Adopted Levels, Gammas

History

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

Q(β^-)=−2642 *15*; S(n)=8759 *15*; S(p)=3772 *13*; Q(α)=−403 *18* 2012Wa38
Note: Current evaluation has used the following Q record −2642 158759 153772 13-367 20 2003Au03.

^{124}Cs Levels

Cross Reference (XREF) Flags

A ^{124}Cs IT decay
B ^{124}Ba ε decay
C (HI,xnγ)

E(level)[†]	J$^\pi$[d]	$T_{1/2}$	XREF	Comments
0.0	1^+	30.9 s *4*	ABC	%ε+%β^+=100 μ=+0.673 *3*; Q=−0.74 *3* J$^\pi$: atomic-beam magnetic resonance (1978Ek05). $T_{1/2}$: average 30.9 *5* (1993Al03) and 30.8 *5* (β(t)) (1975Ra03); others: 26.5 s *15* (1969Ch18), 34 s *6* (1972Dr06). μ: from LASER induced optical pumping of thermal atomic beam with magnetic state selection (1987Co19,1989Ra17). Other: +0.674 *7* from atomic beam magnetic resonance (1977Ek02,1989Ra17). See also 2005St24 compilation. Q: from LASER induced optical pumping of thermal atomic beam with magnetic state selection. Sternheimer correction included (1987C019,1989Ra17). See also 2005St24 compilation. Configuration=π1/2[420]ν1/2[411](2001Gi09). $<r^2>^{1/2}$=4.783 fm *6* (2004An14, evaluation). Mass excess=−81746 *14* with Penning trap mass spectrometer ISOLTRAP (2005Gu37).
169.51 *5*	$(1)^+$		BC	J$^\pi$: M1(+E2) γ to 1^+; M1+E2 γ from $(3)^+$ Strong β feed from 0^+ in ^{124}Ba ε decay. 2001Gi09 in (HI,xnγ) assigned 2^+ to this level. The assignment, however, seems to conflict with strong β feed from 0^+ even if the decay scheme in ^{124}Ba ε decay is incomplete.
188.981 *10*	$(2)^+$		ABC	J$^\pi$: M1+E2 γ to 1^+; M1 γ from $(3)^+$.
211.65 *4*	$(3)^+$		ABC	J$^\pi$: see comments for 301-keV level.
242.90 *4*	$(3)^+$		ABC	J$^\pi$: M1 γ to 2^+, E1 γ from $(4)^-$. See comment on 301-keV level.
253.22 *6*	$(1)^+$		B	J$^\pi$: M1,E2 γ to 1^+; Strong β feed (log *ft*=5.72) from 0^+ in ^{124}Ba ε decay.
270.29 *8*	$(3)^+$		BC	J$^\pi$: E2 γ to 1^+, γ from 4^- and M1 γ from $(4)^+$.
272.10 *9*	$(0,1)^+$		B	J$^\pi$: M1,E2 γ from $(2)^+$; γ to 1^+;
272.66 *6*	$(2,3)^+$		B	J$^\pi$: M1,E2 γ from $(3)^+$; γ to 1^+.
282.64 *5*	3^+		BC	J$^\pi$: M1(+E2) γ to 2^+; γ to $(3)^+$; M1 γ from 4^+.
301.14[b] *7*	$(4)^-$	69 ns *3*	ABC	J$^\pi$: E2 γ from 211.7-keV level to 1^+ and E1 γ from 301.2-keV level to 211.7-keV level limit J^π=0^- to 4^- for 301.2-keV level no γ from 301.2-keV level to 2^+ and 1^+ suggests $J^\pi(301)=4^-$ and thus $J^\pi(212)$ and $J^\pi(243)=3^+$. $T_{1/2}$: from ^{124}Cs IT decay (1983We07).
312.47 *5*	$(2)^+$		B	J$^\pi$: M1,E2 γ to 1^+; M1(+E2) γ to 2^+; (M1) γ to $(3)^+$.
338.5? *8*			B	
348.82? *8*			B	
362.73 *5*	$(3)^+$		B	J$^\pi$: M1 γ to $(3)^+$; γ's to 1^+; γ to $(4)^-$.
373.6 *3*	$(5)^+$		C	J$^\pi$: E2 γ to $(3)^+$; no γ to 1^+.
379.11 *10*	$(4)^+$		C	J$^\pi$: (M1) γ to $(3)^+$; no γ to 1^+.
397.73[a] *14*	$(5)^-$		ABC	J$^\pi$: M1+E2 γ to $(4)^-$; no γ to $(3)^+$.
399.51 *10*	$(4)^+$		C	J$^\pi$: M1(+E2) γ to $(3)^+$; cross over γ to $(2)^+$; no γ to 1^+.
401.27 *10*	$(1,2)^+$		B	J$^\pi$: M1(+E2) γ to 1^+; γ to $(3)^+$.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{124}Cs Levels (continued)

E(level)[†]	J$^{\pi}$[d]	$T_{1/2}$	XREF	Comments
404.25 *9*	$(1^+,2^+)$		B	J$^{\pi}$: γ to 1^+ and (M1,E2) γ to $(3)^+$.
417.22 *9*	$(3,4)^+$		B	J$^{\pi}$: M1,E2 γ to $(2)^+$; γ to $(4)^-$.
427.5 *4*	(6^+)		C	
441.47 *7*	4^+		C	J$^{\pi}$: M1 γ to 3^+; E2 γ to 2^+; no γ to 1^+.
443.89 *8*	$(1,2)^+$		B	J$^{\pi}$: M1,E2 γ to $(3)^+$; weak β feed in ^{124}Ba ε decay.
462.63 *14*	$(7)^+$	6.3 s *2*	A C	%IT=100 J$^{\pi}$: M2 γ to $(5)^-$; (E3) γ to $(4)^-$. $T_{1/2}$: from ^{124}Cs IT decay (1983We07).
464.93 *14*	1,2		B	J$^{\pi}$: γ's to 1^+ and $(3)^+$; weak β feed in ^{124}Ba ε decay.
479.02[#] *13*	$(5)^+$		C	J$^{\pi}$: M1(+E2) γ to $(4)^+$, γ to $(5)^-$.
491.5[‡] *3*	(6^+)		C	
494.88[b] *24*	$(6)^-$		C	J$^{\pi}$: M1 γ to $(5)^-$.
505.67 *7*	$(1,2,3)^+$		B	J$^{\pi}$: M1,E2 γ to $(3)^+$; γ to $(1)^+$.
512.33 *9*	$(1,2,3)^+$		B	J$^{\pi}$: γ's to 3^+ and $(1)^+$; M1+E2 γ from $(0,1,2)^+$.
529.97[&] *13*	$(5)^-$		C	J$^{\pi}$: E1 γ to $(4)^+$.
530.0[#] *3*	(7^+)		C	
557.97 *19*	$(1,2)^+$		B	J$^{\pi}$: M1,E2 γ to $(3)^+$; γ to 1^+; weak β feed in ^{124}Ba ε decay.
565.69[@] *23*	(6^-)		C	
586.5[b] *4*	(6^-)		C	
588.5[‡] *4*	(8^+)		C	
596.16 *16*			B	
596.64 *8*	$^+$		B	J$^{\pi}$: M1,E2 γ to +.
613.95 *7*	$(0,1,2)^+$		B	J$^{\pi}$: M1 γ to +; weak β feed in ^{124}Ba ε decay.
648.8[&] *3*	$(7)^-$		C	J$^{\pi}$: M1(+E2) γ to $(6)^-$.
660.1[#] *4*	(9^+)		C	
671.43 *12*	0,1,2		B	J$^{\pi}$: weak β feed in ^{124}Ba ε decay.
677.4[a] *3*	(7^-)		C	
743.2[a] *4*	(7^-)		C	
751.64 *14*	(1^+)		B	J$^{\pi}$: Relatively strong β feed (log *ft*=5.36) from 0^+ in ^{124}Ba ε decay.
757.5[@] *3*	(8^-)		C	
770.85 *9*	$(1,2,3)^+$		B	J$^{\pi}$: M1(+E2) γ to +; γ's to $(1)^+$,$(2)^+$ and $(3)^+$.
784.1[‡] *4*	(10^+)		C	
796.7[b] *3*	(8^-)		C	
846.5 *3*			B	
864.1 *4*	1,2		B	J$^{\pi}$: γ's to 1^+ and $(3)^+$; weak β feed from 0^+ in ^{124}Ba ε decay.
895.7 *3*	0,1,2		B	J$^{\pi}$: γ to 1^+; weak β feed from 0^+ in ^{124}Ba ε decay.
920.68 *17*	$(0$ to $3)^+$		B	J$^{\pi}$: M1,E2 γ from $(1)^+$.
933.81 *20*	0,1		B	J$^{\pi}$: γ to 1^+; β feed from 0^+ in ^{124}Ba ε decay.
950.4?			B	
974.1[&] *3*	(9^-)		C	
1000.89 *25*	0,1,2		B	J$^{\pi}$: γ to 1^+; weak β feed from 0^+ in ^{124}Ba ε decay.
1014.45 *21*			B	
1040.29 *20*	0,1,2		B	J$^{\pi}$: γ to 1^+; weak β feed from 0^+ in ^{124}Ba ε decay.
1049.21 *22*	0,1		B	J$^{\pi}$: γ to 1^+; β feed from 0^+ in ^{124}Ba ε decay.
1091.4[a] *4*	(9^-)		C	
1096.1[#] *4*	(11^+)		C	
1097.87 *18*	0,1		B	J$^{\pi}$: γ to 1^+; β feed from 0^+ in ^{124}Ba ε decay.
1131.92 *16*	1		B	J$^{\pi}$: γ's to 1^+ and $(3)^+$; β feed from 0^+ in ^{124}Ba ε decay.
1141.59 *19*	0,1,2		B	J$^{\pi}$: γ to 1^+; weak β feed from 0^+ in ^{124}Ba ε decay.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{124}Cs Levels (continued)

E(level)[†]	J$^{\pi}$[d]	XREF	Comments
1168.60 *21*	0,1	B	J$^{\pi}$: γ to 1$^+$; β feed from 0$^+$ in ^{124}Ba ε decay.
1196.4[@] *3*	(10$^-$)	C	
1216.59 *12*	(1$^+$)	B	J$^{\pi}$: Strong β feed (log *ft*=4.63) from 0$^+$ in ^{124}Ba ε decay.
1244.55 *10*	(1)$^+$	B	J$^{\pi}$: Strong β feed (log *ft*=4.77) from 0$^+$ in ^{124}Ba ε decay. M1(+E2) γ to (1,2,3)$^+$.
1259.80 *14*	(1$^+$)	B	J$^{\pi}$: Strong β feed (log *ft*=5.15) from 0$^+$ in ^{124}Ba ε decay.
1289.6[b] *4*	(10$^-$)	C	
1300.3[c] *4*	(11$^+$)	C	
1315.7[‡] *4*	(12$^+$)	C	J$^{\pi}$: M1 γ's to (11$^+$), Q γ to (10$^+$).
1388.88 *16*	(1$^+$)	B	J$^{\pi}$: Strong β feed (log *ft*=5.12) from 0$^+$ in ^{124}Ba ε decay.
1433.3 *3*	0,1,2	B	J$^{\pi}$: γ to 1$^+$; weak β feed from 0$^+$ in ^{124}Ba ε decay.
1494.6[&] *4*	(11$^-$)	C	J$^{\pi}$: M1,E2 γ to (10$^-$).
1534.1 *5*		C	
1589.4 *4*	0,1,2	B	J$^{\pi}$: γ to 1$^+$; weak β feed from 0$^+$ in ^{124}Ba ε decay.
1611.5[a] *4*	(11$^-$)	C	
1623.2 *5*	0,1,2	B	J$^{\pi}$: γ to 1$^+$; weak β feed from 0$^+$ in ^{124}Ba ε decay.
1638.3? *10*	0,1,2	B	J$^{\pi}$: γ to 1$^+$; weak β feed from 0$^+$ in ^{124}Ba ε decay.
1671.0[c] *4*	(12$^+$)	C	
1707.3 *5*	0,1,2	B	J$^{\pi}$: γ to 1$^+$; weak β feed from 0$^+$ in ^{124}Ba ε decay.
1713.3[#] *4*	(13$^+$)	C	
1805.6[@] *4*	(12$^-$)	C	
1845.9 *7*		C	
1932.6[c] *4*	(13$^+$)	C	
1949.4[b] *5*	(12$^-$)	C	J$^{\pi}$: γ to (10$^-$).
2029.2[‡] *4*	(14$^+$)	C	
2169.5[&] *4*	(13$^-$)	C	
2177.5 *5*		C	
2263.1[a] *5*	(13$^-$)	C	
2304.9[c] *4*	(14$^+$)	C	
2486.1[#] *4*	(15$^+$)	C	
2544.7[@] *5*	(14$^-$)	C	
2705.9[c] *5*	(15$^+$)	C	
2709.6 *6*		C	
2710.3[b] *7*	(14$^-$)	C	
2898.3[‡] *4*	(16$^+$)	C	
2908.2 *5*		C	
2945.0[&] *5*	(15$^-$)	C	
3008.9[a] *6*	(15$^-$)	C	
3130.1[c] *5*	(16$^+$)	C	
3350.1[@] *6*	(16$^-$)	C	
3383.9[#] *5*	(17$^+$)	C	
3613.7[c] *5*	(17$^+$)	C	
3767.6[&] *6*	(17$^-$)	C	
3817.4[a] *8*	(17$^-$)	C	
3872.1[‡] *5*	(18$^+$)	C	
4206.7[@] *8*	(18$^-$)	C	
4382.2[#] *5*	(19$^+$)	C	
4642.5[&] *8*	(19$^-$)	C	
4688.0[a] *10*	(19$^-$)	C	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{124}Cs Levels (continued)

E(level)[†]	J$^{\pi}$[d]	XREF
4946.7[‡] 5	(20$^+$)	C
5128.2[@] 9	(20$^-$)	C
5463.9[#] 5	(21$^+$)	C
6127.0[‡] 7	(22$^+$)	C

[†] From a least-squares fit to adopted Eγ's.
[‡] 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= $\pi h^2_{11/2}\nu(d_{5/2}g_{7/2}h^2_{11/2})$.
[&] Band(b): $\pi h^2_{11/2}\nu(d_{5/2}g_{7/2})$, α=1. Above the crossing, the configuration= $\pi h^2_{11/2}\nu(d_{5/2}g_{7/2}h^2_{11/2})$.
[a] Band(C): $\pi h_{11/2}\nu d_{3/2}$, α=1. Above the crossing, the configuration=$\pi h_{11/2}\nu(d_{5/2}h^2_{11/2})$.
[b] Band(c): $\pi h_{11/2}\nu d_{3/2}$, α=0. Above the crossing, the configuration=$\pi h_{11/2}\nu(d_{5/2}h^2_{11/2})$.
[c] Band(D): $\pi h_{11/2}\nu h_{11/2}$, α=1.
[d] Levels in bands are based on the proposed band structure in (HI,xnγ).

Adopted Levels, Gammas (continued)

γ(^{124}Cs)

E_i(level)	J_i^π	E_γ[†]	I_γ[@]	E_f	J_f^π	Mult.[&]	δ	α[b]	Comments
169.51	(1)$^+$	169.5 *1*	100.0 *9*	0.0	1$^+$	M1(+E2)[a]	<0.6	0.217 *12*	α(K)=0.183 *7*; α(L)=0.027 *5*; α(M)=0.0057 *10*; α(N+..)=0.00136 *21* α(N)=0.00119 *19*; α(O)=0.000161 *21*; α(P)=6.91×10^{-6} *10* δ: from ^{124}Ba ε decay.
188.981	(2)$^+$	(19.5[‡])		169.51	(1)$^+$				
		188.98 *5*	100.0 *18*	0.0	1$^+$	M1+E2	0.5 *1*	0.162 *4*	α(K)=0.136 *3*; α(L)=0.0209 *13*; α(M)=0.0043 *3*; α(N+..)=0.00103 *6* α(N)=0.00091 *6*; α(O)=0.000122 *6*; α(P)=5.09×10^{-6} *8* E_γ: from ^{124}Cs IT decay. δ: from ^{124}Ba ε decay.
211.65	(3)$^+$	(22.5[‡])		188.981	(2)$^+$				
		211.64 *5*	100.0 *22*	0.0	1$^+$	E2		0.1374	α(K)=0.1085 *16*; α(L)=0.0229 *4*; α(M)=0.00484 *7*; α(N+..)=0.001126 *16* α(N)=0.000997 *14*; α(O)=0.0001256 *18*; α(P)=3.48×10^{-6} *5* E_γ: from ^{124}Cs IT decay.
242.90	(3)$^+$	53.85 *5*	100.0 *21*	188.981	(2)$^+$	M1[a]		5.37	α(K)=4.60 *7*; α(L)=0.618 *9*; α(M)=0.1266 *18*; α(N+..)=0.0306 *5* α(N)=0.0267 *4*; α(O)=0.00371 *6*; α(P)=0.000181 *3*
		73.3		169.51	(1)$^+$				
		243.0 *5*	27 *8*	0.0	1$^+$				
253.22	(1)$^+$	83.7 *1*	2.81 *25*	169.51	(1)$^+$	(M1,E2)[a]		2.5 *11*	α(K)=1.7 *4*; α(L)=0.7 *5*; α(M)=0.14 *11*; α(N+..)=0.033 *24* α(N)=0.029 *22*; α(O)=0.0035 *25*; α(P)=5.3×10^{-5} *3*
		253.25[d] *15*	100[d]	0.0	1$^+$	M1,E2		0.072 *4*	α(K)=0.0602 *11*; α(L)=0.0097 *20*; α(M)=0.0020 *5*; α(N+..)=0.00048 *10* α(N)=0.00042 *9*; α(O)=5.6×10^{-5} *9*; α(P)=2.17×10^{-6} *17*
270.29	(3)$^+$	100.7 *1*	3.6 *6*	169.51	(1)$^+$	E2[a]		1.82	α(K)=1.184 *17*; α(L)=0.504 *8*; α(M)=0.1089 *16*; α(N+..)=0.0247 *4* α(N)=0.0221 *4*; α(O)=0.00260 *4*; α(P)=3.29×10^{-5} *5* Mult.: from ce in ^{124}Ba ε decay and relevant levels.
		270.30 *15*	100 *4*	0.0	1$^+$	E2		0.0609	α(K)=0.0494 *7*; α(L)=0.00913 *13*; α(M)=0.00191 *3*; α(N+..)=0.000449 *7* α(N)=0.000396 *6*; α(O)=5.09×10^{-5} *8*; α(P)=1.653×10^{-6} *24* Mult.: From ce in (HI,xnγ) and relevant levels.
272.10	(0,1)$^+$	102.6 *1*	8.4 *7*	169.51	(1)$^+$				
		272.2 *2*	100 *5*	0.0	1$^+$				
272.66	(2,3)$^+$	103.16 *5*	77.9 *21*	169.51	(1)$^+$				
		272.8 *2*	100 *11*	0.0	1$^+$				
282.64	3$^+$	39.7[#] *5*		242.90	(3)$^+$				
		70.9 *1*	37 *5*	211.65	(3)$^+$				
		93.68 *5*	100 *6*	188.981	(2)$^+$	M1(+E2)	<0.6	1.25 *17*	α(K)=1.00 *8*; α(L)=0.20 *8*; α(M)=0.042 *17*; α(N+..)=0.010 *4*

$^{124}_{55}Cs_{69}$-5

Adopted Levels, Gammas (continued)

γ(^{124}Cs) (continued)

E_i(level)	J_i^π	E_γ †	I_γ @	E_f	J_f^π	Mult. &	δ	α b	Comments
									α(N)=0.009 *4*; α(O)=0.0011 *4*; α(P)=3.71×10^{-5} *8* δ: from ^{124}Ba ε decay.
282.64	3$^+$	113.2 *5*	12 *4*	169.51	(1)$^+$				
301.14	(4)$^-$	(30.8‡)		270.29	(3)$^+$				
		58.20 *8*	40.0 *18*	242.90	(3)$^+$	E1		0.974	B(E1)(W.u.)=3.0×10^{-6} *6* α(K)=0.825 *12*; α(L)=0.1189 *18*; α(M)=0.0242 *4*; α(N+..)=0.00565 *9* α(N)=0.00498 *8*; α(O)=0.000644 *10*; α(P)=2.39×10^{-5} *4*
		89.50 *8*	100.0 *25*	211.65	(3)$^+$	E1		0.299	B(E1)(W.u.)=2.0×10^{-6} *3* α(K)=0.255 *4*; α(L)=0.0347 *5*; α(M)=0.00705 *10*; α(N+..)=0.001665 *24* α(N)=0.001463 *21*; α(O)=0.000194 *3*; α(P)=7.85×10^{-6} *12*
312.47	(2)$^+$	59.15 *8*	5.6 *10*	253.22	(1)$^+$				
		69.50 *5*	100.0 *20*	242.90	(3)$^+$	(M1)[a]		2.56	α(K)=2.19 *4*; α(L)=0.294 *5*; α(M)=0.0601 *9*; α(N+..)=0.01455 *21* α(N)=0.01270 *18*; α(O)=0.001765 *25*; α(P)=8.63×10^{-5} *13*
		123.5 *1*	38.2 *20*	188.981	(2)$^+$	M1+E2[a]	1.0 *2*	0.69 *5*	α(K)=0.524 *23*; α(L)=0.132 *17*; α(M)=0.028 *4*; α(N+..)=0.0065 *9* α(N)=0.0057 *8*; α(O)=0.00071 *9*; α(P)=1.74×10^{-5} *3* δ: from ^{124}Ba ε decay.
		312.7 *3*	31 *3*	0.0	1$^+$	M1,E2[a]		0.0390 *11*	α(K)=0.0328 *16*; α(L)=0.0049 *5*; α(M)=0.00102 *12*; α(N+..)=0.000243 *24* α(N)=0.000213 *22*; α(O)=2.87×10^{-5} *19*; α(P)=1.20×10^{-6} *14*
338.5?		84.40[ce] *15*		253.22	(1)$^+$				
		338.8[ce] *4*		0.0	1$^+$				
348.82?		36.1[e]		312.47	(2)$^+$				
		66.2 *1*	100 *18*	282.64	3$^+$				
362.73	(3)$^+$	50.3 *1*	2.0 *6*	312.47	(2)$^+$				
		61.6[ce] *1*		301.14	(4)$^-$				
		90.07 *5*	29.9 *12*	272.66	(2,3)$^+$	M1(+E2)[a]	<0.2	1.24 *4*	α(K)=1.052 *19*; α(L)=0.152 *14*; α(M)=0.031 *3*; α(N+..)=0.0075 *7* α(N)=0.0066 *6*; α(O)=0.00090 *7*; α(P)=4.10×10^{-5} *6* δ: from ^{124}Ba ε decay.
		119.89 *7*	100.0 *20*	242.90	(3)$^+$	M1[a]		0.539	α(K)=0.462 *7*; α(L)=0.0613 *9*; α(M)=0.01255 *18*; α(N+..)=0.00304 *5* α(N)=0.00265 *4*; α(O)=0.000369 *6*; α(P)=1.81×10^{-5} *3*
		151.0[d] *1*	13.9[d]	211.65	(3)$^+$				
		192.70[ce] *15*		169.51	(1)$^+$				
		362.9 *5*	≈3	0.0	1$^+$				

$^{124}_{55}Cs_{69}$-6

Adopted Levels, Gammas (continued)

γ(^{124}Cs) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[@]	E_f	J_f^π	Mult.[&]	δ	α[b]	Comments
373.6	(5)$^+$	130.7 *3*	100 *21*	242.90	(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.
379.11	(4)$^+$	108.7[#] *5*		270.29	(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*
		167.5 *1*	100 *5*	211.65	(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*
397.73	(5)$^-$	96.50 *15*	10.0 *5*	301.14	(4)$^-$	M1+E2	0.7 *3*	1.37 *22*	α(K)=1.02 *10*; α(L)=0.28 *10*; α(M)=0.059 *21*; α(N+..)=0.014 *5* α(N)=0.012 *5*; α(O)=0.0015 *5*; α(P)=3.48×10^{-5} *9* Mult.,δ: from ^{124}Cs IT decay.
		185.7	≤100	211.65	(3)$^+$				Not observed in (HI,xnγ).
		397.8[ce] *5*		0.0	1$^+$				
399.51	(4)$^+$	156.6 *1*	100 *5*	242.90	(3)$^+$	M1(+E2)		0.32 *7*	α(K)=0.25 *4*; α(L)=0.053 *24*; α(M)=0.011 *6*; α(N+..)=0.0026 *12* α(N)=0.0023 *11*; α(O)=0.00029 *12*; α(P)=8.70×10^{-6} *16*
		210.6 *5*	4.7 *14*	188.981	(2)$^+$				
401.27	(1,2)$^+$	129.30 *15*	7.3 *11*	272.10	(0,1)$^+$	M1,E2[a]		0.59 *16*	α(K)=0.46 *9*; α(L)=0.11 *6*; α(M)=0.023 *14*; α(N+..)=0.005 *3* α(N)=0.005 *3*; α(O)=0.0006 *3*; α(P)=1.52×10^{-5} *6*
		130.70[d] *15*	<8[d]	270.29	(3)$^+$				
		148.2	≤7	253.22	(1)$^+$				
		158.9[e]	≈6	242.90	(3)$^+$				
		189.7	≤23	211.65	(3)$^+$				
		212.6[d] *2*	<11[d]	188.981	(2)$^+$				
		≈232.6	11.4 *23*	169.51	(1)$^+$				
		401.6 *3*	100.0 *23*	0.0	1$^+$	M1(+E2)[a]	<0.8	0.0203 *7*	α(K)=0.0174 *7*; α(L)=0.00232 *4*; α(M)=0.000475 *7*; α(N+..)=0.0001148 *17* α(N)=0.0001003 *15*; α(O)=1.387×10^{-5} *24*; α(P)=6.7×10^{-7} *4* δ: from ^{124}Ba ε decay.
404.25	(1$^+$,2$^+$)	134.3	≈7	270.29	(3)$^+$				
		151.0[d] *1*	64[d] *8*	253.22	(1)$^+$				
		192.70[c] *15*	100 *5*	211.65	(3)$^+$	(M1,E2)		0.167 *23*	α(K)=0.136 *12*; α(L)=0.025 *9*; α(M)=0.0052 *19*; α(N+..)=0.0012 *4* α(N)=0.0011 *4*; α(O)=0.00014 *4*; α(P)=4.76×10^{-6} *13*
		≈234.6[d]	11[d] *5*	169.51	(1)$^+$				

Adopted Levels, Gammas (continued)

γ(^{124}Cs) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[@]	E_f	J_f^π	Mult.[&]	α[b]	Comments
404.25	(1$^+$,2$^+$)	404.2 *5*	42 *5*	0.0	1$^+$			
417.22	(3,4)$^+$	104.6 *1*	100 *11*	312.47	(2)$^+$	M1,E2[a]	1.2 *4*	α(K)=0.87 *19*; α(L)=0.26 *17*; α(M)=0.06 *4*; α(N+..)=0.013 *9* α(N)=0.011 *8*; α(O)=0.0014 *9*; α(P)=2.81×10^{-5} *15*
		115.0[e] *2*	≈27	301.14	(4)$^-$			
427.5	(6$^+$)	(28.0[‡])		399.51	(4)$^+$			
		53.9 *5*	1.0×10^2 *3*	373.6	(5)$^+$			
441.47	4$^+$	158.8 *1*	93 *5*	282.64	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*
		198.5 *3*	24 *6*	242.90	(3)$^+$			
		230.0 *3*	17 *3*	211.65	(3)$^+$			
		252.5 *1*	100 *6*	188.981	(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*
443.89	(1,2)$^+$	38.65[e] *5*		404.25	(1$^+$,2$^+$)			
		81.3 *1*	77 *15*	362.73	(3)$^+$	M1,E2[a]	2.8 *12*	α(K)=1.8 *5*; α(L)=0.8 *6*; α(M)=0.16 *13*; α(N+..)=0.04 *3* α(N)=0.033 *25*; α(O)=0.004 *3*; α(P)=5.7×10^{-5} *3*
		130.70[d] *15*	100[d] *15*	312.47	(2)$^+$			
462.63	(7)$^+$	64.90 *5*	100 *20*	397.73	(5)$^-$	M2	46.9	B(M2)(W.u.)=3.4×10^{-6} *10* 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* E_γ: from ^{124}Cs IT decay.
		161.0	≈33	301.14	(4)$^-$	(E3)	2.31	B(E3)(W.u.)≈4.9×10^{-4} α(K)=1.179 *17*; α(L)=0.889 *13*; α(M)=0.198 *3*; α(N+..)=0.0448 *7* α(N)=0.0401 *6*; α(O)=0.00463 *7*; α(P)=3.39×10^{-5} *5* Additional information 1. E_γ: from ^{124}Cs IT decay.
464.93	1,2	253.25[d] *15*	100[d] *25*	211.65	(3)$^+$			
		464.4 *4*	100 *8*	0.0	1$^+$			
479.02	(5)$^+$	(37.4)	100 *5*	441.47	4$^+$			
		79.5 *1*	100 *5*	399.51	(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*
		81.2 *5*	22 *7*	397.73	(5)$^-$			
		178.0 *3*	67 *13*	301.14	(4)$^-$			
		196.4 *5*	17 *5*	282.64	3$^+$			
491.5	(6$^+$)	(12.5[‡])		479.02	(5)$^+$			
		64.0 *5*	1.0×10^2 *3*	427.5	(6$^+$)			
		93.7 *5*	1.0×10^2 *3*	397.73	(5)$^-$			
494.88	(6)$^-$	97.1 *3*	100	397.73	(5)$^-$	M1	0.979 *17*	α(K)=0.839 *14*; α(L)=0.1118 *19*; α(M)=0.0229 *4*; α(N+..)=0.00554

Adopted Levels, Gammas (continued)

γ(^{124}Cs) (continued)

E_i(level)	J_i^π	E_γ †	I_γ @	E_f	J_f^π	Mult.&	α b	Comments
								10 α(N)=0.00484 *8*; α(O)=0.000673 *12*; α(P)=3.30×10^{-5} *6*
505.67	(1,2,3)$^+$	61.6[c] *1*	≈0.63	443.89	(1,2)$^+$			
		88.3 *1*	4.4 *11*	417.22	(3,4)$^+$			
		≈143		362.73	(3)$^+$			
		156.87[d] *7*	100.0[d] *4*	348.82?				
		≈252.8		253.22	(1)$^+$			
		262.5 *3*	11 *4*	242.90	(3)$^+$			
		294.1 *3*	22 *3*	211.65	(3)$^+$	M1,E2[a]	0.0466	α(K)=0.0391 *14*; α(L)=0.0060 *8*; α(M)=0.00124 *17*; α(N+..)=0.00029 *4* α(N)=0.00026 *4*; α(O)=3.5×10^{-5} *4*; α(P)=1.43×10^{-6} *15*
512.33	(1,2,3)$^+$	≈230.1[d]	16[d] *5*	282.64	3$^+$			
		258.6 *3*	33 *11*	253.22	(1)$^+$			
		300.7 *3*	100 *10*	211.65	(3)$^+$			
529.97	(5)$^-$	132.0 *3*	37 *7*	397.73	(5)$^-$			
		150.9 *1*	100 *5*	379.11	(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*
		228.8 *5*	13 *4*	301.14	(4)$^-$			
530.0	(7$^+$)	38.6 *1*	100 *5*	491.5	(6$^+$)			
		156.5 *3*	30 *6*	373.6	(5)$^+$			
557.97	(1,2)$^+$	287.6 *3*	100 *9*	270.29	(3)$^+$	M1,E2[a]	0.0497 *8*	α(K)=0.0417 *12*; α(L)=0.0064 *9*; α(M)=0.00133 *20*; α(N+..)=0.00032 *5* α(N)=0.00028 *4*; α(O)=3.7×10^{-5} *4*; α(P)=1.52×10^{-6} *15*
		558.0[d] *3*	≈44[d]	0.0	1$^+$			
565.69	(6$^-$)	35.9 *5*	26 *7*	529.97	(5)$^-$			
		70.8 *5*	29 *9*	494.88	(6)$^-$			
		167.9 *3*	100 *20*	397.73	(5)$^-$	(D+Q)		
586.5	(6$^-$)	91.6 *5*	33 *11*	494.88	(6)$^-$			
		188.7 *5*	100 *33*	397.73	(5)$^-$			
588.5	(8$^+$)	58.5 *1*	100	530.0	(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*
596.16		≈234.6[d]	≈9[d]	362.73	(3)$^+$			
		283.7[c] *3*	36 *5*	312.47	(2)$^+$			
		407.2 *4*	100 *5*	188.981	(2)$^+$			
596.64	+	84.40[c] *15*	29 *4*	512.33	(1,2,3)$^+$			
		90.95 *7*	29 *4*	505.67	(1,2,3)$^+$	M1,E2[a]	1.9 *8*	α(K)=1.3 *3*; α(L)=0.5 *4*; α(M)=0.10 *8*; α(N+..)=0.023 *17* α(N)=0.020 *15*; α(O)=0.0024 *17*; α(P)=4.19×10^{-5} *22*
		≈234.6[e]		362.73	(3)$^+$			
		283.7[ce] *3*		312.47	(2)$^+$			
		353.9	100	242.90	(3)$^+$			

Adopted Levels, Gammas (continued)

γ(^{124}Cs) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[@]	E_f	J_f^π	Mult.[&]	δ	α[b]	Comments
596.64	+	385.0 *4*	100 *14*	211.65	$(3)^+$				
613.95	$(0,1,2)^+$	101.58 *7*	30.7 *20*	512.33	$(1,2,3)^+$	M1+E2[a]	1.0 *3*	1.31 *16*	α(K)=0.95 *8*; α(L)=0.29 *7*; α(M)=0.062 *15*; α(N+..)=0.014 *4* α(N)=0.013 *3*; α(O)=0.0015 *4*; α(P)=3.05×10^{-5} *7* δ: from ^{124}Ba ε decay.
		108.29 *5*	100 *3*	505.67	$(1,2,3)^+$	M1[a]		0.718	α(K)=0.615 *9*; α(L)=0.0819 *12*; α(M)=0.01676 *24*; α(N+..)=0.00406 *6* α(N)=0.00354 *5*; α(O)=0.000493 *7*; α(P)=2.42×10^{-5} *4*
		170.2[e] *2*	54 *10*	443.89	$(1,2)^+$				
		212.6[d] *2*	9.9[d] *20*	401.27	$(1,2)^+$				
648.8	$(7)^-$	83.1 *3*	100 *23*	565.69	(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*
		119.0 *5*	3.9 *15*	529.97	$(5)^-$				
		153.9 *3*	46 *9*	494.88	$(6)^-$	D+Q			
660.1	(9^+)	71.6 *1*	100	588.5	(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*
671.43	0,1,2	74.8 *1*	≈4	596.64	+				
		482.3 *4*	100 *6*	188.981	$(2)^+$				
		671.1	≤13	0.0	1^+				
677.4	(7^-)	111.7 *5*	50 *15*	565.69	(6^-)				
		182.5 *3*	100 *20*	494.88	$(6)^-$	(D+Q)			
743.2	(7^-)	156.7 *5*	69 *23*	586.5	(6^-)				
		177.5 *5*	100 *31*	565.69	(6^-)				
751.64	(1^+)	439.1 *4*	10.6 *15*	312.47	$(2)^+$				
		479.4 *3*	36.4 *15*	272.10	$(0,1)^+$				
		≈498.0	≈3	253.22	$(1)^+$				
		562.7 *4*	9.1 *15*	188.981	$(2)^+$				
		751.7 *2*	100 *5*	0.0	1^+				
757.5	(8^-)	80.1 *5*	5.0 *15*	677.4	(7^-)				
		108.7 *1*	100 *5*	648.8	$(7)^-$				
		262.6 *5*	10 *3*	494.88	$(6)^-$	(Q)			
770.85	$(1,2,3)^+$	156.87[d] *7*	100[d] *4*	613.95	$(0,1,2)^+$				
		174.2 *1*	94 *6*	596.64	+	M1(+E2)[a]	<0.8	0.206 *16*	α(K)=0.172 *9*; α(L)=0.027 *6*; α(M)=0.0056 *12*; α(N+..)=0.0013 *3* α(N)=0.00117 *24*; α(O)=0.00016 *3*; α(P)=6.40×10^{-6} *10* δ: from ^{124}Ba ε decay.
		369.0 *6*	<4	401.27	$(1,2)^+$				
		432[e]	≈6	338.5?					
		458.3[e]	≈4	312.47	$(2)^+$				
		≈527.8	≤7	242.90	$(3)^+$				

Adopted Levels, Gammas (continued)

γ(^{124}Cs) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[@]	E_f	J_f^π	Mult.[&]	α[b]	Comments
770.85	(1,2,3)$^+$	582.6 *4*	22 *4*	188.981	(2)$^+$			
		≈601.9[e]	≤7	169.51	(1)$^+$			
784.1	(10$^+$)	124.0 *1*	100	660.1	(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*
796.7	(8$^-$)	39.2[#] *5*		757.5	(8$^-$)			
		119.3 *5*	100 *30*	677.4	(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*
		147.9 *5*	83 *30*	648.8	(7)$^-$			
		301.8 *5*	77 *23*	494.88	(6)$^-$	(Q)		
846.5		445.0 *4*	100	401.27	(1,2)$^+$			
864.1	1,2	93.68[e] *5*		770.85	(1,2,3)$^+$			
		≈593.2	≈38	270.29	(3)$^+$			
		864.0 *4*	100 *25*	0.0	1$^+$			
895.7	0,1,2	532.5[d] *4*	63[d] *8*	362.73	(3)$^+$			
		623.4 *4*	100 *11*	272.66	(2,3)$^+$			
		896.4[ce] *4*		0.0	1$^+$			
920.68	(0 to 3)$^+$	454.6[c] *5*	<40	464.93	1,2			
		558.0[d] *3*	≈1.0×10^2[d]	362.73	(3)$^+$			
		608.6 *4*	70 *10*	312.47	(2)$^+$			
		648.3[ce] *3*		272.66	(2,3)$^+$			
933.81	0,1	532.5[d] *4*	11.0[d] *14*	401.27	(1,2)$^+$			
		680.7 *4*	29 *5*	253.22	(1)$^+$			
		933.6 *3*	100 *7*	0.0	1$^+$			
950.4?		353.9[e]		596.64	$^+$			
		≈707.4[e]	≈100	242.90	(3)$^+$			
974.1	(9$^-$)	177.4 *3*	44 *9*	796.7	(8$^-$)	(D+Q)		
		216.6 *1*	100 *5*	757.5	(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*
		325.3 *5*	7.2 *22*	648.8	(7)$^-$			
1000.89	0,1,2	≈597.0	≤29	404.25	(1$^+$,2$^+$)			
		831.4 *4*	100 *14*	169.51	(1)$^+$			
		1001.0 *4*	71 *14*	0.0	1$^+$			
1014.45		243.3 *3*	100 *20*	770.85	(1,2,3)$^+$			
		610.4 *5*	53 *13*	404.25	(1$^+$,2$^+$)			
		≈771.6	≈27	242.90	(3)$^+$			
1040.29	0,1,2	≈638.1	≤15	401.27	(1,2)$^+$			
		786.8 *4*	38 *8*	253.22	(1)$^+$			
		851.5 *5*	31 *8*	188.981	(2)$^+$			

$^{124}_{55}Cs_{69}$-11

Adopted Levels, Gammas (continued)

γ(^{124}Cs) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [@]	E_f	J_f^π	Mult.[&]	α[b]	Comments
1040.29	0,1,2	1040.0 *3*	100 *8*	0.0	1^+			
1049.21	0,1	278.4 *5*	27 *7*	770.85	$(1,2,3)^+$			
		795.8 *4*	34 *7*	253.22	$(1)^+$			
		1049.3 *3*	100 *5*	0.0	1^+			
1091.4	(9^-)	333.9 *5*	77 *23*	757.5	(8^-)			
		348.2 *5*	100 *31*	743.2	(7^-)			
		414.0 *5*	27 *8*	677.4	(7^-)			
1096.1	(11^+)	312.0 *1*	100 *5*	784.1	(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*
		436.0 *3*	8.2 *17*	660.1	(9^+)			
1097.87	0,1	326.9 *4*	56 *11*	770.85	$(1,2,3)^+$	M1,E2[a]	0.0343 *13*	α(K)=0.0290 *17*; α(L)=0.0043 *4*; α(M)=0.00089 *8*; α(N+..)=0.000212 *17* α(N)=0.000186 *16*; α(O)=2.51×10^{-5} *13*; α(P)=1.06×10^{-6} *13*
		693.9 *5*	17 *6*	404.25	$(1^+,2^+)$			
		≈697[e]		401.27	$(1,2)^+$			
		825.6 *4*	61 *6*	272.10	$(0,1)^+$			
		928.4 *5*	25 *6*	169.51	$(1)^+$			
		1097.9 *3*	100 *6*	0.0	1^+			
1131.92	1	727.6 *4*	78 *13*	404.25	$(1^+,2^+)$			
		≈731		401.27	$(1,2)^+$			
		768.9 *4*	100 *13*	362.73	$(3)^+$			
		819.0 *4*	42 *10*	312.47	$(2)^+$			
		≈878.3	≈43	253.22	$(1)^+$			
		888.6 *5*	≈22	242.90	$(3)^+$			
		963.0[c] *3*	<440	169.51	$(1)^+$			
		1131.9 *4*	≈43	0.0	1^+			
1141.59	0,1,2	43.70 *5*	100 *5*	1097.87	0,1			
		≈803.4[e]	≈8	338.5?				
		1141.6[e]	≈20	0.0	1^+			
1168.60	0,1	416.9 *4*	100 *10*	751.64	(1^+)			
		764.3 *4*	60 *10*	404.25	$(1^+,2^+)$			
		≈767		401.27	$(1,2)^+$			
		896.4[c] *4*	<70	272.10	$(0,1)^+$			
		1168.8 *4*	50 *5*	0.0	1^+			
1196.4	(10^-)	222.3 *1*	100 *5*	974.1	(9^-)	M1[a]	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*
		438.9 *3*	50 *10*	757.5	(8^-)			
1216.59	(1^+)	283.7[ce] *3*	<5	933.81	0,1			
		320.6	1.8 *6*	895.7	0,1,2			

$^{124}_{55}Cs_{69}$-12

Adopted Levels, Gammas (continued)

γ(^{124}Cs) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [@]	E_f	J_f^π	Mult.[&]	δ	α[b]	Comments
1216.59	(1$^+$)	620.6 *3*	11.8 *6*	596.16					
		≈659.1	≤2	557.97	(1,2)$^+$				
		812.4 *5*	≈1	404.25	(1$^+$,2$^+$)				
		≈815		401.27	(1,2)$^+$				
		943.5 *5*	3.5 *6*	272.66	(2,3)$^+$				
		946.5 *3*	14.7 *9*	270.29	(3)$^+$				
		963.0[c] *3*	<18	253.22	(1)$^+$				
		1027.3[c] *5*	3.5	188.981	(2)$^+$				
		1047.1 *3*	17.7 *6*	169.51	(1)$^+$				
		1216.7 *2*	100.0 *12*	0.0	1$^+$				
1244.55	(1)$^+$	≈230.1[d]	≈3[d]	1014.45					
		323.9 *3*	20.0 *22*	920.68	(0 to 3)$^+$	M1,E2[a]		0.0353 *13*	α(K)=0.0297 *17*; α(L)=0.0044 *4*; α(M)=0.00091 *9*; α(N+..)=0.000218 *18* α(N)=0.000191 *17*; α(O)=2.58×10^{-5} *14*; α(P)=1.09×10^{-6} *13*
		380.4 *5*	11.1 *22*	864.1	1,2				
		397.8[c] *5*	11.1 *22*	846.5					
		473.7 *3*	100 *3*	770.85	(1,2,3)$^+$	M1(+E2)[a]	<0.8	0.0133 *6*	α(K)=0.0114 *6*; α(L)=0.00150 *4*; α(M)=0.000306 *7*; α(N+..)=7.40×10^{-5} *18* α(N)=6.46×10^{-5} *15*; α(O)=9.0×10^{-6} *3*; α(P)=4.4×10^{-7} *3* δ: from ^{124}Ba ε decay.
		573.1 *3*	20.0 *22*	671.43	0,1,2				
		648.3[c] *3*	3.8 *4*	596.16					
		686.5 *4*	9.0 *22*	557.97	(1,2)$^+$				
		781	≈2	464.93	1,2				
		840.3 *5*	≈9	404.25	(1$^+$,2$^+$)				
		881.7 *2*	66.7 *22*	362.73	(3)$^+$				
		932.1 *3*	80.0 *22*	312.47	(2)$^+$				
		972.1 *3*	44.4 *22*	272.66	(2,3)$^+$				
		974.2 *4*	15 *3*	270.29	(3)$^+$				
		1033.6[e] *4*	6.7 *16*	211.65	(3)$^+$				
		1055.7 *3*	24.4 *22*	188.981	(2)$^+$				
		1075.7[c] *5*	<12	169.51	(1)$^+$				
		1244.2	≈4	0.0	1$^+$				
1259.80	(1$^+$)	338.8[c] *4*	34 *7*	920.68	(0 to 3)$^+$				
		413.3 *5*	≈10	846.5					
		≈488.4[e]	14 *3*	770.85	(1,2,3)$^+$				
		≈701.9	≈7	557.97	(1,2)$^+$				
		859.2 *4*	24 *3*	401.27	(1,2)$^+$				
		990.0 *4*	31 *5*	270.29	(3)$^+$				
		1006.2 *4*	14 *3*	253.22	(1)$^+$				

$^{124}_{55}Cs_{69}$-13

Adopted Levels, Gammas (continued)

γ(^{124}Cs) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[@]	E_f	J_f^π	Mult.[&]	α[b]	Comments
1259.80	(1$^+$)	1071.0[c]	≈5	188.981	(2)$^+$			
		1090.2 *2*	100 *3*	169.51	(1)$^+$			
		1259.7 *4*	48 *3*	0.0	1$^+$			
1289.6	(10$^-$)	492.9 *3*	100 *20*	796.7	(8$^-$)			
		532.1[d] *5*	50[d] *16*	757.5	(8$^-$)			
1300.3	(11$^+$)	516.2 *1*	100	784.1	(10$^+$)			
1315.7	(12$^+$)	219.6 *1*	100 *5*	1096.1	(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*
		531.6 *1*	96 *5*	784.1	(10$^+$)	Q		
1388.88	(1$^+$)	291	≤15	1097.87	0,1			
		374.2 *3*	80 *7*	1014.45				
		388.2 *5*	<37	1000.89	0,1,2			
		454.6[c] *5*	<29	933.81	0,1			
		≈618.1	≈7	770.85	(1,2,3)$^+$			
		≈792.6	≈15	596.16				
		987.4 *4*	100 *11*	401.27	(1,2)$^+$			
		1027.3[c] *5*	<44	362.73	(3)$^+$			
		1075.7[ce] *5*	<40	312.47	(2)$^+$			
		1116.2 *4*	73 *7*	272.66	(2,3)$^+$			
		1219.4 *4*	80 *7*	169.51	(1)$^+$			
		1388.9 *4*	80 *7*	0.0	1$^+$			
1433.3	0,1,2	189.0[e] *1*		1244.55	(1)$^+$			
		392.5 *4*	100 *14*	1040.29	0,1,2			
		837.1 *5*	57 *10*	596.16				
		1071.0[ce]		362.73	(3)$^+$			
		1434.3[c] *5*	<71	0.0	1$^+$			
1494.6	(11$^-$)	298.2 *3*	88 *18*	1196.4	(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*
		520.5 *3*	100 *20*	974.1	(9$^-$)			
1534.1		750.0 *3*	100	784.1	(10$^+$)			
1589.4	0,1,2	≈918.5	≤20	671.43	0,1,2			
		1400.5 *5*	27 *7*	188.981	(2)$^+$			
		1589.3 *4*	100 *7*	0.0	1$^+$			
1611.5	(11$^-$)	415.1 *5*	33 *10*	1196.4	(10$^-$)			
		520.1 *3*	100 *20*	1091.4	(9$^-$)			
1623.2	0,1,2	1434.3[c] *5*	<100	188.981	(2)$^+$			
		1453.2[c]	≈60	169.51	(1)$^+$			
		≈1623	≈20	0.0	1$^+$			
1638.3?	0,1,2	≈470.5	≤100	1168.60	0,1			
		1638.2	≈100	0.0	1$^+$			

Adopted Levels, Gammas (continued)

γ(^{124}Cs) (continued)

E_i(level)	J_i^π	E_γ †	I_γ @	E_f	J_f^π	Mult.&
1671.0	(12$^+$)	370.7 *3*	44 *9*	1300.3	(11$^+$)	
		574.9 *1*	100 *5*	1096.1	(11$^+$)	
1707.3	0,1,2	666.2	<40	1040.29	0,1,2	
		937.4	≈20	770.85	(1,2,3)$^+$	
		1453.2[c]	<60	253.22	(1)$^+$	
		1708.0 *10*	100 *20*	0.0	1$^+$	
1713.3	(13$^+$)	397.6 *1*	100 *5*	1315.7	(12$^+$)	
		617.2 *3*	36 *8*	1096.1	(11$^+$)	
1805.6	(12$^-$)	311.0 *3*	50 *10*	1494.6	(11$^-$)	
		609.2 *3*	100 *20*	1196.4	(10$^-$)	
1845.9		311.8 *5*	100	1534.1		
1932.6	(13$^+$)	261.6 *5*	12 *4*	1671.0	(12$^+$)	
		616.9 *3*	100 *23*	1315.7	(12$^+$)	
		632.3 *3*	62 *12*	1300.3	(11$^+$)	
1949.4	(12$^-$)	659.8 *3*	100	1289.6	(10$^-$)	
2029.2	(14$^+$)	96.6 *5*	3.0 *9*	1932.6	(13$^+$)	
		315.9 *3*	22 *4*	1713.3	(13$^+$)	
		713.5 *1*	100 *5*	1315.7	(12$^+$)	Q
2169.5	(13$^-$)	363.9 *5*	57 *17*	1805.6	(12$^-$)	
		674.9 *3*	100 *20*	1494.6	(11$^-$)	
2177.5		506.5 *3*	100	1671.0	(12$^+$)	
2263.1	(13$^-$)	651.6 *3*	100	1611.5	(11$^-$)	
2304.9	(14$^+$)	372.3 *5*	19 *6*	1932.6	(13$^+$)	
		591.6 *1*	100 *5*	1713.3	(13$^+$)	
		633.9 *5*	19 *6*	1671.0	(12$^+$)	
2486.1	(15$^+$)	456.9 *1*	100 *5*	2029.2	(14$^+$)	
		772.8 *3*	53 *11*	1713.3	(13$^+$)	
2544.7	(14$^-$)	375.2 *5*	22 *7*	2169.5	(13$^-$)	
		739.1 *3*	100 *20*	1805.6	(12$^-$)	
2705.9	(15$^+$)	401.0 *3*	80 *16*	2304.9	(14$^+$)	
2705.9	(15$^+$)	676.7 *5*	20 *6*	2029.2	(14$^+$)	
		773.3 *3*	100 *20*	1932.6	(13$^+$)	
2709.6		532.1[d] *3*	100[d]	2177.5		
2710.3	(14$^-$)	760.9 *5*	100	1949.4	(12$^-$)	
2898.3	(16$^+$)	411.8		2486.1	(15$^+$)	
		869.1 *1*	100 *5*	2029.2	(14$^+$)	
2908.2		603.3 *3*	100	2304.9	(14$^+$)	
2945.0	(15$^-$)	400.3 *5*	38 *11*	2544.7	(14$^-$)	
		775.5 *3*	100 *20*	2169.5	(13$^-$)	
3008.9	(15$^-$)	745.8 *3*	100	2263.1	(13$^-$)	
3130.1	(16$^+$)	644.0 *3*	100 *20*	2486.1	(15$^+$)	
		825.2 *5*	50 *15*	2304.9	(14$^+$)	
3350.1	(16$^-$)	805.4 *3*	100	2544.7	(14$^-$)	
3383.9	(17$^+$)	485.6 *3*	79 *16*	2898.3	(16$^+$)	
		897.8 *3*	100 *20*	2486.1	(15$^+$)	
3613.7	(17$^+$)	483.6 *5*	31 *10*	3130.1	(16$^+$)	
		907.8 *3*	100 *20*	2705.9	(15$^+$)	
3767.6	(17$^-$)	822.6 *3*	100	2945.0	(15$^-$)	
3817.4	(17$^-$)	808.5 *5*	100	3008.9	(15$^-$)	
3872.1	(18$^+$)	488.3		3383.9	(17$^+$)	
		973.8 *3*	100 *23*	2898.3	(16$^+$)	
4206.7	(18$^-$)	856.6 *5*	100	3350.1	(16$^-$)	
4382.2	(19$^+$)	510.0 *5*	60 *18*	3872.1	(18$^+$)	
		998.2 *3*	100 *20*	3383.9	(17$^+$)	
4642.5	(19$^-$)	874.9 *5*	100	3767.6	(17$^-$)	
4688.0	(19$^-$)	870.6 *5*	100	3817.4	(17$^-$)	
4946.7	(20$^+$)	1074.6 *3*	100 *20*	3872.1	(18$^+$)	
5128.2	(20$^-$)	921.5 *5*	100	4206.7	(18$^-$)	
5463.9	(21$^+$)	1081.7 *3*	100 *20*	4382.2	(19$^+$)	
6127.0	(22$^+$)	1180.3 *5*	100	4946.7	(20$^+$)	

† From ^{124}Ba ε decay and (HI,xnγ), unless otherwise indicated.
‡ Strongly converted transition.
# Very weak intensity.
@ From ^{124}Ba ε decay and (HI,xnγ), unless otherwise indicated.
& From (HI,xnγ), unless otherwise indicated.
[a] From ^{124}Ba ε decay.
[b] 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.

$^{124}_{55}Cs_{69}$-15

γ(^{124}Cs) (continued)

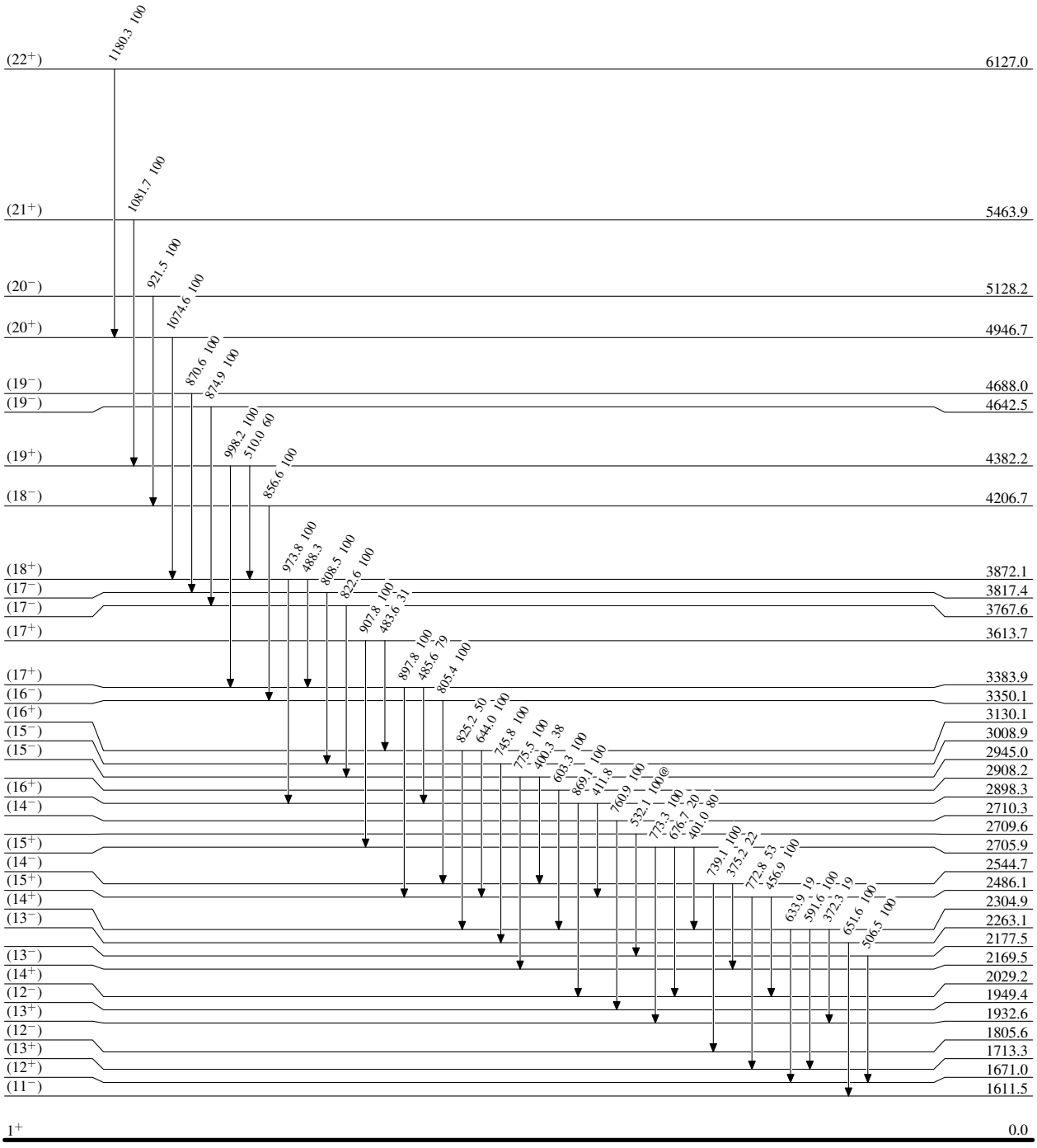
[c] Multiply placed.
[d] Multiply placed with intensity suitably divided.
[e] Placement of transition in the level scheme is uncertain.

$^{124}_{55}Cs_{69}$-16

Adopted Levels, Gammas

Level Scheme

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

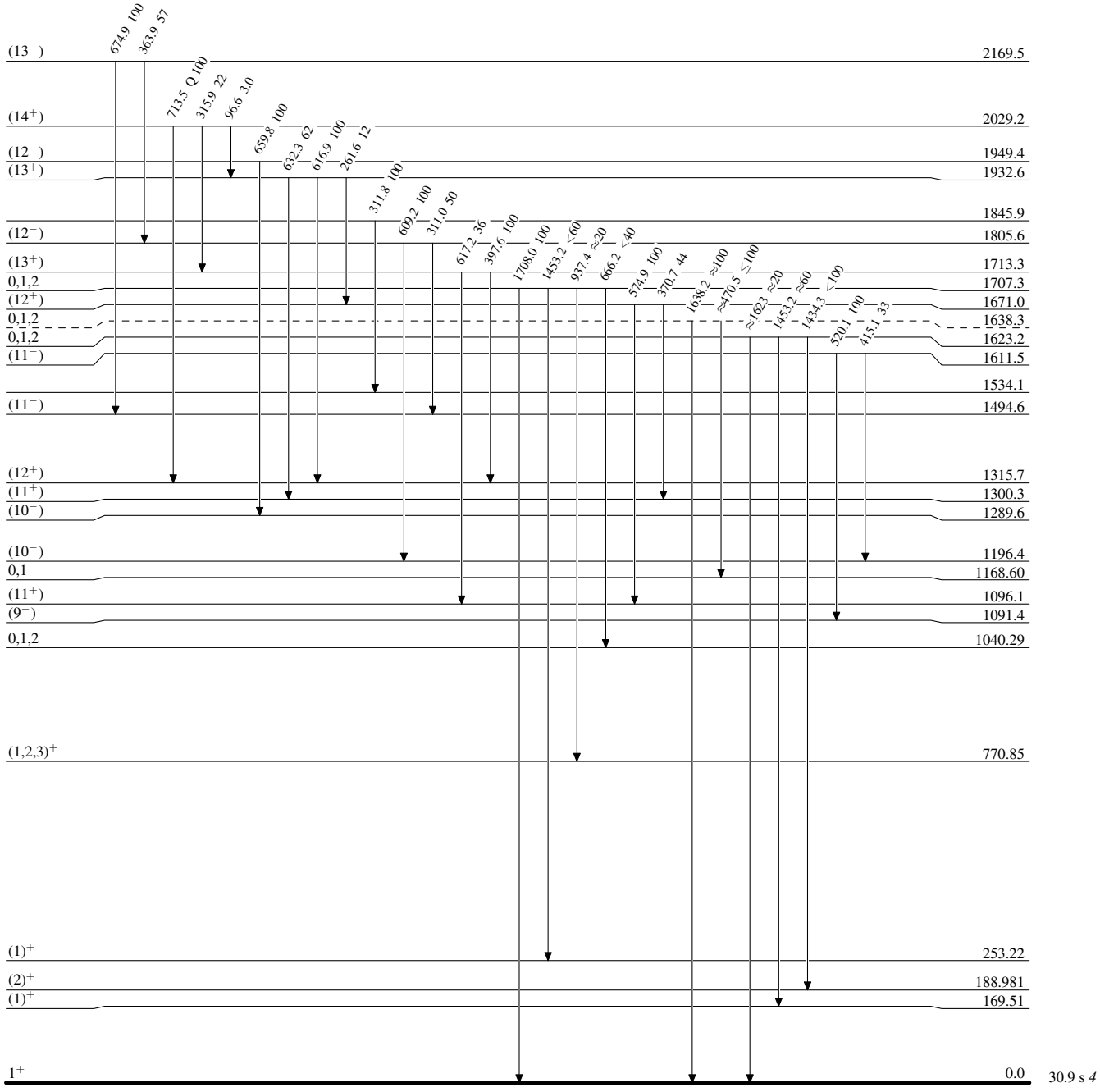


$^{124}_{55}Cs_{69}$

Adopted Levels, Gammas

Level Scheme (continued)

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



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

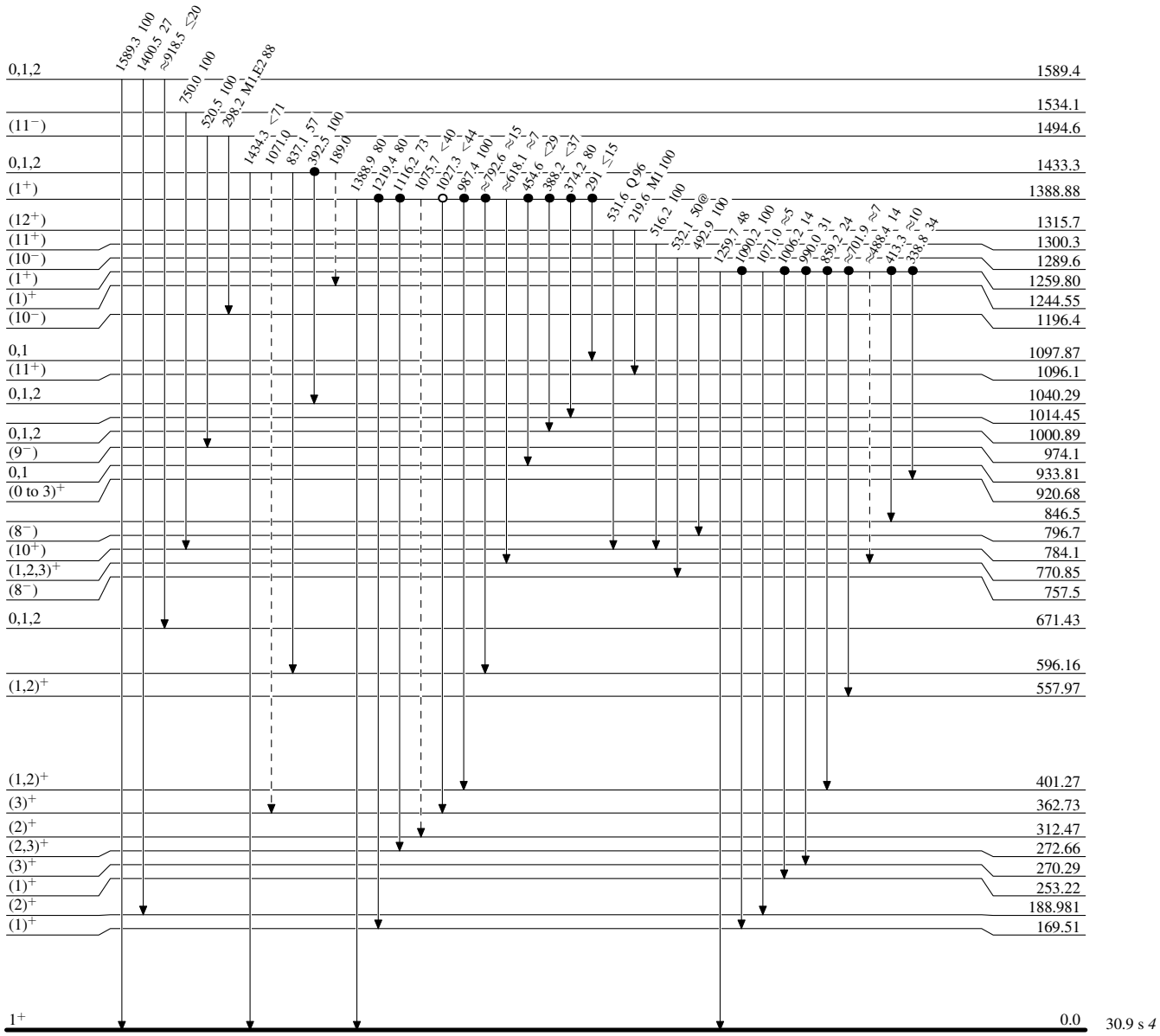
Adopted Levels, Gammas

Legend

Level Scheme (continued)

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

- - - - - - ► γ Decay (Uncertain)
● Coincidence
○ Coincidence (Uncertain)



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

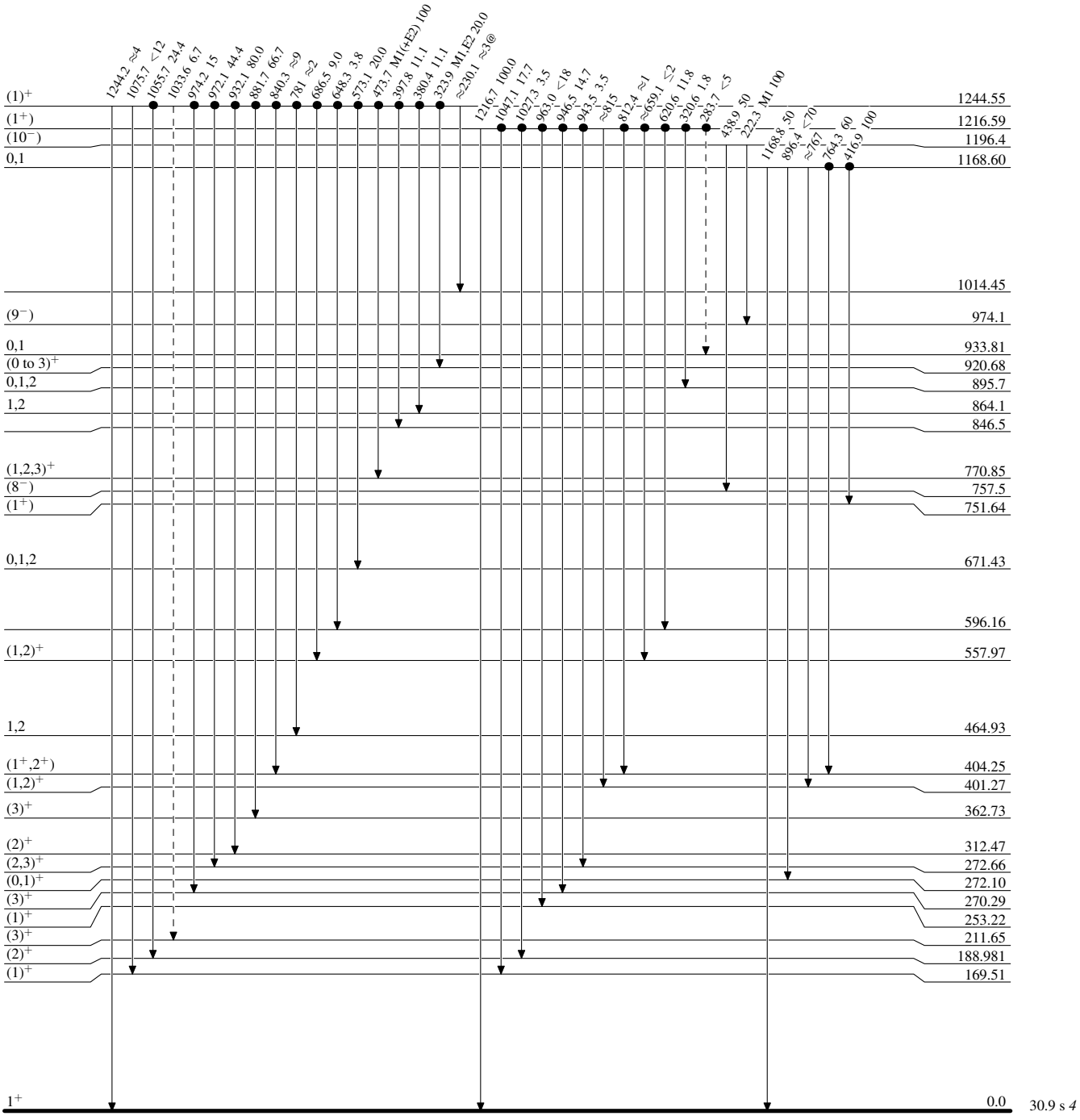
Adopted Levels, Gammas

Legend

Level Scheme (continued)

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

γ Decay (Uncertain)
Coincidence



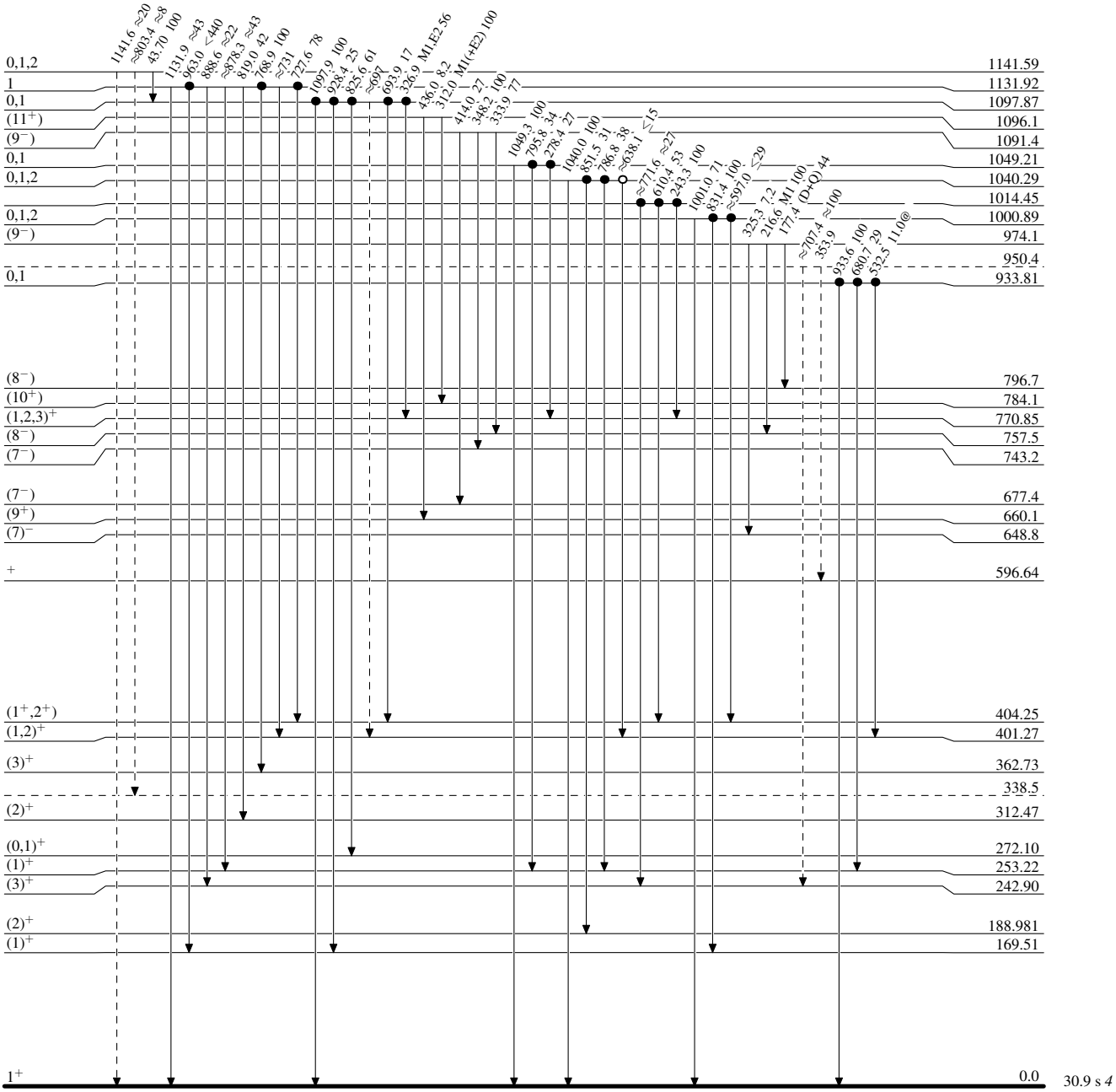
$^{124}_{55}Cs_{69}$

Adopted Levels, Gammas

Level Scheme (continued)

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

Legend
γ Decay (Uncertain)
Coincidence
Coincidence (Uncertain)



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

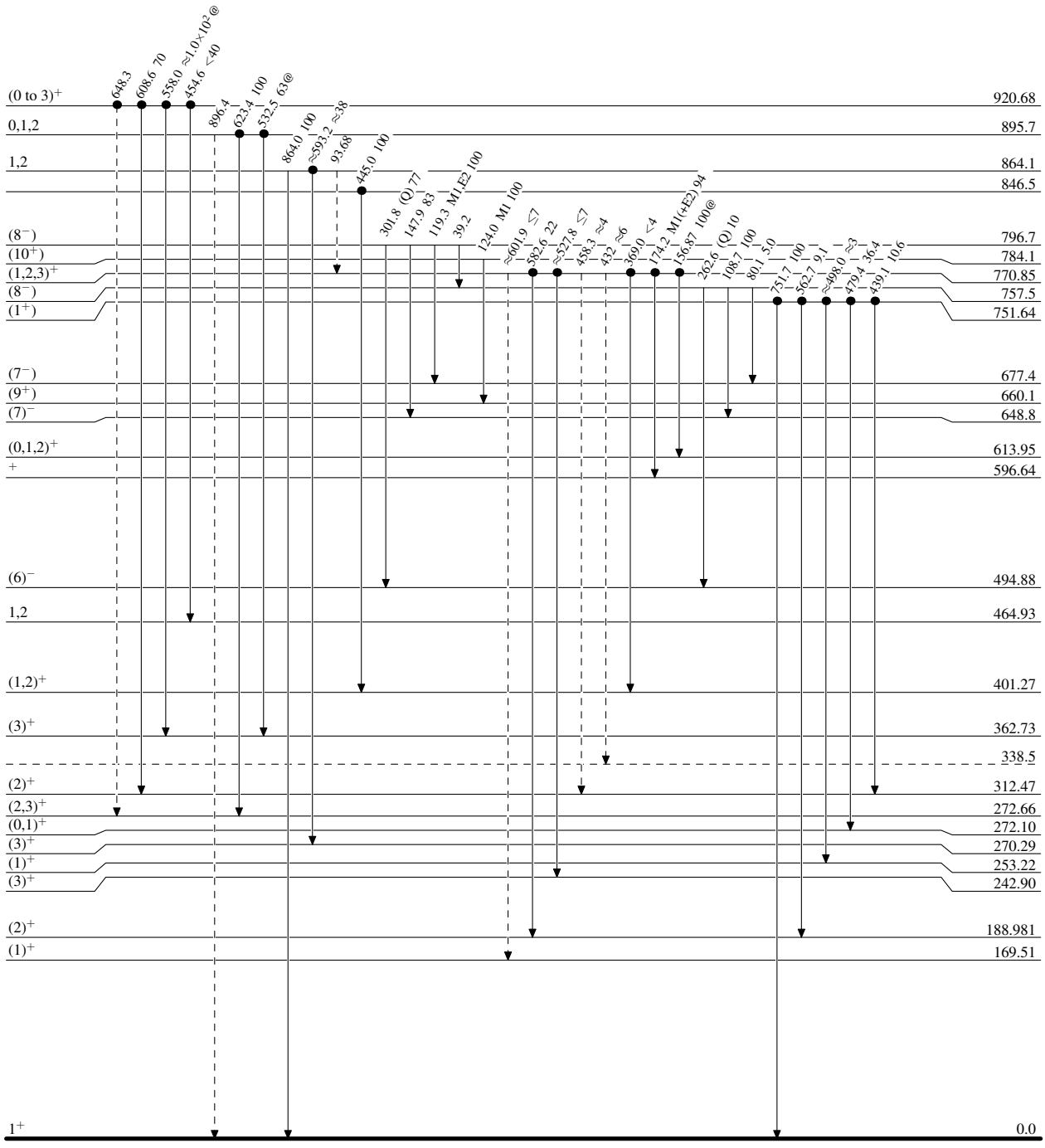
Adopted Levels, Gammas

Legend

Level Scheme (continued)

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

γ Decay (Uncertain)
Coincidence



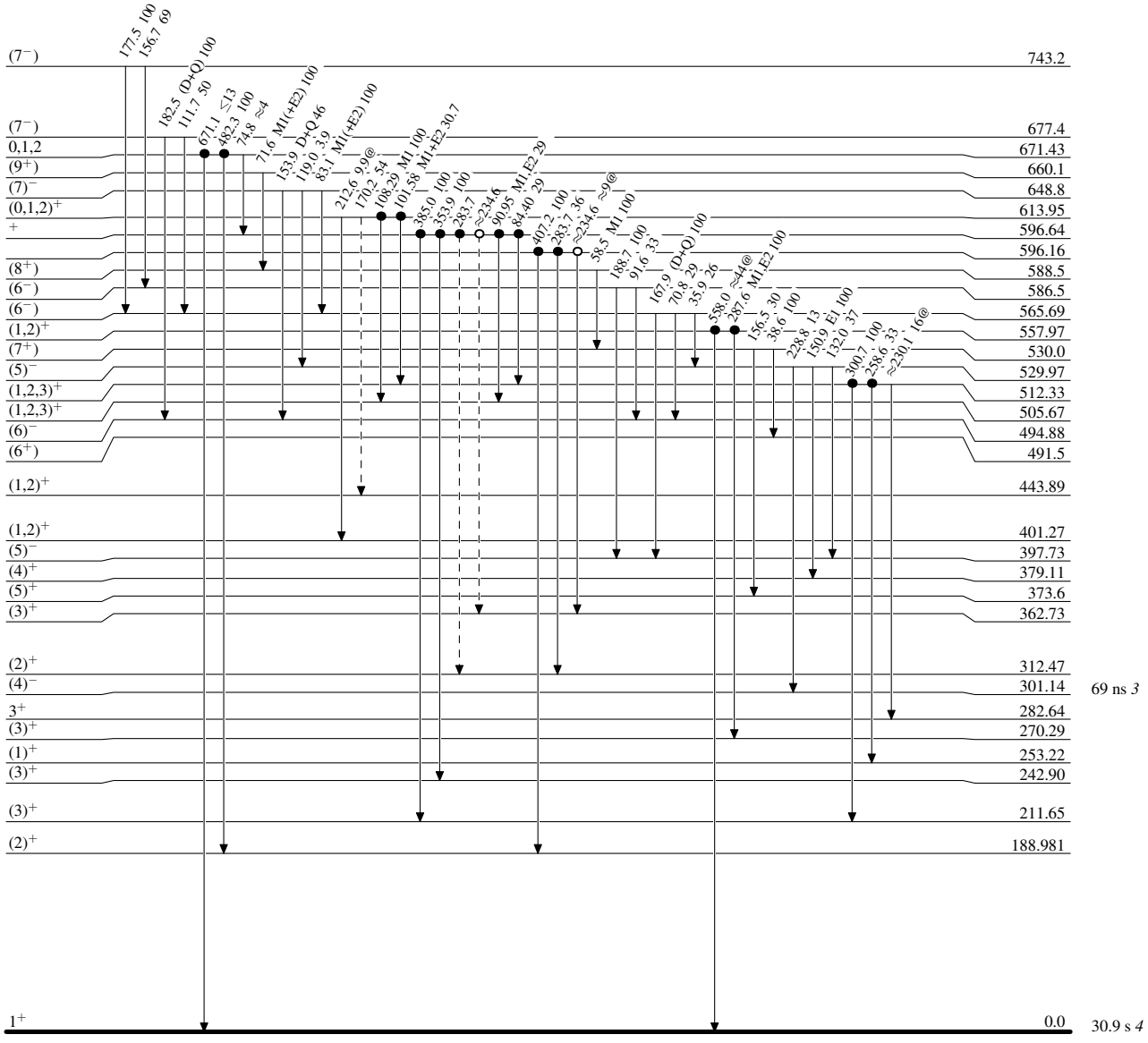
$^{124}_{55}Cs_{69}$

Adopted Levels, Gammas

Level Scheme (continued)

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

Legend
- ------► γ Decay (Uncertain)
- ● Coincidence
- ○ Coincidence (Uncertain)



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

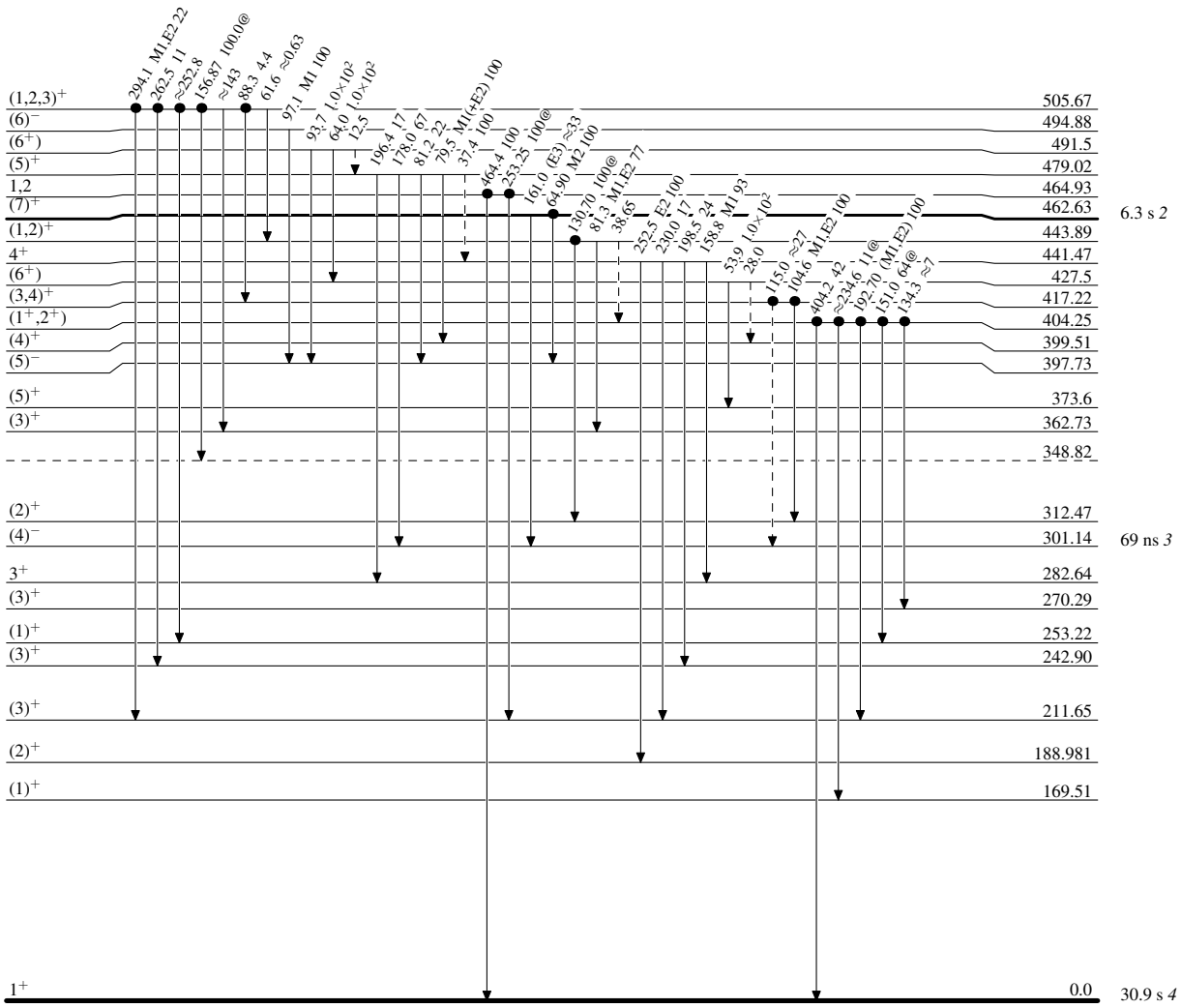
Adopted Levels, Gammas

Legend

Level Scheme (continued)

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

γ Decay (Uncertain)
Coincidence



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

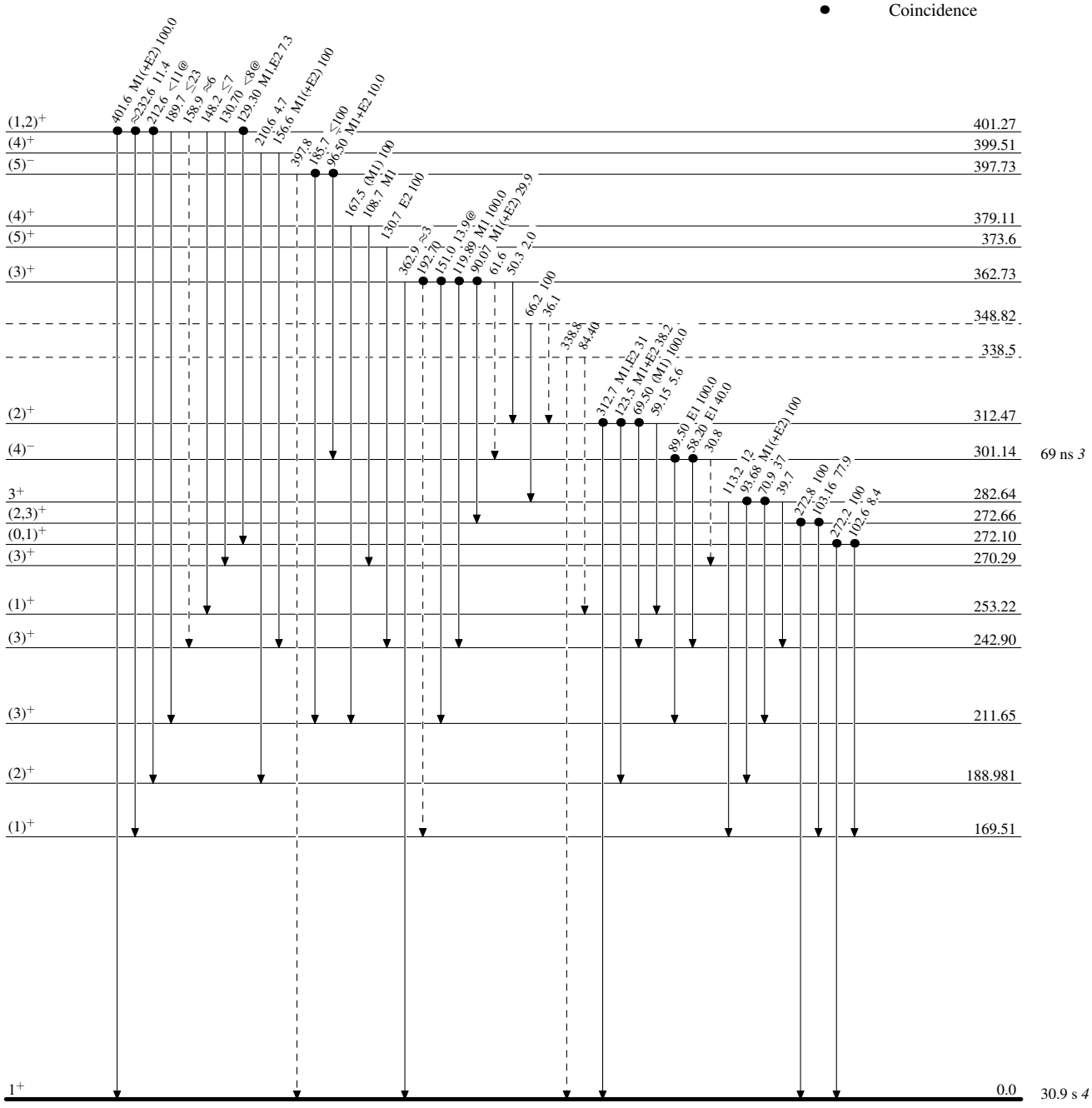
Adopted Levels, Gammas

Legend

Level Scheme (continued)

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

γ Decay (Uncertain)
Coincidence



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

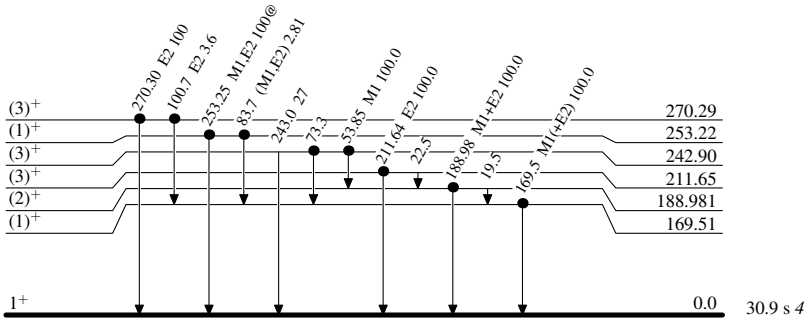
Adopted Levels, Gammas

Legend

Level Scheme (continued)

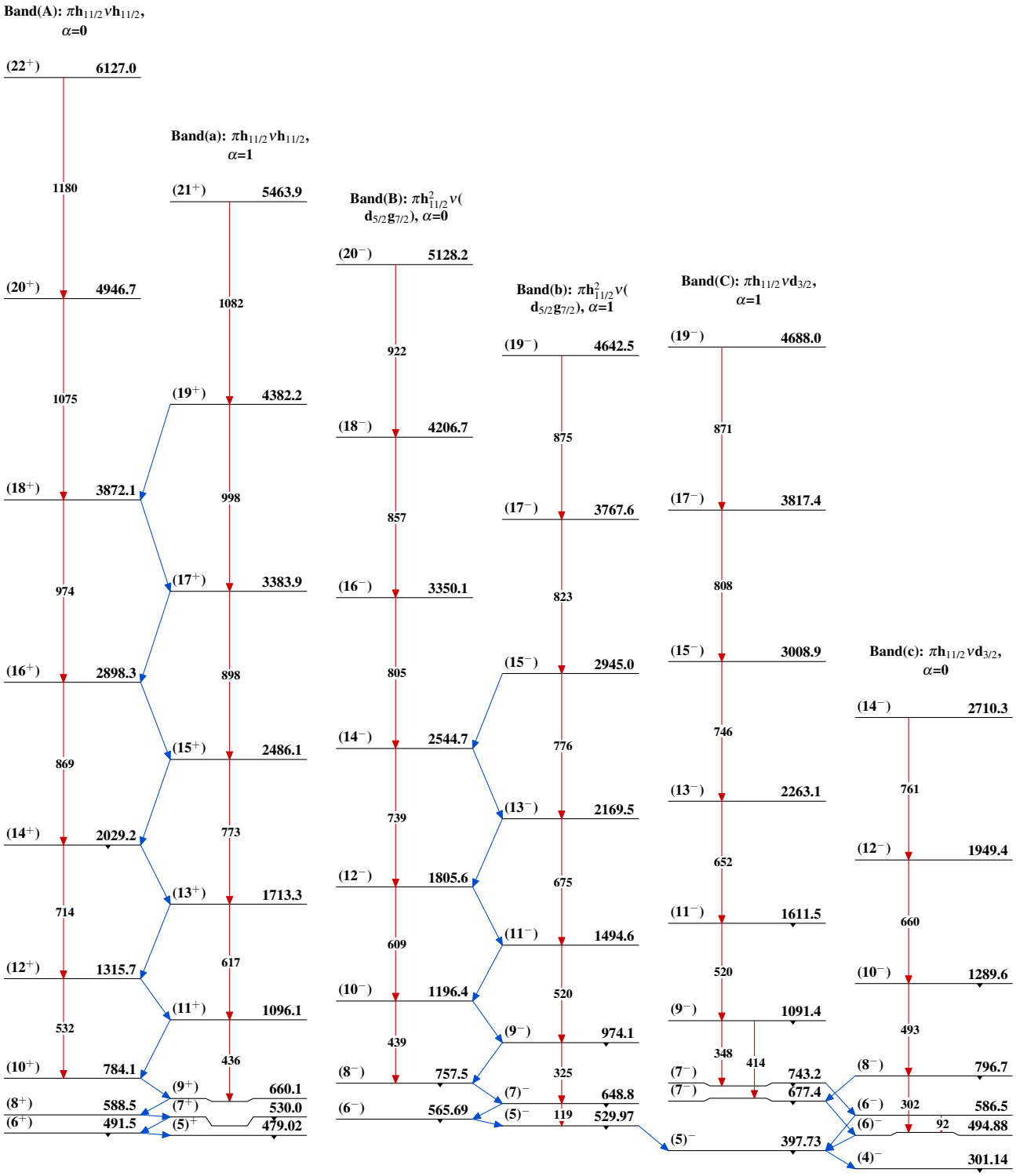
Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided

- - - - - - ► γ Decay (Uncertain)
● Coincidence



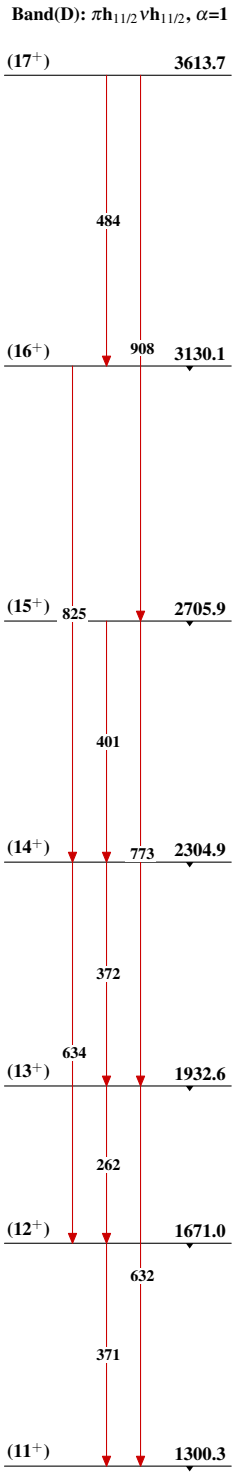
$^{124}_{55}Cs_{69}$

Adopted Levels, Gammas



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

Adopted Levels, Gammas (continued)



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