

¹¹⁷Sb ε decay

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	ENSDF	1-Mar-2009

Parent: ¹¹⁷Sb: E=0.0; J^π=5/2⁺; T_{1/2}=2.80 h I; Q(ε)=1755 9; %ε+%β⁺ decay=100.0

Activity: ¹¹⁵In(α,2n), ¹¹⁷Sn(p,n).

Measured: γ (1974HeYW), γγ (1969Be02), ce (1955Mc17), γ/β⁺ (1964Ba46).

Others: 1947Co04, 1949Te11.

α: [Additional information 1](#).

¹¹⁷Sn Levels

E(level)	J ^π †	T _{1/2}
0.0	1/2 ⁺	stable
158.6 1	3/2 ⁺	0.279 ns 9
711.56 10	7/2 ⁺	
1004.51 15	3/2 ⁺	
1019.91 5	5/2 ⁺	
1179.6 5	5/2 ⁺	
1446.4 3	5/2 ⁺	
1498.1 10		
1578.3 3		

† From Adopted Levels.

ε,β⁺ radiations

E(decay)	E(level)	Iβ ⁺ †	Iε †	Log ft	I(ε+β ⁺) †	Comments
167 18	1578.3		0.036 9	6.26 12	0.036 9	εK=0.820 3; εL=0.1421 22; εM+=0.0379 7
247 18	1498.1		0.009 4	7.23 20	0.009 4	εK=0.8352 12; εL=0.1304 9; εM+=0.0344 3
299 18	1446.4		0.084 17	6.44 10	0.084 17	εK=0.8403 8; εL=0.1265 6; εM+=0.03317 18
565 18	1179.6		0.110 20	6.90 8	0.110 20	εK=0.8512 2; εL=0.11818 15; εM+=0.03065 5
725 18	1019.91		0.41 5	6.55 6	0.41 5	εK=0.8537 2; εL=0.11622 9; εM+=0.03006 3
740 18	1004.51		0.26 3	6.76 6	0.26 3	εK=0.8539 1; εL=0.11608 9; εM+=0.03001 3
1033 18	711.56		0.082 13	7.56 7	0.082 13	εK=0.8564; εL=0.11419 5; εM+=0.02945 2
1586 18	158.6	1.81 11	97.2 7	4.863 7	99.0 7	av Eβ=261.9 39; εK=0.8428 9; εL=0.11050 14; εM+=0.02843 4

† Absolute intensity per 100 decays.

γ(¹¹⁷Sn)

I_γ normalization: from ΣI(γ+ce) to g.s.=100. No ε+β⁺ to g.s.

E _γ †	I _γ ‡	E _i (level)	J _i ^π	E _f	J _f ^π	Mult.	α	Comments
158.562 15	100	158.6	3/2 ⁺	0.0	1/2 ⁺	M1	0.1557	α(K)=0.1347 19; α(L)=0.01701 24; α(M)=0.00334 5; α(N)=0.000627 9; α(O)=5.45×10 ⁻⁵ 8 α(N+..)=0.000682 10 B(M1)(W.u.)=0.0171 6
553.00 10	0.095 15	711.56	7/2 ⁺	158.6	3/2 ⁺			
846.0 3	0.06 2	1004.51	3/2 ⁺	158.6	3/2 ⁺			

Continued on next page (footnotes at end of table)

^{117}Sb ε decay (continued) $\gamma(^{117}\text{Sn})$ (continued)

E_γ †	I_γ ‡	$E_i(\text{level})$	J_i^π	E_f	J_f^π	E_γ †	I_γ ‡	$E_i(\text{level})$	J_i^π	E_f	J_f^π
861.35 5	0.36 4	1019.91	5/2 ⁺	158.6	3/2 ⁺	1339.5 10	0.011 4	1498.1		158.6	3/2 ⁺
1004.51 15	0.24 3	1004.51	3/2 ⁺	0.0	1/2 ⁺	1420.1 4	0.020 7	1578.3		158.6	3/2 ⁺
1020.6 5	0.12 2	1019.91	5/2 ⁺	0.0	1/2 ⁺	1446.4 5	0.065 18	1446.4	5/2 ⁺	0.0	1/2 ⁺
1021.0 5	0.13 2	1179.6	5/2 ⁺	158.6	3/2 ⁺	1578.0 3	0.022 7	1578.3		0.0	1/2 ⁺
1287.6 3	0.033 7	1446.4	5/2 ⁺	158.6	3/2 ⁺						

† From [1974HeYW](#).

‡ For absolute intensity per 100 decays, multiply by 0.859 4.

^{117}Sb ϵ decay

Decay Scheme

Legend

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

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

