(HI,xnγ) 2001Gi09

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. Katakura, Z. D. Wu	NDS 109, 1655 (2008)	1-Apr-2008

2001Gi09: ^{115}In(^{12}C,3nγ),E=57 MeV; Measured Eγ, Iγ, $\gamma\gamma$, ce, $\gamma\gamma$(ce) coin,and $\gamma\gamma(\theta)$(DCO), using an array of 14 EUROGAM II Compton-suppressed tapered coaxial Ge detectors.
1990Ko01: ^{115}In(^{13}C,4nγ) E=66 MeV; NORDBALL array of 15 Compton suppressed Ge and a multiplicity filter; measured Eγ, $\gamma\gamma$-coin, DCO ratios; proposed five bands.
1990Gi03: ^{115}In(^{12}C,3nγ) E=56 MeV; semi γ, $\gamma\gamma$-coin, $\gamma(\theta)$; proposed four bands.
1993Ko25: supplements 1990Ko01; measured $\gamma(\theta)$, linear polarization.
2000Lu15,2001Lu02: ^{116}Sn(^{11}B,3nγ),E=45 MeV, Measured Eγ, $\gamma\gamma$, and $\gamma\gamma(\theta)$(DCO) using an array comprised of 10 HPGe detectors, surrounded by BGO anti-Compton shield and one planar-type HPGe detector.
The level scheme is based on that proposed by 2001Gi09. 2000Lu15 and 2001Lu02 also proposed a level scheme with different low-lying part and different interband connection.

^{124}Cs Levels

E(level)[†]	J$^\pi$[‡]	T$_{1/2}$	Comments
0.0	1$^+$	30.8 s *5*	Configuration=π1/2[420]ν1/2[411].
169.5 *4*	(1)$^+$		J$^\pi$: 2001Gi09 assigns 2$^+$. 2$^+$ assignment seems to be conflict with strong β feed from 0$^+$ in ^{124}Cs decay.
189.00 *10*	(2)$^+$		
211.50 *16*	(3)$^+$		E2 γ to 1$^+$, γ to 2$^+$.
243.00 *12*	(3)$^+$		J$^\pi$: M1(+E2) γ to 2$^+$, γ to 1$^+$.
270.30 *25*	(3)$^+$		
282.70 *14*	3$^+$		
301.10[c] *16*	(4)$^-$	69 ns *3*	T$_{1/2}$: From Adopted Levels.
373.7 *3*	(5)$^+$		
379.00 *18*	(4)$^+$		
397.90[c] *18*	(5)$^-$		
399.60 *14*	(4)$^+$		
427.6 *5*	(6$^+$)		
441.50 *12*	4$^+$		
462.8 *8*	(7)$^+$	6.3 s *2*	%IT=100 T$_{1/2}$: From adopted level.
479.10[@] *14*	(5)$^+$		
491.6[#] *4*	(6$^+$)		
495.0[c] *3*	(6)$^-$		
529.90[a] *19*	(5)$^-$		
530.2[@] *4*	(7$^+$)		
565.8[&] *3*	(6$^-$)		
586.6[b] *4*	(6$^-$)		
588.7[#] *4*	(8$^+$)		
648.9[a] *3*	(7)$^-$		
660.3[@] *4*	(9$^+$)		
677.5[c] *4*	(7$^-$)		
743.3[b] *4*	(7$^-$)		
757.6[&] *3*	(8$^-$)		
784.3[#] *4*	(10)$^+$		
796.8[c] *4*	(8$^-$)		
974.2[a] *3*	(9$^-$)		
1091.5[b] *4*	(9$^-$)		

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(HI,xnγ) 2001Gi09 (continued)

^{124}Cs Levels (continued)

E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡
1096.3[@] 4	(11⁺)	1846.1 7		2709.8 6		3817.5[b] 8	(17⁻)
1196.5[&] 3	(10⁻)	1932.8[d] 4	(13⁺)	2710.4[c] 7	(14⁻)	3872.3[#] 5	(18⁺)
1289.7[c] 4	(10⁻)	1949.5[c] 5	(12⁻)	2898.5[#] 4	(16⁺)	4206.8[&] 8	(18⁻)
1300.5[d] 4	(11⁺)	2029.4[#] 4	(14⁺)	2908.4 5		4382.3[@] 5	(19⁺)
1315.9[#] 4	(12⁺)	2169.6[a] 5	(13⁻)	2945.1[a] 5	(15⁻)	4642.6[a] 8	(19⁻)
1494.7[a] 4	(11⁻)	2177.7 5		3009.0[b] 6	(15⁻)	4688.1[b] 10	(19⁻)
1534.3 5		2263.2[b] 6	(13⁻)	3130.3[d] 5	(16⁺)	4946.9[#] 6	(20⁺)
1611.6[b] 5	(11⁻)	2305.1[d] 4	(14⁺)	3350.2[&] 6	(16⁻)	5128.3[&] 9	(20⁻)
1671.2[d] 4	(12⁺)	2486.3[@] 4	(15⁺)	3384.1[@] 5	(17⁺)	5464.0[@] 6	(21⁺)
1713.5[@] 4	(13⁺)	2544.8[&] 5	(14⁻)	3613.9[d] 5	(17⁺)	6127.2[#] 8	(22⁺)
1805.7[&] 4	(12⁻)	2706.1[d] 5	(15⁺)	3767.7[a] 6	(17⁻)		

† From a least-squares fit to Eγ′s.
‡ From Adopted Levels.
\# Band(A): $\pi h_{11/2}\nu h_{11/2}$, α=0.
@ Band(a): $\pi h_{11/2}\nu h_{11/2}$, α=1.
& Band(B): $\pi h^2_{11/2}\nu(d_{5/2}g_{7/2})$, α=0. Above the crossing, the configuration= $\pi h^2_{11/2}\nu(d_{5/2}g_{7/2}h^2_{11/2})$.
a Band(b): $\pi h^2_{11/2}\nu(d_{5/2}g_{7/2})$, α=1. Above the crossing, the configuration= $\pi h^2_{11/2}\nu(d_{5/2}g_{7/2}h^2_{11/2})$.
b Band(C): $\pi h_{11/2}\nu d_{3/2}$, α=1. Above the crossing, the configuration=$\pi h_{11/2}\nu(d_{5/2}h^2_{11/2})$.
c Band(c): $\pi h_{11/2}\nu d_{3/2}$, α=0. Above the crossing, the configuration=$\pi h_{11/2}\nu(d_{5/2}h^2_{11/2})$.
d Band(D): $\pi h_{11/2}\nu h_{11/2}$, α=1.

γ(^{124}Cs)

Eγ†	Iγ&	Ei(level)	Jπi	Ef	Jπf	Mult.‡	α[a]	Comments
(12.5[#])		491.6	(6⁺)	479.10	(5)⁺			Iγ(12.5)/Iγ(64.0)=100/33.
(19.5[#])		189.00	(2)⁺	169.5	(1)⁺			Iγ(19.5)/Iγ(189.0)=1.2/100.
(22.5[#])		211.50	(3)⁺	189.00	(2)⁺			Iγ(22.5)/Iγ(211.5)=2/100.
(28.0[#])		427.6	(6⁺)	399.60	(4)⁺			Iγ(28.0)/Iγ(53.9)=2/100.
(30.8[#])		301.10	(4)⁻	270.30	(3)⁺			
35.9 5	1.8 5	565.8	(6⁻)	529.90	(5)⁻			
37.6 1	18.0 9	479.10	(5)⁺	441.50	4⁺			
38.6 1	27.0 14	530.2	(7⁺)	491.6	(6⁺)			
39.2[@] 5		796.8	(8⁻)	757.6	(8⁻)			Iγ(39.2)/Iγ(119.3)=33/100.
39.7[@] 5		282.70	3⁺	243.00	(3)⁺			Iγ(39.7)/Iγ(93.7)=23/100.
53.9 5	1.0 3	427.6	(6⁺)	373.7	(5)⁺			
54.0 1	15 3	243.00	(3)⁺	189.00	(2)⁺	M1(+E2)	11 7	α(K)=5.4 9; α(L)=5 5; α(M)=1.0 9; α(N+..)=0.23 21 α(N)=0.21 19; α(O)=0.024 21; α(P)=0.000174 7 α(K)exp=3.2 10. K/L=6.5 30.
58.1 3	9.0 18	301.10	(4)⁻	243.00	(3)⁺	E1	0.978 20	B(E1)(W.u.)=3.9×10⁻⁶ 9 α(K)=0.829 17; α(L)=0.1195 25; α(M)=0.0243 5; α(N+..)=0.00568 12 α(N)=0.00501 11; α(O)=0.000648 13; α(P)=2.40×10⁻⁵ 5

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(HI,xnγ) 2001Gi09 (continued)

γ(^{124}Cs) (continued)

E_γ[†]	I_γ[&]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	α[a]	Comments
								α(K)exp=1.15 *22*. K/L=9 *3*.
58.5 *1*	40.0 *20*	588.7	(8$^+$)	530.2	(7$^+$)	M1	4.22	α(K)=3.61 *6*; α(L)=0.485 *8*; α(M)=0.0994 *15*; α(N+..)=0.0240 *4* α(N)=0.0210 *4*; α(O)=0.00291 *5*; α(P)=0.0001423 *22* Prompt component observed on line. α(K)exp>3. K/L>5.
64.0 *5*	2.0 *6*	491.6	(6$^+$)	427.6	(6$^+$)			
64.9		462.8	(7)$^+$	397.90	(5)$^-$	M2	46.9	α(K)=35.6 *5*; α(L)=8.90 *13*; α(M)=1.94 *3*; α(N+..)=0.466 *7* α(N)=0.409 *6*; α(O)=0.0548 *8*; α(P)=0.00227 *4* From Fig.1 in 2001Gi09.
70.8 *5*	2.0 *6*	565.8	(6$^-$)	495.0	(6)$^-$			
71.2 *3*	5.0 *10*	282.70	3$^+$	211.50	(3)$^+$			
71.6 *1*	55 *3*	660.3	(9$^+$)	588.7	(8$^+$)	M1(+E2)	4.3 *20*	α(K)=2.6 *6*; α(L)=1.3 *11*; α(M)=0.28 *23*; α(N+..)=0.06 *6* α(N)=0.06 *5*; α(O)=0.007 *6*; α(P)=8.2×10^{-5} *3* α(K)exp=1.8 *7*. K/L=5.8 *10*.
79.5 *1*	18.0 *9*	479.10	(5)$^+$	399.60	(4)$^+$	M1(+E2)	3.0 *13*	α(K)=1.9 *5*; α(L)=0.8 *7*; α(M)=0.18 *14*; α(N+..)=0.04 *3* α(N)=0.04 *3*; α(O)=0.004 *4*; α(P)=6.1×10^{-5} *3* α(K)exp=1.1 *2*. K/L>5.
80.1 *5*	1.0 *3*	757.6	(8$^-$)	677.5	(7$^-$)			
81.2 *5*	4.0 *12*	479.10	(5)$^+$	397.90	(5)$^-$			
83.1 *3*	13 *3*	648.9	(7)$^-$	565.8	(6$^-$)	M1(+E2)	2.6 *11*	α(K)=1.7 *4*; α(L)=0.7 *5*; α(M)=0.15 *12*; α(N+..)=0.034 *25* α(N)=0.030 *23*; α(O)=0.004 *3*; α(P)=5.4×10^{-5} *3* α(K)exp=1.6 *4*. K/L>5. DCO=0.7 *1*(2000Lu15).
89.6 *1*	22.0 *11*	301.10	(4)$^-$	211.50	(3)$^+$	E1	0.298	B(E1)(W.u.)=2.6×10^{-6} *3* α(K)=0.254 *4*; α(L)=0.0345 *5*; α(M)=0.00702 *10*; α(N+..)=0.001659 *24* α(N)=0.001458 *21*; α(O)=0.000193 *3*; α(P)=7.83×10^{-6} *12* α(K)exp=0.26(Normalization value). K/L=6.9 *14*. DCO=0.66 *2*(2000Lu15).
91.6 *5*	0.3 *1*	586.6	(6$^-$)	495.0	(6)$^-$			
93.7[b] *3*	13.0[b] *26*	282.70	3$^+$	189.00	(2)$^+$	M1	1.084 *19*	α(K)=0.929 *16*; α(L)=0.1238 *21*; α(M)=0.0254 *5*; α(N+..)=0.00614 *11* α(N)=0.00536 *9*; α(O)=0.000745 *13*; α(P)=3.65×10^{-5} *7* α(K)exp=0.96 *10*. K/L>5.
93.7[b] *5*	2.0[b] *6*	491.6	(6$^+$)	397.90	(5)$^-$			
96.6 *5*	1.4 *4*	2029.4	(14$^+$)	1932.8	(13$^+$)			

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(HI,xnγ) 2001Gi09 (continued)

γ(^{124}Cs) (continued)

E_γ[†]	I_γ[&]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[‡]	α[a]	Comments
96.8 *1*	27.0 *14*	397.90	(5)⁻	301.10	(4)⁻	M1	0.988	α(K)=0.846 *13*; α(L)=0.1128 *17*; α(M)=0.0231 *4*; α(N+..)=0.00559 *8* α(N)=0.00488 *7*; α(O)=0.000679 *10*; α(P)=3.33×10^{-5} *5* α(K)exp=1.03 *8*. K/L=7.7 *5*.
97.1 *3*	12.5 *25*	495.0	(6)⁻	397.90	(5)⁻	M1	0.979 *17*	α(K)=0.839 *14*; α(L)=0.1118 *19*; α(M)=0.0229 *4*; α(N+..)=0.00554 *10* α(N)=0.00484 *8*; α(O)=0.000673 *12*; α(P)=3.30×10^{-5} *6* α(K)exp=1.0 *2*. K/L>6.
100.8		270.30	(3)⁺	169.5	(1)⁺			E_γ: from table 4 of 2001Gi09. Iγ(100.8)/Iγ(270.3)=3/100.
108.7[@] *5*		379.00	(4)⁺	270.30	(3)⁺	M1	0.710 *14*	α(K)=0.609 *12*; α(L)=0.0810 *16*; α(M)=0.0166 *4*; α(N+..)=0.00402 *8* α(N)=0.00351 *7*; α(O)=0.000488 *10*; α(P)=2.39×10^{-5} *5* α(K)exp=0.45 *15*. K/L>5.
108.7 *1*	20.0 *10*	757.6	(8⁻)	648.9	(7)⁻			
111.7 *5*	4.0 *12*	677.5	(7⁻)	565.8	(6⁻)			
113.2 *5*	1.5 *5*	282.70	3⁺	169.5	(1)⁺			
119.0 *5*	0.5 *2*	648.9	(7)⁻	529.90	(5)⁻			
119.3 *5*	3.0 *9*	796.8	(8⁻)	677.5	(7⁻)	M1,E2	0.77 *23*	α(K)=0.58 *12*; α(L)=0.15 *9*; α(M)=0.032 *20*; α(N+..)=0.007 *5* α(N)=0.007 *4*; α(O)=0.0008 *5*; α(P)=1.92×10^{-5} *9* α(K)exp=0.7 *3*. DCO=0.60 *15*(2000Lu15).
124.0 *1*	115 *6*	784.3	(10)⁺	660.3	(9⁺)	M1	0.490	α(K)=0.420 *6*; α(L)=0.0557 *8*; α(M)=0.01141 *17*; α(N+..)=0.00276 *4* α(N)=0.00241 *4*; α(O)=0.000336 *5*; α(P)=1.651×10^{-5} *24* α(K)exp=0.40 *5*. K/L=6.6 *9*. DCO=0.75 *3*(2000Lu15).
130.7 *3*	14 *3*	373.7	(5)⁺	243.00	(3)⁺	E2	0.726 *12*	α(K)=0.520 *9*; α(L)=0.163 *3*; α(M)=0.0349 *6*; α(N+..)=0.00798 *14* α(N)=0.00711 *13*; α(O)=0.000856 *15*; α(P)=1.522×10^{-5} *24* α(K)exp=0.6 *2*. K/L≈4.
132.0 *3*	7.0 *14*	529.90	(5)⁻	397.90	(5)⁻			
147.9 *5*	2.5 *8*	796.8	(8⁻)	648.9	(7)⁻			
150.9 *1*	19.0 *10*	529.90	(5)⁻	379.00	(4)⁺	E1	0.0698	α(K)=0.0600 *9*; α(L)=0.00783 *11*; α(M)=0.001592 *23*; α(N+..)=0.000380 *6* α(N)=0.000333 *5*; α(O)=4.49×10^{-5} *7*; α(P)=1.97×10^{-6} *3* α(K)exp≈0.05.
153.9 *3*	6.0 *12*	648.9	(7)⁻	495.0	(6)⁻	D+Q		Mult.: From 2000Lu15. DCO=0.60 *18*(2000Lu15).
156.5 *3*	8.0 *16*	530.2	(7⁺)	373.7	(5)⁺			α(K)exp=0.18 *3* for 156.5+156.6+156.7. K/L≈5 for triplet.
156.6 *1*	43.0 *22*	399.60	(4)⁺	243.00	(3)⁺	M1(+E2)	0.32 *7*	α(K)=0.25 *4*; α(L)=0.053 *24*; α(M)=0.011 *6*;

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(HI,xnγ) 2001Gi09 (continued)

γ(^{124}Cs) (continued)

E_γ[†]	I_γ[&]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[‡]	α[a]	Comments
								α(N+..)=0.0026 *12* α(N)=0.0023 *11*; α(O)=0.00029 *12*; α(P)=8.70×10^{-6} *16* α(K)exp=0.18 *3* for 156.5+156.6+156.7. K/L≈5 for triplet.
156.7 *5*	0.9 *3*	743.3	(7$^-$)	586.6	(6$^-$)			α(K)exp=0.18 *3* for 156.5+156.6+156.7. K/L≈5 for triplet.
158.8 *1*	50.0 *25*	441.50	4$^+$	282.70	3$^+$	M1	0.246	α(K)=0.211 *3*; α(L)=0.0278 *4*; α(M)=0.00570 *8*; α(N+..)=0.001381 *20* α(N)=0.001205 *17*; α(O)=0.0001678 *24*; α(P)=8.28×10^{-6} *12* α(K)exp=0.18 *4*. K/L>6.
161.7		462.8	(7)$^+$	301.10	(4)$^-$	(E3)	2.27	α(K)=1.160 *17*; α(L)=0.868 *13*; α(M)=0.193 *3*; α(N+..)=0.0437 *7* α(N)=0.0392 *6*; α(O)=0.00452 *7*; α(P)=3.34×10^{-5} *5* Additional information 1. From Fig.1 in 2001Gi09.
167.5 *1*	21.0 *11*	379.00	(4)$^+$	211.50	(3)$^+$	(M1)	0.212	α(K)=0.182 *3*; α(L)=0.0240 *4*; α(M)=0.00491 *7*; α(N+..)=0.001191 *17* α(N)=0.001039 *15*; α(O)=0.0001447 *21*; α(P)=7.15×10^{-6} *10* α(K)exp≈0.2. K/L>6.
167.9 *3*	7.0 *14*	565.8	(6$^-$)	397.90	(5)$^-$	(D+Q)		Mult.: From 2000Lu15. DCO=0.58 *7*(2000Lu15).
169.5 *5*	1.5 *5*	169.5	(1)$^+$	0.0	1$^+$	M1	0.205 *4*	α(K)=0.176 *3*; α(L)=0.0232 *4*; α(M)=0.00476 *8*; α(N+..)=0.001152 *19* α(N)=0.001005 *17*; α(O)=0.0001401 *23*; α(P)=6.92×10^{-6} *12* α(K)exp=0.18 *1*. K/L=7.4 *3*.
177.4 *3*	8.0 *16*	974.2	(9$^-$)	796.8	(8$^-$)	(D+Q)		Mult.: From 2000Lu15. DCO=0.73 *9*(2000Lu15).
177.5 *5*	1.3 *4*	743.3	(7$^-$)	565.8	(6$^-$)			
178.0 *3*	12.0 *24*	479.10	(5)$^+$	301.10	(4)$^-$			
182.5 *3*	8.0 *16*	677.5	(7$^-$)	495.0	(6)$^-$	(D+Q)		Mult.: From 2000Lu15. DCO=0.75 *9*(2000Lu15).
188.7 *5*	0.9 *3*	586.6	(6$^-$)	397.90	(5)$^-$			
189.0 *1*	200.0	189.00	(2)$^+$	0.0	1$^+$	M1+E2	0.177 *25*	α(K)=0.144 *13*; α(L)=0.026 *10*; α(M)=0.0055 *21*; α(N+..)=0.0013 *5* α(N)=0.0011 *4*; α(O)=0.00015 *5*; α(P)=5.03×10^{-6} *13* α(K)exp=0.15 *2*. K/L=6.1 *5*. DCO=0.80 *3*(2000Lu15).
196.4 *5*	3.0 *9*	479.10	(5)$^+$	282.70	3$^+$			
198.5 *3*	13. *3*	441.50	4$^+$	243.00	(3)$^+$			
210.6 *5*	2.0 *6*	399.60	(4)$^+$	189.00	(2)$^+$			
211.5 *3*	10.0 *20*	211.50	(3)$^+$	0.0	1$^+$	E2	0.1377	α(K)=0.1087 *16*; α(L)=0.0230 *4*; α(M)=0.00486 *8*; α(N+..)=0.001129 *17* α(N)=0.001000 *15*; α(O)=0.0001259 *19*; α(P)=3.49×10^{-6} *6* α(K)exp=0.12 *1*. K/L=4.7 *4*. DCO=1.15 *2*(2000Lu15).

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(HI,xnγ) 2001Gi09 (continued)

γ(^{124}Cs) (continued)

E_γ[†]	I_γ[&]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	α[a]	Comments
216.6 *1*	18.0 *9*	974.2	(9⁻)	757.6	(8⁻)	M1	0.1055	α(K)=0.0906 *13*; α(L)=0.01186 *17*; α(M)=0.00243 *4*; α(N+..)=0.000588 *9* α(N)=0.000513 *8*; α(O)=7.15×10^{-5} *10*; α(P)=3.54×10^{-6} *5* α(K)exp=0.20 *10*. K/L>5.
219.6 *1*	56 *3*	1315.9	(12⁺)	1096.3	(11⁺)	M1	0.1016	α(K)=0.0873 *13*; α(L)=0.01143 *16*; α(M)=0.00234 *4*; α(N+..)=0.000567 *8* α(N)=0.000494 *7*; α(O)=6.89×10^{-5} *10*; α(P)=3.42×10^{-6} *5* α(K)exp=0.080 *10*. K/L=6 *1*.
222.3 *1*	16.0 *8*	1196.5	(10⁻)	974.2	(9⁻)	M1	0.0983	α(K)=0.0845 *12*; α(L)=0.01106 *16*; α(M)=0.00226 *4*; α(N+..)=0.000548 *8* α(N)=0.000478 *7*; α(O)=6.67×10^{-5} *10*; α(P)=3.30×10^{-6} *5* α(K)exp=0.20 *10*. K/L>5.
228.8 *5*	2.5 *8*	529.90	(5)⁻	301.10	(4)⁻			
230.0 *3*	9.0 *18*	441.50	4⁺	211.50	(3)⁺			
243.0 *5*	4.0 *12*	243.00	(3)⁺	0.0	1⁺			
252.5 *1*	54 *3*	441.50	4⁺	189.00	(2)⁺	E2	0.0762	α(K)=0.0614 *9*; α(L)=0.01174 *17*; α(M)=0.00246 *4*; α(N+..)=0.000576 *9* α(N)=0.000509 *8*; α(O)=6.52×10^{-5} *10*; α(P)=2.03×10^{-6} *3* α(K)exp=0.068 *10*. K/L=4.0 *7*. DCO=1.15 *9*(2000Lu15).
261.6 *5*	1.5 *5*	1932.8	(13⁺)	1671.2	(12⁺)			
262.6 *5*	2.0 *6*	757.6	(8⁻)	495.0	(6)⁻	(Q)		Mult.: From 2000Lu15. DCO=1.1 *1*(2000Lu15).
270.3 *3*	7.0 *14*	270.30	(3)⁺	0.0	1⁺	E2(+M1)	0.0597 *15*	α(K)=0.0498 *9*; α(L)=0.0078 *13*; α(M)=0.0016 *3*; α(N+..)=0.00039 *7* α(N)=0.00034 *6*; α(O)=4.5×10^{-5} *6*; α(P)=1.81×10^{-6} *16* Mult.: listed as E2+M1 in 2001Gi09. Measured K/L value prefers E2. α(K)exp≈0.025. K/L≈4.
298.2 *3*	7.0 *14*	1494.7	(11⁻)	1196.5	(10⁻)	M1,E2	0.0448 *8*	α(K)=0.0376 *14*; α(L)=0.0057 *7*; α(M)=0.00118 *16*; α(N+..)=0.00028 *4* α(N)=0.00025 *3*; α(O)=3.3×10^{-5} *3*; α(P)=1.37×10^{-6} *15* α(K)exp≈0.03.
301.8 *5*	2.3 *7*	796.8	(8⁻)	495.0	(6)⁻	(Q)		Mult.: From 2000Lu15. DCO=1.05 *9*(2000Lu15).
311.0 *3*	5.0 *10*	1805.7	(12⁻)	1494.7	(11⁻)			
311.8 *5*	4.0 *12*	1846.1		1534.3				
312.0 *1*	85 *4*	1096.3	(11⁺)	784.3	(10)⁺	M1(+E2)	0.0393 *11*	α(K)=0.0330 *16*; α(L)=0.0050 *5*; α(M)=0.00103 *12*; α(N+..)=0.000245 *24* α(N)=0.000215 *22*; α(O)=2.89×10^{-5} *20*; α(P)=1.21×10^{-6} *14* α(K)exp=0.045 *10*. K/L=6.2 *9*. DCO=0.77 *4*(2000Lu15).

Continued on next page (footnotes at end of table)

(HI,xnγ) 2001Gi09 (continued)

γ(^{124}Cs) (continued)

E_γ[†]	I_γ[&]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[‡]	Comments
315.9 *3*	10.0 *20*	2029.4	(14⁺)	1713.5	(13⁺)		
325.3 *5*	1.3 *4*	974.2	(9⁻)	648.9	(7)⁻		
333.9 *5*	2.0 *6*	1091.5	(9⁻)	757.6	(8⁻)		
348.2 *5*	2.6 *8*	1091.5	(9⁻)	743.3	(7⁻)		
363.9 *5*	4.0 *12*	2169.6	(13⁻)	1805.7	(12⁻)		
370.7 *3*	7.0 *14*	1671.2	(12⁺)	1300.5	(11⁺)		
372.3 *5*	3.0 *9*	2305.1	(14⁺)	1932.8	(13⁺)		
375.2 *5*	2.0 *6*	2544.8	(14⁻)	2169.6	(13⁻)		
397.6 *1*	36.0 *18*	1713.5	(13⁺)	1315.9	(12⁺)		
400.3 *5*	3.0 *9*	2945.1	(15⁻)	2544.8	(14⁻)		
401.0 *3*	8.0 *16*	2706.1	(15⁺)	2305.1	(14⁺)		
411.8		2898.5	(16⁺)	2486.3	(15⁺)		E_γ: From 2000Lu15.
414.0 *5*	0.7 *2*	1091.5	(9⁻)	677.5	(7⁻)		
415.1 *5*	2.0 *6*	1611.6	(11⁻)	1196.5	(10⁻)		
436.0 *3*	7.0 *14*	1096.3	(11⁺)	660.3	(9⁺)		
438.9 *3*	8.0 *16*	1196.5	(10⁻)	757.6	(8⁻)		
456.9 *1*	19.0 *10*	2486.3	(15⁺)	2029.4	(14⁺)		
483.6 *5*	2.5 *8*	3613.9	(17⁺)	3130.3	(16⁺)		
485.6 *3*	5.5 *11*	3384.1	(17⁺)	2898.5	(16⁺)		
488.3		3872.3	(18⁺)	3384.1	(17⁺)		E_γ: From 2000Lu15.
492.9 *3*	5.0 *10*	1289.7	(10⁻)	796.8	(8⁻)		
506.5 *3*	12.0 *24*	2177.7		1671.2	(12⁺)		
510.0 *5*	3.0 *9*	4382.3	(19⁺)	3872.3	(18⁺)		
516.2 *1*	18.0 *9*	1300.5	(11⁺)	784.3	(10)⁺		
520.1 *3*	6.0 *12*	1611.6	(11⁻)	1091.5	(9⁻)		
520.5 *3*	8.0 *16*	1494.7	(11⁻)	974.2	(9⁻)		
531.6 *1*	54 *3*	1315.9	(12⁺)	784.3	(10)⁺	Q	Mult.: From 2000Lu15. DCO=1.10 *7*(2000Lu15).
532.1[b] *5*	2.5[b] *8*	1289.7	(10⁻)	757.6	(8⁻)		
532.1[b] *3*	5.0[b] *10*	2709.8		2177.7			
574.9 *1*	16.0 *8*	1671.2	(12⁺)	1096.3	(11⁺)		
591.6 *1*	16.0 *8*	2305.1	(14⁺)	1713.5	(13⁺)		
603.3 *3*	8.0 *16*	2908.4		2305.1	(14⁺)		
609.2 *3*	10.0 *20*	1805.7	(12⁻)	1196.5	(10⁻)		
616.9 *3*	13 *3*	1932.8	(13⁺)	1315.9	(12⁺)		
617.2 *3*	13 *3*	1713.5	(13⁺)	1096.3	(11⁺)		
632.3 *3*	8.0 *16*	1932.8	(13⁺)	1300.5	(11⁺)		
633.9 *5*	3.0 *9*	2305.1	(14⁺)	1671.2	(12⁺)		
644.0 *3*	8.0 *16*	3130.3	(16⁺)	2486.3	(15⁺)		
651.6 *3*	7.0 *14*	2263.2	(13⁻)	1611.6	(11⁻)		
659.8 *3*	5.0 *10*	1949.5	(12⁻)	1289.7	(10⁻)		
674.9 *3*	7.0 *14*	2169.6	(13⁻)	1494.7	(11⁻)		
676.7 *5*	2.0 *6*	2706.1	(15⁺)	2029.4	(14⁺)		
713.5 *1*	46.0 *23*	2029.4	(14⁺)	1315.9	(12⁺)	Q	Mult.: From 2000Lu15. DCO=1.11 *7*(2000Lu15).
739.1 *3*	9.0 *18*	2544.8	(14⁻)	1805.7	(12⁻)		
745.8 *3*	7.0 *14*	3009.0	(15⁻)	2263.2	(13⁻)		
750.0 *3*	10.0 *20*	1534.3		784.3	(10)⁺		
760.9 *5*	3.0 *9*	2710.4	(14⁻)	1949.5	(12⁻)		
772.8 *3*	10.0 *20*	2486.3	(15⁺)	1713.5	(13⁺)		
773.3 *3*	10.0 *20*	2706.1	(15⁺)	1932.8	(13⁺)		
775.5 *3*	8.0 *16*	2945.1	(15⁻)	2169.6	(13⁻)		
805.4 *3*	6.0 *12*	3350.2	(16⁻)	2544.8	(14⁻)		
808.5 *5*	4.0 *12*	3817.5	(17⁻)	3009.0	(15⁻)		
822.6 *3*	7.0 *14*	3767.7	(17⁻)	2945.1	(15⁻)		

Continued on next page (footnotes at end of table)

(HI,xnγ) 2001Gi09 (continued)

γ(^{124}Cs) (continued)

E_γ †	I_γ &	E_i(level)	J_i^π	E_f	J_f^π
825.2 *5*	4.0 *12*	3130.3	(16+)	2305.1	(14+)
856.6 *5*	4.0 *12*	4206.8	(18−)	3350.2	(16−)
869.1 *1*	28.0 *14*	2898.5	(16+)	2029.4	(14+)
870.6 *5*	2.0 *6*	4688.1	(19−)	3817.5	(17−)
874.9 *5*	3.0 *9*	4642.6	(19−)	3767.7	(17−)
897.8 *3*	7.0 *14*	3384.1	(17+)	2486.3	(15+)
907.8 *3*	8.0 *16*	3613.9	(17+)	2706.1	(15+)
921.5 *5*	2.5 *8*	5128.3	(20−)	4206.8	(18−)
973.8 *3*	13 *3*	3872.3	(18+)	2898.5	(16+)
998.2 *3*	5.0 *10*	4382.3	(19+)	3384.1	(17+)
1074.6 *3*	5.0 *10*	4946.9	(20+)	3872.3	(18+)
1081.7 *3*	5.0 *10*	5464.0	(21+)	4382.3	(19+)
1180.3 *5*	4.0 *12*	6127.2	(22+)	4946.9	(20+)

† From 2001Gi09, unless otherwise indicated. Uncertainty of the γ′s from 2001Gi09 is assumed by evaluators based on the general comment in 2001Gi09, ΔE=0.1 keV for Iγ>15,ΔE=0.3 keV for Iγ=5-15, andΔE=0.5 keV for Iγ<5 (The assignment method is the same as that in ^{115}In(^{12}C,3nγ):XUNDL-2).

‡ From ce measurement (2001Gi09).

\# Strongly converted transition.

@ Very weak intensity.

& From 2001Gi09. I(γ189)=200.0. Uncertainty is assumed by evaluators based on the general comment in 2001Gi09,Iγ=5% for Iγ>15,Iγ=20% for Iγ=5-15, andIγ=30% for Iγ<5 and complex lines. Branching ratios given under comments are from Table 4 of 2001Gi09.

a 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.

b Multiply placed with intensity suitably divided.

(HI,xnγ) 2001Gi09

Level Scheme

Intensities: Relative I_γ

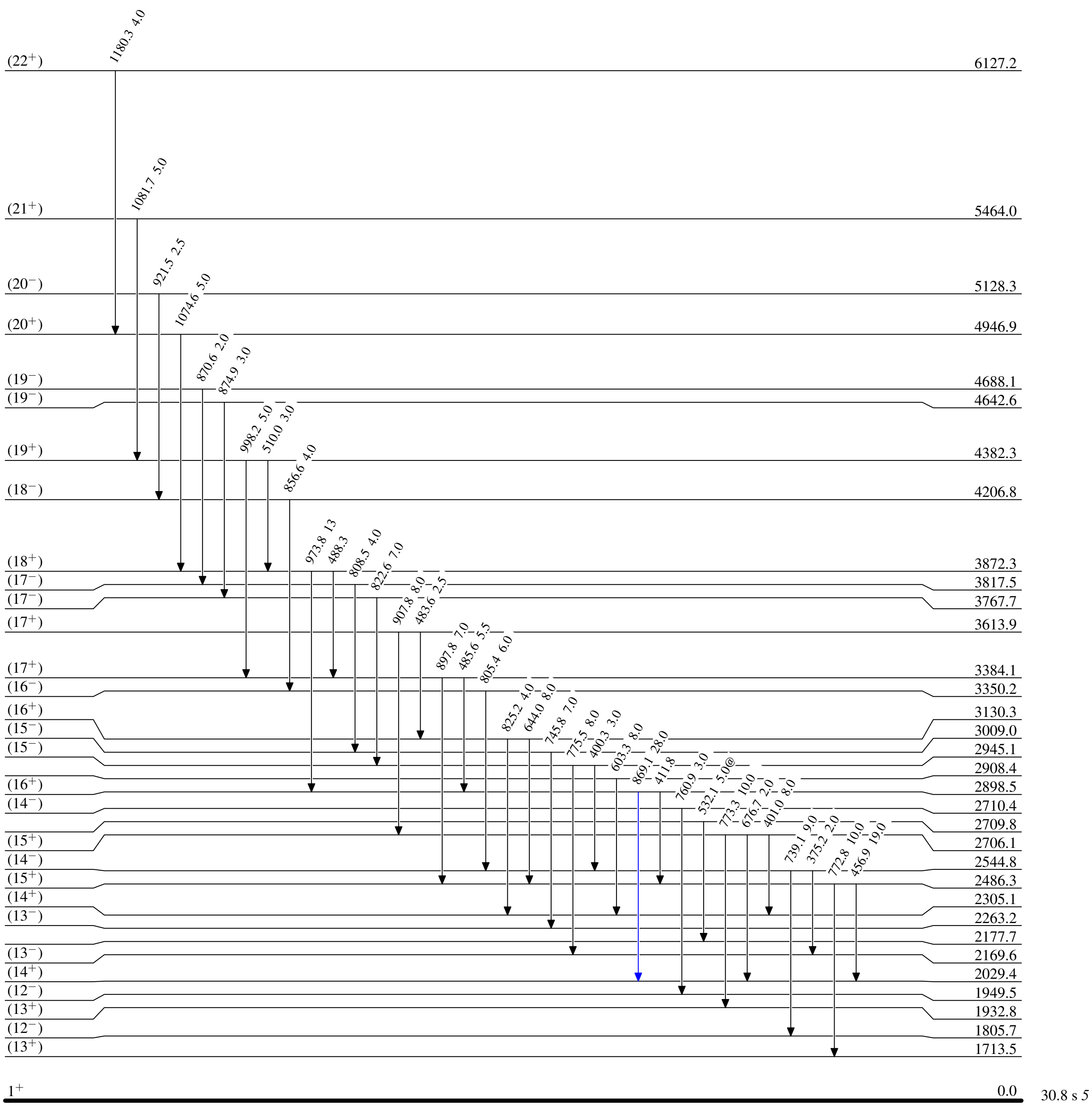
@ Multiply placed: intensity suitably divided

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



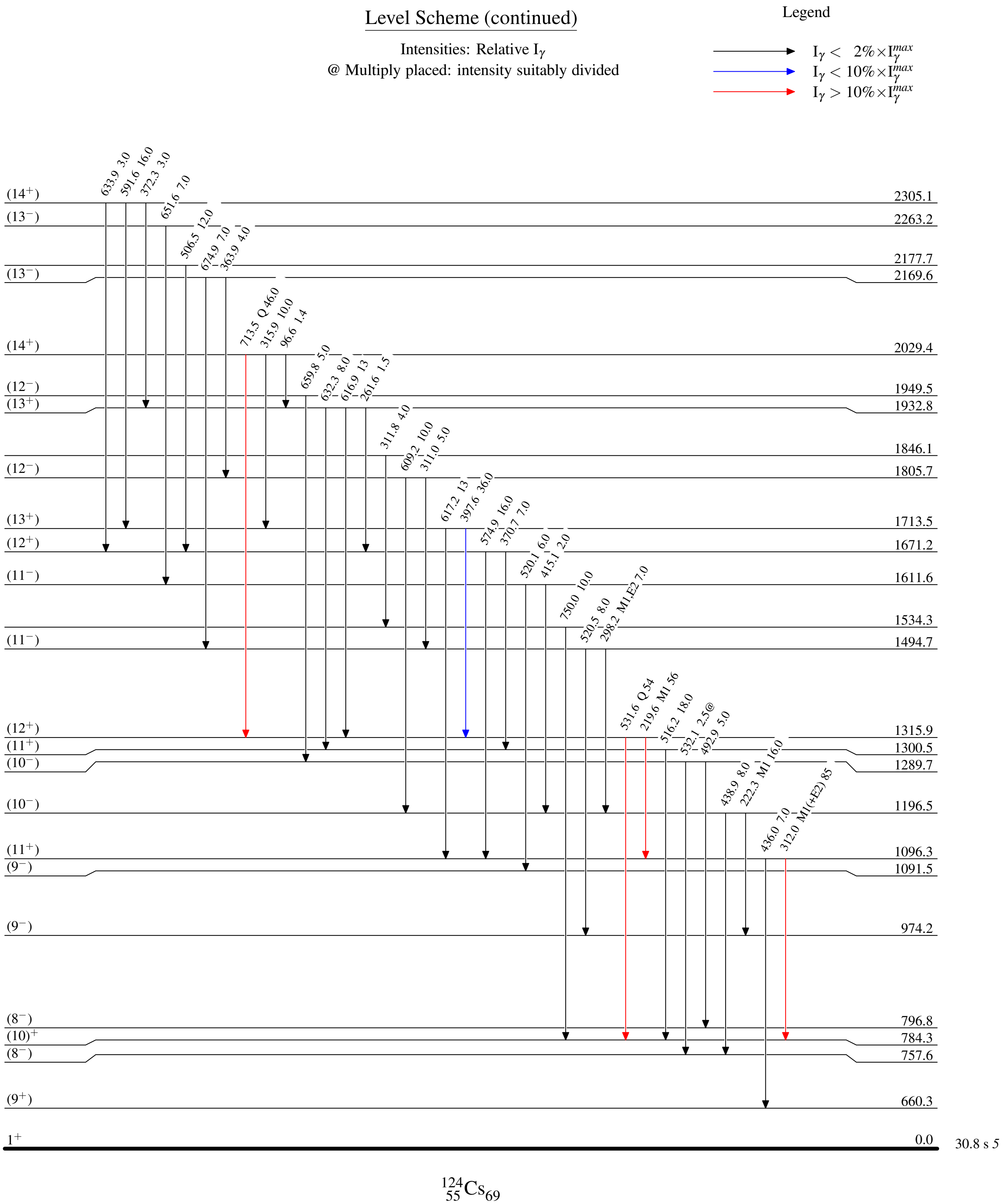
$^{124}_{55}Cs_{69}$

(HI,xnγ) 2001Gi09

Level Scheme (continued)

Intensities: Relative I_γ

@ Multiply placed: intensity suitably divided

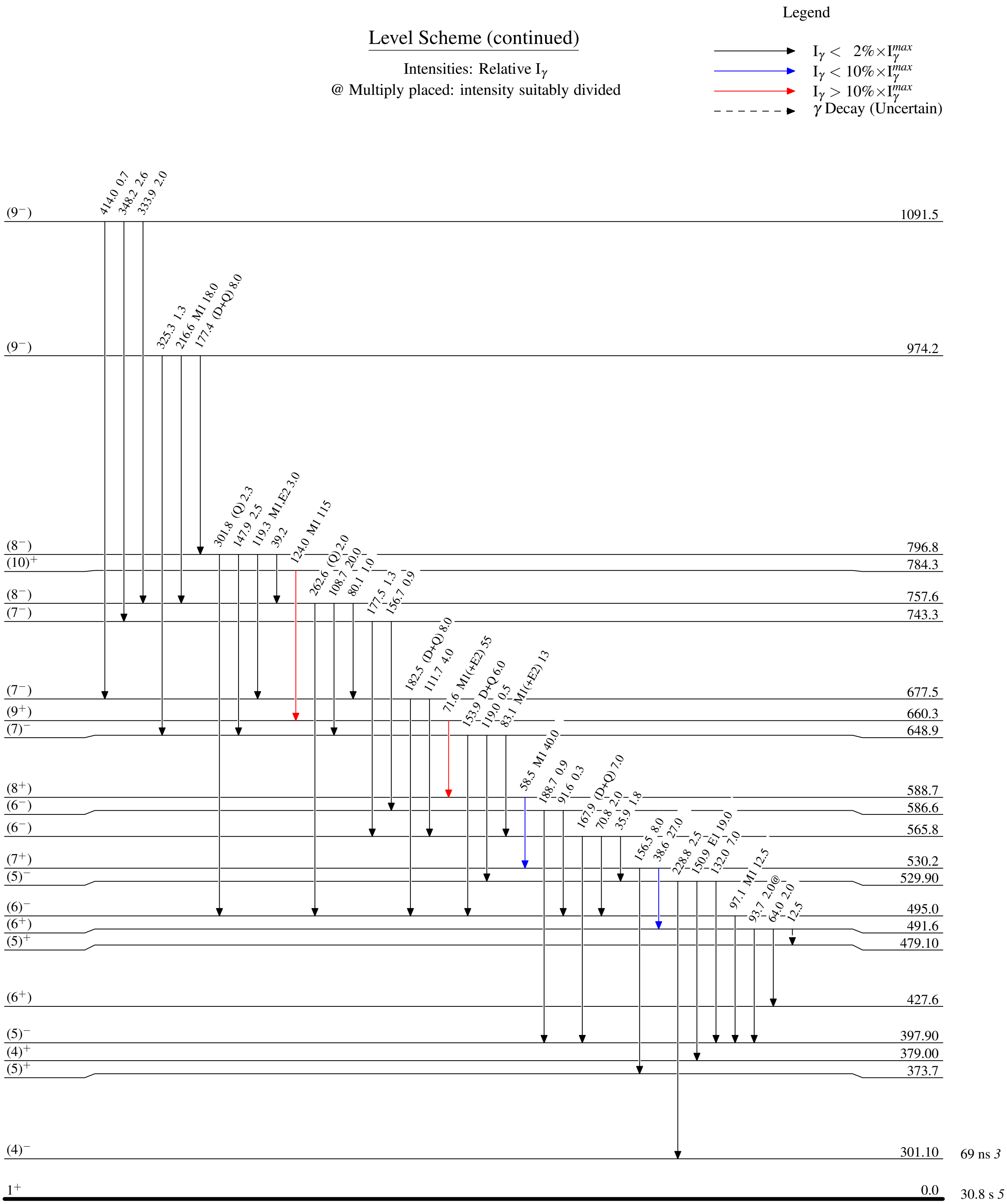


(HI,xnγ) 2001Gi09

Level Scheme (continued)

Intensities: Relative I_γ

@ Multiply placed: intensity suitably divided



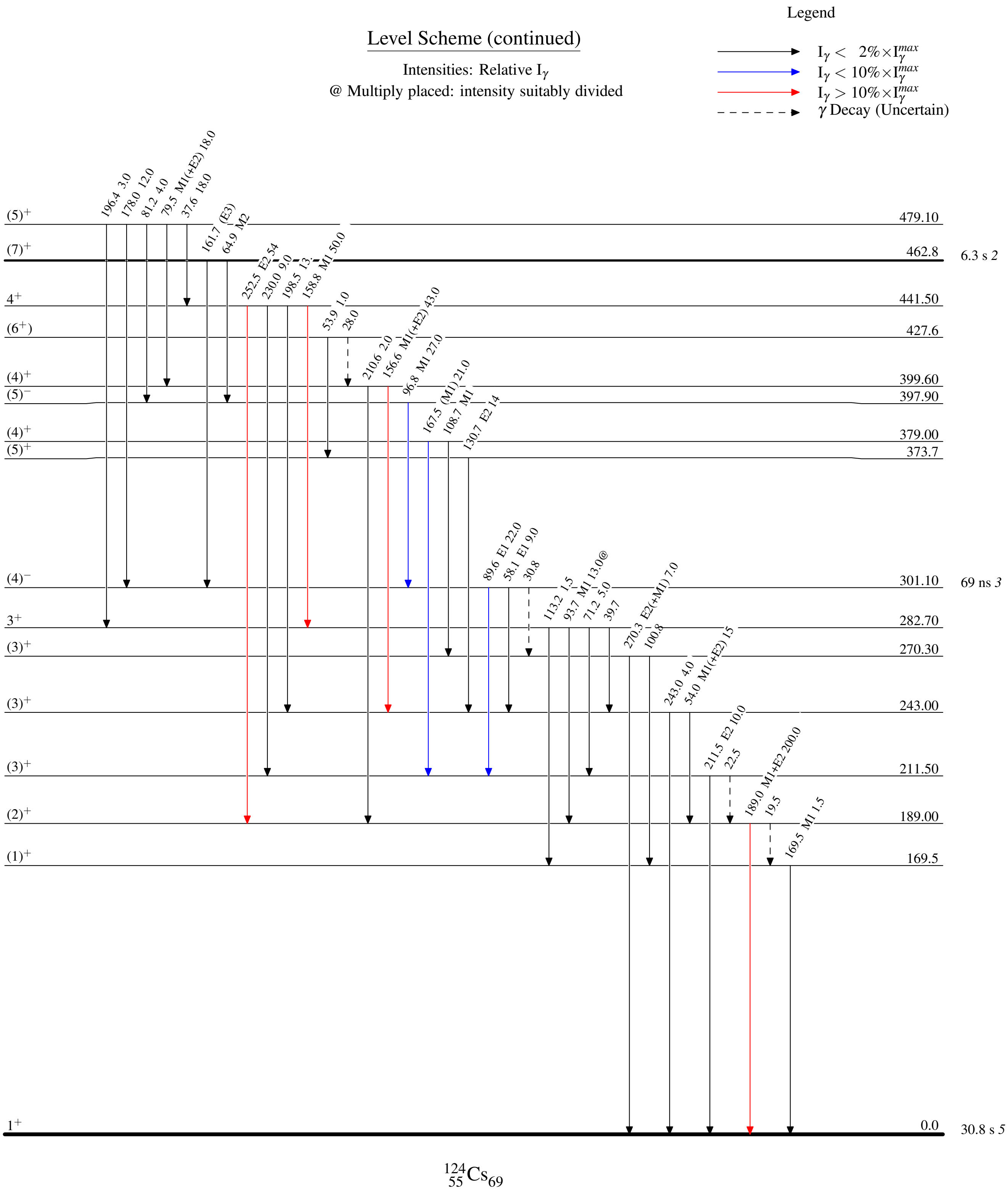
$^{124}_{55}Cs_{69}$

(HI,xnγ) 2001Gi09

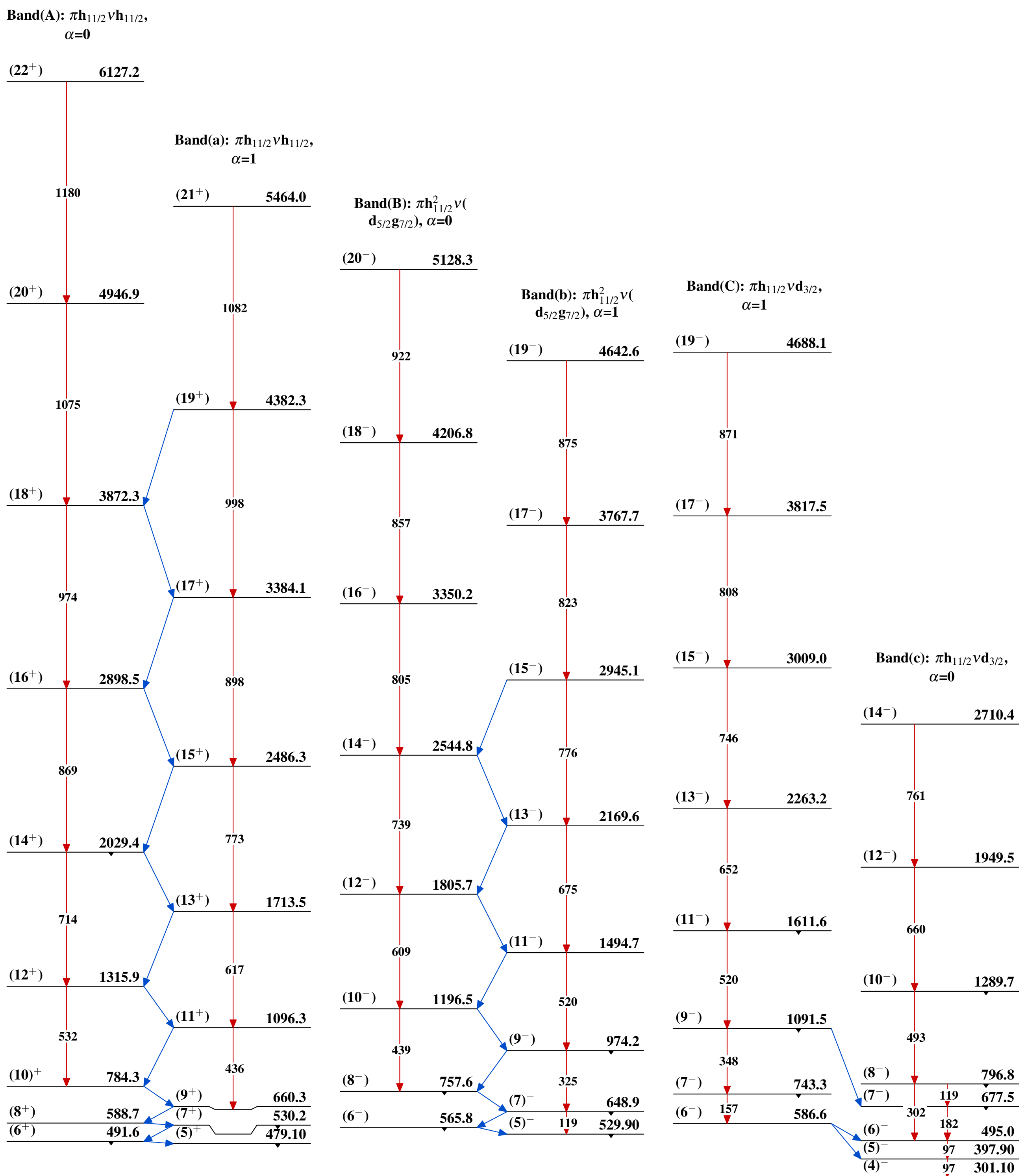
Level Scheme (continued)

Intensities: Relative I_γ

@ Multiply placed: intensity suitably divided



(HI,xnγ) 2001Gi09



$^{124}_{55}Cs_{69}$

(HI,xnγ) 2001Gi09 (continued)