^{116}In β^- decay (14.10 s) 1973Ok07

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 111, 717 (2010)	1-Dec-2009

Parent: ^{116}In: E=0.0; $J^\pi=1^+$; $T_{1/2}$=14.10 s *3*; Q(β^-)=3278 *4*; %β^- decay=99.977 *6*
Measured γ(semi) 1973Ok07.
J(1759)=0 from $\gamma\gamma(\theta)$, J(2546)=(0).

^{116}Sn Levels

98.7% branching to g.s. (1962Fe10).

E(level)	J^π	$T_{1/2}$	Comments
0.0	0^+	stable	
1293.4	2^+		
1756.8	0^+		J^π: from $\gamma\gamma(\theta)$.
2112.1	2^+		
2225.5	2^+		
2546.0	0^+		J^π: from $\gamma\gamma(\theta)$.
2649.8	2^+		
2790.5			

β^- radiations

E(decay)	E(level)	Iβ^- [‡]	Log *ft*	Comments
(488 *4*)	2790.5	0.016	5.98	av Eβ= 148 *3*
(628 *4*)	2649.8	0.012	5.79	av Eβ= 199 *3*
(732 *4*)	2546.0	0.033	5.99	av Eβ= 239 *3*
(1053 *4*)	2225.5	0.019	6.40	av Eβ= 367 *4*
(1166 *4*)	2112.1	0.035	6.31	av Eβ= 414 *4*
(1521 *4*)	1756.8	0.26	5.88	av Eβ= 568 *4*
(1985 *4*)	1293.4	0.8 *1*	5.85 *6*	av Eβ= 775 *4*
3290[†] *60*	0.0	98.7	4.662 *5*	av Eβ= 1373 *4* Iβ^-: from 1962Fe10.

[†] From (1954Bo39) scin. Others: 1936Ga01, 1940La07.
[‡] For absolute intensity per 100 decays, multiply by 0.99977 *6*.

$\gamma(^{116}Sn)$

Iγ normalization: from Iβ(g.s.)+Iγ(1293+2112+2225+2649)=100 with Iβ(g.s.)=98.7 (1962Fe10).

E_γ	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	δ	α [#]	Comments
463.3	19.6	1756.8	0^+	1293.4	2^+				
818.7	1.1	2112.1	2^+	1293.4	2^+	M1+E2		0.00228 *23*	α=0.00228 *23*; α(K)=0.00196 *20*; α(L)=0.00024 *2*
932.1	1.0	2225.5	2^+	1293.4	2^+	M1+E2	−1.9 *+5−7*	0.00159 *5*	α=0.00159 *5*; α(K)=0.00137 *4*; α(L)=0.00017 δ: from 1979Ka01; (932γ)(1293γ)(θ) in ^{116}Sb ε decay (15.8 min).
1252.6	2.4	2546.0	0^+	1293.4	2^+				

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^{116}In β^- decay (14.10 s) 1973Ok07 (continued)

$\gamma(^{116}Sn)$ (continued)

E_γ	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	α[#]	Comments
1293.4	100	1293.4	2^+	0.0	0^+	E2	0.00075	α=0.00075; α(K)=0.00065
1356.4	0.8	2649.8	2^+	1293.4	2^+			
1497.1	1.2	2790.5		1293.4	2^+			
2112.3	1.6	2112.1	2^+	0.0	0^+			
2225.5	0.43	2225.5	2^+	0.0	0^+			
2649.8	0.09	2649.8	2^+	0.0	0^+			

† From Adopted Levels, gammas.

‡ For absolute intensity per 100 decays, multiply by ≈0.013.

Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

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Decay Scheme

Intensities: I_γ per 100 parent decays