Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	A. A. Sonzogni	NDS 103,1 (2004)	31-Jul-2004

Q(β^-)=4065 *6*; S(n)=6244 *8*; S(p)=8416 *7*; Q(α)=−4198 *16* 2012Wa38
Note: Current evaluation has used the following Q record 4052 8 *6257* 9 *8420* 30 −4206 *19* 2003Au03.

^{134}I Levels

Cross Reference (XREF) Flags

A ^{134}Te β^- decay
B ^{134}I IT decay (3.52 min)

E(level)	J$^\pi$	T$_{1/2}$[#]	XREF	Comments
0.0	(4)$^+$	52.5 min *2*	AB	%β^-=100 J$^\pi$: 278-435-210 cascade of M1,E2 transitions gives positive parity, no γ from 1$^+$ points to a J=4 assignment. Additionally, it mainly feeds 4$^+$ levels in ^{134}Xe after β decay. T$_{1/2}$: weighted average of 52.5 min *5* (1953Pa25), 52.8 min *3* (1961Jo08), 52.0 min *2* (1965An05), 52.5 min *1* (1969Ta10), 53.2 min *2* (1971Ac01), and 51.3 min *7* (1974OhZR).
44.39 *20*	(5)$^+$	<10 ns	AB	J$^\pi$: see 316.5 level. T$_{1/2}$: from ^{134}I IT decay (3.52 min).
79.461 *11*	(3)$^+$	1.62 ns *10*	A	J$^\pi$: M1+E2 γ to (4)$^+$ g.s., γ from 1$^+$.
180.872 *12*	(2,3)$^+$†	<0.1 ns	A	
210.457 *15*	(2,3)$^+$†	<0.15 ns	A	
316.49 *22*	(8)$^-$	3.52 min *4*	B	%IT=97.7 *10*; %β^-=2.3 *10* J$^\pi$: E3-M1 γ cascade to (4)$^+$ g.s., lack of crossover γ establishes J^π(316.3)=(8)$^-$ and J^π(44.4)=(5)$^+$. Feeds only 7$^-$ level in ^{134}Xe after β decay. T$_{1/2}$: weighted average: 3.80 min *10* (1970Ca16), 3.56 min *8* (1971Ac01), 3.8 min *2* (1972Co04), 3.8 min *1* (1974Di03), 3.50 min *2* (1976La14). %IT, %β^-: from I(234.3γ, ^{134}Xe)/I(272.1γ, ^{134}I)=0.020 *10* (1972Co04).
645.471 *13*	(2,3)$^+$†		A	
846.688 *16*	1$^+$‡		A	
923.432 *14*	1$^+$‡		A	
1106.466 *23*	1$^+$‡		A	

† γ from 1$^+$, γ to (4)$^+$ g.s.
‡ log *ft*<5.0 from 0$^+$ ^{134}Te parent.
# From ^{134}Te β^- decay, except as noted.

$\gamma(^{134}I)$

E$_i$(level)	J$_i^\pi$	E$_\gamma$	I$_\gamma$	E$_f$	J$_f^\pi$	Mult.	δ	α[†]	Comments
44.39	(5)$^+$	44.4 *2*	100	0.0	(4)$^+$	M1		7.97	B(M1)(W.u.)=0.00280 *9* α(K)=6.83 *21*; α(L)=0.90 *3*; α(M)=0.180 *6*
79.461	(3)$^+$	79.445 *12*	100	0.0	(4)$^+$	M1+E2	0.12 *5*	1.50 *4*	B(M1)(W.u.)=0.0107 *8*; B(E2)(W.u.)=15 *13* α(K)=1.27 *2*; α(L)=0.180 *16*; α(M)=0.036 *4*; α(N+..)=0.0089 *8*

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Adopted Levels, Gammas (continued)

γ(^{134}I) (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	α†	Comments
180.872	(2,3)$^+$	101.42 *3*	2.1 *5*	79.461	(3)$^+$	[M1+E2]	1.2 *5*	α(K)=0.9 *3*; α(L)=0.25 *17*; α(M)=0.05 *4*; α(N+..)=0.012 *9*
		137.0‡ *4*	0.5 *4*	44.39	(5)$^+$	[E2]	0.582	B(E2)(W.u.)=11.66 *22* α(K)=0.436 *13*; α(L)=0.116 *4*; α(M)=0.0242 *8*; α(N+..)=0.00564 *17*
		180.891 *15*	100 *4*	0.0	(4)$^+$	M1,E2	0.18 *4*	α(K)=0.149 *25*; α(L)=0.027 *11*; α(M)=0.0055 *23*; α(N+..)=0.0013 *6*
210.457	(2,3)$^+$	(29.6)	<0.13	180.872	(2,3)$^+$	[M1]	3.79	α(L)= 2.99; α(M)= 0.599 B(M1)(W.u.)=0.0033 *4*
		131.05 *20*	0.8 *3*	79.461	(3)$^+$	[M1+E2]	0.52 *17*	α(K)=0.40 *10*; α(L)=0.09 *5*; α(M)=0.019 *11*; α(N+..)=0.0044 *25*
		210.465 *16*	100 *6*	0.0	(4)$^+$	M1,E2	0.114 *18*	α(K)=0.094 *12*; α(L)=0.016 *5*; α(M)=0.0032 *11*; α(N+..)=0.00076 *24*
316.49	(8)$^-$	272.1 *1*	100	44.39	(5)$^+$	E3	0.223	α(K)=0.159 *5*; α(L)=0.0504 *16*; α(M)=0.0107 *4*; α(N+..)=0.00254 *8* B(E3)(W.u.)=3.87×10^{-5} *8* Additional information 1.
		316.3‡ *10*	<0.6	0.0	(4)$^+$	[M4]	1.94	B(M4)(W.u.)=4 *+5−4* α(K)=1.48 *5*; α(L)=0.367 *11*; α(M)=0.0784 *24*; α(N+..)=0.0201 *6* B(M4)(W.u.)<225; from RUL<30 one expects Iγ≤0.06. Additional information 2.
645.471	(2,3)$^+$	435.06 *4*	100 *5*	210.457	(2,3)$^+$	M1,E2	0.0137 *9*	α(K)=0.0117 *9*; α(L)=0.00159; α(M)=0.00032
		464.64 *5*	25.0 *16*	180.872	(2,3)$^+$			
		565.992 *13*	98 *5*	79.461	(3)$^+$			
		645.4 *1*	4.7 *5*	0.0	(4)$^+$			
846.688	1$^+$	201.235 *15*	30.0 *10*	645.471	(2,3)$^+$	M1,E2	0.130 *23*	α(K)=0.108 *15*; α(L)=0.018 *7*; α(M)=0.0037 *14*; α(N+..)=0.0009 *3*
		636.26 *10*	5.7 *7*	210.457	(2,3)$^+$			
		665.85 *10*	4.0 *6*	180.872	(2,3)$^+$			
		767.20 *2*	100 *4*	79.461	(3)$^+$	(E2)		
923.432	1$^+$	76.83 *6*	1.29 *12*	846.688	1$^+$	[M1]	1.61	α(K)=1.38 *5*; α(L)=0.181 *6*; α(M)=0.0363 *11*; α(N+..)=0.0089 *3*
		277.951 *8*	100 *5*	645.471	(2,3)$^+$	M1,E2	0.049 *3*	α(K)=0.0411 *15*; α(L)=0.0062 *12*; α(M)=0.00125 *24*; α(N+..)=0.00030 *6*
		712.97 *5*	22 *3*	210.457	(2,3)$^+$			
		742.586 *18*	72 *3*	180.872	(2,3)$^+$			
		844.06 *5*	5.6 *14*	79.461	(3)$^+$			
1106.466	1$^+$	183.05 *12*	6 *3*	923.432	1$^+$	[M1+E2]	0.18 *4*	α(K)=0.144 *24*; α(L)=0.026 *10*; α(M)=0.0052 *22*; α(N+..)=0.0012 *5*
		259.8 *3*	4.5 *9*	846.688	1$^+$	[M1+E2]	0.060 *5*	α(K)=0.050 *3*; α(L)=0.0077 *17*; α(M)=0.0016 *4*; α(N+..)=0.00037 *8*
		460.997 *22*	100 *6*	645.471	(2,3)$^+$			
		896.02 *10*	4.5 *13*	210.457	(2,3)$^+$			
		925.55 *7*	15.2 *16*	180.872	(2,3)$^+$			
		1027.0 *1*	4.5 *13*	79.461	(3)$^+$			

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Adopted Levels, Gammas (continued)

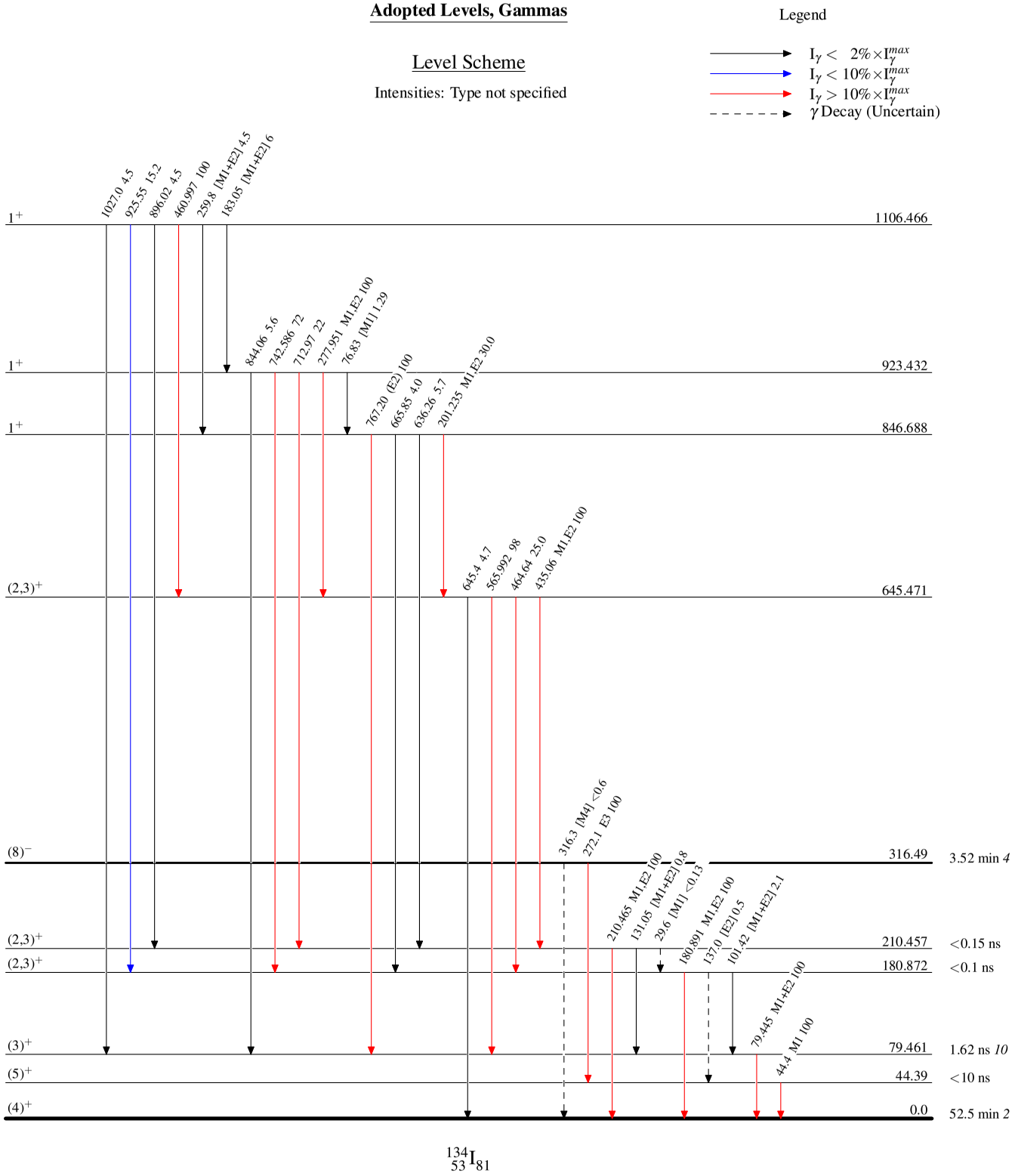
$\gamma(^{134}I)$ (continued)

† 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.
‡ Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

Level Scheme

Intensities: Type not specified



$^{134}_{53}I_{81}$