^{125}Sn β^- decay (9.52 min)   **2006Kr04,1968Ba04,1968Be09**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	J. Katakura	NDS 112, 495 (2011)	1-Jan-2010

Parent: ^{125}Sn: E=27.50 *14*; J$^\pi$=3/2$^+$; T$_{1/2}$=9.52 min *5*; Q(β^-)=2357 *3*; %β^- decay=100.0

2006Kr04: ^{124}Sn(n,γ)^{125}Sn β^-, Measured Eγ, Iγ using a high purity Ge detector.
1968Ba04: ^{124}Sn(n,γ)^{125}Sn β^-, semi γ, semi-scin $\gamma\gamma$-coin.
1968Be09: ^{124}Sn(n,γ)^{125}Sn β^-, semi γ, semi-scin $\gamma\gamma$-coin.
1971Ka05: ^{124}Sn(n,γ)^{125}Sn β^-, semi γ, semi-scin $\gamma\gamma$-coin, scin-scin $\beta\gamma$(t), NaI-NaI $\gamma\gamma(\theta)$, semi ce.
The decay scheme is a composite of those proposed by 1968Ba04, 1968Be09, and 1971Ka05.

^{125}Sb Levels

E(level)[†]	J$^{\pi}$[‡]	T$_{1/2}$	Comments
0.0	7/2$^+$	2.75856 y *25*	T$_{1/2}$: From Adopted Levels.
331.958 *17*	5/2$^+$	156 ps *8*	T$_{1/2}$: From $\beta\gamma$(t), value from weighted av of 163 ps *10* (1971Ka05), 148 ps *10* (1973Be18).
642.948 *17*	3/2$^+$,5/2$^+$		
921.57 *3*	1/2$^+$		
1349.51 *3*	7/2$^+$		
1483.773 *19*	3/2$^+$,5/2$^+$		
1700.59 *5*	1/2$^+$,3/2,5/2$^+$		
1736.032 *23*	(3/2)$^+$		
1913.75 *8*	3/2$^+$,5/2		
1947.35 *4*	(3/2)$^+$		
2113.0 *10*	1/2$^-$,3/2$^-$		

[†] From a least-squares fit to Eγ's by evaluators.
[‡] from Adopted Levels.

β^- radiations

E(decay)	E(level)	Iβ^-[†]	Log *ft*	Comments
(272 *3*)	2113.0	0.0019 *20*	7.0 *5*	av Eβ=76.9 *10*
(437 *3*)	1947.35	0.146 *8*	5.80 *3*	av Eβ=131.7 *11*
(471 *3*)	1913.75	0.040 *4*	6.47 *5*	av Eβ=143.4 *11*
(648 *3*)	1736.032	0.843 *12*	5.629 *10*	av Eβ=208.2 *12*
(684 *3*)	1700.59	0.133 *7*	6.512 *24*	av Eβ=221.6 *12*
(901 *3*)	1483.773	0.263 *7*	6.644 *13*	av Eβ=306.6 *12*
(1035[‡] *3*)	1349.51	<0.009	>8.3	av Eβ=361.3 *13*
(1463 *3*)	921.57	0.185 *11*	7.59 *3*	av Eβ=543.3 *13*
(1742 *3*)	642.948	0.038 *11*	8.57 *13*	av Eβ=666.3 *14*
(2053 *3*)	331.958	98.4 *15*	5.445 *8*	av Eβ=806.2 *14*

[†] Absolute intensity per 100 decays.
[‡] Existence of this branch is questionable.

^{125}Sn β^- decay (9.52 min)   **2006Kr04,1968Ba04,1968Be09 (continued)**

$\gamma(^{125}$Sb)

Iγ normalization: From $\Sigma(I(\gamma+ce)$ to g.s.)=100.

Eγ[‡]	Iγ[@&]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.	δ	α[†]	Comments
278.56 15	0.023 6	921.57	1/2$^+$	642.948	3/2$^+$,5/2$^+$				
310.96 4	0.045 5	642.948	3/2$^+$,5/2$^+$	331.958	5/2$^+$				
331.94 2	100 1	331.958	5/2$^+$	0.0	7/2$^+$	M1+E2	−0.24 4	0.0242	α(K)=0.0210 3; α(L)=0.00265 4; α(M)=0.000523 8; α(N+..)=0.0001108 17
									α(N)=0.0001009 16; α(O)=9.94×10^{-6} 15
									Mult.: From α(K)exp=0.018 5 (1971Ka05); D+Q from $\gamma\gamma(\theta)$.
									δ: From $\gamma\gamma(\theta)$ (1977Kr13).
386.52 3	0.100 3	1736.032	(3/2)$^+$	1349.51	7/2$^+$				
430.03 14	0.012 3	1913.75	3/2$^+$,5/2	1483.773	3/2$^+$,5/2$^+$				
589.61 2	0.194 4	921.57	1/2$^+$	331.958	5/2$^+$				
642.96 2	0.156 3	642.948	3/2$^+$,5/2$^+$	0.0	7/2$^+$				
779.5 3	0.014 4	1700.59	1/2$^+$,3/2,5/2$^+$	921.57	1/2$^+$				
840.83 5	0.072 3	1483.773	3/2$^+$,5/2$^+$	642.948	3/2$^+$,5/2$^+$				
1017.57 4	0.087 3	1349.51	7/2$^+$	331.958	5/2$^+$	(M1+E2)	2.1 +5−3		Mult.,δ: From adopted gammas.
1025.46 22	0.013 6	1947.35	(3/2)$^+$	921.57	1/2$^+$				
1057.77 21	0.019 4	1700.59	1/2$^+$,3/2,5/2$^+$	642.948	3/2$^+$,5/2$^+$				
1093.27 14	0.036 3	1736.032	(3/2)$^+$	642.948	3/2$^+$,5/2$^+$				
1151.70 8	0.032 3	1483.773	3/2$^+$,5/2$^+$	331.958	5/2$^+$				
1304.42 10	0.012 3	1947.35	(3/2)$^+$	642.948	3/2$^+$,5/2$^+$				
1349.37 8	0.017 2	1349.51	7/2$^+$	0.0	7/2$^+$				
1368.61 4	0.104 3	1700.59	1/2$^+$,3/2,5/2$^+$	331.958	5/2$^+$				
1404.06 2	0.699 7	1736.032	(3/2)$^+$	331.958	5/2$^+$				
1483.77 2	0.178 3	1483.773	3/2$^+$,5/2$^+$	0.0	7/2$^+$				
1581.96 20	0.010 2	1913.75	3/2$^+$,5/2	331.958	5/2$^+$				
1615.38 3	0.111 3	1947.35	(3/2)$^+$	331.958	5/2$^+$				
[x]1633.11 10	0.016 1								
1736.07 7	0.031 2	1736.032	(3/2)$^+$	0.0	7/2$^+$				
1913.66 10	0.019 2	1913.75	3/2$^+$,5/2	0.0	7/2$^+$				
1947.50 13	0.014 3	1947.35	(3/2)$^+$	0.0	7/2$^+$				
2113[#] 1	0.002[#] 2	2113.0	1/2$^-$,3/2$^-$	0.0	7/2$^+$				

[†] Additional information 1.
[‡] From 2006Kr04, unless otherwise noted.
[#] From 1968Ba04. Not observable in 2006Kr04 due to interference from ^{116m}In.
[@] Relative to I(331.9γ)=100. From 2006Kr04, unless otherwise noted.
[&] For absolute intensity per 100 decays, multiply by 0.973 10.
[x] γ ray not placed in level scheme.

^{125}**Sn** β^- **decay (9.52 min)**   **2006Kr04,1968Ba04,1968Be09**

Decay Scheme

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

Legend

$I_\gamma < \ 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
● Coincidence

$^{125}_{50}Sn_{75}$

$3/2^+$ 27.50   9.52 min 5
$Q_{\beta^-}=2357$ 3 $\%\beta^-=100$

$I\beta^-$ Log ft

0.0019	7.0	$1/2^-,3/2^-$ 2113.0
0.146	5.80	$(3/2)^+$ 1947.35
0.040	6.47	$3/2^+,5/2$ 1913.75
0.843	5.629	$(3/2)^+$ 1736.032
0.133	6.512	$1/2^+,3/2,5/2^+$ 1700.59
0.263	6.644	$3/2^+,5/2^+$ 1483.773
<0.009	>8.3	$7/2^+$ 1349.51
0.185	7.59	$1/2^+$ 921.57
0.038	8.57	$3/2^+,5/2^+$ 642.948
98.4	5.445	$5/2^+$ 331.958 156 ps 8
		$7/2^+$ 0.0 2.75856 y 25

Transition labels:
2113 0.0029
1947.50 0.014
1615.38 0.108
1304.42 0.012
1025.46 0.013
1913.66 0.0195
1581.96 0.0107
430.03 0.012
1736.07 0.0311
1404.06 0.680
1093.27 0.035
386.52 0.097
1368.61 0.101
1057.77 0.018
779.5 0.014
1483.77 0.173
1151.70 0.031
840.83 0.070
1349.37 0.0175
1017.57 (M1+E2) 0.085
589.61 0.189
278.56 0.022
642.96 0.152
310.96 0.044
331.94 M1+E2 100 2

$^{125}_{51}Sb_{74}$