^{120}In β^- decay (3.08 s) 1973Sc19

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	K. Kitao, Y. Tendow and A. Hashizume	NDS 96,241 (2002)	1-Dec-2001

Parent: ^{120}In: E=0.0; $J^\pi=1^+$; $T_{1/2}$=3.08 s *8*; Q(β^-)=5370 *40*; %β^- decay=100
1973Sc19: Sn(p,3pxn) E=600 MeV; on-line mass separation, semi γ, scin β; $\beta\gamma$.
Decay scheme is that proposed by 1973Sc19.

^{120}Sn Levels

E(level)‡	Jπ†	$T_{1/2}$
0.0	0^+	stable
1172.5 *3*	2^+	
1876.7 *7*	0^+	
2098.3 *12*	2^+	
2162.5 *21*	0^+	
2358.3 *9*	2^+	
2423.3 *11*	2^+	

† From Adopted Levels.
‡ From a least-squares fit to E(γ's) by the evaluators.

β^- radiations

E(decay)	E(level)	Iβ−†‡	Log *ft*	Comments
(2.95×10^3 *4*)	2423.3	0.23 *6*	6.44 *12*	av Eβ=1220 *19*
(3.01×10^3 *4*)	2358.3	0.91 *16*	5.88 *8*	av Eβ=1251 *19*
(3.21×10^3 *4*)	2162.5	0.13 *6*	6.84 *21*	av Eβ=1342 *19*
(3.27×10^3 *4*)	2098.3	0.42 *10*	6.37 *11*	av Eβ=1373 *19*
(3.49×10^3 *4*)	1876.7	1.43 *22*	5.96 *8*	av Eβ=1477 *19*
(4.20×10^3 *4*)	1172.5	16.3 *14*	5.25 *5*	av Eβ=1809 *19*
(5.37×10^3 *4*)	0.0	80.6 *16*	5.023 *21*	av Eβ=2365 *19*

† From Iγ imbalance at each level.
‡ Absolute intensity per 100 decays.

$\gamma(^{120}Sn)$

Iγ normalization: value given by 1973Sc19 appears to be based on measurement of I(1172γ)/I(β^-).

Eγ†	Iγ†#	Ei(level)	J_i^π	E_f	J_f^π	Eγ†	Iγ†#	Ei(level)	J_i^π	E_f	J_f^π
x251.5‡ *10*	1.0 *3*					1250.8 *10*	1.2 *3*	2423.3	2^+	1172.5	2^+
704.2 *6*	7.5 *10*	1876.7	0^+	1172.5	2^+	x2039.8‡ *10*	9.8 *9*				
990 *2*	0.7 *3*	2162.5	0^+	1172.5	2^+	2098.3 *12*	2.2 *5*	2098.3	2^+	0.0	0^+
1172.5 *3*	100	1172.5	2^+	0.0	0^+	x2149.2‡ *16*	0.5 *2*				
1185.8 *8*	4.8 *7*	2358.3	2^+	1172.5	2^+	x2390.2‡ *10*	6.0 *10*				
x1207.5‡ *9*	3.1 *6*										

† From 1973Sc19.

Continued on next page (footnotes at end of table)

^{120}In β^- decay (3.08 s) 1973Sc19 (continued)

$\gamma(^{120}Sn)$ (continued)

‡ Assigned by the authors to either ^{120}Cd or ^{120}In 3.08-s β^- decay.
# For absolute intensity per 100 decays, multiply by 0.190 *15*.
x γ ray not placed in level scheme.

^{120}In β^- decay (3.08 s) 1973Sc19

Decay Scheme

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