Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 109,1383 (2008)	1-Mar-2008

Q(β^-)=−7859 *7*; S(n)=9230 *8*; S(p)=5193 *14*; Q(α)=−285 *6* 2012Wa38
Note: Current evaluation has used the following Q record −7920 SY9220 90 *5.26×10*^{3} *9* −350 *90* 2003Au03.

^{107}Sn Levels

Cross Reference (XREF) Flags

A ^{106}Cd(^{3}He,2nγ)
B (HI,xnγ)
C ^{107}Sb ε decay

E(level)†	J$^\pi$‡	T$_{1/2}$	XREF	Comments
0.0&	(5/2$^+$)	2.90 min *5*	ABC	%ε+%β^+=100 T$_{1/2}$: 2.90 min *5* (1976Hs01) 1129γ decay curve. Others: 1.3 min *3* (1972Ri16), 2.93 min *3* (1976VaYY), 3.0 min *2* (1976BuZF). J$^\pi$: empirical syst presented by 1974Ho17 suggest 5/2$^+$ or 7/2$^+$ ^{107}Sn decay feeds the 3/2$^+$ and 5/2$^+$ in ^{107}In, so 7/2$^+$ is ruled out.
151.2# *3*	(7/2$^+$)		ABC	g$_{7/2}$ state. J$^\pi$: M1 γ to (5/2$^+$).
703.72 *24*	(3/2$^+$)		C	d$^3_{5/2}$ state.
818.02 *24*	(5/2$^+$)		C	g$^3_{7/2}$ state.
970.42 *24*	(3/2$^+$,5/2$^+$)			
1221.8& *5*	(9/2$^+$)		AB	J$^\pi$: E2 γ to (7/2$^+$).
1280.1 *3*	(3/2,5/2,7/2)$^+$		C	d$_{3/2}$ state.
1349.1# *5*	(11/2$^+$)		AB	J$^\pi$: stretched Q to (7/2$^+$).
1370.6 *6*	(9/2$^+$)		A	J$^\pi$: γ to (7/2$^+$).
1453.9 *3*	(3/2$^+$)		C	
1619.5? *3*			C	
1666.8@ *6*	(11/2$^-$)	28 ps *11*	AB	T$_{1/2}$: from 1993Is06. J$^\pi$: 1984Au12 suggest (11/2$^-$) from systematic trends.
1798.8 *5*	(13/2$^+$)		A	J$^\pi$: γ to (9/2$^+$).
1942.4& *5*	(13/2$^+$)		AB	J$^\pi$: γ to (11/2$^+$).
2010.4 *5*	(13/2$^+$)		B	J$^\pi$: M1 γ to (11/2$^+$).
2045.5? *3*			C	
2066.2& *5*	(15/2$^+$)		AB	J$^\pi$: stretched E2 to (11/2$^+$).
2143.8# *5*	(15/2$^+$)		AB	
2207.7# *5*	(17/2$^+$)	0.25 ns *4*	B	T$_{1/2}$: The preliminary result of 1992OgZW was T$_{1/2}$=0.3 ns *1*.
2730.8@ *7*	(15/2$^-$)		B	
2802.8 *7*			A	
3098.5& *6*	(19/2$^+$)		B	
3460.2# *6*	(21/2$^+$)		B	
3617.2@ *8*	(19/2$^-$)		B	
3826.0a *6*	(21/2$^-$)		B	
4208.5 *7*	(23/2$^+$)		B	
4260.9a *6*	(23/2$^-$)		B	
4553.0# *7*	(25/2$^+$)		B	
4631.0@ *10*	(23/2$^-$)		B	
4979.1 *8*	(25/2$^-$)		B	

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Adopted Levels, Gammas (continued)

^{107}Sn Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	$T_{1/2}$	XREF
5196.0[a] *6*	(27/2$^-$)	13 ps *4*	B
6044.7[a] *8*	(31/2$^-$)		B

† Level energy from least-squares adjustment.
‡ The J^{π}'s are based on systematics with supporting arguments given in comments and for levels from (HI,xnγ) on γ multipolarities.
# Band(A): Positive-parity band on the g7/2 neutron orbit.
@ Band(B): Negative-parity band with L=2 character built on the h11/2 neutron orbit.
& Band(C): positive-parity band.
a Band(D): negative-parity band.

$\gamma(^{107}Sn)$

E_i(level)	J_i^{π}	E_{γ}	I_{γ}	E_f	J_f^{π}	Mult.
151.2	(7/2$^+$)	151.4 *3*	100	0.0	(5/2$^+$)	(M1)
703.72	(3/2$^+$)	552.7 *3*	9 *3*	151.2	(7/2$^+$)	
		703.5 *3*	100 *6*	0.0	(5/2$^+$)	
818.02	(5/2$^+$)	666.6 *3*	100 *5*	151.2	(7/2$^+$)	
		818.2 *3*	54 *3*	0.0	(5/2$^+$)	
970.42	(3/2$^+$,5/2$^+$)	819.4 *3*	20 *5*	151.2	(7/2$^+$)	
		970.2 *3*	100 *5*	0.0	(5/2$^+$)	
1221.8	(9/2$^+$)	1221.1 *5*	100	0.0	(5/2$^+$)	E2
1280.1	(3/2,5/2,7/2)$^+$	1280.1 *3*	100	0.0	(5/2$^+$)	
1349.1	(11/2$^+$)	1198.6 *5*	100	151.2	(7/2$^+$)	E2
1370.6	(9/2$^+$)	1219.4 *5*	100	151.2	(7/2$^+$)	
1453.9	(3/2$^+$)	1453.9 *3*	100	0.0	(5/2$^+$)	
1619.5?		1619.5 *3*	100	0.0	(5/2$^+$)	
1666.8	(11/2$^-$)	445.0 *4*	100	1221.8	(9/2$^+$)	E1
1942.4	(13/2$^+$)	594.1 *8*	11 *5*	1349.1	(11/2$^+$)	
		720.0 *5*	100 *20*	1221.8	(9/2$^+$)	E2
2010.4	(13/2$^+$)	661.4 *6*	100	1349.1	(11/2$^+$)	(M1)
2045.5?		2045.5 *3*	100	0.0	(5/2$^+$)	
2066.2	(15/2$^+$)	55.8 *2*	18 *6*	2010.4	(13/2$^+$)	(M1)
		123.7 *3*	74 *24*	1942.4	(13/2$^+$)	(M1)
		717.2 *2*	100 *15*	1349.1	(11/2$^+$)	E2
2143.8	(15/2$^+$)	794.7 *2*	100	1349.1	(11/2$^+$)	E2
2207.7	(17/2$^+$)	63.9 *2*	47 *13*	2143.8	(15/2$^+$)	(M1)
		141.5 *2*	100 *10*	2066.2	(15/2$^+$)	(M1)
2730.8	(15/2$^-$)	1064.0 *3*	100	1666.8	(11/2$^-$)	E2
2802.8		659.0 *4*	100	2143.8	(15/2$^+$)	
3098.5	(19/2$^+$)	1032.3 *2*	100	2066.2	(15/2$^+$)	E2
3460.2	(21/2$^+$)	1252.4 *2*	100	2207.7	(17/2$^+$)	E2
3617.2	(19/2$^-$)	886.4 *4*	100	2730.8	(15/2$^-$)	(E2)
3826.0	(21/2$^-$)	727.5 *2*	100	3098.5	(19/2$^+$)	E1
4208.5	(23/2$^+$)	382.5 *4*	100	3826.0	(21/2$^-$)	E1
4260.9	(23/2$^-$)	435.1 *6*	13 *2*	3826.0	(21/2$^-$)	
		800.7 *2*	100 *12*	3460.2	(21/2$^+$)	E1
4553.0	(25/2$^+$)	1092.7 *4*	100	3460.2	(21/2$^+$)	(E2)
4631.0	(23/2$^-$)	1013.8 *5*	100	3617.2	(19/2$^-$)	(E2)
4979.1	(25/2$^-$)	1153.1 *6*	100	3826.0	(21/2$^-$)	(E2)
5196.0	(27/2$^-$)	642.8 *5*	34 *11*	4553.0	(25/2$^+$)	(E1)

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Adopted Levels, Gammas (continued)

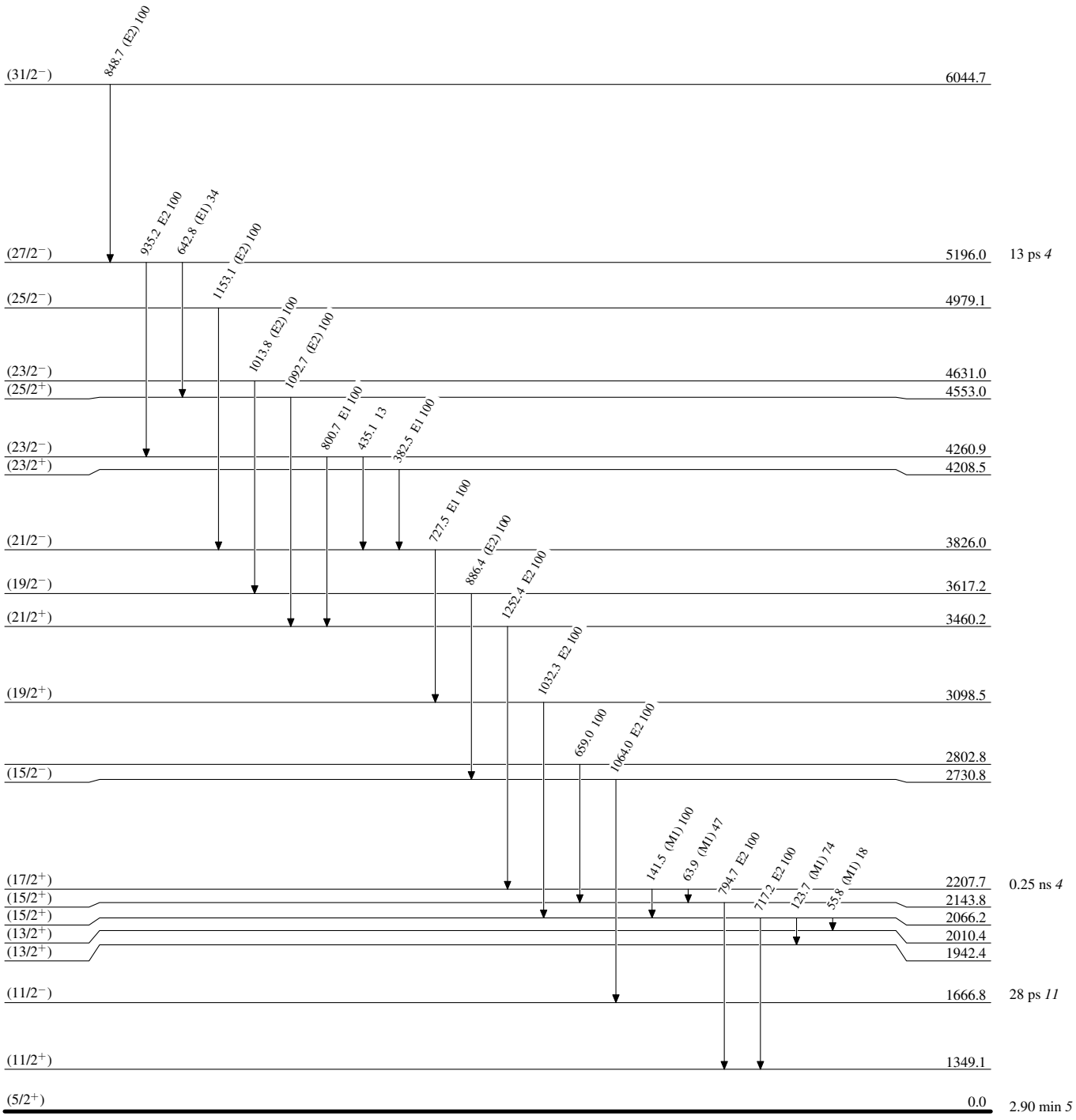
$\gamma(^{107}Sn)$ (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.
5196.0	(27/2$^-$)	935.2 *2*	100 *30*	4260.9	(23/2$^-$)	E2
6044.7	(31/2$^-$)	848.7 *5*	100	5196.0	(27/2$^-$)	(E2)

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

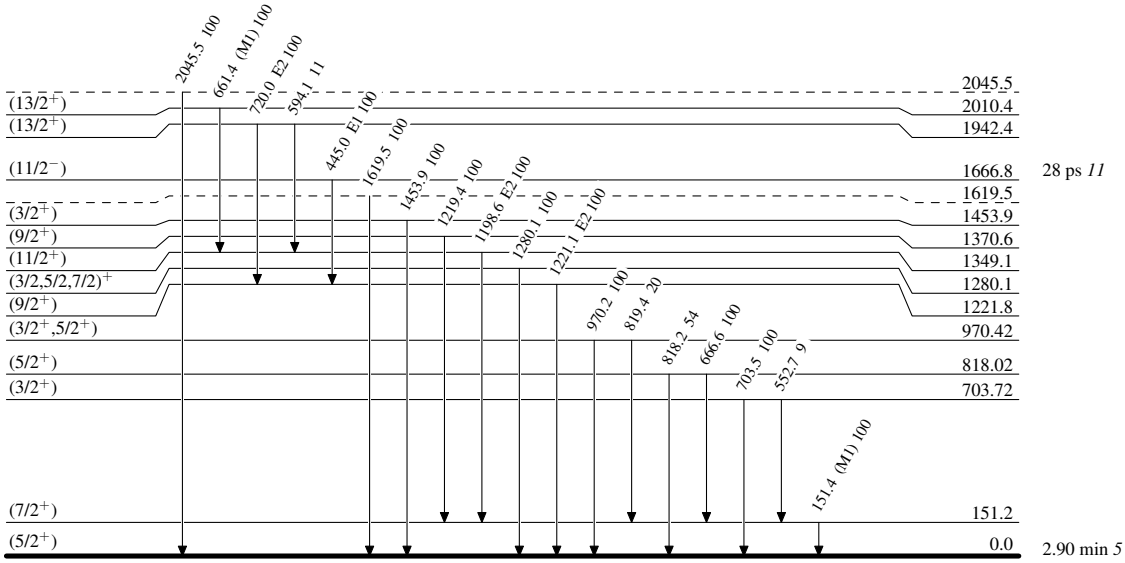


$^{107}_{50}Sn_{57}$

Adopted Levels, Gammas

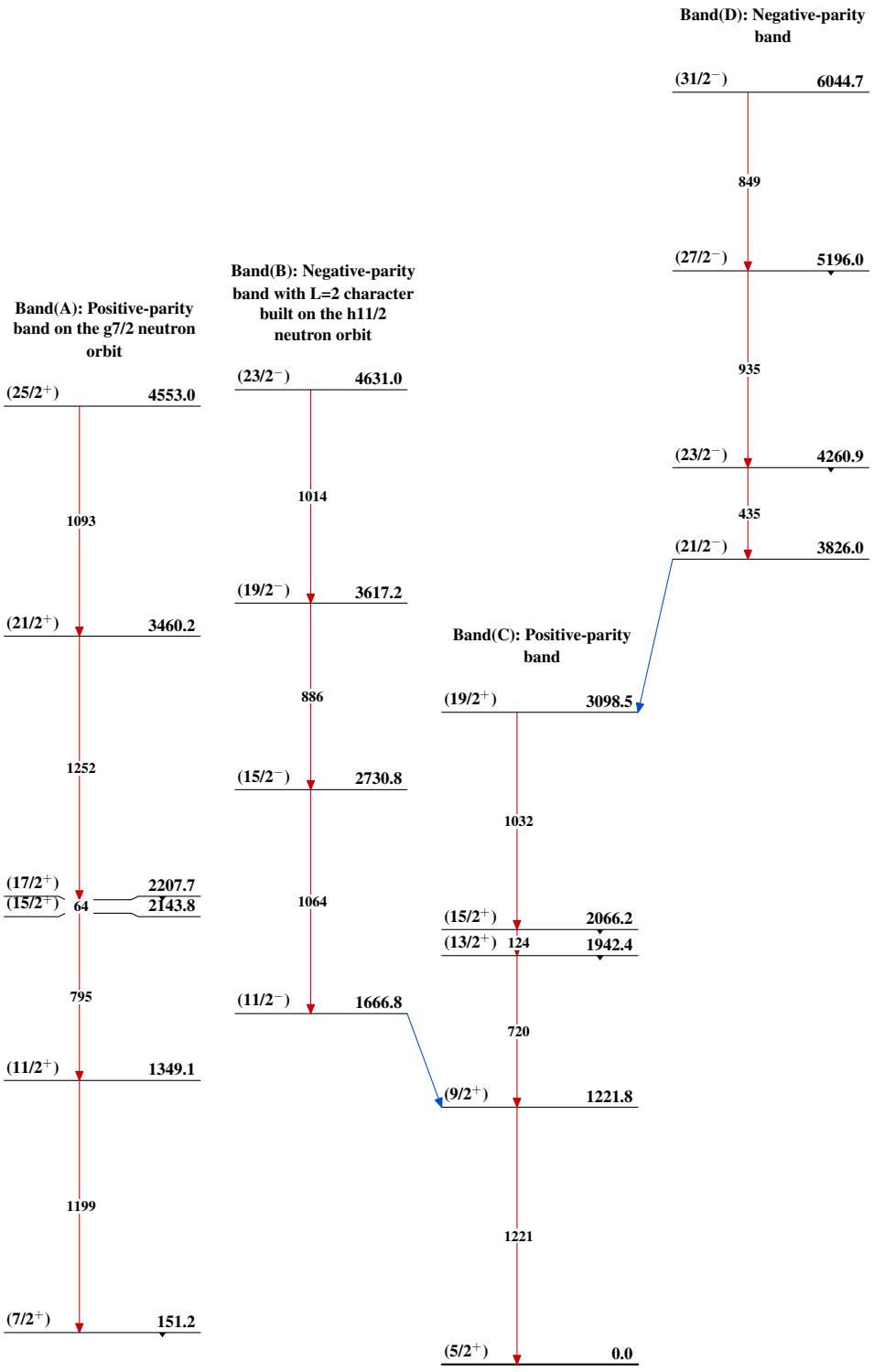
Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{107}_{50}Sn_{57}$

Adopted Levels, Gammas



$^{107}_{50}Sn_{57}$