Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 154, 1 (2018)	20-Nov-2018

Q(β^-)=6219 *10*; S(n)=4421 *9*; S(p)=8695 *8*; Q(α)=70 *16* 2017Wa10
Additional information 1.

^{140}Cs Levels

Cross Reference (XREF) Flags

A ^{140}Xe β^- decay
B ^{252}Cf SF decay

E(level)†	Jπ‡	$T_{1/2}$#	XREF	Comments
0.0	1^-@	63.7 s *3*	AB	%β^-=100 μ=+0.1338953 *5* (1986Du16,2011StZZ) Q=−0.112 *7* (1979Bo01,2011StZZ) Jπ: J from hfs (1979Ek02,1979Bo01), π from E1-M1+M1+M1 cascade starting at 1428, 1^+ level (see footnote). μ: measured by atomic beam laser spectroscopy. μ: Others: +0.134 *1* (1981Th06), +0.134 *2* (1979Ek02), +0.134 *3* (1979Bo01). Q: measured by collinear fast beam laser spectroscopy − accelerated beam; Sternheimer shielding correction done by authors. Q: Other: −0.10 *2* (1981Th06). $T_{1/2}$: from 1969Ca03. Others: 65.5 s *7* (1974Gr29), 67.90 s *83* (1972Eh02), 65.7 s *16* (1968Al06). RMS charge radius $<r^2>^{1/2}$=4.8554 fm *88* (2013An02).
0.0+x	(3−)		B	Additional information 2. E(level): possible isomeric state, no deexciting transitions observed.
13.931 *21*	(2)−@	471 ns *51*	AB	$T_{1/2}$: other: 521 ns *11* (1974ClZX) (^{252}Cf SF). Jπ: 0,1,2 from M1 γ to 1^-; ≠ 0,1 from M1 γ from $(3)^-$.
64.756 *23*	(3)−@	3.7 ns *3*	AB	$T_{1/2}$: other: 8.0 ns *6* (1974ClZX) (^{252}Cf SF). Jπ: ≤ 3 from M1 γ from 622, $(2)^-$; ≠0,2 from γγ(θ) in β- decay (1975AlZV); ≠ 1 from lack of γ to 1^-.
80.118 *23*	1−,0−	<2.7 ns	AB	Jπ: 2^-,1^-,0^- from M1 γ to 1^-; ≠ 2^- from log *ft*=6.1 *via* 0^+ parent.
80.1+x *3*	(4−)		B	
103.100 *21*	(2)−	<7.3 ns	AB	$T_{1/2}$: other: 11.0 ns *12* (1974ClZX) (^{252}Cf SF). Jπ: γ to 1^- is M1+E2, γ to $(3)^-$ is (M1).
112.511 *23*	(2)−	<2.3 ns	AB	Jπ: γ to 1^- is E2+M1, no β^-.
118.447 *20*	(2,1)−	<2.4 ns	AB	Jπ: γ to 1^- is M1, γ to $(2)^-$ is M1+E2. $T_{1/2}$: other: 2.6 ns *5* (1970Wa05) (^{252}Cf SF).
149.01 *9*	(3,4)	<2.7 ns	AB	Jπ: ≥ 3 from lack of γ′s to 1^- and from 1^+; ≤ 4 from γ to $(2)^-$. $T_{1/2}$: other: <8 ns (1974ClZX) (^{252}Cf SF).
159.5+x *5*	(5−)		B	
195.0+x[a] *5*	(6−)		B	
212.06 *4*	2^-,1^-,0^-	<2.6 ns	A	Jπ: γ to 1^- is M1+(E2).
223.56 *14*			A	
232.08 *7*	$(3)^-$	<1.9 ns	A	Jπ: 2^-,3^-,4^- from M1+E2 γ to $(3)^-$; ≠ 2 from lack of γ to 1^-; ≠ 4 from γ from $1^{(-)}$.
249.8+x& *5*	(7−)		B	
294.91 *7*	(1,0)−		A	Jπ: γ to $(2)^-$ is M1,E2; no γ to $(2)^-$.
345.06 *7*			A	
438.63 *6*	(2,1)−		A	Jπ: γ to 1^- is M1, γ to $(3)^-$.
514.82 *8*	(0,1)		A	Jπ: log *ft*=6.9 *via* 0^+ parent.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{140}Cs Levels (continued)

E(level)[†]	Jπ[‡]	XREF	Comments
547.87 *6*	(1,2)	A	Jπ: ≤ 3⁻ from γ to 1⁻ and ≤ 3⁺ from γ from 1428, 1⁺; ≠ 0 from γ to (3)⁻.
622.03 *5*	(2)⁻[@]	A	Jπ: 0⁻,1⁻,2⁻ from E1 γ from 1428, 1⁺; ≠ 0,1 from M1 γ to (3)⁻;
653.36 *7*	0⁽⁻⁾,1⁽⁻⁾	A	Jπ: 0,1 from log *ft*=6.0 *via* 0⁺ parent; (−) from (E2,M1) γ to 1⁻.
746.2+x[a] *6*	(8⁻)	B	
774.13 *7*	(0⁻,1⁻,2⁻)	A	Jπ: (E1) γ from 1428, 1⁺.
800.38 *11*	(1,2)	A	Jπ: ≤ 3⁻ from γ to 1⁻ and ≤ 3⁺ from γ from 1428, 1⁺; ≠ 0 from γ to (3)⁻.
844.1+x[&] *6*	(9⁻)	B	
903.01 *13*		A	
965.78 *9*	1⁽⁻⁾	A	Jπ: log *ft*=6.8 *via* 0⁺ parent, γ to (3)⁻.
982.50 *14*		A	
1081.77 *19*		A	
1137.07 *6*	0,1	A	Jπ: from log *ft*=5.9 *via* 0⁺ parent.
1159.71 *23*		A	
1169.5 *3*		A	
1193.6 *4*		A	
1289.20 *8*	0,1	A	Jπ: log *ft*=5.9 *via* 0⁺ parent.
1298.8+x[a] *6*	(10⁻)	B	
1427.58 *4*	1⁺	A	Jπ: log *ft*=4.5 *via* 0⁺ parent.
1485.0+x[&] *6*	(11⁻)	B	
1862.4+x[a] *6*	(12⁻)	B	
1989.56 *24*		A	
2187.2+x[b] *7*	(12)	B	
2204.8+x *7*		B	
2248.9+x[&] *7*	(13⁻)	B	
2286.05 *22*		A	
2312.5+x *7*		B	
2324.31 *19*	1⁺	A	Jπ: log *ft*=5.6 *via* 0⁺ parent.
2496.0+x[a] *7*	(14⁻)	B	
2721.4+x[b] *7*	(14)	B	
3020.4+x[&] *7*	(15⁻)	B	
3148.6+x[a] *7*	(16⁻)	B	
3328.5+x[b] *7*	(16)	B	
3372.5+x *7*		B	
3794.5+x[&] *8*	(17⁻)	B	

[†] From least-squares fit to Eγ′s with ΔEγ=0.3 keV assumed for the γ′s reported with no uncertainty.

[‡] ^{140}Xe β^- decay: based on γ-ray multipolarities. ^{252}Cf SF decay: based on the assumption that all transitions are stretched, (640.9γ)(594.3γ)(θ) and (454.7γ)(594.3γ)(θ) measured angular correlations, and α(54.8γ). 2010Li10 assigned (7⁻) and (6⁻) for the 249.7 and 194.9 bandheads respectively based on similarity with ^{138}I isotone, with higher ΔJ=2 In-band transitions assumed (E2)′s, and ΔJ=1 interband transitions. The similarity also extended to the lower-lying states down to (3⁻) assumed to the lowest 0.0+x isomeric state.

[#] From ^{140}Xe β decay (1975Mo03), except where noted otherwise.

[@] π=− from E1-M1-M1-M1 cascade from 1428, 1⁺.

[&] Band(A): Band based on (7⁻), α=1. Possible configuration=$\pi(1g_{7/2})^5_{7/2}\otimes\nu(2f_{7/2})^3_{7/2}$.

[a] Band(a): Band based on (6⁻), α=0. Possible configuration=$\pi(1g_{7/2})^5_{7/2}\otimes\nu(2f_{7/2})^3_{5/2}$.

[b] Band(B): Band based on (12).

Adopted Levels, Gammas (continued)

$\gamma(^{140}Cs)$

See ^{140}Xe β^- decay and ^{252}Cf SF decay for unplaced γ's.

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[†#]	α[‡]	$I_{(\gamma+ce)}$	Comments
13.931	(2)$^-$	13.93 *5*	100	0.0	1$^-$	M1		42.6 *8*		B(M1)(W.u.)=0.00040 *5* α(L)=34.0 *6*; α(M)=6.96 *13* α(N)=1.47 *3*; α(O)=0.203 *4*; α(P)=0.00986 *18*
64.756	(3)$^-$	50.82 *3*	100	13.931	(2)$^-$	M1		6.36		α(K)=5.44 *8*; α(L)=0.733 *11*; α(M)=0.1501 *22* α(N)=0.0317 *5*; α(O)=0.00440 *7*; α(P)=0.000215 *3* B(M1)(W.u.)=0.0062 *5*
80.118	1$^-$,0$^-$	80.12 *3*	100	0.0	1$^-$	M1		1.699		α(K)=1.455 *21*; α(L)=0.194 *3*; α(M)=0.0398 *6*; α(N+..)=0.00964 *14* α(N)=0.00842 *12*; α(O)=0.001170 *17*; α(P)=5.73×10^{-5} *8* B(M1)(W.u.)>0.0058
80.1+x	(4$^-$)	80.1	100	0.0+x	(3$^-$)					
103.100	(2)$^-$	38.34 *3*	19	64.756	(3)$^-$	M1(+E2)	<0.5	19.7 *54*		α(K)=11.9 *4*; α(L)=6.1 *45*; α(M)=1.32 *98* α(N)=0.27 *20*; α(O)=0.032 *22*; α(P)=0.000475 *18* B(M1)(W.u.)>0.00091
		89.17 *3*	40 *2*	13.931	(2)$^-$					
		103.09 *3*	100 *17*	0.0	1$^-$	M1,E2		1.25 *43*		B(M1)(W.u.)>0.00026; B(E2)(W.u.)>5.4 α(K)=0.90 *20*; α(L)=0.27 *18*; α(M)=0.059 *40* α(N)=0.0120 *80*; α(O)=0.00146 *89*; α(P)=2.93×10^{-5} *15*
112.511	(2)$^-$	(9.4)	<3.8	103.100	(2)$^-$				135 *65*	
		47.75 *3*	1.3 *2*	64.756	(3)$^-$	[M1,E2]		18 *11*		α(K)=7.2 *7*; α(L)=8.4 *76*; α(M)=1.8 *17* α(N)=0.37 *34*; α(O)=0.042 *37*; α(P)=0.000239 *19*
		112.53 *3*	100 *14*	0.0	1$^-$	M1+E2	<0.9	0.77 *14*		B(M1)(W.u.)>0.00100 α(K)=0.62 *7*; α(L)=0.126 *53*; α(M)=0.027 *12* α(N)=0.0055 *24*; α(O)=7.0×10^{-4} *27*; α(P)=2.22×10^{-5} *6*
118.447	(2,1)$^-$	38.33 *3*	0.45 *45*	80.118	1$^-$,0$^-$	[M1,E2]		41 *27*		α(K)=10.5 *18*; α(L)=24 *23*; α(M)=5.2 *49* α(N)=1.05 *98*; α(O)=0.12 *11*; α(P)=0.00041 *8*
		104.52 *3*	29 *4*	13.931	(2)$^-$	M1+E2	0.7 *2*	1.06 *11*		B(M1)(W.u.)>0.00051; B(E2)(W.u.)>10 α(K)=0.80 *5*; α(L)=0.20 *5*; α(M)=0.043 *10* α(N)=0.0088 *20*; α(O)=0.00109 *22*; α(P)=2.77×10^{-5} *6*
		118.44 *3*	100 *11*	0.0	1$^-$	M1		0.557		B(M1)(W.u.)>0.0023 α(K)=0.478 *7*; α(L)=0.0635 *9*; α(M)=0.01300 *19* α(N)=0.00275 *4*; α(O)=0.000382 *6*; α(P)=1.88×10^{-5} *3*
149.01	(3,4)	45.89 *10*	73 *27*	103.100	(2)$^-$	[M1,E2]		21 *13*		α(K)=7.8 *5*; α(L)=10.2 *92*; α(M)=2.2 *21* α(N)=0.45 *41*; α(O)=0.051 *45*; α(P)=0.00026 *3*
		84.5 *2*	100 *18*	64.756	(3)$^-$	[M1]		1.458		B(M1)(W.u.)>0.00072 α(K)=1.248 *20*; α(L)=0.167 *3*; α(M)=0.0341 *6* α(N)=0.00722 *12*; α(O)=0.001003 *16*; α(P)=4.91×10^{-5} *8*
159.5+x	(5$^-$)	79.4	100	80.1+x	(4$^-$)					
195.0+x	(6$^-$)	35.5	100	159.5+x	(5$^-$)					

From ENSDF

$^{140}_{55}Cs_{85}$-3

Adopted Levels, Gammas (continued)

γ(^{140}Cs) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[†#]	α[‡]	Comments
212.06	2⁻,1⁻,0⁻	93.64 *5*	4.3 *5*	118.447	(2,1)⁻	[M1]		1.086	B(M1)(W.u.)>0.00028 α(K)=0.930 *14*; α(L)=0.1241 *18*; α(M)=0.0254 *4* α(N)=0.00537 *8*; α(O)=0.000746 *11*; α(P)=3.66×10^{-5} *6*
		99.56 *10*	1.5 *4*	112.511	(2)⁻	[M1]		0.912	α(K)=0.781 *12*; α(L)=0.1041 *15*; α(M)=0.0213 *3* α(N)=0.00450 *7*; α(O)=0.000626 *9*; α(P)=3.07×10^{-5} *5* B(M1)(W.u.)>8.2×10^{-5}
		108.95 *5*	2.2 *10*	103.100	(2)⁻	[M1]		0.706	α(K)=0.605 *9*; α(L)=0.0805 *12*; α(M)=0.01648 *24* α(N)=0.00348 *5*; α(O)=0.000484 *7*; α(P)=2.38×10^{-5} *4* B(M1)(W.u.)>9.2×10^{-5}
		147.3 *3*	1.2 *4*	64.756	(3)⁻	[M1]		0.303	B(M1)(W.u.)>2.0×10^{-5} α(K)=0.260 *4*; α(L)=0.0343 *6*; α(M)=0.00703 *11* α(N)=0.001486 *23*; α(O)=0.000207 *4*; α(P)=1.020×10^{-5} *16*
		198.1 *2*	24 *2*	13.931	(2)⁻	[M1]		0.1342	B(M1)(W.u.)>0.00017 α(K)=0.1152 *17*; α(L)=0.01513 *22*; α(M)=0.00310 *5* α(N)=0.000655 *10*; α(O)=9.12×10^{-5} *13*; α(P)=4.51×10^{-6} *7*
		212.00 *10*	100 *11*	0.0	1⁻	M1+(E2)	<0.6	0.115 *4*	B(M1)(W.u.)>0.00042 α(K)=0.0975 *21*; α(L)=0.0139 *14*; α(M)=0.0029 *3* α(N)=0.00060 *6*; α(O)=8.2×10^{-5} *7*; α(P)=3.72×10^{-6} *7*
223.56		158.7 *2*	100	64.756	(3)⁻	[M1]		0.246	α(K)=0.211 *3*; α(L)=0.0279 *4*; α(M)=0.00571 *9* α(N)=0.001207 *18*; α(O)=0.0001681 *25*; α(P)=8.29×10^{-6} *12*
232.08	(3)⁻	119.69 *10*	10 *3*	112.511	(2)⁻				
		128.7 *3*	3.1 *6*	103.100	(2)⁻	[M1]		0.441	B(M1)(W.u.)>0.00011 α(K)=0.378 *6*; α(L)=0.0502 *8*; α(M)=0.01027 *16* α(N)=0.00217 *4*; α(O)=0.000302 *5*; α(P)=1.487×10^{-5} *23*
		167.26 *15*	100 *10*	64.756	(3)⁻	M1+E2	≈1.7	≈0.283	B(M1)(W.u.)>0.00042; B(E2)(W.u.)>26 α(K)≈0.221; α(L)≈0.0496; α(M)≈0.01049 α(N)≈0.00216; α(O)≈0.000270; α(P)≈7.18×10^{-6}
		218.3 *3*	8.9 *19*	13.931	(2)⁻				
249.8+x	(7⁻)	54.8		195.0+x	(6⁻)	(M1)		5.11	α(exp)≈17 α(K)=4.37 *7*; α(L)=0.587 *9*; α(M)=0.1203 *17* α(N)=0.0254 *4*; α(O)=0.00353 *5*; α(P)=0.0001722 *25*
		90.3		159.5+x	(5⁻)				
294.91	(1,0)⁻	176.4 *2*	8.4 *10*	118.447	(2,1)⁻	[M1]		0.184	α(K)=0.1580 *23*; α(L)=0.0208 *3*; α(M)=0.00426 *7* α(N)=0.000900 *13*; α(O)=0.0001254 *18*; α(P)=6.20×10^{-6} *9*
		182.4 *2*	17.4 *17*	112.511	(2)⁻				
		214.8 *2*	22.5 *36*	80.118	1⁻,0⁻				
		281.00 *15*	100 *10*	13.931	(2)⁻	(M1)		0.0528	α(K)=0.0454 *7*; α(L)=0.00590 *9*; α(M)=0.001205 *17* α(N)=0.000255 *4*; α(O)=3.56×10^{-5} *5*; α(P)=1.769×10^{-6} *25*
		294.8 *4*	3.5 *14*	0.0	1⁻				
345.06		121.51 *20*	12.0 *59*	223.56					
		133.0 *3*	18.2 *29*	212.06	2⁻,1⁻,0⁻				
		196.2 *2*	64.7 *41*	149.01	(3,4)	(M1)		0.1378	α(K)=0.1183 *17*; α(L)=0.01554 *23*; α(M)=0.00318 *5* α(N)=0.000672 *10*; α(O)=9.37×10^{-5} *14*; α(P)=4.63×10^{-6} *7*

From ENSDF

Adopted Levels, Gammas (continued)

γ(^{140}Cs) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	δ[†#]	α[‡]	Comments
345.06		226.5[@] *4*	8.8[@] *35*	118.447	$(2,1)^-$				
		232.4 *2*	20.6 *47*	112.511	$(2)^-$				
		242.0 *2*	42.4 *59*	103.100	$(2)^-$				
		331.0 *2*	100 *12*	13.931	$(2)^-$				
438.63	$(2,1)^-$	226.5[@] *4*	1.2[@] *5*	212.06	$2^-,1^-,0^-$				
		320.1 *4*	2.8 *8*	118.447	$(2,1)^-$				
		326.1 *3*	2.6 *8*	112.511	$(2)^-$				
		335.6 *2*	8.5 *15*	103.100	$(2)^-$				
		373.87 *10*	20.8 *23*	64.756	$(3)^-$				
		438.69 *10*	100 *10*	0.0	1^-	M1		0.01679	α(K)=0.01447 *21*; α(L)=0.00185 *3*; α(M)=0.000378 *6* α(N)=8.00×10^{-5} *12*; α(O)=1.118×10^{-5} *16*; α(P)=5.60×10^{-7} *8*
514.82	(0,1)	220.0 *4*	5.8 *19*	294.91	$(1,0)^-$				
		283.0 *5*	7.7 *39*	232.08	$(3)^-$				
		396.35 *10*	73 *8*	118.447	$(2,1)^-$				
		514.9 *2*	100 *10*	0.0	1^-				
547.87	(1,2)	202.8 *2*	8.4 *11*	345.06					
		252.9 *3*	4.4 *11*	294.91	$(1,0)^-$				
		429.44 *10*	57.9 *53*	118.447	$(2,1)^-$				
		435.5 *3*	18.4 *35*	112.511	$(2)^-$				
		483.3 *2*	14.7 *26*	64.756	$(3)^-$				
		547.84 *10*	100 *7*	0.0	1^-				
622.03	$(2)^-$	276.99 *10*	7.0 *8*	345.06		(M1)		0.0548	α(K)=0.0471 *7*; α(L)=0.00613 *9*; α(M)=0.001252 *18* α(N)=0.000265 *4*; α(O)=3.69×10^{-5} *6*; α(P)=1.84×10^{-6} *3*
		389.97 *10*	18.3 *18*	232.08	$(3)^-$	(E2)		0.0193	α(K)=0.01607 *23*; α(L)=0.00256 *4*; α(M)=0.000531 *8* α(N)=0.0001106 *16*; α(O)=1.464×10^{-5} *21*; α(P)=5.64×10^{-7} *8*
		410.2 *2*	2.4 *3*	212.06	$2^-,1^-,0^-$				
		503.4 *3*	2.2 *5*	118.447	$(2,1)^-$				
		509.6 *2*	10.5 *15*	112.511	$(2)^-$				
		518.9 *2*	12.8 *13*	103.100	$(2)^-$				
		557.26 *10*	62.5 *50*	64.756	$(3)^-$	M1		0.00927	α(K)=0.00800 *12*; α(L)=0.001016 *15*; α(M)=0.000207 *3* α(N)=4.38×10^{-5} *7*; α(O)=6.13×10^{-6} *9*; α(P)=3.09×10^{-7} *5*
		608.05 *10*	28 *3*	13.931	$(2)^-$				
		621.98 *10*	100 *8*	0.0	1^-	M1+E2	≈1.2	≈0.00601	α(K)≈0.00515; α(L)≈0.000687; α(M)≈0.0001407 α(N)≈2.96×10^{-5}; α(O)≈4.09×10^{-6}; α(P)≈1.93×10^{-7}
653.36	$0^{(-)},1^{(-)}$	358.4 *2*	2.3 *4*	294.91	$(1,0)^-$				
		441.2 *3*	11 *3*	212.06	$2^-,1^-,0^-$				
		572.7 *5*	3 *1*	80.118	$1^-,0^-$				
		639.18 *15*	27.5 *25*	13.931	$(2)^-$				
		653.40[@] *10*	100[@]	0.0	1^-	(E2,M1)		0.0055 *9*	α(K)=0.0047 *8*; α(L)=0.00062 *7*; α(M)=0.000126 *14* α(N)=2.7×10^{-5} *3*; α(O)=3.7×10^{-6} *5*; α(P)=1.8×10^{-7} *4*
746.2+x	(8^-)	496.4	1.7 *5*	249.8+x	(7^-)				
		551.2	100 *10*	195.0+x	(6^-)				

From ENSDF

$^{140}_{55}Cs_{85}$-5

Adopted Levels, Gammas (continued)

γ(^{140}Cs) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.†	α‡	Comments
774.13	(0⁻,1⁻,2⁻)	561.6@ *3*	8.1@ *14*	212.06	2⁻,1⁻,0⁻			
		655.7 *3*	19 *5*	118.447	(2,1)⁻			
		774.12& *10*	100& *17*	0.0	1⁻			
800.38	(1,2)	455.1 *5*	11.1 *74*	345.06				
		505.0 *4*	24.1 *74*	294.91	(1,0)⁻			
		568.1 *5*	18.5 *74*	232.08	(3)⁻			
		588.2 *5*	7.4 *37*	212.06	2⁻,1⁻,0⁻			
		696.9 *3*	33 *7*	103.100	(2)⁻			
		736.2 *5*	39 *7*	64.756	(3)⁻			
		786.9@ *2*	76@ *9*	13.931	(2)⁻			
		800.1 *4*	100 *37*	0.0	1⁻			
844.1+x	(9⁻)	594.3	100	249.8+x	(7⁻)	(E2)	0.00591	α(K)=0.00502 *7*; α(L)=0.000711 *10*; α(M)=0.0001463 *21* α(N)=3.07×10⁻⁵ *5*; α(O)=4.16×10⁻⁶ *6*; α(P)=1.83×10⁻⁷ *3*
903.01		690.5 *10*	20 *10*	212.06	2⁻,1⁻,0⁻			
		889.1 *2*	97 *13*	13.931	(2)⁻			
		902.9 *3*	100 *15*	0.0	1⁻			
965.78	1(−)	344.1 *5*	6.4 *23*	622.03	(2)⁻			
		671.6 *10*	34 *11*	294.91	(1,0)⁻			
		734.1 *3*	32.3 *57*	232.08	(3)⁻			
		847.1 *3*	22.7 *68*	118.447	(2,1)⁻			
		862.4 *5*	18.4 *57*	103.100	(2)⁻			
		900.7 *5*	22.7 *68*	64.756	(3)⁻			
		951.9 *2*	100 *9*	13.931	(2)⁻			
		966.5 *7*	10.7 *57*	0.0	1⁻			
982.50		864.2 *5*	48 *13*	118.447	(2,1)⁻			
		982.7 *4*	100 *17*	0.0	1⁻			
1081.77		736.2 *5*	51 *10*	345.06				
		786.9@ *2*	100@ *12*	294.91	(1,0)⁻			
		963.6 *5*	34 *15*	118.447	(2,1)⁻			
1137.07	0,1	842.2 *2*	27.1 *28*	294.91	(1,0)⁻			
		925.04 *15*	67.3 *56*	212.06	2⁻,1⁻,0⁻			
		1018.5 *2*	13.5 *23*	118.447	(2,1)⁻			
		1024.7 *2*	12.0 *23*	112.511	(2)⁻			
		1122.8 *5*	7.5 *38*	13.931	(2)⁻			
		1137.09 *10*	100 *9*	0.0	1⁻			
1159.71		721.4 *4*	29 *11*	438.63	(2,1)⁻			
		935.9 *3*	30 *7*	223.56				
		1079.8 *5*	100 *36*	80.118	1⁻,0⁻			
1169.5		1089.8 *10*	100 *67*	80.118	1⁻,0⁻			
		1168.6 *10*	100 *50*	0.0	1⁻			
1193.6		570.9 *7*	70 *31*	622.03	(2)⁻			
		1180.2 *5*	88 *38*	13.931	(2)⁻			

From ENSDF

$^{140}_{55}Cs_{85}$-6

Adopted Levels, Gammas (continued)

γ(^{140}Cs) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	α[‡]	Comments
1193.6		1192.8 *10*	100 *38*	0.0	1^-			
1289.20	0,1	850.4 *2*	30.9 *44*	438.63	$(2,1)^-$			
		1077.6 *10*	11.8 *59*	212.06	$2^-,1^-,0^-$			
		1171.2 *10*	7.4 *44*	118.447	$(2,1)^-$			
		1176.7 *2*	81 *10*	112.511	$(2)^-$			
		1209.08 *10*	100 *12*	80.118	$1^-,0^-$			
		1289.2 *3*	15 *4*	0.0	1^-			
1298.8+x	(10^-)	454.7	97 *9*	844.1+x	(9^-)	(E2,M1)	0.0138 *16*	α(K)=0.0118 *15*; α(L)=0.00163 *7*; α(M)=0.000335 *12* α(N)=7.0×10^{-5} *3*; α(O)=9.6×10^{-6} *6*; α(P)=4.4×10^{-7} *8* ΔJ=1 for 454.7γ, ΔJ=2 for 594.3γ from (454.7γ)(594.3γ)(θ): A_2=−0.09 *3*, A_4=−0.01 *4*. δ: +0.07 *+14−13* or +4.4 *+60−18* (2010Li10).
		552.6	100 *9*	746.2+x	(8^-)			
1427.58	1^+	138.2 *3*	0.16 *4*	1289.20	0,1			
		290.57 *10*	2.20 *20*	1137.07	0,1			
		445.12 *15*	3.5 *4*	982.50				
		461.85 *10*	7.4 *6*	965.78	$1^{(-)}$			
		524.5 *2*	2.3 *2*	903.01				
		627.3 *2*	4.9 *5*	800.38	(1,2)			
		653.40[@] *10*	24[@] *2*	774.13	$(0^-,1^-,2^-)$	(E1)	1.70×10^{-3}	α(K)=0.001476 *21*; α(L)=0.000182 *3*; α(M)=3.70×10^{-5} *6* α(N)=7.81×10^{-6} *11*; α(O)=1.085×10^{-6} *16*; α(P)=5.34×10^{-8} *8*
		774.12[&] *10*	2.7[&] *27*	653.36	$0^{(-)},1^{(-)}$			
		805.52 *10*	100	622.03	$(2)^-$	E1	1.10×10^{-3}	α(K)=0.000955 *14*; α(L)=0.0001171 *17*; α(M)=2.38×10^{-5} *4* α(N)=5.02×10^{-6} *7*; α(O)=6.99×10^{-7} *10*; α(P)=3.47×10^{-8} *5*
		879.75 *10*	13.7 *9*	547.87	(1,2)			
		912.8 *2*	4.4 *4*	514.82	(0,1)			
		989.02 *10*	15.2 *12*	438.63	$(2,1)^-$			
		1132.7 *4*	3.3 *8*	294.91	$(1,0)^-$			
		1215.4 *3*	1.4 *3*	212.06	$2^-,1^-,0^-$			
		1309.08 *10*	32 *3*	118.447	$(2,1)^-$			
		1315.05 *10*	41 *4*	112.511	$(2)^-$			
		1347.5 *2*	0.7 *2*	80.118	$1^-,0^-$			
		1413.66 *10*	61 *6*	13.931	$(2)^-$			
		1427.56 *10*	5.7 *6*	0.0	1^-			
1485.0+x	(11^-)	640.9	100 *11*	844.1+x	(9^-)	(E2)	0.00487	α(K)=0.00414 *6*; α(L)=0.000578 *8*; α(M)=0.0001186 *17* α(N)=2.49×10^{-5} *4*; α(O)=3.39×10^{-6} *5*; α(P)=1.513×10^{-7} *22* ΔJ=2 (probable E2) for 594.3γ and 640.9γ from (640.9γ)(594.3γ)(θ): A_2=+0.096 *17*, A_4=−0.005 *25*.
1862.4+x	(12^-)	377.4	39 *6*	1485.0+x	(11^-)			
		563.6	100 *10*	1298.8+x	(10^-)			
1989.56		561.6[@] *3*	100[@] *17*	1427.58	1^+			

From ENSDF

Adopted Levels, Gammas (continued)

γ(^{140}Cs) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π
1989.56		820.9 *5*	15.2 *69*	1169.5	
		1086.7 *5*	90 *34*	903.01	
		1189.5 *10*	83 *20*	800.38	(1,2)
2187.2+x	(12)	702.2	100	1485.0+x	(11^-)
2204.8+x		719.8	100	1485.0+x	(11^-)
2248.9+x	(13^-)	386.5[a]		1862.4+x	(12^-)
		763.9	100 *24*	1485.0+x	(11^-)
2286.05		2074.0 *3*	100 *27*	212.06	2^-,1^-,0^-
		2286.0 *3*	73 *27*	0.0	1^-
2312.5+x		827.5	100	1485.0+x	(11^-)
2324.31	1^+	1154.5 *3*	83 *11*	1169.5	
		1885.9 *3*	94 *22*	438.63	$(2,1)^-$
		2112.3 *3*	100 *28*	212.06	2^-,1^-,0^-
2324.31	1^+	2211.9 *5*	28 *11*	112.511	$(2)^-$
2496.0+x	(14^-)	247.1	23 *7*	2248.9+x	(13^-)
		633.6	100 *21*	1862.4+x	(12^-)
2721.4+x	(14)	472.5	100 *31*	2248.9+x	(13^-)
		534.2	79 *24*	2187.2+x	(12)
3020.4+x	(15^-)	299.0	63 *21*	2721.4+x	(14)
		771.5	100 *33*	2248.9+x	(13^-)
3148.6+x	(16^-)	652.6	100	2496.0+x	(14^-)
3328.5+x	(16)	308.1	61 *22*	3020.4+x	(15^-)
		607.1	100 *33*	2721.4+x	(14)
3372.5+x		876.5	100	2496.0+x	(14^-)
3794.5+x	(17^-)	774.1	100	3020.4+x	(15^-)

† Unambiguously either from ^{140}Xe β^- decay or from ^{252}Cf SF decay (there is No overlap In between the level schemes).
‡ Additional information 3.
# If No value given it was assumed δ=1.00 for E2/M1, δ=1.00 for E3/M2 and δ=0.10 for the other multipolarities.
@ Multiply placed with undivided intensity.
& Multiply placed with intensity suitably divided.
[a] Placement of transition in the level scheme is uncertain.

From ENSDF

$^{140}_{55}Cs_{85}$-8

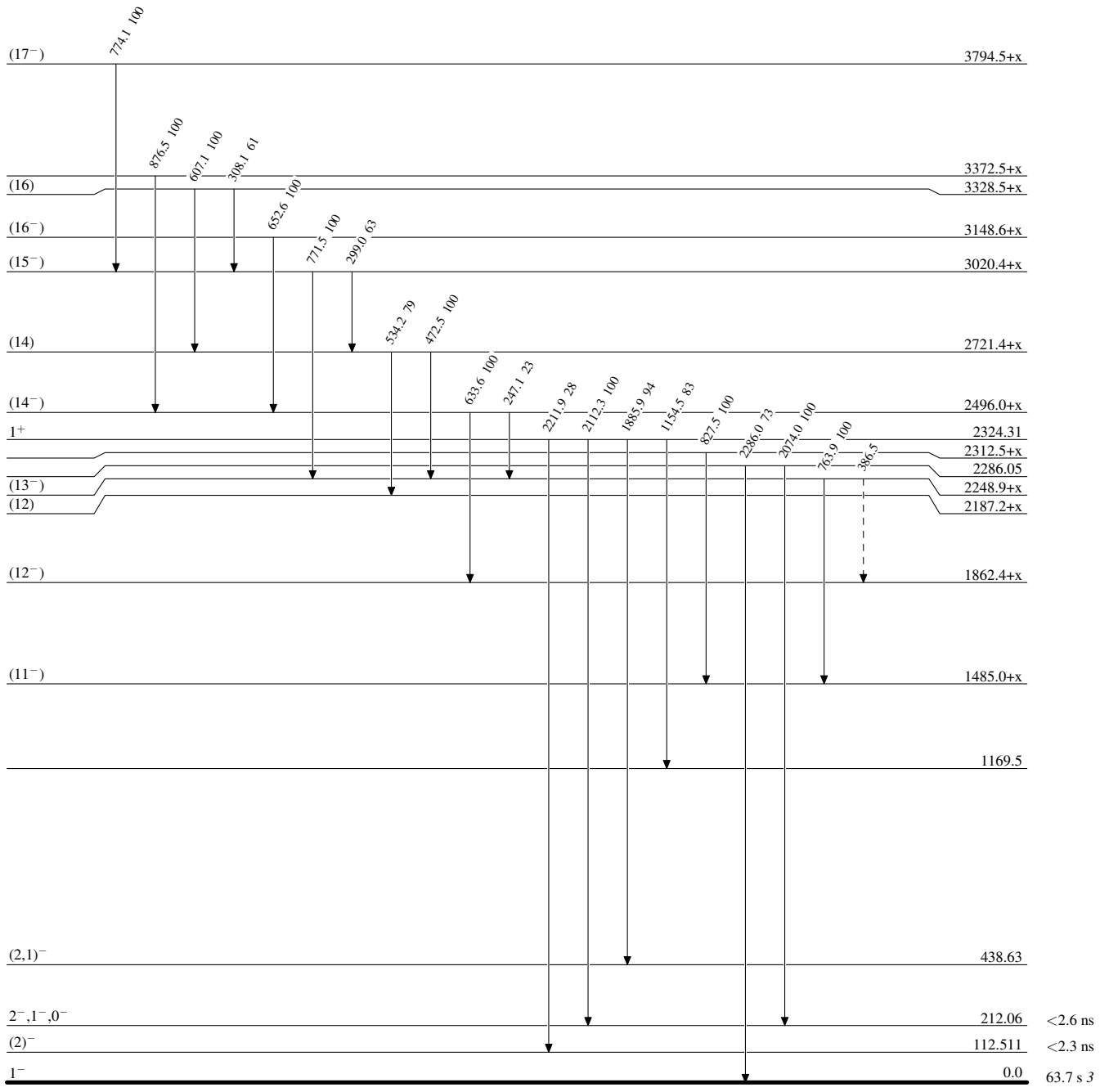
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)

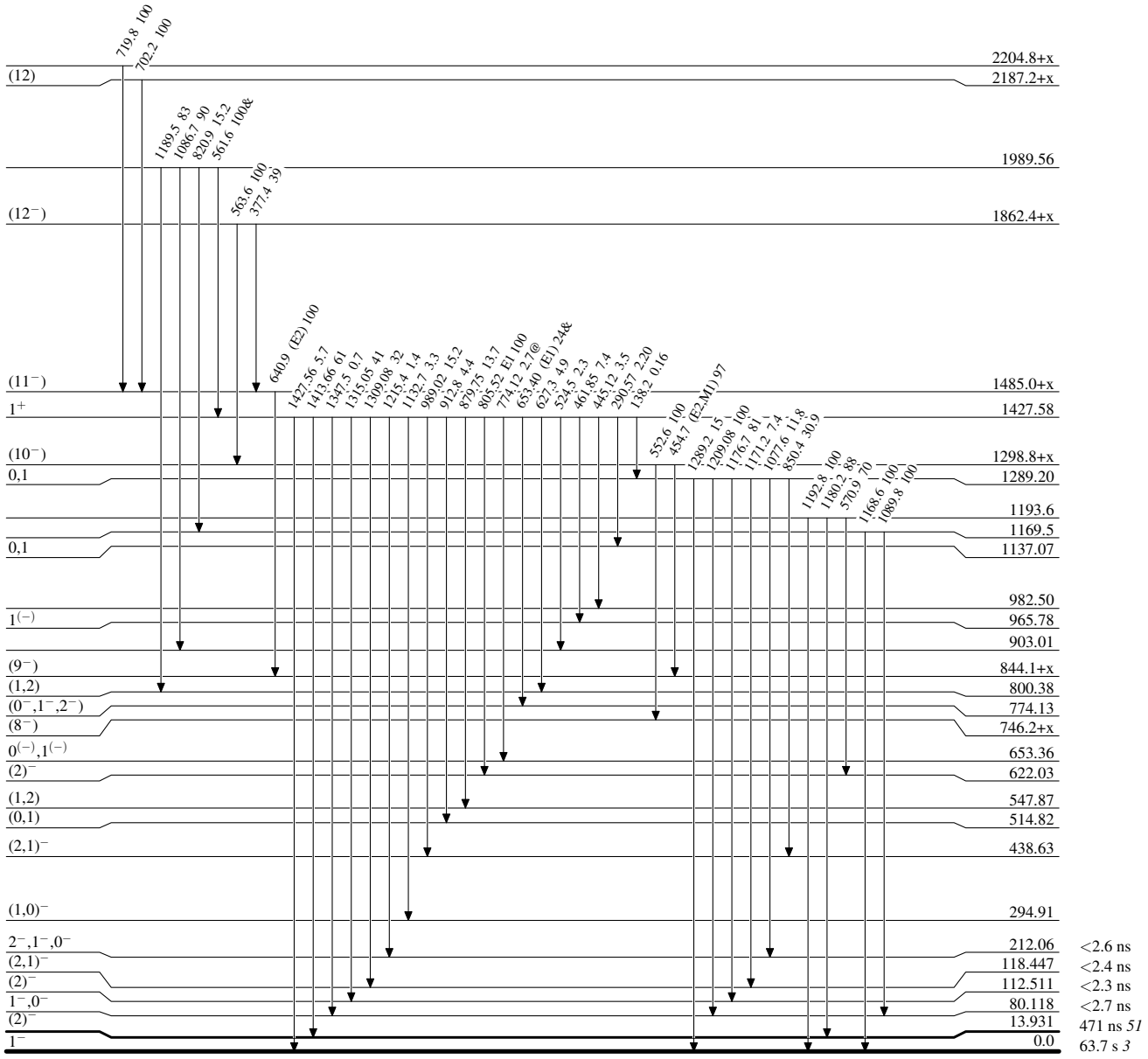


$^{140}_{55}Cs_{85}$

Adopted Levels, Gammas

Level Scheme (continued)

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

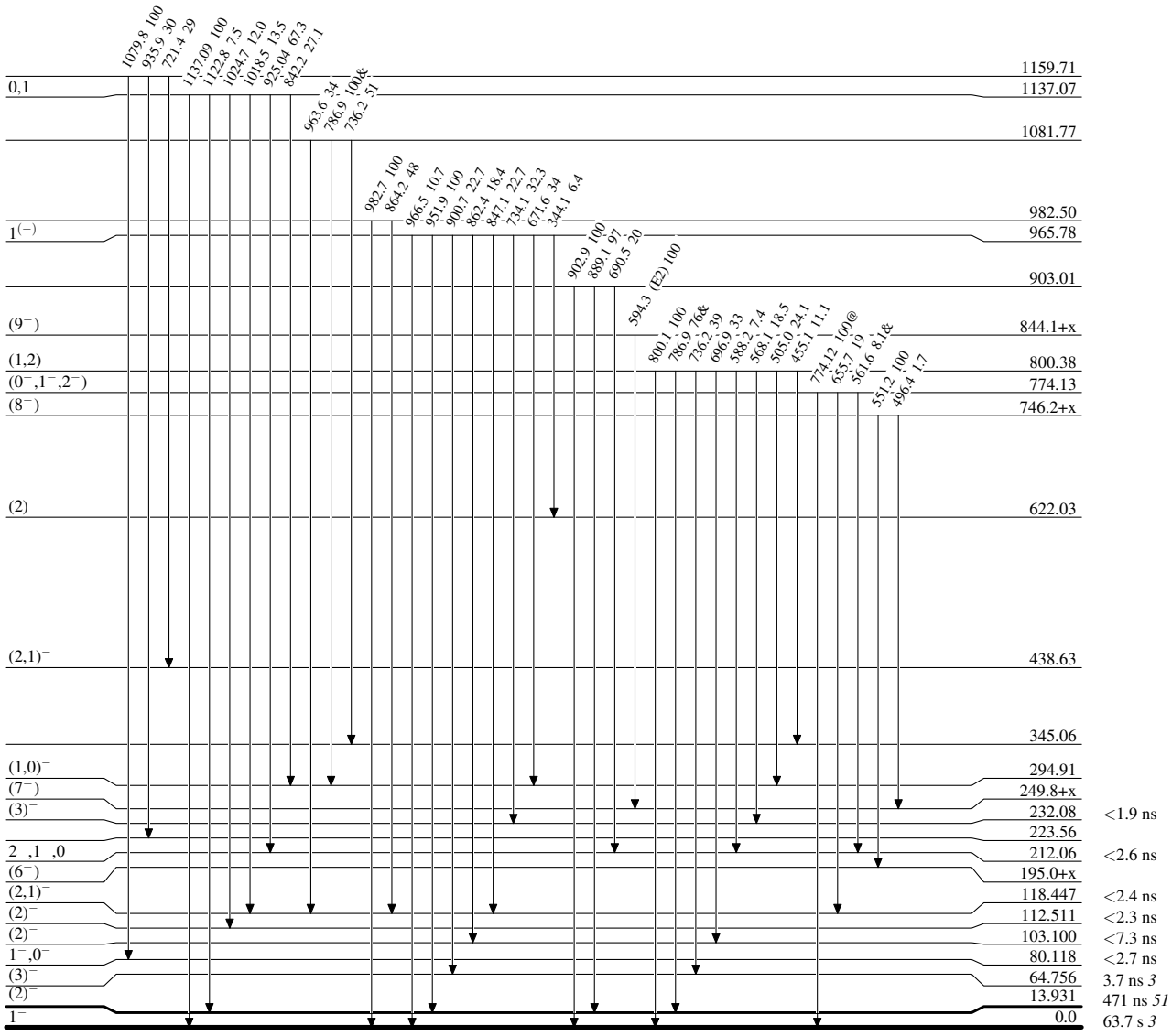


$^{140}_{55}Cs_{85}$

Adopted Levels, Gammas

Level Scheme (continued)

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

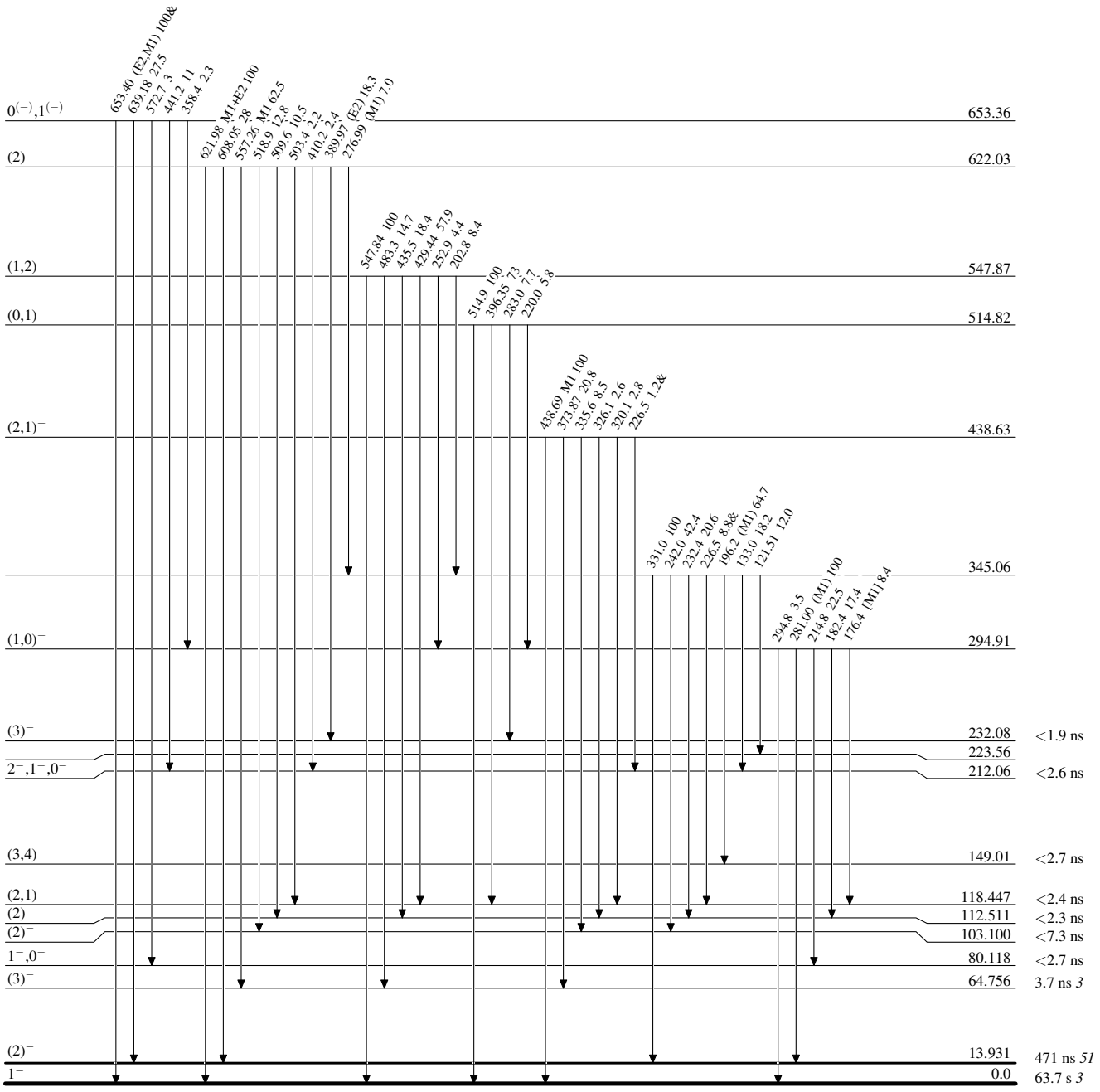


$^{140}_{55}Cs_{85}$

Adopted Levels, Gammas

Level Scheme (continued)

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



$^{140}_{55}Cs_{85}$

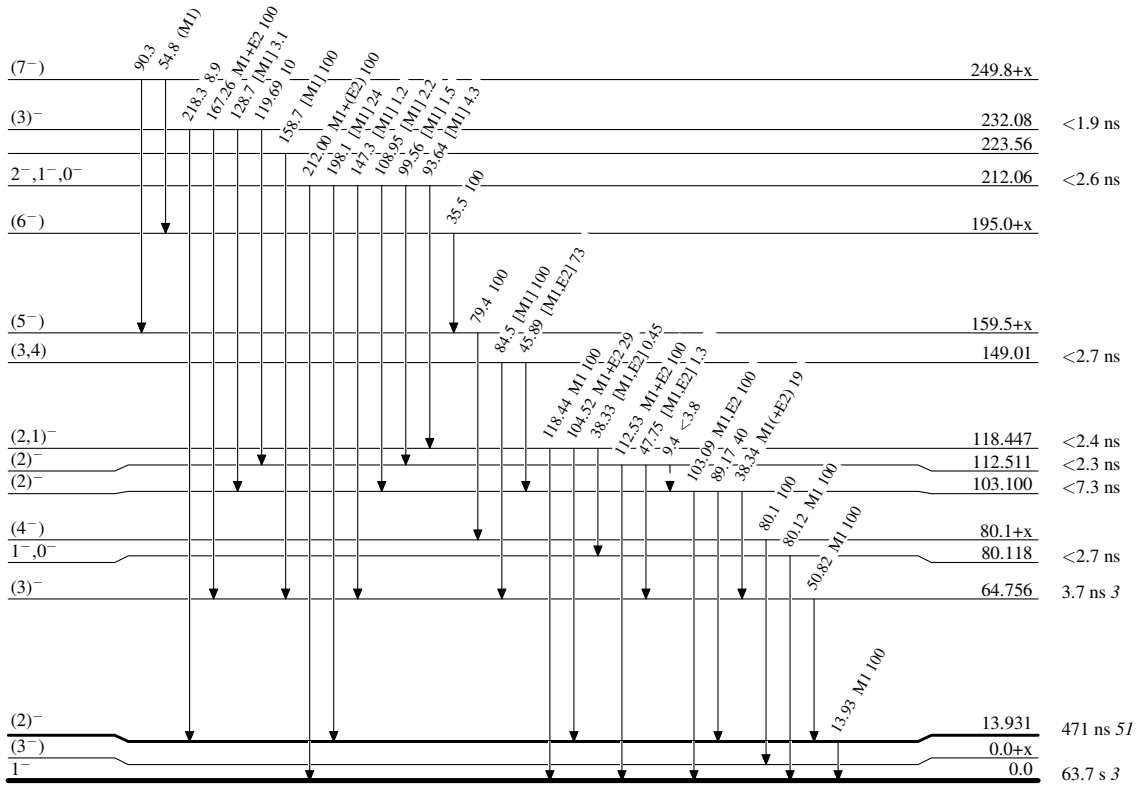
Adopted Levels, Gammas

Level Scheme (continued)

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

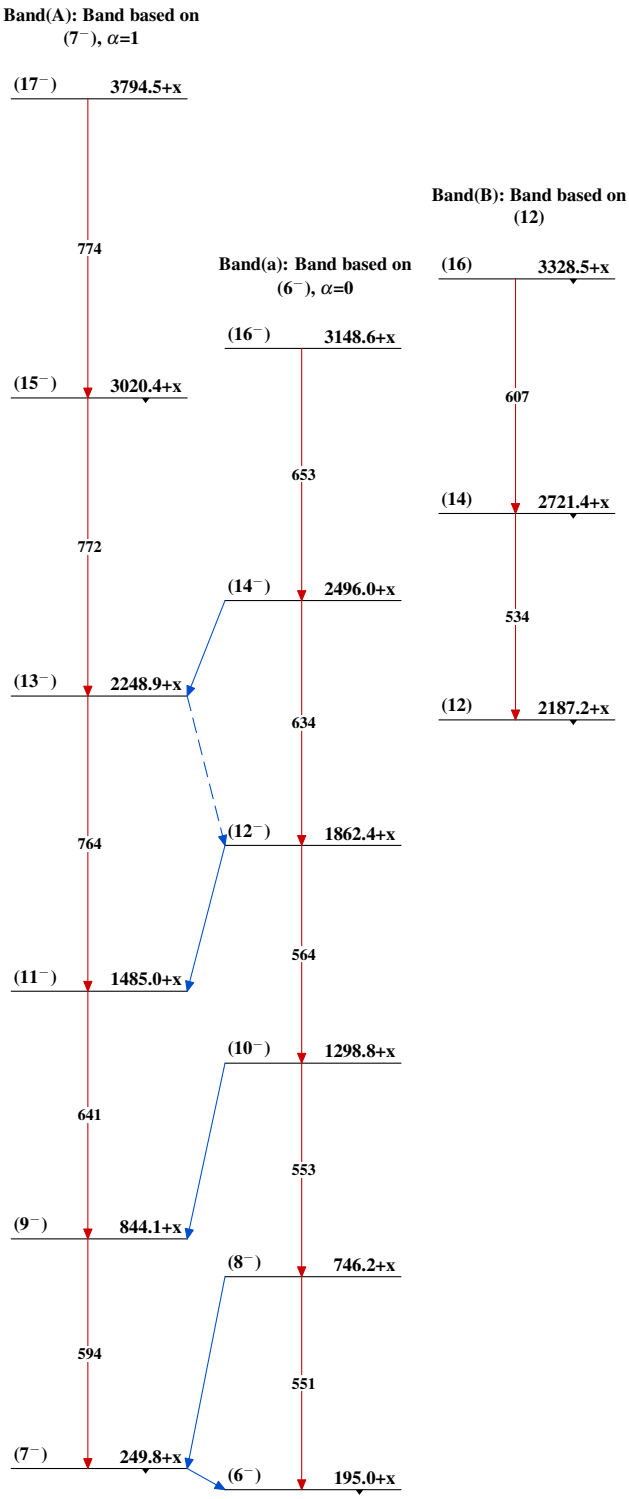
Legend

- - - - - - ► γ Decay (Uncertain)



$^{140}_{55}Cs_{85}$

Adopted Levels, Gammas



$^{140}_{55}Cs_{85}$