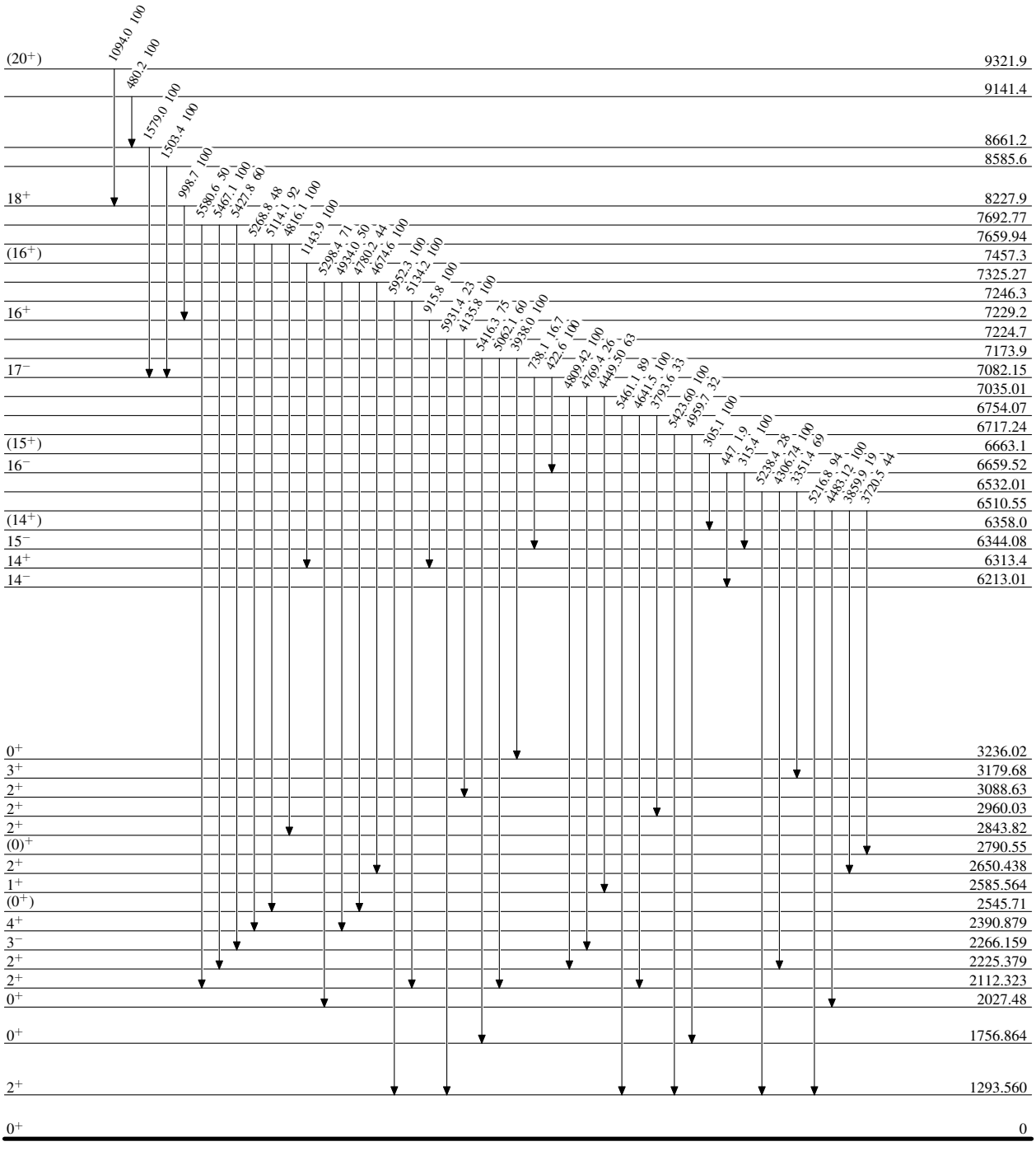
Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

$^{116}_{50}Sn_{66}$-14

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

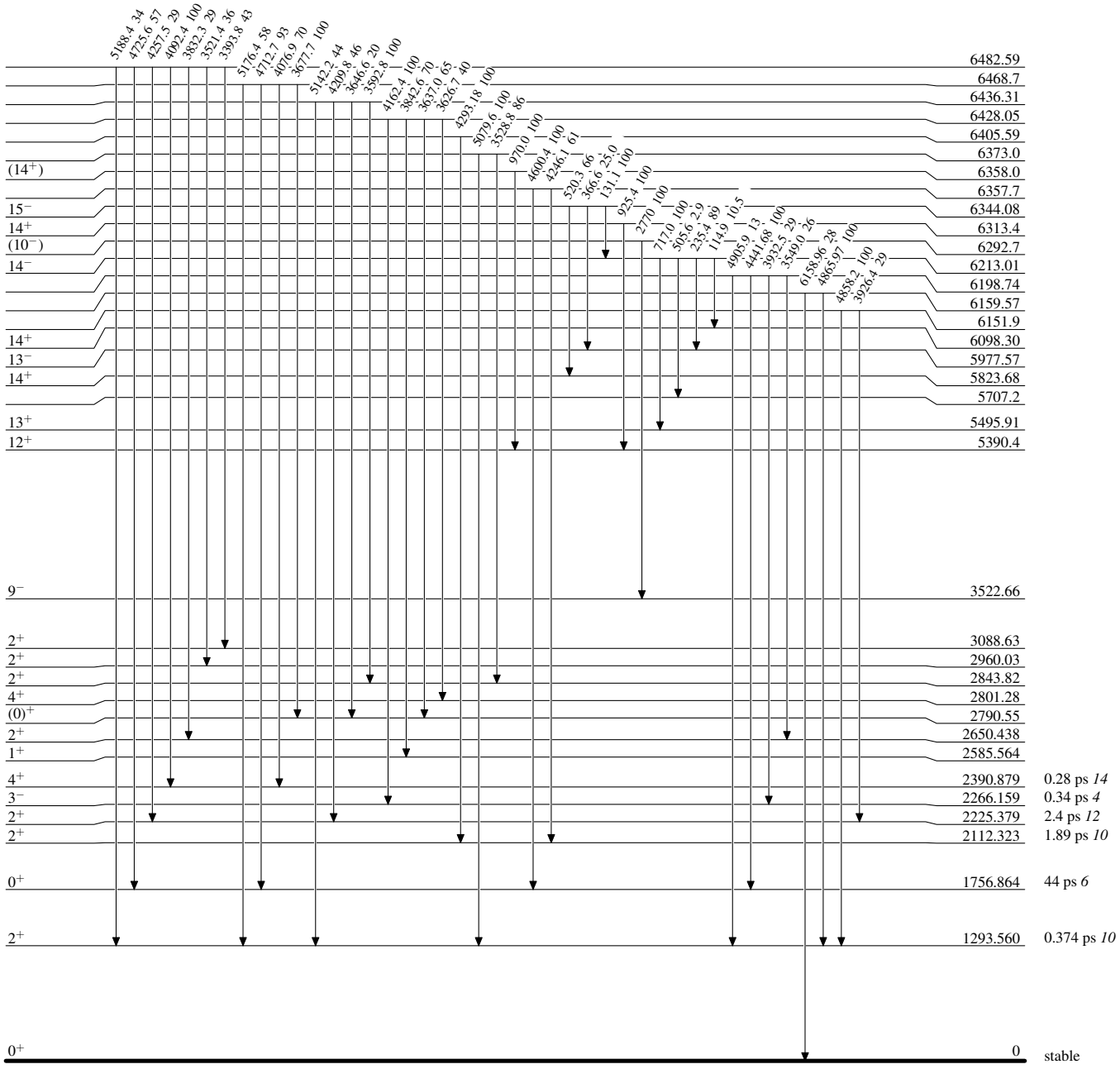


$^{116}_{50}Sn_{66}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

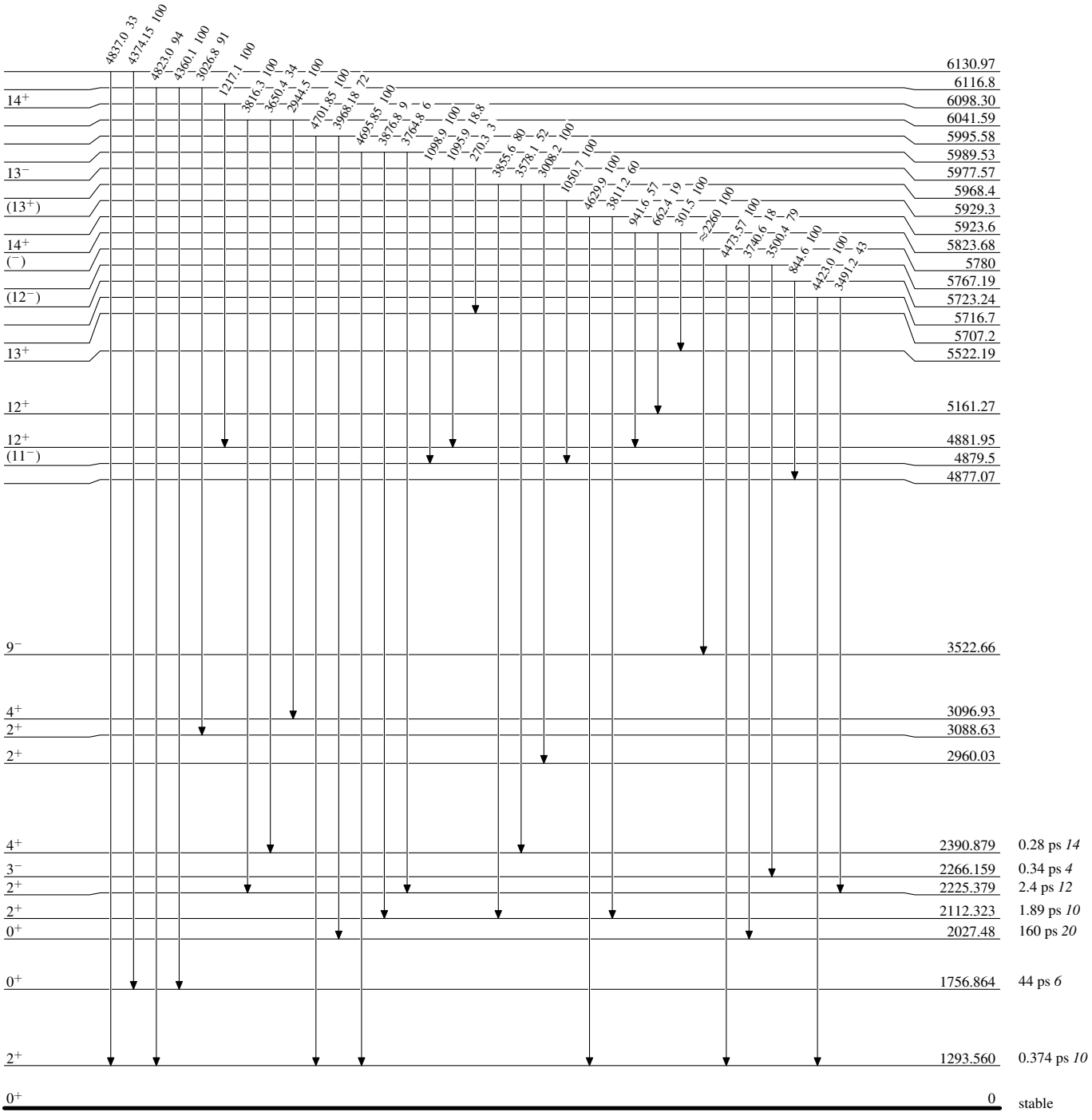


$^{116}_{50}Sn_{66}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

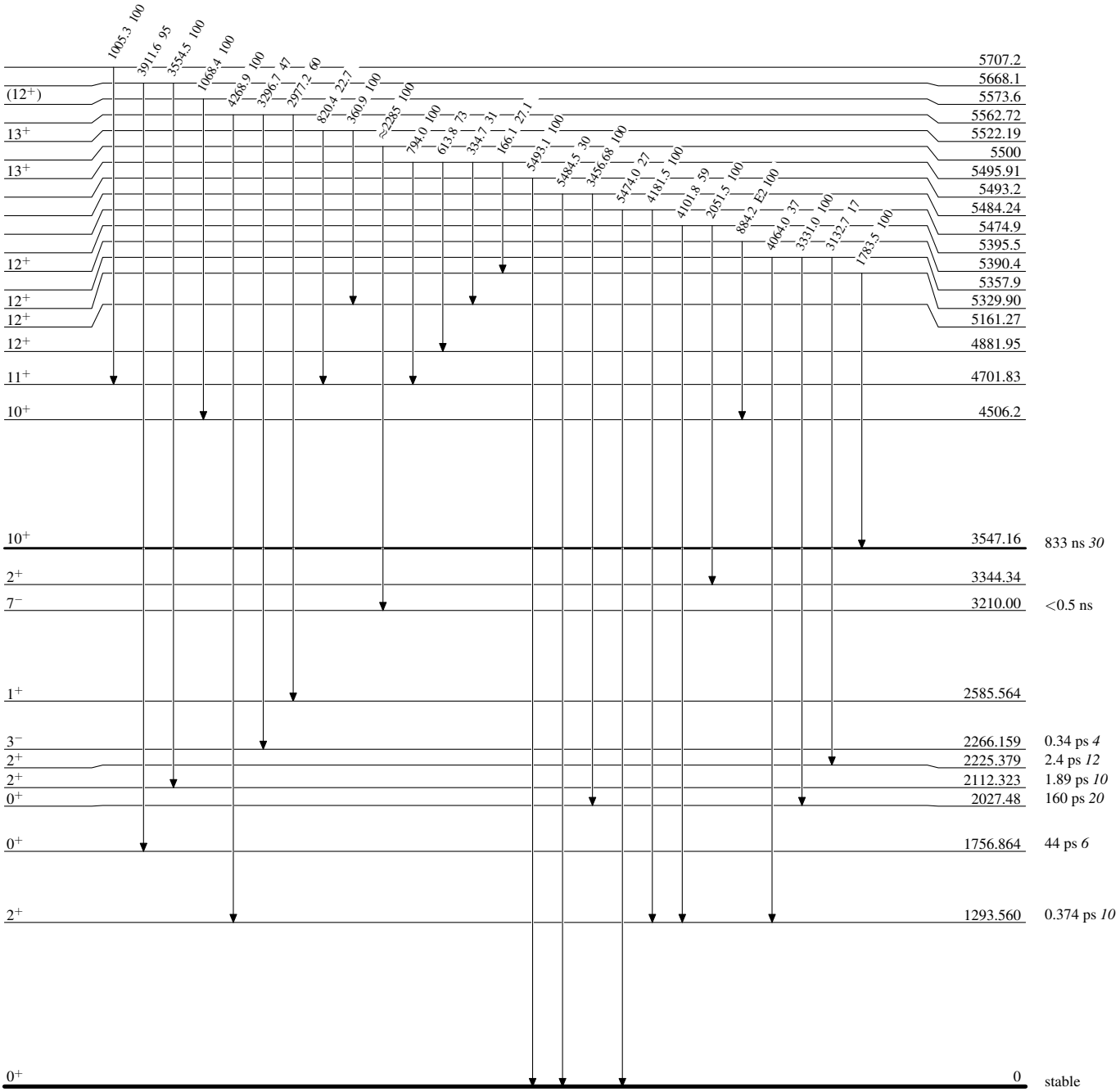


$^{116}_{50}Sn_{66}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

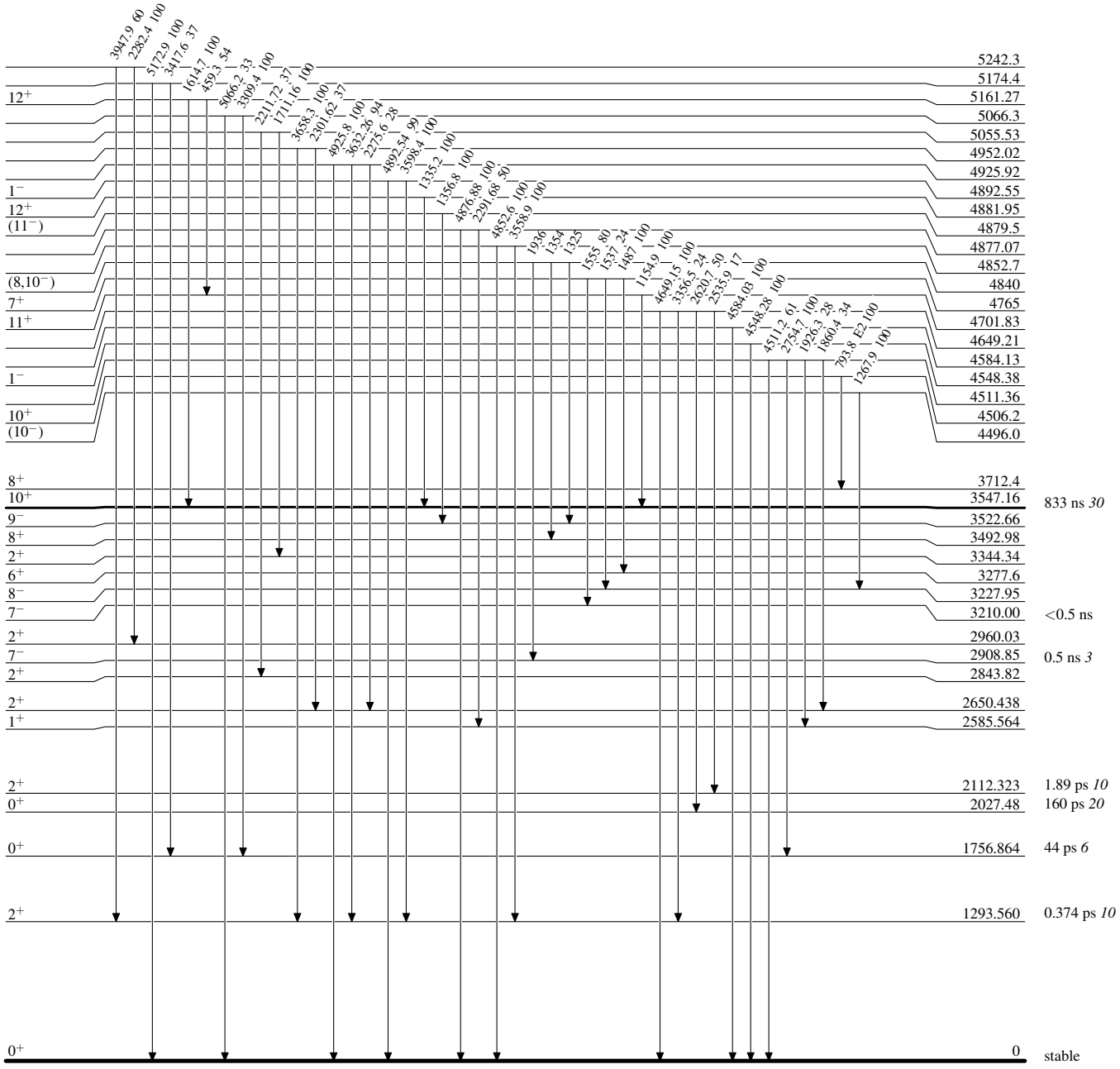


$^{116}_{50}Sn_{66}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

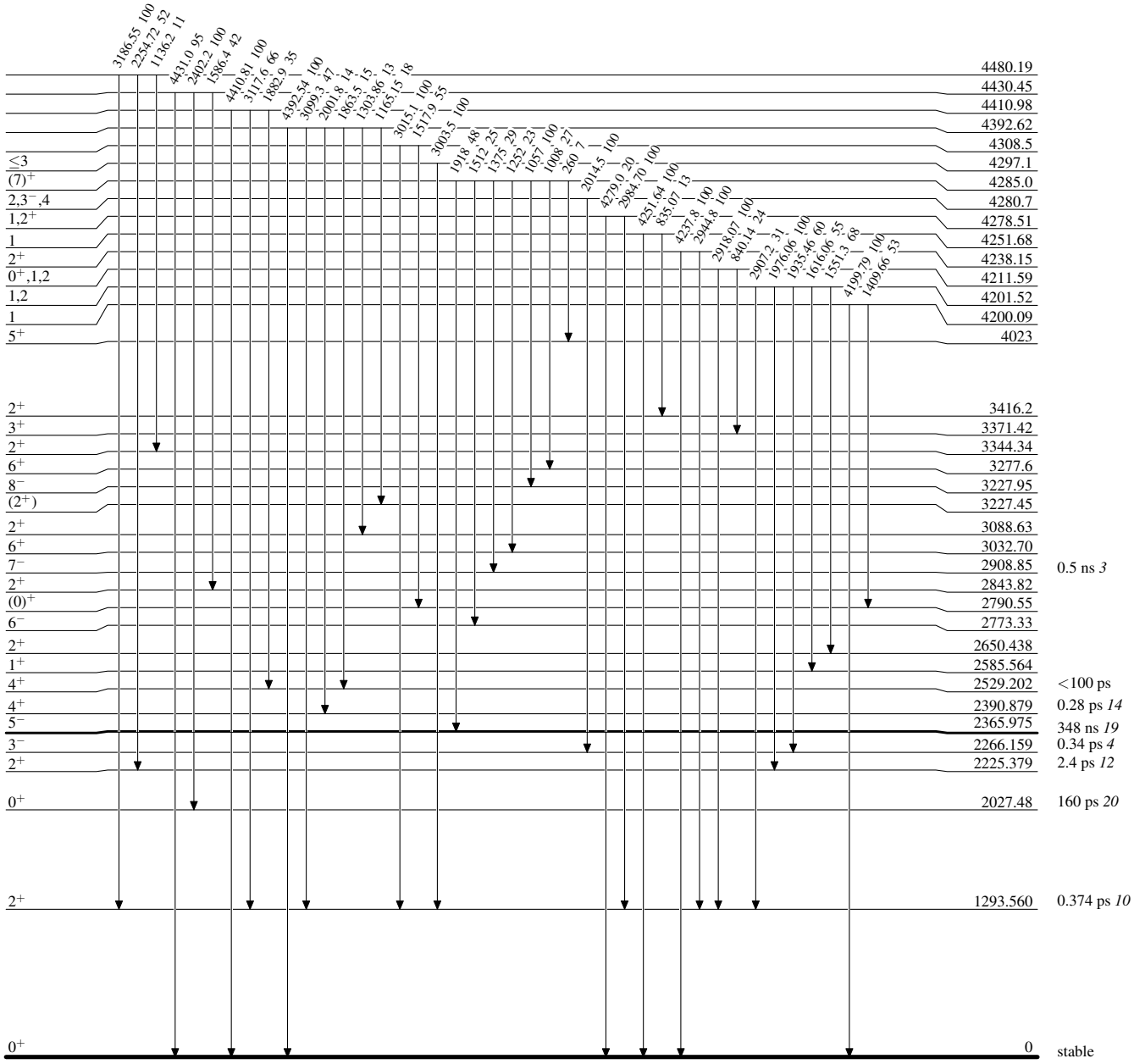


$^{116}_{50}Sn_{66}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

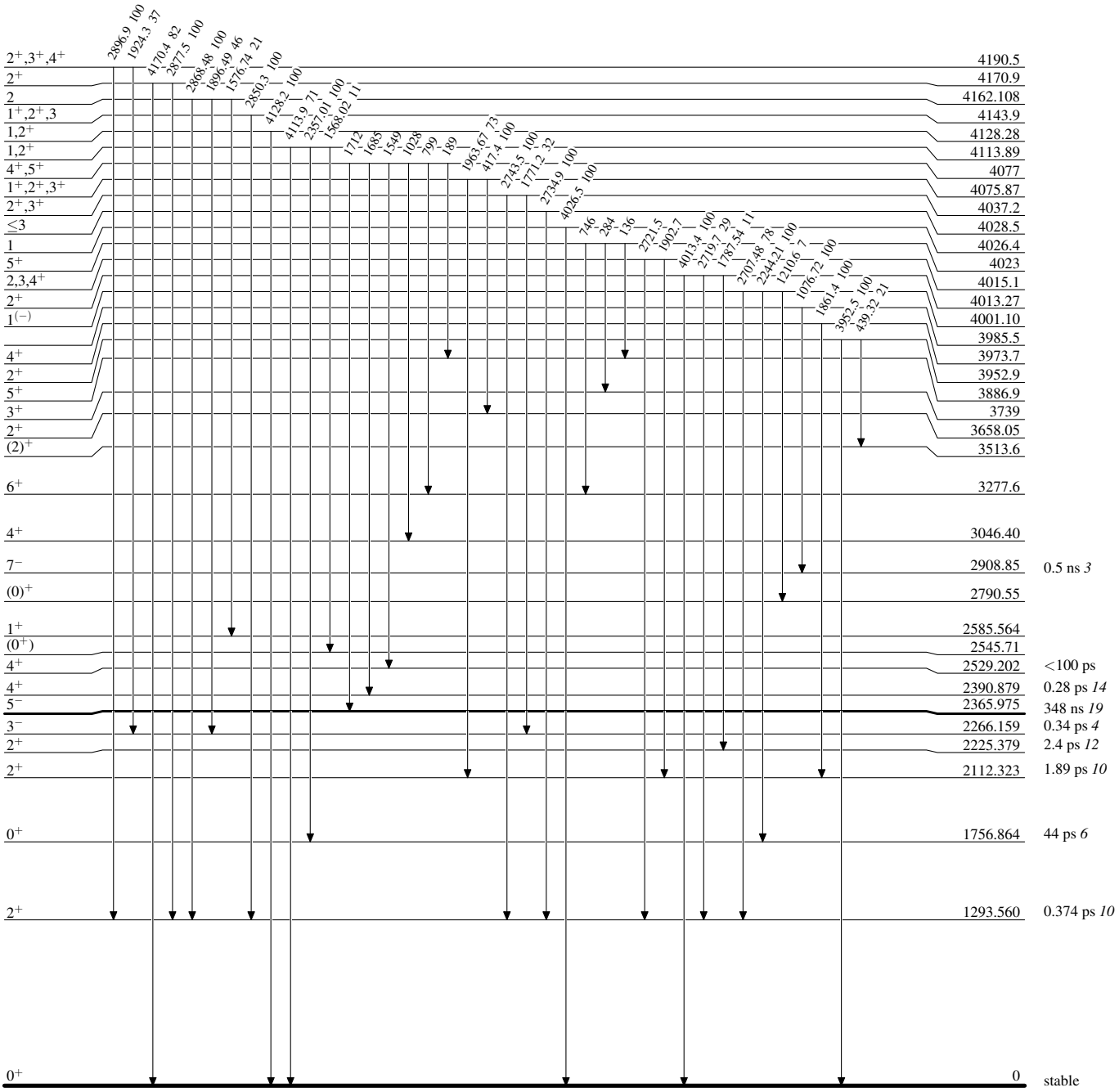


$^{116}_{50}Sn_{66}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

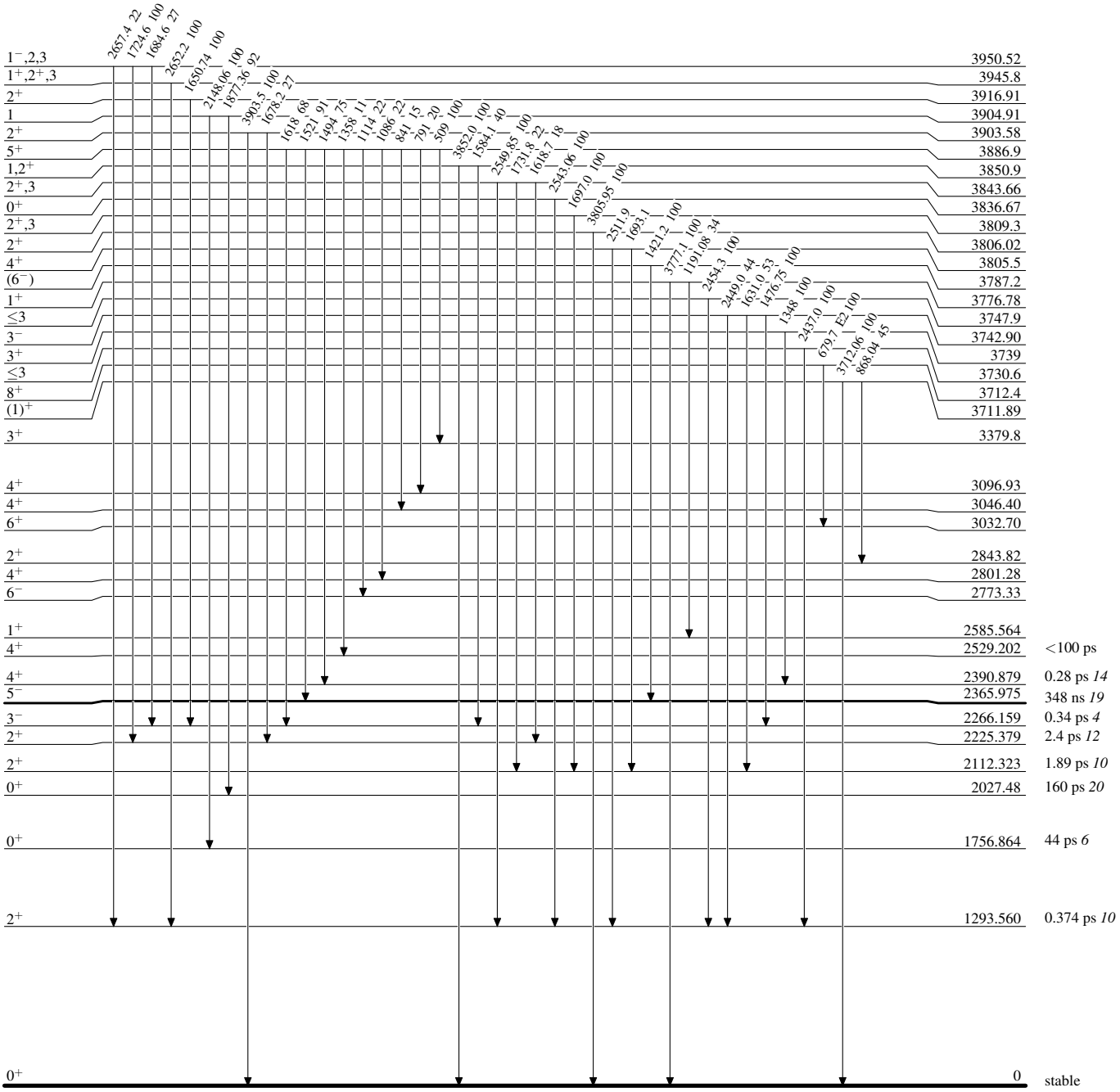


$^{116}_{50}Sn_{66}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

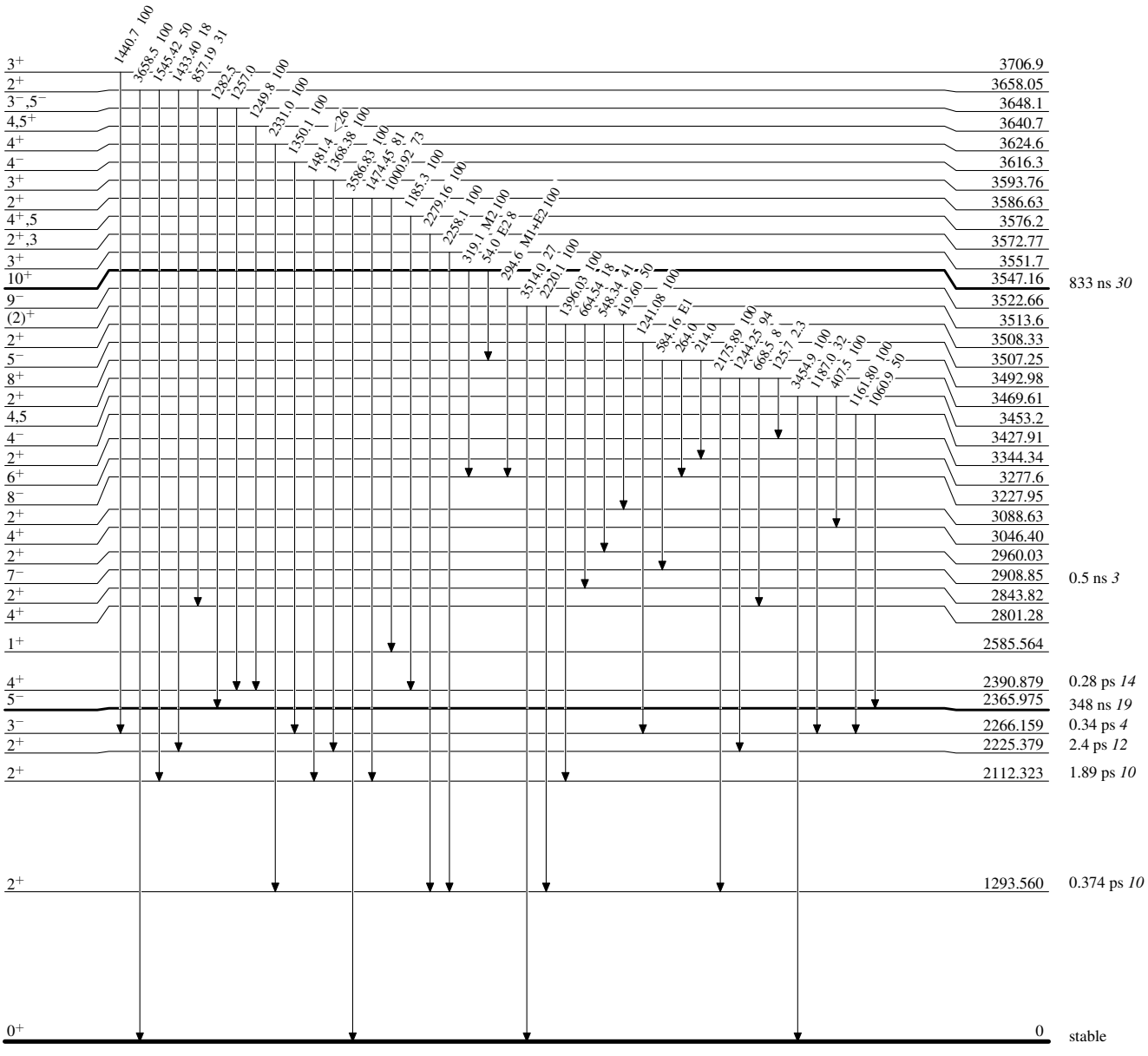


$^{116}_{50}Sn_{66}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

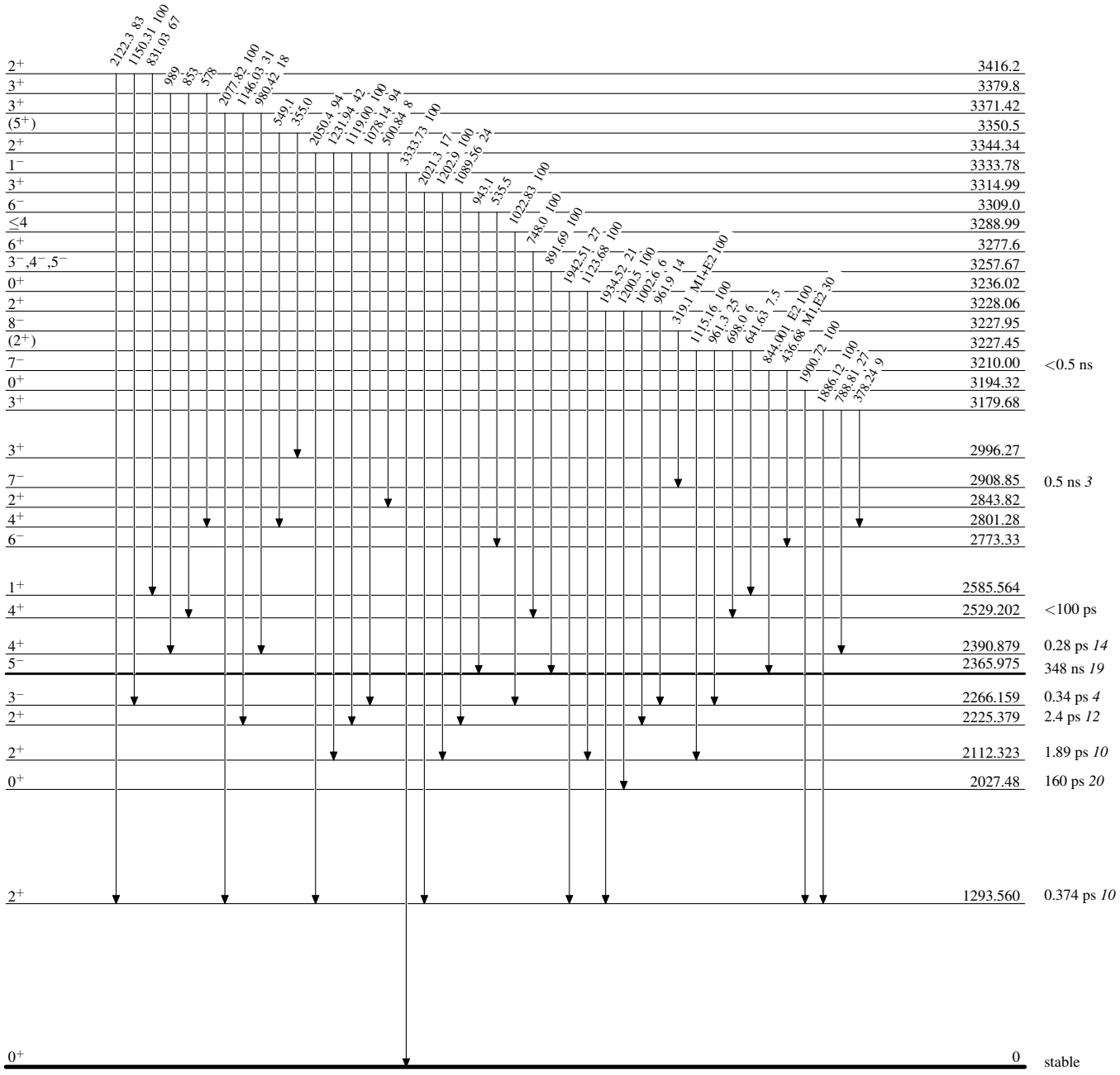


$^{116}_{50}Sn_{66}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

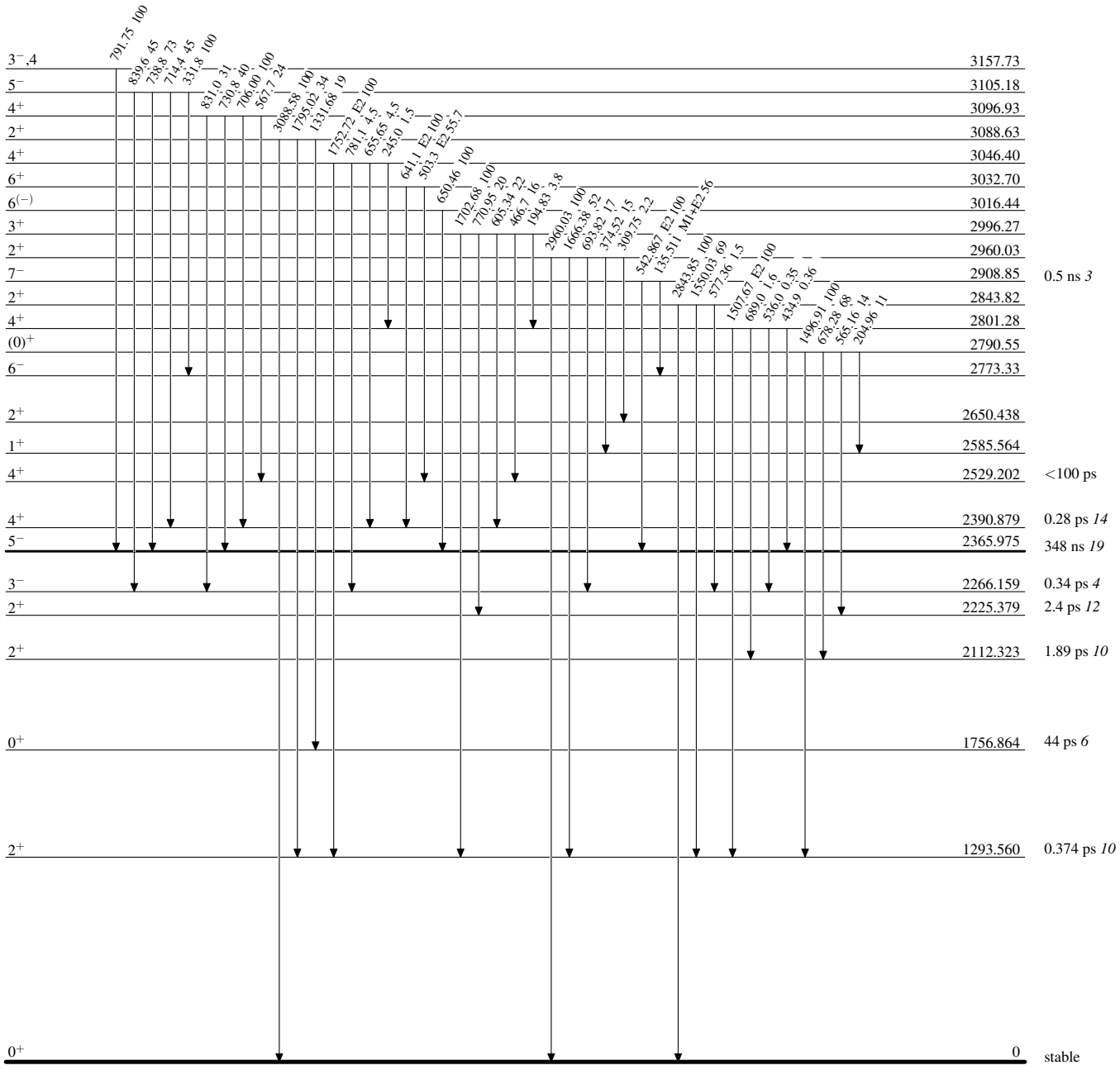


$^{116}_{50}Sn_{66}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

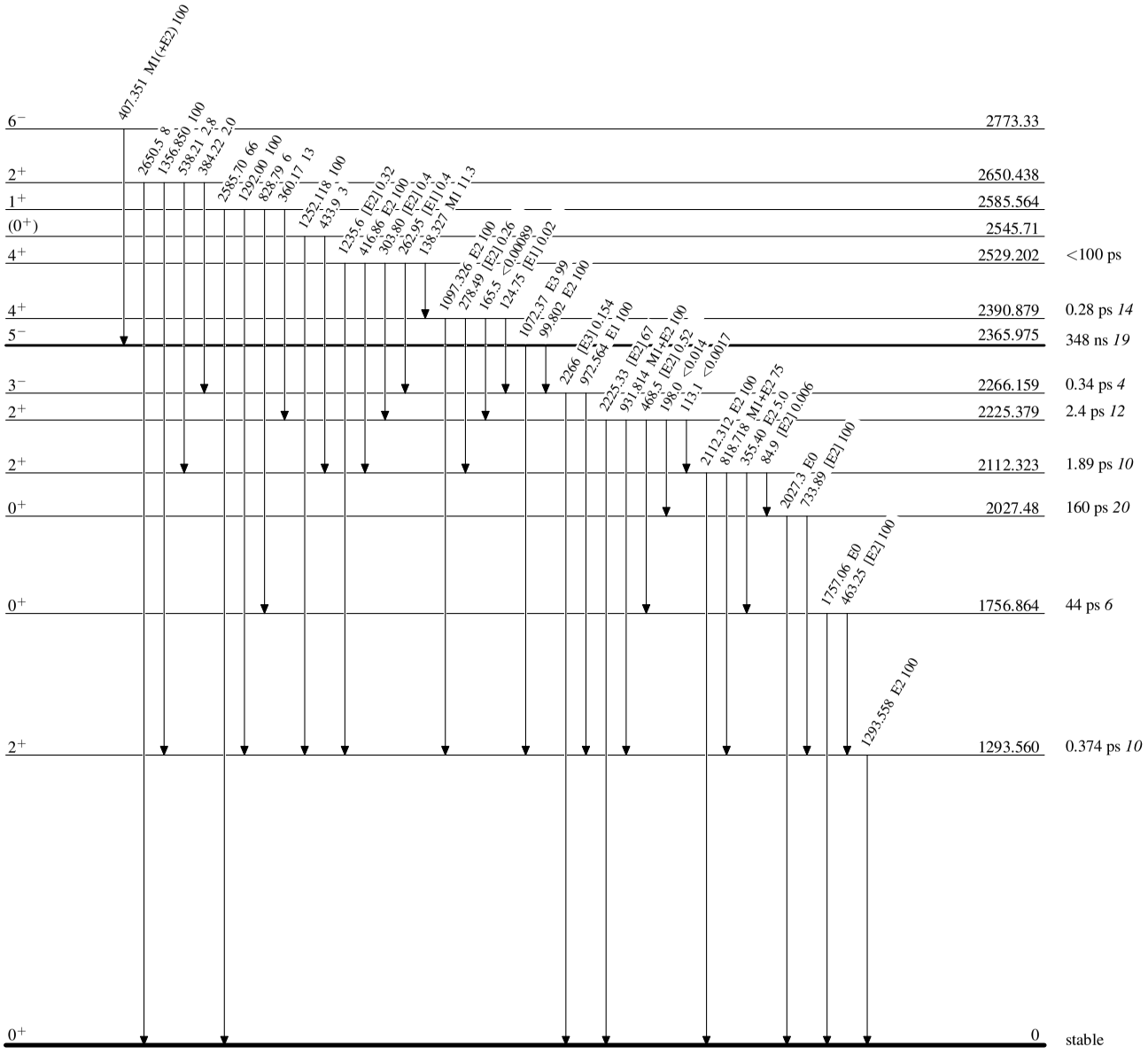


$^{116}_{50}Sn_{66}$

Adopted Levels, Gammas

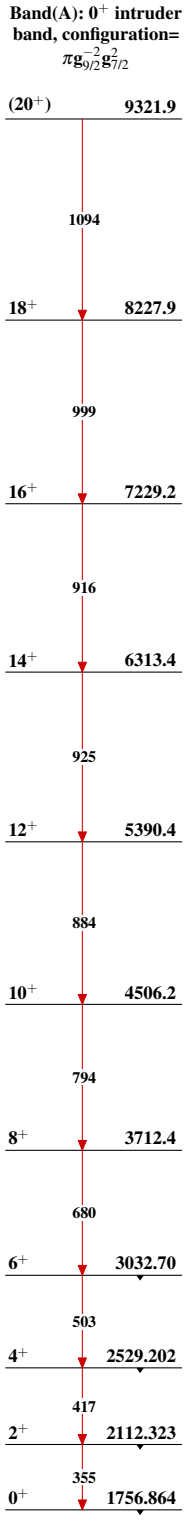
Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{116}_{50}Sn_{66}$

Adopted Levels, Gammas



$^{116}_{50}Sn_{66}$

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	K. Kitao	NDS 75,99 (1995)	1-Feb-1993

Q(β^-)=−3657 *3*; S(n)=9326.42 *13*; S(p)=9999 *5*; Q(α)=−4063.0 *7* 2012Wa38
Note: Current evaluation has used the following Q record −3656.6 309326.3 *149999* 5 −4056 3 1993Au05.

^{118}Sn Levels

Cross Reference (XREF) Flags

A	^{118}In β^- decay (4.45 min)	H	^{116}Sn(t,p)	O	^{122}Te(d,^{6}Li)
B	^{118}In β^- decay (5.0 s)	I	^{117}Sn(n,γ) E=res	P	^{116}Cd(^{3}He,n)
C	^{118}In β^- decay (8.5 s)	J	^{117}Sn(d,p),(t,d)	Q	^{118}Sn(e,e′)
D	^{118}Sb ε decay (3.6 min)	K	^{118}Sn(n,n′γ)	R	^{118}Sn(γ,γ′)
E	^{118}Sb ε decay (5.00 h)	L	^{118}Sn(p,p′),(p,p′γ)	S	^{118}Sn(n,n′)
F	Coulomb excitation	M	^{118}Sn(α,α′),(d,d′),(^{3}He,^{3}He′)	T	^{120}Sn(p,t)
G	^{116}Cd(α,2nγ),(^{7}Li,p4nγ)	N	^{119}Sn(p,d),(d,t)		

E(level)‡	J$^\pi$	T$_{1/2}$[a]	XREF	Comments
0.0	0$^+$	stable	ABCDEFGHIJKLMNOPQRST	
1229.666 *16*	2$^+$	0.485 ps *19*	ABCDEFGHIJKLMNO QRST	μ=+0.04 *20*; Q=−0.05 *14* μ: transient field integral PAC (1989Ra17). Q: Coul. ex. reorientation (1989Ra17). Deformation parameter=0.108 *7*. T$_{1/2}$: from Coul. ex. other: 0.46 ps *3* in (γ,γ′). J$^\pi$: L=2 in (t,p) and (α,α′),(d,d′),(^{3}He,^{3}He′).
1758.31† *3*	0$^+$	21 ps *3*	B D F HIJKLMNOP T	XREF: O(1780). J$^\pi$: E0 to 0$^+$. T$_{1/2}$: from Coul. ex. other: >0.5 ps in (n,n′γ).
2042.882† *19*	2$^+$	2.9 ps *4*	AB D FG I KLM O T	XREF: M(1990). J$^\pi$: L=2 in (p,t) and (d,^{6}Li). T$_{1/2}$: from Coul. ex. other: >1.1 ps in (n,n′γ).
2056.91 *4*	0$^+$	<200 ps	B D F HIJKL NO R	J$^\pi$: E0 to 0$^+$. T$_{1/2}$: from centroid shift measurement in ^{117}Sn(d,p) (1981Ba05). Other: >0.7 ps in (n,n′γ).
2120 *15*	(2$^+$)		NO	E(level): from (p,d),(d,t). J$^\pi$: L=(2) in (d,^{6}Li).
2280.342 *21*	4$^+$	0.76 ps *13*	A C EFGH JKL NO Q T	J$^\pi$: L=4 in (p,p′),(p,p′γ). T$_{1/2}$: from Coul. ex. others: <0.7 ns in ^{118}Sb ε decay (5.00 h), >1.5 ps in (n,n′γ).
2321.23 *4*	5$^-$	21.7 ns *2*	C E Gh Kl O	μ=−0.300 *25*; Q=0.16 *2* XREF: h(2324)l(2318). J$^\pi$: J=5 from $\gamma\gamma(\theta)$ in ^{118}Sb ε decay (3.6 min), E1 γ to 4$^+$. T$_{1/2}$: from ^{118}Sb ε decay (5.00 h). Other: 22 ns *5* in ^{118}In β^- decay (8.5 s). μ: differential PAC (1989Ra17). Other: −0.342 *35* from integral PAC (1989Ra17). Q: differential PAC, value relative to Q=0.50 for ^{116}In (10$^+$ 3548 level) and recalculated (1989Ra17).
2324.846 *22*	3$^-$	0.19 ps *+4−3*	A F h KlM O Q T	B(E3)↑=0.118 *10* XREF: h(2324)l(2318). B(E3) from Coul. ex.

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Adopted Levels, Gammas (continued)

^{118}Sn Levels (continued)

E(level)‡	Jπ	$T_{1/2}$[a]	XREF	Comments
				Jπ: L=3 in (d,^{6}Li) and (α,α'),(d,d'),(^{3}He,^{3}He'). $T_{1/2}$: other: 2.1 ps *2* from B(E3) in Coul. ex.
2328.02 *3*	2+&	>0.2 ps	AB D IJKL NO RS	
2403.22 *3*	2+	0.18 ps *+8−4*	AB D F I KL O	Jπ: L=2 in (d,^{6}Li) and (p,p'),(p,p'γ).
2408 *3*	4+		H J O	Jπ: L=4 in (t,p).
2488.871† *19*	4+	>0.55 ps	A FGh KLmNO Q t	XREF: h(2489)m(2490)N(2470)t(2490). Jπ: L=4 in (d,^{6}Li) and (p,p'),(p,p'γ).
2496.88 *5*	0+		D F hIJKLmNO t	XREF: h(2489)m(2490)t(2490). Jπ: E0 to 0+. E(level): possible unresolved doublet in (d,p),(t,d).
2530			N	
2574.91 *4*	7−	230 ns *10*	C E GH KL O	μ=−0.689 *4*; Q=0.32 μ: differential perturbed angular distribution, value does not include the Knight-shift correction (1989Ra17). Q: differential perturbed angular distribution, value relative to Q=0.41 for 3108 level (1989Ra17). Jπ: L=7 in (t,p) and (p,p'),(p,p'γ). $T_{1/2}$: from in ^{118}Sb ε decay (5.00 h). Other: 245 ns *40* in (α,2nγ),(^{7}Li,p4nγ).
2577 *3*	2+		J O	Jπ: L=2 in (d,^{6}Li).
2677.35 *3*	2+	>0.28 ps	A D IJKL O T	Jπ: L=2 in (p,p'),(p,p'γ).
2725 *3*	1+,2+,3+		h J nO q t	XREF: h(2733)n(2740)q(2736)t(2730). Jπ: L=2 in (d,p),(t,d).
2733.789 *20*	4+	0.5 ps *+6−2*	A GhI KLM O q t	XREF: h(2733)q(2736)t(2730). Jπ: L=4 in (p,p'),(p,p'γ).
2738.01 *4*	1+&	0.19 ps *+16−6*	h JK n q t	XREF: h(2733)n(2740)q(2736)t(2730).
2773.94 *4*	4−&		JKL	
2817 *3*	(4−,5−,6−)		J	Jπ: L=(5) in (d,p),(t,d).
2817.17 *4*	(3−)&		K	
2878.70 *5*	4,5,6+		A Gh K t	XREF: h(2877)t(2900). Jπ: D+Q γ to 5−, strong γ to 4+.
2889# *10*	(8+)		h L t	XREF: h(2877)t(2900). Jπ: L=(8) in (p,p'),(p,p'γ).
2903.87 *4*	2+	0.077 ps *+20−13*	HiJKL o t	XREF: i(2911)o(2918)t(2900). Jπ: L=2 in (p,p'),(p,p'γ).
2929.72 *7*	0+,1+		D h JK o q t	XREF: h(2927)o(2918)q(2920)t(2900). Jπ: L=0 in (d,p),(t,d).
2934# *10*	(2+)		h L No q t	XREF: h(2927)o(2918)q(2920)t(2900). Jπ: L=(2) in (p,p'),(p,p'γ).
2963.437 *20*	4+&		A H JK q t	XREF: q(2970)t(2960).
2972 *3*	4+		J LM q t	XREF: M(2960)q(2970)t(2960). Jπ: L=4 in (p,p'),(p,p'γ).
2991? *3*			J	
2999.45† *7*	6+		A G K	Jπ: stretched γ to 4+.
3015.21? *6*	1,2,3		K	Jπ: d γ to 2+.
3020 *3*	0+		J P	Jπ: L=0 in (^{3}He,n).
3048.35? *5*	4&		h K mn q	XREF: h(3055)m(3060)n(3040)q(3050).
3052.16 *7*	7+,8+		Gh mn q	XREF: h(3055)m(3060)n(3040)q(3050). Jπ: E1 γ to 7−; no γ to 4+.
3057.22 *6*	2+	0.11 ps *+5−3*	h JKLm q	XREF: h(3055)m(3060)q(3050). Jπ: L=2 in (p,p'),(p,p'γ).

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Adopted Levels, Gammas (continued)

^{118}Sn Levels (continued)

E(level)‡	Jπ	$T_{1/2}$[a]	XREF	Comments
3089.21 *4*	+&		K	
3108.06 *22*	9+,10+	2.52 μs *6*	G L	g=−0.2432 *7*; Q=0.41 g-factor: differential perturbed angular distribution, value does not include the Knight-shift correction (1973IsZQ). Q: differential perturbed angular distribution, value derived from experimental B(E2) (1989Ra17). Jπ: E2 γ to 7+,8+; no γ to 6+. $T_{1/2}$: from (α,2nγ),(^{7}Li,p4nγ).
3137.48 *15*	0+		B D H JKL	Jπ: L=0 in (t,p), log *ft*=5.45 from 1+, no γ to 0+.
3159.35 *15*	4+		A	Jπ: γ to 2+, log $f^{1u}t$ from 5+ not allows 3−.
3190@ *20*			M	
3227.67 *7*	2+,3+&		K	
3228.37 *8*	2+&	0.15 ps *+14−10*	K	
3231# *10*	(8+)		L	Jπ: L=(8) in (p,p′),(p,p′γ).
3237 *3*			J Lm	XREF: m(3250).
3252.03 *7*	(3+)	0.08 ps *+6−3*	K n	XREF: n(3250). Jπ: L=(4) in (p,d),(d,t); D+Q γ to 2+.
3262.53 *6*	3+&		JK n	XREF: n(3250).
3270.67 *11*	1&	0.005 ps *3*	K	
3274 *3*			J lm	XREF: l(3277)m(3290).
3286 *3*			J lm	XREF: l(3277)m(3290).
3308.54 *15*	2+&		Klm	XREF: l(3310)m(3290).
3317 *3*	0−,1−,2−		J l	XREF: l(3310). Jπ: L=1 in (d,p),(t,d).
3344 *3*	(3−)		J L	Jπ: L=(3) in (p,p′),(p,p′γ).
3355.86 *13*	2+&		h K	XREF: h(3369).
3363 *3*	0+,1+		h J	XREF: h(3369). Jπ: L=0 in (d,p),(t,d).
3374.60 *4*	4+		A h	XREF: h(3369). Jπ: log *ft*=5.78 *3* from 5+, strong γ to 2+.
3386.30 *8*	3+&		JKl	XREF: l(3383). Supports 3+.
3389 *3*			J l	XREF: l(3383).
3409 *3*			J	
3427.11 *10*	3+		JKL N	Jπ: L=4 in (p,d),(d,t); D+Q γ to 2+.
3441?			J	
3460.49 *5*	4+		A KL	Jπ: log *ft*=5.87 *5* from 5+, strong γ to 2+.
3462.63 *11*	(2−,3−)		JK	Jπ: L=(3) in (d,p),(t,d); γ to 2+.
3475 *3*			J	
3540.57 *9*	1+,2+,3+	0.11 ps *+23−5*	JK mNo	XREF: m(3530)N(3520)o(3549). Jπ: L=2 in (p,d),(d,t).
3541# *10*	(6+,7−)		Lm o	XREF: m(3530)o(3549). Jπ: L=(6,7) in (p,p′),(p,p′γ).
3558.9 *10*	7−,8−,9−		E L o	XREF: o(3549). Jπ: log *ft*=5.55 from 8−.
3576 *3*	2−,3−,4−		h J	XREF: h(3581). Jπ: L=3 in (d,p).
3592.54 *5*	4+		A h	XREF: h(3581). Jπ: log *ft*=5.79 4from 5+, strong γ to 2+.
3597 *3*	2+		J L	Jπ: L=2 in (p,p′),(p,p′γ) and (d,p),(t,d).
3635 *3*			J m	XREF: m(3650).
3643 *3*			J m	XREF: m(3650).
3673.67 *15*	4+		JKL N	Jπ: L=4 in (p,p′).

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Adopted Levels, Gammas (continued)

^{118}Sn Levels (continued)

E(level)‡	Jπ	$T_{1/2}$[a]	XREF	Comments
3692.0† *4*	8^+		G	Jπ: stretched E2 γ to 6^+.
3696.78 *17*	$1^+,2^+$	0.11 ps *+38−6*	K N	Jπ: L=2 in (p,d),(d,t); γ to 0^+.
3704.84 *8*	4^+		A m	XREF: m(3720). Jπ: log *ft*=5.89 *3* from 5^+, strong γ to 2^+.
3705# *10*	(6^+)		Lm	XREF: m(3720). Jπ: L=(6) in (p,p′),(p,p′γ).
3709.87 *15*	$1^+,2^+$		KlmN	XREF: l(3720)m(3720). Jπ: E2 γ to 0^+.
3721 *3*	$0^-,1^-,2^-$		J lm O	XREF: l(3720)m(3720). Jπ: L=1 in (d,p).
3750 *3*	$(0^-$ to $3^+)$		J L N	Jπ: L=(2) in (p,d),(d,t); L=(1,2) in (d,p),(t,d).
3753.85 *6*	4,5,6		A	Jπ: log *ft*=5.77 from 5^+.
3762.13 *14*	1,2,3		K	Jπ: D+Q γ to 2^+.
3773# *10*	4^+		L	Jπ: L=4 in (p,p′),(p,p′γ).
3784 *3*	$(0^+,1^+)$		J L N	Jπ: L=(0) in (d,p),(t,d).
3816.64 *9*	$1^+,2^+,3^+$		A JK	Jπ: L=2 in (d,p),(t,p).
3838.88 *14*	4		A lm	XREF: l(3847)m(3840). Jπ: log *ft*=6.14 from 5^+, γ to 2^+.
3857.0 *4*	$1,2^+$		JKlm	XREF: l(3847)m(3840). Jπ: strong γ to 0^+.
3889 *3*	$(0^-,1^-,2^-)$		J L n	XREF: n(3890). Jπ: L=(1) in (d,p),(t,d).
3898.90 *20*			KL n	XREF: n(3890).
3916 *3*	$1^+,2^+,3^+$		J	Jπ: L=2 in (d,p),(t,d).
3944.4 *4*	$1^+,2^+$		JKL N	Jπ: L=2 in (d,p),(t,d); E2 γ to 0^+.
3977# *10*			L	
3995 *3*	$0^-,1^-,2^-$		J L N	Jπ: L=1 in (d,p),(t,d).
4044.6 *3*	$(1^+,2^+,3^+)$		JKLMN	Jπ: L=(2) in (p,d),(d,t), but L=(1,2) in (d,p),(t,d).
4109.0 *3*	$0^-,1^-,2^-$		JKL	Jπ: L=1 in (d,p),(t,d).
4126.7 *4*	$1^+,2^+$		JK N	Jπ: L=2 in (d,p),(t,d); γ to 0^+.
4203 *3*	$1^+,2^+,3^+$		J M	Jπ: L=2 in (d,p),(t,d).
4233 *3*	$(2^-,3^-,4^-)$		J	Jπ: L=(3) in (d,p),(t,d).
4252 *3*			J	
4288 *3*			J	
4313 *3*			J	
4326 *3*			J	
4352 *3*			J	
4365 *3*			J	
4391 *3*			J	
4408 *3*			J	
4422 *3*	$(0^+,1^+)$		J P	XREF: P(4450). Jπ: L=(0) in (d,p),(t,d).
4448 *3*	$(1^+,2^+,3^+)$		J	Jπ: L=(2) in (d,p),(t,d).
4472 *3*	$(0^-,1^-,2^-)$		J	Jπ: L=(1) in (d,p),(t,d).
4484 *3*			J	
4495.4† *5*	(10^+)		G	Jπ: stretched (E2) to 8^+.
4507 *3*			J	
4523 *3*			J	
4540 *3*	$(0^-$ to $3^+)$		J M	Jπ: L=(1,2) in (d,p),(t,d).
4573 *3*	$(0^-,1^-,2^-)$		J	Jπ: L=(1) in (d,p),(t,d).
4604 *7*			R	
4617 *3*			J	
4637 *3*	$1^+,2^+,3^+$		J	Jπ: L=2 in (d,p),(t,d).
4696 *3*			J	
4706 *3*			J	

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Adopted Levels, Gammas (continued)

^{118}Sn Levels (continued)

E(level)‡	Jπ	$T_{1/2}$[a]	XREF	Comments
4798 *3*	3^-		J M	Jπ: L=3 in (α,α′),(d,d′),(^{3}He,^{3}He′); but L=(0,3) in (d,p),(t,d).
4832 *3*	$0^+,1^+$		J	Jπ: L=0 in (d,p),(t,d).
4862 *3*	$0^+,1^+$		J	Jπ: L=0 in (d,p),(t,d).
4879 *3*	$0^+,1^+$		J	Jπ: L=0 in (d,p),(t,d).
4940 *3*	$(2^-,3^-,4^-)$		J	Jπ: L=(3) in (d,p),(t,d).
5006 *3*			J	
5014 *3*	$2^-,3^-,4^-$		J	Jπ: L=3 in (d,p),(t,d).
5025 *3*			J	
5043 *3*			J	
5068 *3*	$(2^-,3^-,4^-)$		J	Jπ: L=(3) in (d,p),(t,d).
5098 *3*			J M	
5116 *3*	$(0^-$ to $3^+)$		J	Jπ: L=(1,2) in (d,p),(t,d).
5142 *3*			J	
5150 *3*			J	
5163 *3*			J	
5181 *3*			J	
5193 *3*			J	
5208 *3*			J	
5379.4?† *12*	(12^+)		G	Jπ: stretched γ to (10^+).
5400@ *80*	3^-		M	Jπ: L=3 in (α,α′),(d,d′),(^{3}He,^{3}He′).
6325 *7*	1	5.7 fs *24*	R	E(level): from (γ,γ′). Jπ: from γ(θ) in (γ,γ′). $T_{1/2}$: from (γ,γ′).
6.9×10^3@ *4*	3^-		M	Jπ: L=3 in (α,α′),(d,d′),(^{3}He,^{3}He′).
6988 *5*	1^-	2.9 fs *6*	R	E(level): from (γ,γ′). Jπ: from γ(θ) and γ(pol) in (γ,γ′). $T_{1/2}$: from (γ,γ′).
7010 *5*	1		R	E(level): from (γ,γ′). Jπ: from γ(θ) in (γ,γ′).
12.35×10^3 *20*			Q	E(level): from (e,e′).
15.55×10^3 *20*			Q	E(level): from (e,e′).
24.3×10^3@ *15*	(3^-)		M	Jπ: L=3 in (α,α′),(d,d′),(^{3}He,^{3}He′).

† Band(A): quasi-rotational band.
‡ From a least-squares fit to adopted E(γ′s) for levels connecting with γ-transitions. Others from ^{117}Sn(d,p),(t,d), except as noted.
# From (p,p′),(p,p′γ).
@ From (α,α′),(d,d′),(^{3}He,^{3}He′).
& From γ(θ) and γ(pol) in (n,n′γ).
[a] From (n,n′γ) unless otherwise noted.

Adopted Levels, Gammas (continued)

$\gamma(^{118}Sn)$

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
1229.666	2^+	1229.68[‡] *2*	100	0.0	0^+	E2			B(E2)(W.u.)=12.1 *5* Mult.: from γ(pol) in ^{118}In β^- decay (8.5 s).
1758.31	0^+	528.73[@] *3*	100	1229.666	2^+	E2		0.00638	B(E2)(W.u.)=19 *3* E_γ: other: 528.83 *2* in (n,n′γ). Mult.: from α(K)exp in ^{118}Sb ε decay (3.6 min).
		1758.05[@] *5*		0.0	0^+	E0			Mult.: from $\gamma\gamma(\theta)$ in ^{118}Sb ε decay (3.6 min).
2042.882	2^+	284.66 *12*	2.5 *2*	1758.31	0^+	[E2]		0.0422	α(K)=0.0354; α(L)=0.00554; α(M)=0.00109; α(N+..)=0.00024 B(E2)(W.u.)=39 *7*
		813.22[‡] *2*	100.0 *24*	1229.666	2^+	E2+M1	−2.34 *16*		B(M1)(W.u.)=0.00112 *21*; B(E2)(W.u.)=6.9 *10*
		2042.90[‡] *5*	92.2 *25*	0.0	0^+	E2			B(E2)(W.u.)=0.075 *11* I_γ: others: 50 *33* in ^{118}Sb ε decay (3.6 min), 54 *15* in ^{118}In β^- decay (5.0 s), 85 *12* in (α,2nγ),(^{7}Li,p4nγ).
2056.91	0^+	298.58[@] *4*		1758.31	0^+	E0			Mult.: from $\gamma\gamma(\theta)$ in ^{118}Sb ε decay (3.6 min).
		827.30[@] *6*	100	1229.666	2^+	E2			B(E2)(W.u.)>0.21 E_γ: other: 820 in (γ,γ').
		2056.5[@] *5*		0.0	0^+	E0			Mult.: from $\gamma\gamma(\theta)$ in ^{118}Sb ε decay (3.6 min).
2280.342	4^+	237.6[#] *5*	0.05[#] *2*	2042.882	2^+	[E2]		0.0774	α(K)=0.0641; α(L)=0.0107; α(M)=0.00212; α(N+..)=0.00046 B(E2)(W.u.)=14 *7*
		1050.65[#] *3*	100[#] *3*	1229.666	2^+	E2			B(E2)(W.u.)=17 *3*
2321.23	5^-	40.8[&] *1*	100 *7*	2280.342	4^+	E1		2.21	α(K)=1.88; α(L)=0.266; α(M)=0.0514 B(E1)(W.u.)=5.7×10^{-5} *7* Mult.: from α in (α,2nγ),(^{7}Li,p4nγ).
		1091.51[&] *8*	12 *1*	1229.666	2^+	E3			B(E3)(W.u.)=1.32 *15* E_γ: other: 1091.84 *7* in (n,n′γ). Mult.: from α(K)exp in ^{118}Sb ε decay (5.00 h).
2324.846	3^-	1095.19 *2*	100 *4*	1229.666	2^+	E1(+M2)	+0.026 *6*		B(E1)(W.u.)=(0.00111 *25*); B(M2)(W.u.)=(2.9 *11*)
		2324.7 *2*	1.1 *1*	0.0	0^+	E3			B(E3)(W.u.)=2.3×10^2 *6* Mult.: from α(K)exp in ^{118}Sb ε decay (5.00 h).
2328.02	2^+	285.22[#] *11*	5.1[#] *6*	2042.882	2^+				
		1098.2[#] *5*	100[#] *19*	1229.666	2^+	E2(+M1)			B(M1)(W.u.)<0.033; B(E2)(W.u.)<20 Mult.: 1/δ=+0.018 *10* in (n,n′γ).
		2327.82[#] *8*	23.4[#] *8*	0.0	0^+	E2			I_γ: others: 13 *3* in ^{118}Sb ε decay (3.6 min), 18.4 *7* in (n,n′γ).
2403.22	2^+	360.4 *2*	1.8 *2*	2042.882	2^+				
		1173.59[‡] *5*	100 *3*	1229.666	2^+	M1+E2	+1.07 *9*		B(M1)(W.u.)=(0.035 *16*); B(E2)(W.u.)=(22 *10*)
2488.871	4^+	208.52[‡] *2*	52 *7*	2280.342	4^+	M1+E2	−0.17 *4*	0.0762 *7*	α(K)=0.0659 *5*; α(L)=0.0084 *1*; α(M)=0.00163 *3*; α(N+..)=0.00037 *1* B(M1)(W.u.)<1.0; B(E2)(W.u.)<7.2×10^2

$^{118}_{50}Sn_{68}$-6

Adopted Levels, Gammas (continued)

γ(^{118}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
2488.871	4+	445.99[‡] *1*	100 *3*	2042.882	2+	E2		0.0103	α(K)=0.0088; α(L)=0.00121; α(M)=0.00024 B(E2)(W.u.)<7.6×10^2
		1259.19[‡] *2*	67 *3*	1229.666	2+	E2			B(E2)(W.u.)<2.8
2496.88	0+	1267.23[@] *5*	100	1229.666	2+	E2			E_γ: other: 1267.57 *3* in (n,n′γ). Mult.: from α(K)exp ^{1}n ^{118}Sb ε decay (3.6 min).
		2496.56[@] *20*		0.0	0+	E0			Mult.: from γγ(θ) in ^{118}Sb ε decay (3.6 min).
2574.91	7−	253.678[&] *10*	100	2321.23	5−	E2		0.0620	α(K)=0.0516; α(L)=0.0084; α(M)=0.00166; α(N+..)=0.00036 B(E2)(W.u.)=0.064 *3*
2677.35	2+	1447.66 *3*	86 *4*	1229.666	2+	M1+E2	+2.46 *+17−13*		B(M1)(W.u.)<0.0019; B(E2)(W.u.)<3.7 I_γ: others: 120 *16* (^{118}In β− decay (4.45 min)), 180 *90* (^{118}Sb ε decay (3.6 min)).
		2677.35 *4*	100 *4*	0.0	0+	E2			B(E2)(W.u.)<0.23
2733.789	4+	1504.13[‡] *2*	100	1229.666	2+	E2			B(E2)(W.u.)=4 *6*
2738.01	1+	1508.33 *3*	100 *5*	1229.666	2+	M1+E2	−0.8 *+9−5*		B(M1)(W.u.)=0.015 *17*; B(E2)(W.u.)=3 *5*
		2738.10 *10*	34.3 *15*	0.0	0+	M1			B(M1)(W.u.)=0.0014 *13*
2773.94	4−	449.07 *3*	42.4 *12*	2324.846	3−	M1+E2	+0.010 *16*	0.0104	α(K)=0.0090; α(L)=0.00110; α(M)=0.00021
		452.72 *2*	100 *3*	2321.23	5−	M1+E2	+0.092 *9*	0.0101	α(K)=0.0088; α(L)=0.00108; α(M)=0.00021
2817.17	(3−)	492.32 *3*	100 *3*	2324.846	3−	D+Q			
		1587.1 *4*	2.7 *5*	1229.666	2+	D			
2878.70	4,5,6+	557.23 *7*	43 *2*	2321.23	5−	D+Q			
		598.47 *5*	100 *3*	2280.342	4+				
2903.87	2+	1674.10 *6*	37 *2*	1229.666	2+	E2(+M1)			B(M1)(W.u.)=(0.0082 *22*); B(E2)(W.u.)=(2.2 *6*) δ: 17 *+33−9* or −0.40 *10*.
		2903.90 *5*	100 *4*	0.0	0+	E2			B(E2)(W.u.)=0.76 *20*
2929.72	0+,1+	1700.04 *6*	100	1229.666	2+				
2963.437	4+	229.65[#] *1*	1.38[#] *4*	2733.789	4+				
		474.57[#] *2*	5.30[#] *18*	2488.871	4+				
		560.21[#] *2*	1.75[#] *7*	2403.22	2+				
		635.40[#] *2*	3.13[#] *11*	2328.02	2+				
		638.61[#] *2*	2.42[#] *7*	2324.846	3−				
		683.06[#] *2*	100[#] *3*	2280.342	4+	M1+E2	+0.09 *5*		
		920.57[#] *4*	0.89[#] *4*	2042.882	2+				
2999.45	6+	510.5[a] *1*	100 *17*	2488.871	4+				I_γ: from (α,2nγ),(^{7}Li,p4nγ).
		719.15 *8*	60 *3*	2280.342	4+	E2			E_γ: weighted av from (n,n′γ) and ^{118}In β− decay (4.45 min). I_γ: from (α,2nγ),(^{7}Li,p4nγ).
3015.21?	1,2,3	972.32 *5*	100	2042.882	2+	D			

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Adopted Levels, Gammas (continued)

γ(^{118}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
3048.35?	4	768.00 *4*	100	2280.342	4^+	D+Q			
3052.16	$7^+,8^+$	477.25[a] *6*	100	2574.91	7^-	E1			Mult.: from α(K)exp in (α,2nγ),(^{7}Li,p4nγ).
3057.22	2^+	1827.36 *12*	22.7 *12*	1229.666	2^+	M1+E2			B(M1)(W.u.)=0.0030 *14*; B(E2)(W.u.)=0.7 *4* δ: −0.7 *+3−2* or −5 *+6−2*.
		3057.22 *6*	100 *4*	0.0	0^+	E2			B(E2)(W.u.)=0.46 *21*
3089.21	$^+$	808.87 *3*	100	2280.342	4^+	M1+E2	+1.37 *14*		
3108.06	$9^+,10^+$	55.9[a] *2*	100	3052.16	$7^+,8^+$	E2		12.9	α(K)=6.81; α(L)=4.89; α(M)=1.00; α(N+..)=0.203 B(E2)(W.u.)=0.86 *4* Mult.: from α in (α,2nγ),(^{7}Li,p4nγ).
3137.48	0^+	1907.80 *15*	100	1229.666	2^+				E_γ: other: 1907.2 *2* in ^{118}Sb ε decay (3.6 min).
3159.35	4^+	756.4[#] *4*	52[#] *21*	2403.22	2^+				
		1116.42[#] *16*	100[#] *13*	2042.882	2^+				
3227.67	$2^+,3^+$	1997.99 *6*	100	1229.666	2^+	E2			
3228.37	2^+	3228.32 *8*	100	0.0	0^+	E2			B(E2)(W.u.)=0.3 *3*
3252.03	(3^+)	2022.35 *6*	100	1229.666	2^+	D+Q			δ: 1/δ=+0.14 *4*.
3262.53	3^+	1219.64 *5*	100	2042.882	2^+	M1+E2	+0.14 *4*		
3270.67	1	3270.62 *11*	100	0.0	0^+	D			
3308.54	2^+	2078.82 *16*	100 *5*	1229.666	2^+	M1+E2			δ: −0.21 *9* or +4 *2*.
		3308.6 *3*	27 *3*	0.0	0^+	E2			
3355.86	2^+	2126.19 *13*	100 *6*	1229.666	2^+	M1+E2			δ: −0.34 *9* or 1/δ=0.008 *9*.
		3355.6 *4*	25 *3*	0.0	0^+	E2			
3374.60	4^+	411.44[#] *18*	4.6[#] *9*	2963.437	4^+				
		885.66[#] *8*	32.8[#] *25*	2488.871	4^+				
		971.44[#] *4*	44[#] *8*	2403.22	2^+				
		1094.3[#] *5*	100[#] *3*	2280.342	4^+				
		2144.64[#] *9*	15.0[#] *6*	1229.666	2^+				
3386.30	3^+	1058.27 *7*	100	2328.02	2^+	M1+E2			δ: 1/δ=−0.09 *2*.
3427.11	3^+	1384.24 *15*	100 *5*	2042.882	2^+	M1+E2			
		2197.41 *12*	98 *5*	1229.666	2^+	M1+E2			
3460.49	4^+	971.44[#] *4*	96[#] *21*	2488.871	4^+				
		1132.49[#] *11*	30[#] *3*	2328.02	2^+				
		1180.18[#] *7*	49[#] *3*	2280.342	4^+	E2			I_γ: 85 *6* in (n,n′γ).
		1418.03[#] *29*	8[#] *2*	2042.882	2^+				
		2230.76[#] *7*	100[#] *3*	1229.666	2^+	E2			
3462.63	$(2^-,3^-)$	1419.74 *10*	100	2042.882	2^+				
3540.57	$1^+,2^+,3^+$	2310.88 *8*	100	1229.666	2^+	M1+E2			
3558.9	$7^-,8^-,9^-$	984.0[&] *10*	100	2574.91	7^-	(M1,E2)			Mult.: from α(K)exp in ^{118}In β^- decay (4.45 min).

Adopted Levels, Gammas (continued)

γ(^{118}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[c]	Comments
3592.54	4+	858.84[#] *19*	42[#] *7*	2733.789	4+		
		1312.22[#] *6*	67[#] *3*	2280.342	4+		
		1549.63[#] *6*	100[#] *4*	2042.882	2+		
		2362.78[#] *12*	24[#] *1*	1229.666	2+		
3673.67	4+	1393.40 *20*	50 *7*	2280.342	4+		
		2443.90 *20*	100 *8*	1229.666	2+		
3692.0	8+	692.5[a] *4*	100	2999.45	6+	E2	Mult.: from α(K)exp in (α,2nγ),(^{7}Li,p4nγ).
3696.78	1+,2+	2466.9 *3*	32 *5*	1229.666	2+	M1+E2	
		3696.8 *2*	100 *7*	0.0	0+		
3704.84	4+	1301.62[#] *16*	37[#] *4*	2403.22	2+		
		1377.09[#] *20*	25[#] *3*	2328.02	2+		
		1424.7[#] *4*	14[#] *3*	2280.342	4+		
		1661.93[#] *21*	27[#] *4*	2042.882	2+		
		2475.06[#] *10*	100[#] *5*	1229.666	2+		
3709.87	1+,2+	1381.79 *16*	100 *7*	2328.02	2+	M1+E2	
		3710.1 *4*	63 *6*	0.0	0+	E2	
3753.85	4,5,6	1264.96[#] *8*	78[#] *5*	2488.871	4+		
		1473.50[#] *7*	100[#] *5*	2280.342	4+		
3762.13	1,2,3	2532.43 *14*	100	1229.666	2+	D+Q	
3816.64	1+,2+,3+	2586.94[‡] *8*	100	1229.666	2+	M1+E2	
3838.88	4	2609.18[#] *14*	100[#]	1229.666	2+		
3857.0	1,2+	2627.3 *5*	84 *10*	1229.666	2+		
		3857.0 *7*	100 *10*	0.0	0+		
3898.90		2669.20 *20*	100	1229.666	2+		
3944.4	1+,2+	2714.7 *5*	100 *11*	1229.666	2+		
		3944.4 *7*	67 *11*	0.0	0+	E2	
4044.6	(1+,2+,3+)	2814.9 *3*	100	1229.666	2+		
4109.0	0−,1−,2−	2879.3 *3*	100	1229.666	2+		
4126.7	1+,2+	2897.1 *4*	100 *7*	1229.666	2+		
		4126.3 *9*	36 *7*	0.0	0+		
4495.4	(10+)	803.4[a] *3*	100	3692.0	8+	(E2)	Mult.: from α(K)exp and γ(θ) in (α,2nγ),(^{7}Li,p4nγ).
4604		4604[b] *7*	100[b]	0.0	0+		
5379.4?	(12+)	884[a] *1*	100	4495.4	(10+)		
6325	1	6325[b] *7*	100[b]	0.0	0+	D	Mult.: from (γ,γ′).
6988	1−	4672[b] *5*	3.4[b] *7*	2328.02	2+		
		4940[b] *5*	2.3[b] *7*	2042.882	2+		

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Adopted Levels, Gammas (continued)

$\gamma(^{118}Sn)$ (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.[c]	Comments
6988	1^-	5762[b] *3*	20.1[b] *19*	1229.666	2^+		
		6988[b] *5*	100[b]	0.0	0^+	E1	B(E1)(W.u.)=2.3×10^{-6} *5* Mult.: from (γ,γ').
7010	1	5780[b] *10*	25[b] *4*	1229.666	2^+	D,Q	Mult.: from (γ,γ').
		7010[b] *10*	100[b] *5*	0.0	0^+	D	Mult.: from (γ,γ').

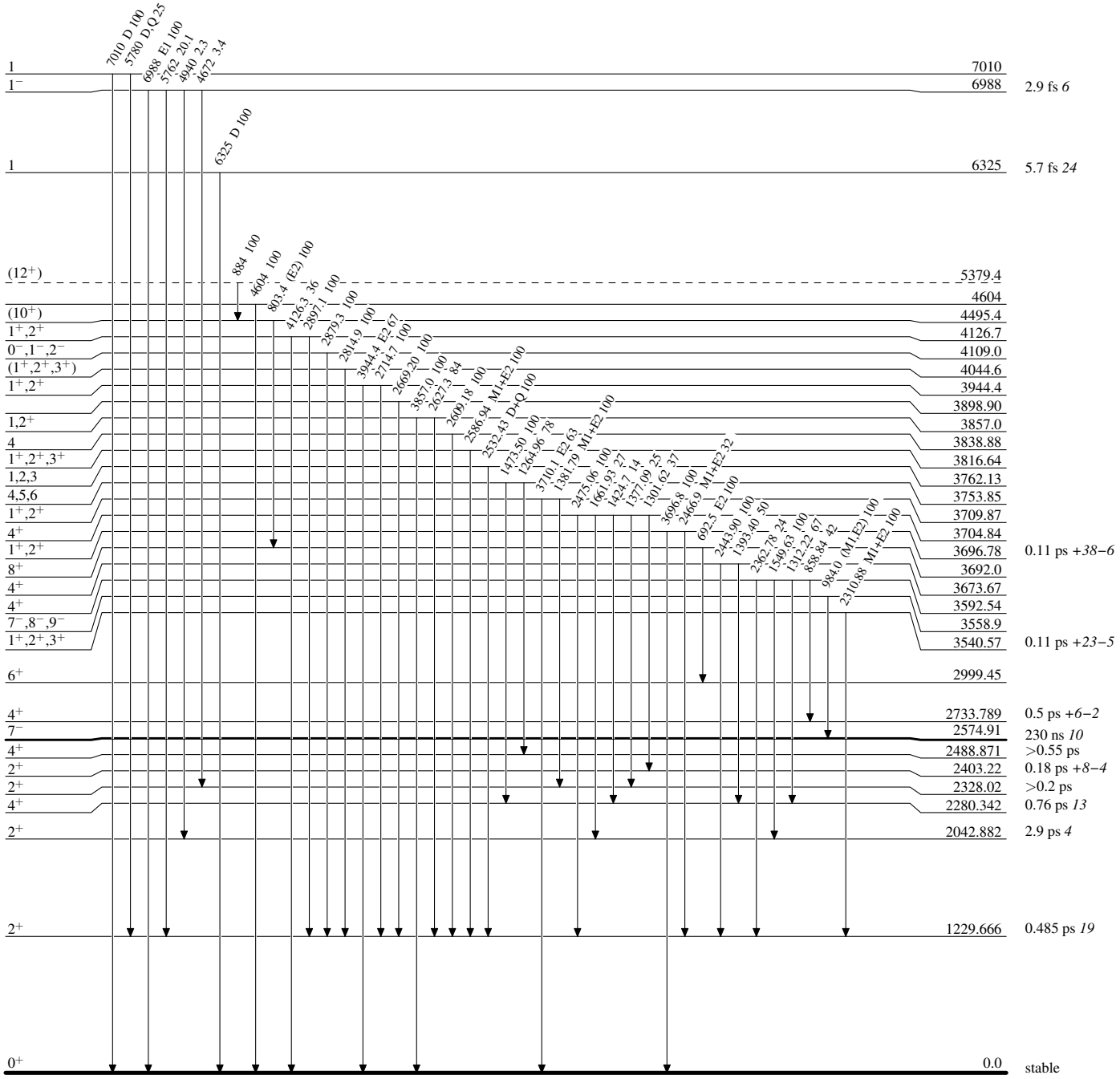
† From (n,n′γ), except where otherwise noted.
‡ Weighted av of E(γ′s) from β^- decay (4.45 min) and (n,n′γ). Relative photon branching is also the weighted av.
# From β^- decay (4.45 min).
@ From ε decay (3.6 min).
& From ε decay (5.00 h). Relative photon branching is also from the decay.
[a] From (α,2nγ),(^{7}Li,p4nγ).
[b] From (γ,γ').
[c] From $\gamma(\theta)$ and γ(pol) in (n,n′γ), except where otherwise noted.
[d] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

$^{118}_{50}Sn_{68}$-10

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

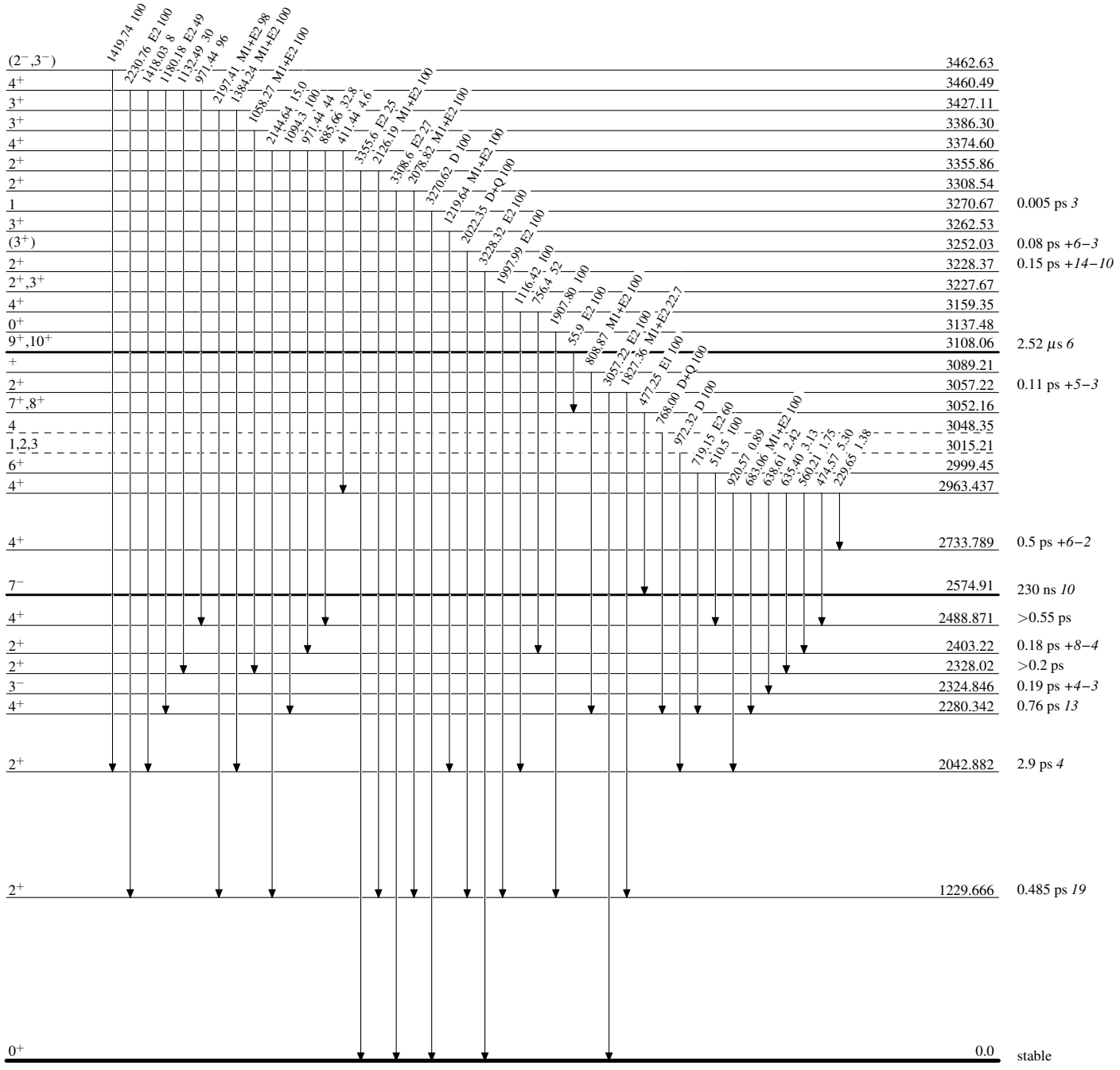


$^{118}_{50}Sn_{68}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

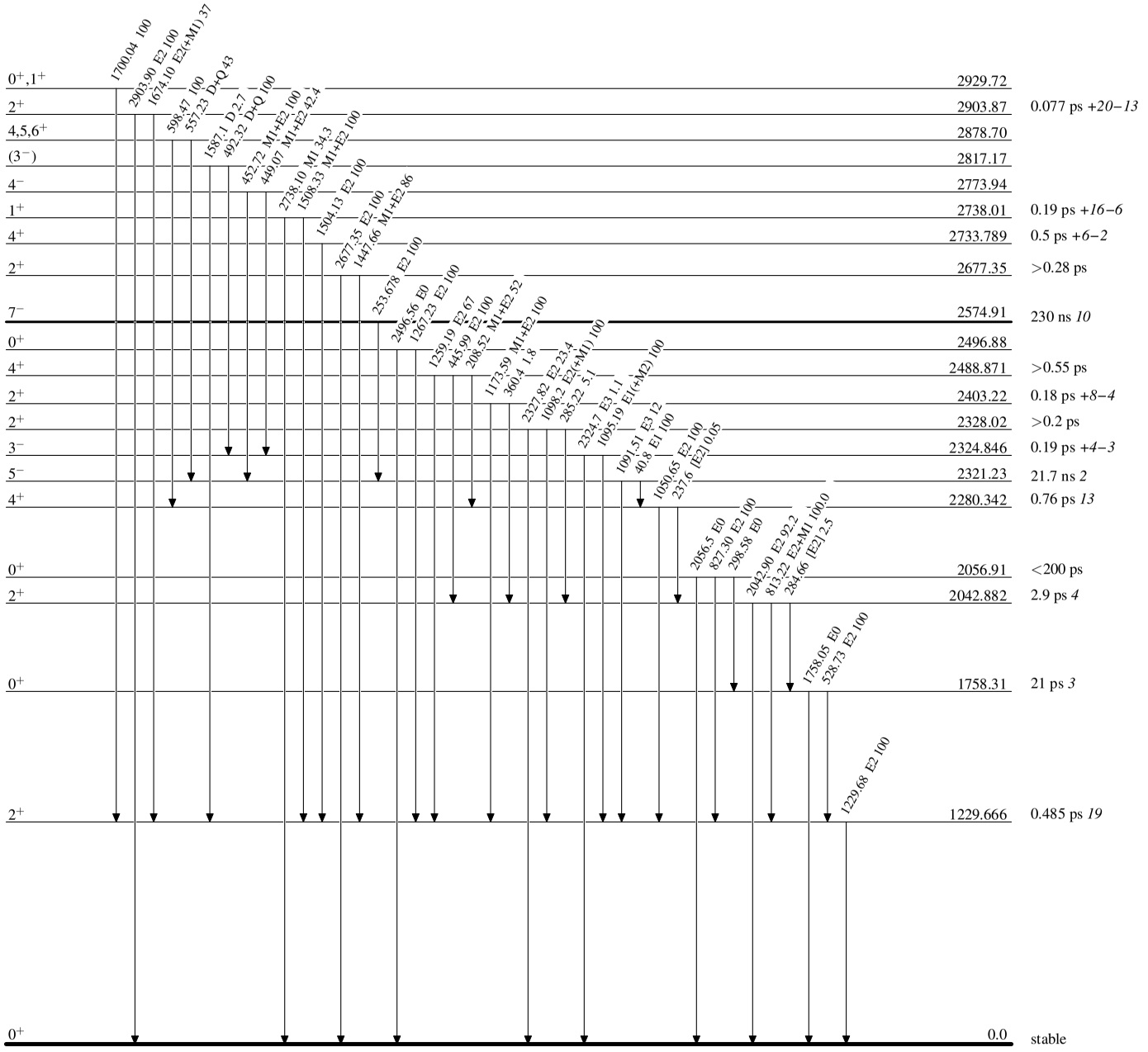


$^{118}_{50}Sn_{68}$

Adopted Levels, Gammas

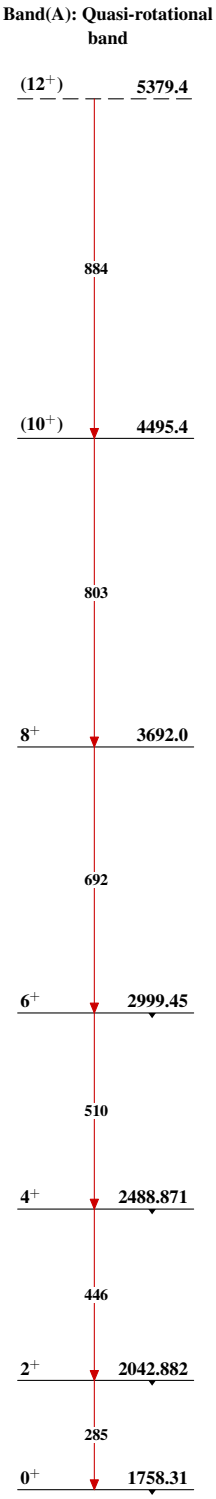
Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{118}_{50}Sn_{68}$

Adopted Levels, Gammas



$^{118}_{50}Sn_{68}$

Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	K. Kitao, Y. Tendow and A. Hashizume	NDS 96,241 (2002)	1-Dec-2001

Q(β^-)=−2681 *8*; S(n)=9104.8 *11*; S(p)=10688 *8*; Q(α)=−4811.0 *9* 2012Wa38
Note: Current evaluation has used the following Q record −2681 79107.4 *2210689* 7 −4808 4 1995Au04.

^{120}Sn Levels

Cross Reference (XREF) Flags

A	^{120}In β^- decay (3.08 s)	I	^{120}Sn(p,p′),(^{3}He,^{3}He′),(α,α′),	Q	^{120}Sn(e,e′)
B	^{120}In β^- decay (46.2 s)	J	^{120}Sn(n,n′γ)	R	^{120}Sn(e,e′p) IAR
C	^{120}In β^- decay (47.3 s)	K	^{121}Sb(d,^{3}He),(t,α)	S	^{120}Sn(π^+,π^0),(π^-,π^0)
D	^{120}Sb β^+ decay (15.89 min)	L	^{122}Sn(p,t)	T	^{121}Sb(μ^-,nγ)
E	^{120}Sb ε decay (5.76 d)	M	^{124}Te(d,^{6}Li)	U	^{122}Sn(^{16}O,^{18}O)
F	Coulomb excitation	N	(HI,xnγ)	V	^{123}Sb(p,α)
G	^{118}Sn(t,p)	O	^{120}Sn(γ,γ′)	W	^{120}Sn(d,d′)
H	^{119}Sn(d,p),(t,d),(pol d,p)	P	^{120}Sn(p,p′γ)		

E(level)†	Jπ	$T_{1/2}$‡	XREF	Comments
0.0	0^+	stable	ABCDEFGHIJKLMNOPQR TUV	
1171.265 *15*	2^+	0.640 ps *12*	ABCDEFGHIJKLMNOPQ TU	μ=−0.28 *14*; Q=−0.05 *10* XREF: K(1150). Jπ: L(p,p′)=2. μ: transient field integral PAC (1989Ra17). Q: Coulomb excitation orientation (1989Ra17). $T_{1/2}$: weighted av of 0.652 ps *10* (from B(E2) in Coul. ex.), 0.617 ps *14* (from DSA in Coul. ex.), and 0.63 ps *8* in (γ,γ′).
1875.108 *25*	0^+	7.4 ps *10*	AB D FGHIJ LM P	Jπ: L(t,p)=0. $T_{1/2}$: from B(E2) (Coul. ex.) in 1981Ba05.
2097.205 *20*	2^+	1.3 ps *4*	AB F HIJKLM OP	Jπ: L(d,^{3}He)(t,α)=2; γ to 0^+; Coul. ex. $T_{1/2}$: from B(E2) (Coul. ex.) in 1981Ba05. Other: 0.7 ps *+4−2* (n,n′γ).
2159.931 *25*	0^+	>4 ps	AB D FGH J LM OP	Jπ: L(t,p)=0. $T_{1/2}$: from B(E2) in Coul. ex.
2173			O	Jπ: this level is not confirmed in (n,n′γ), where the authors claim that all levels with J=1 to 5 below E=3100 and with J=0 below 2900 are expected to be populated.
2194.299 *21*	4^+	1.4 ps *2*	BC EFG IJKLMN P	Jπ: L(p,t)=4. $T_{1/2}$: from B(E2) in Coul. ex.; other: >0.76 ps from (n,n′γ).
2284.27 *6*	5^-	5.55 ns *3*	BC E G IJ LMN	μ=−0.280 *25*; Q=0.033 *2* μ: differential PAC (1989Ra17). Other: −0.37 *5* from integral PAC (1989Ra17). Q: differential PAC; value recalculated and relative to μ=0.094 *4* for ^{119}Sn (24 level, $3/2^+$) (1989Ra17). Jπ: L(p,t)=5; $\gamma\gamma(\theta)$ and $\gamma\gamma$(pol) in ε decay (5.76 d). $T_{1/2}$: from $\gamma\gamma$(t) in ε decay; weighted average of 6.05 ns *20* (1960Ik01), 5.2 ns *4* (1961Bo13), 5.53 ns *6* (1962Bo16), 5.55 ns *25* (1967Ra26), and 5.55 ns *3* (1980Mi13). Other: 8.24 ns *23* (1963Cu04).
2297@ *15*	0^+,1^+		H O	XREF: O(2310). Jπ: L(d,p)(t,d)(pol d,p)=0.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{120}Sn Levels (continued)

E(level)†	Jπ	$T_{1/2}$‡	XREF	Comments
2355.383 *24*	2^+	0.33 ps *+10−7*	AB GHIJ LM OP	XREF: O(2361). Jπ: L(p,t)=2.
2400.30 *5*	3^-	0.116 ps *8*	B FG IJ LM PQ	Jπ: L(p,t)=3.
2420.90 *3*	2^+	0.46 ps *+21−10*	AB H JKLM OP	Jπ: E2 γ to 0^+.
2465.632 *23*	4^+	0.32 ps *+7−4*	B g IJ LM P	XREF: g(2478). Jπ: L(p,t)=4.
2481.63 *6*	7^-	11.8 μs *5*	BC E g IJ LMN	XREF: g(2478). Jπ: L(p,t)=7. $T_{1/2}$: from Xγ(t) (1960Ik01); others: 11 μs *1* (1960Ik01), 11.2 μs *10* (1961Bo13).
2540[b] *10*	(5^-)		I	Jπ: L(p,p′)=(5).
2587.25 *15*	0^+	>0.34 ps	GH J LM O	Jπ: L(p,t)=0.
2643.353 *20*	4^+	>1.0 ps	B IJ LM	Jπ: L(p,t)=4.
2685.16 *6*	6^+		B g iJ	XREF: g(2693)i(2687). Jπ: E1+M2 γ to 5^-; γ(θ) and γ(lin. Pol) in (n,n′γ).
2691 *3*	$(2^+\&6^+)$		g i L	XREF: g(2693)i(2687). Jπ: l(p,t)=2+6. E(level): doublet in (p,t).
2695.94 *6*	4^-		B iJ M	XREF: i(2687). Jπ: M1+E2 γ to 5^-, D+Q γ to 3^-.
2728.12 *3*	2^+	0.24 ps *+5−8*	B HIJ LM O	Jπ: E2 γ to 0^+. $T_{1/2}$: other: 0.15 ps *7* in (γ,γ′).
2749.71 *6*	6^-		C iJ	XREF: i(2753). Jπ: M1+E2 γ′s to 5^- and 7^-.
2751 *3*	4^+		i L	XREF: i(2753). Jπ: L(p,t)=4.
2800.05 *7*	5^-		H J L	Jπ: L(p,t)=5.
2802 *10*	$(7^-,8^+)$		I	Jπ: L(p,p′)=(7,8).
2835.39 *3*	1^+	0.13 ps *+6−3*	HiJ l	XREF: i(2843)l(2840). Jπ: L(d,p)(t,d)(pol d,p)=2; D γ to 0^+.
2836.52 *7*	(8^+)	0.09 ps *+4−2*	C iJ l N	XREF: i(2843)l(2840). Jπ: D+Q γ to $(7)^-$, (E2) γ from (10^+).
2844.34 *7*	$(6)^-$		iJ	XREF: i(2843). Jπ: M1+E2 γ to 5^-, D+Q γ to $(7)^-$.
2857.61 *8*	(0^+)		G J	Jπ: from γ(θ) and population of this level in (n,n′γ).
2902.22 *22*	(10^+)	6.26 μs *11*	N	Jπ: from syst on $J^\pi=10^+$ isomers in ^{116}Sn-^{120}Sn isotopes. $T_{1/2}$: from (HI,xnγ).
2930.53 *5*	2^+	0.11 ps *2*	HIJ L O	Jπ: E2 γ to 0^+. $T_{1/2}$: from (γ,γ′).
2975.69 *7*	4^-		J L	Jπ: M1+E2 γ′s to 3^- and 5^-.
2997			H	
3009 *9*	2^+		L	Jπ: L(p,t)=2.
3034.75 *9*	(0^+)		J O	Jπ: from γ(θ) and population of this level in (n,n′γ).
3057.946 *24*	4^+		B IJ L O	XREF: I(3062). Jπ: L(p,p′)=4, L(p,t)=4.
3069.73 *8*	(6^+)		J	Jπ: stretched Q γ to 4^+.
3077.38 *8*	3^+		J	Jπ: M1+E2 γ to 2^+, D+Q γ to 4^+.
3100 *3*	(1^-)		KL	XREF: K(3090). Jπ: L(p,t)=(1).
3157.97 *9*	2^+	0.050 ps *+13−10*	HIJ L O	XREF: I(3161). Jπ: E2 γ to 0^+.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{120}Sn Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$[‡]	XREF	Comments
				$T_{1/2}$: other: 0.071 fs *8* in (γ,γ').
3179.06 *3*	4^+		B G IJ L	J^π: L(p,p′)=4, L(p,t)=4.
3208.54 *15*	0^+		J L	J^π: L(p,t)=0.
3210 *10*	$1^+,2^+,3^+$		H	J^π: L(d,p)(t,d)(pol d,p)=2.
3231.95 *7*	$1^+,2^+,3^+$		J	J^π: M1+E2 γ to 2^+.
3237.33 *8*	(1,2)		J	J^π: γ to 0^+.
3252 *3*	5^-		L	J^π: L(p,t)=5.
3262.89 *11*			J	
3279.29 *9*	(1^-)	0.012 ps *+4−3*	iJ L O	XREF: i(3281).
				J^π: L(p,t)=(1).
				$T_{1/2}$: other: 0.0049 ps *3* in (γ,γ').
3284.62 *9*	2^+	0.9 ps *3*	HiJ O	XREF: i(3281).
				J^π: E2 γ to 0^+, RUL rules out M2.
				$T_{1/2}$: from (γ,γ'). Other: 0.17 ps *+44−8* in (n,n′γ).
3330 *10*	$(6^+,7^-)$		I	J^π: L(p,p′)=(6,7).
3341 *3*			L	E(level): unresolved peak. J^π=3−&4^+ is suggested.
3349.92 *5*	$(4)^+$		B J	J^π: log *ft*=5.62 from $(5)^+$, γ's to 2^+ and 4^+.
3386.32 *15*	2^+		HIJ L	J^π: L(p,t)=2,3; Q γ to 0^+ excludes 3^-.
3438.23 *8*	4^+		B iJ L	XREF: i(3438)L(3442).
				J^π: L(p,t)=4,5; γ to 2^+ excludes 5^-.
3446.48 *7*	$(7^-,8^-)$		C i	XREF: i(3438).
				J^π: log *ft*=4.25 from (8^-), γ to $(6)^-$.
3455 *3*			i L	XREF: i(3460).
3471.54 *10*	3^-		GHiJ L	XREF: i(3460).
				J^π: L(t,p)=3.
3547.58 *19*	1,2		H J O	J^π: D,Q γ to 0^+.
3559 *10*			I	
3581.90 *22*	(1,2)	0.06 ps *+6−3*	gHiJ O	XREF: g(3593)i(3585).
				J^π: γ to 0^+.
				$T_{1/2}$: other: 0.35 ps *10* in (γ,γ').
3600			gHi	XREF: g(3593)i(3585).
3631.14 *18*	2^+		JK O	J^π: γ's to 2^+ and 4^+; γ from 1^-.
3644.48 *16*	$(6^+,7^-)$		C HI	XREF: H(3660)I(3657).
				J^π: L(p,p′)=(6,7).
3711.01 *17*	(1,2)	0.09 ps *+17−4*	HIJ V	J^π: γ to 0^+.
3765.31 *24*	$1^+,2^+$	0.089 ps *17*	HIJ O	J^π: γ to 0^+, L(d,p)(t,d)(pol d,p)=2.
				$T_{1/2}$: from (γ,γ').
3772.09 *20*	$^+$		g JK	XREF: g(3780)K(3750).
				J^π: L(d,^{3}He)(t,α)=4.
3777.21 *6*	4^+		B gHI	XREF: g(3780)H(3800)I(3789).
				J^π: L(p,p′)=4.
3835.36 *24*	2^+	0.13 ps *6*	G IJ O	XREF: G(3818).
				J^π: L(p,p′)=2.
				$T_{1/2}$: from (γ,γ'). Other: 0.12 ps *+72−7* in (n,n′γ).
3857.56 *13*	(4)		B J	J^π: γ's to 2^+ and 4^+, log *ft*=6.06 from $(5)^+$.
3874.96 *24*	2^+		HIJ	J^π: L(p,p′)=2.
3906.6 *3*	$^-$		JK	J^π: L(d,^{3}He)(t,α)=1.
3928[&] *10*			HI	XREF: H(3940).
3955 *10*			I	
3990.1 *4*	$(2)^+$		HIJK	XREF: K(4000).
				J^π: L(p,p′)=(2), L(d,^{3}He)(t,α)=4.
4006.5 *6*	(1,2)	0.17 ps *5*	J O	J^π: γ to 0^+.
				$T_{1/2}$: from (γ,γ').
4011.4 *6*	(1,2)		J	J^π: γ to 0^+.
4079.0 *4*	$1^+,2^+,3^+$		HIJ	XREF: H(4060).

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Adopted Levels, Gammas (continued)

^{120}Sn Levels (continued)

E(level)[†]	Jπ	XREF	Comments
			Jπ: L(d,p)(t,d)(pol d,p)=2.
4096.5 *4*		J	
4110.4 *7*	1⁻	JK	Jπ: L(d,^{3}He)(t,α)=1, γ to 0⁺.
4146.9 *11*		O	
4180[a] *10*	−	i K	XREF: i(4190).
			Jπ: L(d,^{3}He)(t,α)=1.
4190	1⁺,2⁺,3⁺	Hi	XREF: i(4190).
			Jπ: L(d,p)(t,d)(pol d,p)=2.
4230 *20*	+	K	Jπ: L(d,^{3}He)(t,α)=4.
4318.2 *3*	0⁻,1⁻	JK	XREF: K(4330).
			Jπ: L(d,^{3}He)(t,α)=1, γ to 0⁺.
4360 *20*	−	H K	Jπ: L(d,^{3}He)(t,α)=1.
4410[a] *10*	−	K	Jπ: L(d,^{3}He)(t,α)=1.
4460[a] *20*	−	K	Jπ: L(d,^{3}He)(t,α)=1.
4580[a] *20*		K	
4650 *10*	−	K	Jπ: L(d,^{3}He)(t,α)=1.
4690 *20*	−	K	Jπ: L(d,^{3}He)(t,α)=1.
4720 *10*		K	
4770 *20*	−	K	Jπ: L(d,^{3}He)(t,α)=1.
4870[a] *10*		i K	XREF: i(4900).
			E(level): possible doublet.
4920[a] *20*	−	i K	XREF: i(4900).
			Jπ: L(d,^{3}He)(t,α)=1.
4970 *10*		K	
5030 *10*		K	
5090 *20*	−	K	Jπ: L(d,^{3}He)(t,α)=1.
5170[a] *10*	−	i K	XREF: i(5200).
			Jπ: L(d,^{3}He)(t,α)=1.
5230 *20*	+	i K	XREF: i(5200).
			Jπ: L(d,^{3}He)(t,α)=4.
6.3×10^3 *3*		I	
6728.6 *7*	1	O	Jπ: from γ(θ) in (γ,γ′).
6.9×10^3 *4*	−	I	Jπ: L(d,^{3}He)(t,α)=3.
7310.1[#] *7*	1	i O	XREF: i(7600).
			Jπ: from γ(θ) in (γ,γ′).
7686.6[#] *7*	1⁻	i O	XREF: i(7600).
			Jπ: from γ(θ) in (γ,γ′), E1 γ to g.s.
8.40×10^3 *15*		I	
8993.0 *4*	1	O	Jπ: from γ(θ) in (γ,γ′).
9.9×10^3 *5*		I	
13.3×10^3 *3*	2⁺	I	Jπ: L(p,p′)=2.
16.9×10^3 *4*	0⁺	I	Jπ: L(p,p′)=0.
19.2×10^3 *2*	(1⁻)	R	Jπ: from E1 excitation in (e,e′p).
19.4×10^3 *2*	(1⁻)	R	Jπ: from E1 excitation in (e,e′p).
20.6×10^3 *2*	(1⁻)	R	Jπ: from E1 excitation in (e,e′p).
20.9×10^3 *15*	3⁻,5⁻	I	Jπ: L(p,p′)=3,5.
25.0×10^3 *10*	(3⁻)	I	Jπ: L(p,p′)=(3).
27.9×10^3 *15*	1⁻,3⁻	I	Jπ: L(p,p′)=1,3.

[†] From a least-squares fit to the adopted E(γ′s) by the evaluators for levels connected with γ-transitions, except for levels

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{120}Sn Levels (continued)

populating in (γ,γ') and for resonant levels. Others from (p,p′),(^{3}He,^{3}He′), unless otherwise noted. Also E(levels) were given in (d,d′), but those are not adopted due to poor resolution and questionable scale for energy of scattered particles. For the GDR′s with >34 MeV, see 1998Ba37.

‡ From DSA of γ's in (n,n′γ), unless otherwise noted.

From (γ,γ').

@ From (d,^{6}Li).

& From (p,p′),(d,d′),(^{3}He,^{3}He′).

a From (d,^{3}He),(t,α).

b This level is not confirmed in (n,n′γ), where the authors claim that all levels with J=1 to 5 below E=3100 and with J=0 below 2900 are expected to be populated.

Adopted Levels, Gammas (continued)

$\gamma(^{120}Sn)$

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[b]	δ[b]	α[d]	Comments
1171.265	2^+	1171.25[&] *2*	100	0.0	0^+	E2			B(E2)(W.u.)=11.41 *22*
1875.108	0^+	703.84 *2*	100	1171.265	2^+	[E2]			B(E2)(W.u.)=12.6 *17*
2097.205	2^+	222.2 *3*	0.38 *6*	1875.108	0^+				E_γ: observed only in (n,n′γ).
		925.924[&] *19*	100 *4*	1171.265	2^+	M1+E2	−12 *2*		B(M1)(W.u.)=9.E−5 *5*; B(E2)(W.u.)=12 *4* Mult.: $\gamma(\theta)$, RUL. δ: other: −1.43 *25* (1974Ki04).
		2097.14[&] *6*	56 *3*	0.0	0^+	E2[c]			B(E2)(W.u.)=0.11 *4* E_γ: other: 2098.3 *12* in β^- decay (3.08 s).
2159.931	0^+	988.66 *2*	100	1171.265	2^+				E_γ: other: 990 *2* in β^- decay (3.08 s).
2194.299	4^+	1023.048[&] *18*	100	1171.265	2^+	E2			B(E2)(W.u.)=10.3 *15* Mult.: from ε decay (5.76 d).
2284.27	5^-	89.87 *16*	100 *5*	2194.299	4^+	E1		0.246	B(E1)(W.u.)=5.5×10^{-5} *4* Mult.: from ε decay (5.76 d).
		1112.98[&] *18*	1.15 *7*	1171.265	2^+				B(E3)(W.u.)=0.99 *3* I_γ: other: <3.7 in β^- decay (46.2 s).
2355.383	2^+	1184.11[&] *3*	100 *4*	1171.265	2^+	M1+E2	+1.0 *2*		B(M1)(W.u.)=0.014 *6*; B(E2)(W.u.)=7 *3* E_γ: other: 1185.8 *8* in β^- decay (3.08 s).
		2355.39[&] *4*	41.6 *21*	0.0	0^+	E2			B(E2)(W.u.)=0.20 *7* I_γ: weighted av from β^- decay (46.2 s) and (n,n′γ).
2400.30	3^-	1229.08[&] *6*	100	1171.265	2^+	E1+M2	+0.02 *2*		B(E1)(W.u.)=0.00129 *9*; B(M2)(W.u.)=2 *+4−2* E_γ: other: 1228.2 in Coul. ex.
2420.90	2^+	261.0 *4*	1.10 *22*	2159.931	0^+				E_γ: not observed in β^- decay (3.08 s, 46.2 s).
		323.82[&] *10*	6.4 *4*	2097.205	2^+				E_γ: not observed in β^- decay (3.08 s).
		1249.60[&] *4*	100 *4*	1171.265	2^+	M1+E2	−16 *4*		B(M1)(W.u.)=5.E−5 *4*; B(E2)(W.u.)=6 *3* E_γ: not observed in β^- decay (3.08 s). Mult.: from large mixing ratio.
		2420.89[&] *4*	76 *7*	0.0	0^+	E2			B(E2)(W.u.)=0.17 *9* E_γ: other: 2422.0 *8* in β^- decay (3.08 s). I_γ: weighted av from (n,n′γ) and β^- decay (46.2 s).
2465.632	4^+	368.0 *3*	0.49 *11*	2097.205	2^+				E_γ: not observed in β^- decay (46.2 s). I_γ: if I(1294γ)=100.
		1294.33[&] *2*	<100	1171.265	2^+				
2481.63	7^-	197.37[a] *2*	100	2284.27	5^-	E2		0.147	B(E2)(W.u.)=0.00397 *17* Mult.: from ε decay (5.76 d).
2587.25	0^+	1415.88[&] *15*	100	1171.265	2^+				
2643.353	4^+	177.70[&] *8*	7.7 *20*	2465.632	4^+				I_γ: unweighted av from β^- decay (46.2 s) and (n,n′γ).
		449.06[&] *4*	15.4 *7*	2194.299	4^+	M1+E2	−0.38 *12*		B(M1)(W.u.)<0.022; B(E2)(W.u.)<17 I_γ: weighted av from β^- decay (46.2 s) and (n,n′γ).
		546.13[&] *2*	37.5 *13*	2097.205	2^+	E2			B(E2)(W.u.)<77 I_γ: weighted av from β^- decay (46.2 s) and (n,n′γ).

$^{120}_{50}Sn_{70}$-6

Adopted Levels, Gammas (continued)

γ(^{120}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[b]	δ[b]	Comments
2643.353	4^+	1472.07[&] *2*	100 *4*	1171.265	2^+	E2		B(E2)(W.u.)<1.4
2685.16	6^+	203.5 *2*	12.2 *10*	2481.63	7^-	(E1+M2)[c]	+0.1 *2*	
		400.88 *3*	100 *5*	2284.27	5^-	E1+M2	+0.01 *2*	
		490.95 *11*	19.3 *12*	2194.299	4^+			
2695.94	4^-	295.66 *3*	16.2 *8*	2400.30	3^-	(M1+E2)[c]	+0.01 *4*	
		411.66 *2*	100 *4*	2284.27	5^-	M1+E2	+0.08 *2*	
2728.12	2^+	1556.83 *3*	100 *5*	1171.265	2^+	M1+E2	−4.4 *8*	B(M1)(W.u.)=0.0007 *3*; B(E2)(W.u.)=3.9 *9*
		2728.09 *4*	79 *4*	0.0	0^+	E2		B(E2)(W.u.)=0.20 *5*
2749.71	6^-	268.099[&] *24*	100 *4*	2481.63	7^-	M1+E2	+0.05 *3*	
		465.41[&] *3*	60 *3*	2284.27	5^-	M1+E2	+0.03 *2*	
2800.05	5^-	515.78 *4*	100	2284.27	5^-	M1+E2	−0.02 *6*	
2835.39	1^+	1664.11 *3*	100 *5*	1171.265	2^+			
		2835.36 *4*	32.6 *17*	0.0	0^+	M1		B(M1)(W.u.)=0.0018 *9*
2836.52	(8^+)	354.90[a] *5*	100	2481.63	7^-	D(+Q)	−0.2 *2*	
2844.34	$(6)^-$	362.8 *2*	10.8 *10*	2481.63	7^-	(M1+E2)[c]	−0.3 *2*	
		560.07 *3*	100 *4*	2284.27	5^-	M1+E2	−0.03 *2*	
2857.61	(0^+)	1686.33 *7*	100	1171.265	2^+			
2902.22	(10^+)	65.7 *2*	100	2836.52	(8^+)	(E2)		B(E2)(W.u.)=2.10 *5* Mult.: from (HI,xnγ).
2930.53	2^+	1759.25 *7*	54 *3*	1171.265	2^+	M1+E2	+0.09 *6*	B(M1)(W.u.)=0.0128 *25*; B(E2)(W.u.)=0.02 *+4−25*
		2930.49 *7*	100 *6*	0.0	0^+	E2		B(E2)(W.u.)=0.44 *9*
2975.69	4^-	279.71 *6*	39.7 *20*	2695.94	4^-	D+Q	−0.09 *7*	
		575.34 *7*	35.0 *19*	2400.30	3^-	M1+E2	−0.01 *10*	
		691.56 *8*	100 *9*	2284.27	5^-	M1+E2	≈−0.4	
3034.75	(0^+)	1863.50 *8*	100	1171.265	2^+			
3057.946	4^+	414.56[&] *3*	7.3 *4*	2643.353	4^+	(M1+E2)[c]	−0.2 *2*	I_γ: from β^- decay (46.2 s). Other: 21.6 *12* in (n,n′γ).
		592.35[&] *7*	4.3 *3*	2465.632	4^+			I_γ: from β^- decay (46.2 s). Other: 10.7 *16* in (n,n′γ).
		637.03[&] *8*	5.4 *4*	2420.90	2^+			I_γ: from β^- decay (46.2 s). Other: <23 in (n,n′γ).
		702.62[#] *4*	7.4[#] *3*	2355.383	2^+			
		863.64[&] *3*	100 *3*	2194.299	4^+	M1(+E2)	−0.04 *4*	I_γ: from β^- decay (46.2 s).
		1886.65[&] *6*	13.6 *5*	1171.265	2^+			I_γ: from β^- decay (46.2 s).
3069.73	(6^+)	426.4 *4*	11.4 *15*	2643.353	4^+			
		604.0 *2*	33.3 *22*	2465.632	4^+			
		875.45 *8*	100 *5*	2194.299	4^+	Q		Mult.: stretched Q from γ(θ) in (n,n′γ).
3077.38	3^+	721.93 *15*	42 *3*	2355.383	2^+	M1+E2	+5 *+5−3*	
		883.22 *14*	61 *4*	2194.299	4^+	(M1+E2)[c]		δ: +3 *3* or −0.2 *2*.
		980.1 *2*	47 *3*	2097.205	2^+	M1+E2	+1.4 *+10−4*	Mult.: from large mixing ratio.
		1906.06 *13*	100 *6*	1171.265	2^+	M1+E2	+4.2 *16*	Mult.: from large mixing ratio.
3157.97	2^+	1986.7 *3*	18.8 *12*	1171.265	2^+			

$^{120}_{50}Sn_{70}$-7

Adopted Levels, Gammas (continued)

γ(^{120}Sn) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.[b]	δ[b]	Comments
3157.97	2+	3157.92 *9*	100 *6*	0.0	0+	E2		B(E2)(W.u.)=0.86 *24*
3179.06	4+	713.36& *3*	100 *4*	2465.632	4+	D+Q		I_γ: from β^- decay (46.2 s). δ: −0.22 *10* or +1.6 *5*.
		823.60# *17*	5.9# *13*	2355.383	2+			
		984.92& *6*	36.5 *19*	2194.299	4+	M1+E2	≈−2.5	I_γ: from β^- decay (46.2 s). Other: 46 *5* in (n,n′γ). Mult.: from large mixing ratio.
		1081.2# *6*	1.1# *6*	2097.205	2+			
		2007.82& *4*	76 *4*	1171.265	2+			I_γ: from β^- decay (46.2 s). I_γ: other: 90 *4* in (n,n′γ).
3208.54	0+	2037.26 *15*	100	1171.265	2+			
3231.95	1+,2+,3+	1134.74 *6*	100 *5*	2097.205	2+	M1+E2	+8 *4*	
		2060.7 *3*	14.0 *13*	1171.265	2+	(M1+E2)[c]		δ: +2 *2* or +0.8 *8*.
3237.33	(1,2)	2066.03 *7*	100 *5*	1171.265	2+			
		3238.3 *7*	9.7 *11*	0.0	0+			
3262.89		842.0 *2*	87 *6*	2420.90	2+			
		907.2 *3*	58 *6*	2355.383	2+			
		1068.5 *2*	24 *4*	2194.299	4+			
		2091.8 *2*	100 *5*	1171.265	2+			
3279.29	(1−)	3279.24 *9*	100	0.0	0+	D		
3284.62	2+	2113.26 *12*	59 *3*	1171.265	2+	(M1+E2)[c]	−0.4 *4*	B(M1)(W.u.)=0.0008 *4*; B(E2)(W.u.)=0.02 *+4−22*
		3284.64 *12*	100 *5*	0.0	0+	E2		B(E2)(W.u.)=0.029 *10*
3349.92	(4)+	706.43# *8*	35# *3*	2643.353	4+			
		929.08# *11*	35# *6*	2420.90	2+			
		1156.1# *3*	20# *4*	2194.299	4+			
		1253.03# *25*	9.1# *20*	2097.205	2+			
		2178.65& *5*	100 *6*	1171.265	2+			I_γ: from β^- decay (46.2 s).
3386.32	2+	2215.13 *15*	100 *8*	1171.265	2+	D+Q		δ: −0.31 *10* or +10 *+10−6*.
		3385.6 *4*	56 *3*	0.0	0+	Q		
3438.23	4+	1341.1# *7*	5.1# *19*	2097.205	2+			
		2266.94& *7*	100 *6*	1171.265	2+			
3446.48	(7−,8−)	609.96@ *5*	21.5@ *13*	2836.52	(8+)			
		696.75@ *4*	32.1@ *16*	2749.71	6−			
		964.86@ *4*	100@ *4*	2481.63	7−			
3471.54	3−	1071.46 *13*	100 *8*	2400.30	3−			
		1115.9 *2*	48 *4*	2355.383	2+			
		1374.1 *2*	43 *5*	2097.205	2+			
		2300.1 *4*	28 *3*	1171.265	2+			
3547.58	1,2	2376.2 *2*	100 *5*	1171.265	2+			

$^{120}_{50}Sn_{70}$-8

Adopted Levels, Gammas (continued)

γ(^{120}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[b]	Comments
3547.58	1,2	3547.5 *6*	73 *5*	0.0	0^+	D,Q	Mult.: δ=−0.4 *2* or +4 *2* given in (1992De32) but the transition must be pure D or pure Q.
3581.90	(1,2)	853.5 *4*	40 *5*	2728.12	2^+		
		2410.6 *5*	24 *4*	1171.265	2^+		
		3582.0 *3*	100 *7*	0.0	0^+		
3631.14	2^+	1276.6 *6*	28 *4*	2355.383	2^+		
		1436.8 *6*	37 *6*	2194.299	4^+		
		2459.9 *2*	100 *6*	1171.265	2^+		
3644.48	$(6^+,7^-)$	808.4[@] *4*	18[@] *8*	2836.52	(8^+)		I_γ: from Iγ/Iγ(1163γ) in 1978Ch25. 1988Ra09 report <14.
		1162.78[@] *16*	100[@] *22*	2481.63	7^-		I_γ: uncertainty from 1978Ch25.
3711.01	(1,2)	2539.7 *2*	88 *5*	1171.265	2^+		
		3711.0 *3*	100 *7*	0.0	0^+		
3765.31	$1^+,2^+$	1410.0 *3*	89 *8*	2355.383	2^+		
		3765.1 *4*	100 *8*	0.0	0^+		
3772.09	$^+$	2600.8 *2*	100	1171.265	2^+		
3777.21	4^+	1133.88[#] *10*	38[#] *5*	2643.353	4^+		
		1311.57[#] *14*	21[#] *3*	2465.632	4^+		
		1421.6[#] *4*	8[#] *3*	2355.383	2^+		
		1494.2[#] *7*	7[#] *4*	2284.27	5^-		
		1582.76[#] *17*	43[#] *6*	2194.299	4^+		
		1679.89[#] *20*	18[#] *4*	2097.205	2^+		
		2605.94[#] *8*	100[#] *6*	1171.265	2^+		
3835.36	2^+	2664.0 *3*	100 *8*	1171.265	2^+		
		3835.4 *4*	96 *8*	0.0	0^+		
3857.56	(4)	1663.3[#] *6*	36[#] *18*	2194.299	4^+		
		1760.54[#] *20*	100[#] *29*	2097.205	2^+		
		2686.11[#] *17*	79[#] *11*	1171.265	2^+		
3874.96	2^+	1680.9 *3*	75 *5*	2194.299	4^+		
		2703.2 *4*	100 *7*	1171.265	2^+		
3906.6	$^-$	2735.3 *3*	100	1171.265	2^+		
3990.1	$(2)^+$	2819.1 *5*	74 *9*	1171.265	2^+		
		3989.5 *6*	100 *11*	0.0	0^+		
4006.5	(1,2)	4006.4 *6*	100	0.0	0^+		
4011.4	(1,2)	4011.3 *6*	100	0.0	0^+		
4079.0	$1^+,2^+,3^+$	2907.7 *4*	100	1171.265	2^+		
4096.5		2925.2 *4*	100	1171.265	2^+		
4110.4	1^-	4110.3 *7*	100	0.0	0^+		
4318.2	$0^-,1^-$	3146.9 *3*	100 *9*	1171.265	2^+		

$^{120}_{50}Sn_{70}$-9

Adopted Levels, Gammas (continued)

γ(^{120}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π
4318.2	$0^-,1^-$	4318.1 *9*	29 *5*	0.0	0^+	7686.6	1^-	7695[‡] *5*	100[‡] *1*	0.0	0^+
6728.6	1	4306[‡]	5[‡] *3*	2420.90	2^+	8993.0	1	5443[‡]	44[‡] *27*	3547.58	1,2
		5559[‡]*e*	1[‡] *3*	1171.265	2^+			5963[‡]	60[‡] *21*	3034.75	(0^+)
		6730[‡]	100[‡] *6*	0.0	0^+			6264[‡]	28[‡] *21*	2728.12	2^+
7310.1	1	5150[‡]	14[‡]	2159.931	0^+			6634[‡]	100[‡] *25*	2355.383	2^+
		7310[‡]	100[‡]	0.0	0^+			6675[‡]	60[‡] *20*	2297	$0^+,1^+$
7686.6	1^-	4059[‡]	18[‡] *6*	3631.14	2^+			6833[‡]	33[‡] *25*	2159.931	0^+
		5095[‡]	8[‡] *3*	2587.25	0^+			6890[‡]	70[‡] *21*	2097.205	2^+
		5335[‡] *4*	12.3[‡] *8*	2355.383	2^+			7823[‡]	33[‡] *12*	1171.265	2^+
		5520[‡] *7*	1.4[‡] *3*	2159.931	0^+			8998[‡]	72[‡] *14*	0.0	0^+
		6522[‡] *7*	7.3[‡] *5*	1171.265	2^+						

[†] From (n,n′γ), unless otherwise noted.
[‡] From (γ,γ′).
[#] From β^- decay (46.2 s). Not observed in (n,n′γ).
[@] From β^- decay (47.3 s). Not observed in (n,n′γ).
[&] From weighted av from (n,n′γ) and β^- decay (46.2 s).
[a] From weighted av from (n,n′γ) and β^- decay (47.3 s).
[b] From (n,n′γ) and placement in level scheme, unless otherwise noted.
[c] Mult=D+Q from γ(θ) in (n,n′γ). Δπ is from placement in level scheme.
[d] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.
[e] Placement of transition in the level scheme is uncertain.

$^{120}_{50}Sn_{70}$-10

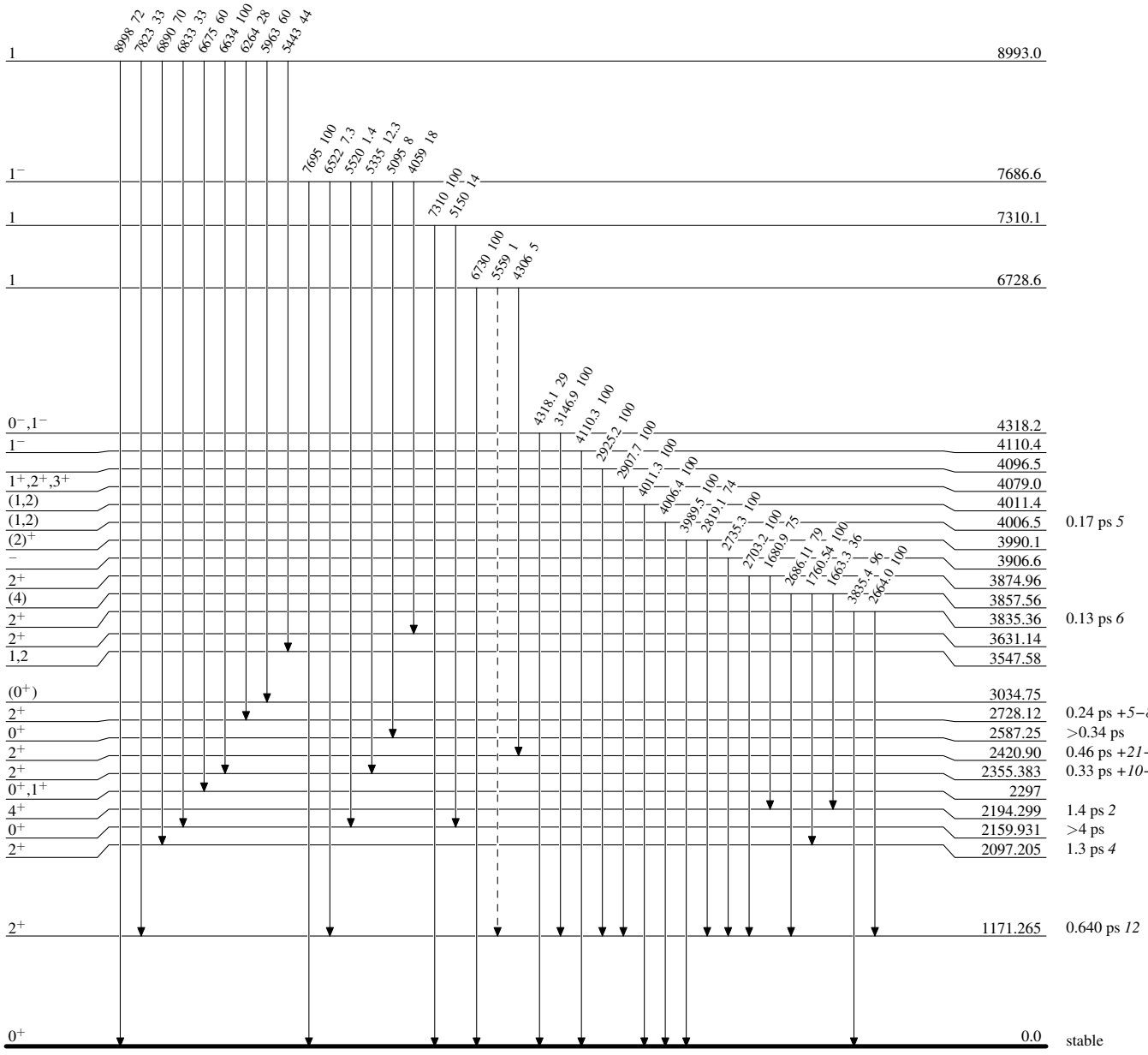
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

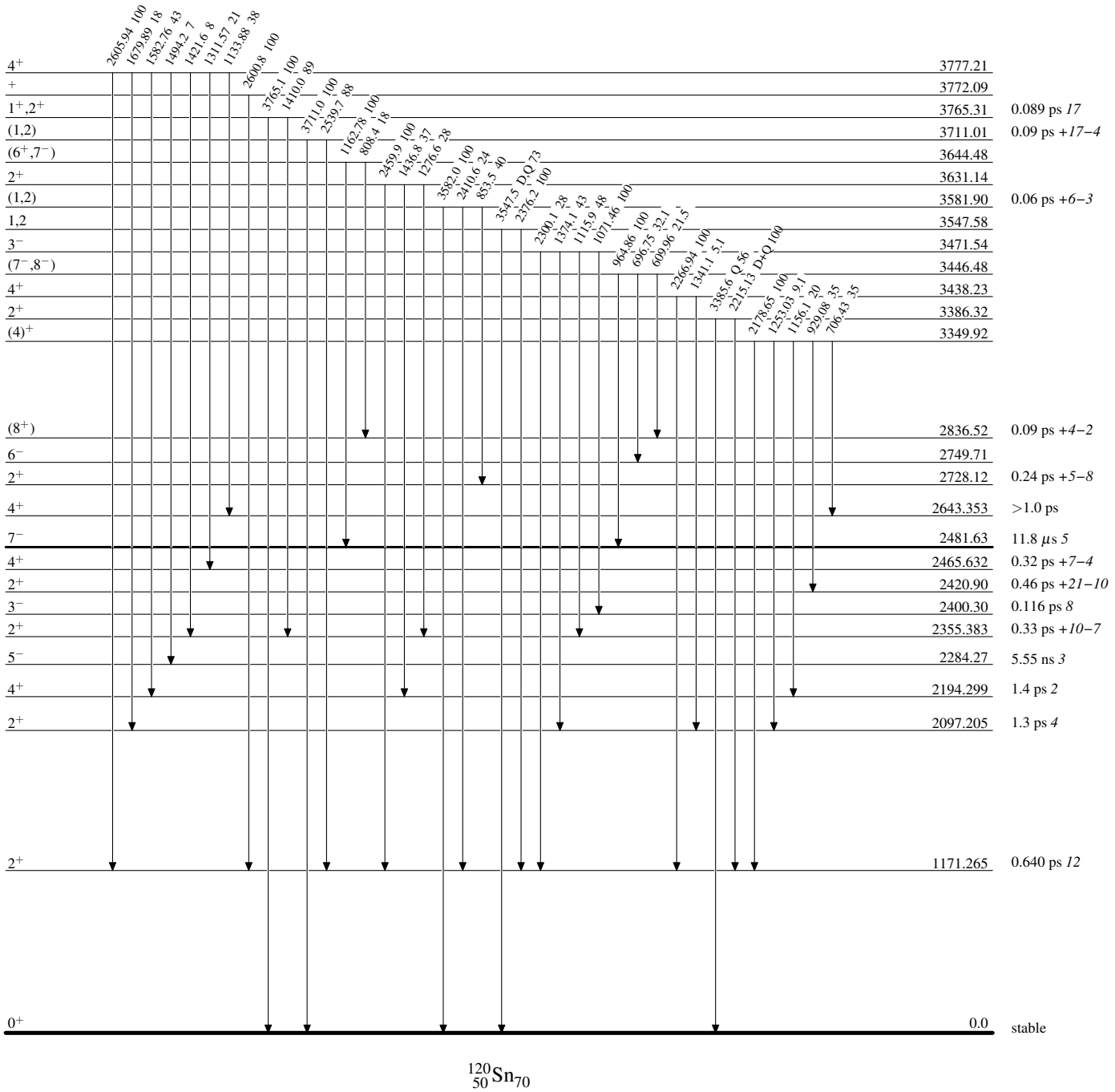


$^{120}_{50}Sn_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

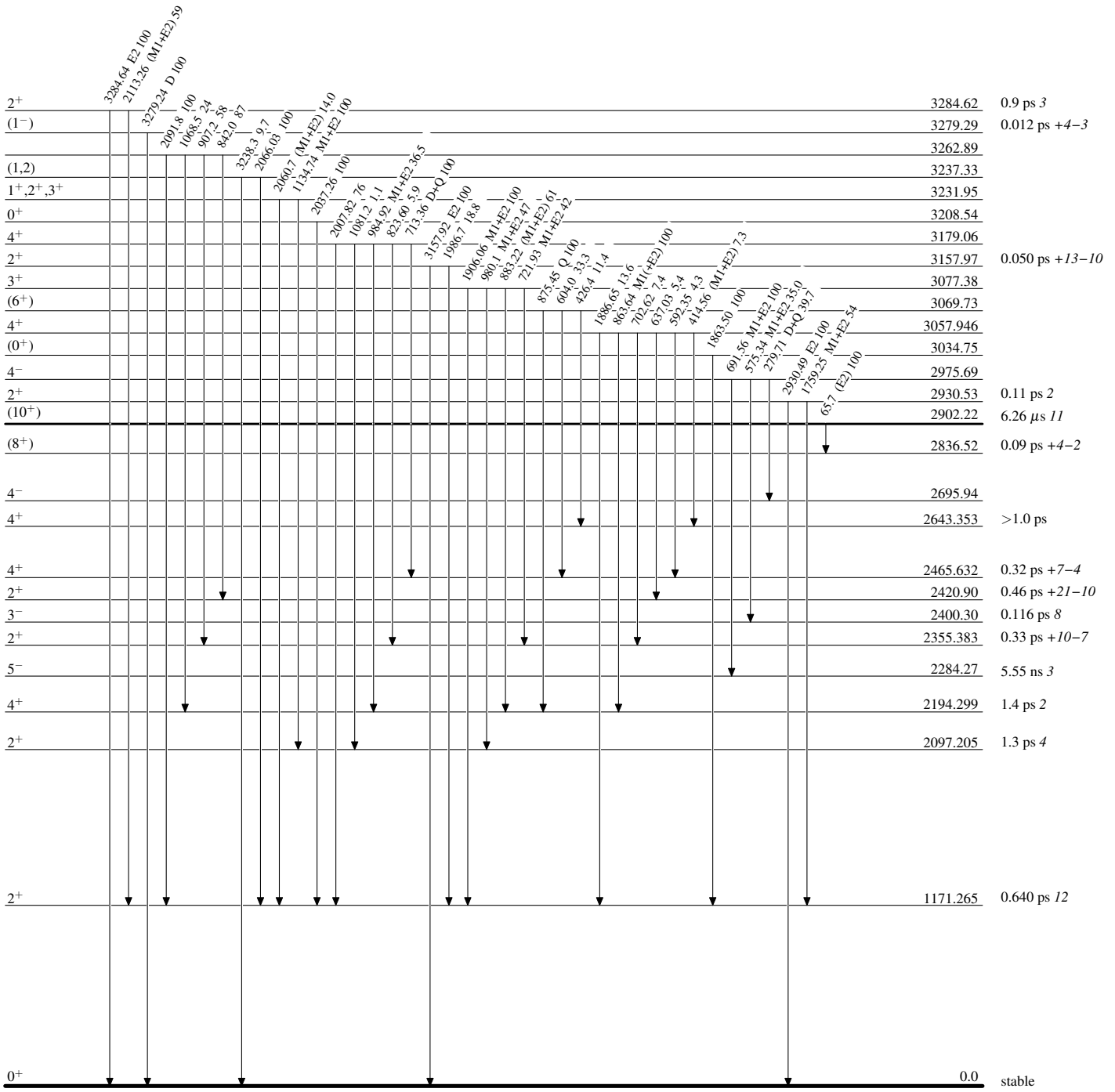


$^{120}_{50}Sn_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

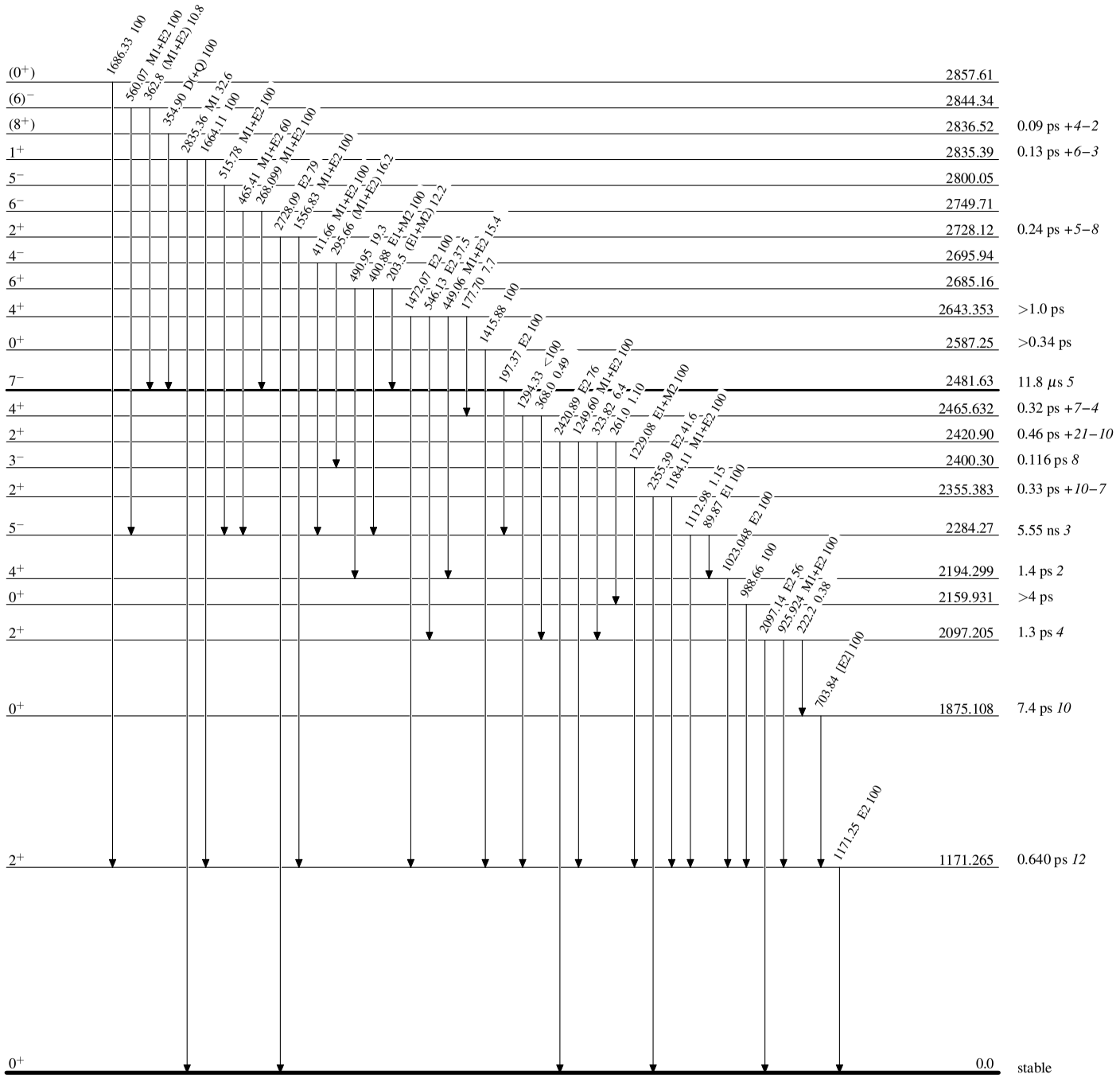


$^{120}_{50}Sn_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{120}_{50}Sn_{70}$

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	T. Tamura	NDS 108,455 (2007)	30-Sep-2006

Q(β^-)=−1608 *4*; S(n)=8815.4 *24*; S(p)=1.139×10^4 *3*; Q(α)=−5665 *21* 2012Wa38
Note: Current evaluation has used the following Q record −1615.8 288813.2 *2511394* 27-5662 20 2003Au03.

^{122}Sn Levels

Cross Reference (XREF) Flags

A	^{122}In β^- decay (1.5 s)	G	Coulomb excitation	M	^{126}Te(d,^{6}Li)
B	^{122}In β^- decay (10.3 s)	H	^{122}Sn(p,p′)	N	^{122}Sn(γ,γ')
C	^{122}In β^- decay (10.8 s)	I	^{122}Sn(d,d′),(α,α')	O	^{123}Sb(μ^-,$\nu n\gamma$)
D	^{122}Sb ε decay	J	^{122}Sn(n,n′)	P	^{122}Sn IT decay
E	^{122}Sn(n,n′γ)	K	^{123}Sb(t,α)		
F	^{122}Sn(p,p′γ)	L	^{124}Sn(p,t)		

E(level)†	Jπ‡	$T_{1/2}$#	XREF	Comments
0.0	0$^+$	stable	ABCDEFGHIJKLMNOP	Nuclear rms charge radius=4.6657 fm *10* (2004An14). $T_{1/2}$: >5.8×10^{13} y for neutrino-less decay mode (1952Fr23).
1140.51 *3*	2$^+$	0.776 ps *16*	ABCDEFGHIJKLMNOP	μ=−0.1 *2* B(E2)↑=0.189 *4* μ: from transient field integral perturbed angular correlation (1980Ha19,2005St24), Q from Coulomb excitation reorientation (1975Gr30,2005St24), reported as Q < +0.14 > −0.28. Jπ: L=2 in (p,p′). $T_{1/2}$: from B(E2) in Coulomb excitation; other: 0.62 ps *12* from Γ in (γ,γ').
2087.71 *5*	0$^+$	>0.277 ps	A EFGH LM	Jπ: L=0 in (p,t). $T_{1/2}$: other: >3.3 ps from B(E2) in Coulomb excitation.
2142.06 *3*	4$^+$	1.56 ps *21*	BC E GHi KLM	XREF: i(2150)L(2146). Jπ: L=4 in (p,p′). $T_{1/2}$: from B(E2) in Coulomb excitation; other: >0.346 ps from (n,n′γ).
2153.81 *3*	2$^+$	0.69 ps *+55−21*	AB E i	XREF: i(2150). Jπ: log *ft*=5.7 from 1$^+$; E2 γ to 0$^+$.
2245.81 *3*	5$^-$	7.9 ns *9*	BC E HI LM P	XREF: I(2250)L(2252). Jπ: L=5 in (p,p′). $T_{1/2}$: from $\beta\gamma$(t) in ^{122}In β^- decay (10.8 s).
2331.09 *3*	4$^+$	0.83 ps *+69−28*	B E GHI LM	Jπ: L=4 in (p,p′). $T_{1/2}$: other: >3.5 ps from B(E2) in Coulomb excitation.
2409.03 *4*	7$^-$	7.5 μs *9*	BC E H LM P	XREF: H(2390)L(2417). Jπ: L=7 in (p,t) E2 γ to 5$^-$. $T_{1/2}$: from $\gamma\gamma$(t) in ^{122}In β^- decay (10.8 s).
2415.543 *25*	2$^+$	0.33 ps *+10−7*	AB EFGHI MN	XREF: H(2412). Jπ: L=2 in (p,p′). $T_{1/2}$: others: 0.19 ps *5* from Γ in (γ,γ'); >0.78 ps from B(E2) in Coulomb excitation.
2492.67 *4*	3$^-$	0.079 ps *+5−3*	AB EFGHI LMN	B(E3)↑=0.092 *10* (2002Ki06) Jπ: L=3 in (p,p′).
2530.33 *4*	(0)$^+$		A E	Jπ: 1390$\gamma(\theta)$ is isotropic, 1390γ(lin pol) in (n,n′γ); log *ft*=5.7 from 1$^+$, γ's to 2$^+$.
2555.42 *6*	6$^+$		B E H LM	Jπ: L=6 in (p,t),(p,p′).
2651.37 *4*	4$^-$,5$^-$,6$^-$		E m	XREF: m(2653).

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{122}Sn Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	XREF	Comments
				Jπ: M1+E2 γ to 5⁻.
2653.00 *5*	6⁻		C E H m	XREF: m(2653).
				Jπ: M1(+E2) γ's to 7⁻ and 5⁻.
2657 *10*			L	
2675.57 *6*	0⁺	>0.2 ps	EFG L	Jπ: L=0 in (p,t); 1535γ(θ) is isotropic in (n,n′γ).
				$T_{1/2}$: from B(E2) in Coulomb excitation.
2690.04 *7*	(8⁺)		C E H LM P	Jπ: L=8 in (p,t).
2734.50 *4*	2⁺	0.49 ps *+69−21*	AB E	Jπ: log *ft*=6.5 from 1⁺; E2 γ to 0⁺.
2751.01 *5*	5⁻		E H LM	Jπ: L=5 in (p,p′).
2765.6 *10*	(10⁺)	62 μs *3*	H L P	Jπ: L=10 in (p,p′).
				$T_{1/2}$: from ^{122}Sn IT decay (1992Br06).
2775.55 *6*	2⁺	0.62 ps *+83−28*	AB E H	Jπ: log *ft*=6.0 from 1⁺; E2 γ's to 0⁺, γ from 4⁺.
2837.88 *7*	6⁻		C E	Jπ: M1 γ to 7⁻, M1(+E2) γ to 5⁻.
2855.47 *4*	4⁻		E	Jπ: M1(+E2) γ to 3⁻, M1+E2 γ to 5⁻.
2867.73 *7*		0.13 ps *+20−6*	E h	XREF: h(2870).
2879.79 *5*	1⁺,2⁺	0.111 ps *+55−28*	E h	XREF: h(2870).
				Jπ: M1+E2 γ to 2⁺, γ to 0⁺.
2944.96 *6*	3⁺		E	Jπ: M1+E2 γ's to 2⁺ and 4⁺.
2959.12 *6*	4⁺		E	Jπ: stretched E2 γ's to 2⁺, E1(+M2) γ to 3⁻.
2971.1? *4*			A	
2973.39 *4*	4⁺		B E H	XREF: H(2976).
				Jπ: log *ft*=5.5 from 5⁺; stretched E2 γ to 2⁺, M1+E2 γ to 4⁺.
3035.91 *5*	3⁻		E H	Jπ: E1(+M2) γ's to 2⁺, M1+E2 γ to 4⁻.
3082.15 *5*	4⁺	0.19 ps *+15−6*	B E H	Jπ: stretched E2 γ to 2⁺, M1+E2 γ to 4⁺.
3128.6 *7*	2⁺	0.043 ps *+10−7*	E HI N	XREF: I(3150).
				Jπ: L=2 in (p,p′).
				$T_{1/2}$: other: 0.080 ps *7* from Γ in (γ,γ′).
3130.58 *15*			E H	
3206.25 *18*	(0)⁺		AB E	Jπ: 2065γ(θ) is isotropic in (n,n′γ); log *ft*=5.3 from 1⁺; γ to 2⁺ in (n,n′γ).
3233.74 *4*	4⁺		B E H	XREF: H(3237).
				Jπ: L=4 in (p,p′).
3281.43 *9*		0.10 ps *+10−4*	E HI	XREF: I(3260).
3305.69 *4*	4⁺		B E H m	XREF: m(3319).
				Jπ: L=4 in (p,p′).
3330 *30*			I m	XREF: m(3319).
3358.59 *9*	1⁻	0.006 ps *+4−3*	E N	Jπ: E1 γ to 0⁺ in (γ,γ′); 3359γ(θ) in (n,n′γ).
				$T_{1/2}$: other: 0.0048 ps *4* from Γ in (γ,γ′).
3362.87 *9*	3⁻		E H	Jπ: L=3 for E=3367 *10* in (p,p′).
3371.24 *14*	(2⁺)		B E	Jπ: D(+Q) γ to 2⁺, Q γ to 0⁺.
3416.5 *4*	(7⁻,8⁻,9⁻)		C	Jπ: log *ft*=6.0 from (8⁻); γ to 7⁻.
3454.82 *13*	(3⁻)		E H	Jπ: L=(3) in (p,p′).
3478.60 *21*	(7⁻)		E HI	Jπ: L=(7) in (p,p′).
3530.71 *5*	(7⁻,8⁻)		C H	log *ft*=4.6 from (8⁻); γ's to 6⁻ and 7⁻.
3548.66 *10*	2⁺	0.06 ps *+9−3*	A E	Jπ: log *ft*=5.8 from 1⁺; γ's to 2⁺ and 4⁺.
3568.14 *21*			E HI k	XREF: I(3560)k(3580).
3582.35 *18*	2⁺	0.028 ps *+16−10*	A E H k N	XREF: H(3584)k(3580).
				Jπ: log *ft*=6.3 from 1⁺; stretched E2 γ to 0⁺.
				$T_{1/2}$: other: 0.014 ps *5* from Γ in (γ,γ′).
3627.01 *14*	4⁺		B H	Jπ: log *ft*=6.1 from 5⁺; γ's to 2⁺ and 6⁺.
3670.28 *7*	4⁺		B H K	Jπ: log *ft*=5.8 from 5⁺; γ to 2⁺.
3703.38 *11*	(7⁻,8⁻,9⁻)		C hi lm	XREF: h(3708)i(3710)l(3710)m(3714).
				Jπ: log *ft*=5.4 from (8⁻); γ to 7⁻.
3704.9 *5*	(2⁺)		E	Jπ: Q γ to 0⁺.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{122}Sn Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	XREF	Comments
3710.15 *14*	(7⁻,8⁻)		C hi lm	XREF: h(3708)i(3710)l(3710)m(3714). Jπ: log *ft*=5.6 from (8⁻); γ's to 6⁻, 7⁻.
3730.00 *20*			E H m	XREF: H(3731)m(3714).
3751.3 *6*	2⁺	0.055 ps *+69−41*	E K N	Jπ: stretched E2 γ to 0⁺. $T_{1/2}$: other: 0.39 ps *4* from Γ in (γ,γ′).
3758.51 *20*	1,2⁺	0.028 ps *+41−20*	E N	Jπ: γ to 0⁺ and 1⁺.
3777.0 *3*			E H	
3782.84 *18*	(4⁺)		B E	Jπ: log *ft*=6.5 from 5⁺; Q γ to 2⁺.
3810 *10*	⁺		K	Jπ: L=4 in (t,α).
3818 *10*	(6⁺)		H	Jπ: L=(6) in (p,p′).
3819.79 *22*	2⁺	0.049 ps *+68−21*	A E N	Jπ: log *ft*=5.8 from 1⁺; stretched E2 γ to 0⁺. $T_{1/2}$: other: 0.14 ps *5* from Γ in (γ,γ′).
3840.65 *9*	(4⁺)		B E HI	XREF: I(3850). Jπ: log *ft*=5.8 from from 5⁺; γ's to 2⁺ and 4⁺.
3871.1 *9*	1,2⁺		N	Jπ: excited in (γ,γ′), γ to 0⁺.
3876.48 *16*	5⁻,6⁺		B h k	XREF: h(3879)k(3880). Jπ: γ's to 4⁺, 5⁻ and 7⁻; log *ft*=6.0 from 5⁺.
3882.10 *5*	4⁺		B h k	XREF: h(3879)k(3880). Jπ: log *ft*=5.5 from 5⁺; γ's to 2⁺.
3899.68 *16*	0⁺,1⁺,2⁺		AB h	XREF: h(3900). Jπ: log *ft*=4.7 from 1⁺.
3900 *10*			h	XREF: h(3900).
3929.9 *5*	1,2⁺		E I K N	Jπ: γ's to 0⁺, 2⁺ and (3⁻).
3948.5 *5*	5⁻,6⁺		B	Jπ: γ's to 4⁺, 6⁺ and 7⁻; log *ft*=6.5 from 5⁺.
3974 *7*			H K	E(level): weighted average of 3978 *10* in (p,p′) and 3970 *10* in (t,α).
4004.0 *10*	(2⁺)		A E	Jπ: log *ft*=6.0 from 1⁺; Q γ to 0⁺.
4040 *10*	⁻		K	Jπ: L=1 in (t,α).
4104 *10*	(5⁻)		H	Jπ: L=(5) in (p,p′).
4106.6 *4*	1,2⁺		A E	Jπ: log *ft*=5.6 from 1⁺; γ to 0⁺.
4116.3 *4*	0⁺,1⁺,2⁺		A	Jπ: log *ft*=5.1 from 1⁺.
4120 *10*	⁻		K	Jπ: L=1 in (t,α).
4179.6 *4*	0,1,2		A H	Jπ: log *ft*=5.9 from 1⁺.
4220 *10*	⁻		K	Jπ: L=1 in (t,α).
4283.8 *9*	(2⁺)		E	Jπ: Q γ to 0⁺.
4360 *10*	⁻		K	Jπ: L=1 in (t,α).
4470 *10*	⁺		K	Jπ: L=4 in (t,α).
4510 *10*	⁺		K	Jπ: L=4 in (t,α).
4560 *10*	⁺		K	Jπ: L=4 in (t,α).
4680 *10*	⁺		K	Jπ: L=4 in (t,α).
4750 *10*	⁺		K	Jπ: L=4 in (t,α).
4800	(⁻)		I	Jπ: L=(3) in (d,d′),(α,α′).
4930 *10*	⁺		K	Jπ: L=4 in (t,α).
5000			I	
5300	(⁻)		I	Jπ: L=(3) in (d,d′),(α,α′).

[†] From combined fit of levels, and gammas, except where noted or where cross references clearly indicate other source. The completeness of the existences of E(J^π=0⁺)<2.9 MeV, E(J^π=1-5)<3.2 MeV is discussed in ^{122}Sn(n,n′γ) (1991De38).

[‡] Evaluator assigned the J^π's from the followings: 1) L-values in the various reactions; 2) log *ft* values; 3) multipolarities and δ of the relevant transitions. 1991De38 discuss γ(θ) and linear polarization data for the determination of J^π, and J-dependence of direct feeding in ^{122}Sn(n,n′γ).

[#] From Doppler-shift attenuation method in (n,n′γ) (1991Go24), except noted otherwise.

Adopted Levels, Gammas (continued)

γ(^{122}Sn)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[#]	α[@]	Comments
1140.51	2^+	1140.52 *4*	100	0.0	0^+	E2			B(E2)(W.u.)=10.69 *23*
2087.71	0^+	947.19 *4*	100	1140.51	2^+	E2			B(E2)(W.u.)<75
2142.06	4^+	1001.54 *2*	100	1140.51	2^+	E2			B(E2)(W.u.)=10.0 *14*
2153.81	2^+	1013.27 *3*	100 *5*	1140.51	2^+	M1+E2	+3.8 *4*		B(M1)(W.u.)=0.0019 *4*; B(E2)(W.u.)=19 *3*
		2153.71 *8*	3.1 *3*	0.0	0^+	E2			B(E2)(W.u.)=0.015 *+5−12*
2245.81	5^-	103.74 *1*	100 *4*	2142.06	4^+	E1(+M2)	+0.03 *2*	0.1639	B(E1)(W.u.)=(2.6×10^{-5} *4*); B(M2)(W.u.)=(10 *+14−10*)
		1105.38 *11*	1.6 *4*	1140.51	2^+	[E3]			B(E3)(W.u.)=1.2 *4*
2331.09	4^+	1190.56 *2*	100	1140.51	2^+	E2			B(E2)(W.u.)=8 *+3−7*
2409.03	7^-	163.22 *3*	100	2245.81	5^-	E2		0.283	B(E2)(W.u.)=0.0141 *17*
2415.543	2^+	261.79 *9*	76 *9*	2153.81	2^+	[M1+E2]			
		1275.03 *3*	42.6 *21*	1140.51	2^+	M1+E2	−0.34 *4*		B(M1)(W.u.)=0.0056 *14*; B(E2)(W.u.)=0.29 *6*
		2415.51 *3*	100 *5*	0.0	0^+	E2			B(E2)(W.u.)=0.27 *+6−9*
2492.67	3^-	246.4[&] *8*	24 *10*	2245.81	5^-	[E2]			
		1352.17 *3*	100 *6*	1140.51	2^+	E1(+M2)	−0.03 *2*		B(E1)(W.u.)=(0.00113 *14*); B(M2)(W.u.)=(3 *+4−3*)
		2492.6 *4*	0.052 *5*	0.0	0^+	E3			branching from BE3↑=0.092 *10* and $T_{1/2}$.
2530.33	$(0)^+$	376.6 *2*	7.9 *7*	2153.81	2^+				
		1389.81 *3*	100 *4*	1140.51	2^+	E2			
2555.42	6^+	146.0 *2*	10 *1*	2409.03	7^-				
		309.63 *5*	100 *5*	2245.81	5^-	E1(+M2)	+0.01 *2*		
2651.37	$4^-,5^-,6^-$	405.56 *3*	100	2245.81	5^-	M1+E2	+0.10 *2*		
2653.00	6^-	243.97 *3*	69 *3*	2409.03	7^-	M1(+E2)	−0.07 *4*		
		407.18 *7*	100 *5*	2245.81	5^-	M1(+E2)	+0.03 *2*		
2675.57	0^+	1535.05[‡] *5*	100	1140.51	2^+				
2690.04	(8^+)	281.00 *6*	100	2409.03	7^-				
2734.50	2^+	204.16 *7*	20.5 *13*	2530.33	$(0)^+$				B(E2)(W.u.)=0.11 *+5−11*
		1593.97 *3*	75 *4*	1140.51	2^+	M1+E2	−3.5 *6*		B(M1)(W.u.)=0.00032 *11*; B(E2)(W.u.)=1.11 *3*
		2734.53 *15*	100 *11*	0.0	0^+	E2			B(E2)(W.u.)=0.11 *+5−11*
2751.01	5^-	505.20 *4*	100	2245.81	5^-	M1+E2			δ: +0.07 *5* or +0.77 *7*.
2765.6	(10^+)	75.2 *5*	100	2690.04	(8^+)	(E2)		4.44	B(E2)(W.u.)=0.0194 *13* E_γ,Mult.: from ^{122}Sn IT decay.
2775.55	2^+	1634.73 *11*	100 *5*	1140.51	2^+	M1+E2	+0.14 *2*		B(M1)(W.u.)=0.0055 *3*; B(E2)(W.u.)=0.029 *8*
		2775.58 *7*	46 *3*	0.0	0^+	E2			B(E2)(W.u.)=0.049 *+23−5*
2837.88	6^-	428.94 *13*	30 *2*	2409.03	7^-	M1			
		592.05 *6*	100 *4*	2245.81	5^-	M1(+E2)	+0.01 *3*		
2855.47	4^-	362.84 *4*	14.7 *8*	2492.67	3^-	M1(+E2)	−0.01 *6*		
		609.64 *3*	100 *4*	2245.81	5^-	M1+E2	−0.35 *4*		
2867.73		1727.20 *6*	100	1140.51	2^+				
2879.79	$1^+,2^+$	1739.27 *4*	100 *5*	1140.51	2^+	M1+E2			B(M1)(W.u.)<0.046; B(E2)(W.u.)<8 δ: −0.3 *2* or −1.4 *6*.
		2879.6 *3*	16.4 *11*	0.0	0^+				
2944.96	3^+	613.76 *13*	17.5 *11*	2331.09	4^+	M1+E2			δ: +0.3 *2* or +6 *+9−3*.

$^{122}_{50}Sn_{72}$-4

Adopted Levels, Gammas (continued)

γ(^{122}Sn) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.#	δ#	Comments
2944.96	3^+	791.14 *5*	100 *5*	2153.81	2^+	M1+E2	+1.4 *+10−4*	
		1804.53 *11*	32.2 *17*	1140.51	2^+	M1+E2	+5.1 *17*	
2959.12	4^+	224.5 *2*	6.4 *7*	2734.50	2^+			
		466.42 *11*	14.6 *11*	2492.67	3^-	E1(+M2)	+0.08 *8*	
		1818.60 *5*	100 *6*	1140.51	2^+	E2		
2971.1?		1830.6& *4*	100	1140.51	2^+			
2973.39	4^+	642.59 *21*	6.3 *20*	2331.09	4^+			
		819.54 *3*	100 *5*	2153.81	2^+	E2		
		831.35 *3*	74 *3*	2142.06	4^+	M1+E2	−0.61 *10*	
3035.91	3^-	180.42 *10*	26.7 *19*	2855.47	4^-			
		384.54 *5*	70 *5*	2651.37	4^-,5^-,6^-	M1+E2	+0.26 *8*	
		543.4 *2*	23.3 *16*	2492.67	3^-			
		882.00 *13*	100 *5*	2153.81	2^+	E1(+M2)	−0.01 *4*	
		1895.41 *9*	53 *3*	1140.51	2^+	E1(+M2)	−0.03 *3*	
3082.15	4^+	750.80 *10*	18 *3*	2331.09	4^+	M1+E2		B(M1)(W.u.)<0.08; B(E2)(W.u.)<40 δ: +1.6 *8* or −0.2 *2*.
		1941.67 *4*	100 *4*	1140.51	2^+	E2		B(E2)(W.u.)=2.5 *+9−21*
3128.6	2^+	3128.6 *7*	100	0.0	0^+	E2		B(E2)(W.u.)=1.22 *+20−29*
3130.58		440.54 *13*	100	2690.04	(8^+)			
3206.25	$(0)^+$	2065.72 *17*	100	1140.51	2^+			
3233.74	4^+	457.81 *19*	4.7 *13*	2775.55	2^+			
		678.10 *25*	4.9 *18*	2555.42	6^+			
		902.62 *4*	45 *3*	2331.09	4^+	M1(+E2)	+0.5 *6*	
		987.60 *16*	10.5 *22*	2245.81	5^-			
		1080.00 *9*	10.8 *11*	2153.81	2^+			
		1091.67 *3*	100 *2*	2142.06	4^+	M1(+E2)		
		2093.23 *3*	41 *2*	1140.51	2^+	E2		
3281.43		2140.90 *8*	100	1140.51	2^+			
3305.69	4^+	332.27 *5*	11.3 *8*	2973.39	4^+			
		530.10 *17*	3.3 *6*	2775.55	2^+			
		812.99 *10*	8.8 *10*	2492.67	3^-			
		974.61 *3*	78 *8*	2331.09	4^+	M1+E2		
		1059.92 *4*	17.6 *9*	2245.81	5^-			
		1163.61 *3*	100 *4*	2142.06	4^+	M1+E2		
		2165.05 *15*	2.8 *4*	1140.51	2^+			
3358.59	1^-	3358.54 *9*	100	0.0	0^+	E1		B(E1)(W.u.)=0.0012 *+6−8*
3362.87	3^-	1209.06 *8*	100	2153.81	2^+	D(+Q)	+0.03 *3*	
3371.24	(2^+)	596.5 *10*	41 *14*	2775.55	2^+			
		1217.5 *2*	41 *3*	2153.81	2^+			
		2230.6 *4*	67 *4*	1140.51	2^+	D(+Q)		δ: −0.09 *8* or +3.1 *8*.
		3371.1 *2*	100 *6*	0.0	0^+	Q		

$^{122}_{50}Sn_{72}$-5

Adopted Levels, Gammas (continued)

γ(^{122}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[#]	Comments
3416.5	(7⁻,8⁻,9⁻)	1007.5 *4*	100	2409.03	7⁻			
3454.82	(3⁻)	1300.8 *2*	100 *5*	2153.81	2⁺			
		2314.40 *15*	43 *3*	1140.51	2⁺	D(+Q)	−0.03 *5*	
3478.60	(7⁻)	825.6 *2*	100	2653.00	6⁻			
3530.71	(7⁻,8⁻)	692.4 *4*	4.7 *13*	2837.88	6⁻			
		840.4 *3*	2.0 *11*	2690.04	(8⁺)			
		877.70 *8*	18.3 *18*	2653.00	6⁻			
		1121.68 *3*	100 *4*	2409.03	7⁻			
3548.66	2⁺	1406.4 *2*	44 *4*	2142.06	4⁺			
		2408.17 *10*	100 *6*	1140.51	2⁺			
3568.14		2427.6 *2*	100	1140.51	2⁺			
3582.35	2⁺	2441.8 *4*	100 *10*	1140.51	2⁺			
		3582.3 *2*	43 *3*	0.0	0⁺	E2		B(E2)(W.u.)=0.29 +*11*−*17*
3627.01	4⁺	544.8 *4*	63 *29*	3082.15	4⁺			
		1071.4 *3*	68 *20*	2555.42	6⁺			
		1296.4 *3*	100 *24*	2331.09	4⁺			
		1485.0 *3*	56 *22*	2142.06	4⁺			
		2486.20 *27*	61 *20*	1140.51	2⁺			
3670.28	4⁺	1254.80 *11*	54 *6*	2415.543	2⁺			
		1340.0 *5*	25 *9*	2331.09	4⁺			
		1516.49 *8*	100 *7*	2153.81	2⁺			
		1527.84 *22*	28 *7*	2142.06	4⁺			
		2529.63 *15*	42 *7*	1140.51	2⁺			
3703.38	(7⁻,8⁻,9⁻)	1013.4 *3*	18 *4*	2690.04	(8⁺)			
		1294.34 *10*	100 *14*	2409.03	7⁻			
3704.9	(2⁺)	2563.9 *6*	73 *7*	1140.51	2⁺			
		3705.7 *8*	100 *7*	0.0	0⁺	Q		
3710.15	(7⁻,8⁻)	1057.2 *4*	53 *17*	2653.00	6⁻			
		1301.11 *14*	100 *14*	2409.03	7⁻			
3730.00		1398.5 *6*	57 *6*	2331.09	4⁺			
		2589.5 *2*	100 *7*	1140.51	2⁺			
3751.3	2⁺	3751.2 *6*	100	0.0	0⁺	E2		B(E2)(W.u.)=0.054 +*12*−*20*
3758.51	1,2⁺	878.7 *2*	100 *8*	2879.79	1⁺,2⁺			
		3758.6 *7*	52 *4*	0.0	0⁺			
3777.0		2636.5 *3*	100	1140.51	2⁺			
3782.84	(4⁺)	1367.9 *10*	16 *5*	2415.543	2⁺			
		2642.28 *18*	100 *19*	1140.51	2⁺	Q		
3819.79	2⁺	1404.3 *3*	100 *9*	2415.543	2⁺			
		3819.66 *30*	91 *6*	0.0	0⁺	E2		B(E2)(W.u.)=0.19 +*9*−*19*
3840.65	(4⁺)	1698.51 *9*	100 *8*	2142.06	4⁺			
		2700.43 *20*	33 *4*	1140.51	2⁺			
3871.1	1,2⁺	3871.0 *9*	100	0.0	0⁺			

$^{122}_{50}Sn_{72}$-6

Adopted Levels, Gammas (continued)

γ(^{122}Sn) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.#
3876.48	$5^-,6^+$	794.46 *22*	100 *26*	3082.15	4^+	3929.9	$1,2^+$	3929.5 *7*	100 *8*	0.0	0^+	
		1467.7 *7*	19 *9*	2409.03	7^-	3948.5	$5^-,6^+$	1393.1 *6*	100 *5*	2555.42	6^+	
		1546.2 *8*	14 *7*	2331.09	4^+			1539.4 *10*	100 *5*	2409.03	7^-	
		1630.44 *22*	55 *14*	2245.81	5^-			1806.3 *7*	82 *5*	2142.06	4^+	
3882.10	4^+	1389.22 *18*	30 *7*	2492.67	3^-	4004.0	(2^+)	4003.9 *10*	100	0.0	0^+	Q
		1550.82 *17*	31 *5*	2331.09	4^+	4106.6	$1,2^+$	2966.0 *4*	90 *22*	1140.51	2^+	
		1740.17 *7*	93 *5*	2142.06	4^+			4106.7 *5*	100 *20*	0.0	0^+	
		2741.50 *6*	100 *5*	1140.51	2^+	4116.3	$0^+,1^+,2^+$	2975.7 *4*	100	1140.51	2^+	
3899.68	$0^+,1^+,2^+$	2759.13 *15*	100	1140.51	2^+	4179.6	0,1,2	3039.0 *4*	100	1140.51	2^+	
3929.9	$1,2^+$	2789.7 *7*	23 *6*	1140.51	2^+	4283.8	(2^+)	4283.7 *9*	100	0.0	0^+	Q

† Weighted average of data from ^{122}In β^- decay (1.5 s, 10.3 s, 10.8 s), ^{122}Sb ε decay and ^{122}Sn(n,n′γ) wherever data are available.

‡ Weighted average of ^{122}Sn(n,n′γ) and ^{122}Sn(p,p′γ).

From Coulomb excitation, α(exp) in ^{122}In β^- decay (10.3 s, 10.8 s), $\gamma(\theta)$ and linear polarization in ^{122}Sn(n,n′γ).

@ Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

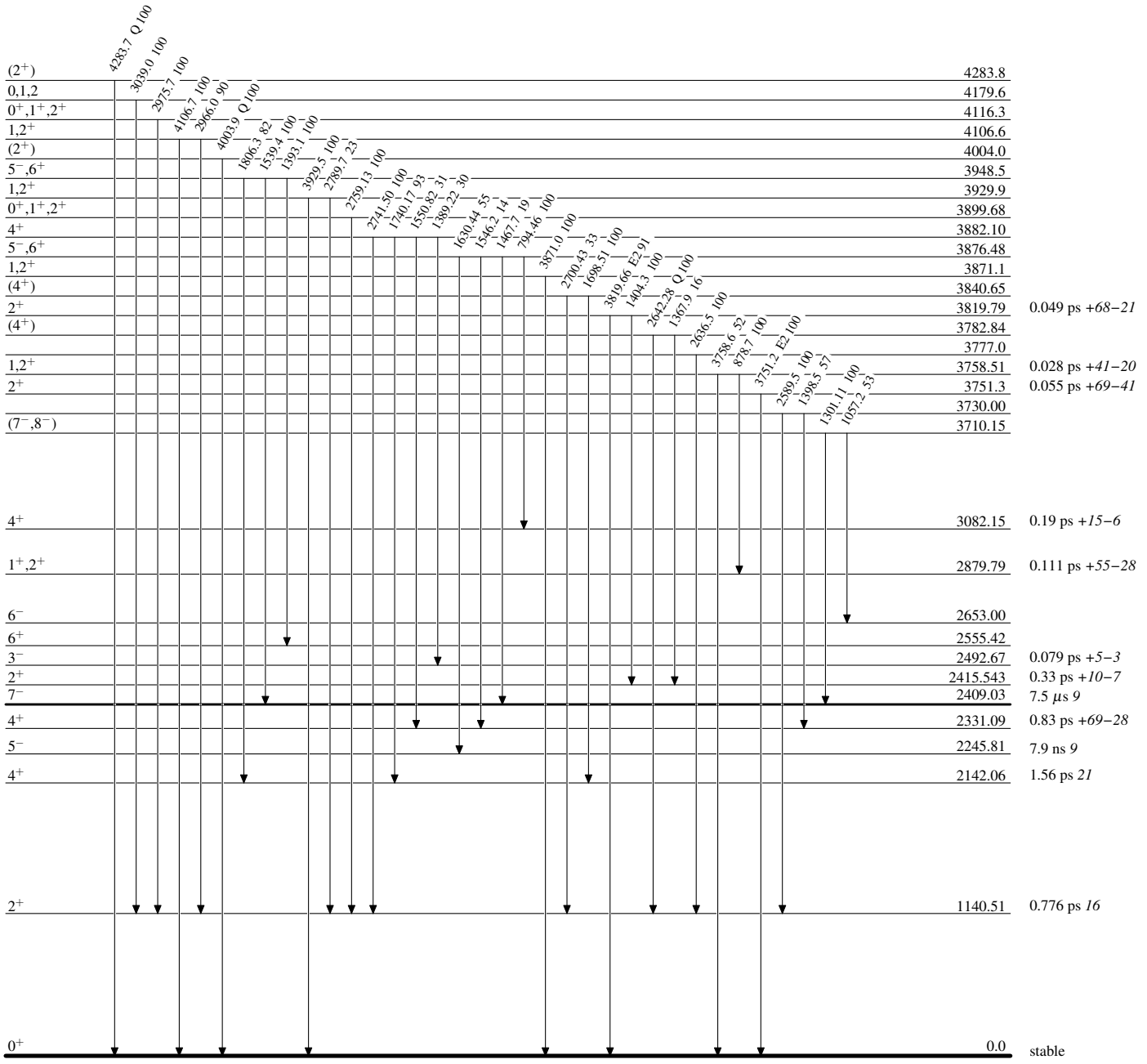
& Placement of transition in the level scheme is uncertain.

$^{122}_{50}Sn_{72}$-7

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

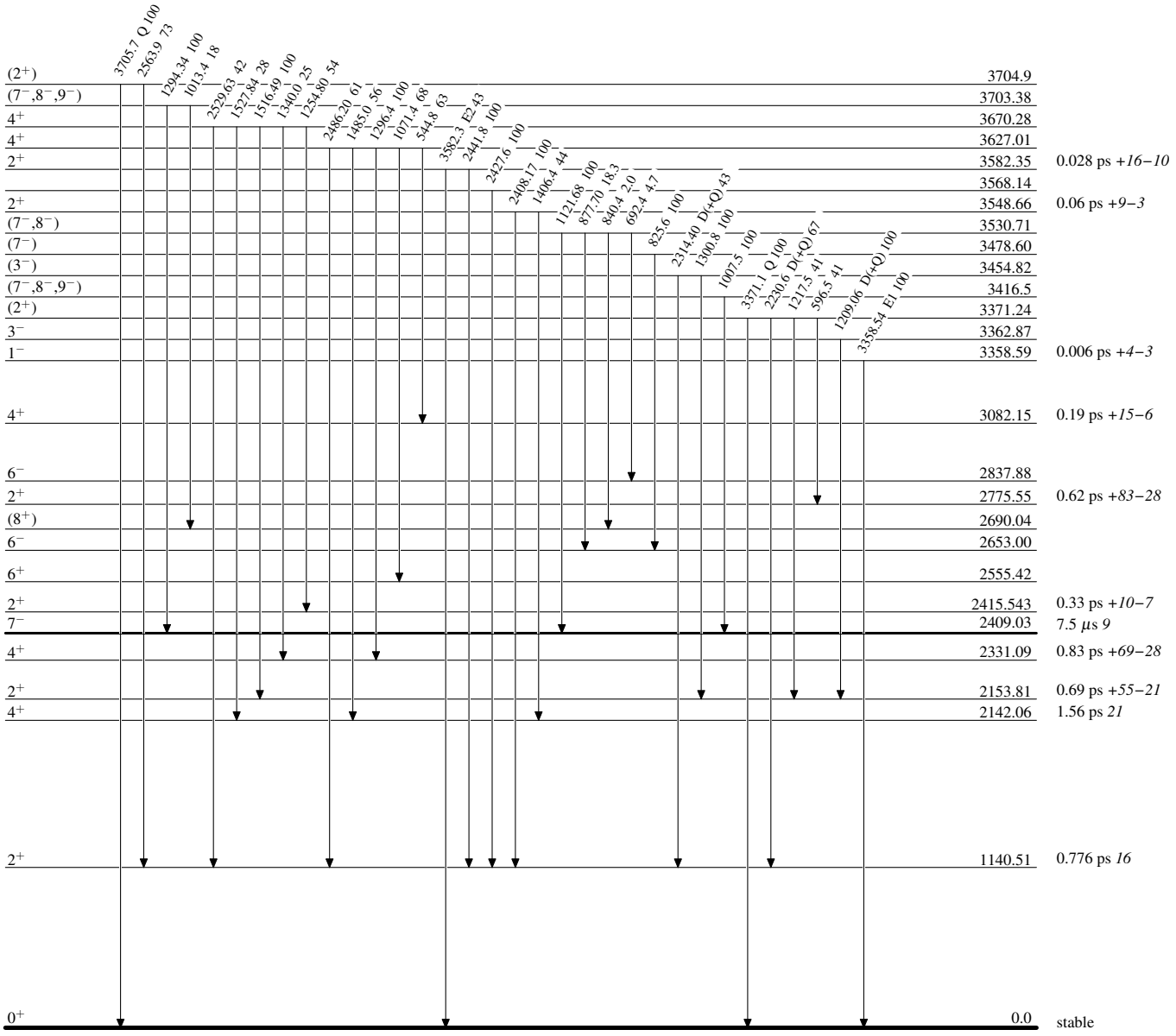


$^{122}_{50}Sn_{72}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{122}_{50}Sn_{72}$

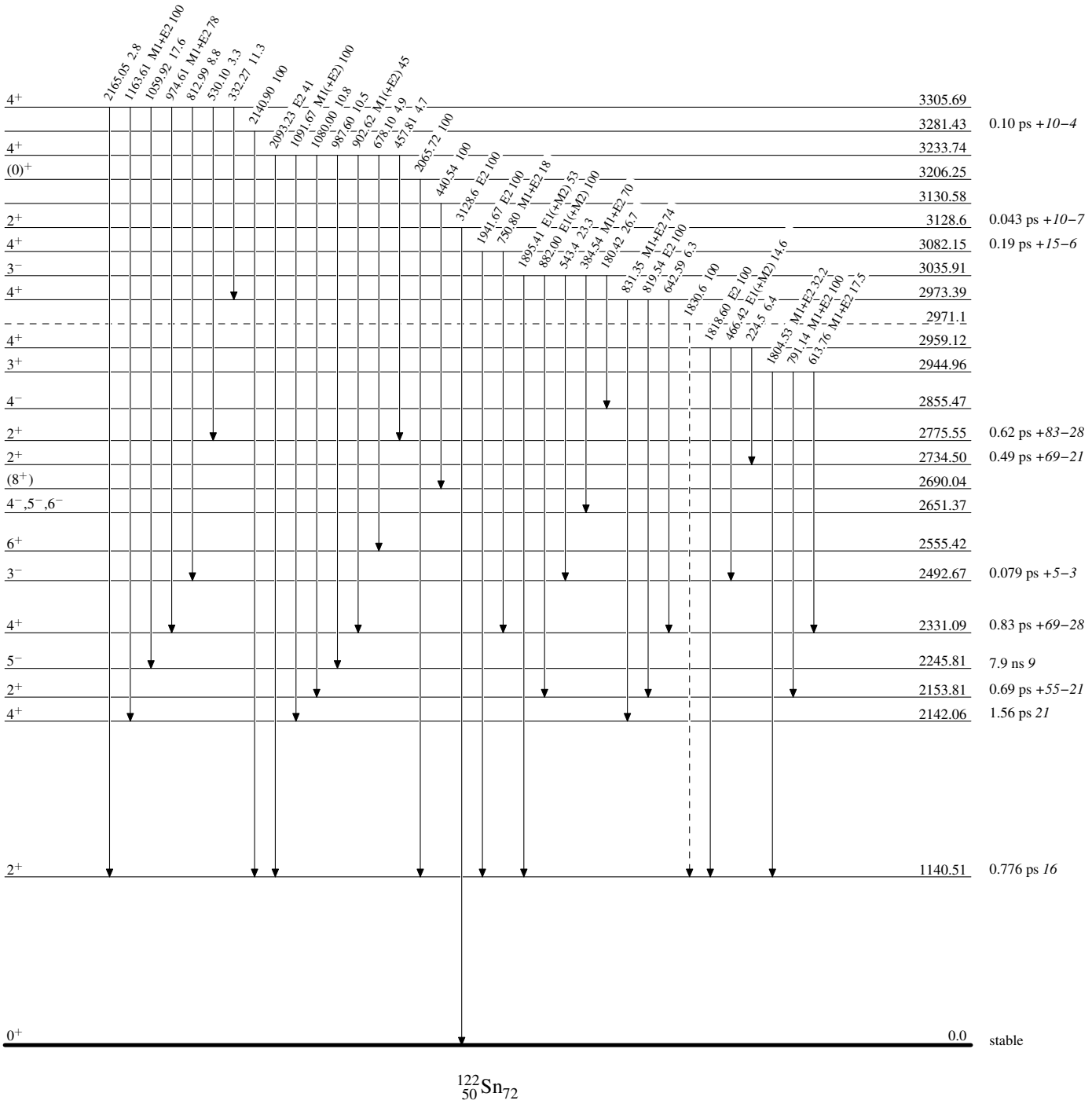
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{122}_{50}Sn_{72}$

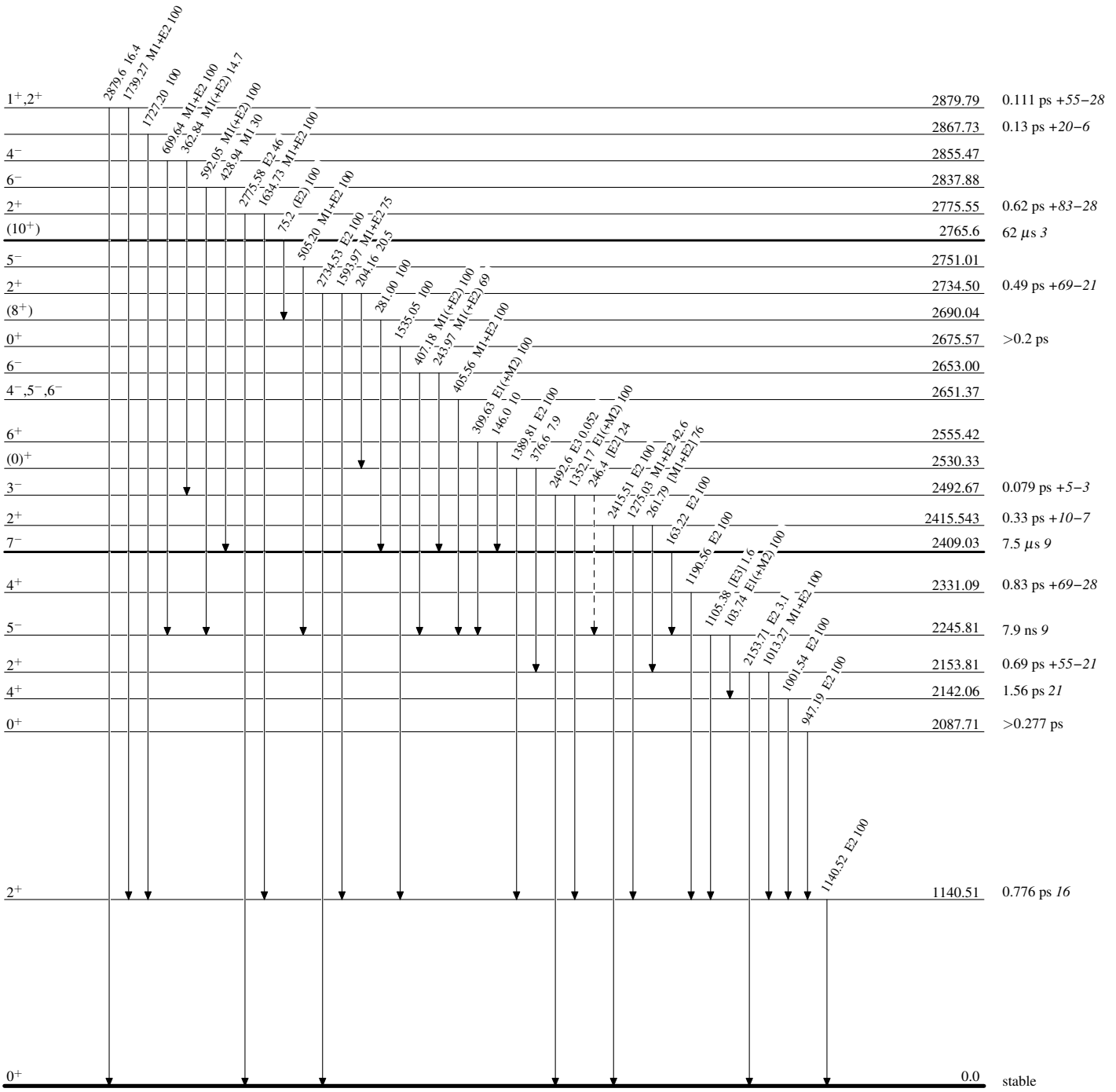
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{122}_{50}Sn_{72}$

Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. Katakura, Z. D. Wu	NDS 109, 1655 (2008)	1-Apr-2008

Q(β^-)=−613.2 *22*; S(n)=8489.2 *24*; S(p)=12093 *20*; Q(α)=−6702 *4* 2012Wa38
Note: Current evaluation has used the following Q record.
Q(β^-)=−616.5 *21*; S(n)=8487.6 *26*; S(p)=12100 *24*; Q(α)=−6688 *19* 2003Au03

^{124}Sn Levels

Cross Reference (XREF) Flags

A	^{124}In β^- decay (3.7 s)	F	^{124}Sn(e,e′)	K	^{124}Sn(^{3}He,^{3}He′)
B	^{124}In β^- decay (3.12 s)	G	^{124}Sn(n,n′γ)	L	^{124}Sn(α,α′)
C	^{124}Sn IT decay	H	^{124}Sn(p,p′)	M	Coulomb excitation
D	^{122}Sn(t,p)	I	^{124}Sn(p,p′γ)	N	^{128}Te(d,^{6}Li)
E	^{124}Sn(γ,γ′),(pol γ,γ′)	J	^{124}Sn(d,d′)		

$T_{1/2}(2\beta^-(0\nu+2\nu)(0^+$ to $2_1+)$:
> 9.1×10^{20} y (2008BaZZ)
> 3.1×10^{18} y (2008Da02)
> 2.3×10^{18} y (2007Ki13)

$T_{1/2}(2\beta^-(0\nu+2\nu)(0^+$ to $0_1+)$:
> 1.1×10^{21} y (2008BaZZ)
> 7.7×10^{18} y (2008Da02)
> 6.7×10^{18} y (2007Ki13)

$T_{1/2}(2\beta^-(0\nu+2\nu)(0^+$ to $2_2+)$:
> 9.4×10^{20} y (2008BaZZ)
> 4.4×10^{18} y (2008Da02)
> 7.9×10^{18} y (2007Ki13)

$T_{1/2}(2\beta^-(0\nu+2\nu)(0^+$ to $0_2+)$:
> 1.2×10^{21} y (2008BaZZ)
> 7.9×10^{18} y (2008Da02)

$T_{1/2}(2\beta^-(0\nu+2\nu)(0^+$ to $0_3+)$:
> 1.2×10^{21} y (2008BaZZ)

$T_{1/2}(2\beta^-(0\nu+2\nu)(0^+$ to $0_4+)$:
> 8.2×10^{20} y (2008BaZZ)
> 4.4×10^{18} y (2008Da02)

$T_{1/2}(2\beta^-(0\nu+2\nu)(0^+$ to $2_3+)$:
> 8.6×10^{20} y (2008BaZZ)
> 4.4×10^{18} y (2008Da02)

$T_{1/2}(2\beta^-(0\nu+2\nu)(0^+$ to $2_4+)$:
> 9.6×10^{20} y (2008BaZZ)
> 3.1×10^{18} y (2008Da02)

$T_{1/2}(2\beta^-(0\nu+2\nu)(0^+$ to $0_5+)$:
> 9.5×10^{20} y (2008BaZZ)

E(level)†	J^π	$T_{1/2}$&	XREF	Comments
0.0	0^+	stable	ABCDEFGHIJKLMN	<r^2>$^{1/2}$=4.6759 fm *12* (2004An14, evaluation). Mass excess=−88228 *20* with Penning trap mass spectrometer ISOLTRAP (2005Si34).
1131.739 *17*	2^+	0.92 ps *3*	ABCDEFGHIJKLMN	μ=−0.30 *20*; Q=−0.01 *17* J^π: E2 transition to 0^+. μ: From transient field integral PAC (1980Ha19,1989Ra17). See also 2005St24 compilation. Q: From Coul. ex. reorientation (1975Gr30,1989Ra17). See also 2005St24

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{124}Sn Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$[&]	XREF	Comments
				compilation.
				$T_{1/2}$: from B(E2) in Coul. ex. Others: 0.93 ps *13* from (γ,γ'); > 1.2 ps from (n,n′γ). 2001Ra27 evaluation gives 0.917 ps *22*.
2101.711 *23*	4^+	3.7 ps *4*	AB D FGH MN	XREF: F(2180).
				Jπ: L=4 in (p,p′); L=5 in (t,p) but its assignment is questionable.
				$T_{1/2}$: from B(E2) in Coul. ex. Other: >0.8 ps from DSA in (n,n′γ).
				B(E4)(e,e′)=0.014 *3*.
2129.596 *25*	2^+	0.8 ps *+5–2*	B GHIJ MN	Jπ: $\gamma(\theta)$ in (n,n′γ), log *ft*=5.63 from $(1)^+$.
				$T_{1/2}$: other: ≥1.8 fs in Coul. ex.
2192.17 *3*	0^+	>0.55 ps	B GH	Jπ: $J^\pi=0^+$ from $\gamma(\theta)$, γ-pol and excitation function in (n,n′γ).
2204.620 *23*	(5^-)	0.27 μs *6*	A CD GH J N	XREF: D(2213).
				Jπ: E2 γ from (7^-), L=5(+4) in (p,p′).
				$T_{1/2}$: from $\beta\gamma$(t) ^{124}In β^- decay (3.7 s) (1979Fo10).
2221.75 *5*	$4^{+\#}$	0.9 ps *+9–3*	B G	
2325.01 *4*	(7^-)	3.1 μs *5*	A CD GH N	Jπ: L=7 in (p,p′) and (t,p).
				$T_{1/2}$: from $\beta\gamma$(t) ^{124}In β^- decay (3.7 s) (1979Fo10).
2366.5 *5*			B	
2426.316 *21*	2^+	0.35 ps *+20–10*	B DE GH J MN	Jπ: E2 γ to 0^+.
				$T_{1/2}$: other: >0.08 ps in Coul. ex., 0.72 ps *18* in (γ,γ').
2448[‡] *10*	(8^+)		H n	Jπ: L=(8) in (p,p′).
2454.34 *3*	$6^{+\#}$		G n	
2568.15 *4*	$6^{-\#}$		A G	
2578.44 *5*	$8^{(+)}$		A C G	Jπ: $\gamma(\theta)$ and γ-pol in (n,n′γ), low level population in (n,n′γ), E2 γ from (10^+).
2602.495 *25*	3^-	0.068 ps *6*	B D FGH J LMn	XREF: D(2612)L(2610).
				Jπ: L=3 in (α,α').
				B(E3)(e,e′)=0.076 *11*; 2002Ki06 evaluation gives 0.073 *10*.
2614.45 *3*	$4^{-\#}$		G n	
2656.6 *5*	(10^+)	45 μs *5*	C	%IT=100
				Jπ: systematics of 10^+ state in ^{116}Sn-^{130}Sn isotopes.
				$T_{1/2}$: from measurements with pulsed beam in ^{124}Sn IT decay (1992Br06).
2688.50 *5*	0^+	>0.28 ps	GHI MN	Jπ: p(θ) from (p,p′) IAR and excitation function in (n,n′γ).
				$T_{1/2}$: other: >0.2 ps in Coul. ex.
2701.78 *3*	$5^{-\#}$		G n	
2703.187 *25*	$2^{+\#}$	0.4 ps *+4–1*	B G n	
2706[‡] *10*	(4^+)		H n	Jπ: L=(4) in (p,p′).
2753.05 *3*	$4^{-\#}$		G	
2819.3 *5*	(6^+)	>0.4 ps	G	Jπ: from $\gamma(\theta)$ and excitation function in (n,n′γ).
2836.58 *4*	$3^{+\#}$	>0.28 ps	B G J	
2855.13 *5*	$6^{-\#}$		G	
2875.37 *5*	$2^{+\#}$	0.13 ps *+7–3*	B Gh n	XREF: h(2880).
2878.65 *5*	$2^{+\#}$	0.067 ps *+18–14*	B Gh n	
2958.11 *6*	4^+	>0.9 ps	GH	Jπ: $\gamma(\theta)$ and (M1+E2) γ to 4^+ in (n,n′γ).
2988.03 *3*	$3^{-\#}$	>0.55 ps	GH J	XREF: H(3002).
3011.1 *3*	(7,8,9)		A	Jπ: log *ft*=6.57 from (8^-).
3109.5 *5*	$1,2^+$		B	Jπ: γ to 0^+.
3130[‡] *20*	$(3^-,5^-)$		H J	Jπ: p(θ) in (p,p′) through $f_{7/2}$ analog resonance.
3143.86 *6*	4^+	0.11 ps *+9–4*	GH	Jπ: L=4 in (p,p′).
3214.36 *10*	2^+	0.025 ps *6*	B E GH J	XREF: J(3190).

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Adopted Levels, Gammas (continued)

^{124}Sn Levels (continued)

E(level)†	Jπ	$T_{1/2}$&	XREF	Comments
				Jπ: L=2 in (p,p′).
				$T_{1/2}$: other: 0.044 ps *6* in (γ,γ′).
3227.95 *11*		0.07 ps *+23−3*	G	
3240.36 *21*	(7,8,9)		A	Jπ: log *ft*=6.40 from (8−).
3264.49 *11*	2+	0.19 ps *+22−8*	B Gh	XREF: h(3275).
				Jπ: γ(θ) and γ-pol in (n,n′γ).
3267.13 *9*	1,2,3	>0.14 ps	Gh	Jπ: γ(θ) in (n,n′γ).
3293.42 *9*	2,3		B G	Jπ: γ(θ) in (n,n′γ).
3312.99? *7*	2,3,4		G	Jπ: γ(θ) in (n,n′γ).
3330.41 *10*	2,3	0.07 ps *+9−3*	GH	Jπ: γ(θ) in (n,n′γ).
3333.54 *9*	2(+)		B G	Jπ: γ(θ) and (M1+E2) γ to 2+ in (n,n′γ).
3346.46 *7*	(3,4)		G j	Jπ: γ(θ) in (n,n′γ).
3360 *5*	4+		D H	Jπ: L=4 in (p,p′).
3362.3 *3*	(7,8,9)		A j	Jπ: log *ft*=6.25 from (8−).
3363.59 *8*	3(+)		G	Jπ: γ(θ) and (M1+E2) γ to 4+ in (n,n′γ).
3396.5 *8*	1,2+		B	Jπ: γ to 0+.
3410.14 *13*	1		G	Jπ: γ(θ) in (n,n′γ).
3414 *5*	4+		D H L	Jπ: L=4 in (α,α′).
3490.18 *14*	1−@	0.0051 ps *5*	E G	$T_{1/2}$: from (γ,γ′), other: 0.006 ps *+4−3* in (n,n′γ).
				B(E1)(γ,γ′)=6.1×10−05 *7*.
3498.58 *15*	1,2,3		G	Jπ: γ(θ) in (n,n′γ).
3509.15 *9*	3(+)		D GH	Jπ: γ(θ) and (M1+E2) γ to 2+ in (n,n′γ).
3524.02 *8*	(7−,8−)		A	Jπ: γ to 6−, log *ft*=5.06 from (8−).
3551.53 *12*	(3−)		B GH	XREF: H(3560).
				Jπ: p(θ) in (p,p′) through $f_{7/2}$ analog resonance allows (3−,5−). log *ft*=6.26 from (1)+ rules out 5−.
3583.66 *13*	2+		GH	XREF: H(3570).
				Jπ: L=2 in (p,p′).
3603.86 *17*	2,3		GH	Jπ: γ(θ) in (n,n′γ).
3643.4 *3*	(7,8,9)		A H	Jπ: log *ft*=6.18 from (8−).
3655.20 *15*	2,3		B G	Jπ: γ(θ) in (n,n′γ).
3684.91 *8*	(7−)		A H	Jπ: log *ft*=4.55 from (8−), L=(6,7) in (p,p′).
3697.3 *4*	1@	0.029 ps *+13−10*	E G	$T_{1/2}$: other: 0.034 ps *6* in (γ,γ′).
3710.39 *19*	2+	0.030 ps *+28−15*	B E G	Jπ: E2 γ to 0+.
				$T_{1/2}$: other: 0.054 ps *9* in (γ,γ′).
3724.7 *3*	1,2+		B G	Jπ: γ to 0+.
3741.62 *10*	(2)+		B Gh	XREF: h(3752).
				Jπ: log *ft*=5.77 from (1)+, γ′s to 2+, 3− and 4+.
3760.27 *20*	(0+,1,2)		B h	Jπ: log *ft*=6.46 from (1)+, γ to 2+.
3761.83 *21*	2+	0.05 ps *+7−3*	B Gh	Jπ: E2 γ to 0+.
3765.14 *11*	(7−,8−,9−)		A	Jπ: log *ft*=5.26 from (8−).
3787 *10*			H	
3802.54 *17*	2,3		G	Jπ: γ(θ) in (n,n′γ).
3809.71 *21*	(7,8,9)		A	Jπ: log *ft*=5.86 from (8−).
3820 *10*	(3−,5−)		H	Jπ: p(θ) in (p,p′) through $f_{7/2}$ analog resonance.
3831.4 *3*	2,3,4		G	Jπ: γ(θ) in (n,n′γ).
3834.3 *7*	1,2+		B	Jπ: γ to 0+.
3864.26 *13*	1,2+		B G	Jπ: γ to 0+.
3872 *10*	(6+)		H	Jπ: L=(6) in (p,p′).
3888.0 *8*	1,2+		B l	XREF: l(3900).
				Jπ: γ to 0+.
3910.7 *9*	2+		B H l	Jπ: L=2 in (p,p′).
3917.27 *5*	2+		B h	XREF: h(3930).
				Jπ: γ′s to 0+ and 4+.
3923 *5*	4+		D h	XREF: h(3930).

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Adopted Levels, Gammas (continued)

^{124}Sn Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$[&]	XREF	Comments
				Jπ: L=4 in (t,p).
3931.5 *3*	(7,8,9)		A h	XREF: h(3930).
				Jπ: log *ft*=5.92 from (8⁻).
3963.6 *3*	1,2		GH	Jπ: γ(θ) in (n,n′γ).
4043.8 *5*	1,2⁺		B H	Jπ: γ to 0⁺.
4074.4 *4*	2		G	Jπ: γ(θ) in (n,n′γ).
4094.2 *3*	2,3		G	Jπ: γ(θ) in (n,n′γ).
4120 *20*			H	
4156.1 *3*	2⁺		B GH	Jπ: L=2 in (p,p′).
4208.1 *3*	2,3		G	Jπ: γ(θ) in (n,n′γ).
4219.2 *6*	1[@]	13.1[a] fs *14*	E	
4227.57 *16*	1,2⁺		B G	Jπ: γ to 0⁺.
4263.5 *6*	1	23[a] fs *4*	E	
4264.1 *3*	1,2⁺		B H	Jπ: γ to 0⁺.
4269.82 *22*	(4)		G	Jπ: γ(θ) in (n,n′γ).
4331.4 *4*	1,2⁺		B H	XREF: H(4343).
				Jπ: γ to 0⁺.
4359.58 *20*	0⁺ to 4⁺		G	Jπ: γ to 2⁺.
4400 *20*			H	
4470.3 *4*	1,2⁺		B H	Jπ: γ to 0⁺.
4528.8 *4*	1,2⁺		B D H	Jπ: γ to 0⁺.
4560 *20*			H	
4570 *20*			H	
4604.6 *7*	1,2⁺		B	Jπ: γ to 0⁺.
4605.8 *6*		10.1[a] fs *25*	E	
4620 *5*	(4⁺)		D	Jπ: L=4 in (t,p).
4620 *20*	(3⁻,4⁻,5⁻)		H	Jπ: p(θ) in (p,p′) through $f_{7/2}$ analog resonance.
4672 *5*	3⁻		D H	Jπ: L=3 in (t,p).
4707 *5*	3⁻		D H l	XREF: l(4800).
				Jπ: L=3 in (t,p).
4770[‡] *20*	(3⁻,4⁻)		H l	Jπ: p(θ) in (p,p′) through $f_{7/2}$ analog resonance.
4818 *5*	(5⁻)		D	Jπ: L=5 in (t,p).
4880 *10*	3⁻		D H l	Jπ: L=3 in (t,p).
4916 *10*	3⁻		D	Jπ: L=3 in (t,p).
4948 *5*	(5⁻)		D h	XREF: h(4960).
				Jπ: L=5 in (t,p).
4953.8 *7*	1[@]	14[a] fs *3*	E	
4970 *5*	(2⁺,3⁻)		D h	Jπ: L=(2,3) in (t,p).
5014 *5*	3⁻		D H	Jπ: L=3 in (t,p).
5050 *20*			H	
5064.8 *7*		7.0[a] fs *15*	E	
5100 *20*			H	
5131 *5*	(4⁺)		D	Jπ: L=(4) in (t,p).
5166 *5*	3⁻		D l	XREF: l(5200).
				Jπ: L=3 in (t,p).
5196 *5*	3⁻		D H l	Jπ: L=3 in (t,p).
5267 *5*	(7⁻)		D H	Jπ: L=7 in (t,p).
5290 *20*			H	
5313 *5*	(5⁻)		D H	Jπ: L=5 in (t,p).
5345 *5*	(5⁻)		D	Jπ: L=5 in (t,p).
5379 *5*	(5⁻)		D H	Jπ: L=5 in (t,p).
5430 *5*	(5⁻)		D H	Jπ: L=5 in (t,p).
5459 *10*	(5⁻)		D H	Jπ: L=5 in (t,p).
5520 *20*			H	
5552 *10*			D	

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Adopted Levels, Gammas (continued)

^{124}Sn Levels (continued)

E(level)†	Jπ	$T_{1/2}$&	XREF	Comments
5614 *10*			D H	
5640 *20*			H	
5710 *20*			H	
5760 *20*			H	
5800 *20*			H	
5842.6 *7*	1$^-$@	1.02[a] fs *8*	E	B(E1)(γ,γ′)=6.4×10^{-5} *5*.
5866 *10*			D h	
5869.8 *8*	(1)@	5.1[a] fs *10*	E h	
5902.7 *7*	1@	5.4[a] fs *20*	E	
5951.9 *7*	1@	1.38[a] fs *19*	E	
5968.6 *7*	1@	2.2[a] fs *4*	E	
6002.2 *7*	1@	1.7[a] fs *3*	E	
6129.2 *7*	1@	0.82[a] fs *9*	E	
6171.0 *12*	1@	1.04[a] fs *10*	E	
6184.2 *6*	1$^-$@	0.94[a] fs *11*	E	B(E1)(γ,γ′)=5.9×10^{-5} *7*.
6236.7 *7*	1@	0.64[a] fs *6*	E	
6287.3 *7*	1@	1.52[a] fs *24*	E	
6321.8 *7*	1$^-$@	0.70[a] fs *6*	E	B(E1)(γ,γ′)=7.4×10^{-5} *7*.
6369.3 *7*	1$^-$@	0.277[a] fs *16*	E	B(E1)(γ,γ′)=18.2×10^{-5} *11*.
6453.3 *7*	1@	1.30[a] fs *16*	E	
6467.7 *6*	1@	0.95[a] fs *9*	E	
6503.4 *6*	1@	1.26[a] fs *20*	E	
6524.2 *5*	1$^-$@	0.56[a] fs *6*	E	B(E1)(γ,γ′)=8.3×10^{-5} *9*.
6548.7 *5*	1@	0.65[a] fs *7*	E	
6561.0 *7*	1$^-$@	0.35[a] fs *3*	E	B(E1)(γ,γ′)=13.1×10^{-5} *12*.
6566.0 *8*	1@	0.85[a] fs *11*	E	
6584.3 *6*	1$^-$@	0.75[a] fs *8*	E	B(E1)(γ,γ′)=6.0×10^{-5} *6*.
6600.0 *7*	1@	1.4[a] fs *3*	E	
6635.8 *6*	1$^-$@	0.39[a] fs *3*	E	B(E1)(γ,γ′)=11.4×10^{-5} *9*.
6678.1 *7*	1$^-$@	0.42[a] fs *3*	E	B(E1)(γ,γ′)=10.4×10^{-5} *9*.
6683.5 *8*	1$^-$@	0.71[a] fs *9*	E	B(E1)(γ,γ′)=6.1×10^{-5} *8*.
6705.6 *8*	1$^-$@	0.97[a] fs *14*	E	B(E1)(γ,γ′)=4.5×10^{-5} *6*.
6713.8 *7*	1$^-$@	0.52[a] fs *5*	E	B(E1)(γ,γ′)=8.3×10^{-5} *8*.
6722.5 *6*	1@	0.66[a] fs *7*	E	
6764.4 *8*	1$^-$@	0.58[a] fs *7*	E	B(E1)(γ,γ′)=7.2×10^{-5} *9*.
6775.8 *8*	1@	0.84[a] fs *15*	E	
6790.8 *8*	1$^-$@	0.71[a] fs *8*	E	B(E1)(γ,γ′)=5.8×10^{-5} *7*.
6808.2 *6*	1$^{(+)}$@	1.08[a] fs *14*	E	B(M1)(γ,γ′)=0.35 *5*.
6847.3 *8*	1$^-$@	0.90[a] fs *10*	E	B(E1)(γ,γ′)=4.5×10^{-5} *5*.
6902.3 *8*	1$^-$@	1.13[a] fs *14*	E	B(E1)(γ,γ′)=3.5×10^{-5} *4*.
6928.4 *8*	(1)@	1.4[a] fs *4*	E	
6939.1 *8*	1@	1.6[a] fs *3*	E	
6947.7 *8*	1@	1.6[a] fs *3*	E	
7018.2 *8*	1@	1.07[a] fs *13*	E	
7032.7 *7*	1$^-$@	0.97[a] fs *11*	E	B(E1)(γ,γ′)=3.9×10^{-5} *4*.
7062.4 *9*	1@	2.6[a] fs *6*	E	

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Adopted Levels, Gammas (continued)

^{124}Sn Levels (continued)

E(level)†	Jπ	$T_{1/2}$&	XREF	Comments
7071.3 *8*	1@	1.31[a] fs *18*	E	
7086.7 *7*	1@	1.46[a] fs *25*	E	
7125.9 *7*	1@	1.22[a] fs *17*	E	
7234.0 *8*	1@	1.8[a] fs *5*	E	
7258.8 *10*	1@	1.7[a] fs *5*	E	
7295.7 *7*	1−@	0.63[a] fs *5*	E	B(E1)(γ,γ′)=5.3×10^{-5} *4*.
7308.7 *9*	1@	1.7[a] fs *4*	E	
7326.4 *7*	1@	1.7[a] fs *4*	E	
7337.7 *7*	1−@	0.76[a] fs *11*	E	B(E1)(γ,γ′)=4.3×10^{-5} *6*.
7344.6 *7*	1@	1.06[a] fs *21*	E	
7394.7 *4*	1−@	0.93[a] fs *15*	E	B(E1)(γ,γ′)=3.5×10^{-5} *6*.
7487.8 *7*	1−@	0.72[a] fs *9*	E	B(E1)(γ,γ′)=4.3×10^{-5} *6*.
7536.7 *7*	1−@	0.70[a] fs *11*	E	B(E1)(γ,γ′)=4.4×10^{-5} *7*.
7551.1 *6*	1−@	0.83[a] fs *12*	E	B(E1)(γ,γ′)=3.6×10^{-5} *5*.
7567.1 *10*	1@	1.33[a] fs *18*	E	
7576.1 *7*	1−@	0.96[a] fs *12*	E	B(E1)(γ,γ′)=3.1×10^{-5} *4*.
7596.6 *10*	1−@	0.64[a] fs *6*	E	B(E1)(γ,γ′)=4.7×10^{-5} *4*.
7604.0 *8*	1−@	0.59[a] fs *8*	E	B(E1)(γ,γ′)=5.0×10^{-5} *7*.
7642.9 *8*	1−@	1.22[a] fs *24*	E	B(E1)(γ,γ′)=2.4×10^{-5} *5*.
7666.3 *7*	1@	1.9[a] fs *3*	E	
7679.1 *14*	1@	1.7[a] fs *4*	E	
7684.2 *11*	1−@	0.92[a] fs *17*	E	B(E1)(γ,γ′)=3.1×10^{-5} *6*.
7691.5 *7*	1@	1.08[a] fs *18*	E	
7702.9 *9*	1@	2.2[a] fs *5*	E	
7747.7 *7*	1−@	0.76[a] fs *8*	E	B(E1)(γ,γ′)=3.7×10^{-5} *4*.
7759.4 *4*	1−@	0.62[a] fs *6*	E	B(E1)(γ,γ′)=4.5×10^{-5} *4*.
7770.9 *6*	1@	1.09[a] fs *20*	E	
7778.4 *9*	1@	1.6[a] fs *3*	E	
7788.6 *5*	1@	0.78[a] fs *9*	E	
7815.6 *5*	1−@	0.345[a] fs *25*	E	B(E1)(γ,γ′)=7.9×10^{-5} *6*.
7863.7 *8*	1−@	0.90[a] fs *11*	E	B(E1)(γ,γ′)=3.0×10^{-5} *4*.
7872.4 *6*	1@	0.78[a] fs *12*	E	
7880.5 *5*	1−@	0.39[a] fs *3*	E	B(E1)(γ,γ′)=6.9×10^{-5} *5*.
7905.4 *12*	1@	1.6[a] fs *3*	E	
7913.4 *8*	1@	1.03[a] fs *21*	E	
7939.3 *12*	1@	1.6[a] fs *3*	E	
7957.4 *9*	1@	0.53[a] fs *3*	E	
7999.2 *9*	1−@	0.90[a] fs *12*	E	B(E1)(γ,γ′)=2.8×10^{-5} *4*.
8112.1 *16*	1@	1.22[a] fs *18*	E	
8119.1 *8*	1@	0.55[a] fs *4*	E	
8132.0 *15*	1@	0.64[a] fs *6*	E	
8162.5 *8*	1@	1.17[a] fs *16*	E	
8214.6 *12*	1@	1.6[a] fs *3*	E	
8229.2 *6*	1@	0.72[a] fs *8*	E	
8257.2 *9*	1@	1.43[a] fs *18*	E	

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Adopted Levels, Gammas (continued)

^{124}Sn Levels (continued)

E(level)[†]	J^{π}	$T_{1/2}$[&]	XREF	Comments
8270.1 *7*	$1^{(+)}$[@]	0.81[a] fs *6*	E	B(M1)(γ,γ')=0.26 *2*.
8350.4 *13*	1[@]	1.44[a] fs *19*	E	
8376.5 *11*	1^-[@]	0.78[a] fs *7*	E	B(E1)(γ,γ')=2.9×10^{-5} *2*.
8423.1 *7*	1[@]	0.92[a] fs *9*	E	
8433.5 *10*	1[@]	1.08[a] fs *13*	E	

[†] For γ-connecting levels from a least-squares fit to the adopted Eγ's. Others from (t,p), unless otherwise noted.
[‡] From (p,p′).
[#] From $\gamma(\theta)$ and γ-pol in (n,n′γ).
[@] From $\gamma'(90°)/\gamma'(127°)$ and asymmetry in (pol γ,γ').
[&] From DSA of γ's in (n,n′γ), unless otherwise noted.
[a] From $\Gamma^2_{\gamma 0}/\Gamma_\gamma$ and branching ratios in (γ,γ').

Adopted Levels, Gammas (continued)

$\gamma(^{124}Sn)$

E_i(level)	J_i^π	E_γ[†]	I_γ[b]	E_f	J_f^π	Mult.[b]	δ[b]	α[d]	Comments
1131.739	2^+	1131.69 *2*	100	0.0	0^+	E2		9.85×10^{-4}	B(E2)(W.u.)=9.0 *3* α(K)=0.000855 *12*; α(L)=0.0001039 *15*; α(M)=2.03×10^{-5} *3*; α(N+..)=5.51×10^{-6} *8* α(N)=3.81×10^{-6} *6*; α(O)=3.27×10^{-7} *5*; α(IPF)=1.368×10^{-6} *20* Mult.: from α(K)exp=0.0009 *2* in ^{124}In β^- decay (3.7 s).
2101.711	4^+	969.97 *2*	100	1131.739	2^+	E2		1.38×10^{-3}	B(E2)(W.u.)=4.8 *6* α(K)=0.001195 *17*; α(L)=0.0001473 *21*; α(M)=2.88×10^{-5} *4*; α(N+..)=5.86×10^{-6} *9* α(N)=5.40×10^{-6} *8*; α(O)=4.59×10^{-7} *7*
2129.596	2^+	997.85 *2*	100.00 *10*	1131.739	2^+	M1+E2	+3.2 *+7−5*	1.31×10^{-3} *2*	B(M1)(W.u.)=0.0021 *5*; B(E2)(W.u.)=17.4 *4* α(K)=0.001142 *17*; α(L)=0.0001399 *21*; α(M)=2.73×10^{-5} *4*; α(N+..)=5.57×10^{-6} *8* α(N)=5.13×10^{-6} *8*; α(O)=4.39×10^{-7} *7*
		2129.6 *3*	1.73 *10*	0.0	0^+	E2		6.48×10^{-4}	B(E2)(W.u.)=0.012 *+4−8* α(K)=0.000250 *4*; α(L)=2.93×10^{-5} *5*; α(M)=5.70×10^{-6} *8*; α(N+..)=0.000363 *5* α(N)=1.075×10^{-6} *15*; α(O)=9.44×10^{-8} *14*; α(IPF)=0.000362 *5* Mult.: from (n,n′γ) and RUL of relevant levels.
2192.17	0^+	1060.42 *2*	100	1131.739	2^+	E2		1.13×10^{-3}	α(K)=0.000983 *14*; α(L)=0.0001201 *17*; α(M)=2.35×10^{-5} *4*; α(N+..)=4.78×10^{-6} *7* α(N)=4.40×10^{-6} *7*; α(O)=3.77×10^{-7} *6* Mult.: $\gamma(\theta)$ in (n,n′γ) and RUL.
2204.620	(5^-)	102.91[‡] *2*	100 *5*	2101.711	4^+	E1		0.1672	B(E1)(W.u.)=4.4×10^{-7} *11* α(K)=0.1447 *21*; α(L)=0.0183 *3*; α(M)=0.00356 *5*; α(N+..)=0.000706 *10* α(N)=0.000656 *10*; α(O)=4.96×10^{-5} *7* Mult.: from α(K)exp=0.15 *3* in ^{124}In β^- decay (3.7 s).
		1072.88[‡] *2*	92 *10*	1131.739	2^+	[E3]		0.00226	B(E3)(W.u.)=1.3 *4* α(K)=0.00194 *3*; α(L)=0.000255 *4*; α(M)=5.02×10^{-5} *7*; α(N+..)=1.017×10^{-5} *15* α(N)=9.39×10^{-6} *14*; α(O)=7.83×10^{-7} *11* I_γ: weighted av of 84 *7* from (n,n′) and 104 *9* from ^{124}In β^- decay (3.7 s).
2221.75	4^+	1089.97 *5*	100	1131.739	2^+	E2		1.07×10^{-3}	B(E2)(W.u.)=11 *+4−11* α(K)=0.000926 *13*; α(L)=0.0001129 *16*; α(M)=2.20×10^{-5} *3*; α(N+..)=4.50×10^{-6} *7* α(N)=4.14×10^{-6} *6*; α(O)=3.55×10^{-7} *5*
2325.01	(7^-)	120.38[‡] *3*	100	2204.620	(5^-)	E2		0.826	B(E2)(W.u.)=0.107 *18*

$^{124}_{50}Sn_{74}$-8

Adopted Levels, Gammas (continued)

γ(^{124}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[b]	E_f	J_f^π	Mult.[b]	δ[b]	α[d]	Comments
									α(K)=0.628 *9*; α(L)=0.1600 *23*; α(M)=0.0324 *5*; α(N+..)=0.00606 *9* α(N)=0.00578 *9*; α(O)=0.000280 *4* Mult.: from α(K)exp=0.64 *13* in ^{124}In β^- decay (3.7 s).
2366.5		1234.8[#] *5*	100	1131.739	2$^+$				
2426.316	2$^+$	1294.54 *2*	53 *6*	1131.739	2$^+$	M1+E2	−0.21 *2*	8.97×10^{-4}	B(M1)(W.u.)=0.00962 *8*; B(E2)(W.u.)=0.18 *4* α(K)=0.000766 *11*; α(L)=9.08×10^{-5} *13*; α(M)=1.770×10^{-5} *25*; α(N+..)=2.34×10^{-5} *4* α(N)=3.34×10^{-6} *5*; α(O)=2.95×10^{-7} *5*; α(IPF)=1.97×10^{-5} *3*
		2426.36 *3*	100 *8*	0.0	0$^+$	E2		7.32×10^{-4}	B(E2)(W.u.)=0.34 *+11−20* α(K)=0.000198 *3*; α(L)=2.31×10^{-5} *4*; α(M)=4.50×10^{-6} *7*; α(N+..)=0.000507 *7* α(N)=8.48×10^{-7} *12*; α(O)=7.46×10^{-8} *11*; α(IPF)=0.000506 *7*
2454.34	6$^+$	129.3[&] *3*	8.2 *12*	2325.01	(7$^-$)				
		249.72[&] *2*	100 *5*	2204.620	(5$^-$)	E1(+M2)	+0.05 *3*	0.0145 *9*	α(K)=0.0126 *8*; α(L)=0.00155 *11*; α(M)=0.000302 *22*; α(N+..)=6.1×10^{-5} *5* α(N)=5.6×10^{-5} *4*; α(O)=4.6×10^{-6} *4*
2568.15	6$^-$	243.13[‡] *3*	50 *6*	2325.01	(7$^-$)	M1(+E2)	+0.01 *3*	0.0494	α(K)=0.0428 *6*; α(L)=0.00534 *8*; α(M)=0.001046 *15*; α(N+..)=0.000214 *3* α(N)=0.000197 *3*; α(O)=1.716×10^{-5} *24* I_γ: weighted av of 47 *3* from (n,n′γ) and 62 *6* from ^{124}In β^- decay (3.11 s). Mult.: from α(K)exp=0.042 *13* in ^{124}In β^- decay (3.7 s).
		363.53[‡] *3*	100 *7*	2204.620	(5$^-$)	M1(+E2)	+0.01 *2*	0.01750	α(K)=0.01519 *22*; α(L)=0.00187 *3*; α(M)=0.000366 *6*; α(N+..)=7.49×10^{-5} *11* α(N)=6.89×10^{-5} *10*; α(O)=6.03×10^{-6} *9* Mult.: from α(K)exp=0.030 *9* in ^{124}In β^- decay (3.7 s).
2578.44	8$^{(+)}$	253.43[‡] *3*	100	2325.01	(7$^-$)	D+Q	+0.09 *5*		
2602.495	3$^-$	1470.71 *2*	100	1131.739	2$^+$	E1+M2	+0.05 *2*	4.84×10^{-4} *8*	B(E1)(W.u.)=0.00125 *11*; B(M2)(W.u.)=7 *6* α(K)=0.000242 *5*; α(L)=2.81×10^{-5} *5*; α(M)=5.47×10^{-6} *10*; α(N+..)=0.000209 *3* α(N)=1.030×10^{-6} *19*; α(O)=9.00×10^{-8} *16*; α(IPF)=0.000208 *3*
2614.45	4$^-$	409.83[&] *2*	100	2204.620	(5$^-$)	M1(+E2)	+0.02 *2*	0.01295	α(K)=0.01125 *16*; α(L)=0.001379 *20*; α(M)=0.000270 *4*; α(N+..)=5.52×10^{-5} *8* α(N)=5.08×10^{-5} *8*; α(O)=4.45×10^{-6} *7*
2656.6	(10$^+$)	78.2 *5*	100	2578.44	8$^{(+)}$	E2		3.83 *11*	B(E2)(W.u.)=0.024 *3* α(K)=2.53 *7*; α(L)=1.04 *4*; α(M)=0.214 *7*;

$^{124}_{50}Sn_{74}$-9

Adopted Levels, Gammas (continued)

γ(^{124}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[b]	E_f	J_f^π	Mult.[b]	δ[b]	α[d]	Comments
									α(N+..)=0.0390 *13* α(N)=0.0376 *13*; α(O)=0.00140 *4* E_γ,Mult.: from ^{124}Sn IT decay.
2688.50	0^+	558.81 *12*	28.2 *13*	2129.596	2^+	E2			Mult.: γ(θ) in (n,n′γ) and RUL.
		1556.77[&] *5*	100.0 *13*	1131.739	2^+				
2701.78	5^-	133.52[&] *13*	9.5 *8*	2568.15	6^-				
		497.16[&] *2*	100 *8*	2204.620	(5^-)	M1(+E2)	−0.01 *4*	0.00804	α(K)=0.00699 *10*; α(L)=0.000851 *12*; α(M)=0.0001664 *24*; α(N+..)=3.41×10^{-5} *5* α(N)=3.13×10^{-5} *5*; α(O)=2.75×10^{-6} *4*
2703.187	2^+	573.89 *12*	12.0 *13*	2129.596	2^+	D+Q	−0.4 *+4−8*		
		601.4[&] *2*	4.4 *5*	2101.711	4^+	[E2]		0.00444	B(E2)(W.u.)=17 *+5−17* α(K)=0.00382 *6*; α(L)=0.000500 *7*; α(M)=9.82×10^{-5} *14*; α(N+..)=1.98×10^{-5} *3* α(N)=1.83×10^{-5} *3*; α(O)=1.484×10^{-6} *21*
		1571.43 *2*	100.0 *13*	1131.739	2^+	M1+E2	−0.27 *4*	6.79×10^{-4}	B(M1)(W.u.)=0.01046 *21*; B(E2)(W.u.)=0.22 *6* α(K)=0.000505 *8*; α(L)=5.96×10^{-5} *9*; α(M)=1.161×10^{-5} *17*; α(N+..)=0.0001029 *15* α(N)=2.19×10^{-6} *4*; α(O)=1.94×10^{-7} *3*; α(IPF)=0.0001006 *15*
		2703.31[&] *8*	21.3 *14*	0.0	0^+	E2		8.22×10^{-4}	B(E2)(W.u.)=0.046 *+14−5* α(K)=0.0001639 *23*; α(L)=1.91×10^{-5} *3*; α(M)=3.71×10^{-6} *6*; α(N+..)=0.000635 *9* α(N)=7.00×10^{-7} *10*; α(O)=6.17×10^{-8} *9*; α(IPF)=0.000634 *9* Mult.: from (n,n′γ) and RUL of relevant levels. E_γ: there is an unplaced 2699.6 *4* γ in β^- decay with Iγ=22 *2*. It may correspond to 2703γ from (n,n′γ).
2753.05	4^-	150.3[&] *2*	2.6 *3*	2602.495	3^-	(M1+E2)		0.28 *10*	α(K)=0.23 *8*; α(L)=0.042 *22*; α(M)=0.008 *5*; α(N+..)=0.0016 *9* α(N)=0.0015 *8*; α(O)=9.E−5 *4* Mult.: from (n,n′γ) and π′s of relevant levels. δ: −0.02 *20* or −4 *+18−3*.
		548.43[&] *2*	100 *8*	2204.620	(5^-)	M1+E2	−0.46 *3*	0.00622	α(K)=0.00540 *8*; α(L)=0.000666 *10*; α(M)=0.0001302 *19*; α(N+..)=2.66×10^{-5} *4* α(N)=2.45×10^{-5} *4*; α(O)=2.12×10^{-6} *3*
2819.3	(6^+)	717.6 *5*	100	2101.711	4^+	E2			Mult.: from γ(θ) in (n,n′γ) and RUL.
2836.58	3^+	614.76 *6*	34.5 *18*	2221.75	4^+	(M1+E2)		0.0045 *4*	α(K)=0.0039 *3*; α(L)=0.000489 *20*; α(M)=9.6×10^{-5} *4*; α(N+..)=1.95×10^{-5} *9* α(N)=1.79×10^{-5} *8*; α(O)=1.52×10^{-6} *13* I_γ: other: 32.0 *25* in ^{124}In β^- decay (3.11 s).

$^{124}_{50}Sn_{74}$-10

Adopted Levels, Gammas (continued)

γ(^{124}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[b]	E_f	J_f^π	Mult.[b]	δ[b]	α[d]	Comments
									Mult.: from (n,n′γ) and π′s of relevant levels.
									δ: +0.4 *2* or +1.9 *10*.
2836.58	3+	706.98 *4*	100.0 *17*	2129.596	2+	M1+E2	+2.1 *3*	0.00302	B(M1)(W.u.)<0.028; B(E2)(W.u.)<1.5×10^2
									α(K)=0.00261 *5*; α(L)=0.000330 *5*; α(M)=6.45×10^{-5} *10*; α(N+..)=1.310×10^{-5} *21*
									α(N)=1.209×10^{-5} *19*; α(O)=1.013×10^{-6} *18*
		735.34[&] *18*	18.6 *17*	2101.711	4+	(M1+E2)	−0.94 *10*	0.00292 *5*	α(K)=0.00253 *5*; α(L)=0.000312 *5*; α(M)=6.10×10^{-5} *10*; α(N+..)=1.244×10^{-5} *20*
									α(N)=1.146×10^{-5} *19*; α(O)=9.84×10^{-7} *18*
									B(M1)(W.u.)<0.012?; B(E2)(W.u.)<14?
									Mult.: from (n,n′γ) and π′s of relevant levels.
		1704.87 *11*	27.8 *10*	1131.739	2+	(M1+E2)	+1.5 *3*	6.11×10^{-4} *10*	α(K)=0.000393 *8*; α(L)=4.65×10^{-5} *9*; α(M)=9.05×10^{-6} *18*; α(N+..)=0.0001619 *25*
									α(N)=1.71×10^{-6} *4*; α(O)=1.50×10^{-7} *3*; α(IPF)=0.0001600 *25*
									B(M1)(W.u.)<0.0012?; B(E2)(W.u.)<0.58?
									I_γ: other: 45 *4* in ^{124}In β^- decay (3.11 s).
									Mult.: from (n,n′γ) and π′s of relevant levels.
2855.13	6−	650.51[&] *4*	100	2204.620	(5−)	M1(+E2)	+0.02 *3*	0.00421	α(K)=0.00366 *6*; α(L)=0.000443 *7*; α(M)=8.65×10^{-5} *13*; α(N+..)=1.773×10^{-5} *25*
									α(N)=1.630×10^{-5} *23*; α(O)=1.434×10^{-6} *20*
2875.37	2+	1743.62 *4*	100 *8*	1131.739	2+	M1+E2	+5.6 *+11−8*	5.96×10^{-4}	B(M1)(W.u.)=0.0009 *4*; B(E2)(W.u.)=6.29 *8*
									α(K)=0.000363 *6*; α(L)=4.29×10^{-5} *6*; α(M)=8.35×10^{-6} *12*; α(N+..)=0.000182 *3*
									α(N)=1.573×10^{-6} *23*; α(O)=1.376×10^{-7} *20*; α(IPF)=0.000180 *3*
									δ: preferred value. Other: −0.20 *6*.
		2875.8[&] *4*	13.3 *13*	0.0	0+	E2		8.80×10^{-4}	B(E2)(W.u.)=0.071 *+19−39*
									α(K)=0.0001474 *21*; α(L)=1.714×10^{-5} *24*; α(M)=3.33×10^{-6} *5*; α(N+..)=0.000712 *10*
									α(N)=6.28×10^{-7} *9*; α(O)=5.54×10^{-8} *8*; α(IPF)=0.000712 *10*
2878.65	2+	656.8 *5*	8.2 *5*	2221.75	4+	E2			Mult.: from (n,n′γ) and π′s of relevant levels.
		686.2 *2*	13.4 *6*	2192.17	0+				Mult.: from γ(θ) in (n,n′γ) and RUL.
		749.05[&] *10*	23.1 *22*	2129.596	2+	D,D+Q			
		776.7[&] *2*	13.1 *6*	2101.711	4+	Q			
		1746.94 *6*	100.0 *10*	1131.739	2+	M1+E2	+0.67 *8*	6.17×10^{-4} *24*	α(K)=0.000384 *25*; α(L)=4.5×10^{-5} *3*; α(M)=8.8×10^{-6} *6*; α(N+..)=0.000178 *6*
									α(N)=1.66×10^{-6} *11*; α(O)=1.46×10^{-7} *11*; α(IPF)=0.000177 *6*
									δ: +0.67 *8* if J^π=2+ or +2.6 *4* if J^π=3+.

$^{124}_{50}Sn_{74}$-11

Adopted Levels, Gammas (continued)

γ(^{124}Sn) (continued)

E_i(level)	J_i^π	E_γ †	I_γ [b]	E_f	J_f^π	Mult.[b]	δ[b]	α[d]	Comments
2878.65	2+	2878.6 *5*	4.7 *4*	0.0	0+	E2			Mult.: from γ(θ) in (n,n′γ) and RUL.
2958.11	4+	531.1& *2*	26 *3*	2426.316	2+	(Q)			
		737.4 *5*	43 *6*	2221.75	4+	D+Q	+0.6 *9*		
		856.55& *13*	35.7 *26*	2101.711	4+	(M1+E2)		0.00203 *20*	α(K)=0.00176 *18*; α(L)=0.000215 *18*; α(M)=4.2×10^{-5} *4*; α(N+..)=8.6×10^{-6} *8* α(N)=7.9×10^{-6} *7*; α(O)=6.8×10^{-7} *7* δ: −1.0 *4* or −6 *+18−14*.
		1826.38& *7*	100 *5*	1131.739	2+				
2988.03	3−	234.95& *7*	16.5 *11*	2753.05	4−	(M1+E2)	−0.07 *11*	0.0542 *11*	α(K)=0.0470 *9*; α(L)=0.00588 *17*; α(M)=0.00115 *4*; α(N+..)=0.000235 *7* α(N)=0.000217 *6*; α(O)=1.88×10^{-5} *4* B(M1)(W.u.)<0.28?; B(E2)(W.u.)<72? Mult.: from (n,n′γ) and RUL of relevant levels. δ: preferred value. Other: −4 *+2−8*.
		373.75& *13*	10.5 *10*	2614.45	4−	(M1+E2)		0.0170 *7*	α(K)=0.0145 *5*; α(L)=0.00195 *21*; α(M)=0.00038 *5*; α(N+..)=7.7×10^{-5} *8* α(N)=7.1×10^{-5} *8*; α(O)=5.74×10^{-6} *15* Mult.: from (n,n′γ) and RUL of relevant levels. δ: −0.01 *12* or −8 *+4−92*.
		385.38& *5*	53 *4*	2602.495	3−	M1+E2	+1.7 *3*	0.01577 *24*	α(K)=0.01347 *20*; α(L)=0.00186 *4*; α(M)=0.000367 *8*; α(N+..)=7.33×10^{-5} *14* α(N)=6.80×10^{-5} *14*; α(O)=5.30×10^{-6} *8* B(M1)(W.u.)<0.066; B(E2)(W.u.)<7.8×10^{2}
		1856.33& *3*	100 *8*	1131.739	2+	E1(+M2)	−0.02 *2*	6.87×10^{-4}	α(K)=0.0001639 *24*; α(L)=1.90×10^{-5} *3*; α(M)=3.68×10^{-6} *6*; α(N+..)=0.000501 *7* α(N)=6.94×10^{-7} *11*; α(O)=6.08×10^{-8} *9*; α(IPF)=0.000500 *7* B(E1)(W.u.)<4.3×10^{-5}?; B(M2)(W.u.)<0.068?
3011.1	(7,8,9)	432.7@ *3*	100	2578.44	8(+)				
3109.5	1,2+	3109.5# *5*	100	0.0	0+				
3143.86	4+	717.68& *8*	100 *8*	2426.316	2+	[E2]		0.00281	B(E2)(W.u.)=3.7×10^{2} *+14−31* α(K)=0.00243 *4*; α(L)=0.000310 *5*; α(M)=6.07×10^{-5} *9*; α(N+..)=1.228×10^{-5} *18* α(N)=1.134×10^{-5} *16*; α(O)=9.39×10^{-7} *14*
		2011.96& *8*	100 *8*	1131.739	2+	[E2]		6.23×10^{-4}	B(E2)(W.u.)=2.1 *+8−18* α(K)=0.000277 *4*; α(L)=3.26×10^{-5} *5*; α(M)=6.34×10^{-6} *9*; α(N+..)=0.000307 *5* α(N)=1.194×10^{-6} *17*; α(O)=1.047×10^{-7} *15*; α(IPF)=0.000306 *5*
3214.36	2+	2082.66 *18*	17.4 *17*	1131.739	2+	M1+E2	+1.2 *5*	6.44×10^{-4} *10*	B(M1)(W.u.)=0.006 *4*; B(E2)(W.u.)=1.4 *6*

$^{124}_{50}Sn_{74}$-12

Adopted Levels, Gammas (continued)

γ(^{124}Sn) (continued)

E_i(level)	J_i^π	E_γ †	I_γ [b]	E_f	J_f^π	Mult.[b]	δ[b]	α[d]	Comments
									α(K)=0.000270 *8*; α(L)=3.17×10^{-5} *9*; α(M)=6.18×10^{-6} *18*; α(N+..)=0.000336 *6* α(N)=1.16×10^{-6} *4*; α(O)=1.03×10^{-7} *4*; α(IPF)=0.000335 *6*
3214.36	2$^+$	3214.29 *12*	100 *8*	0.0	0$^+$	E2		9.97×10^{-4}	Mult.: from (n,n′γ) and RUL of relevant levels. B(E2)(W.u.)=1.5 *4* α(K)=0.0001221 *17*; α(L)=1.416×10^{-5} *20*; α(M)=2.75×10^{-6} *4*; α(N+..)=0.000858 *12* α(N)=5.19×10^{-7} *8*; α(O)=4.59×10^{-8} *7*; α(IPF)=0.000857 *12*
3227.95		1098.4[&] *2*	67 *17*	2129.596	2$^+$				
		2096.22[&] *16*	100 *8*	1131.739	2$^+$				
3240.36	(7,8,9)	915.35[@] *20*	100	2325.01	(7$^-$)				
3264.49	2$^+$	3264.44 *11*	100	0.0	0$^+$	E2		1.01×10^{-3}	B(E2)(W.u.)=0.22 *+16−12* α(K)=0.0001190 *17*; α(L)=1.380×10^{-5} *20*; α(M)=2.68×10^{-6} *4*; α(N+..)=0.000879 *13* α(N)=5.06×10^{-7} *7*; α(O)=4.47×10^{-8} *7*; α(IPF)=0.000878 *13*
3267.13	1,2,3	2135.37[&] *8*	100	1131.739	2$^+$	D,D+Q			
3293.42	2,3	1163.82 *9*	100 *13*	2129.596	2$^+$	D,D+Q			
		2161.7[&] *3*	38 *4*	1131.739	2$^+$				
3312.99?	2,3,4	1183.39[&] *6*	100	2129.596	2$^+$				
3330.41	2,3	2198.65[&] *9*	100	1131.739	2$^+$				
3333.54	2$^{(+)}$	630.35[&] *14*	207 *21*	2703.187	2$^+$	D+Q			δ: +2.3 *12* or 0.0 *3*.
		1204.1[#] *3*	33 *7*	2129.596	2$^+$				
		2201.79 *13*	100 *12*	1131.739	2$^+$	(M1+E2)	+1.1 *6*	6.72×10^{-4} *11*	α(K)=0.000244 *8*; α(L)=2.86×10^{-5} *9*; α(M)=5.57×10^{-6} *18*; α(N+..)=0.000393 *7* α(N)=1.05×10^{-6} *4*; α(O)=9.3×10^{-8} *4*; α(IPF)=0.000392 *7*
		3333.3 *3*	106 *11*	0.0	0$^+$	(Q)			I_γ: other: 38 *7* in ^{124}In β^- decay (3.12 s).
3346.46	(3,4)	1244.71[&] *6*	100 *8*	2101.711	4$^+$				
		2215.0[&] *2*	29 *3*	1131.739	2$^+$				
3362.3	(7,8,9)	784.0[@] *6*	70 *10*	2578.44	8$^{(+)}$				I_γ: from ^{124}In β^- decay (3.7 s).
		1037.3[@] *3*	100 *10*	2325.01	(7$^-$)				I_γ: from ^{124}In β^- decay (3.7 s).
3363.59	3$^{(+)}$	1261.30[&] *16*	37 *4*	2101.711	4$^+$	(M1+E2)	−1.1 *6*	0.00087 *6*	α(K)=0.00074 *5*; α(L)=8.9×10^{-5} *6*; α(M)=1.73×10^{-5} *10*; α(N+..)=1.87×10^{-5} *5* α(N)=3.26×10^{-6} *20*; α(O)=2.85×10^{-7} *20*; α(IPF)=1.52×10^{-5} *7*

$^{124}_{50}Sn_{74}$-13

Adopted Levels, Gammas (continued)

γ(^{124}Sn) (continued)

E_i(level)	J_i^π	E_γ †	I_γ [b]	E_f	J_f^π	Mult.[b]	δ[b]	α[d]	Comments
3363.59	3(+)	2231.97& *8*	100 *8*	1131.739	2+	D(+Q)	−0.01 *3*		
3396.5	1,2+	3396.5# *8*	100	0.0	0+				
3410.14	1	1280.37& *15*	61 *6*	2129.596	2+				
		3410.4& *2*	100 *9*	0.0	0+	D,D+Q			
3490.18	1−	3490.13& *14*	100	0.0	0+	E1		1.52×10^{-3}	α(K)=6.47×10^{-5} *9*; α(L)=7.42×10^{-6} *11*; α(M)=1.440×10^{-6} *21*; α(N+..)=0.001447 *21* α(N)=2.72×10^{-7} *4*; α(O)=2.39×10^{-8} *4*; α(IPF)=0.001447 *21* Mult.: from (γ,γ′).
3498.58	1,2,3	1369.2& *2*	62 *6*	2129.596	2+				
		2366.6& *2*	100 *9*	1131.739	2+	D,D+Q			
3509.15	3(+)	1379.58& *9*	100 *8*	2129.596	2+	(M1+E2)	+2.4 *4*	7.12×10^{-4} *12*	α(K)=0.000584 *10*; α(L)=6.98×10^{-5} *12*; α(M)=1.361×10^{-5} *23*; α(N+..)=4.46×10^{-5} *7* α(N)=2.56×10^{-6} *5*; α(O)=2.23×10^{-7} *4*; α(IPF)=4.19×10^{-5} *7* δ: preferred value. Other: +0.68 *8*.
		2377.2& *2*	55 *5*	1131.739	2+	(M1+E2)	+10 *+90−5*	7.17×10^{-4}	α(K)=0.000205 *3*; α(L)=2.40×10^{-5} *4*; α(M)=4.67×10^{-6} *7*; α(N+..)=0.000483 *7* α(N)=8.80×10^{-7} *13*; α(O)=7.75×10^{-8} *11*; α(IPF)=0.000482 *7* δ: preferred value. Other: +0.32 *11*.
3524.02	(7−,8−)	955.90@ *10*	100 *8*	2568.15	6−				I_γ: from ^{124}In β^- decay (3.7 s).
		1198.97@ *10*	71 *6*	2325.01	(7−)				I_γ: from ^{124}In β^- decay (3.7 s).
3551.53	(3−)	1330.0 *3*	100 *9*	2221.75	4+				
		1421.7& *2*	56 *6*	2129.596	2+				
		1450.1 *3*	86 *10*	2101.711	4+	(D,D+Q)			I_γ: weighted av of 79 *8* from (n,n′γ) and 100 *11* from ^{124}In β^- decay (3.12 s).
		2419.77# *20*	220 *20*	1131.739	2+				I_γ: from ^{124}Sn β^- decay (3.12 s).
3583.66	2+	355.75& *12*	71 *7*	3227.95		(Q)			
		1453.5& *3*	100 *8*	2129.596	2+	(M1+E2)		0.00070 *5*	α(K)=0.00056 *5*; α(L)=6.6×10^{-5} *5*; α(M)=1.29×10^{-5} *10*; α(N+..)=6.5×10^{-5} *3* α(N)=2.43×10^{-6} *19*; α(O)=2.13×10^{-7} *19*; α(IPF)=6.2×10^{-5} *3* Mult.: from (n,n′γ) and RUL of relevant levels. δ: −20 *31* or −0.4 *3*.
		2452.3& *3*	51 *5*	1131.739	2+	(M1+E2)		7.43×10^{-4}	α(K)=0.000200 *7*; α(L)=2.34×10^{-5} *8*; α(M)=4.55×10^{-6} *16*; α(N+..)=0.000515 *9* α(N)=8.6×10^{-7} *3*; α(O)=7.6×10^{-8} *3*;

$^{124}_{50}Sn_{74}$-14

Adopted Levels, Gammas (continued)

$\gamma(^{124}Sn)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[b]	E_f	J_f^π	Mult.[b]	α[d]	Comments
								α(IPF)=0.000514 *9* Mult.: from (n,n′γ) and RUL of relevant levels. δ: −6 −15 or −0.5 *3*.
3583.66	2^+	3583.6[&] *4*	69 *7*	0.0	0^+	(E2)	1.12×10^{-3}	α(K)=0.0001020 *15*; α(L)=1.180×10^{-5} *17*; α(M)=2.29×10^{-6} *4*; α(N+..)=0.001004 *14* α(N)=4.33×10^{-7} *6*; α(O)=3.83×10^{-8} *6*; α(IPF)=0.001004 *14* Mult.: from (n,n′γ) and RUL of relevant levels.
3603.86	2,3	1177.3[&] *3*	27 *4*	2426.316	2^+			
		2472.2[&] *2*	100 *8*	1131.739	2^+			
3643.4	(7,8,9)	403.01[@] *20*	100	3240.36	(7,8,9)			
3655.20	2,3	952.4[&e] *2*		2703.187	2^+			
		1433.3[&] *3*	80 *11*	2221.75	4^+			
		1525.6 *2*	100 *13*	2129.596	2^+	D,D+Q		
		1553.6[&] *3*	48 *9*	2101.711	4^+			
3684.91	(7^-)	1106.9[@] *6*	2.6 *5*	2578.44	$8^{(+)}$			
		1116.77[@] *10*	40 *4*	2568.15	6^-			
		1359.86[@] *10*	100 *8*	2325.01	(7^-)			
3697.3	1	2565.4[&] *6*	17 *4*	1131.739	2^+			
		3697.3[&] *4*	100 *9*	0.0	0^+	D		Mult.: from (γ,γ').
3710.39	2^+	2578.6[&] *3*	29 *4*	1131.739	2^+			
		3710.34 *24*	100 *9*	0.0	0^+	E2	1.16×10^{-3}	B(E2)(W.u.)=0.6 *+3−2* α(K)=9.63×10^{-5} *14*; α(L)=1.114×10^{-5} *16*; α(M)=2.16×10^{-6} *3*; α(N+..)=0.001055 *15* α(N)=4.08×10^{-7} *6*; α(O)=3.61×10^{-8} *5*; α(IPF)=0.001055 *15*
3724.7	$1,2^+$	2593.1 *4*	100 *21*	1131.739	2^+			
		3724.5[#] *4*	95 *21*	0.0	0^+			
3741.62	$(2)^+$	1138.4[#] *3*	47 *15*	2602.495	3^-			
		1519.53 *25*	100 *13*	2221.75	4^+			
		1611.3[#] *4*	36 *3*	2129.596	2^+			
		1640.46 *19*	161 *15*	2101.711	4^+			
		2609.89[#] *15*	60 *6*	1131.739	2^+			
3760.27	$(0^+,1,2)$	2628.50[#] *20*	100	1131.739	2^+			
3761.83	2^+	2630.3[&] *4*	41 *5*	1131.739	2^+	D,D+Q		
		3761.68 *24*	100 *9*	0.0	0^+	E2	1.18×10^{-3}	B(E2)(W.u.)=0.29 *+18−3* α(K)=9.42×10^{-5} *14*; α(L)=1.089×10^{-5} *16*; α(M)=2.12×10^{-6} *3*; α(N+..)=0.001076 *15* α(N)=3.99×10^{-7} *6*; α(O)=3.53×10^{-8} *5*; α(IPF)=0.001075 *15*
3765.14	$(7^-,8^-,9^-)$	1186.6[@] *4*	8.7 *22*	2578.44	$8^{(+)}$			

Adopted Levels, Gammas (continued)

γ(^{124}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[b]	E_f	J_f^π	Mult.[b]
3765.14	(7⁻,8⁻,9⁻)	1440.13[@] *10*	100 *9*	2325.01	(7⁻)	
3802.54	2,3	1673.3[&] *3*	18 *3*	2129.596	2⁺	
		2670.6[&] *2*	100 *9*	1131.739	2⁺	
3809.71	(7,8,9)	1484.69[@] *20*	100	2325.01	(7⁻)	
3831.4	2,3,4	1702.6[&] *4*	49 *5*	2129.596	2⁺	
		2698.9[&] *4*	100 *9*	1131.739	2⁺	Q
3834.3	1,2⁺	3834.2[#] *7*	100	0.0	0⁺	
3864.26	1,2⁺	1734.69[#] *20*	68 *7*	2129.596	2⁺	
		2732.36[#] *20*	77 *7*	1131.739	2⁺	
		3864.4 *3*	100 *9*	0.0	0⁺	
3888.0	1,2⁺	3887.9[#] *8*	100	0.0	0⁺	
3910.7	2⁺	3910.6[#] *9*	100	0.0	0⁺	
3917.27	2⁺	1042.12[#] *15*	27 *2*	2875.37	2⁺	
		1214.26[#] *20*	14 *1*	2703.187	2⁺	
		1314.73[#] *5*	100 *9*	2602.495	3⁻	
		1490.9[#] *4*	4.2 *4*	2426.316	2⁺	
		1695.63[#] *20*	8.4 *9*	2221.75	4⁺	
		1787.71[#] *20*	9.8 *9*	2129.596	2⁺	
		1815.3[#] *3*	4.2 *9*	2101.711	4⁺	
		3917.0[#] *3*	42 *4*	0.0	0⁺	
3931.5	(7,8,9)	569.11[@] *15*	100	3362.3	(7,8,9)	
3963.6	1,2	2831.9[&] *3*	100 *12*	1131.739	2⁺	(D,D+Q)
		3963.0[&] *6*	94 *10*	0.0	0⁺	
4043.8	1,2⁺	4043.7[#] *5*	100	0.0	0⁺	
4074.4	2	2942.4[&] *4*	100 *10*	1131.739	2⁺	(D,D+Q)
		4075.3[&] *8*	85 *9*	0.0	0⁺	(Q)
4094.2	2,3	2962.4[&] *3*	100	1131.739	2⁺	
4156.1	2⁺	3024.4 *3*	34 *7*	1131.739	2⁺	
		4155.8[#] *6*	100 *11*	0.0	0⁺	
4208.1	2,3	3076.3[&] *3*	100	1131.739	2⁺	
4219.2	1	4219.1[a] *6*		0.0	0⁺	D
4227.57	1,2⁺	1352.11 *16*	100 *12*	2875.37	2⁺	D,D+Q
		4228.0[#] *4*	72 *16*	0.0	0⁺	
4263.5	1	4263.4[a] *6*		0.0	0⁺	D
4264.1	1,2⁺	4264.0[#] *3*	100	0.0	0⁺	
4269.82	(4)	686.2[&] *2*	100 *11*	3583.66	2⁺	

$^{124}_{50}Sn_{74}$-16

Adopted Levels, Gammas (continued)

γ(^{124}Sn) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[b]	E_f	J_f^π	Mult.[b]	α[d]	Comments
4269.82	(4)	3137.8[&] *5*	52 *6*	1131.739	2^+			
4331.4	$1,2^+$	4331.3[#] *4*	100	0.0	0^+			
4359.58	0^+ to 4^+	3227.8[&] *2*	100	1131.739	2^+			
4470.3	$1,2^+$	4470.2[#] *4*	100	0.0	0^+			
4528.8	$1,2^+$	4528.7[#] *4*	100	0.0	0^+			
4604.6	$1,2^+$	4604.5[#] *7*	100	0.0	0^+			
4605.8		4605.7[a] *6*		0.0	0^+			
4953.8	1	4953.7[a] *7*		0.0	0^+	D		
5064.8		5064.7[a] *7*		0.0	0^+			
5842.6	1^-	5842.5[a] *7*		0.0	0^+	E1[c]	0.00229	α(K)=3.30×10^{-5} *5*; α(L)=3.77×10^{-6} *6*; α(M)=7.31×10^{-7} *11*; α(N+..)=0.00225 *4* α(N)=1.378×10^{-7} *20*; α(O)=1.218×10^{-8} *17*; α(IPF)=0.00225 *4*
5869.8	(1)	5869.7[a] *8*		0.0	0^+	(D)		
5902.7	1	5902.5[a] *7*		0.0	0^+	D		
5951.9	1	5951.7[a] *7*		0.0	0^+	D		
5968.6	1	5968.4[a] *7*		0.0	0^+	D		
6002.2	1	6002.0[a] *7*		0.0	0^+	D		
6129.2	1	6129.0[a] *7*		0.0	0^+	D		
6171.0	1	6170.8[a] *12*		0.0	0^+	D		
6184.2	1^-	6184.0[a] *6*		0.0	0^+	E1[c]		
6236.7	1	6236.5[a] *7*		0.0	0^+	D		
6287.3	1	6287.1[a] *7*		0.0	0^+	D		
6321.8	1^-	6321.6[a] *7*		0.0	0^+	E1[c]		
6369.3	1^-	6369.1[a] *7*		0.0	0^+	E1[c]		
6453.3	1	6453.1[a] *7*		0.0	0^+	D		
6467.7	1	6467.5[a] *6*		0.0	0^+	D		
6503.4	1	6503.2[a] *6*		0.0	0^+	D		
6524.2	1^-	6524.0[a] *5*		0.0	0^+	E1[c]		
6548.7	1	6548.5[a] *5*		0.0	0^+	D		
6561.0	1^-	6560.8[a] *7*		0.0	0^+	E1[c]		
6566.0	1	6565.8[a] *8*		0.0	0^+	D		
6584.3	1^-	6584.1[a] *6*		0.0	0^+	E1[c]		
6600.0	1	6599.8[a] *7*		0.0	0^+	D		
6635.8	1^-	6635.6[a] *6*		0.0	0^+	E1[c]		
6678.1	1^-	6677.9[a] *7*		0.0	0^+	E1[c]		
6683.5	1^-	6683.3[a] *8*		0.0	0^+	E1[c]		
6705.6	1^-	6705.4[a] *8*		0.0	0^+	E1[c]		
6713.8	1^-	6713.6[a] *7*		0.0	0^+	E1[c]		
6722.5	1	6722.3[a] *6*		0.0	0^+	D		
6764.4	1^-	6764.2[a] *8*		0.0	0^+	E1[c]		
6775.8	1	6775.6[a] *8*		0.0	0^+	D		

$^{124}_{50}Sn_{74}$-17

Adopted Levels, Gammas (continued)

γ(^{124}Sn) (continued)

E_i(level)	J_i^π	E_γ †	E_f	J_f^π	Mult.[b]
6790.8	1⁻	6790.6[a] 8	0.0	0⁺	E1[c]
6808.2	1(+)	6808.0[a] 6	0.0	0⁺	(M1)[c]
6847.3	1⁻	6847.1[a] 8	0.0	0⁺	E1[c]
6902.3	1⁻	6902.1[a] 8	0.0	0⁺	E1[c]
6928.4	(1)	6928.2[a] 8	0.0	0⁺	(D)
6939.1	1	6938.9[a] 8	0.0	0⁺	D
6947.7	1	6947.5[a] 8	0.0	0⁺	D
7018.2	1	7018.0[a] 8	0.0	0⁺	D
7032.7	1⁻	7032.5[a] 7	0.0	0⁺	E1[c]
7062.4	1	7062.2[a] 9	0.0	0⁺	D
7071.3	1	7071.1[a] 8	0.0	0⁺	D
7086.7	1	7086.5[a] 7	0.0	0⁺	D
7125.9	1	7125.7[a] 7	0.0	0⁺	D
7234.0	1	7233.8[a] 8	0.0	0⁺	D
7258.8	1	7258.6[a] 10	0.0	0⁺	D
7295.7	1⁻	7295.5[a] 7	0.0	0⁺	E1[c]
7308.7	1	7308.5[a] 9	0.0	0⁺	D
7326.4	1	7326.2[a] 7	0.0	0⁺	D
7337.7	1⁻	7337.5[a] 7	0.0	0⁺	E1[c]
7344.6	1	7344.4[a] 7	0.0	0⁺	D
7394.7	1⁻	7394.5[a] 4	0.0	0⁺	E1[c]
7487.8	1⁻	7487.6[a] 7	0.0	0⁺	E1[c]
7536.7	1⁻	7536.5[a] 7	0.0	0⁺	E1[c]
7551.1	1⁻	7550.9[a] 6	0.0	0⁺	E1[c]
7567.1	1	7566.9[a] 10	0.0	0⁺	D
7576.1	1⁻	7575.9[a] 7	0.0	0⁺	E1[c]
7596.6	1⁻	7596.4[a] 10	0.0	0⁺	E1[c]
7604.0	1⁻	7603.7[a] 8	0.0	0⁺	E1[c]
7642.9	1⁻	7642.6[a] 8	0.0	0⁺	E1[c]
7666.3	1	7666.0[a] 7	0.0	0⁺	D
7679.1	1	7678.8[a] 14	0.0	0⁺	D
7684.2	1⁻	7683.9[a] 11	0.0	0⁺	E1[c]
7691.5	1	7691.2[a] 7	0.0	0⁺	D
7702.9	1	7702.6[a] 9	0.0	0⁺	D
7747.7	1⁻	7747.4[a] 7	0.0	0⁺	E1[c]
7759.4	1⁻	7759.1[a] 4	0.0	0⁺	E1[c]
7770.9	1	7770.6[a] 6	0.0	0⁺	D
7778.4	1	7778.1[a] 9	0.0	0⁺	D
7788.6	1	7788.3[a] 5	0.0	0⁺	D
7815.6	1⁻	7815.3[a] 5	0.0	0⁺	E1[c]
7863.7	1⁻	7863.4[a] 8	0.0	0⁺	E1[c]
7872.4	1	7872.1[a] 6	0.0	0⁺	D
7880.5	1⁻	7880.2[a] 5	0.0	0⁺	E1[c]
7905.4	1	7905.1[a] 12	0.0	0⁺	D
7913.4	1	7913.1[a] 8	0.0	0⁺	D
7939.3	1	7939.0[a] 12	0.0	0⁺	D
7957.4	1	7957.1[a] 9	0.0	0⁺	D
7999.2	1⁻	7998.9[a] 9	0.0	0⁺	E1[c]
8112.1	1	8111.8[a] 16	0.0	0⁺	D
8119.1	1	8118.8[a] 8	0.0	0⁺	D
8132.0	1	8131.7[a] 15	0.0	0⁺	D
8162.5	1	8162.2[a] 8	0.0	0⁺	D
8214.6	1	8214.3[a] 12	0.0	0⁺	D
8229.2	1	8228.9[a] 6	0.0	0⁺	D
8257.2	1	8256.9[a] 9	0.0	0⁺	D
8270.1	1(+)	8269.8[a] 7	0.0	0⁺	(M1)[c]
8350.4	1	8350.1[a] 13	0.0	0⁺	D
8376.5	1⁻	8376.2[a] 11	0.0	0⁺	E1[c]
8423.1	1	8422.8[a] 7	0.0	0⁺	D
8433.5	1	8433.2[a] 10	0.0	0⁺	D

† From weighted av from (n,n′γ) and ^{124}In β^- decay (3.12 s), unless otherwise noted.
‡ From weighted av from (n,n′γ) and ^{124}In β^- decay (3.7 s).
# From ^{124}In β^- decay (3.12 s); not observed in 3.7-s decay and in (n,n′γ).
@ From ^{124}In β^- decay (3.7 s); not observed in 3.12-s decay and in (n,n′γ).
& From (n,n′γ).
[a] From (γ,γ′).
[b] From (n,n′γ), unless otherwise noted.

$^{124}_{50}Sn_{74}$-18

Adopted Levels, Gammas (continued)

$\gamma(^{124}Sn)$ (continued)

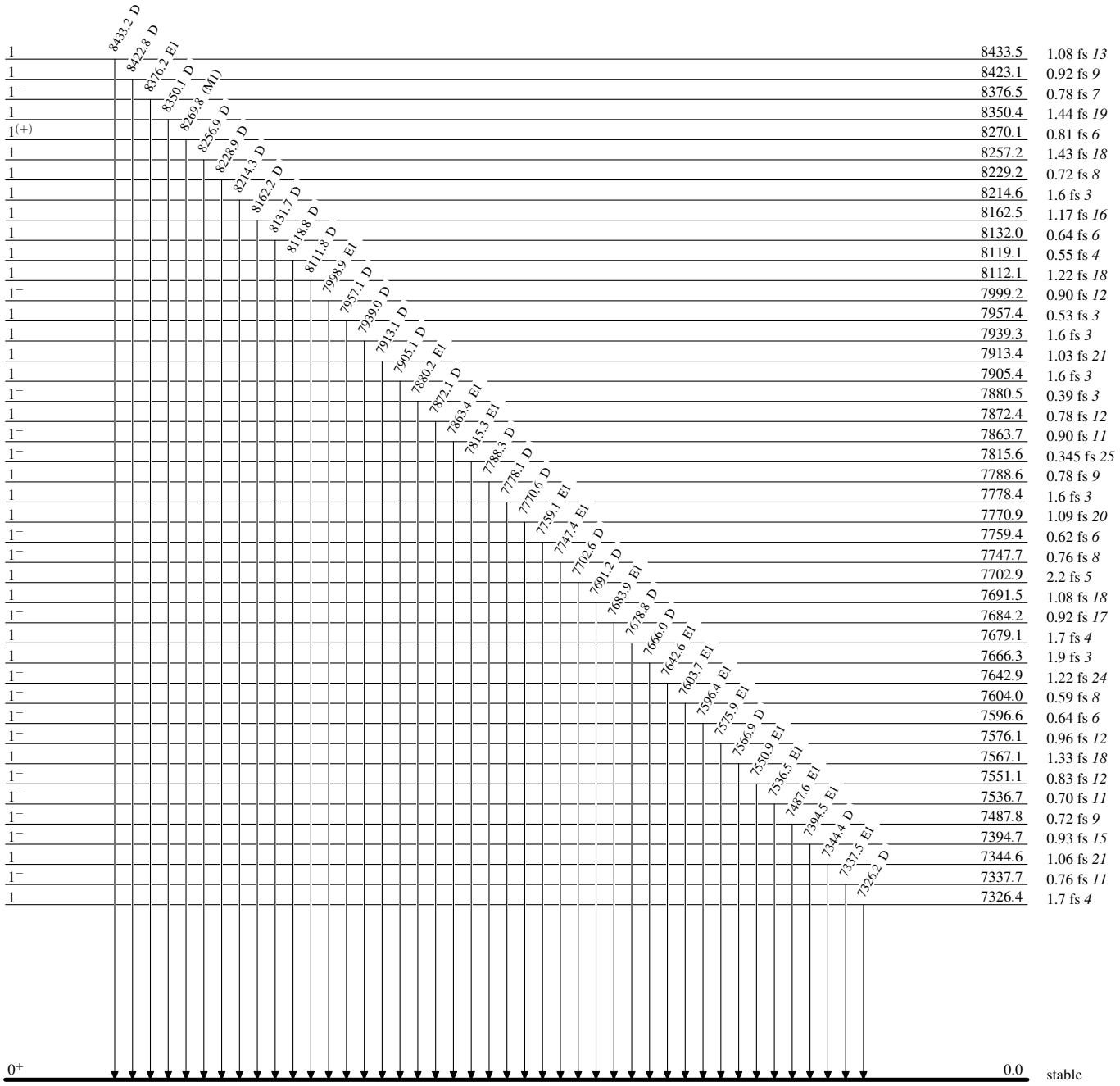
[c] From (γ,γ').
[d] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.
[e] Placement of transition in the level scheme is uncertain.

$^{124}_{50}Sn_{74}$-19

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

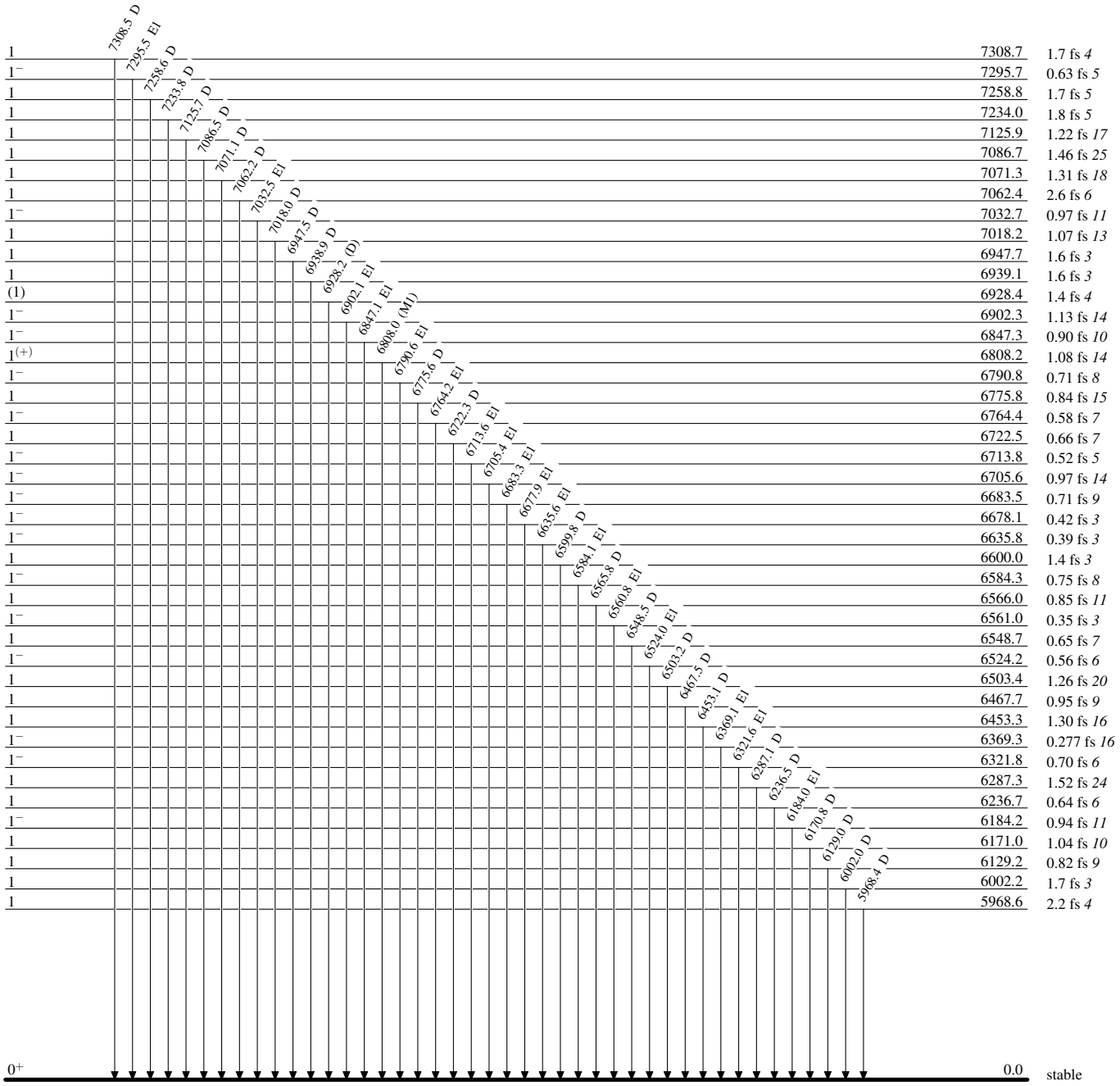


$^{124}_{50}Sn_{74}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{124}_{50}Sn_{74}$

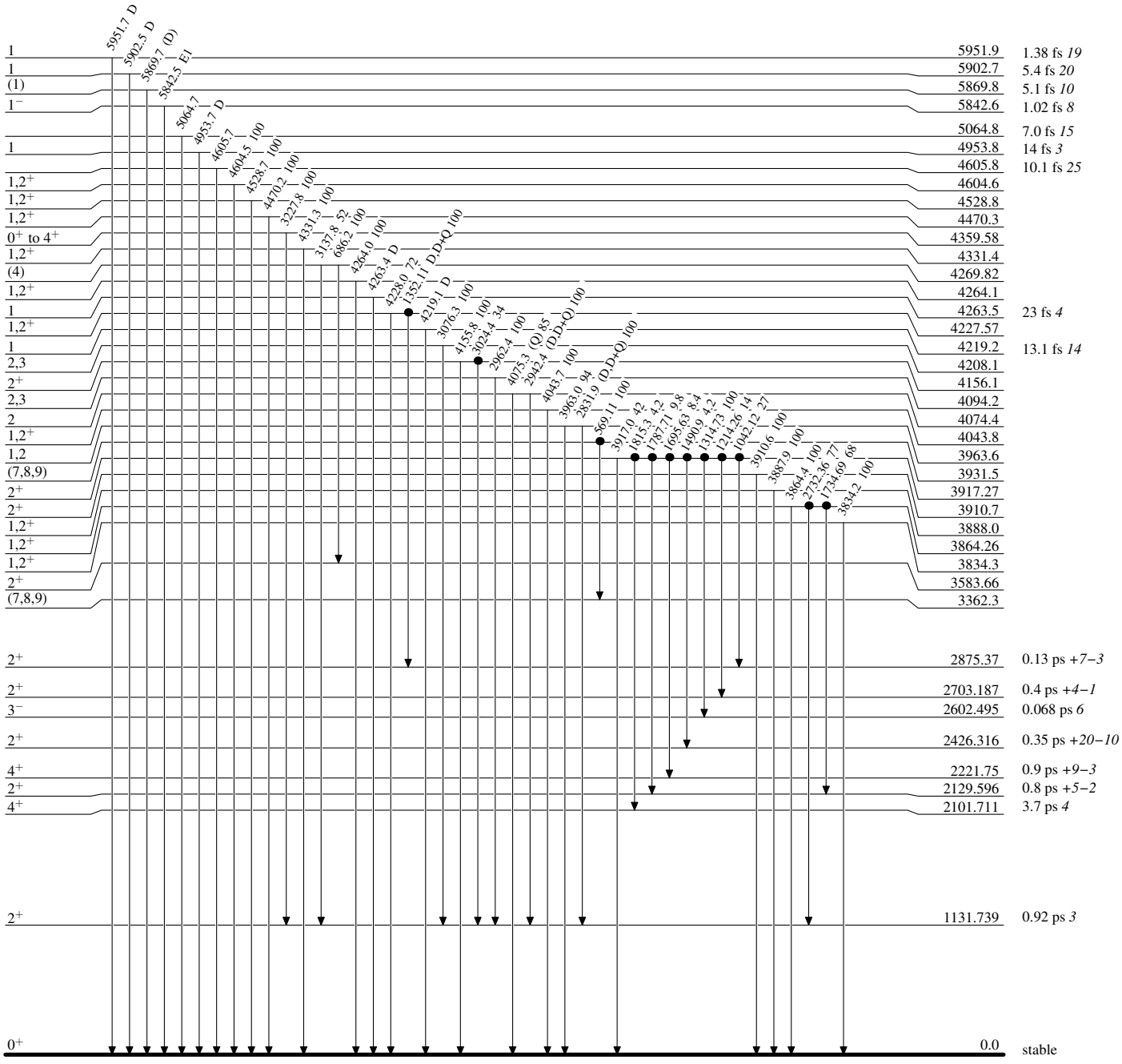
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

● Coincidence



$^{124}_{50}Sn_{74}$

Legend

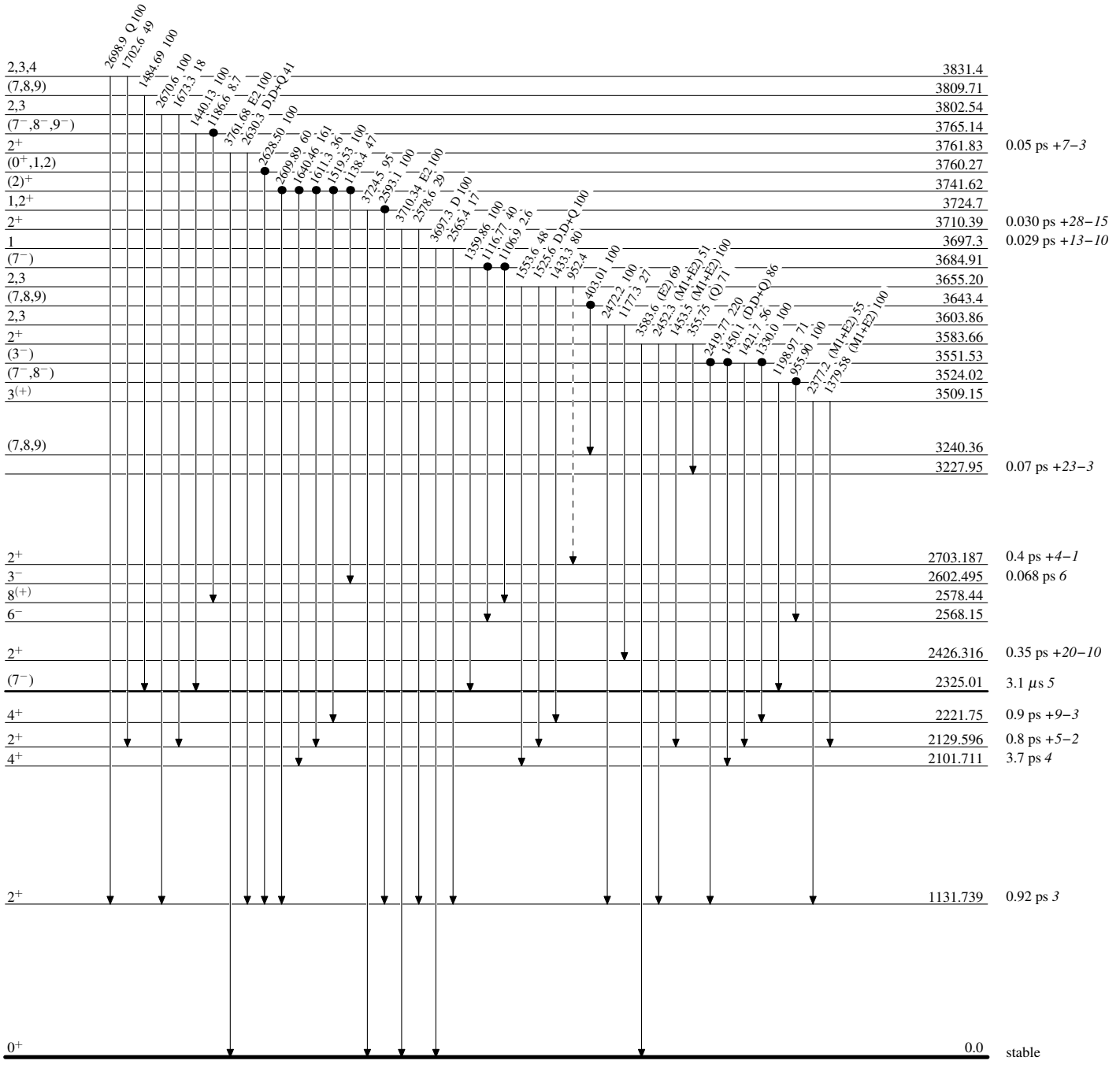
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)

● Coincidence



$^{124}_{50}Sn_{74}$

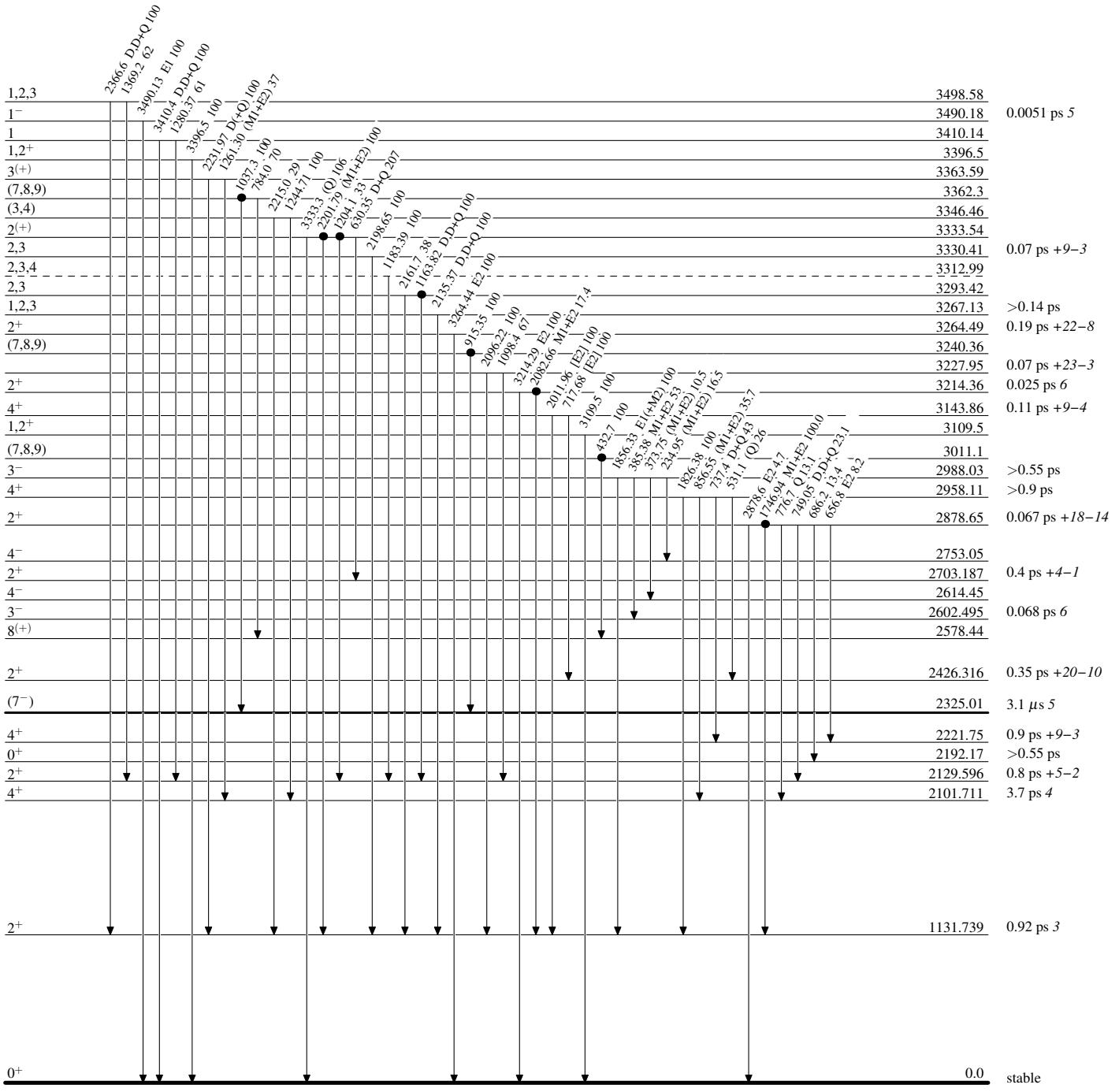
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

● Coincidence



$^{124}_{50}Sn_{74}$

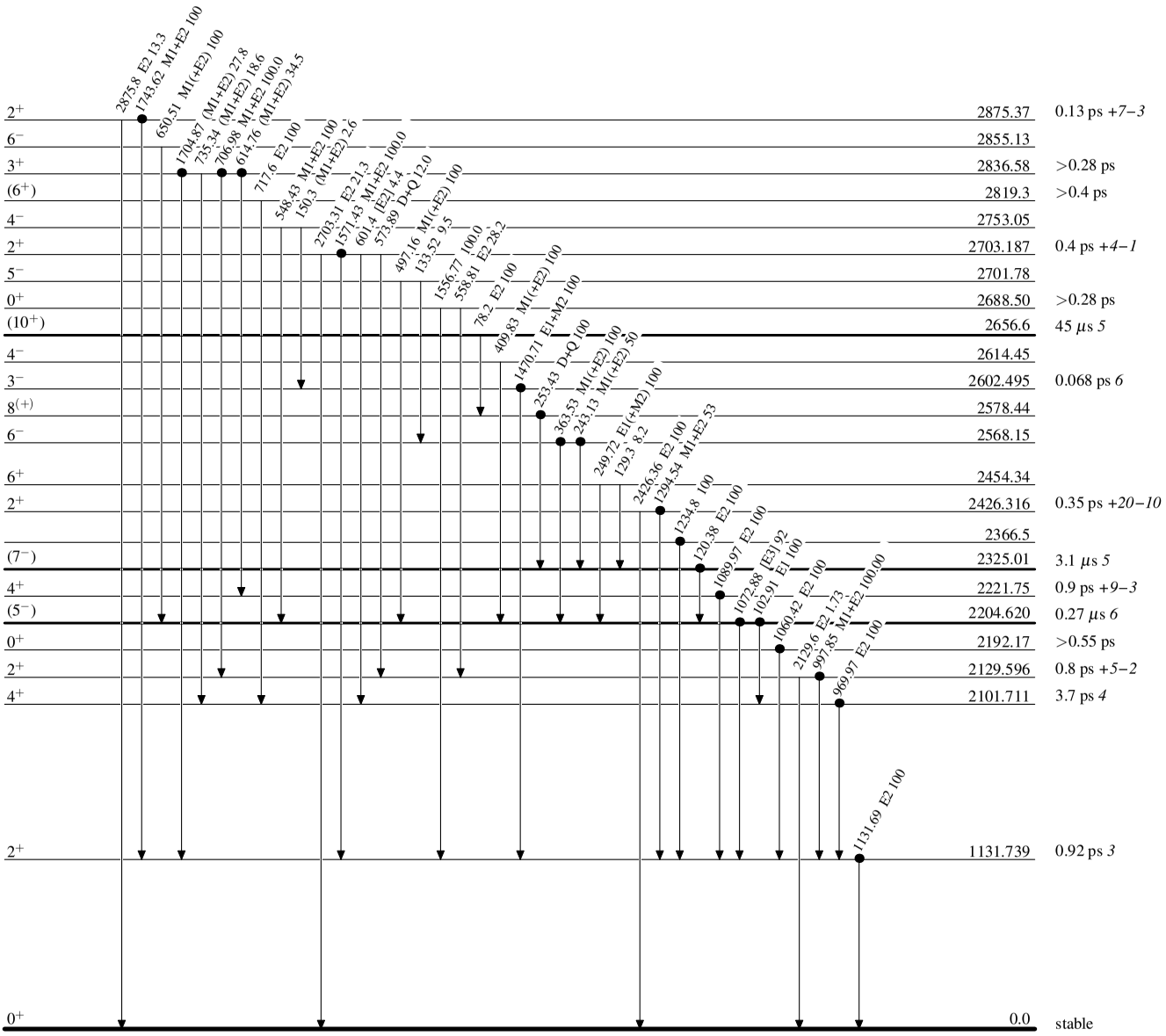
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

● Coincidence



$^{124}_{50}Sn_{74}$

Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	H. Iimura, J. Katakura, S. Ohya	NDS 180, 1 (2022)	1-Oct-2021

Q(β^-)=378 *30*; S(n)=8193 *11*; S(p)=12892 *11*; Q(α)=−7828 *11* 2021Wa16

^{126}Sn Levels

Cross Reference (XREF) Flags

A	^{126}In β^- decay (1.64 s)	F	^{124}Sn(^{136}Xe,Xγ),(^{238}U,Xγ)	K	Coulomb excitation
B	^{126}In β^- decay (1.53 s)	G	^{127}In β^-n decay (1.09 s)	L	^{238}U(^{12}C,Fγ)
C	^{124}Sn(t,p)	H	^{127}In β^-n decay (3.67 s)	M	^{238}U(^{64}Ni,Xγ)
D	^{130}Te(d,^{6}Li)	I	^{124}Sn(^{18}O,^{16}O)		
E	^{124}Sn(^{14}C,^{12}C)	J	^{9}Be(^{238}U,Xγ)		

E(level)†	J$^\pi$	T$_{1/2}$	XREF	Comments
0.0	0$^+$	2.18×10^5 y *10*	ABCDEFGHIJKL	%β^-=100 T$_{1/2}$: weighted av. of 1.98×10^5 y *6* from plasma-mass spectrometry (2009Bi07), 2.35×10^5 y *7* from thermo-ionnisatio mass spectrometry (1999Ob04), 2.33×10^5 y 10 from plasma-mass spectrometry (2005Ca14), 2.07×10^5 y *21* from specific activity measurement (1996Ha45) and 2.5×10^5 y *2* from radiochemical method (1996Zh16).
1141.15 *4*	2$^+$	1.13 ps *7*	ABCDEF IJKL	μ=−0.24 *6* J$^\pi$: L(t,p)=2. T$_{1/2}$: weighted av. of 1.15 *7* ps deduced from B(E2)=0.127 *8* (2011Al25) and 1.04 *14* ps from DSAM (2012Ku24) in Coulomb ex. μ: from Coulomb ex.
2049.74 *6*	4$^+$‡		ABCDEF J L	J$^\pi$: E1 γ from 5$^-$; L(d,^{6}Li)=(4); see comment in footnote; L(t,p)=5 is inconsistent with 4$^+$.
2110.79 *6*	2$^{(+)}$		B E	J$^\pi$: γ's to 0$^+$ and 2$^+$; log *ft*=5.65 *3* from 3$^{(+)}$.
2130.08 *21*			B E	
2161.54 *7*	5$^-$‡	10.8 ns *7*	A CDEF J L	J$^\pi$: L(d,^{6}Li)=5, see comment in footnote ; L(t,p)=6 is inconsistent with 5$^-$. T$_{1/2}$: from $\beta\gamma$(t) in ^{126}In β^- decay (2012As05).
2194.21 *7*			B	
2218.99 *8*	7$^-$	6.1 μs *7*	A CDEF J LM	μ=−0.69 *7* J$^\pi$: L(d,^{6}Li)=7. T$_{1/2}$: weighted av. of 6.6 μs *14* from $\gamma\gamma$(t) in ^{126}In β^- decay (1979Fo10) and 5.9 μs *8* in ^{9}Be(^{238}U,Xγ) (2010Il01). μ: in ^{9}Be(^{238}U,Xγ) (2010Il01).
2256.51 *21*			B	
2276.85 *8*			B	
2298 *25*			D	
2370.46 *6*	2$^{(+)}$		BCD	J$^\pi$: L(t,p)=(2); log *ft*=6.46 *7* from 3$^{(+)}$, γ to 0$^+$.
2373.2 *4*			L	
2471.93 *16*			B	
2477.51 *8*	6$^-$		A	J$^\pi$: M1(+E2) γ's to 7$^-$ and 5$^-$.
2488.23 *9*	(8$^+$)		A F J LM	J$^\pi$: γ to 7$^-$, γ from (10$^+$) and systematics.
2550 *25*			D	
2564.5 *3*	(10$^+$)	7.6 μs *2*	F J LM	J$^\pi$: systematics. T$_{1/2}$: weighted av. of 7.7 μs *5* in ^{124}Sn(^{136}Xe,Xγ), (^{238}U,Xγ)

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{126}Sn Levels (continued)

E(level)†	Jπ	$T_{1/2}$	XREF		Comments
					(2000Zh47), 7.5 μs *3* in ^{9}Be(^{238}U,Xγ) (2010Il01) and 7.6 μs *4* (1998GeZX).
2631.03 *11*			B		
2636.64 *10*	$2^{(+)}$		B		Jπ: log *ft*=6.48 *7* from $3^{(+)}$; γ's to 0^+ and 2^+.
2662.98 *8*			A D		
2712.06 *8*	$2,3,4^+$		B		Jπ: log *ft*=6.90 *17* from $3^{(+)}$; γ to 2^+.
2720 *5*	3^-		CD		Jπ: L(d,^{6}Li)=3, L(t,p)=3.
2742.57 *7*			B		
2795 *25*			D		
2840.24 *10*			A		
2886.41 *13*			B		
2892 *5*	(5^-)		CD		Jπ: L(t,p)=(5).
2971 *25*			D		
3067.29 *8*			A		
3246.55 *10*	$2^{(+)}$		B		Jπ: log *ft*=5.74 *4* from $3^{(+)}$; γ to 0^+.
3283.83 *9*	(9^-)		A CD	M	Jπ: γ to 7^-, γ from (11^-).
3300.3 *3*			B		
3344.83 *9*	$2^{(+)}$		B		Jπ: log *ft*=5.049 *8* from $3^{(+)}$; γ to 0^+.
3385 *25*			D		
3424 *5*	4^+		CD		Jπ: L(t,p)=4.
3435.0 *6*	$2^{(+)}$		B		Jπ: log *ft*=6.94 *6* from $3^{(+)}$; γ to 0^+.
3454.87 *11*			A		
3504.5 *3*	$2^{(+)}$		B		Jπ: log *ft*=6.68 *4* from $3^{(+)}$; γ to 0^+.
3595.5 *3*	(12^+)			LM	Jπ: γ to 10^+, γ from 13^- and systematics.
3625.79 *11*			A		
3783.41 *13*			A CD		
3809.21 *17*			A		
3818.0 *4*	$2^{(+)}$		B		Jπ: log *ft*=6.69 *4* from $3^{(+)}$; γ to 0^+.
3830.75 *13*			A		
3855.54 *8*	$(7^-,8^-)$		A		Jπ: log *ft*=4.52 *3* from (8^-); γ to 6^-.
3860.3 *3*	$2,3,4^+$		B		Jπ: log *ft*=6.42 *5* from $3^{(+)}$; γ to 2^+.
3886.54 *9*	$2^{(+)}$		B		Jπ: log *ft*=5.43 *5* from $3^{(+)}$; γ to 0^+.
3917.3 *5*	$2,3,4^+$		B		Jπ: log *ft*=6.62 *5* from $3^{(+)}$. γ to 2^+.
3926.03 *21*	(11^-)			M	Jπ: γ from 13^-, γ to 12^+ , to 7^- with 2 γ's cascade.
3950.3 *5*			A		
3964.19 *7*	$2^{(+)}$		B		Jπ: log *ft*=5.206 *20* from $3^{(+)}$; γ to 0^+.
3977.39 *15*			A		
3985 *25*			D		
4013.97 *21*	$2,3,4^{(+)}$		B		Jπ: log *ft*=6.58 *5* from $3^{(+)}$. γ to 2^+.
4166.5 *3*	(13^-)	≤3 ns		LM	Jπ: E2 γ from (15^-), to 7^- with 3 γ's cascade. $T_{1/2}$: from 2014Is04.
4184 *10*			C		
4241.00 *15*	$2^{(+)}$		B		Jπ: log *ft*=5.87 *6* from $3^{(+)}$; γ to 0^+.
4257.1 *3*	$2^{(+)}$		B		Jπ: log *ft*=6.52 *8* from $3^{(+)}$; γ to 0^+.
4303.27 *15*	$2^{(+)}$		B		Jπ: log *ft*=5.62 *6* from $3^{(+)}$; γ to 0^+.
4330.9 *6*	$2^{(+)}$		B		Jπ: log *ft*=6.89 *10* from $3^{(+)}$; γ to 0^+.
4347.3 *3*	(15^-)	126 ns *20*		LM	Jπ: systematics of isomer. $T_{1/2}$: weighted av. of 114 ns *12* (2014Is04) and 160 ns *20* (2012As05).
4447 *10*			C		
4556 *5*	$(4^+,5^-)$		C		J L(t,p)=(4,5).
4561.0 *4*	(14^-)			M	Jπ: from analogy with the other Sn isotope.
4583.1 *5*	(14^+)			LM	Jπ: a member of higher-seniority positive high-spin levels.
4656.5 *5*	$2^{(+)}$		B		Jπ: log *ft*=6.52 *7* from $3^{(+)}$; γ to 0^+.
4699.5 *6*	$2^{(+)}$		B		Jπ: log *ft*=6.82 *13* from $3^{(+)}$; γ to 0^+.
4734 *5*			C		

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{126}Sn Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$	XREF	Comments
4767 *5*	3^-		C	Jπ: L(t,p)=3.
4779.16 *21*	$(7^-,8^-,9^-)$		A	Jπ: log *ft*=5.18 *6* from (8^-).
4797.1 *6*	$2^{(+)}$		B	Jπ: log *ft*=6.65 *14* from $3^{(+)}$; γ to 0^+.
4807 *5*	3^-		C	Jπ: L(t,p)=3.
4838 *5*	3^-		C	Jπ: L(t,p)=3.
4869 *5*	3^-		C	Jπ: L(t,p)=3.
4935 *5*	5^-		C	Jπ: L(t,p)=5.
4974 *5*	5^-		C	Jπ: L(t,p)=5.
4990.2 *3*	(7^-)		A	Jπ: log *ft*=5.13 *4* from (8^-); γ to 5^-.
5009 *5*	5^-		C	Jπ: L(t,p)=5.
5041 *5*	5^-		C	Jπ: L(t,p)=5.
5061.0 *7*	(16^+)	<30 ns	LM	Jπ: a member of higher-seniority positive high-spin levels. $T_{1/2}$: estimated in 2012As05 from non-observation of any delayed component below the 16^+ state.
5092 *5*	5^-		C	Jπ: L(t,p)=5.
5160 *5*	7^-		C	Jπ: L(t,p)=7.
5188 *5*			C	
5214 *5*	3^-		C	Jπ: L(t,p)=3.
5257 *5*	5^-		C	Jπ: L(t,p)=5.
5297 *5*	5^-		C	Jπ: L(t,p)=5.
5339 *10*	(4^+)		C	Jπ: L(t,p)=(4).
5367 *10*	(4^+)		C	Jπ: L(t,p)=(4).
5397 *10*			C	
5436 *10*			C	
5497.3 *3*	(17^-)		LM	Jπ: a member of higher-seniority negative high-spin levels.
5528 *10*			C	
5587 *10*			C	
5838.2 *8*	(18^+)		LM	Jπ: a member of higher-seniority positive high-spin levels.
6258.8 *4*	(19^-)		LM	Jπ: a member of higher-seniority negative high-spin levels.
7324.0 *6*			M	
8375.4 *7*			M	

[†] From least-squares fit to Eγ's for levels populated in γ ray studies, and from (t,p) and (d,^{6}Li) for levels populated only in particle-transfer studies.

[‡] Cascade of E2, E1 and Mult(908.58)=[E2] γ's connecting $J^\pi=7^-$ and 2^+ levels yields $J^\pi(2049.71)=4^+$ and $J^\pi(2161.50)=5^-$.

γ(^{126}Sn)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[†]	α[#]	Comments
1141.15	2^+	1141.11 *5*	100	0.0	0^+			
2049.74	4^+	908.58 *5*	100	1141.15	2^+			
2110.79	$2^{(+)}$	969.61 *5*	100 *7*	1141.15	2^+			
		2110.83 *10*	20.8 *14*	0.0	0^+			
2130.08		988.93 *20*	100	1141.15	2^+			
2161.54	5^-	111.79 *5*	100 *9*	2049.74	4^+	E1	0.1323 *19*	B(E1)(W.u.)=1.57×10^{-5} *10*
		1020.41 *10*	0.66 *17*	1141.15	2^+	[E3]	0.00256 *4*	B(E3)(W.u.)=0.60 *17*
2194.21		1053.06 *5*	100	1141.15	2^+			
2218.99	7^-	57.47 *5*	100	2161.54	5^-	E2	11.53 *17*	B(E2)(W.u.)=0.31 *+4−3*
2256.51		1115.36 *20*	100	1141.15	2^+			
2276.85		1135.70 *10*	100	1141.15	2^+			
2370.46	$2^{(+)}$	1229.31 *5*	89 *5*	1141.15	2^+			
		2370.41 *15*	100 *11*	0.0	0^+			

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Adopted Levels, Gammas (continued)

γ(^{126}Sn) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[†]	α[#]	Comments
2373.2		211.7 *4*	100 *4*	2161.54	5^-			E_γ,I_γ: from ^{238}U(^{12}C,Fγ).
2471.93		1330.77 *15*	100	1141.15	2^+			
2477.51	6^-	258.53 *5*	79 *6*	2218.99	7^-	M1(+E2)	0.050 *8*	
		315.93 *5*	100 *9*	2161.54	5^-	M1(+E2)	0.027 *3*	
2488.23	(8^+)	269.26 *5*	100	2218.99	7^-			
2564.5	(10^+)	76.3 *5*		2488.23	(8^+)			E_γ: from ^{124}Sn(^{136}Xe,Xγ).
2631.03		1489.87 *10*	100	1141.15	2^+			
2636.64	$2^{(+)}$	1495.4 *3*	100 *18*	1141.15	2^+			
		2636.30 *20*	100 *10*	0.0	0^+			
2662.98		443.94 *5*	32 *3*	2218.99	7^-			
		501.43 *5*	100 *8*	2161.54	5^-			
2712.06	$2,3,4^+$	1570.96 *10*	100	1141.15	2^+			
2742.57		631.77 *5*	100 *6*	2110.79	$2^{(+)}$			
		1601.43 *10*	88 *6*	1141.15	2^+			
2840.24		362.73 *5*	100	2477.51	6^-			
2886.41		1745.15 *20*	100	1141.15	2^+			
3067.29		848.42 *25*	7.3 *9*	2218.99	7^-			
		905.78 *5*	100 *9*	2161.54	5^-			
3246.55	$2^{(+)}$	503.92 *20*	6.6 *13*	2742.57				
		2105.31 *15*	62 *6*	1141.15	2^+			
		3246.61 *15*	100 *10*	0.0	0^+			
3283.83	(9^-)	1064.85 *5*	100	2218.99	7^-			
3300.3		1250.52 *25*	100	2049.74	4^+			
3344.83	$2^{(+)}$	1068.10 *10*	2.04 *19*	2276.85				
		2203.54 *15*	10.2 *9*	1141.15	2^+			
		3344.61 *15*	100 *9*	0.0	0^+			
3435.0	$2^{(+)}$	3434.9 *6*	100	0.0	0^+			
3454.87		170.80 *20*	7.4 *15*	3283.83	(9^-)			
		387.52 *15*	44 *4*	3067.29				
		977.42 *15*	100 *11*	2477.51	6^-			
		1235.95 *10*	93 *8*	2218.99	7^-			
3504.5	$2^{(+)}$	3504.4 *3*	100	0.0	0^+			
3595.5	(12^+)	1030.9 *1*	100	2564.5	(10^+)			E_γ,I_γ: from ^{238}U(^{64}Ni,Xγ).
3625.79		962.66 *10*	57 *9*	2662.98				
		1406.95 *10*	100 *9*	2218.99	7^-			
3783.41		1564.41 *10*	100	2218.99	7^-			
3809.21		1590.21 *15*	100	2218.99	7^-			
3818.0	$2^{(+)}$	3817.9 *4*	100	0.0	0^+			
3830.75		1611.75 *10*	100	2218.99	7^-			
3855.54	$(7^-,8^-)$	571.74 *5*	10.1 *7*	3283.83	(9^-)			
		788.30 *5*	27.7 *20*	3067.29				
		1192.53 *5*	14.9 *10*	2662.98				
		1367.35 *10*	9.5 *7*	2488.23	(8^+)			
		1377.99 *5*	78 *7*	2477.51	6^-			
		1636.50 *10*	100 *7*	2218.99	7^-			
3860.3	$2,3,4^+$	2719.1 *3*	100	1141.15	2^+			
3886.54	$2^{(+)}$	1174.32 *10*	6.6 *9*	2712.06	$2,3,4^+$			
		2745.36 *20*	20.2 *21*	1141.15	2^+			
		3886.82 *15*	100 *11*	0.0	0^+			
3917.3	$2,3,4^+$	2776.1 *5*	100	1141.15	2^+			
3926.03	(11^-)	642.2 *2*	80 *20*	3283.83	(9^-)			E_γ,I_γ: from ^{238}U(^{64}Ni,Xγ).
		1361.6 *3*	100 *20*	2564.5	(10^+)			E_γ,I_γ: from ^{238}U(^{64}Ni,Xγ).
3950.3		1731.3 *5*	100	2218.99	7^-			
3964.19	$2^{(+)}$	1077.73 *15*	13.3 *17*	2886.41				
		1252.34 *10*	71 *4*	2712.06	$2,3,4^+$			

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Adopted Levels, Gammas (continued)

γ(^{126}Sn) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[†]	α[#]	Comments
3964.19	2(+)	1327.46 *10*	24.2 *21*	2636.64	2(+)			
		1593.73 *10*	46 *4*	2370.46	2(+)			
		1687.20 *10*	92 *9*	2276.85				
		2822.9 *3*	42 *4*	1141.15	2+			
		3964.20 *15*	100 *9*	0.0	0+			
3977.39		1314.46 *15*	35 *4*	2662.98				
		1758.30 *20*	100 *8*	2218.99	7−			
4013.97	2,3,4(+)	1643.50 *20*	100	2370.46	2(+)			
4166.5	(13−)	240.5 *2*	22.0 *25*	3926.03	(11−)			E_γ,I_γ: from ^{238}U(^{64}Ni,Xγ).
		571.0 *1*	100 *6*	3595.5	(12+)			E_γ,I_γ: from ^{238}U(^{64}Ni,Xγ).
4241.00	2(+)	4240.92 *15*	100	0.0	0+			
4257.1	2(+)	4257.0 *3*	100	0.0	0+			
4303.27	2(+)	4303.19 *15*	100	0.0	0+			
4330.9	2(+)	4330.8 *6*	100	0.0	0+			
4347.3	(15−)	180.8 *1*	100	4166.5	(13−)	E2	0.198 *3*	B(E2)(W.u.)=0.52 *9* E_γ,I_γ: from ^{238}U(^{64}Ni,Xγ). Mult.: from α(exp)=0.25 *5* by intesity imbalances (2012As05).
4561.0	(14−)	213.7 *3*	100 *2*	4347.3	(15−)			E_γ,I_γ: from ^{238}U(^{64}Ni,Xγ).
4583.1	(14+)	987.6 *4*	100	3595.5	(12+)			E_γ,I_γ: from ^{238}U(^{64}Ni,Xγ).
4656.5	2(+)	4656.4 *5*	100	0.0	0+			
4699.5	2(+)	4699.4 *6*	100	0.0	0+			
4779.16	(7−,8−,9−)	1495.4 *3*	50 *16*	3283.83	(9−)			
		2560.10 *25*	100 *8*	2218.99	7−			
4797.1	2(+)	4797.0 *6*	100 *9*	0.0	0+			
4990.2	(7−)	2828.6 *3*	100	2161.54	5−			
5061.0	(16+)	477.9 *4*	100 *9*	4583.1	(14+)			E_γ,I_γ: from ^{238}U(^{64}Ni,Xγ).
		713.7[@]	<7	4347.3	(15−)			E_γ,I_γ: from ^{238}U(^{64}Ni,Xγ).
5497.3	(17−)	1150.0 *1*	100	4347.3	(15−)			E_γ,I_γ: from ^{238}U(^{64}Ni,Xγ).
5838.2	(18+)	777.2 *5*	100	5061.0	(16+)			E_γ,I_γ: from ^{238}U(^{64}Ni,Xγ).
6258.8	(19−)	761.5 *2*	100	5497.3	(17−)			E_γ,I_γ: from ^{238}U(^{64}Ni,Xγ).
7324.0		1826.7 *5*	100	5497.3	(17−)			E_γ,I_γ: from ^{238}U(^{64}Ni,Xγ).
8375.4		2116.6 *6*	100	6258.8	(19−)			E_γ,I_γ: from ^{238}U(^{64}Ni,Xγ).

[†] From α(exp) in ^{126}In β^- decay, unless otherwise noted.
[‡] From ^{126}In β^- decay (1979Fo10) unless otherwise noted.
[#] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.
[@] Placement of transition in the level scheme is uncertain.

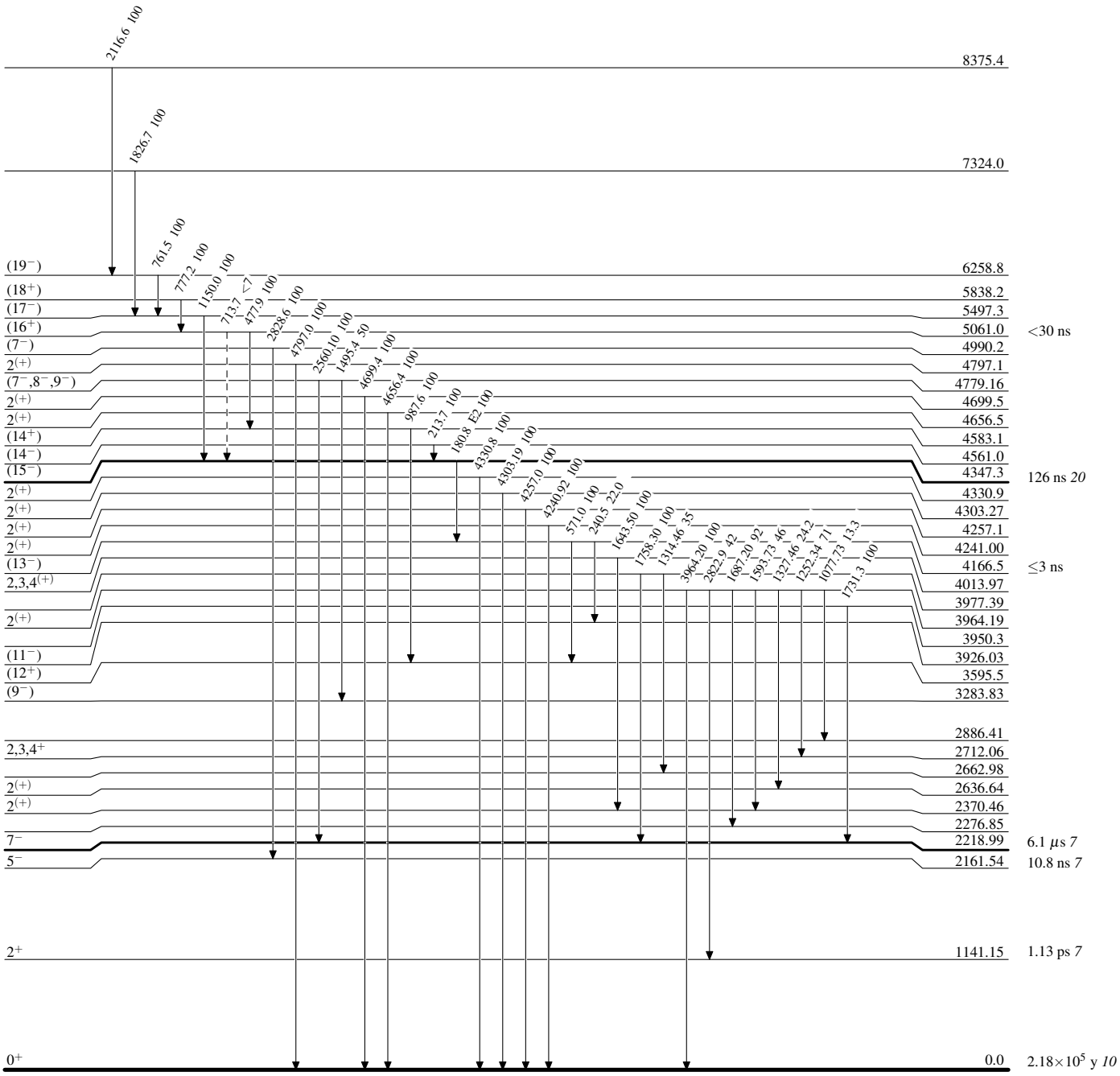
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

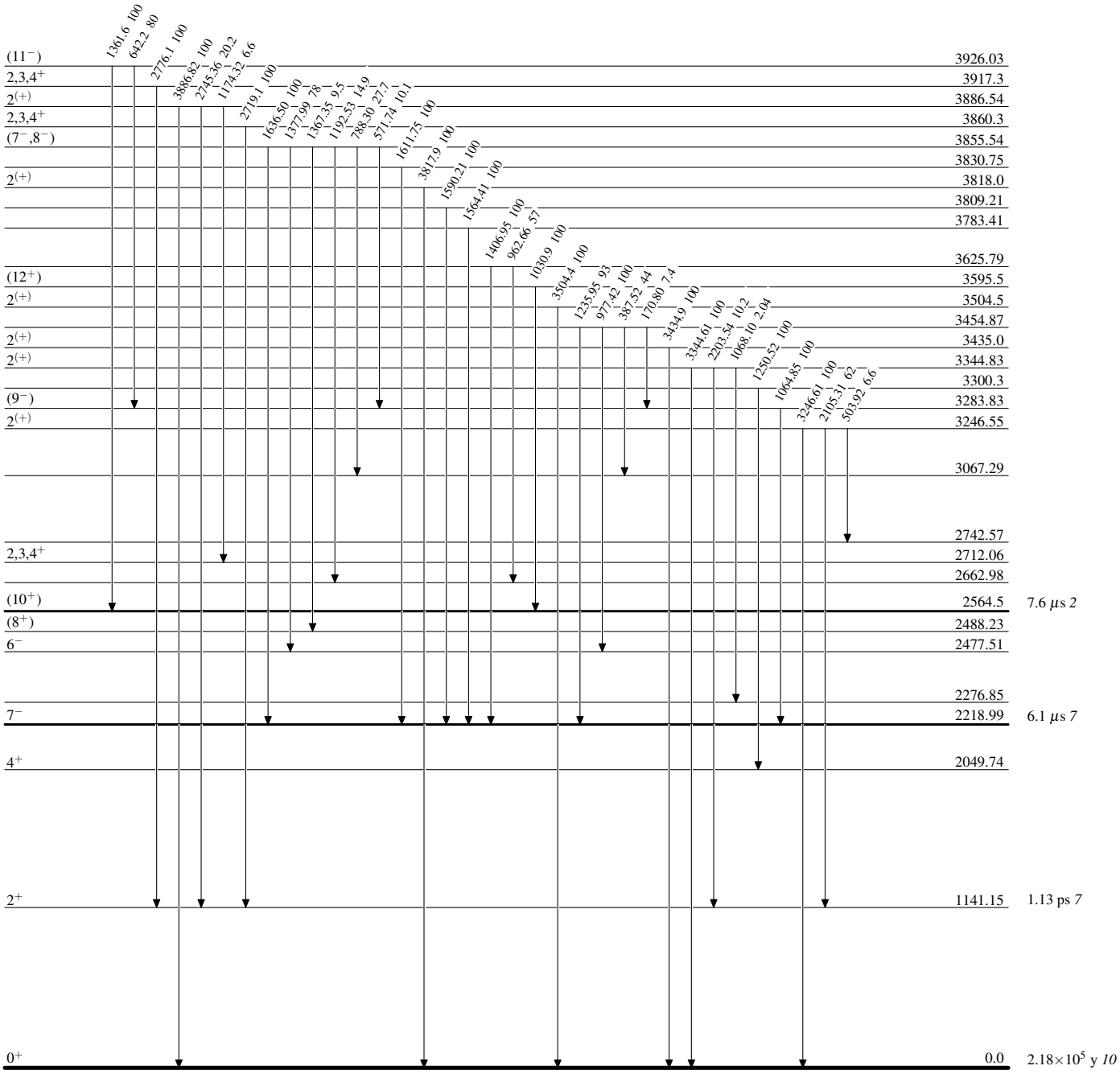


$^{126}_{50}Sn_{76}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

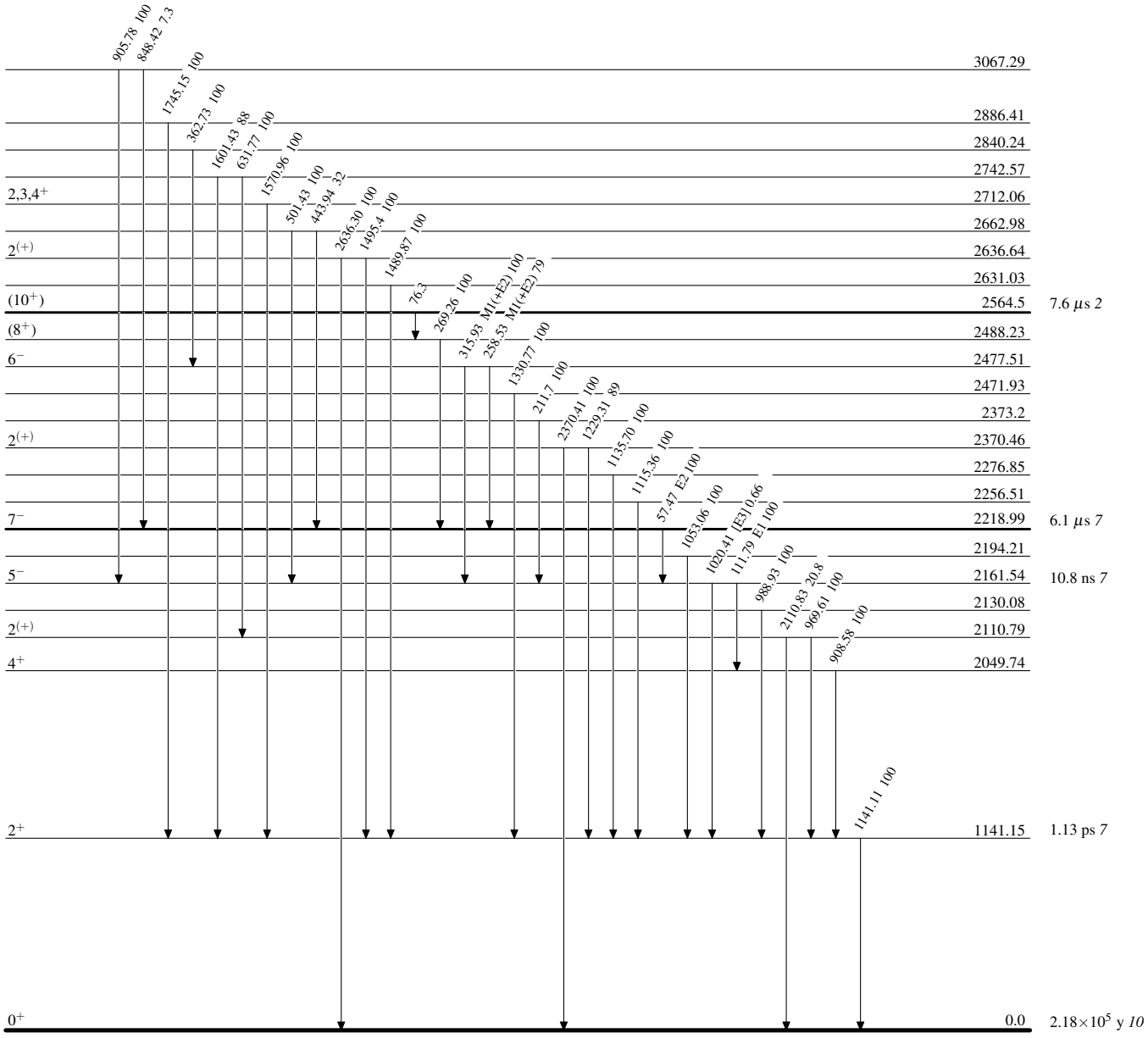


$^{126}_{50}Sn_{76}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



Adopted Levels, Gammas

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	28-Feb-2018

Q(β^-)=3089 *3*; S(n)=7353 *4*; S(p)=15810 *3*; Q(α)=−11730 *8* 2017Wa10
S(2n)=12557.0 *27*, S(2p)=30007 *22* (2017Wa10).
Mass measurement (Penning-trap spectrometer): 2013Va12, 2012Ha25, 2008Dw01, 2005Si34.
2007Kl05, 2005Ad29 (also 2007Kl06): ^{9}Be(^{238}U,X), E=500 MeV/nucleon. Measured pygmy dipole resonance (PDR) strength, neutron skin thickness, symmetry parameters. Energies of PDR and GDR extracted as 9.8 MeV *7* (FWHM<2.5 MeV), and 16.1 MeV *7* (FWHM=4.7 MeV *21*).
2015Ko05: deduced energy of the $i_{13/2}$ neutron single-particle energy as 2669 keV *70* in the ^{132}Sn core potential.
Charge radius, hyperfine structure, isotope shifts measured by LASER spectroscopy: 2002Le30, 2005Le34.
Additional information 1.
Theoretical nuclear structure calculations for ^{132}Sn: consult Nuclear Science References (NSR) database at www.nndc.bnl.gov/nsr/ for about 430 articles.

^{132}Sn Levels

Cross Reference (XREF) Flags

A	^{132}In β^- decay (0.200 s)	D	^{248}Cm SF decay
B	^{132}Sn IT decay (2.080 μs)	E	Coulomb excitation
C	^{133}In β^-n decay (165 ms)		

E(level)‡	Jπ#	$T_{1/2}$†	XREF	Comments
0.0	0^+	39.7 s *8*	ABCDE	%β^-=100 The rms charge radius ($<r^2>)^{1/2}$: 4.7093 fm *76* (2013An02 evaluation). See also 2009An12 for trends in nuclear radii. Measured isotope shift=1.140 GHz *6* (relative to ^{120}Sn, 2005Le34). Measured $\delta<r^2>$(^{120}Sn,^{132}Sn)=0.534 fm^2 *69* (2005Le34). Deduced charge radius=4.709 fm *7* (2005Le34). Jπ: hyperfine structure measurement (2005Le34) shows only one peak consistent with J=0. $T_{1/2}$: weighted average of 38.0 s *8* (1975Ba36), 41.0 s *15* (1974Gr29), 41.1 s *13* (1972Iz01,1978Iz03), 40 s *1* (1972Ke20), 39.0 s *10* (1972Na10), 40.6 s *8* (1972Nu04). Others: ≈47 s (1974Fo06), 1970Li14, 60 s *10* (1966St25), 50 s *10* (1963Gr13), 2.2 min (1956Pa20). 2011Jo08, 2010Jo03: deduced doubly closed shell nature of ^{132}Sn in ^{2}H(^{132}Sn,p)^{133}Sn,E=630 MeV experiment.
4041.20& *15*	2^+	2.4 fs *+9−5*	AB DE	B(E2)↑=0.11 *3* Jπ: γ to 0^+; level is Coulomb excited from 0^+ g.s. $T_{1/2}$: from B(E2) value. Other: <0.4 ns (from ^{132}Sn IT decay). B(E2)↑: preliminary result from Coulomb excitation (2005Va31,2005Ra09,2004Be56,2004Ra27).
4351.94 *14*	(3^-)	<5.0 ps	A D	Jπ: (E1) γ to 2^+, γ to 0^+; systematics.
4416.29& *14*	(4^+)	3.95 ns *13*	AB D	Jπ: (E2) γ to 2^+; γ to (3^-).
4715.91& *17*	(6^+)	20.1 ns *5*	AB D	Jπ: (E2) γ to (4^+); log *ft*=6.1 from (7^-).
4830.97a *17*	(4^-)	26.0 ps *5*	A D	Jπ: (M1) γ to (3^-); γ to (4^+).
4848.52& *20*	(8^+)	2.080 μs *17*	AB D	%IT=100 Jπ: (E2) γ to (6^+); log *ft*=5.7 from (7^-). $T_{1/2}$: from γ(t) in IT decay; weighted average of 2.15 μs *16* (2017Ch51, (132γ+299γ+374γ)(t) in ^{235}U(n,F),E=thermal); 2.088 μs *17* (2012Ka36) and

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{132}Sn Levels (continued)

E(level)‡	Jπ#	$T_{1/2}$†	XREF	Comments
				2.03 μs *4* (1994Fo14). Other: 1.7 μs *2* (1982Ka25). 2017Ch51 measured isomeric ratios as a function of kinetic energy of ^{132}Sn fragments in ^{235}U(n,F),E=thermal using Lohengrin spectrometer at Grenoble.
4885.21& *19*	(5+)	<40.0 ps	A D	Jπ: γ's to (4+) and (6+); log $f^{1u}t$=9.4 from (7−).
4919.00& *20*	(7+)	62.0 ps *7*	A D	Jπ: (M1) γ to (6+); γ to (8+); log *ft*=6.5 from (7−).
4942.53[a] *16*	(5−)	17.0 ps *5*	A D	Jπ: (E1) γ to (4+); γ's to (3−) and (6+).
5279.5& *11*	(9+)		D	Jπ: γ to (8+).
5387.89 *20*	(4−)		A	Jπ: configuration=$\nu(g_{7/2}s^{-1}_{1/2})$; γ from (6−), γ to (3−).
5399.22@ *21*	(6+)		A	Jπ: γ to (6+); log *ft*=6.3 from (7−).
5478.98@ *23*	(8+)		A	Jπ: γ to (8+); log *ft*=6.2 from (7−).
5629.26@ *19*	(7+)	13.0 ps *5*	A	Jπ: γ's to (6+) and (8+); log *ft*=5.6 from (7−).
6173.20 *20*	(5,6,7)		A	Jπ: γ to (6+); γ from (6−).
6235.9 *3*	(6,7,8+)		A	Jπ: γ to (6+); log *ft*=7.0 from (7−).
6598.5 *3*	(6,7−)		A	Jπ: log *ft*=6.0 from (7−); γ to (5−).
6630.3 *3*	(6,7,8+)		A	Jπ: γ to (6+), log *ft*=6.3 from (7−).
6709.04 *21*	(6,7−)		A	Jπ: γ to (5−), log *ft*=6.1 from (7−).
6896.0 *3*	(6,7,8)		A	Jπ: γ to (7+); log *ft*=7.0 from (7−).
7211.14 *17*	(6−)		A	Jπ: log *ft*=4.6 from (7−); γ's to (5+) and (7+); configuration=$\nu(f_{7/2}g^{-1}_{7/2})$.
7244.06 *20*	(7−)		A	Jπ: γ's to (6+) and (8+); log *ft*=5.6 from (7−).
≈7550?			A	Possibly decays by neutrons.

† From βγγ(t) (1994Fo14) in ^{132}In β−, unless otherwise stated.

‡ From least-squares fit to Eγ data, assuming 0.2 keV uncertainty for Eγ quoted to nearest tenth of a keV and 1 keV for others. See ^{132}In β− data set for explanation.

In addition to arguments given under comments, probable shell-model configurations proposed by 1994Fo14 are used to restrict J^π choices.

@ Member of configuration=$\nu(g_{7/2}g^{-1}_{9/2})$.

& Member of configuration=$\nu(f_{7/2}h^{-1}_{11/2})$.

[a] Possible member of configuration=$\nu(f_{7/2}d^{-1}_{3/2})$.

γ(^{132}Sn)

For transition strengths, uncertainty for gamma-ray branching ratio has been assumed to be 10%, when not stated for levels which deexcite by multiple transitions.

E_i(level)	J^π_i	E_γ†	I_γ‡	E_f	J^π_f	Mult.	α#	Comments
4041.20	2+	4041.1	100	0.0	0+			B(E2)(W.u.)=5.5 *15*
4351.94	(3−)	310.7	11.0	4041.20	2+	(E1)		B(E1)(W.u.)>0.00017
		4351.9	100	0.0	0+	[E3]		B(E3)(W.u.)>7.1
4416.29	(4+)	64.4	1.3	4351.94	(3−)	[E1]	0.625	B(E1)(W.u.)=2.66×10^{-6} *32*
		375.1	100 *3*	4041.20	2+	(E2)	0.01739	B(E2)(W.u.)=0.400 *24*
		4416.2	17 *3*	0.0	0+	[E4]		B(E4)(W.u.)=8.0 *15*
4715.91	(6+)	299.6	100	4416.29	(4+)	(E2)	0.0356	B(E2)(W.u.)=0.292 *9*
4830.97	(4−)	414.6	2.1	4416.29	(4+)	[E1]		B(E1)(W.u.)=2.90×10^{-6} *29*
		479.1	100	4351.94	(3−)	(M1)		B(M1)(W.u.)=0.0075 *8*
4848.52	(8+)	132.5	100	4715.91	(6+)	(E2)	0.589	B(E2)(W.u.)=0.104 *2* α(K)=0.456 *7*; α(L)=0.1071 *15*; α(M)=0.0217 *3* α(N)=0.00387 *6*; α(O)=0.000198 *3*

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

γ(^{132}Sn) (continued)

E_i(level)	J_i^π	E_γ †	I_γ ‡	E_f	J_f^π	Mult.	α #	Comments
4885.21	(5$^+$)	169.0	20	4715.91	(6$^+$)			
		469.1	100	4416.29	(4$^+$)			
4919.00	(7$^+$)	70.4	2.7	4848.52	(8$^+$)	[M1]	1.534	B(M1)(W.u.)=0.0239 *26* α(K)=1.324 *19*; α(L)=0.1698 *24*; α(M)=0.0333 *5* α(N)=0.00626 *9*; α(O)=0.000540 *8*
		88.9@		4830.97	(4$^-$)	[E3]		
		203.1	100	4715.91	(6$^+$)	(M1)	0.0797	B(M1)(W.u.)=0.0369 *37* α(K)=0.0690 *10*; α(L)=0.00865 *13*; α(M)=0.001695 *24* α(N)=0.000319 *5*; α(O)=2.78×10^{-5} *4*
4942.53	(5$^-$)	111.5	9.1	4830.97	(4$^-$)	[M1]	0.414	B(M1)(W.u.)=0.069 *8* α(K)=0.357 *5*; α(L)=0.0455 *7*; α(M)=0.00893 *13* α(N)=0.001679 *24*; α(O)=0.0001453 *21*
		226.7	2.8	4715.91	(6$^+$)	[E1]	0.0182	B(E1)(W.u.)=2.93×10^{-5} *32*
		526.2	100	4416.29	(4$^+$)	(E1)		B(E1)(W.u.)=8.4×10^{-5} *9*
		590.6	6.6	4351.94	(3$^-$)	[E2]		B(E2)(W.u.)=0.61 *7*
5279.5	(9$^+$)	431	100	4848.52	(8$^+$)			E_γ: from ^{248}Cm SF decay.
5387.89	(4$^-$)	1035.8	100	4351.94	(3$^-$)			
5399.22	(6$^+$)	683.3	100	4715.91	(6$^+$)			
5478.98	(8$^+$)	630.5	100	4848.52	(8$^+$)			
5629.26	(7$^+$)	230.0	7.1	5399.22	(6$^+$)			
		710.3	23	4919.00	(7$^+$)			
		780.8	29	4848.52	(8$^+$)			
		913.3	100	4715.91	(6$^+$)			
6173.20	(5,6,7)	774.0	20	5399.22	(6$^+$)			
		1457.5	100	4715.91	(6$^+$)			
6235.9	(6,7,8$^+$)	1520.0	100	4715.91	(6$^+$)			
6598.5	(6,7$^-$)	1656.0	100	4942.53	(5$^-$)			
6630.3	(6,7,8$^+$)	1914.4	100	4715.91	(6$^+$)			
6709.04	(6,7$^-$)	1766.5	100	4942.53	(5$^-$)			
6896.0	(6,7,8)	1977.0	100	4919.00	(7$^+$)			
7211.14	(6$^-$)	502.1	2.9	6709.04	(6,7$^-$)			
		1038.2	3.6	6173.20	(5,6,7)			
		1581.9	3.1	5629.26	(7$^+$)			
		1823.1	3.1	5387.89	(4$^-$)			
		2268.6	67	4942.53	(5$^-$)			
		2292.0	3.1	4919.00	(7$^+$)			
		2325.8	1.9	4885.21	(5$^+$)			
		2380.2	100	4830.97	(4$^-$)			
7244.06	(7$^-$)	1765.1	88	5478.98	(8$^+$)			
		2301.5	79	4942.53	(5$^-$)			
		2395.4	100	4848.52	(8$^+$)			
		2528.2	75	4715.91	(6$^+$)			

† From ^{132}In β^- decay, unless otherwise stated.

‡ Relative photon branching from each level deduced from ^{132}In β^- decay. The uncertainties are expected to be from 5-15%.

Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

@ Placement of transition in the level scheme is uncertain.

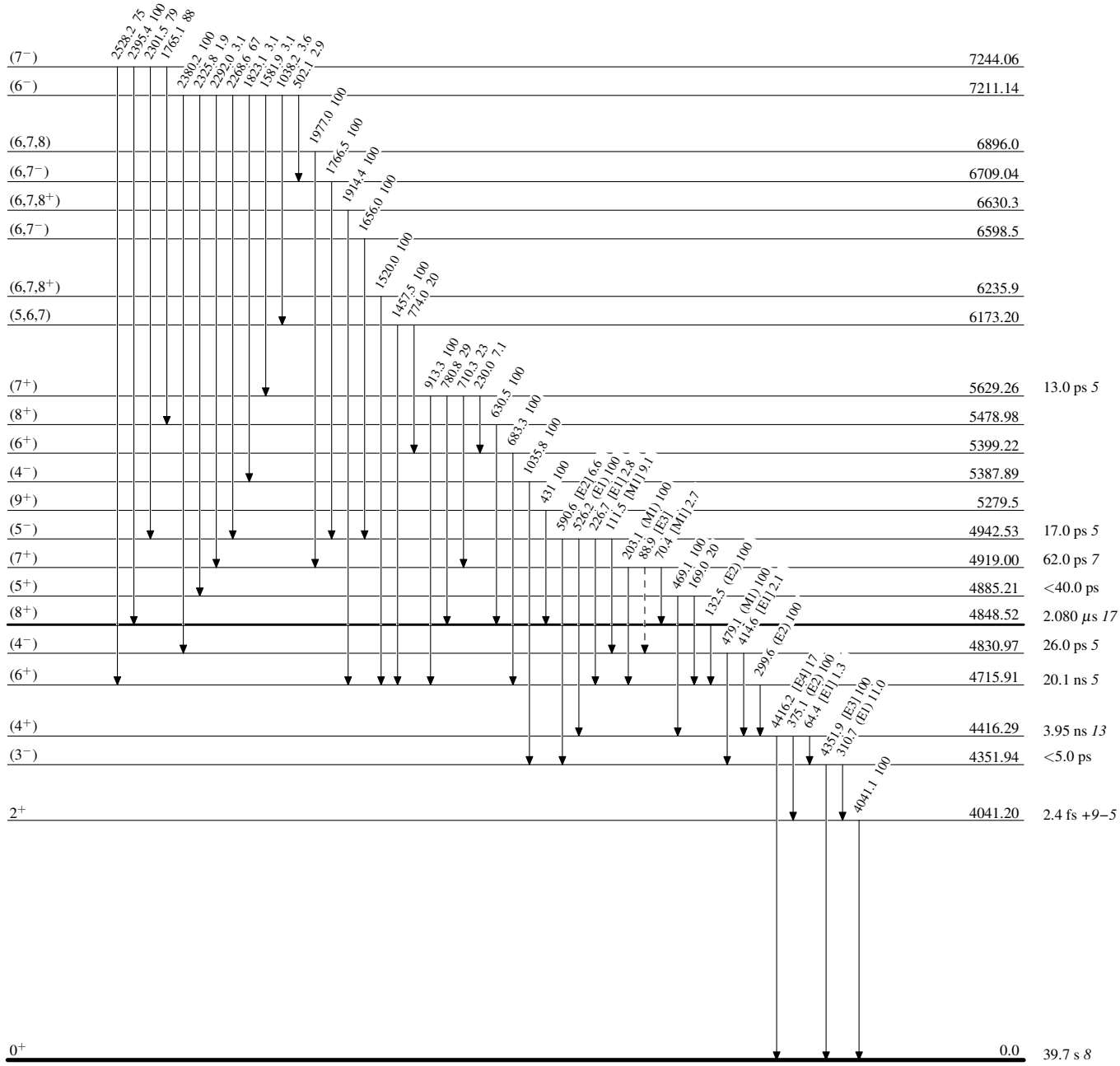
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{132}_{50}Sn_{82}$