

^{131}In β^- decay (0.35 s) 2004Fo06,1984Fo03,1984Fo19

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Yu. Khazov, I. Mitropolsky, A. Rodionov		NDS 107, 2715 (2006)	17-Jul-2006

Parent: ^{131}In : E=302.32; $J^\pi=(1/2^-)$; $T_{1/2}=0.35$ s 5; $Q(\beta^-)=9177$ eV 18; $\% \beta^-$ decay=100.0

^{131}In - $\% \beta^-$ decay: $\% \beta^-_{n \leq 2.0} = 3$, $\% \text{IT} \leq 0.018$ (2003Au02), see the comment for ^{131}In Adopted Levels dataset.

^{131}In : $\% \text{B-decay} >= 99.982$; $\% \text{IT} <= 0.018$; $\% \beta^-_{n <= 2.0} = 3$, see the comment for ^{131}In Adopted Levels dataset.

See the ^{131}In β^- decay (0.28 s) data set for experimental details. All data are from 2004Fo06, except as noted.

Coincidences shown on the drawing are from 2004Fo06.

 ^{131}Sn Levels

See footnote on states above 4 MeV in 0.28-s β^- decay.

E(level)	J^π^\dagger	$T_{1/2}^\dagger$
0.0	(3/2 ⁺)	56.0 s 5
331.73 10	(1/2 ⁺)	
1654.56 10	(5/2 ⁺)	
3909.6 6	1/2,3/2	
4429.6 5	1/2,3/2	
4575.8 5	1/2,3/2	

† From the Adopted Levels.

 β^- radiations

$I\beta, \log ft$ From net γ feeding of each level.

E(decay)	E(level)	$I\beta^{-\dagger}$	Log ft	Comments
(4.90×10 ³ 4)	4575.8	0.05	7.1	av $E\beta=2143$ 18
(5.05×10 ³ 4)	4429.6	0.09	6.9	av $E\beta=2212$ 18
(5.57×10 ³ 4)	3909.6	0.04	7.4	av $E\beta=2459$ 18
(7.82×10 ³ 4)	1654.56	0.25 15	9.5 ^{1u} 3	av $E\beta=3512$ 18 $I\beta^-$: from 2004Fo06.
9192 26	331.73	3.5	6.5	av $E\beta=4151$ 18 E(decay): from $\beta\gamma$ -coincidence (2004Fo06). IB,LOGFT 3.5 5, 6.5 1 if there are no unobserved gammas populating the 332 state.
(9.48×10 ³ 4)	0.0	≈95	≈5.1	av $E\beta=4307$ 18

† Absolute intensity per 100 decays.

 $\gamma(^{131}\text{Sn})$

$I\gamma$ normalization: data are not sufficient for calculation of normalization, due to the level scheme is incomplete.

Continued on next page (footnotes at end of table)

^{131}In β^- decay (0.35 s) 2004Fo06,1984Fo03,1984Fo19 (continued) $\gamma(^{131}\text{Sn})$ (continued)

E_γ	I_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.	α^\ddagger	Comments
331.72 10	3.6 9	331.73	(1/2 ⁺)	0.0	(3/2 ⁺)	[M1,E2]	0.0239 18	I_γ : from 1984Fo19; 2004Fo06 assign an uncertainty of about 25%. Fraction of intensity following the $p_{1/2}$ ^{131}In decay (2004Fo06).
1654.55 10	0.24 10	1654.56	(5/2 ⁺)	0.0	(3/2 ⁺)			
3577.8 6	0.04 1	3909.6	1/2,3/2	331.73	(1/2 ⁺)			
4097.6 10	0.04 1	4429.6	1/2,3/2	331.73	(1/2 ⁺)			
4242.5 12	0.02 1	4575.8	1/2,3/2	331.73	(1/2 ⁺)			
4429.6 5	0.06 1	4429.6	1/2,3/2	0.0	(3/2 ⁺)			
4576.0 5	0.05 1	4575.8	1/2,3/2	0.0	(3/2 ⁺)			

[†] Absolute intensity per 100 decays.

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

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Decay Scheme

Intensities: I_γ per 100 parent decays

Legend

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

