Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 113,715 (2012)	31-May-2011

Q(β^-)=6263 *22*; S(n)=5227 *23*; S(p)=9733 *23*; Q(α)=−1.64×10^3 *4* 2012Wa38
Note: Current evaluation has used the following Q record 6262 225221 249734 22-1.57E3 12 2011AuZZ.
2003Au03: Q(β^-)=6264 *22*, S(n)=5228 *25*, S(p)=9.49E3 10, Q(α)=−1260 *40*.
^{143}Cs produced from fission of ^{238}U: 2009Pa49, 2006Ho05, 2002Pa31.
Calculated β^- spectrum: 2001Ka46.

^{143}Cs Levels

Cross Reference (XREF) Flags

A ^{143}Xe β^- decay
B ^{248}Cm,^{252}Cf SF decay

E(level)[†]	J$^\pi$[‡]	T$_{1/2}$	XREF	Comments
0[#]	3/2$^+$	1.791 s *7*	AB	%β^-=100; %β^-n=1.64 *7* (1993Ru01) T$_{1/2}$: Weighted av of 1.809 *9* (1993Ru01), 1.765 s *30* (1979Ri09), 1.83 s *4* (1981En05), 1.78 s *1* (1979En02), 1.79 s *2* (1977Re05,1975Re10), 1.78 s *1* (1976Lu02). J$^\pi$: hfs in LASER spectroscopy (1981Th06,1979Ek02); π from syst of μ data; single-particle configuration=3/2$^+$[422]. μ: +0.870 *4* ABLS (1981Th06, 2011StZZ). Q: +0.47 *3* ABLS (1981Th06, 2011StZZ). Delayed neutron emission probability=1.62% *10* (evaluated in 1983ReZX). Others: 1.68% *17* (1981En05), 1.54% *9* (1980Lu04), 1.74% *12* (1979Ri09), 1.79% *13* (1981ReZW).
76.6[@] *3*	5/2$^+$		B	
90.3[#] *3*	7/2$^+$		AB	
349.1[@] *3*	9/2$^+$		B	
372.4[#] *4*	11/2$^+$		B	
755.9[@] *4*	13/2$^+$		B	
769.1[#] *4*	15/2$^+$		B	
816.6[&] *4*	9/2$^-$		B	
872.6[a] *4*	11/2$^-$		B	
1072.1[&] *4*	13/2$^-$		B	
1155.6[a] *4*	15/2$^-$		B	
1182.3[b] *4*	13/2		B	
1253.9[#] *4*	19/2$^+$		B	
1254.7[@] *4*	17/2$^+$		B	
1398.0[&] *4*	17/2$^-$		B	
1549.9[a] *4*	19/2$^-$		B	
1558.7[b] *4*	17/2		B	
1803.1[&] *4*	21/2$^-$		B	
1805.1[#] *5*	23/2$^+$		B	
1812.6[@] *4*	21/2$^+$		B	
2032.4[a] *5*	(23/2$^-$)		B	
2052.8[b] *5*	(21/2)		B	

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Adopted Levels, Gammas (continued)

^{143}Cs Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	XREF	E(level)[†]	XREF	E(level)[†]	XREF
2294.1[&] *5*	(25/2$^-$)	B	2581.1[a] *6*	B	3086.8[@] *6*	B
2424.1[#] *6*	27/2$^+$	B	2627.1[b] *6*	B	3118.1[#] *6*	B
2427.7[@] *5*	25/2$^+$	B	2860.8[&] *6*	B		

[†] Deduced by evaluators from least-squares fit to γ-ray energies assuming 0.3 keV uncertainty for each γ ray.
[‡] J^{π} assignments are from ^{248}Cm SF decay (2004Ur01), based on γ-ray multipolarities and rotational-band structure.
[#] Band(A): g.s. rotational band.
[@] Band(B): 5/2$^+$ rotational band.
[&] Band(C): 9/2$^-$ (octupole) vibrational band.
[a] Band(D): 11/2$^-$ (octupole) vibrational band.
[b] Band(E): (13/2) band.

γ(^{143}Cs)

E$_i$(level)	J$_i^{\pi}$	E$_{\gamma}$[†]	I$_{\gamma}$[†]	E$_f$	J$_f^{\pi}$	Mult.[‡]	α[#]	Comments
76.6	5/2$^+$	76.5	100	0	3/2$^+$	(M1)	1.94	α(K)=1.662 *24*; α(L)=0.222 *4*; α(M)=0.0455 *7*; α(N+..)=0.01102 *16* α(N)=0.00962 *14*; α(O)=0.001336 *19*; α(P)=6.54×10^{-5} *10*
90.3	7/2$^+$	90.4	100	0	3/2$^+$	[E2]	2.67	α(K)=1.643 *23*; α(L)=0.815 *12*; α(M)=0.1766 *25*; α(N+..)=0.0400 *6* α(N)=0.0358 *5*; α(O)=0.00417 *6*; α(P)=4.47×10^{-5} *7* Mult.: From level scheme.
349.1	9/2$^+$	258.8	45 *4*	90.3	7/2$^+$	(M1)	0.0656	α(K)=0.0564 *8*; α(L)=0.00734 *11*; α(M)=0.001501 *21*; α(N+..)=0.000364 *5* α(N)=0.000317 *5*; α(O)=4.43×10^{-5} *7*; α(P)=2.20×10^{-6} *3*
		272.5	100 *6*	76.6	5/2$^+$	E2	0.0593	α(K)=0.0482 *7*; α(L)=0.00887 *13*; α(M)=0.00186 *3*; α(N+..)=0.000435 *6* α(N)=0.000384 *6*; α(O)=4.95×10^{-5} *7*; α(P)=1.613×10^{-6} *23*
372.4	11/2$^+$	282.0	100 *5*	90.3	7/2$^+$			
755.9	13/2$^+$	383.6	26 *3*	372.4	11/2$^+$	M1+E2	0.0219 *17*	α(K)=0.0186 *18*; α(L)=0.00266 *6*; α(M)=0.000547 *16*; α(N+..)=0.000131 *3* α(N)=0.000115 *3*; α(O)=1.56×10^{-5} *3*; α(P)=6.9×10^{-7} *10*
		406.8	100 *7*	349.1	9/2$^+$			
769.1	15/2$^+$	396.6	100	372.4	11/2$^+$	E2	0.0183	α(K)=0.01529 *22*; α(L)=0.00242 *4*; α(M)=0.000502 *7*; α(N+..)=0.0001191 *17* α(N)=0.0001047 *15*; α(O)=1.387×10^{-5} *20*; α(P)=5.38×10^{-7} *8*
816.6	9/2$^-$	726.3	100	90.3	7/2$^+$	(E1)	0.001362 *19*	α(K)=0.001180 *17*; α(L)=0.0001453 *21*; α(M)=2.95×10^{-5} *5*; α(N+..)=7.13×10^{-6} α(N)=6.22×10^{-6} *9*; α(O)=8.66×10^{-7} *13*; α(P)=4.28×10^{-8} *6*
872.6	11/2$^-$	500.3	77 *8*	372.4	11/2$^+$			
		523.5	100 *17*	349.1	9/2$^+$	E1	0.00279 *4*	α(K)=0.00241 *4*; α(L)=0.000300 *5*; α(M)=6.09×10^{-5} *9*; α(N+..)=1.471×10^{-5} *21* α(N)=1.285×10^{-5} *18*; α(O)=1.780×10^{-6} *25*; α(P)=8.66×10^{-8} *13*

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Adopted Levels, Gammas (continued)

γ(^{143}Cs) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[#]	Comments
1072.1	13/2$^-$	255.5	100	816.6	9/2$^-$	E2	0.0733	α(K)=0.0591 *9*; α(L)=0.01123 *16*; α(M)=0.00236 *4*; α(N+..)=0.000552 *8* α(N)=0.000487 *7*; α(O)=6.24×10^{-5} *9*; α(P)=1.96×10^{-6} *3*
		699.8		372.4	11/2$^+$			
1155.6	15/2$^-$	83.5		1072.1	13/2$^-$			
		283.0	88 *13*	872.6	11/2$^-$	E2	0.0525	α(K)=0.0427 *6*; α(L)=0.00773 *11*; α(M)=0.001617 *23*; α(N+..)=0.000380 *6* α(N)=0.000335 *5*; α(O)=4.33×10^{-5} *6*; α(P)=1.440×10^{-6} *21*
		399.6	100 *2*	755.9	13/2$^+$	E1	0.00528 *8*	α(K)=0.00457 *7*; α(L)=0.000574 *8*; α(M)=0.0001166 *17*; α(N+..)=2.81×10^{-5} *4* α(N)=2.45×10^{-5} *4*; α(O)=3.39×10^{-6} *5*; α(P)=1.621×10^{-7} *23*
1182.3	13/2	809.9	100	372.4	11/2$^+$	E1,M1		
1253.9	19/2$^+$	484.8	100	769.1	15/2$^+$	E2	0.01026	α(K)=0.00864 *12*; α(L)=0.001287 *18*; α(M)=0.000266 *4*; α(N+..)=6.34×10^{-5} *9* α(N)=5.56×10^{-5} *8*; α(O)=7.46×10^{-6} *11*; α(P)=3.10×10^{-7} *5*
1254.7	17/2$^+$	485.5	23 *3*	769.1	15/2$^+$			
		498.9	100 *13*	755.9	13/2$^+$	E2	0.00947 *14*	α(K)=0.00799 *12*; α(L)=0.001181 *17*; α(M)=0.000244 *4*; α(N+..)=5.81×10^{-5} *9* α(N)=5.10×10^{-5} *8*; α(O)=6.85×10^{-6} *10*; α(P)=2.87×10^{-7} *4*
1398.0	17/2$^-$	325.9	100	1072.1	13/2$^-$	E2	0.0335	α(K)=0.0276 *4*; α(L)=0.00469 *7*; α(M)=0.000977 *14*; α(N+..)=0.000230 *4* α(N)=0.000203 *3*; α(O)=2.65×10^{-5} *4*; α(P)=9.47×10^{-7} *14*
		628.8		769.1	15/2$^+$	E1	0.00185 *3*	α(K)=0.001603 *23*; α(L)=0.000198 *3*; α(M)=4.02×10^{-5} *6*; α(N+..)=9.73×10^{-6} *14* α(N)=8.49×10^{-6} *12*; α(O)=1.179×10^{-6} *17*; α(P)=5.79×10^{-8} *9*
1549.9	19/2$^-$	152	3 *1*	1398.0	17/2$^-$			
		295.0	11 *2*	1254.7	17/2$^+$			
		394.4	100 *11*	1155.6	15/2$^-$			
1558.7	17/2	376.5	8 *2*	1182.3	13/2			
		789.7	100 *10*	769.1	15/2$^+$	M1,E1		
1803.1	21/2$^-$	404.9	100	1398.0	17/2$^-$	(E2)		Additional information 1.
		549.3		1253.9	19/2$^+$			
1805.1	23/2$^+$	551.2	100	1253.9	19/2$^+$	E2	0.00721 *10*	α(K)=0.00611 *9*; α(L)=0.000881 *13*; α(M)=0.000181 *3*; α(N+..)=4.34×10^{-5} *6* α(N)=3.80×10^{-5} *6*; α(O)=5.14×10^{-6} *8*; α(P)=2.21×10^{-7} *3*
1812.6	21/2$^+$	557.9	100 *10*	1254.7	17/2$^+$	E2	0.00698 *10*	α(K)=0.00592 *9*; α(L)=0.000851 *12*; α(M)=0.0001752 *25*; α(N+..)=4.19×10^{-5} *6* α(N)=3.67×10^{-5} *6*; α(O)=4.96×10^{-6} *7*; α(P)=2.14×10^{-7} *3*
		558.7	40 *10*	1253.9	19/2$^+$			
2032.4	(23/2$^-$)	482.5	100	1549.9	19/2$^-$			
2052.8	(21/2)	494.1	100 *16*	1558.7	17/2			
		798.8	40 *8*	1253.9	19/2$^+$			Not reported in ^{252}Cf SF decay.
2294.1	(25/2$^-$)	489.0		1805.1	23/2$^+$			
		490.9	100	1803.1	21/2$^-$			

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Adopted Levels, Gammas (continued)

γ(^{143}Cs) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[#]	Comments
2424.1	27/2$^+$	619.0	100	1805.1	23/2$^+$	E2	0.00532 *8*	α(K)=0.00452 *7*; α(L)=0.000635 *9*; α(M)=0.0001305 *19*; α(N+..)=3.13×10^{-5} *5* α(N)=2.74×10^{-5} *4*; α(O)=3.72×10^{-6} *6*; α(P)=1.649×10^{-7} *23*
2427.7	25/2$^+$	615.3	100 *15*	1812.6	21/2$^+$	E2	0.00540 *8*	α(K)=0.00459 *7*; α(L)=0.000646 *9*; α(M)=0.0001327 *19*; α(N+..)=3.18×10^{-5} *5* α(N)=2.79×10^{-5} *4*; α(O)=3.78×10^{-6} *6*; α(P)=1.674×10^{-7} *24*
		622.5	40 *15*	1805.1	23/2$^+$			
2581.1		548.7	100	2032.4	(23/2$^-$)			
2627.1		574.3	100	2052.8	(21/2)			
2860.8		566.7	100	2294.1	(25/2$^-$)			
3086.8		659.0	100	2427.7	25/2$^+$			
3118.1		694.0	100	2424.1	27/2$^+$			

[†] From ^{248}Cm SF decay.

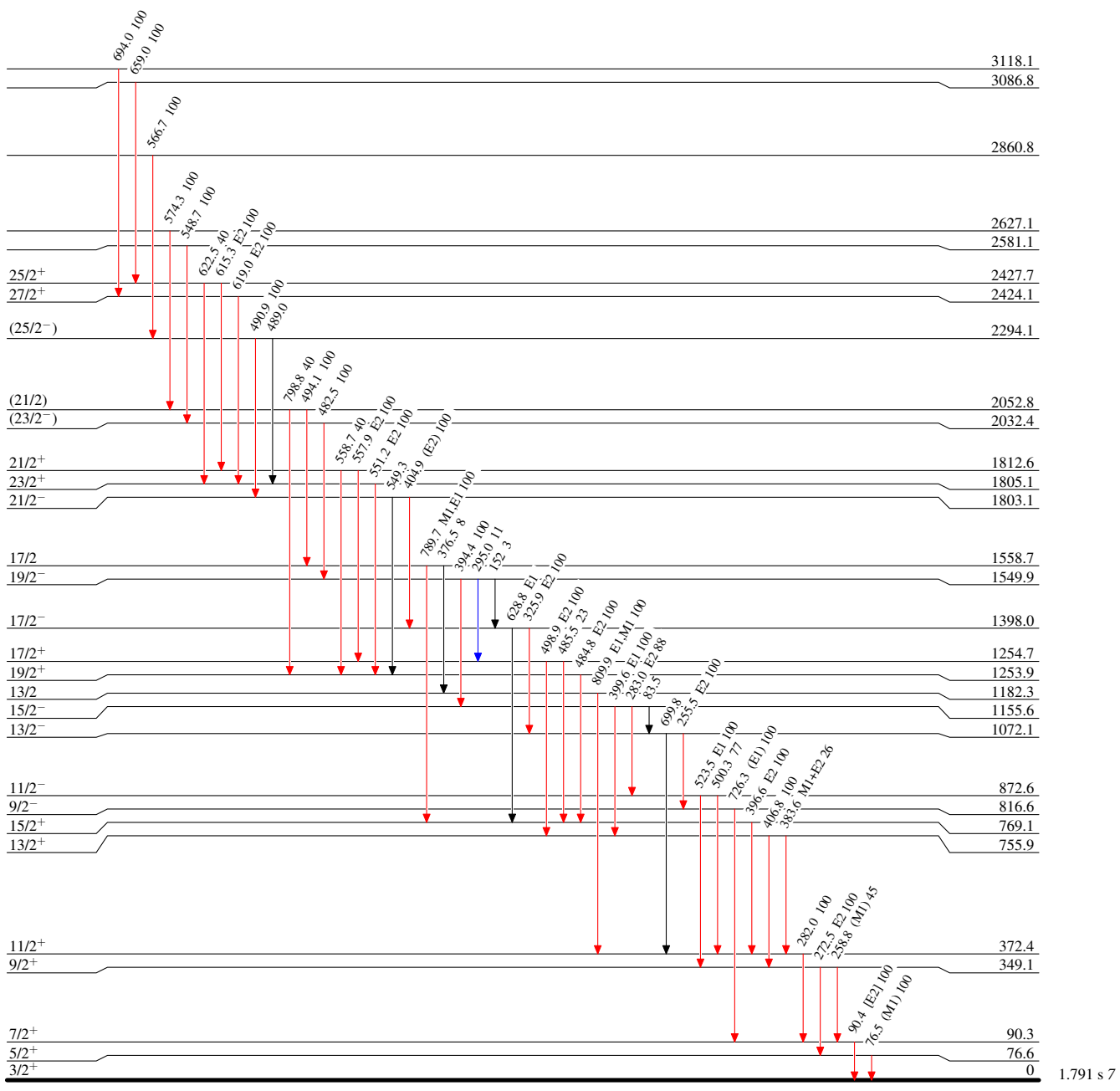
[‡] From angular correlation and linear polarization coefficients measured in ^{248}Cm SF decay.

[#] 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.

Adopted Levels, Gammas

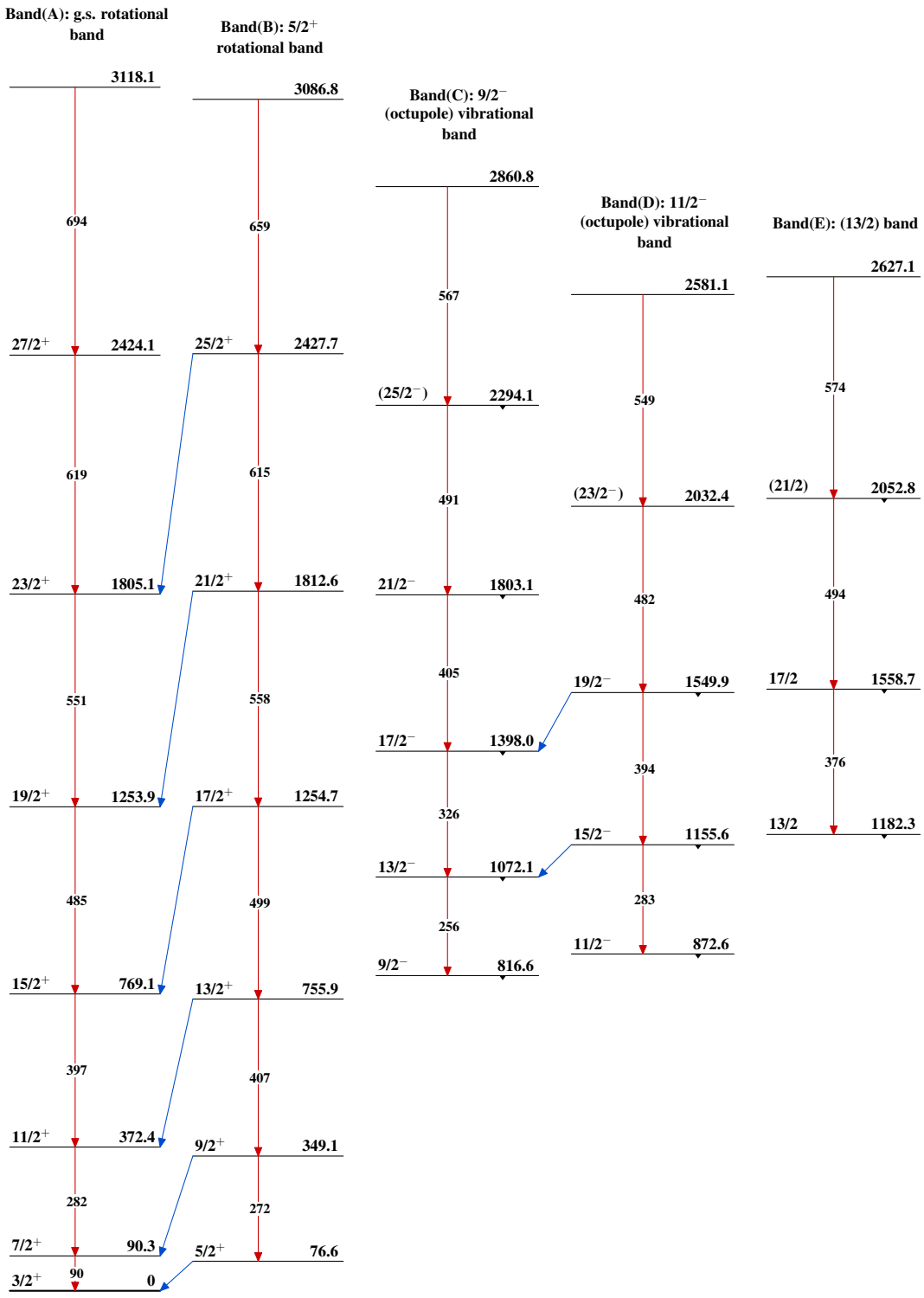
Level Scheme

Intensities: Type not specified



$^{143}_{55}Cs_{88}$

Adopted Levels, Gammas



$^{143}_{55}Cs_{88}$