Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yu. Khazov and A. Rodionov, F. G. Kondev	NDS 112,855 (2011)	31-Oct-2010

Q(β^-)=−517.3 *10*; S(n)=8986.0 *20*; S(p)=6080.940 *10*; Q(α)=−1989 *4* 2012Wa38
Note: Current evaluation has used the following Q record −517.5 10 *8986.5 196086.07 2* −1989 3 2009AuZZ.

^{133}Cs Levels

Cross Reference (XREF) Flags

A	^{133}Xe β^- decay (5.2475 d)	E	^{133}Cs(n,n′γ)
B	^{133}Ba ε decay (10.551 y)	F	Coulomb excitation
C	^{133}Ba ε decay (38.93 h)	G	^{133}Cs(γ,γ')
D	^{130}Te(^{6}Li,3nγ)		

E(level)†	Jπ	$T_{1/2}$‡	XREF	Comments
0.0@	7/2$^+$	stable	ABCDEFG	μ=+2.582025 *3* (1973Wh01,2005St24) Q=−0.00371 *14* (1988Ta17,2005St24) Jπ: Atomic beam (1931Ko01), optical spectroscopy (1931Ko01,1934Ja02). Other: Q=−0.009 *4* from LASER spectroscopy (1981Th06). configuration: Probable $\pi(g^{+1}_{7/2})$.
80.9979 *8*	5/2$^+$	6.283 ns *14*	AB DEF	μ=+3.45 *2* (1968Ca03,2005St24); Q=−0.33 *2* (1977Ca30,2005St24) Jπ: 80.9979γ M1+E2 to 7/2$^+$; direct population in ^{133}Xe (5.2475 d) β^- decay (J^π=3/2$^+$). $T_{1/2}$: weighted average of 6.32 ns *4* (1989Ma38), 6.31 ns *5* (1959Bo56), 6.30 ns *15* (1963Fl10), 6.25 ns *5* (1966Bl08), 6.16 ns *7* (1966Ol04), 6.25 ns *5* (1967Ri03), 6.30 ns *7* (1968Ak02), 6.26 ns *17* (1969Sa33), 6.27 ns *4* (1970Va34), 6.28 ns *14* (1971Bo13), 6.36 ns *3* (1972Gu03), 6.23 ns *3* (1983Mo21) (^{133}Ba ε decay (10.539 y)), 6.0 ns *4* (1953Gr07), 6.3 ns *2* (1958Al98), 6.25 ns *10* (1962Th12), 6.3 ns *3* (1965Ge04) in (^{133}Xe β^- decay). Others: 4.5 ns *+17−9* from B(E2) in Coul. ex., 1963Go17 and 1964Bl18. configuration: Probable $\pi(d^{+1}_{5/2})$.
160.6121 *9*	5/2$^+$	172 ps *4*	AB EF	μ=+2.0 *2* (1979Th02,2005St24) Jπ: 160.6120γ M1+E2 to 7/2$^+$; direct population in ^{133}Xe (5.2475 d) β^- decay (J^π=3/2$^+$). μ: from IPAC measurement. $T_{1/2}$: weighted average of 180 ps *10* (1991De24), 170 ps *4* (1989Ma38) 167 ps *17* (Coul. ex.) and 190 ps *15* (1970Va34). Others: 85 ps *16* (1963Fl10), 97 ps *26* (1966Sc36), 103 ps *15* (1968Ak02).
383.8491 *8*	3/2$^+$	44 ps *11*	AB DEF	Jπ: 383.8485γ E2 to 7/2$^+$; direct population in ^{133}Xe (5.2475 d) β^- decay (J^π=3/2$^+$). $T_{1/2}$: weighted average of 46 ps *13* (1967He09) and 40 ps *20* (1970Va34) in ^{133}Ba ε decay (10.539 y). Other: 25 ps *4* in Coul. ex. configuration: Probable $\pi(d^{+1}_{3/2})$.
437.0113 *9*	1/2$^+$	≤150 ps	B EF	Jπ: 276.3989γ E2 to 5/2$^+$, 53.1622γ M1+E2 to 3/2$^+$; direct population in ^{133}Ba (10.539 y) ε decay (J^π=1/2$^+$). $T_{1/2}$: from 1964Va25, 1970Va34 in ^{133}Ba ε decay (10.539 y). configuration: Probable $\pi(s^{+1}_{1/2})$.
632.56@ *10*	11/2$^+$	5.3 ps *4*	CDEF	Jπ: 632.56γ E2 to 7/2$^+$; direct population in ^{133}Ba (38.9 h) ε decay (J^π=11/2$^-$). $T_{1/2}$: from B(E2)↑=0.157 *4*, weighted average of 0.158 *4* (1975An19), 0.150 *12* (1985Si10), 0.156 *10* (1979Th02), 0.150 *16* (1973Re08) in Coul. ex.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{133}Cs Levels (continued)

E(level)†	Jπ	$T_{1/2}$‡	XREF	Comments
				configuration: Probable $\pi(g^{+1}_{7/2})\otimes 2^+$.
640.40 *7*	$(3/2)^+$	0.76 ps *14*	EF	$T_{1/2}$: from DSAM in Coul. ex. Jπ: 480.03γ M1+E2 to $5/2^+$; 641γ to $7/2^+$.
705.57 *9*	$9/2^+$		DEF	Jπ: 624.58γ E2 to $5/2^+$.
729.16 *25*			E	
767.68 *10*	$(9/2)^+$	2.0 ps *4*	DEF	Jπ: 606.9γ (E2) to $5/2^+$ 767.68γ (M1+E2) to $7/2^+$. $T_{1/2}$: from DSAM in Coul. ex.
788.6? *3*			EF	
819.06 *7*	$(5/2,7/2,9/2^+)$	1.0 ps *3*	EF	B(E2)↑=0.0037 *4* Jπ: 737.4γ to $5/2^+$; excitation functions in (n,n′γ). $T_{1/2}$: from DSAM in Coul. ex.
871.86 *10*	$(7/2)^+$	1.2 ps *3*	EF	Jπ: 871γ M1+E2 to $7/2^+$, 712.2γ to $5/2^+$. $T_{1/2}$: from DSAM in Coul. ex.
916.09 *7*	$(5/2,7/2,9/2^+)$	2.3 ps *+10−5*	EF	B(E2)↑=0.0044 *6* Jπ: 755.58γ to $5/2^+$, 916.0γ to $7/2^+$; excitation functions in (n,n′γ). $T_{1/2}$: from DSAM in Coul. ex.
941.6 *6*			EF	
1071.1& *4*	$(11/2^-)$		DE	Jπ: 365.95γ D+Q, ΔJ=1 to $9/2^+$; systematics.
1089.25 *9*	$(3/2^+,5/2,7/2^+)$		E	Jπ: 1090.8γ to $7/2^+$, 705.56γ to $3/2^+$.
1172.69 *20*	$(3/2^+,5/2,7/2^+)$		E	Jπ: 1174.1γ to $7/2^+$, 788.8γ to $3/2^+$.
1219.33? *22*			E	
1429.9@ *4*	$15/2^+$		D	Jπ: stretched 797.3γ E2 to $11/2^+$.
1442.22? *14*			E	
1509.6 *3*			E	
1603.9 *4*	$(15/2^-)$		D	Jπ: 532.78γ E2 to $(11/2^-)$.
1674.65 *22*	$(5/2^+,7/2^+)$		E	Jπ: 969.1γ to $9/2^+$, 1033.5γ to $3/2^+$.
1692.4? *11*			E	
1744.8& *5*	$(15/2^-)$		D	Jπ: 673.7γ E2 to $(11/2^-)$; band assignment.
1880.6 *3*	$(3/2^+,5/2,7/2^+)$		E	Jπ: 1879.7γ to $7/2^+$, 1496.9γ to $3/2^+$.
1919.4? *11*			E	
1923.0 *5*	(19/2)		D	Jπ: 319.1γ Q, ΔJ=2 to $(15/2^-)$.
1951.5 *5*	(17/2)		D	Jπ: 347.6γ D+Q, ΔJ=1 to $(15/2^-)$.
2001.4? *17*			E	
2035.6? *8*	$(3/2^+,5/2,7/2^+)$		E	
2156.2 *9*	$(5/2,7/2,9/2)^{\#}$	1.34×10^{-3} eV *22*	G	
2295.1@ *5*	$19/2^+$		D	Jπ: stretched 865.2γ E2 to $15/2^+$.
2321.0 *8*	$(5/2)^{\#}$	8.4×10^{-4} eV *19*	G	Jπ: (5/2,7/2,9/2) from ^{133}Cs(γ,γ′); possible 1937.3γ (D) to $3/2^+$ contradicts 7/2 and 9/2.
2415	$(5/2,7/2,9/2)^{\#}$	2.7×10^{-3} eV *4*	G	
2438	$(5/2,7/2,9/2)^{\#}$	1.5×10^{-3} eV *3*	G	
2462	$(5/2,7/2,9/2)^{\#}$	1.10×10^{-3} eV *22*	G	
2528.3 *6*	(21/2)		D	Jπ: 233.2γ D (ΔJ=1) to $19/2^+$.
2643.4 *6*	(23/2)		D	Jπ: 115.1γ D, ΔJ+1 to (21/2).
2645	$(5/2,7/2,9/2)^{\#}$	5.1×10^{-3} eV *4*	G	
2672	$(5/2,7/2,9/2)^{\#}$	2.4×10^{-3} eV *3*	G	
2722	$(5/2,7/2,9/2)^{\#}$	2.4×10^{-3} eV *5*	G	0.60 *21* branching ratio to 160.6, $5/2^+$.
2744	$(5/2,7/2,9/2)^{\#}$	3.5×10^{-3} eV *5*	G	
2759	$(5/2,7/2,9/2)^{\#}$	3.1×10^{-3} eV *4*	G	1.63 *24* branching ratio to 160.6, $5/2^+$.
2815	$(5/2,7/2,9/2)^{\#}$	1.0×10^{-3} eV *3*	G	
2834.2 *7*	(25/2)		D	Jπ: 190.8γ D+Q, ΔJ=1 to (23/2).

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{133}Cs Levels (continued)

E(level)[†]	J^{π}	$T_{1/2}$[‡]	XREF	Comments
2858	(5/2,7/2,9/2)[#]	2.8×10^{-3} eV *5*	G	1.6 *4* branching ratio to 160.6, $5/2^+$.
2873	(5/2,7/2,9/2)[#]	2.6×10^{-3} eV *3*	G	
2909	(5/2,7/2,9/2)[#]	4.9×10^{-3} eV *6*	G	0.66 *18* branching ratio to 81.0, $5/2^+$.
2944	(5/2,7/2,9/2)[#]	2.3×10^{-3} eV *3*	G	
3039	(5/2,7/2,9/2)[#]	9.7×10^{-4} eV *24*	G	
3296	(5/2,7/2,9/2)[#]	1.8×10^{-3} eV *6*	G	
3322	(5/2,7/2,9/2)[#]	1.4×10^{-3} eV *4*	G	
3422	(5/2,7/2,9/2)[#]	1.7×10^{-3} eV *6*	G	
3517	(5/2,7/2,9/2)[#]	1.4×10^{-3} eV *5*	G	
3526	(5/2,7/2,9/2)[#]	3.3×10^{-3} eV *5*	G	
3672	(5/2,7/2,9/2)[#]	3.2×10^{-3} eV *7*	G	

[†] From a least-squares fit to Eγ's.
[‡] For levels with E≥2156.2 keV from ^{133}Cs(γ,γ'), quoted gΓ_0 in *eV*.
[#] From dipole excitation in ^{133}Cs(γ,γ').
[@] Band(A): ΔJ=2 band based on $7/2^+$ ($\pi(g^{+1}_{7/2})$) g.s.
[&] Band(B): ΔJ=2 band based on the $11/2^-$ ($\pi(h^{+1}_{11/2})$) state.

Adopted Levels, Gammas (continued)

$\gamma(^{133}Cs)$

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[c]	δ[c]	α[†]	Comments
80.9979	$5/2^+$	80.9979[@] *11*	100[#]	0.0	$7/2^+$	M1+E2	0.158 *5*	1.703	B(M1)(W.u.)=0.002381 *22*; B(E2)(W.u.)=5.8 *4* α(K)=1.431 *20*; α(L)=0.216 *4*; α(M)=0.0447 *8*; α(N+..)=0.01071 *18* α(N)=0.00939 *16*; α(O)=0.001271 *20*; α(P)=5.56×10^{-5} *8*
160.6121	$5/2^+$	79.6142[@] *12*	100.0[#] *19*	80.9979	$5/2^+$	M1+E2	0.124 *15*	1.77 *3*	α(K)=1.495 *22*; α(L)=0.217 *6*; α(M)=0.0447 *13*; α(N+..)=0.0107 *3* α(N)=0.00940 *25*; α(O)=0.00128 *3*; α(P)=5.84×10^{-5} *9* B(M1)(W.u.)=0.081 *4*; B(E2)(W.u.)=1.3×10^{2} *3*
		160.6120[@] *16*	24.07[#] *19*	0.0	$7/2^+$	M1+E2	0.96 *5*	0.294 *6*	α(K)=0.234 *4*; α(L)=0.0471 *13*; α(M)=0.0099 *3*; α(N+..)=0.00232 *7* α(N)=0.00205 *6*; α(O)=0.000261 *7*; α(P)=8.08×10^{-6} *12* B(M1)(W.u.)=0.00126 *8*; B(E2)(W.u.)=28.6 *18*
383.8491	$3/2^+$	223.2368[@] *13*	2.47[#] *2*	160.6121	$5/2^+$	M1+E2	−0.114 *14*	0.0975	α(K)=0.0836 *12*; α(L)=0.01103 *16*; α(M)=0.00226 *4*; α(N+..)=0.000547 *8* α(N)=0.000477 *7*; α(O)=6.64×10^{-5} *10*; α(P)=3.26×10^{-6} *5* B(M1)(W.u.)=0.00070 *18*; B(E2)(W.u.)=0.12 *4*
		302.8508[@] *5*	100.0[#] *3*	80.9979	$5/2^+$	M1+E2	0.022 *20*	0.0434	α(K)=0.0373 *6*; α(L)=0.00484 *7*; α(M)=0.000988 *14*; α(N+..)=0.000240 *4* α(N)=0.000209 *3*; α(O)=2.92×10^{-5} *4*; α(P)=1.453×10^{-6} *21* B(M1)(W.u.)=0.011 *3*; B(E2)(W.u.)=0.04 *+7−4*
		383.8485[@] *12*	48.8[#] *3*	0.0	$7/2^+$	E2		0.0202	α(K)=0.01684 *24*; α(L)=0.00270 *4*; α(M)=0.000560 *8*; α(N+..)=0.0001326 *19* α(N)=0.0001166 *17*; α(O)=1.541×10^{-5} *22*; α(P)=5.90×10^{-7} *9* B(E2)(W.u.)=12 *3*
437.0113	$1/2^+$	53.1622[@] *6*	3.53[#] *3*	383.8491	$3/2^+$	M1+E2	0.08 *+2−3*	5.66 *10*	B(M1)(W.u.)>0.024; B(E2)(W.u.)>18 α(K)=4.78 *7*; α(L)=0.70 *4*; α(M)=0.144 *8*; α(N+..)=0.0346 *18* α(N)=0.0303 *16*; α(O)=0.00413 *18*; α(P)=0.000188 *3*
		276.3989[@] *12*	11.54[#] *7*	160.6121	$5/2^+$	E2		0.0566	B(E2)(W.u.)>4.8 α(K)=0.0460 *7*; α(L)=0.00842 *12*; α(M)=0.001763 *25*; α(N+..)=0.000414 *6* α(N)=0.000365 *6*; α(O)=4.70×10^{-5} *7*; α(P)=1.545×10^{-6} *22*
		356.0129[@] *7*	100.0[#]	80.9979	$5/2^+$	E2		0.0254	B(E2)(W.u.)>12 α(K)=0.0211 *3*; α(L)=0.00346 *5*; α(M)=0.000721 *10*; α(N+..)=0.0001704 *24* α(N)=0.0001499 *21*; α(O)=1.97×10^{-5} *3*; α(P)=7.32×10^{-7} *11*

$^{133}_{55}Cs_{78}$-4

Adopted Levels, Gammas (continued)

γ(^{133}Cs) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[c]	δ[c]	α[†]	Comments
632.56	11/2$^+$	632.56 *10*	100	0.0	7/2$^+$	E2		0.00503 *7*	α(K)=0.00428 *6*; α(L)=0.000599 *9*; α(M)=0.0001230 *18*; α(N+..)=2.95×10^{-5} *5* α(N)=2.58×10^{-5} *4*; α(O)=3.51×10^{-6} *5*; α(P)=1.563×10^{-7} *22* B(E2)(W.u.)=26.1 *20* Mult.: from γ(θ) in ^{130}Te(^{6}Li,3nγ) and Coulomb excitation.
640.40	(3/2)$^+$	480.03 *10*	100 *15*	160.6121	5/2$^+$	M1+E2	−0.10 *3*	0.01337	α(K)=0.01153 *17*; α(L)=0.001473 *21*; α(M)=0.000301 *5*; α(N+..)=7.29×10^{-5} *11* α(N)=6.36×10^{-5} *9*; α(O)=8.89×10^{-6} *13*; α(P)=4.45×10^{-7} *7* B(M1)(W.u.)=0.13 *4*; B(E2)(W.u.)=3.6 *23* Mult.,δ: from γ(θ) Coulomb excitation (1985Si10).
		559.14 *10*	96 *12*	80.9979	5/2$^+$	M1+E2	1.3 *+10−6*	0.0078 *7*	B(M1)(W.u.)=0.03 *3*; B(E2)(W.u.)=1.0×10^2 *7* α(K)=0.0066 *7*; α(L)=0.00091 *5*; α(M)=0.000186 *10*; α(N+..)=4.5×10^{-5} *3* α(N)=3.91×10^{-5} *22*; α(O)=5.4×10^{-6} *4*; α(P)=2.5×10^{-7} *3* Mult.,δ: from γ(θ) Coulomb excitation (1985Si10).
		(641 *1*)	4[a]	0.0	7/2$^+$	[E2]		0.00487 *7*	B(E2)(W.u.)=3.4 *7* α(K)=0.00414 *6*; α(L)=0.000577 *9*; α(M)=0.0001186 *18*; α(N+..)=2.84×10^{-5} *5* α(N)=2.49×10^{-5} *4*; α(O)=3.39×10^{-6} *5*; α(P)=1.513×10^{-7} *22* E_γ: from Coulomb excitation.
705.57	9/2$^+$	624.58 *10*	100[a]	80.9979	5/2$^+$	E2		0.00520 *8*	α(K)=0.00442 *7*; α(L)=0.000620 *9*; α(M)=0.0001273 *18*; α(N+..)=3.05×10^{-5} *5* α(N)=2.67×10^{-5} *4*; α(O)=3.63×10^{-6} *5*; α(P)=1.613×10^{-7} *23* Mult.: from γ(θ) in ^{130}Te(^{6}Li,3nγ) and Coulomb excitation.
		705.56 *15*	28[a] *3*	0.0	7/2$^+$				
729.16		647.8 *4*	29 *4*	80.9979	5/2$^+$				
		728.2 *5*	100	0.0	7/2$^+$				
767.68	(9/2)$^+$	606.9 *5*	9[a] *1*	160.6121	5/2$^+$	(E2)		0.00560 *8*	α(K)=0.00476 *7*; α(L)=0.000671 *10*; α(M)=0.0001379 *20*; α(N+..)=3.30×10^{-5} *5* α(N)=2.89×10^{-5} *5*; α(O)=3.93×10^{-6} *6*; α(P)=1.732×10^{-7} *25* B(E2)(W.u.)=7.0 *17* E_γ: from Coulomb excitation.
		767.68 *10*	100[a]	0.0	7/2$^+$	(M1+E2)		0.0037 *6*	α(K)=0.0032 *6*; α(L)=0.00041 *6*; α(M)=8.4×10^{-5} *11*; α(N+..)=2.0×10^{-5} *3* α(N)=1.78×10^{-5} *23*; α(O)=2.5×10^{-6} *4*; α(P)=1.20×10^{-7} *22* Mult.: D (ΔJ=1) in ^{130}Te(^{6}Li,3nγ).
788.6?		788.6 *3*	100	0.0	7/2$^+$				

$^{133}_{55}Cs_{78}$-5

Adopted Levels, Gammas (continued)

γ(^{133}Cs) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[c]	δ[c]	α[†]	Comments
819.06	(5/2,7/2,9/2$^+$)	658.61 *10*	61[a] *9*	160.6121	5/2$^+$				
		737.4 *6*	43[a] *9*	80.9979	5/2$^+$				
		818.92 *10*	100[a] *17*	0.0	7/2$^+$				
871.86	(7/2)$^+$	712.6 *5*	18[a]	160.6121	5/2$^+$				
		871.80 *10*	100[a]	0.0	7/2$^+$	M1+E2	+0.70 +*5*−*8*	0.00290 *6*	B(M1)(W.u.)=0.016 *4*; B(E2)(W.u.)=6.5 *18* α(K)=0.00250 *6*; α(L)=0.000317 *6*; α(M)=6.47×10^{-5} *13*; α(N+..)=1.57×10^{-5} *3* α(N)=1.37×10^{-5} *3*; α(O)=1.91×10^{-6} *4*; α(P)=9.48×10^{-8} *21* Mult.,δ: from γ(θ) in Coulomb excitation.
916.09	(5/2,7/2,9/2$^+$)	755.58 *10*	100 *15*	160.6121	5/2$^+$				
		834.9 *3*	33 *4*	80.9979	5/2$^+$				
		916.00 *10*	85 *15*	0.0	7/2$^+$				
941.6		861.1 *7*	100 *12*	80.9979	5/2$^+$				
		940.8 *9*	38 *10*	0.0	7/2$^+$				
1071.1	(11/2$^-$)	303.4[d] *3*	<19	767.68	(9/2)$^+$	D			E_γ,Mult.: from ^{130}Te(^{6}Li,3nγ). I_γ: branching for a doublet from ^{130}Te(^{6}Li,3nγ).
		365.95[d] *10*	100	705.57	9/2$^+$	D+Q			Mult.: from γ(θ) in ^{130}Te(^{6}Li,3nγ).
1089.25	(3/2$^+$,5/2,7/2$^+$)	705.56 *15*	100 *12*	383.8491	3/2$^+$				
		928.54 *10*	10.9 *16*	160.6121	5/2$^+$				
		1009.6 *14*	4.1 *9*	80.9979	5/2$^+$				
		1090.8 *13*	3.1 *7*	0.0	7/2$^+$				
1172.69	(3/2$^+$,5/2,7/2$^+$)	788.8 *2*	100 *7*	383.8491	3/2$^+$				
		1174.1 *12*	21 *10*	0.0	7/2$^+$				
1219.33?		347.5 *2*	100 *15*	871.86	(7/2)$^+$				
		1218.7 *11*	87 *25*	0.0	7/2$^+$				
1429.9	15/2$^+$	797.3[&] *3*	100[b]	632.56	11/2$^+$	E2		0.00286 *4*	α(K)=0.00245 *4*; α(L)=0.000328 *5*; α(M)=6.71×10^{-5} *10*; α(N+..)=1.614×10^{-5} *23* α(N)=1.411×10^{-5} *20*; α(O)=1.94×10^{-6} *3*; α(P)=9.02×10^{-8} *13* Mult.: from γ(θ) in ^{130}Te(^{6}Li,3nγ).
1442.22?		674.54 *10*	100	767.68	(9/2)$^+$				
1509.6		780.4 *1*	100 *7*	729.16					
		1510.6 *4*	55 *19*	0.0	7/2$^+$				
1603.9	(15/2$^-$)	532.78[&] *9*	100[b]	1071.1	(11/2$^-$)	E2		0.00791 *11*	α(K)=0.00669 *10*; α(L)=0.000972 *14*; α(M)=0.000200 *3*; α(N+..)=4.79×10^{-5} *7* α(N)=4.20×10^{-5} *6*; α(O)=5.66×10^{-6} *8*; α(P)=2.41×10^{-7} *4* Mult.: from γ(θ) in ^{130}Te(^{6}Li,3nγ).

$^{133}_{55}Cs_{78}$-6

Adopted Levels, Gammas (continued)

γ(^{133}Cs) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[c]	α[†]	Comments
1674.65	(5/2$^+$,7/2$^+$)	969.1 *2*	100 *8*	705.57	9/2$^+$			
		1033.5 *15*	15 *8*	640.40	(3/2)$^+$			
		1674.2 *13*	50 *23*	0.0	7/2$^+$			
1692.4?		1610.3 *16*	59 *30*	80.9979	5/2$^+$			
		1693.4 *15*	100 *40*	0.0	7/2$^+$			
1744.8	(15/2$^-$)	673.7[&] *3*	100[b]	1071.1	(11/2$^-$)	E2	0.00429 *6*	α(K)=0.00366 *6*; α(L)=0.000505 *7*; α(M)=0.0001037 *15*; α(N+..)=2.49×10^{-5} *4* α(N)=2.18×10^{-5} *3*; α(O)=2.97×10^{-6} *5*; α(P)=1.340×10^{-7} *19* Mult.: from γ(θ) in ^{130}Te(^{6}Li,3nγ).
1880.6	(3/2$^+$,5/2,7/2$^+$)	1496.9 *3*	100 *33*	383.8491	3/2$^+$			
		1879.7 *8*	57 *27*	0.0	7/2$^+$			
1919.4?		1046.4 *15*	100 *20*	871.86	(7/2)$^+$			
		1132.2 *16*	29 *13*	788.6?				
		1919.5[e] *5*	28 *16*	0.0	7/2$^+$			
1923.0	(19/2)	319.1[&] *3*	100[b]	1603.9	(15/2$^-$)	Q		Mult.: from γ(θ) in ^{130}Te(^{6}Li,3nγ).
1951.5	(17/2)	347.6[&] *3*	100[b]	1603.9	(15/2$^-$)	D+Q		Mult.: from γ(θ) in ^{130}Te(^{6}Li,3nγ).
2001.4?		1272.2 *16*	100 *50*	729.16				
		2002.3[e] *11*	67 *30*	0.0	7/2$^+$			
2035.6?	(3/2$^+$,5/2,7/2$^+$)	1306.6 *13*	61 *30*	729.16				
		1652.2 *17*	100 *50*	383.8491	3/2$^+$			
		2035.3 *12*	25 *11*	0.0	7/2$^+$			
2156.2	(5/2,7/2,9/2)	937.0[d] *15*	21 *7*	1219.33?		(D)		
		1066.4[d] *14*	100 *30*	1089.25	(3/2$^+$,5/2,7/2$^+$)	(D)		
		2156.9[d] *17*	26 *13*	0.0	7/2$^+$	(D)		
2295.1	19/2$^+$	865.2[&] *3*	100[b]	1429.9	15/2$^+$	E2	0.00237 *4*	α(K)=0.00203 *3*; α(L)=0.000268 *4*; α(M)=5.48×10^{-5} *8*; α(N+..)=1.322×10^{-5} *19* α(N)=1.155×10^{-5} *17*; α(O)=1.591×10^{-6} *23*; α(P)=7.49×10^{-8} *11* Mult.: from γ(θ) in ^{130}Te(^{6}Li,3nγ).
2321.0	(5/2)	1404.6[d] *14*	100 *50*	916.09	(5/2,7/2,9/2$^+$)	(D)		
		1937.3[d] *9*	65 *40*	383.8491	3/2$^+$	(D)		
2528.3	(21/2)	233.2[&] *3*	100[b]	2295.1	19/2$^+$	D		Mult.: from γ(θ) in ^{130}Te(^{6}Li,3nγ).
2643.4	(23/2)	115.1[&] *3*	100[b]	2528.3	(21/2)	D		Mult.: from γ(θ) in ^{130}Te(^{6}Li,3nγ).
2834.2	(25/2)	190.8[&] *3*	100[b]	2643.4	(23/2)	D+Q		Mult.: from γ(θ) in ^{130}Te(^{6}Li,3nγ).

$^{133}_{55}Cs_{78}$-7

Adopted Levels, Gammas (continued)

$\gamma(^{133}Cs)$ (continued)

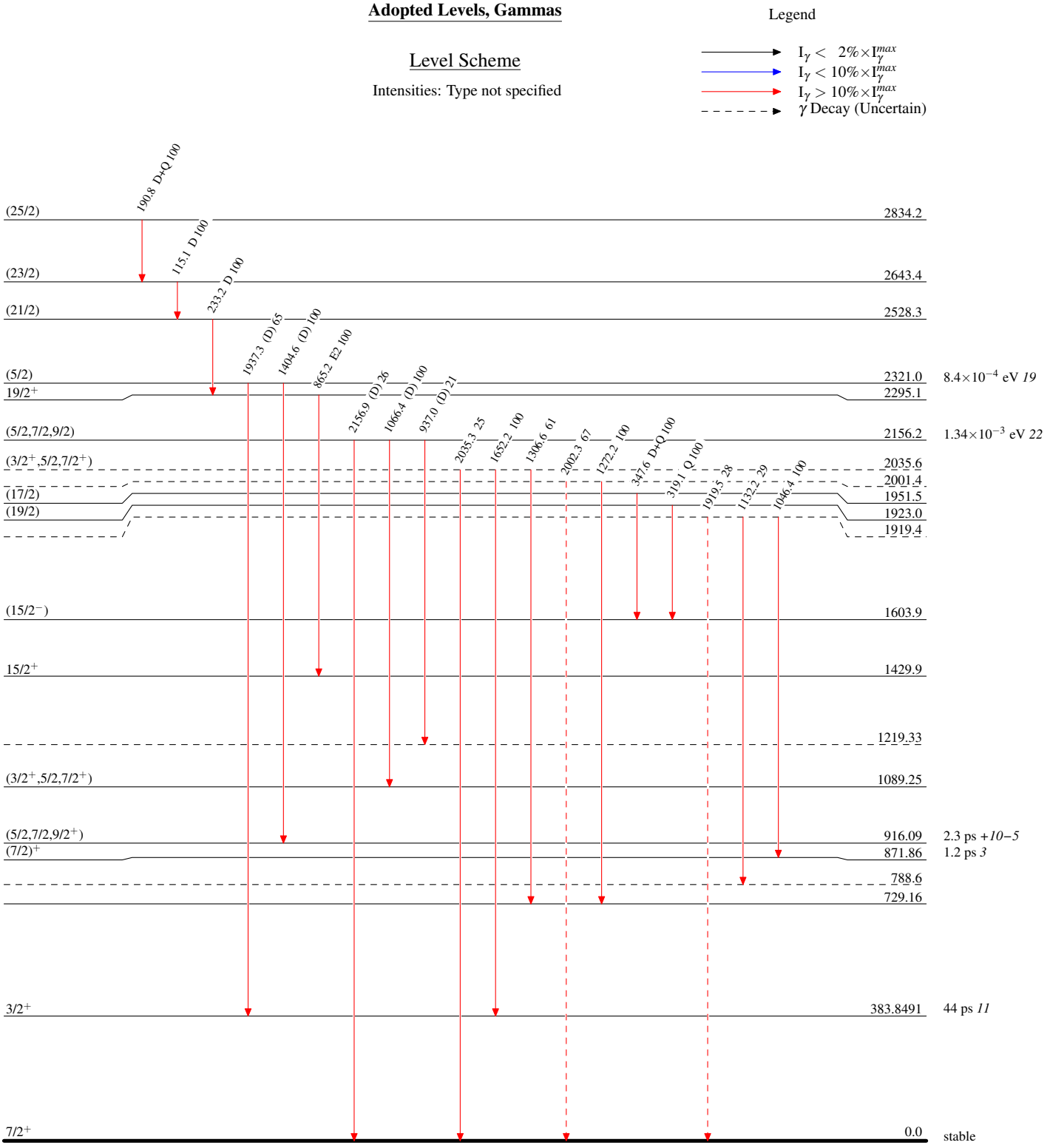
† Additional information 1.
‡ From $^{133}Cs(n,n'\gamma)$, unless otherwise stated.
# From ^{133}Ba ε decay (10.539 y).
@ From 2000He14.
& From $^{130}Te(^{6}Li,3n\gamma)$.
[a] From Coulomb excitation.
[b] From $^{130}Te(^{6}Li,3n\gamma)$.
[c] From ^{133}Ba ε decay (10.539 y), unless otherwise stated.
[d] γ-rays are observed, but unplaced in $^{133}Cs(n,n'\gamma)$; these transitions are inserted in the level scheme by evaluators on the basis of energy relations.
[e] Placement of transition in the level scheme is uncertain.

$^{133}_{55}Cs_{78}$-8

Adopted Levels, Gammas

Level Scheme

Intensities: Type not specified

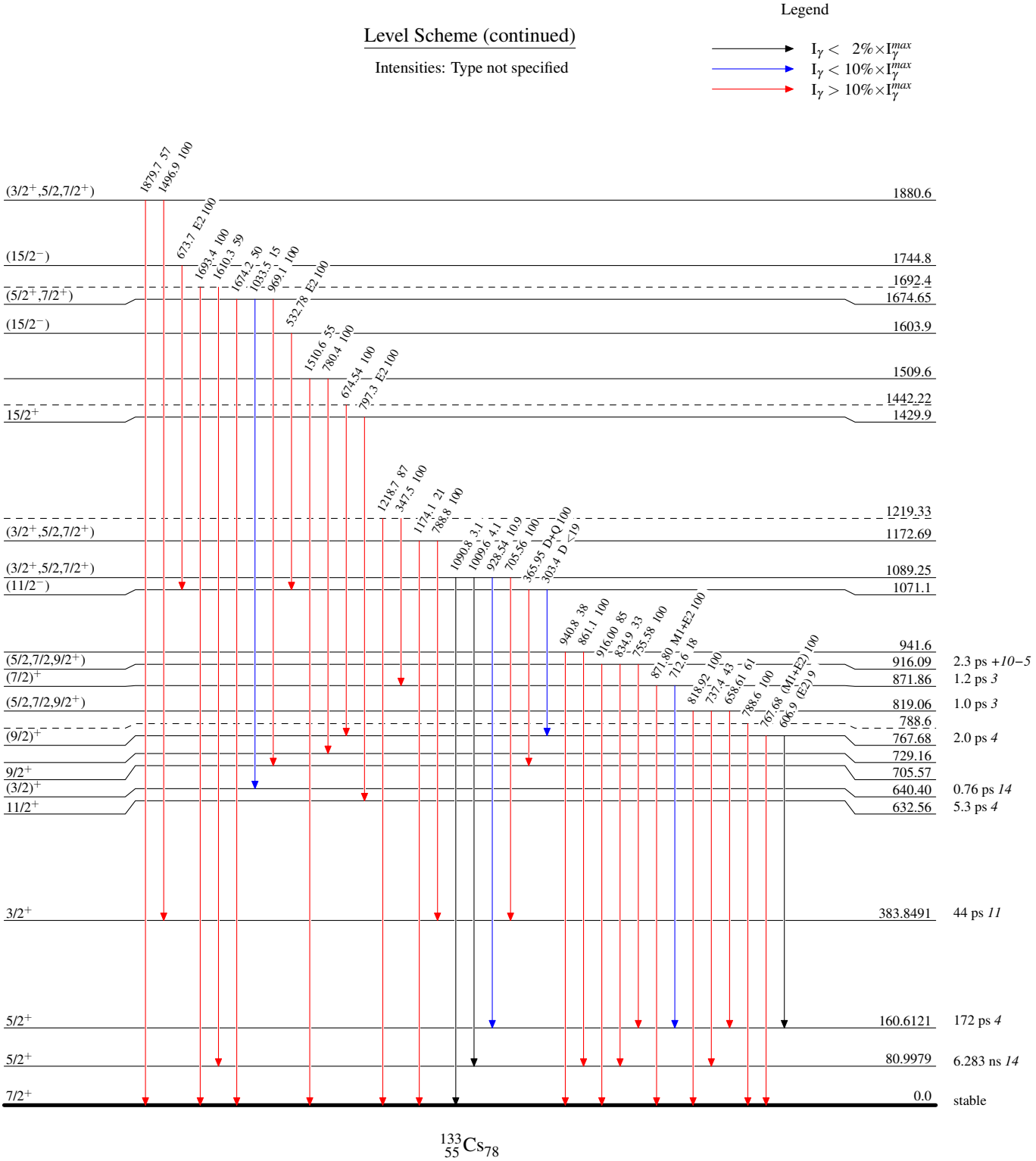


$^{133}_{55}Cs_{78}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

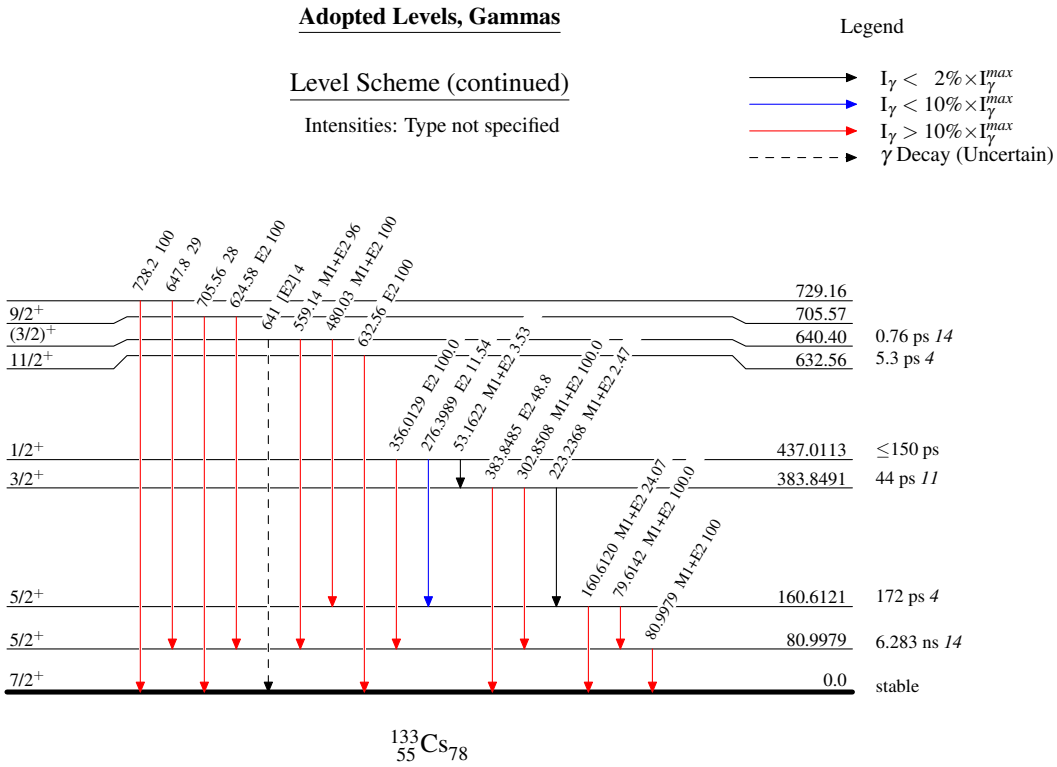


$^{133}_{55}Cs_{78}$

Adopted Levels, Gammas

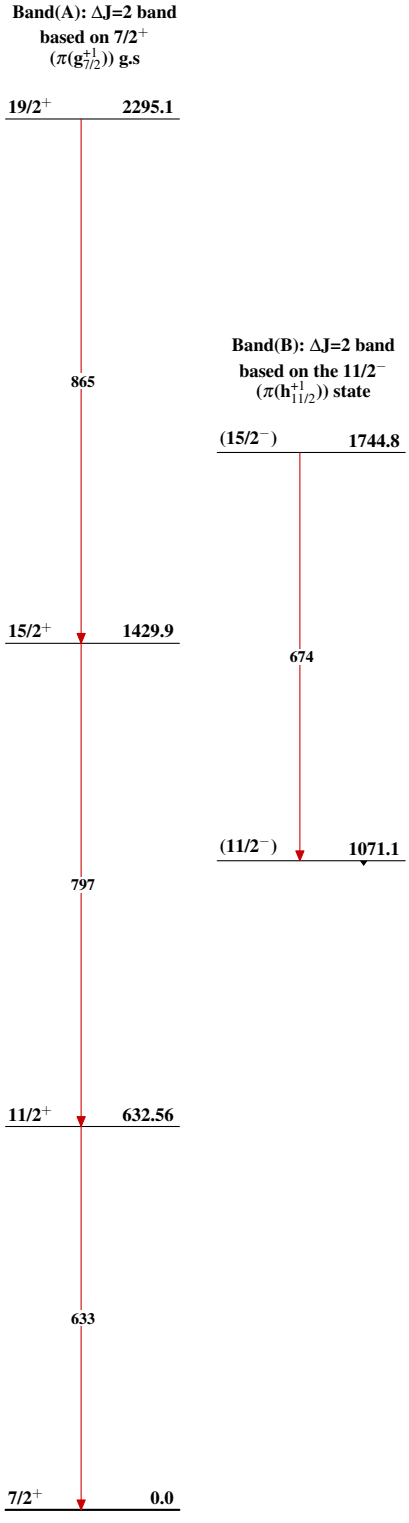
Level Scheme (continued)

Intensities: Type not specified



$^{133}_{55}Cs_{78}$

Adopted Levels, Gammas



$^{133}_{55}Cs_{78}$