

**<sup>121</sup>In β<sup>-</sup> decay (3.88 min) 1973De24,1976Fo02**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	S. Ohya	NDS 111, 1619 (2010)	20-Jan-2009

Parent: <sup>121</sup>In: E=313.6 I; J<sup>π</sup>=1/2<sup>-</sup>; T<sub>1/2</sub>=3.88 min 10; Q(β<sup>-</sup>)=3363 27; %β<sup>-</sup> decay=98.8 2

<sup>121</sup>In-%β<sup>-</sup> decay: based on %IT(313.6 keV)=1.2 2 and α(313.6γ)=1.50 (1976Fo02).

The decay scheme of <sup>121</sup>In (3.88 min) is that proposed by 1973De24 with correction of IT and β-branchings: %IT=1.2 2 and %I(β to 60 level)=70 15 from 1976Fo02.

<sup>121</sup>Sn Levels

E(level) <sup>†</sup>	J <sup>π</sup> <sup>‡</sup>	T <sub>1/2</sub>
0.0	3/2 <sup>+</sup>	27.03 h 4
60.18 19	1/2 <sup>+</sup>	
908.9 5	5/2 <sup>+</sup>	
1101.8 4	3/2 <sup>+</sup>	
1120.41 20	5/2 <sup>+</sup>	
1403.0 10	5/2 <sup>+</sup>	
2864.2 5	(1/2,3/2)	
3119.9? 15		
3228? 2		

<sup>†</sup> E(levels) are based on a least-squares fit to the E(γ's) of 1973De24.

<sup>‡</sup> From Adopted Levels.

β<sup>-</sup> radiations

E(decay)	E(level)	Iβ <sup>-</sup> <sup>†</sup>	Log ft	Comments
(4.5×10 <sup>2</sup> <sup>‡</sup> 3)	3228?	0.015 6	6.43 20	av Eβ=135.9 95
(5.6×10 <sup>2</sup> <sup>‡</sup> 3)	3119.9?	0.09 3	5.97 17	av Eβ=174 10
(8.1×10 <sup>2</sup> 3)	2864.2	0.21 5	6.18 12	av Eβ=272 11
(2.27×10 <sup>3</sup> 3)	1403.0	0.051 10	9.68 <sup>1u</sup> 10	av Eβ=906 12
(2.56×10 <sup>3</sup> 3)	1120.41	0.51 10	8.98 <sup>1u</sup> 9	av Eβ=1033 13
(2.57×10 <sup>3</sup> 3)	1101.8	2.0 4	7.14 9	av Eβ=1047 13
(2.77×10 <sup>3</sup> 3)	908.9	0.33 17	8.05 23	av Eβ=1137 13
(3.62×10 <sup>3</sup> 3)	60.18	70 15	6.22 10	av Eβ=1535 13
(3.68×10 <sup>3</sup> 3)	0.0	26 15	6.7 3	av Eβ=1563 13

<sup>†</sup> For absolute intensity per 100 decays, multiply by 0.988 2.

<sup>‡</sup> Existence of this branch is questionable.

γ(<sup>121</sup>Sn)

I<sub>γ</sub> normalization: Iβ(60 level)/Iβ(total)=0.70 15 deduced from I(cc's), α's, Iβ(total) (1976Fo02). For the purpose of obtaining a normalization, the evaluator has assigned an uncertainty of 25% to I<sub>γ</sub>(60γ), given as an approximate value by the authors.

E <sub>γ</sub> <sup>†</sup>	I <sub>γ</sub> <sup>†‡</sup>	E <sub>i</sub> (level)	J <sub>i</sub> <sup>π</sup>	E <sub>f</sub>	J <sub>f</sub> <sup>π</sup>	Mult.	α <sup>#</sup>	Comments
60.1 2	≈4000	60.18	1/2 <sup>+</sup>	0.0	3/2 <sup>+</sup>	M1	2.42 5	α(K)=2.09 4; α(L)=0.269 5; α(M)=0.0528 9; α(N+..)=0.01077 19

Continued on next page (footnotes at end of table)

$^{121}\text{In}$   $\beta^-$  decay (3.88 min) 1973De24,1976Fo02 (continued) $\gamma(^{121}\text{Sn})$  (continued)

$E_\gamma^\dagger$	$I_\gamma^{\ddagger}$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Comments
908.9 5	65 30	908.9	5/2 <sup>+</sup>	0.0	3/2 <sup>+</sup>	$\alpha(\text{N})=0.00991$ 17; $\alpha(\text{O})=0.000854$ 15 Mult.: from $\alpha(\text{L})\text{exp}=0.20$ 5 (1976Fo02).
1041.2 5	220 40	1101.8	3/2 <sup>+</sup>	60.18	1/2 <sup>+</sup>	
1102.2 5	180 50	1101.8	3/2 <sup>+</sup>	0.0	3/2 <sup>+</sup>	
1120.4 2	100	1120.41	5/2 <sup>+</sup>	0.0	3/2 <sup>+</sup>	
1403 1	≈10	1403.0	5/2 <sup>+</sup>	0.0	3/2 <sup>+</sup>	
2803.8 7	22 7	2864.2	(1/2,3/2)	60.18	1/2 <sup>+</sup>	
2864.3 7	20 5	2864.2	(1/2,3/2)	0.0	3/2 <sup>+</sup>	
3059.7 <sup>@</sup> 14	17 5	3119.9?		60.18	1/2 <sup>+</sup>	
3228 <sup>@</sup> 2	3 1	3228?		0.0	3/2 <sup>+</sup>	

<sup>†</sup> From 1973De24.

<sup>‡</sup> For absolute intensity per 100 decays, multiply by 0.0051 17.

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

@ Placement of transition in the level scheme is uncertain.

$^{121}\text{In}$   $\beta^-$  decay (3.88 min) 1973De24,1976Fo02

Decay Scheme

Intensities:  $I_{(\gamma+ce)}$  per 100 decays through this branch

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- - - - -  $\gamma$  Decay (Uncertain)

