Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 174, 1 (2021)	15-Apr-2021

Q(β^-)=−5389 *17*; S(n)=10970 *40*; S(p)=2978 *16*; Q(α)=309 *25* 2021Wa16
S(2n)=20084 *19*, S(2p)=9376 *13* (2021Wa16).
Mass measurements: Mass excess=−81049 *15* keV (1990St25), −81048 *12* keV (1999Am05).

^{123}Cs Levels

(7/2$^+$) level in $\pi g_{7/2}$ band and (9/2$^+$) level in $\pi g_{9/2}$ band: 1992Hu02 in (^{19}F,4nγ) propose that the (9/2$^+$) level (bandhead of $\pi g_{9/2}$ band) is at 296 keV (also proposed by 1979Ga02 in (^{10}B,3nγ)) and is de-excited by 201γ and 137γ with the latter assigned mult=E1 based on $\gamma(\theta)$ data and level scheme, and the (7/2$^+$) level in $\pi g_{7/2}$ band is at a higher energy and linked to the 296 level by an unobserved and highly-converted low-energy transition. However, 2000Gi12 observed a preponderant M1 character for 137γ based on their ce data from ^{123}Ba ε decay. Together with the observations of both prompt and delayed transitions of 137γ and 201γ in their measurement of ^{115}In(^{12}C,4nγ), 2000Gi12 propose that the 137γ and 201γ de-excite a level at 231 keV with J$^\pi$=(7/2$^+$), which is fed by an isomer at 231.7+x (x a few keV) with T$_{1/2}$=114 ns as the $\pi g_{9/2}$ bandhead. Later, 2004Si26 in ^{100}Mo(^{28}Si,4npγ) and 2004Si27 in ^{64}Ni(^{64}Ni,4npγ) propose the 328-keV level (proposed by 2000Gi12 as a separate level) to be the isomeric (9/2$^+$) bandhead, based on the intensity balance of the feeding and de-exciting γ transitions (96.5γ and 233.5γ de-exciting the 328-keV level are seen in 2004Si26 with a thick target but not seen in 2004Si27 with a thin target due to ^{123}Cs nuclei recoiling into vacuum after reaction and decaying out of the detectors, supporting the 328-keV level being an isomer).
The level scheme adopted here is based on that of 2000Gi12, 2004Si27 and 2005Si31. Band assignments are from 2004Si27 and 2005Si31.

Cross Reference (XREF) Flags

A	^{123}Ba ε decay	E	^{96}Zr(^{32}S,p4nγ)
B	^{123}Cs IT decay	F	^{100}Mo(^{28}Si,p4nγ)
C	^{64}Ni(^{64}Ni,p4nγ)	G	^{108}Pd(^{19}F,4nγ),^{109}Ag(^{18}O,4nγ)
D	^{92}Mo(^{34}S,3pγ)	H	^{116}Sn(^{10}B,3nγ),^{114}Sn(^{12}C,p2nγ)

E(level)†	J$^\pi$	T$_{1/2}$	XREF	Comments
0.0	1/2$^{(+)}$	5.86 min *10*	ABC FGH	%ε+%β^+=100 μ=+1.377 *7* (1981Th06,2014StZZ) J$^\pi$: spin from atomic-beam magnetic resonance on mass-separated ^{123}Cs (1977Ek02,1978Ek05); 1/2$^+$ is favored from systematics of neighboring odd-mass Cs isotopes. T$_{1/2}$: unweighted average of 5.87 min *5* (1993Al03), 6.08 min *7* (1981So06), 5.87 min *5* (1969Ch18), and 5.6 min *1* (1966Da09). Others: 6 min (1954Ma54), 8.0 min *5* (1962Pr09). μ: from laser spectroscopy on thermal atomic beam, relative to 2.582 *1* of ^{133}Cs (1981Th06). Other: 1.389 *16* from atomic-beam magnetic resonance relative to 2.582069 *9* of ^{133}Cs (1977Ek02,1978Ek05). See also 2014StZZ compilation. Isotope shift $\delta\nu^{133,A}$=362.6 MHz *14* (1981Th06), 259 *12* (1978Hu08), relative to that of ^{133}Cs. Nuclear rms charge radius=4.782 fm *7* (2013An02).
30.59[i] *4*	(3/2$^+$)		ABC FGH	J$^\pi$: 201.0γ E2 from (7/2$^+$), 116.2γ M1+E2 from 5/2$^{(+)}$, 30.6γ to 1/2$^{(+)}$.
94.57 *3*	5/2$^{(+)}$	9 ns *3*	ABC FGH	J$^\pi$: 94.6γ E2 to 1/2$^{(+)}$. T$_{1/2}$: from β^+−94.6γ(t) (1976Be11) in ^{123}Ba ε decay.
123.52 *4*	(3/2$^+$)		A	J$^\pi$: 123.6γ M1+E2 to 1/2$^{(+)}$, 108.1γ E2 from (7/2$^+$).
146.80 *4*	5/2$^{(+)}$		A	J$^\pi$: 146.8γ E2 to 1/2$^{(+)}$.
156.27[a] *5*	11/2$^{(-)}$	1.7 s *2*	ABCDEFGH	%IT=100

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Adopted Levels, Gammas (continued)

^{123}Cs Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$	XREF	Comments
				Jπ: 61.7γ E3 to 5/2(+); 11/2− from systematics of neighboring odd-mass Cs isotope; bandhead of $1h_{11/2}$ band. $T_{1/2}$: weighted average of 1.7 s 2 (1981Ma01) and 1.6 s 2 (1972Dr06) in ^{123}Cs IT decay.
214.56 *5*	7/2(−)		A	Jπ: 58.3γ E2 to 11/2(−), 120.0γ E1 to 5/2(+).
231.63[i] *6*	(7/2+)		A C FGH	Jπ: 137.0γ M1+E2 to 5/2(+); band assignment.
328.08[g] *8*	(9/2+)	114 ns *5*	A CD FGH	%IT=100 E(level): see comments above about this level as the (9/2+) bandhead. Jπ: 96.5γ M1 to (7/2+); bandhead of the $1g_{9/2}$ band. $T_{1/2}$: from γ(t) in 2000Gi12 with ^{115}In(^{12}C,4nγ), in the dataset of (^{10}B,3nγ).
467.57 *14*	(3/2+,5/2+,7/2+)		A	Jπ: 236.0γ M1,E2 to (7/2+), 373.1γ M1(+E2) to 5/2(+).
474.88 *10*	3/2(−)		A	Jπ: 260.3γ E2 to 7/2(−), 444.5γ (E1) to (3/2+), 380.3γ to 5/2(+).
476.76[a] *19*	(15/2−)	40[‡] ps *2*	CDEFGH	Jπ: 320.5γ E2 to 11/2(−); band assignment.
494.05 *9*	(3/2+,5/2+)		A	Jπ: 347.3γ M1+E2 to 5/2(+), 370.6γ M1 to (3/2+).
524.69 *17*	(1/2+,3/2+,5/2+)		A	Jπ: 401.3γ M1 to (3/2+), 524.4γ M1,E2 to 1/2(+).
557.51 *18*	(1/2+,3/2+,5/2+)		A	Jπ: 410.8γ M1,E2 to 5/2(+), 557.4γ to 1/2(+).
588.52 *18*	(+)		A	Jπ: 494.0γ M1,E2 to 5/2(+).
596.96[h] *18*	(11/2+)	6.2[#] ps *14*	CD FGH	Jπ: 268.9γ M1+E2, ΔJ=1 to (9/2+); no transitions to 3/2+ and 5/2+ levels; band assignment.
620.90 *13*	(5/2+)		A	Jπ: 389.0γ M1 to (7/2+), 621.0γ to 1/2(+).
659.80[i] *19*	(11/2+)	18[#] ps *3*	C FGH	Jπ: 428.1γ E2 to (7/2+); band assignment.
699.12 *18*	(5/2+,7/2+,9/2+)		A	Jπ: 484.2γ E1 to 7/2(−).
728.0 *4*	(1/2 to 7/2)(+)		A	Jπ: 633.5γ to 5/2(+), 697.3γ to (3/2+).
749.64 *17*	(1/2+,3/2+,5/2+)		A	Jπ: 749.7γ to 1/2(+), 718.8γ M1(+E2) to (3/2+).
784.37 *22*	(3/2−,5/2−,7/2−)		A	Jπ: 569.8γ M1,E2 to 7/2(−), 309.5γ to 3/2(−).
811.17 *13*	(3/2+,5/2+)		A	Jπ: 811.0γ to 1/2(+), 716.6γ M1+E2 to 5/2(+).
817.15 *20*	(3/2+,5/2+)		A	Jπ: 670.6γ M1+E2 to 5/2(+), 816.8γ to 1/2(+).
866.46 *14*	(3/2+,5/2+)		A	Jπ: 866.5γ to 1/2(+), 635.1γ to (7/2+), 718.8γ M1(+E2) to 5/2(+).
869.7 *3*	(5/2+,7/2+,9/2+)		A	Jπ: 541.6γ M1,E2 to (9/2+), 723.1γ to 5/2(+).
900.49[g] *20*	(13/2+)	1.8[#] ps *8*	CD FGH	Jπ: 572.5γ E2 to (9/2+), 303.5γ M1+E2, ΔJ=1 to (11/2+); band assignment.
905.43 *14*	(3/2+,5/2+)		A	Jπ: 905.5γ to 1/2(+), 673.8γ to (7/2+).
999.07[a] *24*	(19/2−)	3.2[‡] ps *+3−6*	CDEFGH	Jπ: 522.4γ E2 to (15/2−); band assignment.
1021.68 *16*	(3/2−)		A	Jπ: 546.8γ M1,E2 to 3/2(−), 1021.9γ to 1/2(+), 807.1γ to 7/2(−).
1048.75 *22*	(3/2+,5/2+)		A	Jπ: 428.3γ M1,E2 to (5/2+), 1048.5γ to 1/2(+), 816.8γ to (7/2+).
1159.6[&] *3*	(17/2−)		C FGH	Jπ: 682.6γ D+Q, ΔJ=1 to (15/2−); band assignment.
1237.24[h] *22*	(15/2+)		CD FGH	Jπ: 640.4γ Q to (11/2+); 336.8γ D+Q, ΔJ=1 to (13/2+); band assignment.
1260.2[i] *3*	(15/2+)		C FGH	Jπ: 600.3γ Q to (11/2+); band assignment.
1593.4[b] *3*	(19/2−)		C FGH	Jπ: 433.6γ D, ΔJ=1 to (17/2−), 1116.6γ to (15/2−); band assignment.
1605.16[g] *24*	(17/2+)		CD FGH	Jπ: 704.6γ Q to (13/2+), 367.7γ D to (15/2+); band assignment.
1684.6[a] *3*	(23/2−)	1.2[‡] ps *6*	CDEFGH	Jπ: 685.5γ E2 to (19/2−); band assignment.
1729.7[&] *3*	(21/2−)	≤1.7[‡] ps	C FGH	Jπ: 730.6γ M1+E2, ΔJ=1 to (19/2−), 570.0γ to E2 to (17/2−); band assignment.

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Adopted Levels, Gammas (continued)

^{123}Cs Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$	XREF	Comments
1994.71[h] *24*	(19/2+)		CD FGH	Jπ: 757.9γ and 734.4γ Q to (15/2+), 389.2γ D to (17/2+); band assignment.
2003.7[i] *3*	(19/2+)		C FG	Jπ: 743.4γ Q to (15/2+), 398.6γ D to (17/2+); band assignment.
2196.4[b] *3*	(23/2−)		C FG	Jπ: 1197.6γ Q to (19/2−), 466.6γ to (21/2−); band assignment.
2219.6 *5*	(19/2+)		C	Jπ: proposed by 2004Si27 in (^{64}Ni,p4nγ) based on band structures.
2410.7[g] *3*	(21/2+)		C FG	Jπ: 805.6γ Q to (17/2+), 406.7γ to (19/2+); band assignment.
2436.3[&] *3*	(25/2−)		C FG	Jπ: 706.8γ Q to (21/2−), 751.7γ D to (23/2−); band assignment.
2446.2 *6*	(21/2+)		F	Jπ: proposed by 2005Si31 in (^{28}Si,p4nγ) based on band structures.
2485.2[a] *3*	(27/2−)	0.34 ps *6*	CDEFGH	Jπ: 800.5γ E2 to (23/2−); band assignment. $T_{1/2}$: from DSAM in (^{32}S,p4nγ). Other: ≤1.4 ps from RDM in (^{19}F,4nγ).
2706.3 *4*	(23/2+)		C F	Jπ: 486.7γ Q to (19/2+), 1021.9γ D to (23/2−).
2821.4[h] *3*	(23/2+)		C FG	Jπ: 826.7γ to (19/2+), 410.6γ to (21/2+); band assignment.
2843.6[i] *4*	(23/2+)		C F	Jπ: 849.1γ to (19/2+), 432.7γ to (21/2+); band assignments.
2917.5[b] *3*	(27/2−)		C FG	Jπ: 721.0γ and 1233.1γ Q to (23/2−); band assignment.
2973.3[c] *4*	(25/2+)		C F	Jπ: 1288.5γ D to (23/2−); band assignment.
3045.5 *3*	(25/2+)		C F	Jπ: 224.1γ D, ΔJ=1 to (23/2+), 1360.9γ D, ΔJ=1 to (23/2−), 599.5γ to (21/2+).
3227.0[&] *4*	(29/2−)		C FG	Jπ: 790.9γ Q to (25/2−), 741.8γ D to (27/2−); band assignment.
3304.8[d] *4*	(27/2+)		C F	Jπ: 259.3γ and 331.5γ D to (25/2+), 598.5γ Q to (23/2+); band assignment.
3329.8[e] *4*	(27/2+)		C F	Jπ: 623.5γ Q to (23/2+), 284.3γ D to (25/2+); band assignment.
3353.5[a] *4*	(31/2−)	0.23[@] ps *4*	CDEFGH	Jπ: 868.3γ E2 to (27/2−); band assignment.
3618.0[c] *4*	(29/2+)		C F	Jπ: 644.7γ Q to (25/2+), 313.2γ D to (27/2+); band assignment.
3728.9[b] *4*	(31/2−)		C FG	Jπ: 1243.7γ Q to (27/2−); band assignment.
3995.1[d] *4*	(31/2+)		C F	Jπ: 377.1γ D, ΔJ=1 to (29/2+), 690.3γ to (27/2+); band assignment.
4045.4[e] *5*	(31/2+)		C F	Jπ: 715.6γ Q to (27/2+); band assignment.
4055.3[&] *4*	(33/2−)		C FG	Jπ: 828.4γ Q to (29/2−), 701.7γ D to (31/2−); band assignment.
4258.2[a] *4*	(35/2−)	0.22[@] ps *+4−5*	CDEFG	Jπ: 904.6γ E2 to (31/2−); band assignment.
4408.4[c] *5*	(33/2+)		C F	Jπ: 790.4γ Q to (29/2+), 413.2γ D to (31/2+); band assignment.
4620.7[b] *5*	(35/2−)		C FG	Jπ: 891.8γ to (31/2−); band assignment.
4834.1[d] *6*	(35/2+)		C F	Jπ: 838.9γ Q to (31/2+), 425.8γ D to (33/2+); band assignment.
4863.3[e] *6*	(35/2+)		C F	Jπ: 817.9γ Q to (31/2+); band assignment.
4933.6[&] *5*	(37/2−)		C F	Jπ: 878.3γ (E2) to (33/2−), 675.6γ D to (35/2−); band assignment.
5213.9[a] *4*	(39/2−)	0.30[@] ps *5*	CDEFG	Jπ: 955.7γ E2 to (35/2−); band assignment.
5246.4 *7*			C	
5334.4[c] *6*	(37/2+)		C	Jπ: 926.0γ to (33/2+), 500.4γ to (35/2+); band assignment.
5596.9[b] *8*	(39/2−)		C F	Jπ: 976.2γ to (35/2−); band assignment.
5751.8[e] *6*	(39/2+)		C F	Jπ: 888.5γ Q to (35/2+); band assignment.
5792.9[d] *7*	(39/2+)		C	Jπ: 958.9γ to (35/2+), 458.5γ to (37/2+); band assignment.
5905.5[&] *6*	(41/2−)		C F	Jπ: 971.9γ Q to (37/2−), 691.7γ to (39/2−); band assignment.
6239.5[a] *6*	(43/2−)	0.18[@] ps *3*	CDEFG	Jπ: 1025.5γ E2 to (39/2−), 334.2γ to (41/2−); band assignment.
6296.8 *10*			C	
6670.7[e] *7*	(43/2+)		C F	Jπ: 918.9γ Q to (39/2+); band assignment.
6678.8[b] *10*	(43/2−)		C	Jπ: 1081.9γ to (39/2−); band assignment.
6981.2[&] *7*	(45/2−)		C	Jπ: 1075.8γ Q to (41/2−), 741.6γ to (43/2−); band assignment.
7352.5[a] *7*	(47/2−)	0.10[@] ps *3*	CDEFG	Jπ: 1112.9γ E2 to (43/2−), 371.3γ to (45/2−); band assignment.
7413.8 *11*			C	
7646.9[e] *9*	(47/2+)		C F	Jπ: 976.2γ Q to (43/2+); band assignment.

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Adopted Levels, Gammas (continued)

^{123}Cs Levels (continued)

E(level)[†]	J^π	$T_{1/2}$	XREF	Comments
7837.5[b] *12*	(47/2$^-$)		C	J^π: 1158.7γ to (43/2$^-$); band assignment.
8159.2[&] *7*	(49/2$^-$)		C	J^π: 1178.9γ Q to (45/2$^-$), 806.7γ to (47/2$^-$); band assignment.
8559.2[a] *7*	(51/2$^-$)	0.10[@] ps *+2−3*	CDE G	XREF: G(8549.5). J^π: 1206.7γ E2 to (47/2$^-$), 400.0γ to (49/2$^-$); band assignment.
8699.9[e] *10*	(51/2$^+$)		C F	J^π: 1053.0γ Q to (47/2$^+$); band assignment.
9435.8[&] *8*	(53/2$^-$)		C	J^π: 1276.6γ Q to (49/2$^-$), 876.7γ to (51/2$^-$); band assignment.
9862.3[a] *8*	(55/2$^-$)		CD	XREF: D(?). J^π: 1303.1γ Q to (51/2$^-$), 426.5γ to (53/2$^-$); band assignment.
9888.3[e] *12*	(55/2$^+$)		C F	J^π: 1188.3γ Q to (51/2$^+$); band assignment.
10772.8[&] *10*	(57/2$^-$)		C	J^π: 1337.0γ to (53/2$^-$); band assignment.
11021.1[f] *14*	(59/2$^+$)		C	J^π: 1132.8γ Q to (55/2$^+$); band assignment.
11213.7[e] *14*	(59/2$^+$)		C	J^π: 1325.4γ Q to (55/2$^+$); band assignment.
11233.5 *10*	(59/2$^-$)		CD	XREF: D(?). J^π: proposed by 2004Si27 in (^{64}Ni,p4nγ) from 1371.3γ Q to (55/2$^-$).
11252.7[a] *10*	(59/2$^-$)		C	J^π: 1390.3γ Q to (55/2$^-$); band assignment.
11270.8? *12*	(59/2$^-$)		C	E(level): the level is at 11271 or 11795 depending on the ordering of the 1022-498 cascade (2004Si27). J^π: proposed by 2004Si27 in (^{64}Ni,p4nγ) from 498.0γ D+Q to (57/2$^-$).
11916.6 *11*	(61/2$^-$)		C	J^π: proposed by 2004Si27 in (^{64}Ni,p4nγ) from 663.9γ D+Q to (59/2$^-$).
12293.2 *10*	(63/2$^-$)		C	J^π: proposed by 2004Si27 in (^{64}Ni,p4nγ) from 1059.8γ Q to (59/2$^-$).
12431.0[a] *11*	(63/2$^-$)		C	J^π: 1178.3γ to (59/2$^-$); band assignment.
12469.5[f] *15*	(63/2$^+$)		C	J^π: 1448.4γ Q to (59/2$^+$); band assignment.
12609.6[e] *15*	(63/2$^+$)		C	J^π: 1395.9γ to (59/2$^+$); band assignment.
13165.1[f] *16*	(67/2$^+$)		C	J^π: 695.6γ Q to (59/2$^+$); band assignment.
13533.7[a] *11*	(67/2$^-$)		C	J^π: 1240.5γ Q to (63/2$^-$); band assignment.
13870.1[f] *17*	(71/2$^+$)		C	J^π: 705.0γ Q to (67/2$^+$); band assignment.
14955.4[a] *12*	(71/2$^-$)		C	J^π: 1421.7γ Q to (67/2$^-$); band assignment.

[†] From a least-squares fit to γ-ray energies, unless otherwise noted.
[‡] From recoil-distance method (RDM) in (^{19}F,4nγ) (1992Dr05).
[#] Effective half-life by RDM, not corrected for feeding lifetime (1992Dr05).
[@] From Doppler-shift attenuation method (DSAM) in (^{32}S,p4nγ) (2013Se14).
[&] Band(A): (17/2$^-$) band, α=+1/2. $\pi h_{11/2}$ at low spins; $\pi h_{11/2}\otimes\nu h^6_{11/2}$ at high spins. See also 2004Si27 for detailed discussion of configurations at high spins. Nilsson configuration=π1/2[550], α=+1/2 (2005Si31).
[a] Band(a): 11/2$^{(-)}$ band, α=−1/2. See comment for α=+1/2 signature partner. Nilsson configuration=π1/2[550], α=−1/2 (2005Si31).
[b] Band(B): γ-vibrational band built on favored signature partner π1/2[550], α=−1/2 (2005Si31).
[c] Band(C): (25/2$^+$) band, α=+1/2. $\pi g^{-1}_{9/2}\otimes\nu h^2_{11/2}$ is most favored although $\pi(g^{-1}_{9/2}h^1_{11/2})\otimes\nu h^1_{11/2}$ is not ruled out (2004Si27). Nilsson configuration=(π1/2[550], α=−1/2)$\otimes\nu$(7/2[404] or 5/2[402], α=−1/2)$\otimes$(ν7/2[523], α=−1/2) (2005Si31).
[d] Band(c): (27/2$^+$) band, α=−1/2. See comment for α=+1/2 signature partner.
[e] Band(D): (27/2$^+$) band. See 2004Si27 and 2005Si31 for detailed discussion of configurations.
[f] Band(E): (59/2$^+$) band. Forking of (27/2$^+$) band at 55/2$^+$ (2004Si27).
[g] Band(F): $\pi g_{9/2}$ band, α=+1/2. Nilsson configuration=π9/2[404] (2005Si31).
[h] Band(f): $\pi g_{9/2}$ band, α=−1/2. Nilsson configuration=π9/2[404] (2005Si31).
[i] Band(G): $\pi g_{7/2}$ band, α=−1/2. Nilsson configuration=π3/2[422] (2005Si31).

Adopted Levels, Gammas (continued)

γ(^{123}Cs)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[‡]	δ[#]	α[†]	Comments
30.59	(3/2$^+$)	30.6 *5*	100	0.0	1/2$^{(+)}$				E_γ: other: 30.5 *7* from (^{28}Si,p4nγ).
94.57	5/2$^{(+)}$	63.97 *3*	16.6 *1*	30.59	(3/2$^+$)	M1		3.26	α(K)=2.79 *4*; α(L)=0.374 *6*; α(M)=0.0766 *11* α(N)=0.01617 *23*; α(O)=0.00225 *4*; α(P)=0.0001098 *16* B(M1)(W.u.)=3.9×10^{-4} *+21−10* E_γ,I_γ: other: Eγ=64.0 *7*, Iγ=15 *2* from (^{28}Si,p4nγ). Mult.: also supported by ce data in ^{123}IT decay.
		94.57 *3*	100	0.0	1/2$^{(+)}$	E2		2.28	B(E2)(W.u.)=57 *+30−15* α(K)=1.434 *21*; α(L)=0.666 *10*; α(M)=0.1442 *21* α(N)=0.0292 *5*; α(O)=0.00342 *5*; α(P)=3.93×10^{-5} *6* E_γ: others: 94.6 *1* from ^{123}Cs IT decay, 94.5 *7* from (^{28}Si,p4nγ), 95.0 *3* from (^{19}F,4nγ), and 94.7 *3* from (^{10}B,3nγ). Mult.: from ce data in ^{123}Cs IT decay (1981Ma01,1972Dr06); also supported by ce data in ^{123}Ba ε decay (2000Gi12).
123.52	(3/2$^+$)	29.0 *1*		94.57	5/2$^{(+)}$				I_γ: weak.
		92.92 *3*	85.8 *18*	30.59	(3/2$^+$)	M1+E2	0.35 *5*	1.25 *5*	α(K)=1.012 *22*; α(L)=0.192 *18*; α(M)=0.040 *4* α(N)=0.0083 *8*; α(O)=0.00108 *9*; α(P)=3.78×10^{-5} *6*
		123.6 *1*	100.0 *9*	0.0	1/2$^{(+)}$	M1+E2	0.19 *+9−13*	0.508 *17*	α(K)=0.431 *10*; α(L)=0.061 *6*; α(M)=0.0127 *13* α(N)=0.0027 *3*; α(O)=0.00036 *3*; α(P)=1.670×10^{-5} *25*
146.80	5/2$^{(+)}$	23.2 *1*		123.52	(3/2$^+$)				
		52.20 *5*	3.4 *2*	94.57	5/2$^{(+)}$				
		116.2 *1*	100 *11*	30.59	(3/2$^+$)	M1+E2	0.77 *+40−23*	0.78 *11*	α(K)=0.60 *6*; α(L)=0.14 *5*; α(M)=0.030 *10* α(N)=0.0062 *19*; α(O)=0.00078 *21*; α(P)=2.05×10^{-5} *5*
		146.8 *1*	17 *5*	0.0	1/2$^{(+)}$	E2		0.483	α(K)=0.357 *5*; α(L)=0.0998 *15*; α(M)=0.0213 *3* α(N)=0.00436 *7*; α(O)=0.000530 *8*; α(P)=1.071×10^{-5} *16*
156.27	11/2$^{(-)}$	61.70 *5*		94.57	5/2$^{(+)}$	E3		289	B(E3)(W.u.)=0.81 *+13−10* α(K)=22.9 *4*; α(L)=207 *3*; α(M)=47.8 *7* α(N)=9.65 *15*; α(O)=1.066 *16*; α(P)=0.000570 *8* E_γ: other: 61.7 *2* from ^{123}Cs IT decay. Mult.: from ce data in ^{123}Cs IT decay (1981Ma01).
214.56	7/2$^{(-)}$	58.30 *5*	13.5 *5*	156.27	11/2$^{(-)}$	E2		13.19	α(K)=5.37 *8*; α(L)=6.17 *9*; α(M)=1.348 *20* α(N)=0.271 *4*; α(O)=0.0308 *5*; α(P)=0.0001409 *20*
		67.75 *5*	5.5 *5*	146.80	5/2$^{(+)}$	[E1]		0.644	α(K)=0.547 *8*; α(L)=0.0769 *11*; α(M)=0.01565 *23* α(N)=0.00323 *5*; α(O)=0.000422 *6*; α(P)=1.620×10^{-5} *23*
		120.0 *1*	100 *5*	94.57	5/2$^{(+)}$	E1		0.1320	α(K)=0.1133 *16*; α(L)=0.01500 *22*; α(M)=0.00305 *5* α(N)=0.000636 *9*; α(O)=8.51×10^{-5} *12*; α(P)=3.62×10^{-6} *6*
231.63	(7/2$^+$)	84.8 *1*	4.7 *4*	146.80	5/2$^{(+)}$				
		108.1 *1*	1.3 *2*	123.52	(3/2$^+$)	E2		1.416	α(K)=0.950 *14*; α(L)=0.369 *6*; α(M)=0.0795 *12* α(N)=0.01615 *24*; α(O)=0.00191 *3*; α(P)=2.67×10^{-5} *4*

$^{123}_{55}Cs_{68}$-5

Adopted Levels, Gammas (continued)

γ(^{123}Cs) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[‡]	δ[#]	α[†]	Comments
231.63	(7/2$^+$)	137.0 *1*	38.7 *10*	94.57	5/2$^{(+)}$	M1(+E2)	−0.04 *10*	0.371 *7*	α(K)=0.318 *5*; α(L)=0.0422 *18*; α(M)=0.0086 *4* α(N)=0.00183 *8*; α(O)=0.000254 *9*; α(P)=1.248×10^{-5} *18* E_γ: others: 137.0 *5* from (^{28}Si,p4nγ), 136.7 *3* from (^{19}F,4nγ), and 136.9 *3* from (^{10}B,3nγ). I_γ: others: 35 *3* from (^{28}Si,p4nγ), and 49 *4* from (^{19}F,4nγ). δ: from γ(θ) in (^{19}F,4nγ) (1992Hu02). Other: <0.6 from ce data in ^{123}Ba ε decay.
		201.0 *1*	100 *6*	30.59	(3/2$^+$)	E2		0.1636	α(K)=0.1283 *18*; α(L)=0.0280 *4*; α(M)=0.00593 *9* α(N)=0.001219 *18*; α(O)=0.0001529 *22*; α(P)=4.08×10^{-6} *6* E_γ: others: 201.0 *5* from (^{28}Si,p4nγ), 200.7 *3* from (^{19}F,4nγ), and 201.2 *3* from (^{10}B,3nγ). I_γ: others: 100 *5* from (^{28}Si,p4nγ), 100 *7* from (^{19}F,4nγ). Mult.: also supported by γγ(DCO) in (^{28}Si,p4nγ) and γ(θ) in (^{19}F,4nγ) and (^{10}B,3nγ).
328.08	(9/2$^+$)	96.46 *6*	100 *3*	231.63	(7/2$^+$)	M1		0.998	α(K)=0.855 *12*; α(L)=0.1139 *16*; α(M)=0.0233 *4* α(N)=0.00493 *7*; α(O)=0.000686 *10*; α(P)=3.36×10^{-5} *5* B(M1)(W.u.)=9.20×10^{-5} *46* E_γ: other: 96.5 *7* from (^{28}Si,p4nγ).
		233.5 *2*	31 *5*	94.57	5/2$^{(+)}$	[E2]		0.0987	α(K)=0.0789 *12*; α(L)=0.01574 *23*; α(M)=0.00331 *5* α(N)=0.000684 *10*; α(O)=8.69×10^{-5} *13*; α(P)=2.58×10^{-6} *4* B(E2)(W.u.)=0.026 *6*
467.57	(3/2$^+$,5/2$^+$,7/2$^+$)	236.0 *2*	17 *1*	231.63	(7/2$^+$)	M1,E2			
		373.1 *2*	100 *3*	94.57	5/2$^{(+)}$	M1(+E2)	<1.2	0.0243 *11*	α(K)=0.0208 *11*; α(L)=0.00285 *6*; α(M)=0.000585 *15* α(N)=0.000123 *3*; α(O)=1.692×10^{-5} *24*; α(P)=7.9×10^{-7} *7*
474.88	3/2$^{(-)}$	260.3 *1*	100 *8*	214.56	7/2$^{(-)}$	E2		0.0689	α(K)=0.0557 *8*; α(L)=0.01049 *15*; α(M)=0.00220 *3* α(N)=0.000455 *7*; α(O)=5.83×10^{-5} *9*; α(P)=1.85×10^{-6} *3*
		351.3 *3*	10.8 *15*	123.52	(3/2$^+$)				
		380.3 *5*	20 *8*	94.57	5/2$^{(+)}$				
		444.5 *4*	46 *5*	30.59	(3/2$^+$)	(E1)		0.00408	α(K)=0.00353 *5*; α(L)=0.000442 *7*; α(M)=8.98×10^{-5} *13* α(N)=1.89×10^{-5} *3*; α(O)=2.62×10^{-6} *4*; α(P)=1.260×10^{-7} *18*
476.76	(15/2$^-$)	320.5 *2*	100	156.27	11/2$^{(-)}$	E2		0.0353	B(E2)(W.u.)=111 *6*

Adopted Levels, Gammas (continued)

γ(^{123}Cs) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[‡]	δ[#]	α[†]	Comments
									α(K)=0.0290 *5*; α(L)=0.00497 *7*; α(M)=0.001036 *15* α(N)=0.000215 *3*; α(O)=2.81×10^{-5} *4*; α(P)=9.94×10^{-7} *14* E_γ: weighted average of 320.4 *2* from (^{64}Ni,p4nγ), 321 *1* from (^{34}S,3pγ), 320.6 *5* from (^{28}Si,p4nγ), 320.6 *2* from (^{19}F,4nγ), and 320.5 *3* from (^{10}B,3nγ). Mult.: also supported by γ(θ) in (^{10}B,3nγ) and (^{19}F,4nγ), and γ anisotropy in (^{34}S,3pγ).
494.05	(3/2$^+$,5/2$^+$)	262.0 *2*	7.1 *14*	231.63	(7/2$^+$)				
		347.3 *2*	28.9 *23*	146.80	5/2$^{(+)}$	M1+E2	>0.2	0.0289 *15*	α(K)=0.0244 *17*; α(L)=0.00358 *20*; α(M)=0.00074 *5* α(N)=0.000155 *9*; α(O)=2.09×10^{-5} *6*; α(P)=9.0×10^{-7} *12*
		370.6 *2*	100 *6*	123.52	(3/2$^+$)	M1		0.0257	α(K)=0.0222 *4*; α(L)=0.00285 *4*; α(M)=0.000583 *9* α(N)=0.0001233 *18*; α(O)=1.722×10^{-5} *25*; α(P)=8.61×10^{-7} *13*
		399.6 *2*	20.3 *3*	94.57	5/2$^{(+)}$	M1,E2			
		463.7 *2*	18.0 *9*	30.59	(3/2$^+$)	M1,E2			
		494.0[@] *2*	<125	0.0	1/2$^{(+)}$	M1,E2			Mult.: for a doublet.
524.69	(1/2$^+$,3/2$^+$,5/2$^+$)	401.3 *2*	34 *4*	123.52	(3/2$^+$)	M1		0.0210	α(K)=0.0181 *3*; α(L)=0.00233 *4*; α(M)=0.000475 *7* α(N)=0.0001004 *15*; α(O)=1.403×10^{-5} *20*; α(P)=7.02×10^{-7} *10*
		524.4 *3*	100 *9*	0.0	1/2$^{(+)}$	M1,E2			
557.51	(1/2$^+$,3/2$^+$,5/2$^+$)	410.8 *2*	100 *2*	146.80	5/2$^{(+)}$	M1,E2			
		526.5[@] *5*	<70	30.59	(3/2$^+$)	M1,E2			Mult.: for a doublet.
		557.4 *5*	11 *2*	0.0	1/2$^{(+)}$				
588.52	(+)	441.5 *4*	6.7 *13*	146.80	5/2$^{(+)}$				
		494.0[@] *2*	100 *1*	94.57	5/2$^{(+)}$	M1,E2			I_γ,Mult.: for a doublet.
596.96	(11/2$^+$)	268.9 *2*	100	328.08	(9/2$^+$)	M1+E2	+0.17 *2*	0.0593	B(M1)(W.u.)=0.17 *+5−3*; B(E2)(W.u.)=47 *+29−17* α(K)=0.0509 *8*; α(L)=0.00670 *10*; α(M)=0.001372 *20* α(N)=0.000290 *5*; α(O)=4.03×10^{-5} *6*; α(P)=1.98×10^{-6} *3* E_γ: weighted average of 268.8 *2* from (^{64}Ni,p4nγ), 269 *1* from (^{34}S,3pγ), 268.9 *5* from (^{28}Si,p4nγ), 269.0 *2* from (^{19}F,4nγ), and 269.0 *3* from (^{10}B,3nγ). Mult.,δ: from γ(θ) in (^{19}F,4nγ) and RUL; ΔJ=1 from γγ(DCO) in (^{64}Ni,p4nγ) and (^{28}Si,p4nγ), and γ-anisotropy in (^{34}S,3pγ) Other: δ=≈0.2 from γ(θ) in (^{10}B,3nγ).
620.90	(5/2$^+$)	389.0 *5*	8.1 *13*	231.63	(7/2$^+$)	M1		0.0228	α(K)=0.0196 *3*; α(L)=0.00252 *4*; α(M)=0.000514 *8* α(N)=0.0001088 *16*; α(O)=1.520×10^{-5} *22*; α(P)=7.60×10^{-7} *11*
		474.8 *5*	10.0 *13*	146.80	5/2$^{(+)}$				
		497.4 *2*	100 *13*	123.52	(3/2$^+$)	M1,E2			

$^{123}_{55}Cs_{68}$-7

Adopted Levels, Gammas (continued)

γ(^{123}Cs) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[‡]	δ[#]	α[†]	Comments
620.90	(5/2$^+$)	526.5[@] *5*	56 *3*	94.57	5/2$^{(+)}$	M1,E2			Mult.: for a doublet.
		590.4 *3*	57 *3*	30.59	(3/2$^+$)	M1,E2			
		621.0 *3*	19 *2*	0.0	1/2$^{(+)}$	(E2)		0.00528	α(K)=0.00449 *7*; α(L)=0.000630 *9*; α(M)=0.0001294 *19* α(N)=2.72×10^{-5} *4*; α(O)=3.69×10^{-6} *6*; α(P)=1.636×10^{-7} *23* Mult.: M1,E2 from ce data in ^{123}Ba ε decay; (E2) assumed from level scheme.
659.80	(11/2$^+$)	428.1 *2*	100	231.63	(7/2$^+$)	E2		0.01464	B(E2)(W.u.)=59 *+12−9* α(K)=0.01226 *18*; α(L)=0.00189 *3*; α(M)=0.000392 *6* α(N)=8.18×10^{-5} *12*; α(O)=1.090×10^{-5} *16*; α(P)=4.34×10^{-7} *7* E_γ: weighted average of 428.0 *2* from (^{64}Ni,p4nγ), 428.2 *5* from (^{28}Si,p4nγ), 428.3 *2* from (^{19}F,4nγ), and 428.0 *3* from (^{10}B,3nγ). Mult.: also supported by γ(θ) in (^{10}B,3nγ).
699.12	(5/2$^+$,7/2$^+$,9/2$^+$)	231.7 *2*	30 *3*	467.57	(3/2$^+$,5/2$^+$,7/2$^+$)				
		467.5 *5*	37 *5*	231.63	(7/2$^+$)				
		484.2 *3*	100 *17*	214.56	7/2$^{(-)}$	E1		0.00334	α(K)=0.00289 *4*; α(L)=0.000360 *5*; α(M)=7.32×10^{-5} *11* α(N)=1.542×10^{-5} *22*; α(O)=2.13×10^{-6} *3*; α(P)=1.033×10^{-7} *15*
728.0	(1/2 to 7/2)$^{(+)}$	633.5 *5*	100 *20*	94.57	5/2$^{(+)}$				
		697.3 *5*	≈20	30.59	(3/2$^+$)				
749.64	(1/2$^+$,3/2$^+$,5/2$^+$)	602.8 *5*	84 *10*	146.80	5/2$^{(+)}$				
		626.3 *3*	60 *10*	123.52	(3/2$^+$)				
		718.8[@] *3*	<460	30.59	(3/2$^+$)	M1(+E2)			Mult.: for a doublet.
		749.7 *3*	100 *10*	0.0	1/2$^{(+)}$				
784.37	(3/2$^-$,5/2$^-$,7/2$^-$)	309.5 *3*	35 *3*	474.88	3/2$^{(-)}$				
		569.8 *3*	100 *8*	214.56	7/2$^{(-)}$	M1,E2			
811.17	(3/2$^+$,5/2$^+$)	336.2 *3*	11 *1*	474.88	3/2$^{(-)}$				
		664.5 *5*	6 *3*	146.80	5/2$^{(+)}$				
		688.1 *5*	16 *2*	123.52	(3/2$^+$)				
		716.6 *3*	100 *3*	94.57	5/2$^{(+)}$	M1+E2			
		780.8 *3*	37 *1*	30.59	(3/2$^+$)				
		811.0[@] *2*	<48	0.0	1/2$^{(+)}$				
817.15	(3/2$^+$,5/2$^+$)	670.6 *3*	100 *7*	146.80	5/2$^{(+)}$	M1+E2	<2.0	0.0053 *7*	α(K)=0.0045 *6*; α(L)=0.00059 *6*; α(M)=0.000121 *11* α(N)=2.55×10^{-5} *24*; α(O)=3.5×10^{-6} *4*; α(P)=1.72×10^{-7} *25*
		786.8 *5*	12 *3*	30.59	(3/2$^+$)				

$^{123}_{55}Cs_{68}$-8

Adopted Levels, Gammas (continued)

γ(^{123}Cs) (continued)

E_i(level)	J_i^π	E_γ ‡	I_γ ‡	E_f	J_f^π	Mult.‡	δ#	α†	Comments
817.15	(3/2$^+$,5/2$^+$)	816.8@ *3*	<30	0.0	1/2$^{(+)}$				
866.46	(3/2$^+$,5/2$^+$)	635.1 *4*	100 *5*	231.63	(7/2$^+$)				
		718.8@ *3*	<230	146.80	5/2$^{(+)}$	M1(+E2)			Mult.: for a doublet.
		771.8 *4*	10 *3*	94.57	5/2$^{(+)}$				
		836.2 *2*	20 *2*	30.59	(3/2$^+$)				
		866.5 *5*	20 *5*	0.0	1/2$^{(+)}$				
869.7	(5/2$^+$,7/2$^+$,9/2$^+$)	541.6 *3*	100 *8*	328.08	(9/2$^+$)	M1,E2			
		723.1 *5*	≈8	146.80	5/2$^{(+)}$				
900.49	(13/2$^+$)	303.5 *2*	100 *9*	596.96	(11/2$^+$)	M1+E2	+0.14 *4*	0.0431	B(M1)(W.u.)=0.33 *+30−12*; B(E2)(W.u.)=5×10^1 *+10−3* α(K)=0.0371 *6*; α(L)=0.00483 *7*; α(M)=0.000988 *15* α(N)=0.000209 *3*; α(O)=2.91×10^{-5} *5*; α(P)=1.440×10^{-6} *21* E_γ: weighted average of 303.5 *2* from (^{64}Ni,p4nγ), 304 *1* from (^{34}S,3pγ), 303.5 *5* from (^{28}Si,p4nγ), 303.7 *3* from (^{19}F,4nγ), and 303.3 *3* from (^{10}B,3nγ). I_γ: from (^{64}Ni,p4nγ). Others: 100 *11* from (^{28}Si,p4nγ), 100 *7* from (^{19}F,4nγ), 9.5 from (^{34}S,3pγ), 56 from (^{10}Be,3nγ). Mult.,δ: from γ(θ) in (^{19}F,4nγ) and RUL; ΔJ=1 from γγ(DCO) in (^{64}Ni,p4nγ) and (^{28}Si,p4nγ), γ anisotropy in (^{34}S,3pγ). Other: δ≈+0.2 from γ(θ) in (^{10}Be,3nγ).
		572.5 *3*	26 *4*	328.08	(9/2$^+$)	E2		0.00652	α(K)=0.00553 *8*; α(L)=0.000790 *12*; α(M)=0.0001626 *23* α(N)=3.41×10^{-5} *5*; α(O)=4.62×10^{-6} *7*; α(P)=2.01×10^{-7} *3* B(E2)(W.u.)=28 *+33−12* E_γ: weighted average of 572.3 *4* from (^{64}Ni,p4nγ), 572 *1* from (^{34}S,3pγ), 572.4 *7* from (^{28}Si,p4nγ), 572.4 *3* from (^{19}F,4nγ), and 572.8 *3* from (^{10}B,3nγ). I_γ: from (^{64}Ni,p4nγ). Others: 27 *5* from (^{28}Si,p4nγ), <7 from (^{19}F,4nγ). Mult.: also supported by γ(θ) in (^{10}Be,3nγ).
905.43	(3/2$^+$,5/2$^+$)	673.8 *5*	≈17	231.63	(7/2$^+$)				
		757.8 *3*	70 *7*	146.80	5/2$^{(+)}$				
		782.4 *3*	100 *10*	123.52	(3/2$^+$)				
		811.0@ *2*	<257	94.57	5/2$^{(+)}$				
		874.8 *5*	43 *17*	30.59	(3/2$^+$)				
		905.5 *5*	33 *10*	0.0	1/2$^{(+)}$				
999.07	(19/2$^-$)	522.4 *2*	100	476.76	(15/2$^-$)	E2		0.00834	B(E2)(W.u.)=124 *+29−11* α(K)=0.00705 *10*; α(L)=0.001030 *15*; α(M)=0.000212 *3* α(N)=4.45×10^{-5} *7*; α(O)=5.99×10^{-6} *9*; α(P)=2.54×10^{-7} *4* E_γ: weighted average of 522.3 *2* from (^{64}Ni,p4nγ), 522 *1* from (^{34}S,3pγ), 522.3 *5* from (^{28}Si,p4nγ), 522.5 *2* from (^{19}F,4nγ), and 522.2 *3* from (^{10}B,3nγ).

$^{123}_{55}Cs_{68}$-9

Adopted Levels, Gammas (continued)

γ(^{123}Cs) (continued)

E_i(level)	J_i^π	E_γ ‡	I_γ ‡	E_f	J_f^π	Mult.‡	δ#	α†	Comments
1021.68	(3/2$^-$)	546.8 *3*	100 *6*	474.88	3/2$^{(-)}$	M1,E2			
		807.1 *3*	28 *1*	214.56	7/2$^{(-)}$				
		898.0 *3*	30 *6*	123.52	(3/2$^+$)				
		991.3 *4*	38 *3*	30.59	(3/2$^+$)				
		1021.9 *6*	20 *3*	0.0	1/2$^{(+)}$				
1048.75	(3/2$^+$,5/2$^+$)	428.3 *3*	100 *25*	620.90	(5/2$^+$)	M1,E2			
		816.8@ *3*	<110	231.63	(7/2$^+$)				
		1017.0 *10*	35 *10*	30.59	(3/2$^+$)				
		1048.5 *10*	60 *15*	0.0	1/2$^{(+)}$				
1159.6	(17/2$^-$)	682.6 *3*	100	476.76	(15/2$^-$)	(M1+E2)	−0.36 *2*	0.00549	α(K)=0.00474 *7*; α(L)=0.000603 *9*; α(M)=0.0001228 *18* α(N)=2.60×10^{-5} *4*; α(O)=3.63×10^{-6} *6*; α(P)=1.82×10^{-7} *3* E_γ: weighted average of 682.7 *4* from (^{64}Ni,p4nγ), 682.7 *5* from (^{28}Si,p4nγ), 682.7 *3* from (^{19}F,4nγ), and 682.5 *3* from (^{10}B,3nγ). Mult.,δ: from γ(θ) in (^{19}F,4nγ); magnetic/electric character from level scheme. ΔJ=1 from γγ(DCO) in (^{28}Si,p4nγ).
1237.24	(15/2$^+$)	336.8 *2*	100 *11*	900.49	(13/2$^+$)	(M1+E2)	+0.18 *5*	0.0328	α(K)=0.0282 *4*; α(L)=0.00368 *6*; α(M)=0.000751 *11* α(N)=0.0001588 *23*; α(O)=2.21×10^{-5} *4*; α(P)=1.094×10^{-6} *16* E_γ: weighted average of 336.7 *2* from (^{64}Ni,p4nγ), 337 *1* from (^{34}S,3pγ), 336.9 *5* from (^{28}Si,p4nγ), 336.9 *3* from (^{19}F,4nγ), and 337.0 *3* from (^{10}B,3nγ). Mult.,δ: from γ(θ) in (^{19}F,4nγ); ΔJ=1 from γγ(DCO) in (^{64}Ni,p4nγ) and (^{28}Si,p4nγ), γ anisotropy in (^{34}S,3pγ). Other: δ≈+0.2 from γ(θ) in (^{10}Be,3nγ).
		640.4 *3*	33 *11*	596.96	(11/2$^+$)	(E2)		0.00488	α(K)=0.00415 *6*; α(L)=0.000579 *9*; α(M)=0.0001189 *17* α(N)=2.50×10^{-5} *4*; α(O)=3.40×10^{-6} *5*; α(P)=1.516×10^{-7} *22* E_γ: weighted average of 640.2 *4* from (^{64}Ni,p4nγ), 642 *1* from (^{34}S,3pγ), 640.5 *5* from (^{28}Si,p4nγ), 640.5 *3* from (^{19}F,4nγ), and 640.3 *3* from (^{10}B,3nγ). Mult.: Q from γγ(DCO) in (^{28}Si,p4nγ), supported by γ(θ) in (^{10}B,3nγ).
1260.2	(15/2$^+$)	600.3 *3*	100	659.80	(11/2$^+$)	(E2)		0.00576	α(K)=0.00489 *7*; α(L)=0.000691 *10*; α(M)=0.0001422 *20* α(N)=2.98×10^{-5} *5*; α(O)=4.05×10^{-6} *6*; α(P)=1.78×10^{-7} *3* Additional information 1.
1593.4	(19/2$^-$)	433.6 *3*	100	1159.6	(17/2$^-$)	(M1)		0.01729	α(K)=0.01490 *21*; α(L)=0.00191 *3*; α(M)=0.000389 *6* α(N)=8.24×10^{-5} *12*; α(O)=1.151×10^{-5} *17*; α(P)=5.77×10^{-7} *9* Additional information 2.

$^{123}_{55}Cs_{68}$-10

Adopted Levels, Gammas (continued)

γ(^{123}Cs) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[‡]	δ[#]	α[†]	Comments
1593.4	(19/2$^-$)	1116.6 *3*	25	476.76	(15/2$^-$)	[E2]		1.35×10^{-3}	α(K)=0.001167 *17*; α(L)=0.0001493 *21*; α(M)=3.04×10^{-5} *5* α(N)=6.42×10^{-6} *9*; α(O)=8.91×10^{-7} *13*; α(P)=4.33×10^{-8} *6*; α(IPF)=7.37×10^{-7} *13*
1605.16	(17/2$^+$)	367.7 *3*	100 *25*	1237.24	(15/2$^+$)	(M1)		0.0263	α(K)=0.0226 *4*; α(L)=0.00291 *5*; α(M)=0.000595 *9* α(N)=0.0001258 *18*; α(O)=1.758×10^{-5} *25*; α(P)=8.78×10^{-7} *13* E_γ: weighted average of 367.8 *4* from (^{64}Ni,p4nγ), 368 *1* from (^{34}S,3pγ), 368.0 *5* from (^{28}Si,p4nγ), 367.9 *3* from (^{19}F,4nγ), and 367.4 *3* from (^{10}B,3nγ). I_γ: from (^{64}Ni,p4nγ) and (^{28}Si,p4nγ). Other: 100 *25* from (^{19}F,4nγ). Additional information 3.
		704.6 *3*	66 *7*	900.49	(13/2$^+$)	(E2)		0.00384	α(K)=0.00328 *5*; α(L)=0.000449 *7*; α(M)=9.20×10^{-5} *13* α(N)=1.93×10^{-5} *3*; α(O)=2.64×10^{-6} *4*; α(P)=1.203×10^{-7} *17* E_γ: weighted average of 704.5 *4* from (^{64}Ni,p4nγ), 706 *1* from (^{34}S,3pγ), 704.5 *5* from (^{28}Si,p4nγ), and 704.5 *3* from (^{19}F,4nγ). I_γ: weighted average of 66 *8* from (^{64}Ni,p4nγ), 67 *7* from (^{28}Si,p4nγ), and 50 *25* from (^{19}F,4nγ). Additional information 4.
1684.6	(23/2$^-$)	685.5 *2*	100	999.07	(19/2$^-$)	E2		0.00411	B(E2)(W.u.)=9×10^{1} *+9–3* α(K)=0.00351 *5*; α(L)=0.000482 *7*; α(M)=9.90×10^{-5} *14* α(N)=2.08×10^{-5} *3*; α(O)=2.84×10^{-6} *4*; α(P)=1.285×10^{-7} *18* E_γ: weighted average of 685.5 *2* from (^{64}Ni,p4nγ), 686 *1* from (^{34}S,3pγ), 685.5 *5* from (^{28}Si,p4nγ), 685.6 *2* from (^{19}F,4nγ), and 685.2 *3* from (^{10}B,3nγ).
1729.7	(21/2$^-$)	570.0 *3*	31 *5*	1159.6	(17/2$^-$)	E2		0.00660	α(K)=0.00559 *8*; α(L)=0.000800 *12*; α(M)=0.0001647 *24* α(N)=3.45×10^{-5} *5*; α(O)=4.67×10^{-6} *7*; α(P)=2.03×10^{-7} *3* E_γ: weighted average of 570.0 *6* from (^{64}Ni,p4nγ), 570.3 *7* from (^{28}Si,p4nγ), and 570.0 *3* from (^{19}F,4nγ). I_γ: weighted average of 30 *5* from (^{64}Ni,p4nγ), 33 *7* from (^{28}Si,p4nγ), and 40 *20* from (^{19}F,4nγ).
		730.6 *2*	100 *8*	999.07	(19/2$^-$)	M1+E2	≈−0.27	≈0.00473	α(K)≈0.00408; α(L)≈0.000516; α(M)≈0.0001051 α(N)≈2.22×10^{-5}; α(O)≈3.11×10^{-6}; α(P)≈1.565×10^{-7} E_γ: weighted average of 730.4 *4* from (^{64}Ni,p4nγ), 730.9 *5* from (^{28}Si,p4nγ), 730.7 *2* from (^{19}F,4nγ), and 730.2 *3* from (^{10}B,3nγ). I_γ: from (^{64}Ni,p4nγ). Others: 100 *11* from (^{28}Si,p4nγ), and 100 *20* from (^{19}F,4nγ). Mult.,δ: from γ(θ) in (^{10}B,3nγ) and RUL. ΔJ=1 from γγ(DCO) in (^{64}Ni,p4nγ) and (^{28}Si,p4nγ).
1994.71	(19/2$^+$)	389.2 *3*	89 *12*	1605.16	(17/2$^+$)	(M1)		0.0227	α(K)=0.0196 *3*; α(L)=0.00252 *4*; α(M)=0.000514 *8*

$^{123}_{55}Cs_{68}$-11

Adopted Levels, Gammas (continued)

γ(^{123}Cs) (continued)

E_i(level)	J_i^π	E_γ ‡	I_γ ‡	E_f	J_f^π	Mult.‡	α†	Comments
								α(N)=0.0001087 *16*; α(O)=1.518×10^{-5} *22*; α(P)=7.59×10^{-7} *11* E_γ: weighted average of 389.7 *4* from (^{64}Ni,p4nγ), 389 *1* from (^{34}S,3pγ), 389.5 *7* from (^{28}Si,p4nγ), 389.5 *3* from (^{19}F,4nγ), and 388.6 *3* from (^{10}B,3nγ). I_γ: weighted average of 72 *4* from (^{28}Si,p4nγ) and 97 *10* from (^{64}Ni,p4nγ). Others: 100 *50* from (^{19}F,4nγ), 200 from (^{34}S,3pγ). Additional information 5.
1994.71	(19/2$^+$)	734.4 *3*	44 *8*	1260.2	(15/2$^+$)	(E2)	0.00347	α(K)=0.00297 *5*; α(L)=0.000403 *6*; α(M)=8.26×10^{-5} *12* α(N)=1.737×10^{-5} *25*; α(O)=2.38×10^{-6} *4*; α(P)=1.091×10^{-7} *16* E_γ: weighted average of 734.6 *4* from (^{64}Ni,p4nγ), 734.9 *7* from (^{28}Si,p4nγ), and 734.2 *3* from (^{19}F,4nγ). I_γ: from (^{28}Si,p4nγ). Others: 102 *20* from (^{64}Ni,p4nγ), 250 *100* from (^{19}F,4nγ) seem discrepant. Additional information 6.
		757.9 *3*	100 *11*	1237.24	(15/2$^+$)	(E2)	0.00322	α(K)=0.00275 *4*; α(L)=0.000372 *6*; α(M)=7.62×10^{-5} *11* α(N)=1.603×10^{-5} *23*; α(O)=2.20×10^{-6} *3*; α(P)=1.013×10^{-7} *15* E_γ: weighted average of 757.5 *4* from (^{64}Ni,p4nγ), 757 *1* from (^{34}S,3pγ), 757.5 *5* from (^{28}Si,p4nγ), and 757.9 *3* from (^{19}F,4nγ). I_γ: from (^{28}Si,p4nγ). Others: 100 *12* from (^{64}Ni,p4nγ), 100 *50* from (^{19}F,4nγ), 100 from (^{34}S,3pγ). Additional information 7.
2003.7	(19/2$^+$)	398.6 *4*	92 *8*	1605.16	(17/2$^+$)	(M1)		E_γ: weighted average of 398.6 *4* from (^{64}Ni,p4nγ) and 398.4 *7* from (^{28}Si,p4nγ). I_γ: from (^{64}Ni,p4nγ). Other: 159 *33* from (^{28}Si,p4nγ). Additional information 8.
		743.4 *3*	100 *19*	1260.2	(15/2$^+$)	(E2)	0.00337	α(K)=0.00288 *4*; α(L)=0.000391 *6*; α(M)=8.01×10^{-5} *12* α(N)=1.684×10^{-5} *24*; α(O)=2.31×10^{-6} *4*; α(P)=1.060×10^{-7} *15* E_γ: weighted average of 743.5 *4* from (^{64}Ni,p4nγ), 744.0 *7* from (^{28}Si,p4nγ), and 743.2 *3* from (^{19}F,4nγ). I_γ: from (^{64}Ni,p4nγ). Other: 100 *20* from (^{28}Si,p4nγ). Additional information 9.
		766.5 *6*	49 *11*	1237.24	(15/2$^+$)			E_γ: weighted average of 766.5 *6* from (^{64}Ni,p4nγ) and 766.4 *7* from (^{28}Si,p4nγ). I_γ: weighted average of 51 *11* from (^{64}Ni,p4nγ) and 46 *13* from (^{28}Si,p4nγ).
2196.4	(23/2$^-$)	466.6 *3*	24 *6*	1729.7	(21/2$^-$)			E_γ: weighted average of 466.5 *6* from (^{64}Ni,p4nγ), 466.9 *7* from (^{28}Si,p4nγ), and 466.6 *3* from (^{19}F,4nγ). I_γ: from (^{64}Ni,p4nγ). Others: 100 *24* from (^{28}Si,p4nγ), and ≈50 from (^{19}F,4nγ).
		602.9 *3*	100 *18*	1593.4	(19/2$^-$)			E_γ: weighted average of 603.0 *6* from (^{64}Ni,p4nγ), 603.0 *7* from (^{28}Si,p4nγ), and 602.9 *3* from (^{19}F,4nγ). I_γ: from (^{64}Ni,p4nγ). Others: 100 *24* from (^{28}Si,p4nγ), and 100 *50* from (^{19}F,4nγ).

$^{123}_{55}Cs_{68}$-12

Adopted Levels, Gammas (continued)

γ(^{123}Cs) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[‡]	α[†]	Comments
2196.4	(23/2$^-$)	1197.6 *3*	65 *18*	999.07	(19/2$^-$)	(E2)	1.18×10^{-3}	α(K)=0.001009 *15*; α(L)=0.0001283 *18*; α(M)=2.61×10^{-5} *4* α(N)=5.51×10^{-6} *8*; α(O)=7.66×10^{-7} *11*; α(P)=3.75×10^{-8} *6*; α(IPF)=6.14×10^{-6} *10* E_γ: weighted average of 1196.9 *6* from (^{64}Ni,p4nγ), 1198.0 *7* from (^{28}Si,p4nγ), and 1197.7 *3* from (^{19}F,4nγ). I_γ: from (^{64}Ni,p4nγ). Others: 118 *24* from (^{28}Si,p4nγ), and ≈50 from (^{19}F,4nγ). Additional information 10.
2219.6	(19/2$^+$)	1060.0 *6*	100 *22*	1159.6	(17/2$^-$)			
		1220.4 *6*	86 *22*	999.07	(19/2$^-$)			
2410.7	(21/2$^+$)	406.7 *6*	49 *80*	2003.7	(19/2$^+$)			E_γ: weighted average of 406.9 *6* from (^{64}Ni,p4nγ) and 406.5 *7* from (^{28}Si,p4nγ). I_γ: weighted average of 60 *10* from (^{64}Ni,p4nγ) and 42 *8* from (^{28}Si,p4nγ).
		416.0 *3*	43 *18*	1994.71	(19/2$^+$)			E_γ: weighted average of 415.8 *6* from (^{64}Ni,p4nγ), 415.4 *7* from (^{28}Si,p4nγ), and 416.2 *3* from (^{19}F,4nγ). I_γ: unweighted average of 60 *10* from (^{64}Ni,p4nγ) and 25 *8* from (^{28}Si,p4nγ). Other: ≈50 from (^{19}F,4nγ).
		805.6 *3*	100 *15*	1605.16	(17/2$^+$)	(E2)	0.00279	α(K)=0.00239 *4*; α(L)=0.000319 *5*; α(M)=6.53×10^{-5} *10* α(N)=1.375×10^{-5} *20*; α(O)=1.89×10^{-6} *3*; α(P)=8.80×10^{-8} *13* E_γ: weighted average of 805.5 *6* from (^{64}Ni,p4nγ), 804.9 *7* from (^{28}Si,p4nγ), and 805.7 *3* from (^{19}F,4nγ). I_γ: from (^{64}Ni,p4nγ). Others: 100 *21* from (^{28}Si,p4nγ), 100 *50* from (^{19}F,4nγ). Additional information 11.
2436.3	(25/2$^-$)	706.8 *3*	71 *13*	1729.7	(21/2$^-$)	(E2)	0.00381	α(K)=0.00326 *5*; α(L)=0.000445 *7*; α(M)=9.13×10^{-5} *13* α(N)=1.92×10^{-5} *3*; α(O)=2.62×10^{-6} *4*; α(P)=1.195×10^{-7} *17* E_γ: weighted average of 706.9 *4* from (^{64}Ni,p4nγ), 706.6 *5* from (^{28}Si,p4nγ), and 706.9 *3* from (^{19}F,4nγ). I_γ: unweighted average of 52 *6* from (^{64}Ni,p4nγ), 95 *9* from (^{28}Si,p4nγ), and 67 *34* from (^{19}F,4nγ). Additional information 12.
		751.7 *3*	100 *9*	1684.6	(23/2$^-$)	(M1)	0.00450	α(K)=0.00389 *6*; α(L)=0.000489 *7*; α(M)=9.96×10^{-5} *14* α(N)=2.11×10^{-5} *3*; α(O)=2.95×10^{-6} *5*; α(P)=1.494×10^{-7} *21* E_γ: weighted average of 751.8 *4* from (^{64}Ni,p4nγ), 751.9 *5* from (^{28}Si,p4nγ), and 751.5 *3* from (^{19}F,4nγ). I_γ: from (^{28}Si,p4nγ). Others: 100 *11* from (^{64}Ni,p4nγ), 100 *34* from (^{19}F,4nγ). Additional information 13.
2446.2	(21/2$^+$)	1447.3 *7*	100	999.07	(19/2$^-$)			
2485.2	(27/2$^-$)	800.5 *2*	100	1684.6	(23/2$^-$)	E2	0.00283	B(E2)(W.u.)=139 *+30−21*

$^{123}_{55}Cs_{68}$-13

Adopted Levels, Gammas (continued)

γ(^{123}Cs) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[‡]	α[†]	Comments
								α(K)=0.00242 *4*; α(L)=0.000324 *5*; α(M)=6.64×10^{-5} *10* α(N)=1.397×10^{-5} *20*; α(O)=1.92×10^{-6} *3*; α(P)=8.93×10^{-8} *13* E_γ: weighted average of 800.5 *2* from (^{64}Ni,p4nγ), 801 *1* from (^{34}S,3pγ), 800.5 *5* from (^{28}Si,p4nγ), 800.6 *3* from (^{19}F,4nγ), and 800.1 *3* from (^{10}B,3nγ).
2706.3	(23/2$^+$)	486.7 *6*	100 *22*	2219.6	(19/2$^+$)	(E2)	0.01014	α(K)=0.00855 *13*; α(L)=0.001272 *19*; α(M)=0.000263 *4* α(N)=5.49×10^{-5} *8*; α(O)=7.37×10^{-6} *11*; α(P)=3.06×10^{-7} *5* Additional information 14.
		711.6 *6*	44 *11*	1994.71	(19/2$^+$)			
		976.7 *6*		1729.7	(21/2$^-$)			
		1021.9 *6*	89 *22*	1684.6	(23/2$^-$)	(E1)	0.000693 *10*	α=0.000693 *10*; α(K)=0.000602 *9*; α(L)=7.32×10^{-5} *11*; α(M)=1.484×10^{-5} *21* α(N)=3.13×10^{-6} *5*; α(O)=4.38×10^{-7} *7*; α(P)=2.19×10^{-8} *3* E_γ: weighted average of 1021.6 *6* from (^{64}Ni,p4nγ) and 1022.2 *7* from (^{28}Si,p4nγ). Additional information 15.
2821.4	(23/2$^+$)	410.6 *3*	73 *17*	2410.7	(21/2$^+$)			E_γ: weighted average of 410.8 *6* from (^{64}Ni,p4nγ), 411.0 *7* from (^{28}Si,p4nγ), and 410.5 *3* from (^{19}F,4nγ). I_γ: unweighted average of 90 *10* from (^{64}Ni,p4nγ) and 56 *12* from (^{28}Si,p4nγ).
		817.8 *6*	80 *16*	2003.7	(19/2$^+$)			E_γ: weighted average of 817.7 *6* from (^{64}Ni,p4nγ) and 818.0 *7* from (^{28}Si,p4nγ). I_γ: from (^{28}Si,p4nγ).
		826.7 *3*	100 *13*	1994.71	(19/2$^+$)			E_γ: weighted average of 826.6 *6* from (^{64}Ni,p4nγ), 826.5 *7* from (^{28}Si,p4nγ), and 826.7 *3* from (^{19}F,4nγ). I_γ: from (^{64}Ni,p4nγ). Other: 100 *20* from (^{28}Si,p4nγ).
2843.6	(23/2$^+$)	433.0 *6*	63 *13*	2410.7	(21/2$^+$)			E_γ: weighted average of 432.7 *6* from (^{64}Ni,p4nγ) and 433.5 *7* from (^{28}Si,p4nγ). I_γ: from (^{64}Ni,p4nγ). Other: 100 *21* from (^{28}Si,p4nγ).
		839.7 *6*	56 *13*	2003.7	(19/2$^+$)			E_γ: weighted average of 839.6 *6* from (^{64}Ni,p4nγ) and 839.8 *7* from (^{28}Si,p4nγ). I_γ: from (^{64}Ni,p4nγ). Other: 159 *30* from (^{28}Si,p4nγ).
		849.1 *6*	100 *19*	1994.71	(19/2$^+$)			E_γ: weighted average of 848.6 *6* from (^{64}Ni,p4nγ) and 849.8 *7* from (^{28}Si,p4nγ). I_γ: from (^{64}Ni,p4nγ). Other: 100 *21* from (^{28}Si,p4nγ).
2917.5	(27/2$^-$)	721.0 *3*	100 *20*	2196.4	(23/2$^-$)	(E2)	0.00363	α(K)=0.00310 *5*; α(L)=0.000423 *6*; α(M)=8.67×10^{-5} *13* α(N)=1.82×10^{-5} *3*; α(O)=2.49×10^{-6} *4*; α(P)=1.139×10^{-7} *16* E_γ: weighted average of 721.0 *6* from (^{64}Ni,p4nγ), 720.9 *7* from (^{28}Si,p4nγ), and 721.0 *3* from (^{19}F,4nγ). I_γ: (^{64}Ni,p4nγ). Others: 100 *22* from (^{28}Si,p4nγ), 100 *50* from (^{19}F,4nγ). Additional information 16.

$^{123}_{55}Cs_{68}$-14

Adopted Levels, Gammas (continued)

γ(^{123}Cs) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[‡]	α[†]	Comments
2917.5	(27/2$^-$)	1233.1 *3*	55 *11*	1684.6	(23/2$^-$)	(E2)	1.11×10^{-3}	α(K)=0.000951 *14*; α(L)=0.0001205 *17*; α(M)=2.45×10^{-5} *4* α(N)=5.18×10^{-6} *8*; α(O)=7.20×10^{-7} *10*; α(P)=3.53×10^{-8} *5*; α(IPF)=1.075×10^{-5} *16* E_γ: weighted average of 1232.4 *6* from (^{64}Ni,p4nγ), 1233.0 *7* from (^{28}Si,p4nγ), and 1233.3 *3* from (^{19}F,4nγ). I_γ: weighted average of 70 *20* from (^{64}Ni,p4nγ) and 50 *11* from (^{28}Si,p4nγ). Other: ?50 from (^{19}F,4nγ). Additional information 17.
2973.3	(25/2$^+$)	1288.6 *4*	100	1684.6	(23/2$^-$)	(E1)	0.000531 *8*	α=0.000531 *8*; α(K)=0.000395 *6*; α(L)=4.77×10^{-5} *7*; α(M)=9.67×10^{-6} *14* α(N)=2.04×10^{-6} *3*; α(O)=2.86×10^{-7} *4*; α(P)=1.442×10^{-8} *21*; α(IPF)=7.58×10^{-5} *11* E_γ: weighted average of 1288.5 *4* from (^{64}Ni,p4nγ) and 1288.7 *5* from (^{28}Si,p4nγ). Additional information 18.
3045.5	(25/2$^+$)	202.0 *7*		2843.6	(23/2$^+$)			E_γ: from (^{28}Si,p4nγ) only.
		224.1 *4*	69 *10*	2821.4	(23/2$^+$)	(M1)	0.0962	α(K)=0.0827 *13*; α(L)=0.01082 *16*; α(M)=0.00221 *4* α(N)=0.000468 *7*; α(O)=6.52×10^{-5} *10*; α(P)=3.23×10^{-6} *5* E_γ: weighted average of 224.2 *4* from (^{64}Ni,p4nγ) and 223.9 *7* from (^{28}Si,p4nγ). I_γ: weighted average of 65 *10* from (^{64}Ni,p4nγ) and 80 *16* from (^{28}Si,p4nγ). Additional information 19.
		599.5 *7*	32 *8*	2446.2	(21/2$^+$)			E_γ,I_γ: from (^{28}Si,p4nγ) only.
		1360.9 *4*	100 *12*	1684.6	(23/2$^-$)	(E1)	0.000534 *8*	α=0.000534 *8*; α(K)=0.000359 *5*; α(L)=4.33×10^{-5} *6*; α(M)=8.78×10^{-6} *13* α(N)=1.86×10^{-6} *3*; α(O)=2.60×10^{-7} *4*; α(P)=1.312×10^{-8} *19*; α(IPF)=0.0001203 *17* I_γ: from (^{64}Ni,p4nγ). Other: 100 *20* from (^{28}Si,p4nγ). Additional information 20.
3227.0	(29/2$^-$)	741.8 *3*	58 *13*	2485.2	(27/2$^-$)	(M1)	0.00465	α(K)=0.00401 *6*; α(L)=0.000505 *7*; α(M)=0.0001029 *15* α(N)=2.18×10^{-5} *3*; α(O)=3.05×10^{-6} *5*; α(P)=1.542×10^{-7} *22* E_γ: weighted average of 742.0 *4* from (^{64}Ni,p4nγ), 742.9 *7* from (^{28}Si,p4nγ), and 741.4 *3* from (^{19}F,4nγ). I_γ: from (^{28}Si,p4nγ). Others: 143 *17* from (^{64}Ni,p4nγ), ≈50 from (^{19}F,4nγ). Additional information 21.
		790.9 *3*	100 *11*	2436.3	(25/2$^-$)	(E2)	0.00291	α(K)=0.00249 *4*; α(L)=0.000334 *5*; α(M)=6.84×10^{-5} *10* α(N)=1.440×10^{-5} *21*; α(O)=1.98×10^{-6} *3*; α(P)=9.18×10^{-8} *13* E_γ: weighted average of 790.7 *4* from (^{64}Ni,p4nγ), 790.8 *5* from (^{28}Si,p4nγ), and 791.0 *3* from (^{19}F,4nγ).

$^{123}_{55}Cs_{68}$-15

Adopted Levels, Gammas (continued)

γ(^{123}Cs) (continued)

E_i(level)	J_i^π	E_γ ‡	I_γ ‡	E_f	J_f^π	Mult.‡	α†	Comments
								I_γ: from (^{28}Si,p4nγ). Others: 100 *16* from (^{64}Ni,p4nγ), 100 *20* from (^{19}F,4nγ). Additional information 22.
3304.8	(27/2$^+$)	259.3 *6*	100 *16*	3045.5	(25/2$^+$)	(M1)	0.0652	α(K)=0.0561 *9*; α(L)=0.00730 *12*; α(M)=0.001493 *23* α(N)=0.000316 *5*; α(O)=4.41×10^{-5} *7*; α(P)=2.19×10^{-6} *4* E_γ: weighted average of 259.2 *6* from (^{64}Ni,p4nγ) and 259.5 *7* from (^{28}Si,p4nγ). Additional information 23.
		331.5 *6*	109 *16*	2973.3	(25/2$^+$)	(M1)	0.0343	I_γ: from (^{64}Ni,p4nγ). Other: 100 *22* from (^{28}Si,p4nγ). α(K)=0.0295 *5*; α(L)=0.00381 *6*; α(M)=0.000779 *12* α(N)=0.0001648 *25*; α(O)=2.30×10^{-5} *4*; α(P)=1.148×10^{-6} *17* E_γ: weighted average of 331.6 *6* from (^{64}Ni,p4nγ) and 331.3 *7* from (^{28}Si,p4nγ).
								I_γ: from (^{64}Ni,p4nγ), normalized to I(259.3γ)=100. Other: 32 *7* from (^{28}Si,p4nγ). Additional information 24.
		483.4 *6*	59 *13*	2821.4	(23/2$^+$)			I_γ: from (^{64}Ni,p4nγ) only, normalized to I(259.3γ)=100.
		598.5 *6*	125 *25*	2706.3	(23/2$^+$)	(E2)	0.00580	α(K)=0.00493 *7*; α(L)=0.000697 *10*; α(M)=0.0001434 *21* α(N)=3.01×10^{-5} *5*; α(O)=4.08×10^{-6} *6*; α(P)=1.79×10^{-7} *3* I_γ: from (^{64}Ni,p4nγ) only, normalized to I(259.3γ)=100. Additional information 25.
3329.8	(27/2$^+$)	284.3 *6*	116 *40*	3045.5	(25/2$^+$)	(M1)	0.0512	α(K)=0.0440 *7*; α(L)=0.00572 *9*; α(M)=0.001168 *18* α(N)=0.000247 *4*; α(O)=3.45×10^{-5} *6*; α(P)=1.72×10^{-6} *3* E_γ: weighted average of 284.2 *6* from (^{64}Ni,p4nγ) and 284.5 *7* from (^{28}Si,p4nγ). Additional information 26.
								I_γ: unweighted average of 76 *10* from (^{64}Ni,p4nγ) and 156 *31* from (^{28}Si,p4nγ), normalized to I(623.5γ)=100.
		356.3 *6*	23 *9*	2973.3	(25/2$^+$)	(M1)	0.0285	α(K)=0.0245 *4*; α(L)=0.00316 *5*; α(M)=0.000645 *10* α(N)=0.0001366 *20*; α(O)=1.91×10^{-5} *3*; α(P)=9.53×10^{-7} *14* E_γ: weighted average of 356.5 *6* from (^{64}Ni,p4nγ) and 356.0 *7* from (^{28}Si,p4nγ). I_γ: unweighted average of 14 *4* from (^{64}Ni,p4nγ) and 31 *6* from (^{28}Si,p4nγ). Additional information 27.
		508.4 *6*	24 *7*	2821.4	(23/2$^+$)			E_γ,I_γ: from (^{64}Ni,p4nγ) only.
		623.5 *6*	100 *14*	2706.3	(23/2$^+$)	(E2)	0.00522	α(K)=0.00444 *7*; α(L)=0.000623 *9*; α(M)=0.0001280 *19* α(N)=2.69×10^{-5} *4*; α(O)=3.65×10^{-6} *6*; α(P)=1.620×10^{-7} *23* E_γ: weighted average of 623.5 *6* from (^{64}Ni,p4nγ) and 623.5 *7* from (^{28}Si,p4nγ). I_γ: from (^{64}Ni,p4nγ). Other: 100 *19* from (^{28}Si,p4nγ). Additional information 28.
3353.5	(31/2$^-$)	868.3 *2*	100	2485.2	(27/2$^-$)	E2	0.00235	α(K)=0.00201 *3*; α(L)=0.000266 *4*; α(M)=5.44×10^{-5} *8* α(N)=1.145×10^{-5} *16*; α(O)=1.577×10^{-6} *22*; α(P)=7.43×10^{-8} *11* B(E2)(W.u.)=137 *+29−21* E_γ: weighted average of 868.3 *2* from (^{64}Ni,p4nγ), 869 *1* from (^{34}S,3pγ), 868.4 *5* from (^{28}Si,p4nγ), 868.3 *3* from (^{19}F,4nγ), and 868.0 *4* from (^{10}B,3nγ).
3618.0	(29/2$^+$)	288.3 *6*	28 *9*	3329.8	(27/2$^+$)			E_γ: weighted average of 288.2 *6* from (^{64}Ni,p4nγ) and 288.5 *7* from (^{28}Si,p4nγ). I_γ: unweighted average of 19 *4* from (^{64}Ni,p4nγ) and 36 *8* from (^{28}Si,p4nγ).

$^{123}_{55}Cs_{68}$-16

Adopted Levels, Gammas (continued)

γ(^{123}Cs) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[‡]	α[†]	Comments
3618.0	(29/2$^+$)	313.2 *4*	91 *11*	3304.8	(27/2$^+$)	(M1)	0.0397	α(K)=0.0342 *5*; α(L)=0.00443 *7*; α(M)=0.000904 *13* α(N)=0.000191 *3*; α(O)=2.67×10^{-5} *4*; α(P)=1.331×10^{-6} *20* E_γ: weighted average of 313.2 *4* from (^{64}Ni,p4nγ) and 313.0 *7* from (^{28}Si,p4nγ). I_γ: weighted average of 90 *11* from (^{64}Ni,p4nγ) and 96 *20* from (^{28}Si,p4nγ). Additional information 29.
		644.7 *4*	100 *11*	2973.3	(25/2$^+$)	(E2)	0.00480	α(K)=0.00408 *6*; α(L)=0.000568 *8*; α(M)=0.0001167 *17* α(N)=2.45×10^{-5} *4*; α(O)=3.34×10^{-6} *5*; α(P)=1.492×10^{-7} *21* E_γ: weighted average of 644.7 *4* from (^{64}Ni,p4nγ) and 644.5 *7* from (^{28}Si,p4nγ). I_γ: from (^{64}Ni,p4nγ). Other: 100 *20* from (^{28}Si,p4nγ). Additional information 30.
		1132.9 *4*	63 *11*	2485.2	(27/2$^-$)	(E1)	0.000580 *9*	α=0.000580 *9*; α(K)=0.000497 *7*; α(L)=6.03×10^{-5} *9*; α(M)=1.222×10^{-5} *18* α(N)=2.58×10^{-6} *4*; α(O)=3.61×10^{-7} *5*; α(P)=1.81×10^{-8} *3*; α(IPF)=7.68×10^{-6} *14* E_γ: weighted average of 1132.8 *4* from (^{64}Ni,p4nγ) and 1133.1 *7* from (^{28}Si,p4nγ). I_γ: weighted average of 65 *11* from (^{64}Ni,p4nγ) and 60 *12* from (^{28}Si,p4nγ).
3728.9	(31/2$^-$)	811.4 *3*	100 *24*	2917.5	(27/2$^-$)			E_γ: weighted average of 811.5 *6* from (^{64}Ni,p4nγ), 811.1 *7* from (^{28}Si,p4nγ), and 811.4 *3* from (^{19}F,4nγ). I_γ: from (^{64}Ni,p4nγ) and (^{28}Si,p4nγ).
		1243.7 *3*	63 *18*	2485.2	(27/2$^-$)	(E2)	1.10×10^{-3}	α(K)=0.000935 *13*; α(L)=0.0001183 *17*; α(M)=2.41×10^{-5} *4* α(N)=5.09×10^{-6} *8*; α(O)=7.07×10^{-7} *10*; α(P)=3.47×10^{-8} *5*; α(IPF)=1.232×10^{-5} *18* E_γ: weighted average of 1243.4 *6* from (^{64}Ni,p4nγ), 1243.2 *7* from (^{28}Si,p4nγ), and 1243.8 *3* from (^{19}F,4nγ). I_γ: weighted average of 50 *13* from (^{64}Ni,p4nγ) and 88 *18* from (^{28}Si,p4nγ). Additional information 31.
3995.1	(31/2$^+$)	377.1 *4*	100 *9*	3618.0	(29/2$^+$)	(M1)	0.0246	α(K)=0.0212 *3*; α(L)=0.00273 *4*; α(M)=0.000557 *8* α(N)=0.0001179 *17*; α(O)=1.647×10^{-5} *24*; α(P)=8.23×10^{-7} *12* E_γ: weighted average of 377.1 *4* from (^{64}Ni,p4nγ) and 377.3 *7* from (^{28}Si,p4nγ). I_γ: from (^{64}Ni,p4nγ). Other: 100 *19* from (^{28}Si,p4nγ). Additional information 32.
		690.3 *4*	73 *9*	3304.8	(27/2$^+$)			E_γ: weighted average of 690.3 *4* from (^{64}Ni,p4nγ) and 690.3 *7* from (^{28}Si,p4nγ).

$^{123}_{55}Cs_{68}$-17

Adopted Levels, Gammas (continued)

γ(^{123}Cs) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[‡]	α[†]	Comments
4045.4	(31/2$^+$)	715.6 *4*	100 *15*	3329.8	(27/2$^+$)	(E2)	0.00370	I_γ: weighted average of 74 *9* from (^{64}Ni,p4nγ) and 69 *15* from (^{28}Si,p4nγ). α(K)=0.00316 *5*; α(L)=0.000431 *6*; α(M)=8.84×10^{-5} *13* α(N)=1.86×10^{-5} *3*; α(O)=2.54×10^{-6} *4*; α(P)=1.160×10^{-7} *17* Additional information 33.
		740.6 *6*	17 *5*	3304.8	(27/2$^+$)			E_γ,I_γ: from (^{64}Ni,p4nγ) only.
4055.3	(33/2$^-$)	701.7 *3*	100 *14*	3353.5	(31/2$^-$)	(M1)	0.00531	α(K)=0.00458 *7*; α(L)=0.000577 *9*; α(M)=0.0001176 *17* α(N)=2.49×10^{-5} *4*; α(O)=3.49×10^{-6} *5*; α(P)=1.761×10^{-7} *25* E_γ: weighted average of 701.9 *4* from (^{64}Ni,p4nγ), 701.5 *7* from (^{28}Si,p4nγ), and 701.7 *3* from (^{19}F,4nγ). I_γ: from (^{64}Ni,p4nγ). Other: 100 *24* from (^{28}Si,p4nγ). Additional information 34.
		828.4 *3*	75 *12*	3227.0	(29/2$^-$)	(E2)	0.00261	α(K)=0.00224 *4*; α(L)=0.000298 *5*; α(M)=6.10×10^{-5} *9* α(N)=1.284×10^{-5} *18*; α(O)=1.766×10^{-6} *25*; α(P)=8.26×10^{-8} *12* E_γ: weighted average of 828.2 *6* from (^{64}Ni,p4nγ), 828.5 *7* from (^{28}Si,p4nγ), and 828.4 *3* from (^{19}F,4nγ). I_γ: weighted average of 68 *11* from (^{64}Ni,p4nγ) and 94 *18* from (^{28}Si,p4nγ). Additional information 35.
4258.2	(35/2$^-$)	904.64 *3*	100	3353.5	(31/2$^-$)	E2	0.00214	α(K)=0.00184 *3*; α(L)=0.000241 *4*; α(M)=4.93×10^{-5} *7* α(N)=1.038×10^{-5} *15*; α(O)=1.432×10^{-6} *20*; α(P)=6.79×10^{-8} *10* B(E2)(W.u.)=117 *+34−18* E_γ: weighted average of 904.9 *2* from (^{64}Ni,p4nγ), 906 *1* from (^{34}S,3pγ), 904.8 *5* from (^{28}Si,p4nγ), and 904.63 *3* from (^{19}F,4nγ).
4408.4	(33/2$^+$)	413.2 *6*	100 *15*	3995.1	(31/2$^+$)	(M1)	0.0195	α(K)=0.01682 *25*; α(L)=0.00216 *4*; α(M)=0.000440 *7* α(N)=9.32×10^{-5} *14*; α(O)=1.302×10^{-5} *19*; α(P)=6.52×10^{-7} *10* E_γ: weighted average of 413.0 *6* from (^{64}Ni,p4nγ) and 413.4 *7* from (^{28}Si,p4nγ). I_γ: from (^{64}Ni,p4nγ). Other: 100 *24* from (^{28}Si,p4nγ). Additional information 36.
		790.4 *6*	103 *21*	3618.0	(29/2$^+$)	(E2)	0.00292	α(K)=0.00250 *4*; α(L)=0.000335 *5*; α(M)=6.85×10^{-5} *10* α(N)=1.442×10^{-5} *21*; α(O)=1.98×10^{-6} *3*; α(P)=9.20×10^{-8} *13* E_γ: weighted average of 790.1 *6* from (^{64}Ni,p4nγ) and 790.8 *7* from (^{28}Si,p4nγ). I_γ: unweighted average of 123 *19* from (^{64}Ni,p4nγ) and 82 *18* from (^{28}Si,p4nγ). Additional information 37.
4620.7	(35/2$^-$)	891.8 *3*	100	3728.9	(31/2$^-$)			E_γ: weighted average of 892.0 *6* from (^{64}Ni,p4nγ), 891.9 *7* from (^{28}Si,p4nγ), and 891.8 *3* from (^{19}F,4nγ).
4834.1	(35/2$^+$)	425.8 *6*	48 *16*	4408.4	(33/2$^+$)	(M1)	0.0181	α(K)=0.01559 *23*; α(L)=0.00200 *3*; α(M)=0.000408 *6* α(N)=8.63×10^{-5} *13*; α(O)=1.206×10^{-5} *18*; α(P)=6.04×10^{-7} *9* E_γ: weighted average of 425.6 *6* from (^{64}Ni,p4nγ) and 426.0 *7* from (^{28}Si,p4nγ). I_γ: unweighted average of 64 *12* from (^{64}Ni,p4nγ) and 32 *11* from (^{28}Si,p4nγ). Additional information 38.

$^{123}_{55}Cs_{68}$-18

Adopted Levels, Gammas (continued)

γ(^{123}Cs) (continued)

E_i(level)	J_i^π	E_γ ‡	I_γ ‡	E_f	J_f^π	Mult.‡	α†	Comments
4834.1	(35/2$^+$)	838.9 *6*	100 *16*	3995.1	(31/2$^+$)	(E2)	0.00254	α(K)=0.00218 *3*; α(L)=0.000289 *4*; α(M)=5.91×10^{-5} *9* α(N)=1.245×10^{-5} *18*; α(O)=1.713×10^{-6} *25*; α(P)=8.03×10^{-8} *12* E_γ: weighted average of 838.6 *6* from (^{64}Ni,p4nγ) and 839.4 *7* from (^{28}Si,p4nγ). I_γ: from (^{64}Ni,p4nγ). Other: 100 *21* from (^{28}Si,p4nγ). Additional information 39.
4863.3	(35/2$^+$)	817.9 *4*	100	4045.4	(31/2$^+$)	(E2)	0.00269	α(K)=0.00231 *4*; α(L)=0.000308 *5*; α(M)=6.29×10^{-5} *9* α(N)=1.325×10^{-5} *19*; α(O)=1.82×10^{-6} *3*; α(P)=8.51×10^{-8} *12* E_γ: weighted average of 817.8 *4* from (^{64}Ni,p4nγ) and 818.0 *5* from (^{28}Si,p4nγ). Additional information 40.
4933.6	(37/2$^-$)	675.6 *6*	100 *14*	4258.2	(35/2$^-$)	(M1)	0.00581	α(K)=0.00502 *8*; α(L)=0.000633 *9*; α(M)=0.0001290 *19* α(N)=2.73×10^{-5} *4*; α(O)=3.82×10^{-6} *6*; α(P)=1.93×10^{-7} *3* E_γ: weighted average of 675.5 *6* from (^{64}Ni,p4nγ) and 675.8 *7* from (^{28}Si,p4nγ). I_γ: from (^{64}Ni,p4nγ). Other: 100 *24* from (^{28}Si,p4nγ). Additional information 41.
		878.3 *6*	75 *12*	4055.3	(33/2$^-$)	(E2)	0.00229	α(K)=0.00196 *3*; α(L)=0.000259 *4*; α(M)=5.29×10^{-5} *8* α(N)=1.114×10^{-5} *16*; α(O)=1.535×10^{-6} *22*; α(P)=7.25×10^{-8} *11* E_γ: weighted average of 878.5 *6* from (^{64}Ni,p4nγ) and 878.0 *7* from (^{28}Si,p4nγ). I_γ: weighted average of 89 *14* from (^{64}Ni,p4nγ) and 65 *12* from (^{28}Si,p4nγ). Additional information 42.
5213.9	(39/2$^-$)	280.3 *6*	5.5 *14*	4933.6	(37/2$^-$)			E_γ,I_γ: from (^{64}Ni,p4nγ) only.
		955.7 *2*	100	4258.2	(35/2$^-$)	E2	0.00189	α(K)=0.001626 *23*; α(L)=0.000212 *3*; α(M)=4.33×10^{-5} *6* α(N)=9.13×10^{-6} *13*; α(O)=1.261×10^{-6} *18*; α(P)=6.02×10^{-8} *9* B(E2)(W.u.)=62 *+14−10* E_γ: weighted average of 955.8 *2* from (^{64}Ni,p4nγ), 955 *1* from (^{34}S,3pγ), 955.0 *7* from (^{28}Si,p4nγ), and 955.5 *3* from (^{19}F,4nγ).
5246.4		988.2 *6*	100	4258.2	(35/2$^-$)			
5334.4	(37/2$^+$)	500.4 *6*	86 *22*	4834.1	(35/2$^+$)			
		926.0 *6*	100 *22*	4408.4	(33/2$^+$)			
5596.9	(39/2$^-$)	976.2 *6*	100	4620.7	(35/2$^-$)			E_γ: weighted average of 976.0 *6* from (^{64}Ni,p4nγ) and 976.4 *7* from (^{28}Si,p4nγ).
5751.8	(39/2$^+$)	888.5 *4*	100 *14*	4863.3	(35/2$^+$)	(E2)	0.00223	α(K)=0.00191 *3*; α(L)=0.000252 *4*; α(M)=5.14×10^{-5} *8* α(N)=1.084×10^{-5} *16*; α(O)=1.494×10^{-6} *21*; α(P)=7.06×10^{-8} *10* E_γ: weighted average of 888.4 *4* from (^{64}Ni,p4nγ) and 889.0 *7* from (^{28}Si,p4nγ). Additional information 43.
		917.8 *6*	23 *5*	4834.1	(35/2$^+$)			E_γ,I_γ: from (^{64}Ni,p4nγ) only.
5792.9	(39/2$^+$)	458.5 *6*	33 *11*	5334.4	(37/2$^+$)			
		958.9 *6*	100 *22*	4834.1	(35/2$^+$)			

$^{123}_{55}Cs_{68}$-19

Adopted Levels, Gammas (continued)

γ(^{123}Cs) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[‡]	α[†]	Comments
5905.5	(41/2$^-$)	691.7 *6*	95 *15*	5213.9	(39/2$^-$)			E_γ,I_γ: from (^{64}Ni,p4nγ) only.
		971.9 *6*	100 *20*	4933.6	(37/2$^-$)	(E2)	0.00182	α(K)=0.001568 *22*; α(L)=0.000204 *3*; α(M)=4.16×10^{-5} *6* α(N)=8.78×10^{-6} *13*; α(O)=1.213×10^{-6} *17*; α(P)=5.81×10^{-8} *9* E_γ: weighted average of 971.8 *6* from (^{64}Ni,p4nγ) and 972.1 *7* from (^{28}Si,p4nγ). Additional information 44.
6239.5	(43/2$^-$)	334.2 *6*	2.9 *10*	5905.5	(41/2$^-$)			E_γ,I_γ: from (^{64}Ni,p4nγ) only.
		1025.5 *5*	100 *8*	5213.9	(39/2$^-$)	E2	1.62×10^{-3}	α(K)=0.001396 *20*; α(L)=0.000180 *3*; α(M)=3.68×10^{-5} *6* α(N)=7.76×10^{-6} *11*; α(O)=1.075×10^{-6} *15*; α(P)=5.18×10^{-8} *8* B(E2)(W.u.)=74 *+16−12* E_γ: unweighted average of 1025.9 *2* from (^{64}Ni,p4nγ), 1026 *1* from (^{34}S,3pγ), 1026.0 *7* from (^{28}Si,p4nγ), and 1024.0 *3* from (^{19}F,4nγ). I_γ: from (^{64}Ni,p4nγ).
6296.8		1050.4 *6*	100	5246.4				
6670.7	(43/2$^+$)	918.9 *4*	100	5751.8	(39/2$^+$)	(E2)	0.00206	α(K)=0.001773 *25*; α(L)=0.000232 *4*; α(M)=4.75×10^{-5} *7* α(N)=1.001×10^{-5} *14*; α(O)=1.381×10^{-6} *20*; α(P)=6.56×10^{-8} *10* E_γ: weighted average of 918.9 *4* from (^{64}Ni,p4nγ) and 919.0 *7* from (^{28}Si,p4nγ). Additional information 45.
6678.8	(43/2$^-$)	1081.9 *6*	100	5596.9	(39/2$^-$)			
6981.2	(45/2$^-$)	741.6 *6*	81 *19*	6239.5	(43/2$^-$)			
		1075.8 *6*	100 *25*	5905.5	(41/2$^-$)	(E2)	1.46×10^{-3}	α(K)=0.001261 *18*; α(L)=0.0001621 *23*; α(M)=3.31×10^{-5} *5* α(N)=6.97×10^{-6} *10*; α(O)=9.66×10^{-7} *14*; α(P)=4.68×10^{-8} *7*
7352.5	(47/2$^-$)	371.3 *6*	2.9 *15*	6981.2	(45/2$^-$)			E_γ,I_γ: from (^{64}Ni,p4nγ) only.
		1112.9 *4*	100 *9*	6239.5	(43/2$^-$)	E2	1.36×10^{-3} *2*	α(K)=0.001175 *17*; α(L)=0.0001504 *21*; α(M)=3.07×10^{-5} *5* α(N)=6.47×10^{-6} *9*; α(O)=8.97×10^{-7} *13*; α(P)=4.36×10^{-8} *7*; α(IPF)=6.48×10^{-7} *13* B(E2)(W.u.)=89 *+40−22* E_γ: weighted average of 1112.9 *4* from (^{64}Ni,p4nγ), 1113 *1* from (^{34}S,3pγ), and 1113.0 *7* from (^{28}Si,p4nγ). Other: 1108 from (^{19}F,4nγ). I_γ: from (^{64}Ni,p4nγ).
7413.8		1117.0 *6*	100	6296.8				
7646.9	(47/2$^+$)	976.2 *4*	100	6670.7	(43/2$^+$)	(E2)	0.00181	α(K)=0.001553 *22*; α(L)=0.000202 *3*; α(M)=4.12×10^{-5} *6* α(N)=8.69×10^{-6} *13*; α(O)=1.201×10^{-6} *17*; α(P)=5.75×10^{-8} *8* E_γ: weighted average of 976.3 *4* from (^{64}Ni,p4nγ) and 976.0 *7* from (^{28}Si,p4nγ). Additional information 46.
7837.5	(47/2$^-$)	1158.7 *6*	100	6678.8	(43/2$^-$)			
8159.2	(49/2$^-$)	806.7 *6*	32 *11*	7352.5	(47/2$^-$)			
		1178.0 *6*	100 *21*	6981.2	(45/2$^-$)	(E2)	1.21×10^{-3}	α(K)=0.001044 *15*; α(L)=0.0001329 *19*; α(M)=2.71×10^{-5} *4*

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Adopted Levels, Gammas (continued)

γ(^{123}Cs) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[‡]	α[†]	Comments
								α(N)=5.71×10^{-6} *8*; α(O)=7.94×10^{-7} *12*; α(P)=3.88×10^{-8} *6*; α(IPF)=4.12×10^{-6} *8* Additional information 47.
8559.2	(51/2$^-$)	400.0 *6*	3.4 *17*	8159.2	(49/2$^-$)			E$_\gamma$,I$_\gamma$: from (^{64}Ni,p4nγ) only.
		1206.7 *4*	100 *9*	7352.5	(47/2$^-$)	(E2)	1.16×10^{-3}	α(K)=0.000994 *14*; α(L)=0.0001262 *18*; α(M)=2.57×10^{-5} *4* α(N)=5.43×10^{-6} *8*; α(O)=7.54×10^{-7} *11*; α(P)=3.69×10^{-8} *6*; α(IPF)=7.22×10^{-6} *12* B(E2)(W.u.)=59 *+27−11* E$_\gamma$: weighted average of 1206.8 *4* from (^{64}Ni,p4nγ) and 1206 *1* from (^{34}S,3pγ). I$_\gamma$: from (^{64}Ni,p4nγ). Additional information 48.
8699.9	(51/2$^+$)	1053.0 *6*	100	7646.9	(47/2$^+$)	(E2)	1.53×10^{-3}	α(K)=0.001320 *19*; α(L)=0.0001700 *24*; α(M)=3.47×10^{-5} *5* α(N)=7.31×10^{-6} *11*; α(O)=1.013×10^{-6} *15*; α(P)=4.89×10^{-8} *7* E$_\gamma$: weighted average of 1052.9 *6* from (^{64}Ni,p4nγ) and 1053.2 *7* from (^{28}Si,p4nγ). Additional information 49.
9435.8	(53/2$^-$)	876.7 *6*	43 *14*	8559.2	(51/2$^-$)			
		1276.6 *6*	100 *22*	8159.2	(49/2$^-$)	(E2)	1.04×10^{-3}	α(K)=0.000887 *13*; α(L)=0.0001120 *16*; α(M)=2.28×10^{-5} *4* α(N)=4.81×10^{-6} *7*; α(O)=6.70×10^{-7} *10*; α(P)=3.29×10^{-8} *5*; α(IPF)=1.76×10^{-5} *3* Additional information 50.
9862.3	(55/2$^-$)	426.5 *6*	4.9 *25*	9435.8	(53/2$^-$)			E$_\gamma$,I$_\gamma$: from (^{64}Ni,p4nγ) only.
		1303.1 *4*	100 *10*	8559.2	(51/2$^-$)	(E2)	1.01×10^{-3}	α(K)=0.000851 *12*; α(L)=0.0001073 *15*; α(M)=2.18×10^{-5} *3* α(N)=4.61×10^{-6} *7*; α(O)=6.41×10^{-7} *9*; α(P)=3.16×10^{-8} *5*; α(IPF)=2.25×10^{-5} *4* E$_\gamma$: from (^{64}Ni,p4nγ). Other: 1303 *1* from (^{34}S,3pγ). Additional information 51.
9888.3	(55/2$^+$)	1188.3 *6*	100	8699.9	(51/2$^+$)	(E2)	1.19×10^{-3}	α(K)=0.001026 *15*; α(L)=0.0001304 *19*; α(M)=2.66×10^{-5} *4* α(N)=5.61×10^{-6} *8*; α(O)=7.79×10^{-7} *11*; α(P)=3.81×10^{-8} *6*; α(IPF)=5.12×10^{-6} *10* E$_\gamma$: weighted average of 1188.3 *6* from (^{64}Ni,p4nγ) and 1188.2 *7* from (^{28}Si,p4nγ). Additional information 52.
10772.8	(57/2$^-$)	1337.0 *6*	100	9435.8	(53/2$^-$)			
11021.1	(59/2$^+$)	1132.8 *6*	100	9888.3	(55/2$^+$)	(E2)	1.31×10^{-3}	α(K)=0.001132 *16*; α(L)=0.0001447 *21*; α(M)=2.95×10^{-5} *5* α(N)=6.22×10^{-6} *9*; α(O)=8.63×10^{-7} *13*; α(P)=4.20×10^{-8} *6*; α(IPF)=1.25×10^{-6} *3* Additional information 53.
11213.7	(59/2$^+$)	1325.4 *6*	100	9888.3	(55/2$^+$)	(E2)	0.000979 *14*	α=0.000979 *14*; α(K)=0.000822 *12*; α(L)=0.0001035 *15*; α(M)=2.11×10^{-5} *3* α(N)=4.45×10^{-6} *7*; α(O)=6.19×10^{-7} *9*; α(P)=3.06×10^{-8} *5*;

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Adopted Levels, Gammas (continued)

γ(^{123}Cs) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[‡]	α[†]	Comments
								α(IPF)=2.71×10^{-5} *4* Additional information 54.
11233.5	(59/2$^-$)	1371.3 *6*	100	9862.3	(55/2$^-$)	(E2)	0.000928 *13*	α=0.000928 *13*; α(K)=0.000769 *11*; α(L)=9.65×10^{-5} *14*; α(M)=1.96×10^{-5} *3* α(N)=4.15×10^{-6} *6*; α(O)=5.77×10^{-7} *9*; α(P)=2.86×10^{-8} *4*; α(IPF)=3.85×10^{-5} *6* E_γ: weighted average of 1371.0 *6* from (^{64}Ni,p4nγ) and 1372 *1* from (^{34}S,3pγ). Additional information 55.
11252.7	(59/2$^-$)	1390.3 *6*	100	9862.3	(55/2$^-$)	(E2)	0.000909 *13*	α=0.000909 *13*; α(K)=0.000748 *11*; α(L)=9.38×10^{-5} *14*; α(M)=1.91×10^{-5} *3* α(N)=4.03×10^{-6} *6*; α(O)=5.61×10^{-7} *8*; α(P)=2.78×10^{-8} *4*; α(IPF)=4.39×10^{-5} *7* Additional information 56.
11270.8?	(59/2$^-$)	498.0 *6*	100	10772.8	(57/2$^-$)	(M1+E2)		Additional information 57.
11916.6	(61/2$^-$)	663.9 *6*	100	11252.7	(59/2$^-$)	(M1)	0.00606	α(K)=0.00523 *8*; α(L)=0.000661 *10*; α(M)=0.0001346 *19* α(N)=2.85×10^{-5} *4*; α(O)=3.99×10^{-6} *6*; α(P)=2.01×10^{-7} *3* Additional information 58.
12293.2	(63/2$^-$)	1022.3[&] *6*		11270.8?	(59/2$^-$)			
		1040.5 *6*	71 *14*	11252.7	(59/2$^-$)			
		1059.8 *6*	100 *30*	11233.5	(59/2$^-$)	(E2)	1.51×10^{-3}	α(K)=0.001302 *19*; α(L)=0.0001676 *24*; α(M)=3.42×10^{-5} *5* α(N)=7.21×10^{-6} *11*; α(O)=9.99×10^{-7} *14*; α(P)=4.83×10^{-8} *7* Additional information 59.
12431.0	(63/2$^-$)	1178.3 *6*	100	11252.7	(59/2$^-$)			
12469.5	(63/2$^+$)	1448.4 *6*	100	11021.1	(59/2$^+$)	(E2)	0.000860 *12*	α=0.000860 *12*; α(K)=0.000690 *10*; α(L)=8.63×10^{-5} *13*; α(M)=1.755×10^{-5} *25* α(N)=3.71×10^{-6} *6*; α(O)=5.17×10^{-7} *8*; α(P)=2.57×10^{-8} *4*; α(IPF)=6.16×10^{-5} *9*
12609.6	(63/2$^+$)	1395.9 *6*	100	11213.7	(59/2$^+$)			
13165.1	(67/2$^+$)	695.6 *6*	100	12469.5	(63/2$^+$)	(E2)	0.00397	α(K)=0.00338 *5*; α(L)=0.000464 *7*; α(M)=9.52×10^{-5} *14* α(N)=2.00×10^{-5} *3*; α(O)=2.73×10^{-6} *4*; α(P)=1.241×10^{-7} *18* Additional information 60.
13533.7	(67/2$^-$)	1102.7 *6*	50 *13*	12431.0	(63/2$^-$)			
		1240.5 *6*	100 *25*	12293.2	(63/2$^-$)	(E2)	1.10×10^{-3}	α(K)=0.000940 *14*; α(L)=0.0001190 *17*; α(M)=2.42×10^{-5} *4* α(N)=5.12×10^{-6} *8*; α(O)=7.11×10^{-7} *10*; α(P)=3.49×10^{-8} *5*; α(IPF)=1.184×10^{-5} *19* Additional information 61.
13870.1	(71/2$^+$)	705.0 *6*	100	13165.1	(67/2$^+$)	(E2)	0.00384	α(K)=0.00328 *5*; α(L)=0.000448 *7*; α(M)=9.19×10^{-5} *13* α(N)=1.93×10^{-5} *3*; α(O)=2.64×10^{-6} *4*; α(P)=1.202×10^{-7} *17* Additional information 62.
14955.4	(71/2$^-$)	1421.7 *6*	100	13533.7	(67/2$^-$)	(E2)	0.000881 *13*	α=0.000881 *13*; α(K)=0.000716 *10*; α(L)=8.96×10^{-5} *13*;

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Adopted Levels, Gammas (continued)

$\gamma(^{123}Cs)$ (continued)

E_i(level)	E_γ ‡	Comments
		α(M)=1.82×10^{-5} *3* α(N)=3.85×10^{-6} *6*; α(O)=5.37×10^{-7} *8*; α(P)=2.66×10^{-8} *4*; α(IPF)=5.32×10^{-5} *8* Additional information 63.

† Additional information 64.

‡ For transitions from low-spin states (J<11/2), values are from ^{123}Ba ε decay (2000Gi12) with Mult. based on ce data; for those from high-spin states (J≥11/2), values are from (^{28}Si,p4nγ) (2005Si31) and/or (^{64}Ni,p4nγ) (2004Si27) with Mult. based on $\gamma\gamma$(DCO) data and RUL where $T_{1/2}$ data available or level scheme from band assignments (for latter, Mult. placed in parentheses since D or Q can only be deduced from DCO data), unless otherwise noted.

Deduced by the evaluator from ce data in ^{123}Ba ε decay (2000Gi12) using the BrIccMixing code, unless otherwise noted.

@ Multiply placed.

& Placement of transition in the level scheme is uncertain.

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Adopted Levels, Gammas

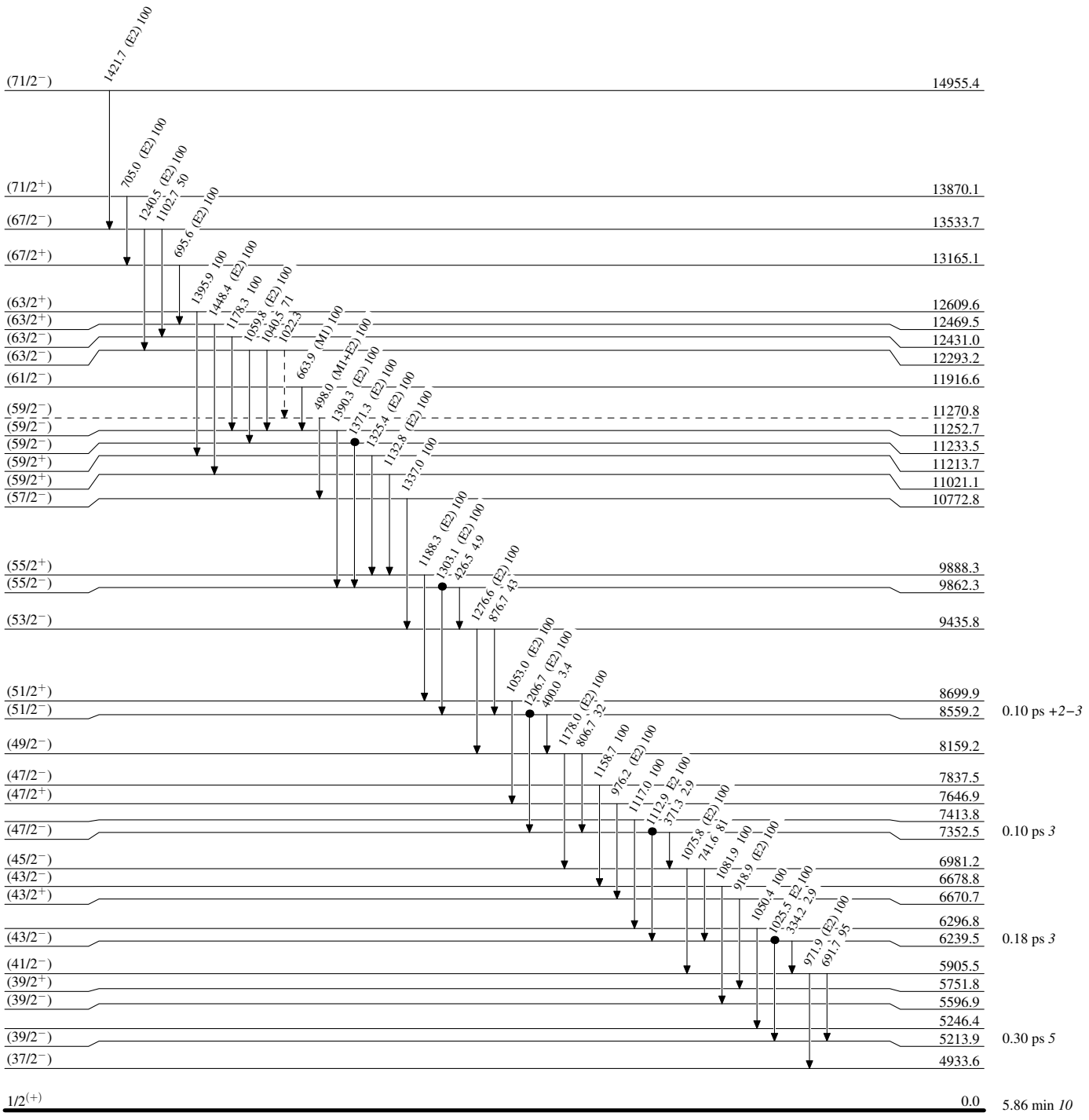
Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

Coincidence



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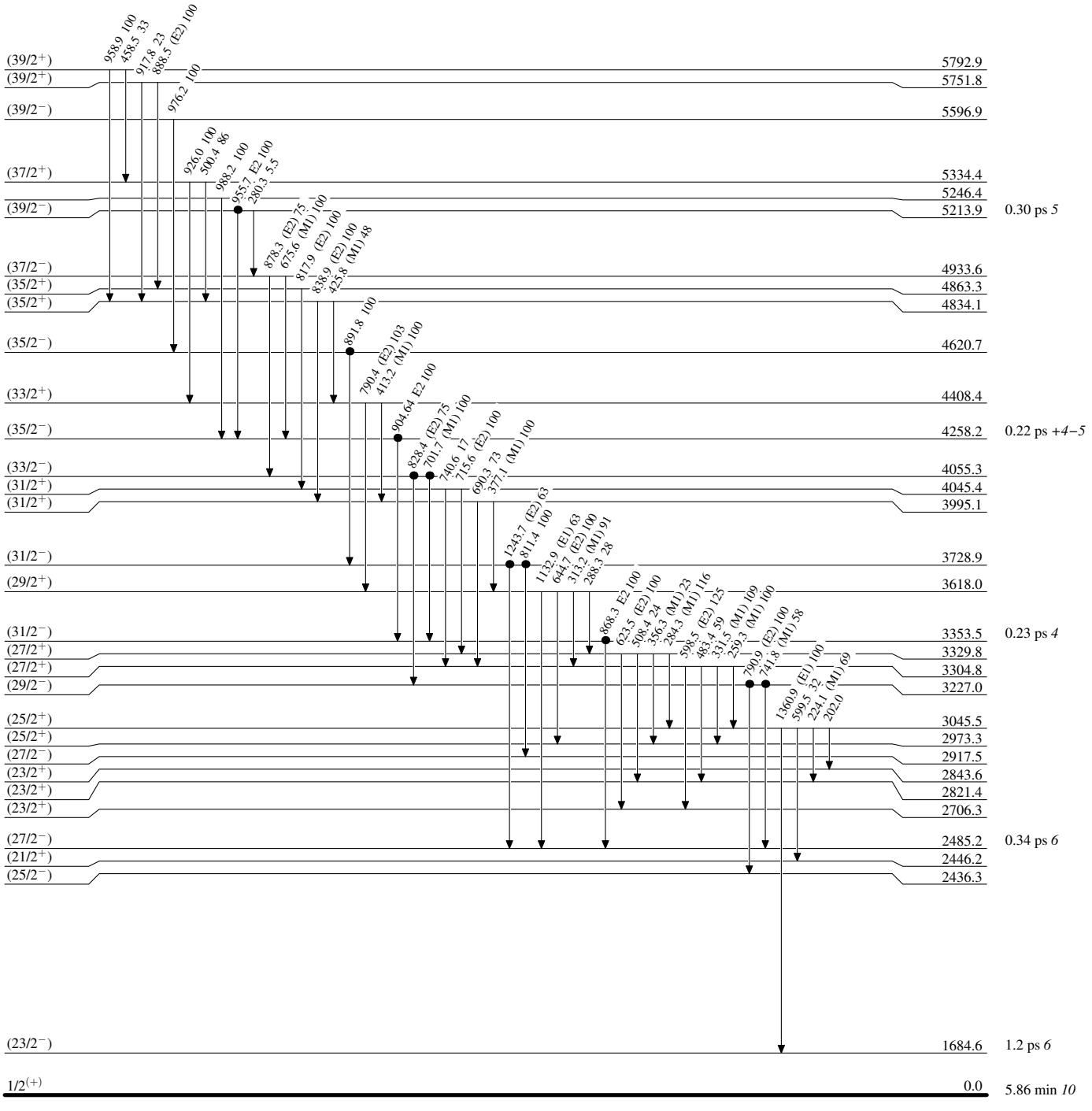
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

● Coincidence



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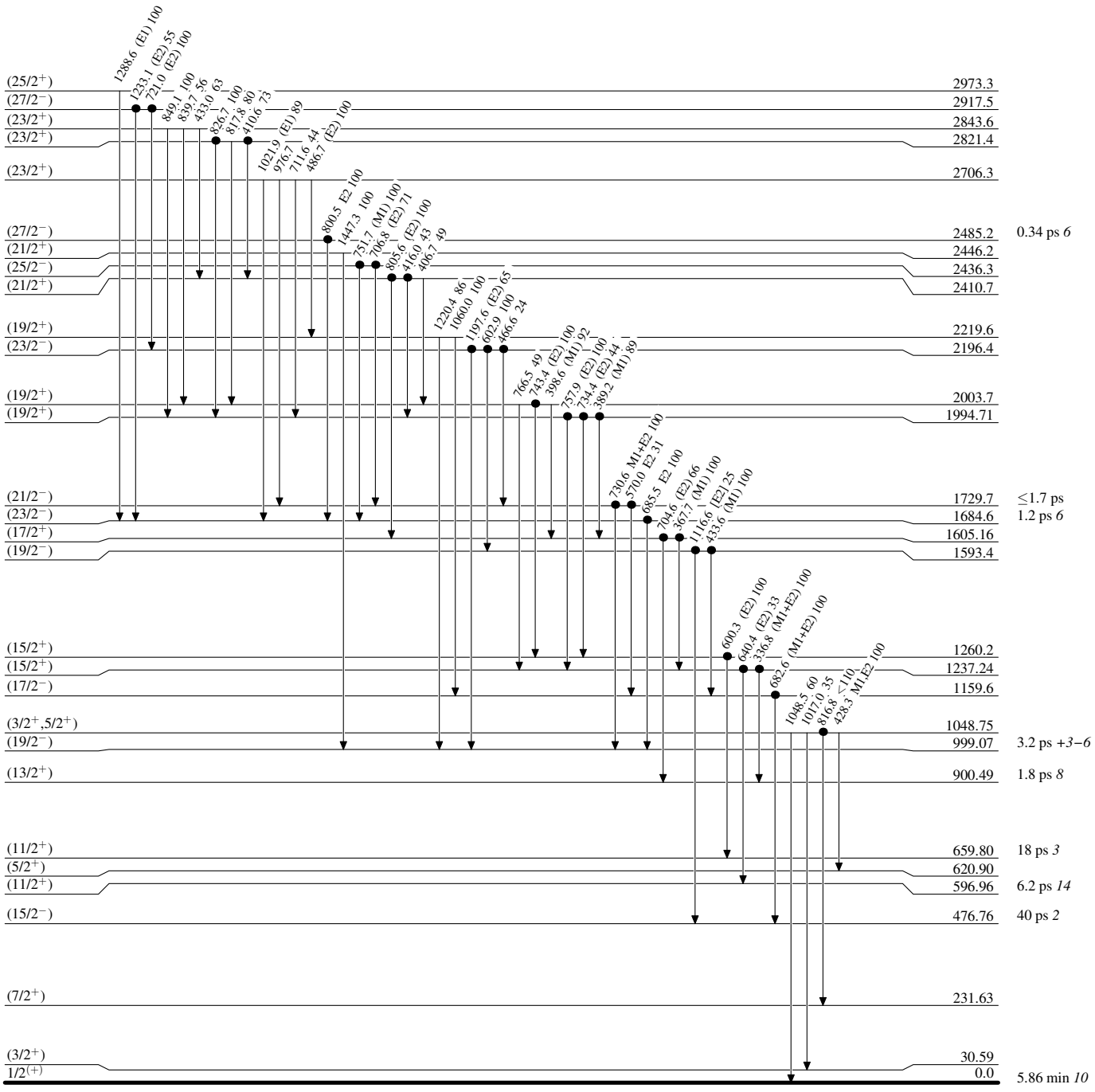
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

● Coincidence



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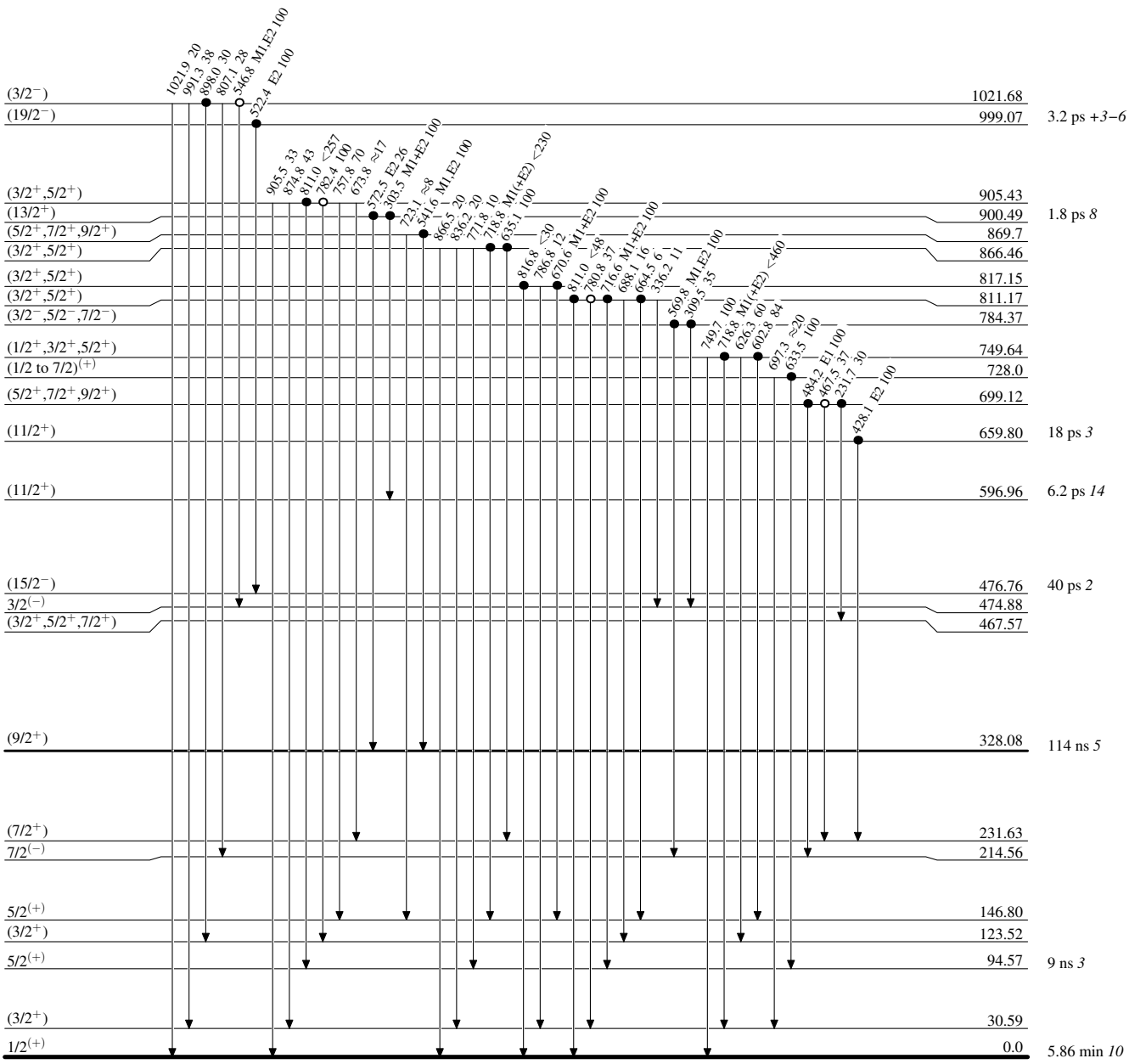
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

Legend
● Coincidence
○ Coincidence (Uncertain)



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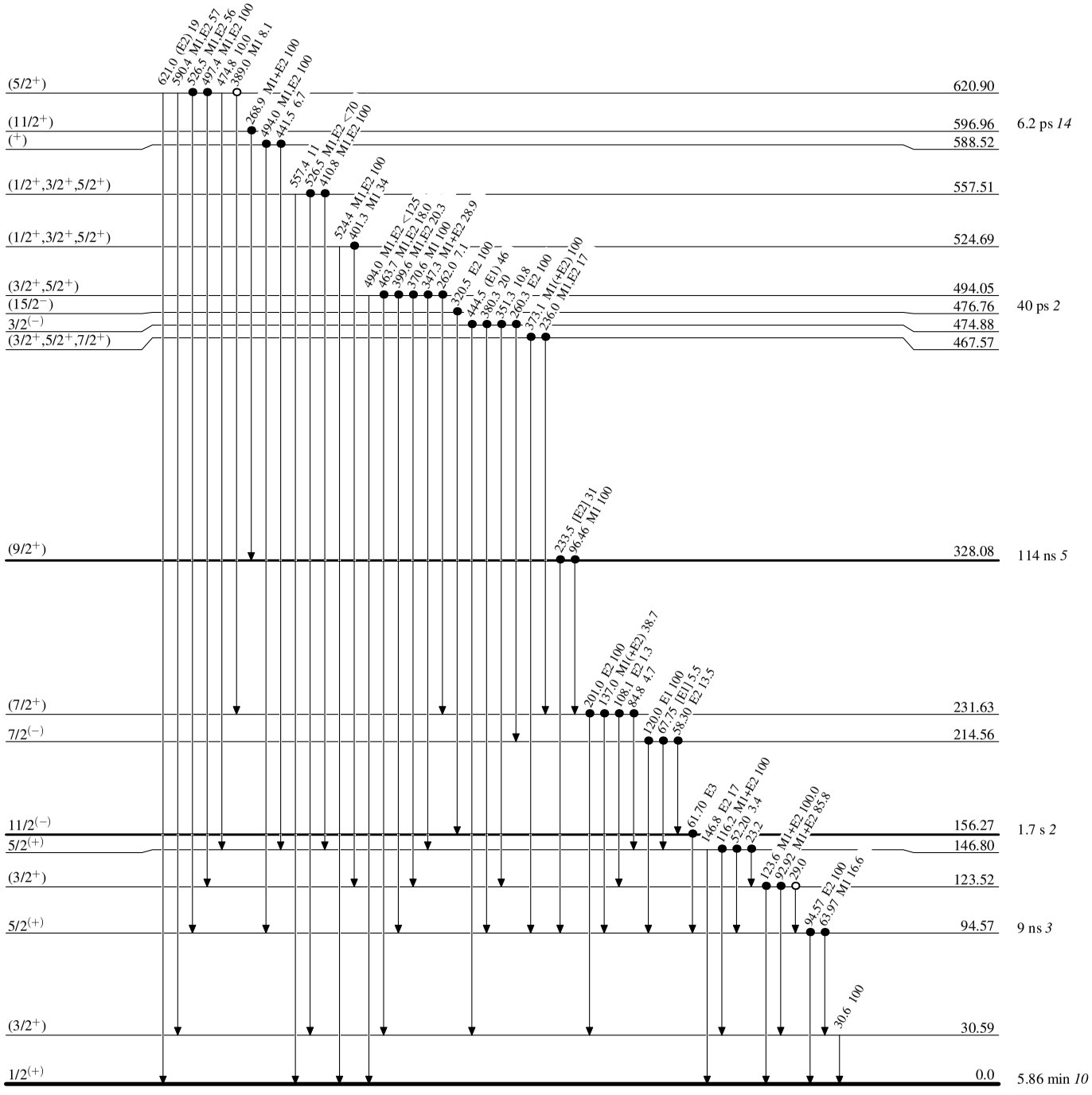
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

Legend
● Coincidence
○ Coincidence (Uncertain)



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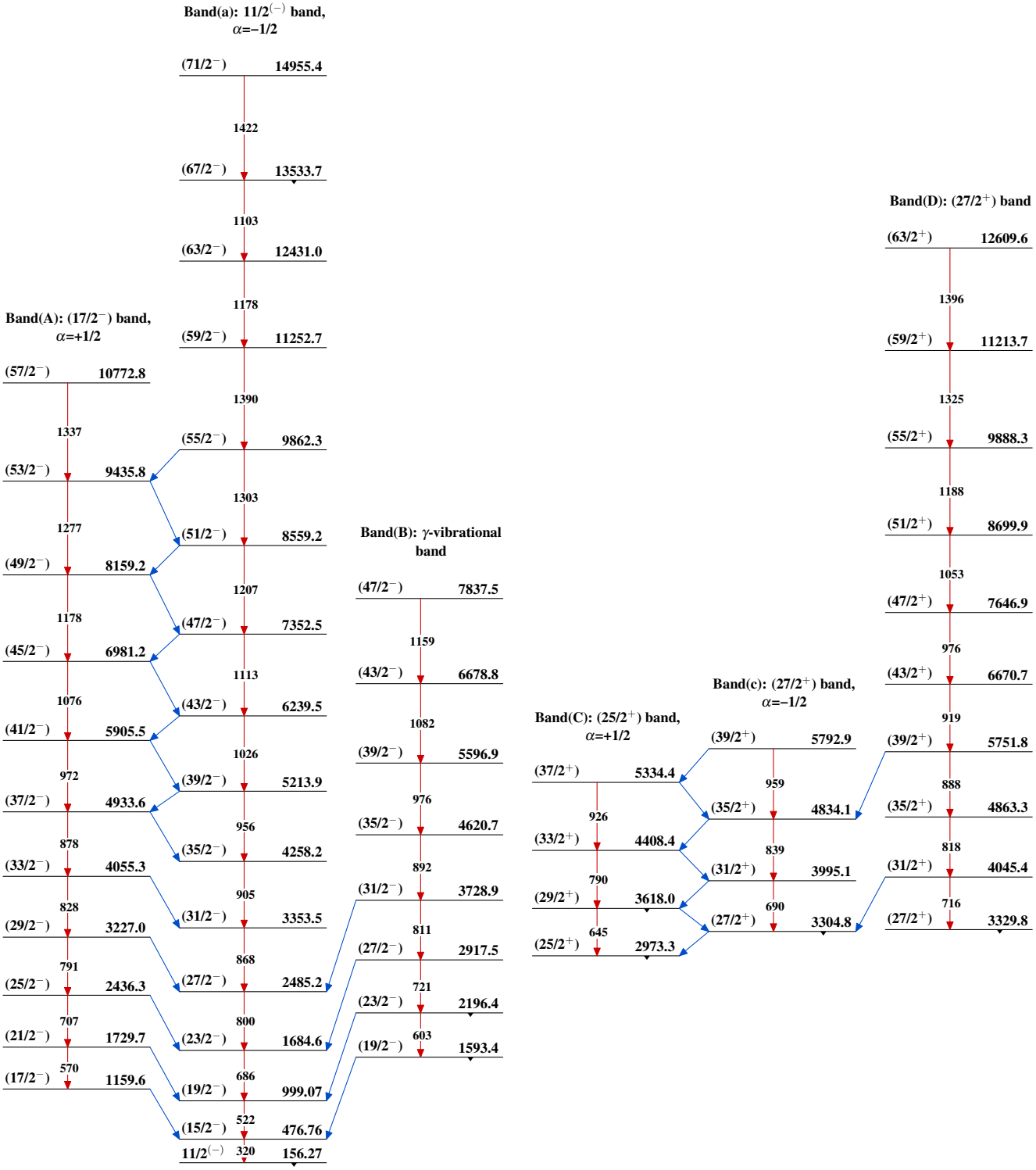
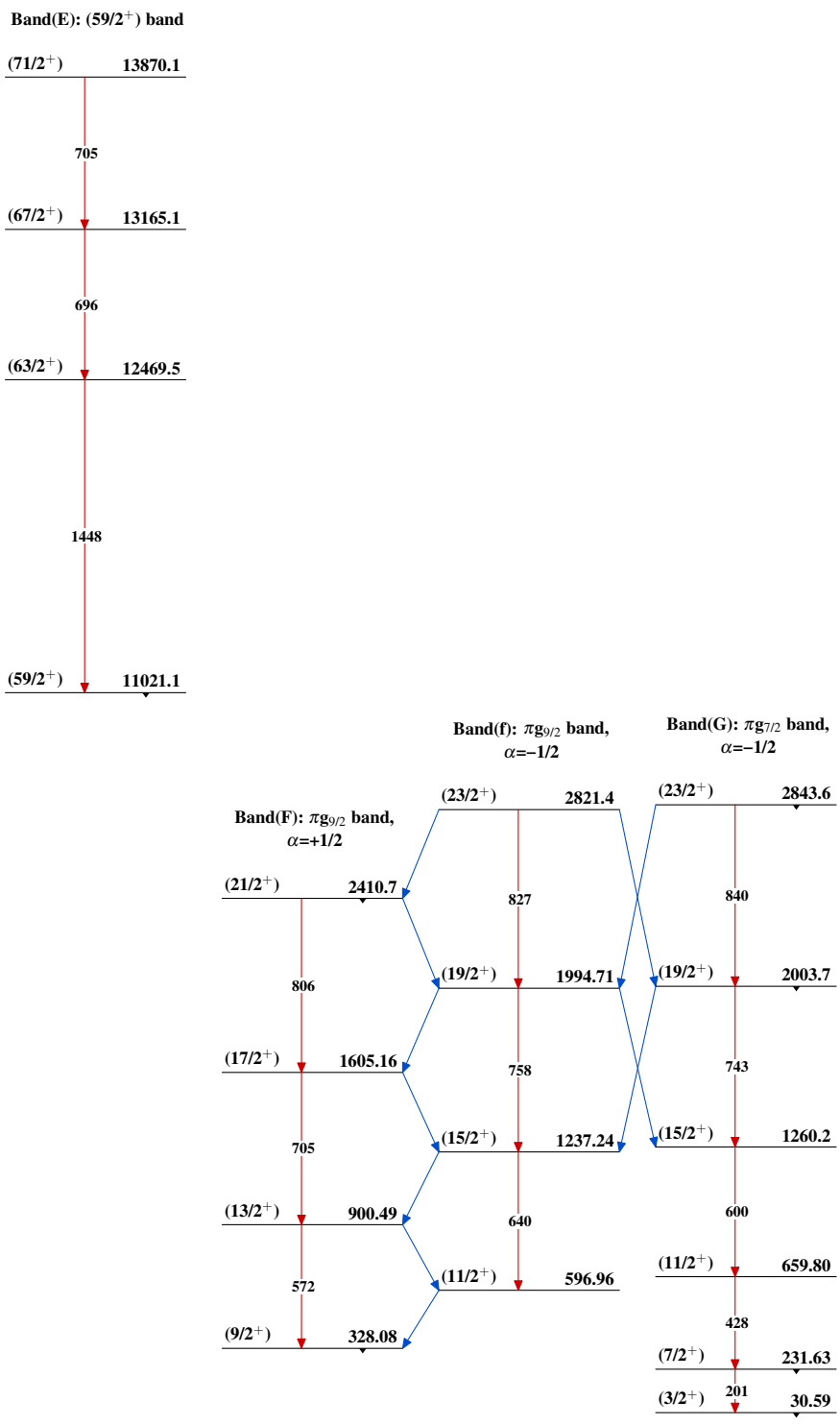
Adopted Levels, Gammas



Adopted Levels, Gammas (continued)



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