^{130}In β^- decay (0.54 s):(10$^-$) 1981Fo02

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 93, 33 (2001)	11-May-2001

Parent: ^{130}In: E=50 *50*; J^π=(10$^-$); $T_{1/2}$=0.54 s *1*; Q(β^-)=10249 *38*; %β^- decay=100.0

^{130}In-$T_{1/2}$: combined $T_{1/2}$=0.54 s *1* for (10$^-$) and (5$^+$) isomers.

1981Fo02: measured Eγ, Iγ, ce, $\gamma\gamma$, $\beta\gamma$(t), $T_{1/2}$ (^{130}In).

Others:

1973Ke12 (also 1973Ke26): measured Eγ, Iγ, Eβ, $\beta\gamma$, $T_{1/2}$.

1990St13, 1987Sp09, 1985Fo03: measured Eβ, Iβ, $\beta\gamma$.

1993Ru01, 1986Wa17 (also 1986ReZU,1986ReZS), 1983Sh07, 1981En05, 1980Lu04, 1977Ru09, 1976Lu02: measured $T_{1/2}$(^{130}In), %β^-n.

^{130}Sn Levels

E(level)[†]	J^π[‡]	$T_{1/2}$[#]
1946.88 *10*	(7$^-$)	
2338.26 *11*	(8$^+$)	<40 ns
2434.79 *12*	(10$^+$)	1.61 μs *15*
4205.73 *13*	(9$^-$)	

[†] From least-squares adjustment to Eγ's.
[‡] From Adopted Levels.
[#] $\beta\gamma$(t) or $\gamma\gamma$(t) (1981Fo02).

β^- radiations

Eβ^- measurements: 1985Fo03, 1987Sp09, 1990St13.

E(decay)	E(level)	Iβ^-[†]	Log *ft*	Comments
(6.09×10^3 *6*)	4205.73	≈91	≈4.6	av Eβ= 2708 *31* E(decay): 5960 (1990St13), 6094 *21* (1987Sp09), 6120 *90* (1985Fo03) from (2259γ)β coin.
(7.86×10^3 *6*)	2434.79	≈9	≈6.0	av Eβ= 3546 *31*
(7.96×10^3[‡] *6*)	2338.26	<2	>6.6	av Eβ= 3592 *31*

[†] Absolute intensity per 100 decays.
[‡] Existence of this branch is questionable.

γ(^{130}Sn)

Iγ normalization: Σ (I(γ+ce) of γ's from 4206 and 2435)≈98. No β^- feeding is expected to (7$^-$) isomer at 1947. %β^-n=1.65 *15* (combined for (10$^-$) and (5$^+$) isomers).

E$_\gamma$	I$_\gamma$[#]	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.[†]	α[@]	Comments
96.54 *5*	4.8 *5*	2434.79	(10$^+$)	2338.26	(8$^+$)	E2	1.829	α(K)= 1.313; α(L)= 0.414; α(M)= 0.0839; α(N+..)=0.01747 α(K)exp=1.4 *4*

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^{130}In β^- decay (0.54 s):(10$^-$) 1981Fo02 (continued)

$\gamma(^{130}Sn)$ (continued)

E_γ	I_γ[#]	E_i(level)	J_i^π	E_f	J_f^π
391.39 *5*	12.9 *10*	2338.26	(8$^+$)	1946.88	(7$^-$)
[x]411.14[‡] *10*	4.2 *3*				
[x]492.92[‡] *20*	2.7 *3*				
1771.09 *20*	3.4 *3*	4205.73	(9$^-$)	2434.79	(10$^+$)
[x]1775.49[‡] *20*	2.2 *3*				
2258.79 *10*	100 *5*	4205.73	(9$^-$)	1946.88	(7$^-$)
[x]2320.72[‡] *10*	4.7 *4*				
[x]2388.5[‡] *3*	2.3 *3*				
[x]2759.0[‡] *3*	3.0 *4*				

[†] From α(K)exp.
[‡] May possibly be due to low-spin isomer.
[#] For absolute intensity per 100 decays, multiply by ≈0.84.
[@] 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.
[x] γ ray not placed in level scheme.

^{130}In β^- decay (0.54 s):(10^-) 1981Fo02

Decay Scheme

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