Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	D. M. Symochko, E. Browne, J. K. Tuli	NDS 110,2945 (2009)	1-Dec-2008

Q(β^-)=−591 *8*; S(n)=6483.5 *6*; S(p)=10126 *8*; Q(α)=−4405.6 *10* 2012Wa38
Note: Current evaluation has used the following Q record −591 8 *6483.6 6* 10126 8 −4405 2 2009AuZZ.
Q(α)=−6240 *80* (2003Au03).
Additional information 1.
Other reactions:
^{120}Sn(d,^{3}Heπ^-): 2004Su04, 2003Su24, 2003Su35, 2003SuZY, 2003GiZZ, 2002SuZX.

^{119}Sn Levels

Cross Reference (XREF) Flags

A	^{119}In β^- decay (2.4 min)	G	^{118}Sn(d,p)	M	^{120}Sn(p,d)
B	^{119}In β^- decay (18.0 min)	H	^{118}Sn(d,pγ)	N	^{120}Sn(d,t),(pol d,t)
C	^{119}Sn IT decay	I	S(n)(^{80}Se,^{80}Se′x$n\gamma$)	O	^{120}Sn(^{3}He,α)
D	^{119}Sb ε decay	J	^{119}Sn(p,p′)	P	^{120}Sn(p,d),(^{3}He,α) IAS
E	^{116}Cd(α,nγ)	K	^{119}Sn(α,α′),(d,d′)	Q	^{118}Sn(t,d)
F	^{118}Sn(n,γ) E=resonance	L	Coulomb excitation		

E(level)†	J$^\pi$	$T_{1/2}$	XREF	Comments
0	1/2$^+$	stable	ABCDEFGHIJKLMNO Q	μ=−1.04728 *7* J$^\pi$: from NMR (1976Fu06); L(d,p),(^{3}He,α)=0. μ: NMR (2005St24); value relative to μ=+2.2176556 *6* ^{23}Na(g.s.).
23.871 *8*	3/2$^+$	18.03 ns *7*	ABCDEFGHI LMNO Q	μ=+0.633 *3*; Q=−0.112 *7* XREF: N(30). μ: Moss (1973Cr01, 2005St24). Value relative to μ=−1.04728 *7* for ^{119}Sn(g.s.). Other: +0.682 *3* (Moss (2005St24)). Q: Moss (2006Ma35). Other values: 0.094 *4* (Time dependent perturbed angular distributions, 1975Di02, 2005St24); −0.065 *5* (Moss, 1972Mi02, 2005St24); −0.061 *3* (Moss, 1987Gr28, 2005St24); −0.109 *8* (Moss, 1983Ha50, 2005St24). Other: 0.121 *1* (1997Sv03), 0.094 *11* (. $T_{1/2}$: from 1980La03. Others: 17.87 ns *11* and 18.48 ns *30* (1976Ab01), 18.29 ns *9* (1975Ro14), 18.45 ns *20* (1971Dr04), 17.75 ns *12* (1971Be04), and 18.5 ns *10* (1957Ol05). All data are from IT decay. Note that the weighted av of these values gives $T_{1/2}$=18.06 ns *8*, but that of 1980La03 is somewhat more precise. See 1977Do07, 1976Ha66, 1983Ma81 for physical and chemical effects. J$^\pi$: L(d,p),(^{3}He,α)=2; M1 γ to 1/2$^+$.
89.531 *13*	11/2$^-$	293.1 d *7*	A C EFGHI MNO Q	Isomer shift Δ′ r/r=0.00087 *25* (1984Mu28). %IT=100 μ=−1.40 *8*; Q=0.21 *2* XREF: N(80). J$^\pi$: L(d,p),(^{3}He,α)=5; M4 γ to 3/2$^+$. μ: Moss (2005St24). Q: Value relative to Q=+0.094 *4* for ^{119}Sn (23.87 level) (1975Di02,2005St24). $T_{1/2}$: from 1988GeZS. Others: 293.0 d *13* (1976Ma63), 245 d *20* (1950Ne52). All data are from IT decay.
787.01 *4*	7/2$^+$	0.19 ns *7*	A EFGH J MNO	J$^\pi$: L(d,p)=4, analyzing-power analysis in (pol d,t). $T_{1/2}$: $\beta\gamma$(t) in ^{119}In β^- decay (2.4 min).

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Adopted Levels, Gammas (continued)

^{119}Sn Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$	XREF	Comments
920.51[&] *14*	3/2+	1.6 ps *5*	B EfgH jkLmno	XREF: k(900). Jπ: γ(θ) for a composite 921γ from the 920.5 and 921.4 levels, and $T_{1/2}$ from Doppler shift measurement for these levels are mutually consistent with $J^{\pi}(920.5)=3/2^+$, and $J^{\pi}(921.4)=5/2^+$, not with $J^{\pi}(921.4)=3/2^+$ and $J^{\pi}(920.5)=5/2^+$, or with $J^{\pi}=3/2^+$ or $5/2^+$ for both states. $T_{1/2}$: Doppler-broadening in Coul. ex. E(level): from (p,p′).
921.39[&] *15*	5/2+	1.2 ps *4*	B EfgH jkLmno	XREF: k(900). Jπ: see 920.48 level. $T_{1/2}$: Doppler-broadening in Coul. ex.
1060 *10*	(+)		JK	Jπ: π=(+) from σ(60°)/σ(40°) in (d,d′). E(level): from (p,p′).
1062.4 *10*	7/2−		EFGH	Jπ: L(d,p)=3, γ to 11/2−.
1089.44 *6*	5/2+	0.21 ps *7*	B FGH J LMNO	Jπ: L(d,p),(^{3}He,α)=2; analyzing-power analysis in (pol d,t). $T_{1/2}$: Doppler-broadening in Coul. ex.
1187.73 *6*	3/2+,5/2+		B EFGH L	B(E2)<0.0006 from Coul. ex. Jπ: L(d,p)=2.
1210			K	E(level): multiplet in (α,α′).
1249.71 *5*	1/2+		B FGH J MNO	XREF: N(1240). Jπ: L(d,p)=0.
1304.40 *10*	≥7/2		A EFGH J O	Jπ: γ to 11/2−; but inconsistent with L=(2) assigned in (d,p); an L=3 or L=4 admixture cannot be ruled out from authors′ drawing.
1309 *4*			G	
1309.3 *9*	(15/2−)		I	Jπ: systematics of 15/2− states in $^{117-123}$Sn isotopes.
1354.8 *5*	5/2+	0.42 ps *14*	B FGH JKLMNO	XREF: K(1340)N(1360). Jπ: L(d,p),(^{3}He,α)=2; E2 γ to 1/2+. $T_{1/2}$: Doppler-broadening in Coul. ex. E(level): doublet in (p,p′).
1378.8 *9*	(13/2−)		I	Jπ: γ to 11/2−; from analogious to decay of the 19/2+ state in ^{117}Sn.
1390 *10*			J O	E(level): doublet or broad peak in (p,p′). ≈1385 in (^{3}He,α), reported as peak populated with probably L>2.
1510			K	
1554.4 *5*	3/2+,5/2+[‡]		FG O	
1562 *10*	3/2+,5/2+[‡]		MN	E(level): from (p,d).
1571.8 *6*	1/2,3/2,5/2+		F L	B(E2)<0.002 from Coul. ex. Jπ: γ to 1/2+.
1590			K	
1617.1 *8*	(1/2+,3/2,5/2)		F	Jπ: primary γ from (1/2) res, γ to 5/2+.
1633 *4*	3/2+,5/2+[‡]		G MNO	XREF: N(1640). E(level): weighted av of 1631 *4* (d,p), 1645 *10* (p,d), and 1635 *8* (^{3}He,α).
1718.4 *15*	3/2+,5/2+[‡]		FG o	XREF: o(1725).
1731 *6*	3/2+,5/2+[‡]		JK MNo	XREF: J(1740)o(1725). E(level): weighted av of 1740 *10* (p,p′), 1730 *10* (p,d), and 1725 *8* (^{3}He,α).
1774.8 *3*	3/2+,5/2+		F	Jπ: primary γ from 1/2+ res, γ to 7/2+.
1789.7 *20*	1/2,3/2,5/2+		F	Jπ: primary γ from 1/2+ res.
1810 *8*			O	
1905 *5*	3/2+,5/2+[‡]		G JK	
1929.6 *20*	1/2,3/2,5/2+		F o	XREF: o(1935).

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Adopted Levels, Gammas (continued)

^{119}Sn Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$	XREF	Comments
				Jπ: γ to 1/2+.
1938.9 *5*	1/2+,3/2,5/2+		F m o	XREF: m(1945)o(1935). Jπ: γ's to 1/2+ and 5/2+. E(level): possible multiplet in (p,d).
1950 *10*			J m	XREF: m(1945). E(level): from (p,p′).
1983.0 *20*			F	
2003.1 *10*	1/2,3/2,5/2		F	Jπ: primary γ from 3/2− res, γ to 3/2+.
2041.0 *25*	1/2,3/2,5/2+		F	Jπ: γ to 1/2+.
2075 *8*			J O	E(level): from (^{3}He,α); doublet in (p,p′).
2100 *15*			J	E(level): doublet.
2120 *6*			G	
2127.0 *10*	(19/2+)	9.6 μs *12*	I	Jπ: γ's to 13/2− and 15/2−; from systematics of the 19/2+ state in $^{117-123}$Sn. $T_{1/2}$: off-beam γγ(t) in (^{80}Se,^{80}Se′).
2130.2 *20*	1/2+		FG j M	XREF: G(2120)j(2140)M(2120). Jπ: L(d,p)=0. E(level): doublet in (p,p′).
2155 *8*			j O	XREF: j(2140). E(level): doublet in (p,p′).
2180 *15*	(5/2−,7/2−)[@]		J	E(level): doublet in (p,p′).
2230 *15*	3/2+,5/2+[‡]		J M	XREF: M(2210).
2240			K	
2258 *6*	3/2+,5/2+[‡]		G	
2280 *15*	(5/2−,7/2−)[@]		J	
2322 *6*	3/2+,5/2+[‡]		G j M	XREF: j(2340).
2350 *8*			j O	XREF: j(2340).
2367 *6*	3/2+,5/2+[‡]		G	
2390 *15*	5/2−,7/2−		JK	XREF: K(2360). Jπ: L(α,α′)=3.
2400	9/2−,11/2−		M	Jπ: L(p,d)=5.
2415.3 *14*	(19/2−)		I	Jπ: γ to 15/2−; from analogous decay of the 19/2− states in $^{113-123}$Sn.
2470			M	
2535 *8*			m O	XREF: m(2540).
2549 *7*	5/2−,7/2−[#]		G JK m	XREF: J(2560)m(2540).
2636 *7*	(5/2−,7/2−)[#]		G O	
2640	3/2+,5/2+[‡]		M	
2700	1/2−,3/2−[‡]		K m	XREF: m(2710).
2723 *7*	1/2−,3/2−[‡]		G m	XREF: m(2710). E(level): possible doublet in (d,p).
2760 *8*			G JK O	XREF: G(2771)O(2770). E(level): possible doublet in (d,p).
2813 *7*			G O	
2823 *7*			G	
2840	1/2−,3/2−[‡]		M	
2845.8 *20*	3/2+,5/2+[‡]		FG	
2881.2 *20*	3/2+,5/2+[‡]		FG k m O	XREF: k(2890)m(2890)O(2870).
2905.1 *20*	3/2+,5/2+[‡]		G k mN	XREF: k(2890)m(2890)N(2890).
2928.3 *17*	(23/2−)		I	Jπ: from energy calculation of $h_{11/2}$ seniority scheme.
2939 *8*	3/2+,5/2+[‡]		G	

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Adopted Levels, Gammas (continued)

^{119}Sn Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$	XREF	Comments
2940			K	
2965 *8*			G	
3011.9 *15*	3/2+,5/2+[‡]		F M O	
3046.9 *22*	≤5/2		F k	XREF: k(3060). Jπ: γ from (1/2) res.
3071 *8*	3/2+,5/2+[‡]		G k	XREF: k(3060).
3093 *8*	5/2−,7/2−[#]		G	
3103.3 *20*	(27/2−)	34 ns *10*	I	Jπ: E2 γ to 23/2−; from energy calculation of $h_{11/2}$ seniority scheme. $T_{1/2}$: from γγ(t) in (^{80}Se,^{80}Se′).
3120 *8*			K O	XREF: K(3130).
3158 *8*	5/2−,7/2−[#]		G	
3191 *8*			G O	
3279 *9*	3/2+,5/2+[‡]		G	
3300 *8*			O	
3366 *9*			G O	XREF: O(3355).
3375 *9*	(3/2+,5/2,7/2−)		G	Jπ: L(d,p)=(2,3).
3389 *9*			G	
3405 *8*			O	
3442 *9*	1/2−,3/2−[‡]		G	
3481 *9*	1/2−,3/2−[‡]		G O	
3527 *9*	1/2−,3/2−[‡]		G	
3566 *9*	1/2−,3/2−[‡]		G	
3595 *9*	(1/2−,3/2−,5/2−)		G O	Jπ: L(d,p)=(1,3).
3618 *9*	1/2−,3/2−[‡]		G	
3656 *10*	1/2−,3/2−[‡]		G	
3675? *10*			G	
3690? *10*			G	
3730 *10*			G O	
3770? *10*			G	
3807 *10*	1/2−,3/2−[‡]		G	
3843 *10*	1/2−,3/2−[‡]		G	
3880? *10*	7/2+,9/2+[#]		G O	XREF: O(3890).
3891 *10*	(1/2−,3/2−)[‡]		G	
3905? *10*			G	
3921 *10*	5/2−,7/2−[#]		G	
3955 *10*	(1/2−,3/2−)[‡]		G	
3980 *8*	7/2+,9/2+[#]		O	
3987 *10*			G	
4031 *10*			G	
4050 *8*	7/2+,9/2+[#]		O	
4062 *11*	1/2−,3/2−[‡]		G	
4115 *11*			G	
4138 *11*			G	
4191 *11*			G	
4210 *11*	7/2+,9/2+[#]		G O	
4235 *11*	5/2−,7/2−[#]		G	
4261 *11*	5/2−,7/2−[#]		G	
4301 *11*	(1/2−,3/2−)[‡]		G	

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Adopted Levels, Gammas (continued)

^{119}Sn Levels (continued)

E(level)†	Jπ	XREF	Comments
4350 *11*		G	
4380 *11*	1/2⁻,3/2⁻‡	G	
4418 *11*		G	
4435 *12*		G	
4451 *12*		G	
4470 *8*	7/2⁺,9/2⁺#	O	
4521 *12*		G	
4552 *12*	(5/2⁻,7/2⁻)#	G	
4610 *12*	(1/2⁻,3/2⁻)‡	G	
4663 *12*		G O	
4688 *12*		G	
4758 *12*		G	
4800 *8*		O	
4900 *8*		O	
4950 *8*		O	
5050 *8*	7/2⁺,9/2⁺#	O	
5120 *8*	7/2⁺,9/2⁺#	O	
5200 *8*	7/2⁺,9/2⁺#	O	
5330 *8*	7/2⁺,9/2⁺#	NO	XREF: N(5350).
5480 *8*	7/2⁺,9/2⁺#	M O	XREF: M(5500).
5600 *8*		O	
5710 *8*		O	
5820 *8*	7/2⁺,9/2⁺#	NO	XREF: N(5850).
5960 *8*		O	
6020 *15*		O	
6120 *15*		O	
6300 *15*		O	
6360 *15*		O	
6460 *15*		O	
7500		N	
9500		N	
10500		N	
12750		N	
≈12900		K	
14995[a] *50*	9/2⁺	P	
15329[a] *50*	1/2⁻	P	
15622[a] *50*	3/2⁻	P	
15750		N	
16100[a] *30*		P	
16470[a] *30*	9/2⁺	P	
20250		N	

† From a least-squares fit by the evaluators to the adopted E(γ's) for levels connected by γ's. Others are from ^{118}Sn(d,p), ^{119}Sn(^{80}Se,^{80}Se′), ^{119}Sn(p,p′), ^{119}Sn(α,α′),(d,d′), and ^{120}Sn(^{3}He,α).

‡ From L in (d,p) and/or (p,d).

From L in (d,p) and/or (^{3}He,α).

@ From enhanced cross section in (p,p′). The enhancement suggests the presence of a level with J^{π}=5/2⁻,7/2⁻.

& Doublet resolved from Coul. ex.

a IAS.

Adopted Levels, Gammas (continued)

$\gamma(^{119}Sn)$

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[#]	δ	α[†]	Comments
23.871	$3/2^+$	23.870 *8*	100	0	$1/2^+$	M1+E2	<0.003	5.06 *8*	α(L)=4.10 *6*; α(M)=0.804 *12*; α(N+..)=0.1637 *23* α(N)=0.1508 *22*; α(O)=0.01292 *19* B(M1)(W.u.)=0.015; B(E2)(W.u.)<0.70 E_γ: weighted av of 23.875 *11* in IT decay and 23.867 *10* in β^- decay (2.4 min). Mult.,δ: from ^{119}Sn IT decay (1968Bo09).
89.531	$11/2^-$	65.66 *1*	100	23.871	$3/2^+$	M4		5.00×10^3	α(K)=1618 *23*; α(L)=2.64×10^3 *4*; α(M)=630 *9*; α(N+..)=116.9 *17* α(N)=113.4 *16*; α(O)=3.47 *5* B(M4)(W.u.)=5.20 *8* Mult.: from IT decay.
787.01	$7/2^+$	697.47 *5*	0.49 *4*	89.531	$11/2^-$	[M2]		0.01001	B(M2)(W.u.)=0.20 *8* α(K)=0.00864 *12*; α(L)=0.001108 *16*; α(M)=0.000218 *3*; α(N+..)=4.46×10^{-5} *7* α(N)=4.10×10^{-5} *6*; α(O)=3.57×10^{-6} *5*
		763.14 *4*	100	23.871	$3/2^+$	E2		0.00241 *4*	B(E2)(W.u.)=0.33 *13* α(K)=0.00209 *3*; α(L)=0.000264 *4*; α(M)=5.17×10^{-5} *8*; α(N+..)=1.048×10^{-5} *15* α(N)=9.68×10^{-6} *14*; α(O)=8.06×10^{-7} *12*
920.51	$3/2^+$	896.6 *2* 920.5 *2*	35 *23* 100 *36*	23.871 0	$3/2^+$ $1/2^+$	E2+M1	−10 *+2−5*	0.001554 *22*	α(K)=0.001347 *19*; α(L)=0.0001668 *24*; α(M)=3.26×10^{-5} *5*; α(N+..)=6.63×10^{-6} α(N)=6.12×10^{-6} *9*; α(O)=5.18×10^{-7} *8* B(M1)(W.u.)=0.00013 *9*; B(E2)(W.u.)=11 *7* δ: from $\gamma(\theta)$ in Coul. ex.
921.39	$5/2^+$	897.5 *2*	100 *30*	23.871	$3/2^+$	E2(+M1)		0.00182 *18*	B(E2)(W.u.)=17 *6* α(K)=0.00158 *16*; α(L)=0.000192 *16*; α(M)=3.8×10^{-5} *3*; α(N+..)=7.7×10^{-6} *7* α(N)=7.1×10^{-6} *6*; α(O)=6.1×10^{-7} *7*
		921.4 *2*	34 *13*	0	$1/2^+$	E2		0.001547 *22*	α(K)=0.001342 *19*; α(L)=0.0001661 *24*; α(M)=3.25×10^{-5} *5*; α(N+..)=6.61×10^{-6} α(N)=6.09×10^{-6} *9*; α(O)=5.16×10^{-7} *8* B(E2)(W.u.)=5 *3*
1062.4	$7/2^-$	972.9 *10*	100	89.531	$11/2^-$	E2,M1		0.00151 *15*	α(K)=0.00132 *14*; α(L)=0.000160 *14*; α(M)=3.1×10^{-5} *3*; α(N+..)=6.4×10^{-6} *6* α(N)=5.9×10^{-6} *5*; α(O)=5.1×10^{-7} *6*
1089.44	$5/2^+$	1065.55 *6*	100.0 *4*	23.871	$3/2^+$	M1+E2	+0.26 *3*	0.001340 *19*	E_γ: from (n,γ). B(M1)(W.u.)=0.08 *3*; B(E2)(W.u.)=3.4 *14* α(K)=0.001168 *17*; α(L)=0.0001393 *20*;

$^{119}_{50}Sn_{69}$-6

Adopted Levels, Gammas (continued)

γ(^{119}Sn) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[#]	δ	α[†]	Comments
									α(M)=2.72×10^{-5} *4*; α(N+..)=5.57×10^{-6} α(N)=5.12×10^{-6} *8*; α(O)=4.52×10^{-7} *7* I_γ: from Coul. ex. δ: from the compilation of 1977Kr13 based on values from +0.26 *3* or <−15 in Coul. ex.
1089.44	5/2$^+$	1089.9 *3*	6.3 *4*	0	1/2$^+$	[E2]		0.001066 *15*	B(E2)(W.u.)=3.0 *11* α(K)=0.000926 *13*; α(L)=0.0001129 *16*; α(M)=2.20×10^{-5} *3*; α(N+..)=4.50×10^{-6} α(N)=4.14×10^{-6} *6*; α(O)=3.55×10^{-7} *5* I_γ: from Coul. ex.; other: 20 *5* (^{119}In β^- decay (18.0 min)).
1187.73	3/2$^+$,5/2$^+$	1163.85 *6*	100 *12*	23.871	3/2$^+$	M1		0.001117 *16*	α(K)=0.000972 *14*; α(L)=0.0001155 *17*; α(M)=2.25×10^{-5} *4*; α(N+..)=7.46×10^{-6} α(N)=4.25×10^{-6} *6*; α(O)=3.75×10^{-7} *6*; α(IPF)=2.84×10^{-6} *4*
		1187.79 *20*	19 *7*	0	1/2$^+$				
1249.71	1/2$^+$	1225.7 *3*	28 *7*	23.871	3/2$^+$				I_γ: other: 49 in (n,γ).
		1249.71 *5*	100 *9*	0	1/2$^+$				
1304.40	≥7/2	1214.86 *10*	100	89.531	11/2$^-$				
1309.3	(15/2$^-$)	1220 *1*	100	89.531	11/2$^-$				
1354.8	5/2$^+$	434.2 *20*	≈8	920.51	3/2$^+$	[M1]		0.01121 *21*	B(M1)(W.u.)≈0.04 α(K)=0.00974 *18*; α(L)=0.001192 *22*; α(M)=0.000233 *5*; α(N+..)=4.78×10^{-5} *9* α(N)=4.39×10^{-5} *8*; α(O)=3.85×10^{-6} *7* E_γ: from (n,γ).
		1331.0 *5*	100	23.871	3/2$^+$	E2+M1	−0.31 *3*	0.000847 *12*	B(M1)(W.u.)=0.014 *5*; B(E2)(W.u.)=0.58 *22* α(K)=0.000715 *11*; α(L)=8.49×10^{-5} *12*; α(M)=1.654×10^{-5} *24*; α(N+..)=3.04×10^{-5} α(N)=3.12×10^{-6} *5*; α(O)=2.75×10^{-7} *4*; α(IPF)=2.70×10^{-5} *4* δ: from the compilation of 1977Kr13 based on values from −0.31 *3* or −1.45 *15* in Coul. ex. E_γ: from (n,γ).
		1354.9 *10*	32 *2*	0	1/2$^+$	[E2]		0.000713 *10*	B(E2)(W.u.)=1.9 *7* α(K)=0.000590 *9*; α(L)=7.07×10^{-5} *10*; α(M)=1.379×10^{-5} *20*; α(N+..)=3.86×10^{-5} *6* α(N)=2.59×10^{-6} *4*; α(O)=2.25×10^{-7} *4*; α(IPF)=3.58×10^{-5} *6* E_γ: from (n,γ).
1378.8	(13/2$^-$)	1289 *1*	100	89.531	11/2$^-$				
1554.4	3/2$^+$,5/2$^+$	465.2 *15*	18	1089.44	5/2$^+$				
		632.9 *15*	18	920.51	3/2$^+$				

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Adopted Levels, Gammas (continued)

γ(^{119}Sn) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[#]	α[†]	Comments
1554.4	3/2$^+$,5/2$^+$	767.4 *5*	100	787.01	7/2$^+$			
		1554.5 *15*	43	0	1/2$^+$			
1571.8	1/2,3/2,5/2$^+$	323.0 *20*	41	1249.71	1/2$^+$			
		650.6 *10*	71	920.51	3/2$^+$			
		1547.7 *10*	100	23.871	3/2$^+$			
		1572.4 *10*	32	0	1/2$^+$			
1617.1	(1/2$^+$,3/2,5/2)	430.6 *20*	19	1187.73	3/2$^+$,5/2$^+$			
		695.6 *15*	19	920.51	3/2$^+$			
		1593.4 *10*	100	23.871	3/2$^+$			
1718.4	3/2$^+$,5/2$^+$	1694.5 *15*		23.871	3/2$^+$			
1774.8	3/2$^+$,5/2$^+$	420.9 *20*	9	1354.8	5/2$^+$			
		855.6 *15*	54	920.51	3/2$^+$			
		987.7 *3*	54	787.01	7/2$^+$			
		1750.4 *20*	100	23.871	3/2$^+$			
1789.7	1/2,3/2,5/2$^+$	1765.8 *20*		23.871	3/2$^+$			
1929.6	1/2,3/2,5/2$^+$	1929.6 *20*		0	1/2$^+$			
1938.9	1/2$^+$,3/2,5/2$^+$	849.4 *5*	100	1089.44	5/2$^+$			
		1915.7 *20*	70	23.871	3/2$^+$			
		1939.4 *20*	100	0	1/2$^+$			
1983.0		1959.1 *20*		23.871	3/2$^+$			
2003.1	1/2,3/2,5/2	1082.6 *10*		920.51	3/2$^+$			
2041.0	1/2,3/2,5/2$^+$	2041.0 *25*		0	1/2$^+$			
2127.0	(19/2$^+$)	748 *1*		1378.8	(13/2$^-$)			
		818 *1*		1309.3	(15/2$^-$)			
2130.2	1/2$^+$	2130.2 *20*		0	1/2$^+$			
2415.3	(19/2$^-$)	1106 *1*	100	1309.3	(15/2$^-$)			
2845.8	3/2$^+$,5/2$^+$	2845.8 *20*	100	0	1/2$^+$			
2881.2	3/2$^+$,5/2$^+$	2881.2 *20*	100	0	1/2$^+$			
2928.3	(23/2$^-$)	513 *1*	100	2415.3	(19/2$^-$)			
3011.9	3/2$^+$,5/2$^+$	2988.9 *20*	100	23.871	3/2$^+$			
		3010.9 *20*	79	0	1/2$^+$			
3046.9	≤5/2	1429.8 *20*	100	1617.1	(1/2$^+$,3/2,5/2)			
3103.3	(27/2$^-$)	175 *1*	100	2928.3	(23/2$^-$)	[E2]	0.221 *6*	α(K)=0.178 *5*; α(L)=0.0347 *10*; α(M)=0.00696 *19*; α(N+..)=0.00133 *4* α(N)=0.00126 *4*; α(O)=7.34×10^{-5} *19* B(E2)(W.u.)=2.4 *7*

[†] Additional information 2.
[‡] From β^- decay (2.4 min), except as noted.
[#] From (α,nγ), except as noted.

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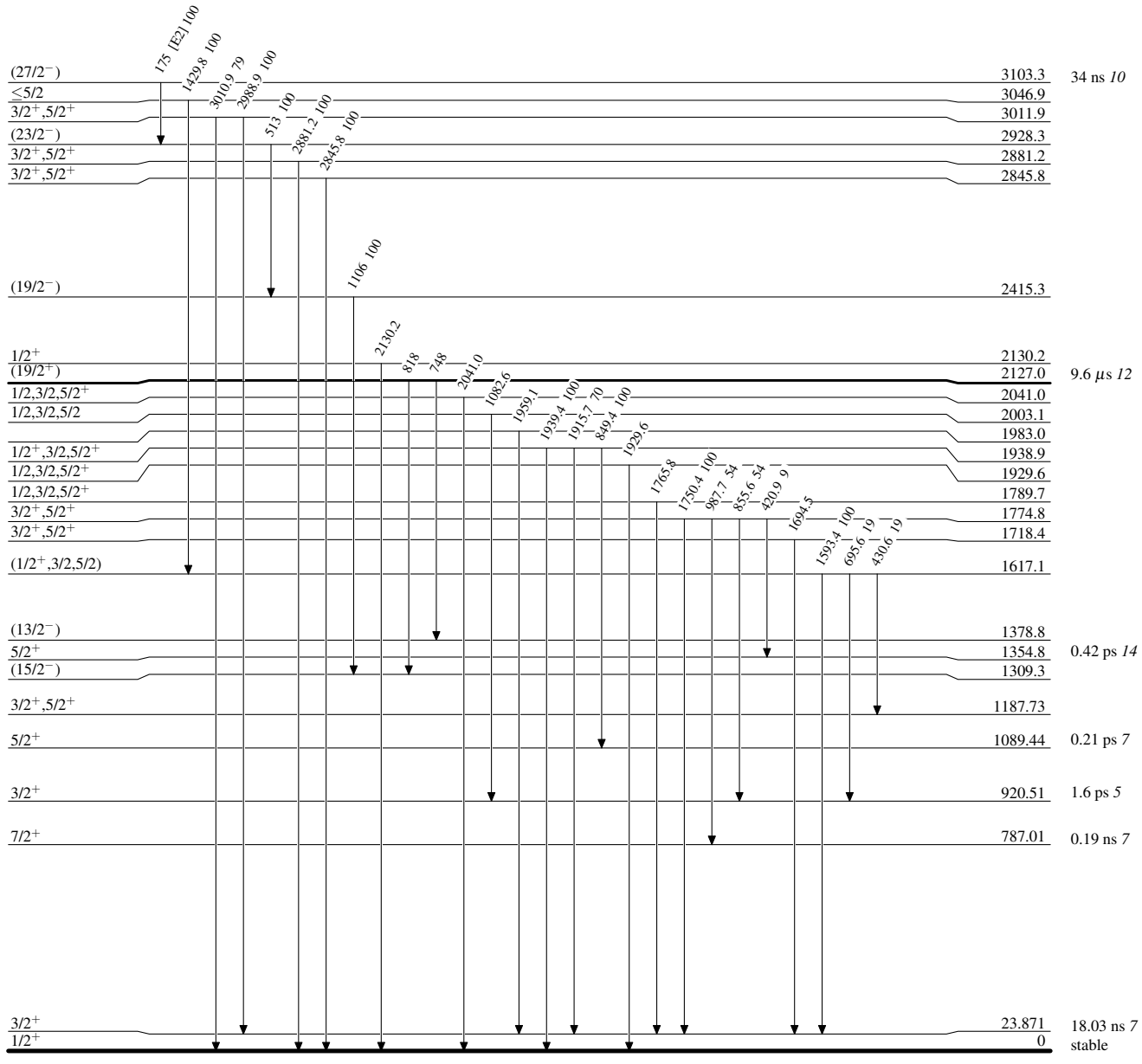
Adopted Levels, Gammas

Level Scheme

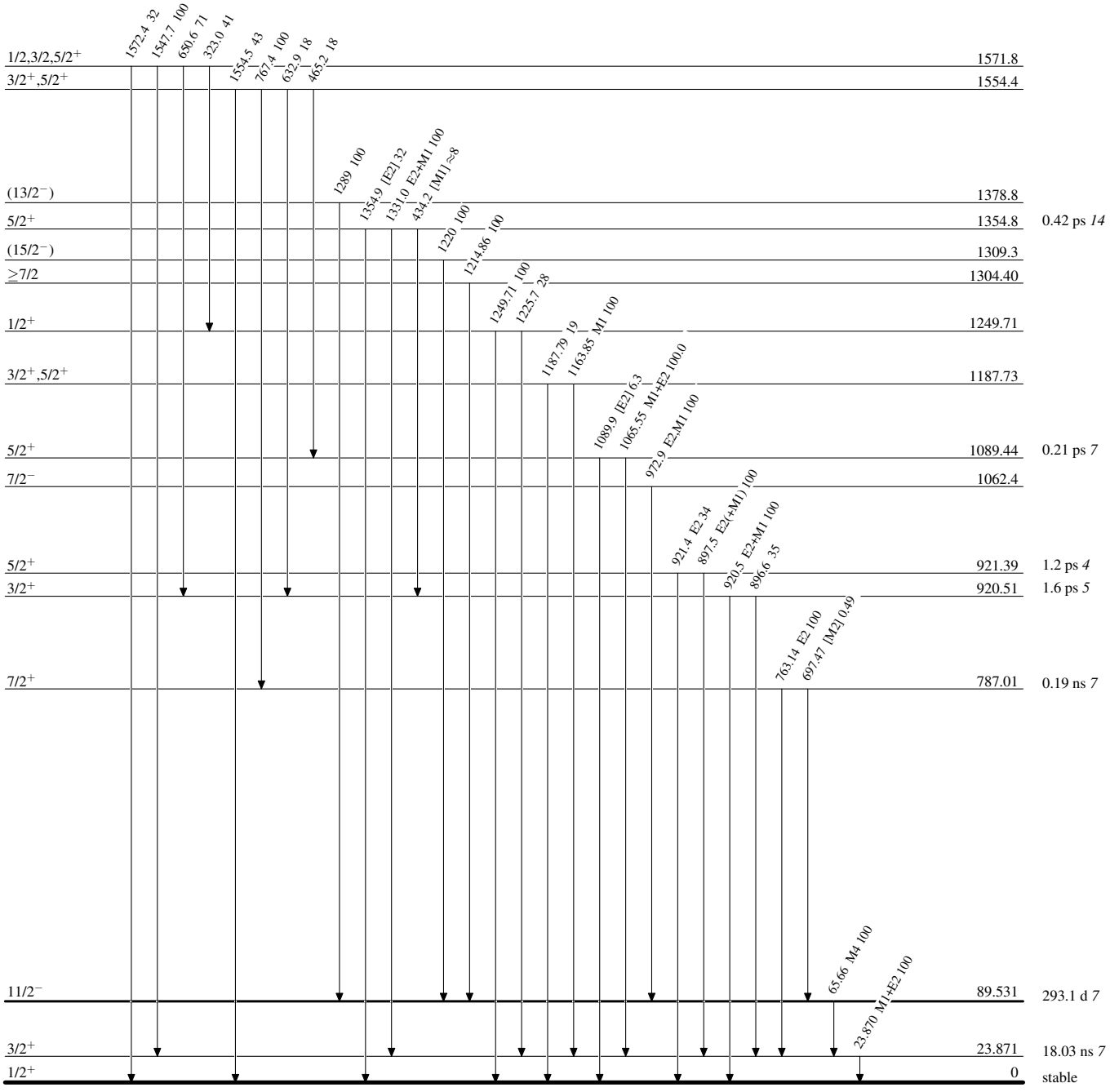
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



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