^{130}In β^- decay (0.54 s):(5$^+$) 1981Fo02

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

Parent: ^{130}In: E=400 *60*; J$^\pi$=(5$^+$); 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$^\pi$[‡]	T$_{1/2}$[#]	E(level)[†]	J$^\pi$[‡]	T$_{1/2}$[#]	E(level)[†]	J$^\pi$[‡]
0.0	0$^+$		2214.70 *10*	(4$^-$)	<0.5 ns	4224.9 *4*	(3$^-$,4$^+$)
1221.26 *5*	(2$^+$)		2257.00 *22*	(6$^+$)		4405.48 *9*	(4$^+$)
1946.93 *10*	(7$^-$)		2490.86 *16*	(3$^-$,4$^+$)		4463.38 *22*	(4$^+$)
1995.66 *9*	(4$^+$)		2493.04 *10*	(4,5)		5262.8 *3*	(4$^+$)
2028.31 *7*	(2$^+$)		2597.71 *22*				
2084.89 *9*	(5$^-$)	52 ns *3*	3425.03 *8*	(4$^+$)			

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

β^- radiations

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

E(decay)	E(level)	Iβ^-[†]	Log *ft*	Comments
(5.39×10^3 *7*)	5262.8	≈3.5	≈5.6	av Eβ= 2372 *35* E(decay): 5540 *210* (1985Fo03) from (4042γ)β coin.
(6.19×10^3 *7*)	4463.38	≈5.6	≈5.7	av Eβ= 2751 *35*
(6.24×10^3 *7*)	4405.48	≈29	≈5.0	av Eβ= 2779 *35* E(decay): 6253 *46* (1987Sp09), 6240 *180* (1985Fo03) from (2377γ)β coin; 6227 *69* (1987Sp09), 6330 *300* (1985Fo03) from (3184γ)β coin.
(6.42×10^3 *7*)	4224.9	≈1.0	≈6.5	av Eβ= 2864 *35*
(7.22×10^3 *7*)	3425.03	≈7.2	≈5.9	av Eβ= 3243 *35*
(8.05×10^3 *7*)	2597.71	≈1.3	≈6.9	av Eβ= 3635 *34*
(8.16×10^3 *7*)	2493.04	≈10.5	≈6.0	av Eβ= 3684 *34* E(decay): 7510 (1990St13) from (408γ)β coin.
(8.16×10^3 *7*)	2490.86	≈1.3	≈6.9	av Eβ= 3685 *34*
(8.39×10^3 *7*)	2257.00	≈1.2	≈7.0	av Eβ= 3796 *34*
(8.43×10^3 *7*)	2214.70	≈9.4	≈6.1	av Eβ= 3816 *34*
(8.56×10^3 *7*)	2084.89	≈18	≈5.8	av Eβ= 3877 *34*
(8.65×10^3 *7*)	1995.66	≈11	≈6.1	av Eβ= 3919 *34* E(decay): 7700 (1990St13), 8750 *240* (1985Fo03) from (774γ)β coin.
(8.70×10^3[‡] *7*)	1946.93	<5.6	>8.5[1u]	Iβ^-: from log $f^{1u}t$>8.5 for ΔJ=2, No

Continued on next page (footnotes at end of table)

^{130}In β^- decay (0.54 s):(5$^+$) 1981Fo02 (continued)

β^- radiations (continued)

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

$\gamma(^{130}Sn)$

Iγ normalization: Σ (I(γ+ce) of γ's to g.s.)=98 *2*. %β^-n=1.65 *14* (combined for (10$^-$) and (5$^+$) isomers).

E$_\gamma$	I$_\gamma$#	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.†	α@	Comments
89.23 *3*	22.7 *20*	2084.89	(5$^-$)	1995.66	(4$^+$)	E1	0.251	α(K)= 0.2171; α(L)= 0.0276; α(M)=0.00534; α(N+..)=0.00115 α(K)exp=0.23 *7*
129.80 *5*	9.3 *7*	2214.70	(4$^-$)	2084.89	(5$^-$)	M1	0.273	α(K)= 0.2359; α(L)= 0.0299; α(M)=0.00584; α(N+..)=0.00132 α(K)exp= 0.19 *4*
137.96 *5*	11.5 *8*	2084.89	(5$^-$)	1946.93	(7$^-$)	E2	0.514	α(K)= 0.401; α(L)= 0.0912; α(M)=0.01828; α(N+..)=0.00386 α(K)exp=0.37 *8*
219.08 *10*	0.37 *5*	2214.70	(4$^-$)	1995.66	(4$^+$)			
261.34 *20*	1.4 *2*	2257.00	(6$^+$)	1995.66	(4$^+$)			
278.31 *20*	1.7 *2*	2493.04	(4,5)	2214.70	(4$^-$)			
408.16 *5*	8.8 *7*	2493.04	(4,5)	2084.89	(5$^-$)			
x411.14‡ *10*	2.5 *2*							
x492.92‡ *20*	1.6 *3*							
496.4 *6*	1.3 *5*	2493.04	(4,5)	1995.66	(4$^+$)			
602.05 *20*	1.5 *2*	2597.71		1995.66	(4$^+$)			
774.37 *10*	52 *3*	1995.66	(4$^+$)	1221.26	(2$^+$)			
807.01 *10*	7.0 *5*	2028.31	(2$^+$)	1221.26	(2$^+$)			
980.43 *10*	1.5 *2*	4405.48	(4$^+$)	3425.03	(4$^+$)			
1221.24 *5*	100 *5*	1221.26	(2$^+$)	0.0	0$^+$			
1269.60 *15*	1.5 *2*	2490.86	(3$^-$,4$^+$)	1221.26	(2$^+$)			
1340.19 *10*	4.6 *3*	3425.03	(4$^+$)	2084.89	(5$^-$)			
1429.22 *10*	2.5 *2*	3425.03	(4$^+$)	1995.66	(4$^+$)			
x1775.49‡ *20*	1.3 *2*							
2028.34 *10*	14.5 *8*	2028.31	(2$^+$)	0.0	0$^+$			
2203.85 *10*	2.5 *2*	3425.03	(4$^+$)	1221.26	(2$^+$)			
x2320.72‡ *15*	4.6 *4*							
2377.14 *10*	17.7 *10*	4405.48	(4$^+$)	2028.31	(2$^+$)			
x2388.5‡ *3*	1.3 *2*							
2409.92 *20*	2.6 *3*	4405.48	(4$^+$)	1995.66	(4$^+$)			
2468.1 *3*	1.3 *2*	4463.38	(4$^+$)	1995.66	(4$^+$)			
x2759.0‡ *3*	1.3 *2*							
3003.6 *4*	1.1 *2*	4224.9	(3$^-$,4$^+$)	1221.26	(2$^+$)			
x3178.2 *5*	0.6 *2*							
3184.0 *3*	10.6 *10*	4405.48	(4$^+$)	1221.26	(2$^+$)			
3241.7 *3*	5.0 *5*	4463.38	(4$^+$)	1221.26	(2$^+$)			
4041.5 *3*	3.9 *4*	5262.8	(4$^+$)	1221.26	(2$^+$)			

† From α(K)exp.
‡ May possibly be due to high-spin isomer.
# For absolute intensity per 100 decays, multiply by 0.86 *5*.
@ Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation

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^{130}In β^- decay (0.54 s):(5$^+$) 1981Fo02 (continued)

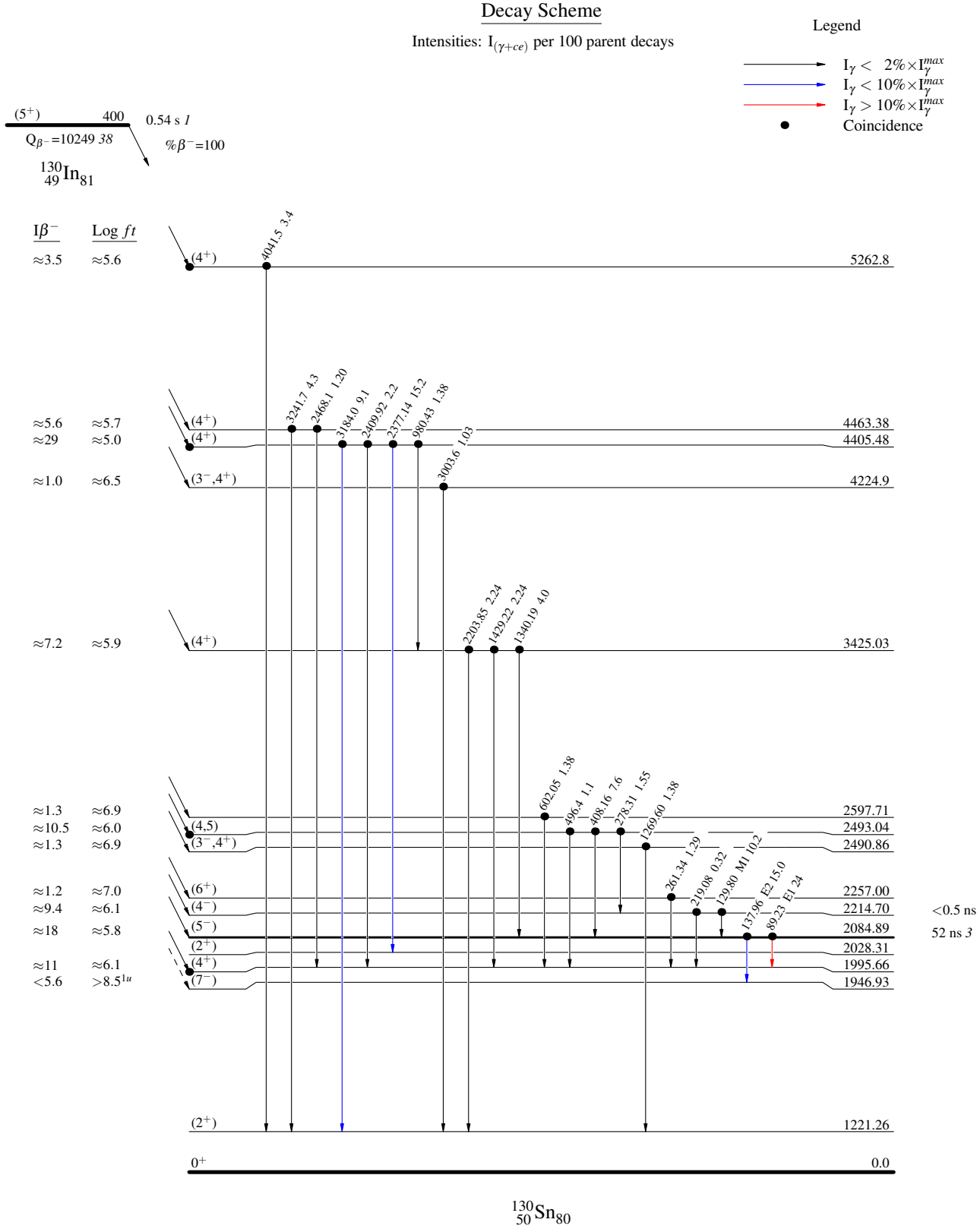
$\gamma(^{130}Sn)$ (continued)

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):(5$^+$) 1981Fo02

Decay Scheme

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



^{130}In β^- decay (0.54 s):(5^+) 1981Fo02

Decay Scheme (continued)

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