Adopted Levels, Gammas

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

Q(β^-)=2153 *15*; S(n)=7597 *20*; S(p)=14584 *4*; Q(α)=−10301 *4* 2012Wa38
Note: Current evaluation has used the following Q record 2148 15 *7*.69E3 13 *14*.56E313-9.70E3 14 1995Au04.
Other reaction: ^{235}U(n,Fγ) (1973Kh05): a 1222γ tentatively assigned from first 2^+ to g.s. in ^{130}Sn from (fission fragment)γ coin.

^{130}Sn Levels

Cross Reference (XREF) Flags

A	^{130}In β^- decay (0.29 s)	D	^{131}In β^-n decay (0.28 s)
B	^{130}In β^- decay (0.54 s):(10^-)	E	^{131}In β^-n decay (0.35 s)
C	^{130}In β^- decay (0.54 s):(5^+)	F	^{131}In β^-n decay (0.32 s)

E(level)†	J$^\pi$	T$_{1/2}$‡	XREF	Comments
0.0	0^+	3.72 min *7*	A C	%β^-=100 T$_{1/2}$: weighted average of 3.69 min *7* (1972Iz01) and 3.8 min *1* (1974Ke08). Others: 3.7 min *3* (1974Fo06), 1970OsZZ, 1956Pa20.
1221.26 *5*	(2^+)		A C	J$^\pi$: γ to 0^+; systematics of even tin nuclides.
1946.88 *10*	(7^-)	1.7 min *1*	ABC	%β^-=100 T$_{1/2}$: from 1974Ke08. Other: 1974Fo06. J$^\pi$: systematics of N=80 isotones and even tin nuclides.
1995.62 *8*	(4^+)		A C	J$^\pi$: γ to (2^+); systematics of even tin nuclides.
2028.31 *7*	(2^+)		A C	J$^\pi$: γ to 0^+, γ from (4^+).
2084.84 *8*	(5^-)	52 ns *3*	A C	J$^\pi$: E1 γ to (4^+), E2 γ to (7^-).
2214.64 *8*	(4^-)	<0.5 ns	A C	J$^\pi$: M1 γ to (5^-), γ from (2^-).
2256.96 *22*	(6^+)		C	J$^\pi$: γ to (4^+), no γ to (2^+); systematics.
2338.26 *11*	(8^+)	<40 ns	B	J$^\pi$: E2 γ from (10^+), γ to (7^-); systematics.
2434.79 *12*	(10^+)	1.61 μs *15*	B	J$^\pi$: log *ft*≈6.0 from (10^-); systematics.
2490.86 *16*	(3^-,4^+)		C	J$^\pi$: log *ft*≈6.9 from (5^+); γ to (2^+).
2492.99 *9*	(4,5)		C	J$^\pi$: log *ft*≈6.0 from (5^+); γ's to (4^-) and (4^+).
2597.67 *22*			C	
3167.17 *9*	(2^-,3)		A	J$^\pi$: γ's to (2^+) and (4^-); γ from (2^-).
3425.01 *8*	(4^+)		C	J$^\pi$: log *ft*≈5.9 from (5^+); γ to (2^+).
4119.79 *9*	(2^-)		A	J$^\pi$: log *ft*≈4.2 from $1^{(-)}$; γ to (4^-).
4205.73 *13*	(9^-)		B	J$^\pi$: log *ft*≈4.6 from (10^-); γ to (7^-).
4224.9 *4*	(3^-,4^+)		C	J$^\pi$: log *ft*≈6.5 from (5^+); γ to (2^+).
4405.46 *9*	(4^+)		C	J$^\pi$: log *ft*≈5.0 from (5^+); γ to (2^+).
4463.36 *22*	(4^+)		C	J$^\pi$: log *ft*≈5.7 from (5^+); γ to (2^+).
5262.8 *3*	(4^+)		C	J$^\pi$: log *ft*≈5.6 from (5^+); γ to (2^+).

† From least-squares adjustment to Eγ's.
‡ From $\beta\gamma$(t) (1981Fo02) for levels above 2 MeV.

Adopted Levels, Gammas (continued)

$\gamma(^{130}Sn)$

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.†	α‡	Comments
1221.26	(2^+)	1221.24 *5*	100	0.0	0^+			
1995.62	(4^+)	774.37 *10*	100	1221.26	(2^+)			
2028.31	(2^+)	807.01 *10*	48 *4*	1221.26	(2^+)			
		2028.34 *10*	100 *6*	0.0	0^+			
2084.84	(5^-)	89.23 *3*	100 *10*	1995.62	(4^+)	E1	0.251	α(K)= 0.2171; α(L)= 0.0276; α(M)=0.00534; α(N+..)=0.00115 B(E1)(W.u.)=3.6×10^{-6} *5*
		137.96 *5*	50 *4*	1946.88	(7^-)	E2	0.514	α(K)= 0.401; α(L)= 0.0912; α(M)=0.01828; α(N+..)=0.00386 B(E2)(W.u.)=1.4 *2*
2214.64	(4^-)	129.80 *5*	100 *6*	2084.84	(5^-)	M1	0.273	α(K)= 0.2359; α(L)= 0.0299; α(M)=0.00584; α(N+..)=0.00132 B(M1)(W.u.)>0.016
		219.08 *10*	3.7 *4*	1995.62	(4^+)			B(E1)(W.u.)>1.4×10^{-6}
2256.96	(6^+)	261.34 *20*	100	1995.62	(4^+)			
2338.26	(8^+)	391.39 *5*	100	1946.88	(7^-)			B(E1)(W.u.)>1.1×10^{-7}
2434.79	(10^+)	96.54 *5*	100	2338.26	(8^+)	E2	1.829	α(K)= 1.313; α(L)= 0.414; α(M)= 0.0839; α(N+..)=0.01747 B(E2)(W.u.)=0.38 *4* Mult.: from 0.54-s ^{130}In decay.
2490.86	$(3^-,4^+)$	1269.60 *15*	100	1221.26	(2^+)			
2492.99	(4,5)	278.31 *20*	19 *2*	2214.64	(4^-)			
		408.16 *5*	100 *8*	2084.84	(5^-)			
		496.4 *6*	15 *6*	1995.62	(4^+)			
2597.67		602.05 *20*	100	1995.62	(4^+)			
3167.17	$(2^-,3)$	952.59# *10*	≈77#	2214.64	(4^-)			
		1945.82 *10*	100 *8*	1221.26	(2^+)			
3425.01	(4^+)	1340.19 *10*	100 *7*	2084.84	(5^-)			
		1429.22 *10*	54 *5*	1995.62	(4^+)			
		2203.85 *10*	54 *5*	1221.26	(2^+)			
4119.79	(2^-)	952.59# *10*	≈15#	3167.17	$(2^-,3)$			
		1905.17 *10*	100 *5*	2214.64	(4^-)			
		2091.45 *15*	6.9 *7*	2028.31	(2^+)			
		2898.5 *3*	3.2 *4*	1221.26	(2^+)			
4205.73	(9^-)	1771.09 *20*	3.4 *3*	2434.79	(10^+)			
		2258.79 *10*	100 *5*	1946.88	(7^-)			
4224.9	$(3^-,4^+)$	3003.6 *4*	100	1221.26	(2^+)			
4405.46	(4^+)	980.43 *10*	8.5 *11*	3425.01	(4^+)			
		2377.14 *10*	100 *6*	2028.31	(2^+)			
		2409.92 *20*	14.7 *17*	1995.62	(4^+)			
		3184.0 *3*	60 *6*	1221.26	(2^+)			
4463.36	(4^+)	2468.1 *3*	26 *4*	1995.62	(4^+)			
		3241.7 *3*	100 *10*	1221.26	(2^+)			
5262.8	(4^+)	4041.5 *3*	100	1221.26	(2^+)			

† From 0.29-s ^{130}In decay, when a level is commonly populated in different decays.

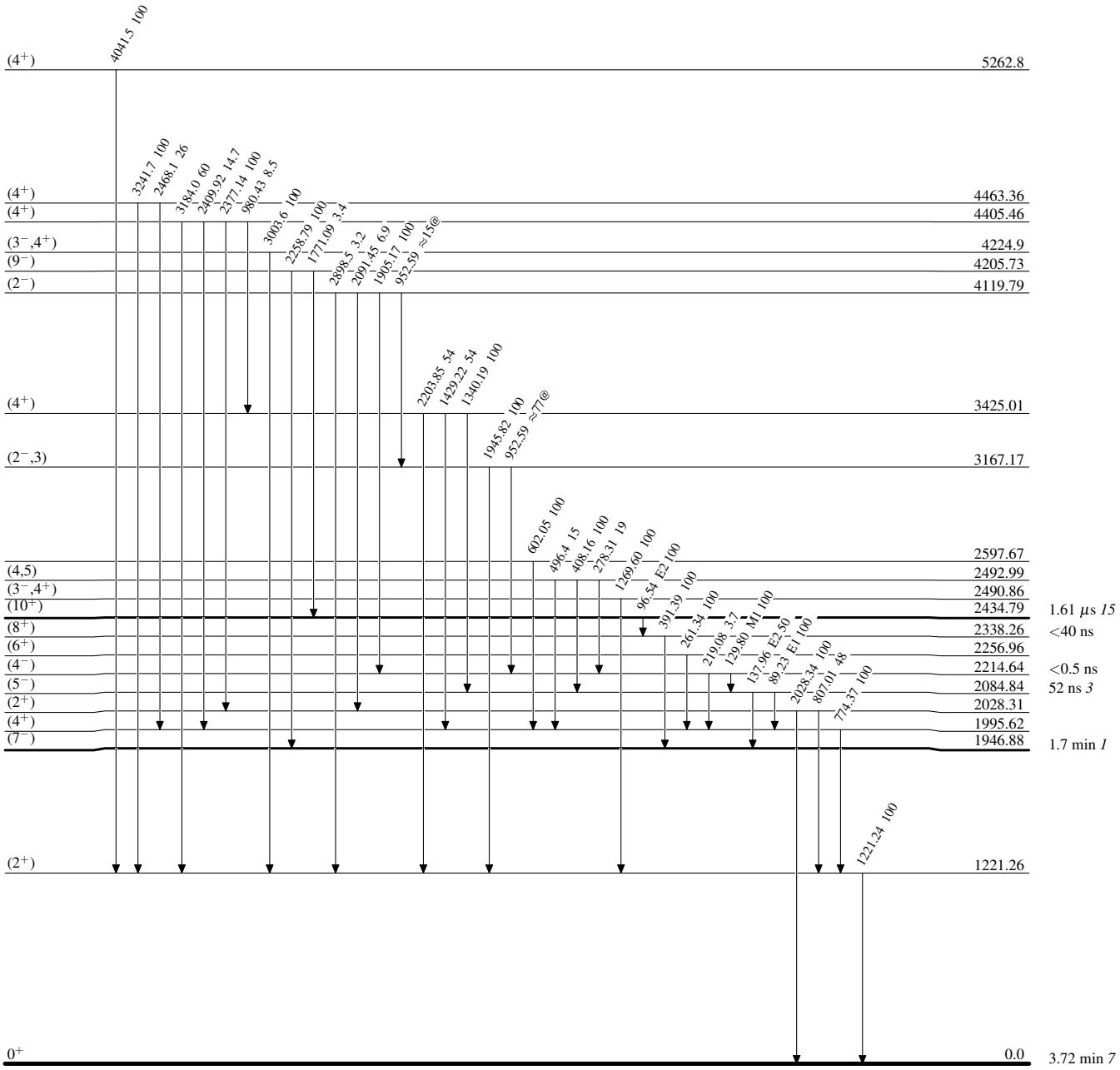
‡ Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

Multiply placed with intensity suitably divided.

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided



$^{130}_{50}Sn_{80}$