Adopted Levels, Gammas

Type	History Author	Citation	Literature Cutoff Date
Full Evaluation	K. Abu Saleem, Z. Wu, S. Chaudhury, D, Bernard, E. Browne	ENSDF	31-Jan-2011

Q(β^-)=8515 *4*; S(n)=3169 *4*; S(p)=10435 *3*; Q(α)=−6.56×10^3 *4* 2012Wa38
Note: Current evaluation has used the following Q record.
Q(β^-)=839×10^1 *4*; S(n)=329×10^1 *5*; S(p)=1061×10^1 *5*; Q(α)=−670×10^1 *6* 2009AuZZ,2003Au03

^{134}Sb Levels

Cross Reference (XREF) Flags

A ^{134}Sn β^- decay
B ^{135}Sn β^-n decay
C ^{248}Cm SF decay

E(level)†	J$^\pi$	T$_{1/2}$	XREF	Comments
0.0	(0$^-$)	0.78 s *6*	AB	%β^-=100 J$^\pi$: Member of (π g$_{7/2}$)(ν f$_{7/2}$) multiplet, feeds mainly 0$^+$ in ^{134}Te daughter with log *ft*≈5.2, whereas (2$^+$) states are fed with log $f^{1u}t$≈9. T$_{1/2}$: weighted average of 0.85 s *10* (1972Ke21) and 0.75 s *7* (1990Fo03).
13.0 *4*	(1$^-$)‡		AB	
279 *1*	(7$^-$)	10.07 s *5*	BC	%β^-=100; %β^-n=0.088 *4* (1993Ru01) Additional information 1. E(level): From ^{135}Sn β^-n decay (2005Sh23). %β^-n from 1993Ru01. Others: 0.120% *8* (1980Lu04), 0.084% *20* (1977Ru04), 0.055% *13* (1968To19). T$_{1/2}$: from 1993Ru01. Others: 11.1 s *8* (1968De18), 11.3 s *3* (1968To19), 10.3 s *5* (1972Ke21), 10.2 s *3* (1974Gr29), 10.3 s *4* (1976Lu02), 10.43 s *14* (1977Ru04), 10.5 s *3* (1982He06). J$^\pi$: Member of (π g$_{7/2}$)(ν f$_{7/2}$) multiplet, the (7$^-$) assignment is made based on Shell Model calculations.
331.1 *3*	(2$^-$)‡	<1& ns	AB	
384.0 *4*	(3$^-$)‡		AB	
441 *1*	(5$^-$)		B	J$^\pi$: 114γ from 4$^-$, 162γ ray to JPI=7$^-$.
555.0 *5*	(4$^-$)‡		B	The 171γ depopulating this level has been seen only in ^{248}Cm SF decay, however, its placement in the level scheme is done by 2002Ko53 based on coincidence between 171.3γ and 52.8γ, 317.7γ.
617 *1*	(6$^-$)		B	J$^\pi$: γ rays to J$^\pi$=5$^-$ and 7$^-$.
885.0 *4*	(1$^-$)‡	<1& ns	AB	
935.0 *3*	(2$^-$)‡		AB	
1331.0? *5*	(2$^-$)		A	J$^\pi$: 2$^-$ assignment consistent with probable M1 γ decay to 331 and 383 levels; log *ft* value for the decay and weak population to the 3$^-$ state at 384 in both β- and γ decays.
1352 *1*	(8$^-$)#		C	Configuration=((π g$_{7/2}$)+(ν h$_{9/2}$)).
1385.0 *5*	(5$^-$)		B	J$^\pi$: γ rays to J$^\pi$=4$^-$ and J$^\pi$=6$^-$.
1900.0 *4*	(1$^-$)@		A	
2170.0 *4*	(1$^-$)@		A	
2405 *1*	(9$^+$)#		C	Configuration=((π h$_{11/2}$)+(ν f$_{7/2}$)).
2429.8 *4*	(1$^-$)@		A	
2713 *1*	(10$^+$)#		C	Configuration=((π g$_{7/2}$)+(ν i$_{13/2}$)).
3775 *50*	(1$^+$)	<1& ns	A	%n=100 (1990Fo03) Additional information 2.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{134}Sb Levels (continued)

E(level)[†]	Jπ	XREF	Comments
			Jπ: Based on strong neutron peak in ^{134}Sn β^-n decay this level is presumed to be fed by an allowed transition in ^{134}Sn β decay (1990Fo03). Proposed configuration=((π $h_{11/2}$)+(ν $h_{9/2}$)).
4373.2 *15*	(10$^-$)[#]	C	
4704.2 *16*	(11$^-$)[#]	C	
4796.2 *14*	(12$^-$)[#]	C	
4849.2 *14*	(12$^-$)[#]	C	
5045.2 *15*	(13$^-$)[#]	C	
5324 *2*	(14$^-$)[#]	C	

[†] From least-squares fit to Eγ assuming ΔE=1 keV, unless otherwise specified.
[‡] Following 2002Ko53 in ^{134}Sn β^- decay, from γγ coincidences, Iγ pattern, comparisons with Shell Model calculations.
[#] As given in 2001Fo02, from γγ coincidences, γ intensity pattern, Shell Model calculations.
[@] From log *ft* and decay of γ ray decay only to levels with Jπ=1$^-$ or Jπ=2$^-$.
[&] From ^{134}Sn β^- decay.

γ(^{134}Sb)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Comments
13.0	(1$^-$)	(13.0)	100	0.0	(0$^-$)	xref=AB
331.1	(2$^-$)	318.0[†] *5*	100[†] *1*	13.0	(1$^-$)	
		331.0[†] *5*	2.6[†] *3*	0.0	(0$^-$)	
384.0	(3$^-$)	53.0[†] *5*	100[†] *38*	331.1	(2$^-$)	
		371.0[†] *5*	64[†] *5*	13.0	(1$^-$)	
441	(5$^-$)	162.0[‡] *5*	100[‡]	279	(7$^-$)	
555.0	(4$^-$)	114.0[‡] *5*	17[‡] *6*	441	(5$^-$)	
		171.0[‡] *5*	100[‡] *11*	384.0	(3$^-$)	
617	(6$^-$)	176.0[‡] *5*	27[‡] *5*	441	(5$^-$)	
		338.0[‡] *5*	100[‡] *3*	279	(7$^-$)	
885.0	(1$^-$)	554.0[†] *5*	38[†] *1*	331.1	(2$^-$)	
		872.0[†] *5*	100[†] *1*	13.0	(1$^-$)	
		885.0[†] *5*	24.1[†] *2*	0.0	(0$^-$)	
935.0	(2$^-$)	551.0[†] *5*	113[†] *13*	384.0	(3$^-$)	
		604.0[†] *5*	48[†] *4*	331.1	(2$^-$)	
		922.0[†] *5*	100[†] *2*	13.0	(1$^-$)	
		935.0[†] *5*	3.9[†] *11*	0.0	(0$^-$)	
1331.0?	(2$^-$)	947.0[†&] *5*	100[†] *75*	384.0	(3$^-$)	E_γ: Alternatively Γ947 could be placed depopulating a 1278 keV level in ^{134}Sb. Placement from 1331 level suggested by 2005Sh23 is based upon observation of γ1000 and γ-energy sums.
		1000.0[†&] *5*	50[†] *50*	331.1	(2$^-$)	E_γ: Observed as weak peak in laser-on singles spectrum only.
1352	(8$^-$)	1072.5[#]	100[#]	279	(7$^-$)	
1385.0	(5$^-$)	768.0[‡] *5*	100[‡] *17*	617	(6$^-$)	
		830.0[‡] *5*	42[‡] *21*	555.0	(4$^-$)	
1900.0	(1$^-$)	965.0[†] *5*	45[†] *3*	935.0	(2$^-$)	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

γ(^{134}Sb) (continued)

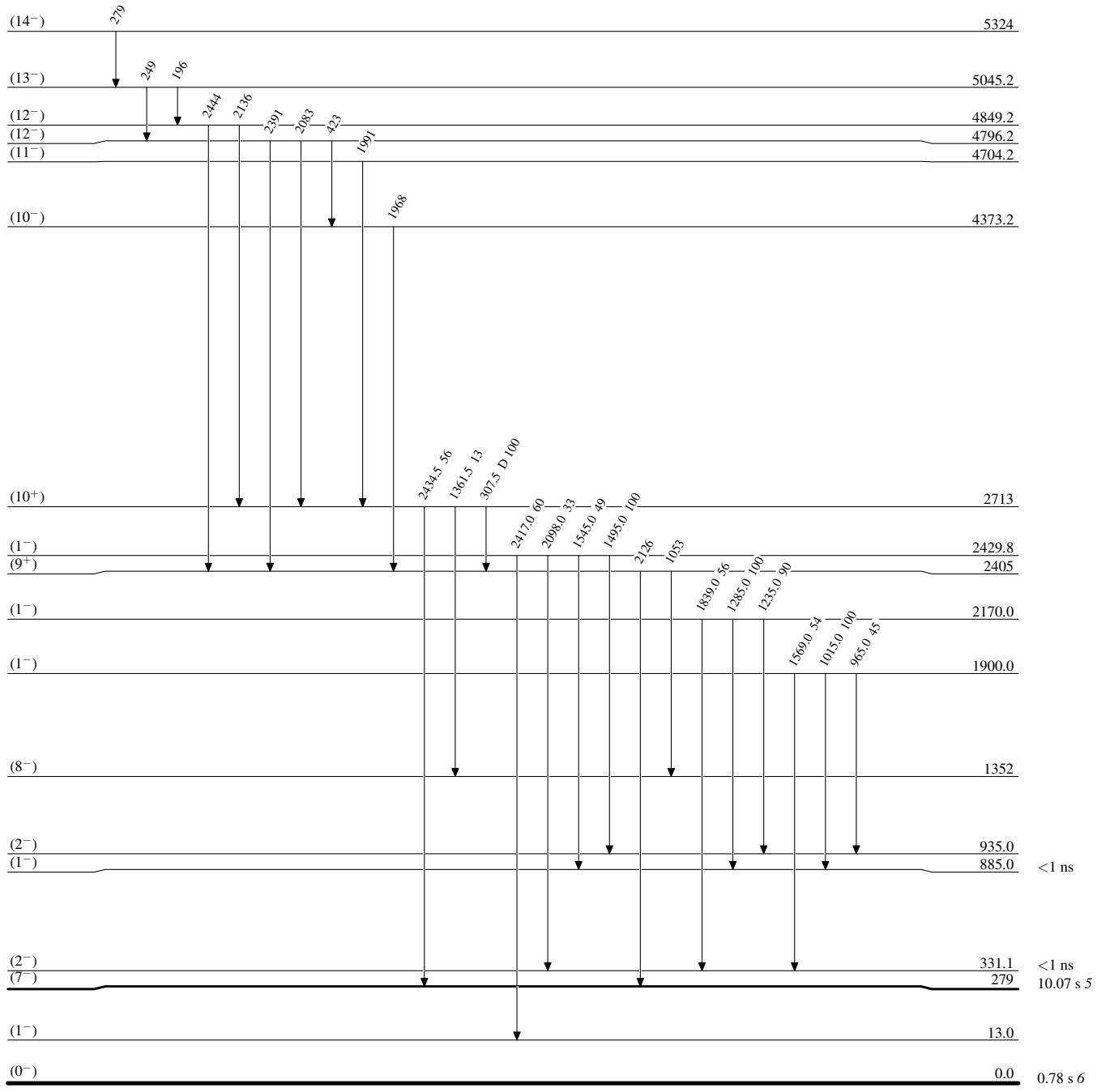
E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.
1900.0	(1⁻)	1015.0† *5*	100† *9*	885.0	(1⁻)	
		1569.0† *5*	54† *8*	331.1	(2⁻)	
2170.0	(1⁻)	1235.0† *5*	90† *9*	935.0	(2⁻)	
		1285.0† *5*	100† *22*	885.0	(1⁻)	
		1839.0† *5*	56† *22*	331.1	(2⁻)	
2405	(9⁺)	1053@		1352	(8⁻)	
		2126@		279	(7⁻)	
2429.8	(1⁻)	1495.0† *5*	100† *4*	935.0	(2⁻)	
		1545.0† *5*	49† *4*	885.0	(1⁻)	
		2098.0† *5*	33† *7*	331.1	(2⁻)	
		2417.0† *5*	60† *5*	13.0	(1⁻)	
2713	(10⁺)	307.5#	100#	2405	(9⁺)	D
		1361.5#	13# *3*	1352	(8⁻)	
		2434.5#	56# *12*	279	(7⁻)	
4373.2	(10⁻)	1968@		2405	(9⁺)	
4704.2	(11⁻)	1991@		2713	(10⁺)	
4796.2	(12⁻)	423@		4373.2	(10⁻)	
		2083@		2713	(10⁺)	
		2391@		2405	(9⁺)	
4849.2	(12⁻)	2136@		2713	(10⁺)	
		2444@		2405	(9⁺)	
5045.2	(13⁻)	196@		4849.2	(12⁻)	
		249@		4796.2	(12⁻)	
5324	(14⁻)	279@		5045.2	(13⁻)	

† From ^{134}Sn β^- decay.
‡ From ^{135}Sn β^-n decay.
# From ^{248}Cm SF decay.
@ From ^{248}Cm SF decay.
& Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level



$^{134}_{51}Sb_{83}$

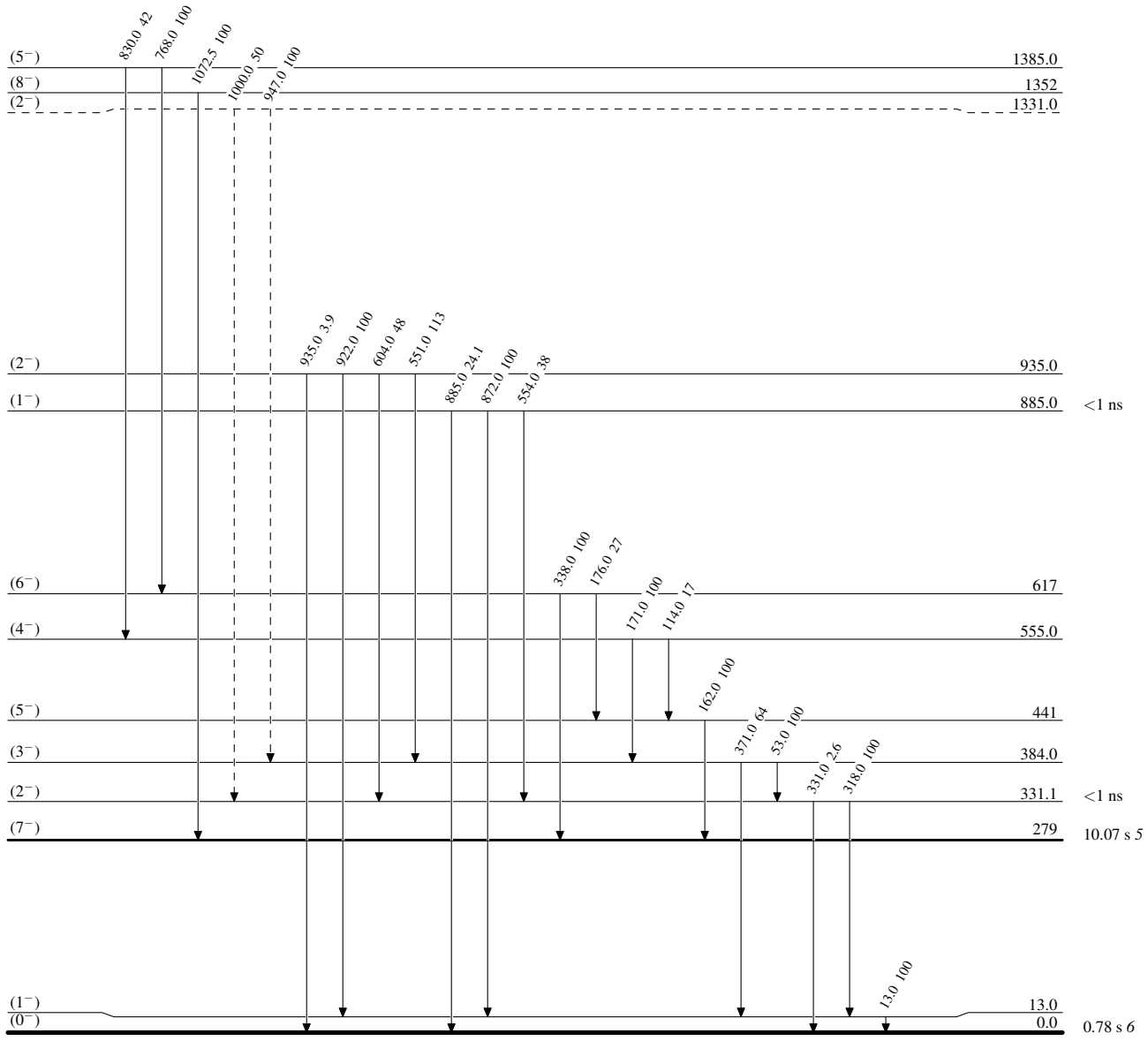
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{134}_{51}Sb_{83}$