^{127}Sn β^- decay (4.13 min) 1995St28

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	A. Hashizume	NDS 112, 1647 (2011)	1-Oct-2009

Parent: ^{127}Sn: E=5.06 *6*; J^π=(3/2$^+$); $T_{1/2}$=4.13 min *3*; Q(β^-)=3201 *24*; %β^- decay=100.0

1995St28: ^{235}U(n,F) on-line mass; semi γ, $\gamma\gamma$(t).

1970HeZG: semi γ.

1977Lu06: ^{235}U(n,F) on-line mass; Si(Li) β, Si(Li)-NaI(Tl), Si(Li)-Ge(Li) $\beta\gamma$-coin.

It is announced that the levels confirmed only by $\gamma\gamma$ coincidences are shown in the decay scheme (1995St28). Furthermore, because of the large Q(β^-)value of 3021 keV, many unobserved high-energy levels could be populated in this decay. Consequently, th β^- feedings may be inaccurate (evaluator).

^{127}Sb Levels

E(level)†	J^π‡	$T_{1/2}$	E(level)†	J^π‡
0.0	7/2$^+$	3.85 d *5*	1711.16 *22*	7/2$^+$
490.63 *22*	(5/2)$^+$		1840.23 *19*	(3/2$^+$,5/2)
765.30 *22*	(3/2)$^+$		1994.1? *4*	
1185.6 *3*	1/2$^+$		2054.5 *3*	(3/2$^+$,5/2$^+$)
1351.6 *3*	(5/2$^+$)		2150.0 *4*	(1/2$^+$,3/2,5/2)
1471.17 *24*	(7/2$^+$)		2303.7 *4*	(1/2$^+$,3/2,5/2)
1700.3 *4*	(1/2$^+$,3/2,5/2)			

† From a least-squares fit to E(γ's).

‡ From Adopted Levels.

β^- radiations

E(decay)	E(level)	Iβ^-‡	Log *ft*	Comments
(902 *24*)	2303.7	0.1	6.7	av Eβ=307.1 *97*
(1056 *24*)	2150.0	0.2	6.7	av Eβ=370 *10*
(1152 *24*)	2054.5	1.7	5.9	av Eβ=410 *11*
(1366 *24*)	1840.23	2.1	6.1	av Eβ=501 *11*
(1495 *24*)	1711.16	0.4	6.9	av Eβ=557 *11*
(1506 *24*)	1700.3	1.3	6.4	av Eβ=562 *11*
(1854 *24*)	1351.6	0.7	7.1	av Eβ=717 *11*
(2020 *24*)	1185.6	1.3	6.9	av Eβ=792 *11*
(2441 *24*)	765.30	0.8	7.5	av Eβ=984 *11*
(2715† *24*)	490.63	91	5.6	av Eβ=1111 *12*

† The intensity of β-ray feeding is obtained from the γ-ray intensity balance to this level, assuming no β-ray feeding to the ground state.

‡ Absolute intensity per 100 decays.

γ(^{127}Sb)

Iγ normalization: No β-ray feeding to the ground state was assumed.

Continued on next page (footnotes at end of table)

^{127}Sn β^- decay (4.13 min) 1995St28 (continued)

$\gamma(^{127}Sb)$ (continued)

E_γ [†]	I_γ [#]	E_i(level)	J_i^π	E_f	J_f^π	Comments
342.3 *3*	0.13	2054.5	$(3/2^+,5/2^+)$	1711.16	$7/2^+$	
354.8 *3*	0.11	2054.5	$(3/2^+,5/2^+)$	1700.3	$(1/2^+,3/2,5/2)$	
369.1 *3*	0.05	1840.23	$(3/2^+,5/2)$	1471.17	$(7/2^+)$	
419.9 *3*	0.35	1185.6	$1/2^+$	765.30	$(3/2)^+$	
490.6 *3*	100	490.63	$(5/2)^+$	0.0	$7/2^+$	%Iγ=97.4 *6*, using the calculated normalization.
695.3 *3*	0.98	1185.6	$1/2^+$	490.63	$(5/2)^+$	
765.2 *3*	1.36	765.30	$(3/2)^+$	0.0	$7/2^+$	%Iγ=1.3 *4*, using the calculated normalization.
[x]860.3[‡]						
[x]979.0[‡]						
1075.2 *3*	0.23	1840.23	$(3/2^+,5/2)$	765.30	$(3/2)^+$	
[x]1095.6[‡]						
1210.2 *3*	1.47	1700.3	$(1/2^+,3/2,5/2)$	490.63	$(5/2)^+$	
1220.51 *3*	0.52	1711.16	$7/2^+$	490.63	$(5/2)^+$	
1349.2 *3*	1.39	1840.23	$(3/2^+,5/2)$	490.63	$(5/2)^+$	
1351.6 *3*	0.75	1351.6	$(5/2^+)$	0.0	$7/2^+$	%Iγ=0.73 *21*, using the calculated normalization.
1471.2 *3*	0.05	1471.17	$(7/2^+)$	0.0	$7/2^+$	%Iγ=0.049 *14*, using the calculated normalization.
1503.5 *3*	0.05	1994.1?		490.63	$(5/2)^+$	
1564.3 *3*	1.51	2054.5	$(3/2^+,5/2^+)$	490.63	$(5/2)^+$	
[x]1584.5[‡]						
1659.4 *3*	0.21	2150.0	$(1/2^+,3/2,5/2)$	490.63	$(5/2)^+$	
1813.1 *3*	0.09	2303.7	$(1/2^+,3/2,5/2)$	490.63	$(5/2)^+$	
1840.3 *3*	0.46	1840.23	$(3/2^+,5/2)$	0.0	$7/2^+$	%Iγ=0.45 *13*, using the calculated normalization.

[†] From 1995St28.
[‡] Reported only by 1970HeZG.
[#] For absolute intensity per 100 decays, multiply by 0.97 *19*.
[x] γ ray not placed in level scheme.

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Decay Scheme

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