^{133}Sn β^- decay (1.46 s) 1983Bl16,1999Sa31

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yu. Khazov and A. Rodionov, F. G. Kondev	NDS 112, 855 (2011)	31-Oct-2010

Parent: ^{133}Sn: E=0.0; $J^\pi=7/2^-$; $T_{1/2}$=1.46 s *3*; Q(β^-)=8095 *34*; %β^- decay=100.0

1999Sa31: ^{133}Sn(β^-) [from ^{235}U(n,F)]; measured Eγ, Iγ, $\gamma\gamma$-coin, $\beta\gamma\gamma$(t), $T_{1/2}$; deduced log *ft*, levels, J^π. OSIRIS-ISOL on-line mass-separator, Compton suppressed Ge detectors, plastic scintillator, BaF_2 crystal, comparison with shell-model predictions.

1983Bl16: ^{133}Sn(β^-) [from on-line mass separation]; measured Eγ, Iγ, $\gamma\gamma$-, $\beta\gamma$-coin. ^{133}Sb; deduced levels, J^π, I_β, log *ft*, γ-branching. Shell model.

The decay scheme is based mainly on $\gamma\gamma$-coincidence measurements of 1999Sa31. For an identification, ^{133}Sb γ-ray spectra were recorded as a function of time following beam collection. The 2707.8-keV, 3249.8-keV, 3449.8-keV, 4555.6-keV, and 5922.6-keV levels, introduced in 1983Bl16, were not suggested by 1999Sa31.

Others: 1973Bo42, 1978Si05, 1998Sa22.

^{133}Sb Levels

E(level)†	J^π‡	$T_{1/2}$	Comments
0.0	$7/2^+$	2.34 min *5*	$T_{1/2}$: from Adopted Levels.
962.32 *7*	$(5/2^+)$		
2439.58 *12*	$(3/2^+)$		
2791.53 *11*	$(11/2^-)$	11.4 ps *45*	$T_{1/2}$: from $\beta\gamma\gamma$(t) in 1999Sa31. Probable configuration=$(\pi\ 1h_{11/2})^{+1}$.
3822.7 *3*			
4028.77 *20*			
4183.9 *3*			
4210.0 *5*			
4215.27 *20*			
4244.7 *3*			
4290.1 *3*			
4294.24 *16*	(9/2,11/2,13/2)		configuration: Probably member of $\pi g_{7/2}\otimes 3^-$ or $\pi g_{7/2}\otimes 4^+$ multiplet (1999Sa31).
4296.17 *20*			
4307.37 *20*			
4537.07 *22*			
4572.78 *20*			
4634.7 *7*			
4650.2 *3*			
4786.0 *3*			
4801.49 *15*			
4830.2 *4*	(5/2,7/2,9/2)		
4898.2 *4*	(7/2,9/2)		
4902.39 *15*	(5/2,7/2,9/2)		
4937.3 *3*			
5001.63 *19*	(5/2,7/2,9/2)		
5039.84 *19*			
5118.77 *18*			
5124.67 *13*	(5/2,7/2)		
5149.80 *14*	(7/2,9/2)		
5167.53 *16*	(7/2,9/2)		
5191.0 *3*	(5/2,7/2,9/2)		
5276.76 *15*	(5/2,7/2,9/2)		
5302.71 *20*			
5376.12 *20*			
5413.3 *4*			
5421.5 *15*			
5483.22 *20*			
5485.21 *22*			

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^{133}Sn β^- decay (1.46 s) 1983Bl16,1999Sa31 (continued)

^{133}Sb Levels (continued)

E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	E(level)†	Jπ‡
5493.7 *5*	(5/2,7/2,9/2)	5881.49 *17*	(7/2,9/2)	6124.15 *20*	6445.3 *3*	
5560.07 *15*	(5/2,7/2,9/2)	5920.9 *5*	(7/2,9/2)	6136.3 *7*	6457.87 *20*	
5593.3 *4*		5928.6 *3*		6170.25 *20*	6498.1 *3*	
5603.53 *20*		5938.3 *3*		6200.5 *4*	6505.6 *3*	
5612.49 *14*	(7/2,9/2)	5960.24 *20*		6239.1 *14*	6515.1 *3*	
5645.35 *15*	(5/2,7/2)	5971.04 *20*		6252.1 *4*	6576.4 *6*	
5684.2 *3*		5977.7 *6*		6264.5 *5*	6705.9 *6*	
5742.5 *3*		6059.5 *3*		6286.5 *11*	6770.9 *6*	(9/2)
5750.1 *5*		6067.54 *19*	(7/2,9/2)	6314.96 *20*	6794.6 *6*	
5790.24 *20*		6074.9 *8*		6326.8 *4*	6950.9 *5*	
5835.2 *6*		6093.45 *20*		6348.96 *20*		
5841.2 *6*		6102.7 *3*		6364.4 *3*		
5848.8 *5*		6112.55 *20*		6411.7 *3*		

† From a least-squares fit to Eγ′s. 3838.46- and 3838.46-keV γ′s, depopulating the 4801.49-keV level, contribute 47% to χ^2.
‡ From Adopted Levels.

β^- radiations

E(decay)	E(level)	Iβ⁻†#	Log *ft*‡	Comments
(1.14×10^3 *4*)	6950.9	0.0038 *10*	6.27 *13*	av Eβ=407 *15*
(1.30×10^3 *4*)	6794.6	0.0019 *6*	6.79 *15*	av Eβ=473 *15*
(1.32×10^3 *4*)	6770.9	0.0032 *9*	6.59 *13*	av Eβ=483 *15*
(1.39×10^3 *4*)	6705.9	0.0018 *7*	6.92 *18*	av Eβ=511 *15*
(1.52×10^3 *4*)	6576.4	0.0028 *7*	6.88 *12*	av Eβ=568 *15*
(1.58×10^3 *4*)	6515.1	0.0067 *14*	6.57 *10*	av Eβ=595 *15*
(1.59×10^3 *4*)	6505.6	0.0108 *22*	6.37 *10*	av Eβ=599 *15*
(1.60×10^3 *4*)	6498.1	0.0082 *18*	6.50 *11*	av Eβ=602 *15*
(1.64×10^3 *4*)	6457.87	0.017 *3*	6.22 *9*	av Eβ=620 *15*
(1.65×10^3 *4*)	6445.3	0.0097 *20*	6.48 *10*	av Eβ=625 *15*
(1.68×10^3 *4*)	6411.7	0.0100 *20*	6.50 *10*	av Eβ=640 *16*
(1.73×10^3 *4*)	6364.4	0.0088 *18*	6.60 *10*	av Eβ=661 *16*
(1.75×10^3 *4*)	6348.96	0.026 *5*	6.15 *9*	av Eβ=668 *16*
(1.77×10^3 *4*)	6326.8	0.0049 *11*	6.89 *11*	av Eβ=678 *16*
(1.78×10^3 *4*)	6314.96	0.072 *13*	5.74 *9*	av Eβ=683 *16*
(1.81×10^3 *4*)	6286.5	0.013 *6*	6.51 *21*	av Eβ=696 *16*
(1.83×10^3 *4*)	6264.5	0.035 *9*	6.10 *12*	av Eβ=706 *16*
(1.84×10^3 *4*)	6252.1	0.043 *11*	6.02 *12*	av Eβ=712 *16*
(1.86×10^3 *4*)	6239.1	0.0011 *6*	7.63 *24*	av Eβ=717 *16*
(1.89×10^3 *4*)	6200.5	0.0061 *14*	6.92 *11*	av Eβ=735 *16*
(1.92×10^3 *4*)	6170.25	0.032 *6*	6.23 *9*	av Eβ=748 *16*
(1.96×10^3 *4*)	6136.3	0.0029 *9*	7.30 *14*	av Eβ=764 *16*
(1.97×10^3 *4*)	6124.15	0.056 *10*	6.02 *9*	av Eβ=769 *16*
(1.98×10^3 *4*)	6112.55	0.095 *17*	5.80 *9*	av Eβ=774 *16*
(1.99×10^3 *4*)	6102.7	0.025 *5*	6.39 *10*	av Eβ=779 *16*
(2.00×10^3 *4*)	6093.45	0.080 *15*	5.90 *9*	av Eβ=783 *16*
(2.02×10^3 *4*)	6074.9	0.0049 *13*	7.13 *12*	av Eβ=791 *16*
(2.03×10^3 *4*)	6067.54	0.055 *10*	6.08 *9*	av Eβ=795 *16*
(2.04×10^3 *4*)	6059.5	0.022 *5*	6.49 *11*	av Eβ=798 *16*
(2.12×10^3 *4*)	5977.7	0.0060 *6*	7.12 *6*	av Eβ=836 *16*
(2.12×10^3 *4*)	5971.04	0.047 *9*	6.23 *9*	av Eβ=839 *16*

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^{133}Sn β^- decay (1.46 s) 1983Bl16,1999Sa31 (continued)

β^- radiations (continued)

E(decay)	E(level)	Iβ^-[†][#]	Log ft[‡]	Comments
(2.13×10^3 *4*)	5960.24	0.022 *5*	6.57 *11*	av Eβ=844 *16*
(2.16×10^3 *4*)	5938.3	0.0120 *24*	6.85 *10*	av Eβ=854 *16*
(2.17×10^3 *4*)	5928.6	0.013 *3*	6.82 *11*	av Eβ=858 *16*
(2.17×10^3 *4*)	5920.9	0.105 *20*	5.92 *9*	av Eβ=861 *16*
(2.21×10^3 *4*)	5881.49	0.049 *9*	6.29 *9*	av Eβ=879 *16*
(2.25×10^3 *4*)	5848.8	0.0053 *13*	7.28 *11*	av Eβ=894 *16*
(2.25×10^3 *4*)	5841.2	0.0048 *15*	7.33 *14*	av Eβ=898 *16*
(2.26×10^3 *4*)	5835.2	0.0060 *16*	7.24 *12*	av Eβ=901 *16*
(2.30×10^3 *4*)	5790.24	0.016 *3*	6.84 *9*	av Eβ=921 *16*
(2.34×10^3 *4*)	5750.1	0.0052 *3*	7.36 *4*	av Eβ=940 *16*
(2.35×10^3 *4*)	5742.5	0.016 *3*	6.88 *9*	av Eβ=943 *16*
(2.41×10^3 *4*)	5684.2	0.017 *3*	6.90 *9*	av Eβ=970 *16*
(2.45×10^3 *4*)	5645.35	0.137 *24*	6.02 *8*	av Eβ=988 *16*
(2.48×10^3 *4*)	5612.49	0.7 *7*	5.3 *5*	av Eβ=1003 *16*
(2.49×10^3 *4*)	5603.53	0.059 *11*	6.42 *9*	av Eβ=1007 *16*
(2.50×10^3 *4*)	5593.3	0.0048 *15*	7.51 *14*	av Eβ=1012 *16*
(2.53×10^3 *4*)	5560.07	0.23 *4*	5.86 *8*	av Eβ=1027 *16*
(2.60×10^3 *4*)	5493.7	0.0108 *24*	7.23 *10*	av Eβ=1058 *16*
(2.61×10^3 *4*)	5485.21	0.036 *7*	6.71 *9*	av Eβ=1062 *16*
(2.61×10^3 *4*)	5483.22	0.122 *22*	6.19 *9*	av Eβ=1063 *16*
(2.67×10^3 *4*)	5421.5	0.0048 *15*	7.63 *14*	av Eβ=1091 *16*
(2.68×10^3 *4*)	5413.3	0.013 *3*	7.21 *11*	av Eβ=1095 *16*
(2.72×10^3 *4*)	5376.12	0.107 *20*	6.32 *9*	av Eβ=1112 *16*
(2.79×10^3 *4*)	5302.71	0.022 *5*	7.05 *11*	av Eβ=1146 *16*
(2.82×10^3 *4*)	5276.76	0.091 *17*	6.45 *9*	av Eβ=1158 *16*
(2.90×10^3 *4*)	5191.0	0.0101 *21*	7.46 *10*	av Eβ=1198 *16*
(2.93×10^3 *4*)	5167.53	0.031 *6*	6.99 *9*	av Eβ=1209 *16*
(2.95×10^3 *4*)	5149.80	0.52 *9*	5.77 *8*	av Eβ=1217 *16*
(2.97×10^3 *4*)	5124.67	0.136 *24*	6.37 *8*	av Eβ=1229 *16*
(2.98×10^3 *4*)	5118.77	0.042 *8*	6.89 *9*	av Eβ=1232 *16*
(3.06×10^3 *4*)	5039.84	0.022 *5*	7.21 *11*	av Eβ=1269 *16*
(3.09×10^3 *4*)	5001.63	0.025 *5*	7.18 *9*	av Eβ=1287 *16*
(3.16×10^3 *4*)	4937.3	0.0120 *24*	7.54 *9*	av Eβ=1317 *16*
(3.19×10^3 *4*)	4902.39	0.065 *12*	6.83 *9*	av Eβ=1333 *16*
(3.20×10^3 *4*)	4898.2	0.013 *3*	7.53 *11*	av Eβ=1335 *16*
(3.26×10^3 *4*)	4830.2	0.0036 *13*	8.12 *16*	av Eβ=1367 *16*
(3.29×10^3 *4*)	4801.49	0.092 *17*	6.73 *9*	av Eβ=1380 *16*
(3.31×10^3 *4*)	4786.0	0.013 *3*	7.59 *11*	av Eβ=1387 *16*
(3.44×10^3 *4*)	4650.2	0.0066 *16*	7.96 *11*	av Eβ=1451 *16*
(3.46×10^3 *4*)	4634.7	0.006 *3*	8.01 *22*	av Eβ=1458 *16*
(3.52×10^3 *4*)	4572.78	0.017 *4*	7.59 *11*	av Eβ=1488 *16*
(3.56×10^3 *4*)	4537.07	0.019 *4*	7.56 *10*	av Eβ=1504 *16*
(3.79×10^3 *4*)	4307.37	0.026 *5*	7.54 *9*	av Eβ=1612 *16*
(3.80×10^3 *4*)	4296.17	0.022 *5*	7.62 *10*	av Eβ=1618 *16*
(3.80×10^3 *4*)	4294.24	<0.002	>8.7	av Eβ=1619 *16*
(3.80×10^3 *4*)	4290.1	0.0060 *16*	8.19 *12*	av Eβ=1620 *16*
(3.85×10^3 *4*)	4244.7	0.0079 *17*	8.09 *10*	av Eβ=1642 *16*
(3.88×10^3 *4*)	4215.27	0.037 *8*	7.43 *10*	av Eβ=1656 *16*
(3.89×10^3 *4*)	4210.0	0.0048 *15*	8.32 *14*	av Eβ=1658 *16*
(3.91×10^3 *4*)	4183.9	0.015 *3*	7.84 *9*	av Eβ=1671 *16*
(4.07×10^3 *4*)	4028.77	0.018 *4*	7.83 *10*	av Eβ=1744 *16*
(4.27×10^3 *4*)	3822.7	0.0064 *15*	8.37 *11*	av Eβ=1841 *16*
(5.66×10^3 *4*)	2439.58	0.18 *3*	9.36[1u] *8*	av Eβ=2476 *17*

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^{133}Sn β^- decay (1.46 s) 1983Bl16,1999Sa31 (continued)

β^- radiations (continued)

E(decay)	E(level)	Iβ^-†#	Log ft‡	Comments
(7.13×10^3 *4*)	962.32	11.5 *21*	6.10 *8*	av Eβ=3194 *16*
(8.10×10^3 *4*)	0.0	85 *3*	5.482 *20*	av Eβ=3649 *16*

† From intensity balance.
‡ Calculated using the LOGFT code. Values slightly differ from those in 1999Sa31.
# Absolute intensity per 100 decays.

$\gamma(^{133}Sb)$

Iγ normalization: From Iγ(962.1)=12% *2* (1983Bl16).

E$_\gamma$†	I$_\gamma$†@	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.	Comments
855.6 *2*	3.6 *3*	5149.80	(7/2,9/2)	4294.24	(9/2,11/2,13/2)		
962.1 *2*	1000 *50*	962.32	(5/2$^+$)	0.0	7/2$^+$		I$_\gamma$: 12% *2* of all ^{133}Sn decays (1983Bl16).
1318.1 *2*	1.1 *1*	5612.49	(7/2,9/2)	4294.24	(9/2,11/2,13/2)		
1477.1 *2*	7.9 *5*	2439.58	(3/2$^+$)	962.32	(5/2$^+$)	[M1+E2]	Mult.: from γ branching (1998Sa22).
1502.6 *2*	4.5 *3*	4294.24	(9/2,11/2,13/2)	2791.53	(11/2$^-$)		
1829.6 *15*	0.3 *1*	2791.53	(11/2$^-$)	962.32	(5/2$^+$)	[E3]	Mult.: from γ branching (1998Sa22).
2106.7 *3*	1.1 *1*	4898.2	(7/2,9/2)	2791.53	(11/2$^-$)		
2358.3 *2*	4.6 *3*	5149.80	(7/2,9/2)	2791.53	(11/2$^-$)		
2376.0 *2*	1.2 *1*	5167.53	(7/2,9/2)	2791.53	(11/2$^-$)		
2439.5 *2*	8.9 *6*	2439.58	(3/2$^+$)	0.0	7/2$^+$	[E2]	Mult.: from γ branching (1998Sa22).
2685.0 *2*	1.4 *2*	5124.67	(5/2,7/2)	2439.58	(3/2$^+$)		
2791.3 *2*	19 *1*	2791.53	(11/2$^-$)	0.0	7/2$^+$	[M2]	Mult.: from γ branching (1998Sa22).
2821.1 *2*	3.6 *3*	5612.49	(7/2,9/2)	2791.53	(11/2$^-$)		
x3061.2 *5*	0.22 *8*						
x3073.8 *13*	0.23 *9*						
3089.8 *3*	0.7 *1*	5881.49	(7/2,9/2)	2791.53	(11/2$^-$)		
3129.9# *3*	8.3# *8*	5920.9	(7/2,9/2)	2791.53	(11/2$^-$)		
3205.4 *3*	0.8 *1*	5645.35	(5/2,7/2)	2439.58	(3/2$^+$)		
3222.0 *5*	0.32 *7*	4183.9		962.32	(5/2$^+$)		
3275.7 *2*	3.1 *3*	6067.54	(7/2,9/2)	2791.53	(11/2$^-$)		
3282.3 *3*	0.66 *9*	4244.7		962.32	(5/2$^+$)		
3330.1#& *5*	7.0# *16*	6124.15		2791.53	(11/2$^-$)		E$_\gamma$: poor fit, corresponding energy level difference equal 3332.24 *21*.
3574.7 *2*	1.6 *2*	4537.07		962.32	(5/2$^+$)		
3687.8 *3*	0.55 *9*	4650.2		962.32	(5/2$^+$)		
3822.6‡ *3*	0.53 *8*	3822.7		0.0	7/2$^+$		
3838.4 *2*	1.0 *1*	4801.49		962.32	(5/2$^+$)		
3867.8 *4*	0.30 *9*	4830.2	(5/2,7/2,9/2)	962.32	(5/2$^+$)		
3940.1 *2*	1.2 *2*	4902.39	(5/2,7/2,9/2)	962.32	(5/2$^+$)		
3979.3 *5*	0.27 *6*	6770.9	(9/2)	2791.53	(11/2$^-$)		
4028.7‡ *2*	1.5 *2*	4028.77		0.0	7/2$^+$		

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^{133}Sn β^- decay (1.46 s) 1983Bl16,1999Sa31 (continued)

$\gamma(^{133}Sb)$ (continued)

E_γ[†]	I_γ[†@]	E_i(level)	J_i^π	E_f	J_f^π	Comments
4039.4 *5*	0.37 *8*	5001.63	(5/2,7/2,9/2)	962.32	(5/2$^+$)	
[x]4060.2 *4*	0.37 *8*					
4077.7 *5*	0.33 *7*	5039.84		962.32	(5/2$^+$)	
4156.1 *2*	1.8 *2*	5118.77		962.32	(5/2$^+$)	
4162.2 *2*	6.3 *5*	5124.67	(5/2,7/2)	962.32	(5/2$^+$)	
4183.7[‡] *3*	0.9 *1*	4183.9		0.0	7/2$^+$	
4209.9[‡] *5*	0.4 *1*	4210.0		0.0	7/2$^+$	
4215.2[‡] *2*	3.1 *3*	4215.27		0.0	7/2$^+$	
4228.5 *3*	0.64 *9*	5191.0	(5/2,7/2,9/2)	962.32	(5/2$^+$)	
[x]4258.0 *7*	0.20 *6*					
4290.0[‡] *3*	0.5 *1*	4290.1		0.0	7/2$^+$	
4296.1[‡] *2*	1.8 *2*	4296.17		0.0	7/2$^+$	
4307.3[‡] *2*	2.2 *2*	4307.37		0.0	7/2$^+$	
4314.4 *2*	1.9 *2*	5276.76	(5/2,7/2,9/2)	962.32	(5/2$^+$)	
[x]4324.9 *5*	0.35 *7*					
4522.8 *2*	3.0 *2*	5485.21		962.32	(5/2$^+$)	
4523.6[#&] *7*	3.3[#] *8*	5483.22		962.32	(5/2$^+$)	E_γ: poor fit, corresponding energy level difference equal 4521.07 *21*.
4531.0 *7*	0.40 *8*	5493.7	(5/2,7/2,9/2)	962.32	(5/2$^+$)	
4572.7[‡] *2*	1.3 *2*	4572.78		0.0	7/2$^+$	
4597.8 *2*	10.6 *7*	5560.07	(5/2,7/2,9/2)	962.32	(5/2$^+$)	
4634.6[‡] *7*	0.5 *2*	4634.7		0.0	7/2$^+$	
4650.9 *5*	0.30 *8*	5612.49	(7/2,9/2)	962.32	(5/2$^+$)	
4683.1 *3*	0.49 *9*	5645.35	(5/2,7/2)	962.32	(5/2$^+$)	
[x]4701.2 *4*	0.36 *9*					
4785.9[‡] *3*	1.1 *1*	4786.0		0.0	7/2$^+$	
4802.1[‡] *2*	6.5 *5*	4801.49		0.0	7/2$^+$	
[x]4873.3 *11*	0.18 *8*					
4886.4 *5*	0.44 *8*	5848.8		962.32	(5/2$^+$)	
4902.2[‡] *2*	4.2 *3*	4902.39	(5/2,7/2,9/2)	0.0	7/2$^+$	
4937.2[‡] *3*	1.0 *1*	4937.3		0.0	7/2$^+$	
5001.5[‡] *2*	1.7 *2*	5001.63	(5/2,7/2,9/2)	0.0	7/2$^+$	
5039.7[‡] *2*	1.5 *2*	5039.84		0.0	7/2$^+$	
5119.3[‡] *3*	1.7 *2*	5118.77		0.0	7/2$^+$	
5124.7[‡] *2*	3.6 *3*	5124.67	(5/2,7/2)	0.0	7/2$^+$	
5149.4[‡] *2*	35 *2*	5149.80	(7/2,9/2)	0.0	7/2$^+$	
5167.4[‡] *2*	1.4 *1*	5167.53	(7/2,9/2)	0.0	7/2$^+$	
5191.4[‡] *9*	0.20 *6*	5191.0	(5/2,7/2,9/2)	0.0	7/2$^+$	
5276.6[‡] *2*	5.7 *4*	5276.76	(5/2,7/2,9/2)	0.0	7/2$^+$	
5302.6[‡] *2*	1.8 *2*	5302.71		0.0	7/2$^+$	
[x]5325.6 *5*	0.38 *8*					
5376.0[‡] *2*	8.8 *6*	5376.12		0.0	7/2$^+$	
[x]5402.5 *7*	0.4 *1*					
5413.2[‡] *4*	1.1 *1*	5413.3		0.0	7/2$^+$	
5421.4[‡] *15*	0.4 *1*	5421.5		0.0	7/2$^+$	
[x]5427.8 *15*	0.2 *1*					
[x]5450.9 *8*	0.15 *8*					
5483.1[‡] *2*	10.2 *7*	5483.22		0.0	7/2$^+$	
5493.8[‡] *7*	0.5 *1*	5493.7	(5/2,7/2,9/2)	0.0	7/2$^+$	

Continued on next page (footnotes at end of table)

^{133}Sn β^- decay (1.46 s) 1983Bl16,1999Sa31 (continued)

$\gamma(^{133}Sb)$ (continued)

E_γ †	I_γ †@	E_i(level)	J_i^π	E_f	J_f^π
x5548.3 *4*	0.37 *9*				
5559.8‡ *2*	8.7 *6*	5560.07	(5/2,7/2,9/2)	0.0	7/2$^+$
5593.2‡ *4*	0.4 *1*	5593.3		0.0	7/2$^+$
5603.3‡ *2*	4.9 *4*	5603.53		0.0	7/2$^+$
5612.2‡ *2*	26 *2*	5612.49	(7/2,9/2)	0.0	7/2$^+$
5645.3‡ *2*	9.8 *6*	5645.35	(5/2,7/2)	0.0	7/2$^+$
5684.1‡ *3*	1.4 *1*	5684.2		0.0	7/2$^+$
x5692.5 *5*	0.39 *7*				
5742.4‡ *3*	1.3 *1*	5742.5		0.0	7/2$^+$
5750.0‡ *5*	0.43 *7*	5750.1		0.0	7/2$^+$
5790.1‡ *2*	1.3 *1*	5790.24		0.0	7/2$^+$
5835.1‡ *6*	0.5 *1*	5835.2		0.0	7/2$^+$
5841.1‡ *6*	0.4 *1*	5841.2		0.0	7/2$^+$
5881.4‡ *2*	3.3 *3*	5881.49	(7/2,9/2)	0.0	7/2$^+$
5920.8‡ *5*	0.43 *8*	5920.9	(7/2,9/2)	0.0	7/2$^+$
5928.5‡ *3*	1.1 *1*	5928.6		0.0	7/2$^+$
5938.2‡ *3*	1.0 *1*	5938.3		0.0	7/2$^+$
5960.1‡ *2*	1.8 *2*	5960.24		0.0	7/2$^+$
5970.8‡ *2*	3.9 *3*	5971.04		0.0	7/2$^+$
5977.6‡ *6*	0.5 *1*	5977.7		0.0	7/2$^+$
6059.4‡ *3*	1.7 *2*	6059.5		0.0	7/2$^+$
6068.0‡ *3*	1.5 *1*	6067.54	(7/2,9/2)	0.0	7/2$^+$
6074.8‡ *8*	0.41 *8*	6074.9		0.0	7/2$^+$
6093.3‡ *2*	6.7 *5*	6093.45		0.0	7/2$^+$
6102.5‡ *3*	2.1 *2*	6102.7		0.0	7/2$^+$
6112.4‡ *2*	7.9 *5*	6112.55		0.0	7/2$^+$
6124.0‡ *2*	4.7 *3*	6124.15		0.0	7/2$^+$
6136.1‡ *7*	0.24 *6*	6136.3		0.0	7/2$^+$
6170.1‡ *2*	2.7 *2*	6170.25		0.0	7/2$^+$
6200.3‡ *4*	0.51 *7*	6200.5		0.0	7/2$^+$
6238.9‡ *14*	0.09 *4*	6239.1		0.0	7/2$^+$
6251.9‡ *4*	0.36 *6*	6252.1		0.0	7/2$^+$
6264.3‡ *5*	0.29 *5*	6264.5		0.0	7/2$^+$
6286.3‡ *11*	0.11 *4*	6286.5		0.0	7/2$^+$
6314.8‡ *2*	5.9 *4*	6314.96		0.0	7/2$^+$
6326.6‡ *4*	0.41 *6*	6326.8		0.0	7/2$^+$
6348.8‡ *2*	2.2 *2*	6348.96		0.0	7/2$^+$
6364.2‡ *3*	0.73 *8*	6364.4		0.0	7/2$^+$
6411.5‡ *3*	0.83 *9*	6411.7		0.0	7/2$^+$
6445.1‡ *3*	0.81 *9*	6445.3		0.0	7/2$^+$
6457.7‡ *2*	1.4 *1*	6457.87		0.0	7/2$^+$
6497.9‡ *3*	0.68 *9*	6498.1		0.0	7/2$^+$
6505.4‡ *3*	0.9 *1*	6505.6		0.0	7/2$^+$
6514.9‡ *3*	0.56 *7*	6515.1		0.0	7/2$^+$
6576.2‡ *6*	0.23 *4*	6576.4		0.0	7/2$^+$

Continued on next page (footnotes at end of table)

^{133}Sn β^- decay (1.46 s) 1983Bl16,1999Sa31 (continued)

$\gamma(^{133}Sb)$ (continued)

E_γ †	I_γ †@	E_i(level)	J_i^π	E_f	J_f^π
6705.7‡ *6*	0.15 *5*	6705.9		0.0	$7/2^+$
6794.4‡ *6*	0.16 *4*	6794.6		0.0	$7/2^+$
6950.7‡ *5*	0.32 *6*	6950.9		0.0	$7/2^+$

† From 1999Sa31, except as noted.
‡ These transitions are assumed to feed the ground state (1999Sa31).
# From 1983Bl16.
@ For absolute intensity per 100 decays, multiply by 0.012 *2*.
& Placement of transition in the level scheme is uncertain.
x γ ray not placed in level scheme.

^{133}Sn β^- decay (1.46 s) 1983Bl16,1999Sa31

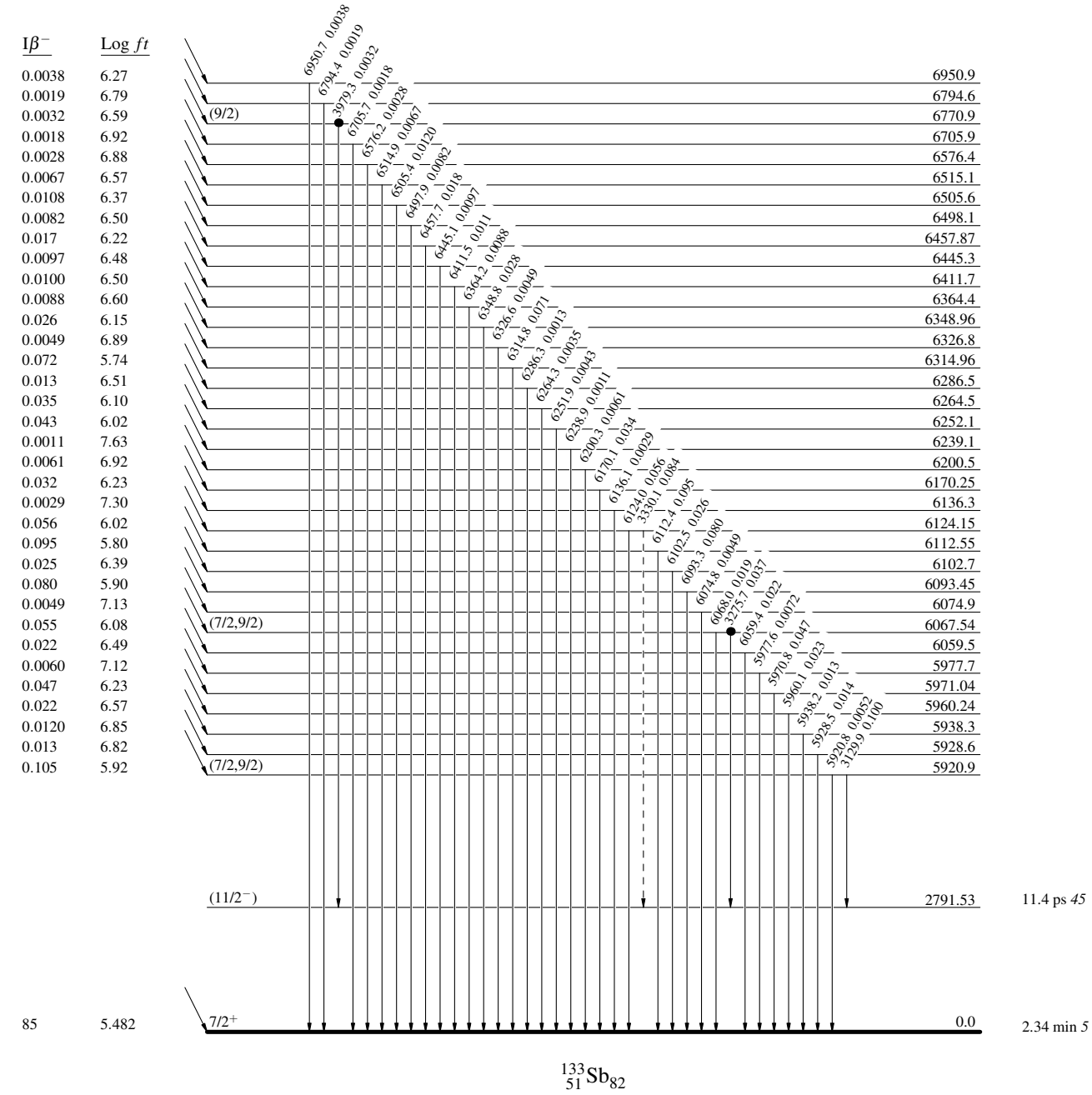
Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays

Legend
- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- γ Decay (Uncertain)
- Coincidence

7/2⁻ 0.0 1.46 s *3*
Q_{β^-}=8095 *34* $\%\beta^-$=100
$^{133}_{50}Sn_{83}$

Iβ⁻	Log *ft*
0.0038	6.27
0.0019	6.79
0.0032	6.59
0.0018	6.92
0.0028	6.88
0.0067	6.57
0.0108	6.37
0.0082	6.50
0.017	6.22
0.0097	6.48
0.0100	6.50
0.0088	6.60
0.026	6.15
0.0049	6.89
0.072	5.74
0.013	6.51
0.035	6.10
0.043	6.02
0.0011	7.63
0.0061	6.92
0.032	6.23
0.0029	7.30
0.056	6.02
0.095	5.80
0.025	6.39
0.080	5.90
0.0049	7.13
0.055	6.08
0.022	6.49
0.0060	7.12
0.047	6.23
0.022	6.57
0.0120	6.85
0.013	6.82
0.105	5.92
85	5.482



$^{133}_{51}Sb_{82}$

^{133}Sn β^- decay (1.46 s) 1983Bl16,1999Sa31

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays

Legend
- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- γ Decay (Uncertain)
- Coincidence

7/2⁻ 0.0 1.46 s *3*

Q_{β^-}=8095 *34* $\%\beta^-$=100

$^{133}_{50}Sn_{83}$

Iβ⁻	Log *ft*			
0.049	6.29	(7/2,9/2)	5881.49	
0.0053	7.28		5848.8	
0.0048	7.33		5841.2	
0.0060	7.24		5835.2	
0.016	6.84		5790.24	
0.0052	7.36		5750.1	
0.016	6.88		5742.5	
0.017	6.90		5684.2	
0.137	6.02	(5/2,7/2)	5645.35	
0.7	5.3	(7/2,9/2)	5612.49	
0.059	6.42		5603.53	
0.0048	7.51		5593.3	
0.23	5.86	(5/2,7/2,9/2)	5560.07	
0.0108	7.23	(5/2,7/2,9/2)	5493.7	
0.036	6.71		5485.21	
0.122	6.19		5483.22	
0.0048	7.63		5421.5	
0.013	7.21		5413.3	
0.107	6.32		5376.12	
0.022	7.05		5302.71	
0.091	6.45	(5/2,7/2,9/2)	5276.76	
0.0101	7.46	(5/2,7/2,9/2)	5191.0	
0.031	6.99	(7/2,9/2)	5167.53	
0.52	5.77	(7/2,9/2)	5149.80	
<0.002	>8.7	(9/2,11/2,13/2)	4294.24	
		(11/2⁻)	2791.53	11.4 ps *45*
0.18	9.36[1u]	(3/2⁺)	2439.58	
11.5	6.10	(5/2⁺)	962.32	
85	5.482	7/2⁺	0.0	2.34 min *5*

$^{133}_{51}Sb_{82}$

^{133}Sn β^- decay (1.46 s) 1983Bl16,1999Sa31

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays