Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	A. Hashizume	NDS 112,1647 (2011)	1-Oct-2009

Q(β^-)=−3422 *13*; S(n)=9961 *12*; S(p)=4384 *7*; Q(α)=−721 *7* 2012Wa38
Note: Current evaluation has used the following Q record −3424 13 *9966* 13 4360 *8* −722 7 2003Au03.
From E(β^+)=2.23 MeV *10* to 180.96 level, Q(ε)=3.45 MeV *10* (1976Be11).
Nuclear structure calculations on the levels and their properties: 2003Zu05, 2002Ho07, 1997Yo06, 1994Vo17, 1992Zh10, 1990Ma46, 1985Ba15, 1984Al19, 1983KrZN, 1981Ga24, 1980MiZP, 1979Ga01, 1976So06.

^{127}Cs Levels

Band(α,J) negative-parity band-1.
Band(C,K) (π,α)=(+,+1/2) 1/2[420] band. Configuration=(π $d_{5/2}$).
Band(d,L) positive-parity band-1. Configuration=((π $d_{5/2}$)(ν $h_{11/2}$)^2).
Band(E,M) 3/2[422] band. Configuration=(π $g_{7/2}$).
Band(F,O) positive-parity band-2. Probable configuration=((π $g_{7/2}$)(ν $h_{11/2}$)^2).
Band(γ,n) 1/2[550] band. Configuration=(π $h_{11/2}$).
Band(H,P) negative-parity band-2. Configuration=((π $h_{11/2}$)(ν $h_{11/2}$)^2).
Band(I,Q) negative-parity band-3.
J(C,E,G) Stretched Q cascades and expected band structure.

Cross Reference (XREF) Flags

A ^{127}Ba β^+ decay
B ^{127}Cs IT decay (55 μs)
C ^{127}I(α,4nγ)
D (HI,xnγ)

E(level)†	J$^\pi$	T$_{1/2}$[a]	XREF	Comments
0.0	1/2$^+$	6.25 h *10*	ABCD	%ε+%β^+=100 μ=+1.459 *7* J$^\pi$: atomic beam J=1/2 (1976Fu06); μ. μ: ABLS (1987Co19), μ value relative to μ=+2.582 *1* for ^{133}Cs (7/2$^+$ g.s.). Configuration=(π $3s_{1/2}$). T$_{1/2}$: from 1954Ma54. Others: 5.5 h *5* (1950Fi16), 6.1 h *2* (1954Mi16,1955Ni21). <r^2>$^{1/2}$(charge)=4.794 *6* (2004An14).
66.09 *11*	(5/2)$^+$	24.88 ns *30*	ABCD	μ=2.7 *5* Q=0.58 *12* J$^\pi$: E2 γ to 1/2$^+$, (M1+E2) γ from (7/2)$^+$. μ: TDPAC (1999Co22). Q: From PAC (1999Co22). From Q=0.51 *5* of 561 keV state in ^{80}Rb (1999Co22) which is isovalent to Cs, T$_{1/2}$: from 1999Co22 in ^{127}Ba β^+ decay. Other: 25.5 ns *15* (1977Pa10), 24.5 ns *30* (1976Be11).
138.96 *12*	(3/2)$^+$	120 ps *20*	ABCD	J$^\pi$: E2 γ from (7/2)$^+$, log *ft*=6.82 from 1/2$^+$. T$_{1/2}$: from (1987Fr10) in ^{127}Ba β^+ decay.
180.92 *16*	3/2$^+$	≤60 ps	A	J$^\pi$: M1+E2 γ to 1/2$^+$. T$_{1/2}$: from 1987Fr10 in ^{127}Ba β^+ decay.
246.53 *22*	(5/2$^+$)		CD	J$^\pi$: (M1+E2) γ to (5/2)$^+$.
272.88 *16*	(7/2)$^+$		BCD	J$^\pi$: M2 from (11/2)$^-$, (M1+E2)−E2 cascade to 1/2$^+$ g.s.
452.23 *21*	(11/2)$^-$	55 μs *3*	BCD	J$^\pi$: from systematics, and M2, (M1+E2), E2 cascade to 1/2$^+$ g.s. T$_{1/2}$: from 1980Dr07 in (α,4nγ).

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Adopted Levels, Gammas (continued)

^{127}Cs Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$[a]	XREF	Comments
454.4 *6*	(9/2$^+$)		CD	Jπ: stretched Q to (5/2)$^+$.
567.62 *22*	1/2,3/2		A	Jπ: γ to 1/2$^+$, log *ft*=7.27 from 1/2$^+$.
578.0? *3*			A	
589.7? *6*			A	
621.7? *7*			A	
686.0 *4*	(9/2$^+$)		CD	Jπ: stretched Q to (5/2)$^+$.
707.35 *25*	(11/2$^+$)	<8 ns	CD	Jπ: stretched (E2) γ to (7/2)$^+$.
713.1 *4*	1/2,3/2		A	Jπ: γ to 1/2$^+$, log *ft*=7.26 from 1/2$^+$.
854.15[‡] *23*	(9/2$^+$)[#]		CD	Jπ: D+Q to (7/2)$^+$.
866.5 *4*	(15/2$^-$)	<8 ns	CD	Jπ: stretched Q to (11/2)$^-$.
872.5 *4*	1/2,3/2		A	Jπ: γ to 1/2$^+$, log *ft*=7.47 from 1/2$^+$.
1043.4 *8*	(13/2$^+$)		D	Jπ: stretched Q to (11/2)$^+$.
1131.0[‡] *3*	(11/2$^+$)[#]	<8 ns	CD	Jπ: D+Q to (9/2)$^+$.
1151.0? *4*			A	
1200.95 *25*	1/2,3/2		A	Jπ: γ to 1/2$^+$, log *ft*=6.01 from 1/2$^+$.
1289.3 *3*	1/2,3/2		A	Jπ: γ to 1/2$^+$, log *ft*=6.58 from 1/2$^+$.
1316.1 *5*	(13/2$^+$)		D	Jπ: stretched Q to (9/2$^+$).
1323.8 *5*	(15/2$^+$)	<8 ns	CD	Jπ: stretched Q to (11/2$^+$).
1442.4[‡] *4*	(13/2$^+$)[#]	<8 ns	CD	Jπ: γ′s to (9/2$^+$) and (11/2$^+$).
1458.2 *5*	(19/2$^-$)	<8 ns	CD	Jπ: stretched Q to (15/2$^-$).
1492.3 *4*	(17/2$^-$,19/2$^-$)	<8 ns	CD	XREF: C(1493.8)D(1491.5). Jπ: (E1) γ from (19/2$^+$), γ to (15/2$^-$).
1566.24 *21*	1/2,3/2		A	Jπ: γ to 1/2$^+$, log *ft*=6.14 from 1/2$^+$.
1618.0? *3*			A	
1787.9[‡] *5*	(15/2$^+$)[#]		D	Jπ: D+Q to (13/2$^+$), no γ to (9/2$^+$).
1802.1 *9*	(17/2$^+$)		D	Jπ: stretched Q to (13/2$^+$).
1956.3 *4*	(19/2$^-$)	<8 ns	CD	XREF: C(1959.0)D(1955.6). Jπ: D+Q to (17/2$^-$), Q to (15/2)$^-$.
1981.56 *23*	1/2,3/2		A	Jπ: γ to 1/2$^+$, log *ft*=6.12 from 1/2$^+$.
2089.7 *3*	1/2,3/2		A	Jπ: γ to 1/2$^+$, log *ft*=6.07 from 1/2$^+$.
2094.2 *5*	(13/2$^-$)		D	Jπ: (E1) to (11/2$^+$).
2096.9 *5*	(19/2)$^+$	<8 ns	CD	XREF: C(2098.8). Jπ: stretched Q to (15/2$^+$). $T_{1/2}$: from (α,4nγ).
2104.8 *5*	(17/2$^+$)		D	Jπ: stretched Q to (13/2$^+$).
2117.5 *5*	(21/2$^-$)	<8 ns	CD	XREF: C(2119.1)D(2116.7). Jπ: D+Q to (19/2$^-$). $T_{1/2}$: from (α,4nγ).
2143.8 *7*	1/2,3/2		A	Jπ: log *ft*=6.64 from 1/2$^+$.
2167.1[‡] *8*	(17/2$^+$)[#]		D	Jπ: γ′s to (13/2$^+$) and (15/2$^+$).
2202.5 *6*	(15/2$^-$)[&]		D	
2238.5 *4*	1/2,3/2		A	Jπ: γ to 1/2$^+$, log *ft*=6.01 from 1/2$^+$.
2255.6 *5*	1/2,3/2		A	Jπ: log *ft*=6.47 from 1/2$^+$.
2258.3 *5*	(23/2$^-$)	<8 ns	CD	XREF: C(2260.5).
2321.19 *21*	1/2$^+$,3/2$^+$		A	Jπ: γ to 1/2$^+$, log *ft*=5.75 from 1/2$^+$.
2440.3 *6*	(17/2$^-$)[&]		D	Jπ: D+Q to (19/2$^-$).
2578.0[‡] *9*	(19/2$^+$)[#]		D	Jπ: γ′s to (15/2$^+$) and (17/2$^+$).
2639.1 *5*	(23/2$^-$)[#]		CD	XREF: C(2642.6). Jπ: stretched Q to (19/2$^-$).
2691.0 *9*	(21/2$^+$)		D	
2696.8 *7*	(19/2$^-$)[&]		D	Jπ: D+Q to 17/2$^-$.
2747.8 *5*	(19/2$^+$)		D	Jπ: (E1) γ to (17/2$^-$).
2897.6 *6*	(21/2$^+$)[#]		D	Jπ: stretched Q to (17/2$^+$), γ to (19/2$^-$).

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Adopted Levels, Gammas (continued)

^{127}Cs Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$[a]	XREF	Comments
2935.7 *5*	(25/2⁻)	<8 ns	CD	XREF: C(2938.9)D(2934.9). Jπ: D+Q to (23/2⁻), Q to (21/2⁻). $T_{1/2}$: <40 ns in (α,4nγ).
2959.8 *12*			D	
3000.2 *6*	(23/2⁺)	<8 ns	CD	XREF: C(3003.2)D(2999.4). Jπ: stretched Q to (19/2⁺). $T_{1/2}$: from (α,4nγ).
3002.4 *6*	(23/2⁺)	<8 ns	CD	XREF: C(3008.3)D(3001.4). Jπ: stretched Q to (19/2⁺). $T_{1/2}$: from (α,4nγ).
3008.4 *7*	(21/2⁻)[&]		D	Jπ: γ to (19/2⁻).
3018.0[‡] *11*	(21/2⁺)[#]		D	Jπ: γ's to (17/2⁺) and (19/2⁺).
3061.2 *6*	(23/2⁺)[#]		D	Jπ: D+Q to (21/2⁺).
3062?			D	
3156.8 *5*	(27/2⁻)	<8 ns	CD	XREF: C(3161.1)D(3155.9). Jπ: stretched Q to (23/2⁻).
3261.9 *6*	(25/2⁺)[@]	<8 ns	CD	XREF: C(3265.7). Jπ: D+Q to (23/2⁺). $T_{1/2}$: <16 ns in (α,4nγ).
3353.8 *6*	(25/2⁺)[#]		D	Jπ: D+Q to (23/2⁺).
3365.8 *6*	(27/2⁻)[#]		D	Jπ: stretched Q to (23/2⁻).
3369.8 *8*			D	
3563.6 *7*	(27/2⁺)[@]		CD	XREF: C(3567.6). Jπ: D+Q to (25/2⁺).
3645.8 *12*	(27/2⁺)		D	Jπ: γ to (25/2⁺).
3647.0 *14*			D	
3766.0 *8*			D	
3815.6 *6*	(29/2⁻)[#]		D	Jπ: D+Q to (27/2⁻), Q to (25/2⁻).
3913.7 *7*	(29/2⁺)[@]		D	Jπ: D+Q to (27/2⁺).
3984.2			D	
4036.8 *16*			D	
4101.3 *6*	(31/2⁻)[#]		D	Jπ: stretched Q to (27/2⁻).
4175.3 *9*			D	
4305.2 *8*	(31/2⁺)[@]		D	Jπ: D+Q to (29/2⁺).
4391.8 *19*			D	
4640.4 *8*	(33/2⁻)[#]		D	Jπ: D+Q to (31/2⁻).
4724.0 *10*			D	
4954.4 *9*	(35/2⁻)[#]		D	Jπ: D+Q to (33/2⁻).
5179.1 *11*			D	
5187.3 *13*			D	
5535.4 *11*			D	
5865.4 *12*			D	

[†] From a least-squares fit of the adopted E_γ's.

[‡] Band(A): 9/2[404] band. Configuration=$(\pi\ g_{9/2})^{-1}$.

[#] From γ-cascades to the base state and expected structure in addition to the argument given.

[@] Stretched D+Q cascades and expected band structure.

[&] ΔJ=1 γ-cascades and expected band structure.

[a] From (α,4nγ), unless otherwise noted. For levels at 454.2 keV and greater and reported experimental half-lives by (α,4nγ), values of <8 ns are given based on the observation by 1990Li22 in (HI,xnγ). 1990Li22 state that no half-lives greater than 8 ns are observed, except for known low-lying isomeric 11/2⁻ and 5/2⁺ states.

Adopted Levels, Gammas (continued)

$\gamma(^{127}Cs)$

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
66.09	$(5/2)^+$	66.06[#] *14*	100.0	0.0	$1/2^+$	E2		8.31 *14*	B(E2)(W.u.)=49 *4* α(K)=3.96 *6*; α(L)=3.43 *6*; α(M)=0.748 *13*; α(N+..)=0.168 *3* α(N)=0.151 *3*; α(O)=0.0172 *3*; α(P)=0.0001037 *16* Mult.: from ^{127}Ba β^+ decay.
138.96	$(3/2)^+$	72.92[#] *16*	100 *20*	66.09	$(5/2)^+$	M1		2.23	B(M1)(W.u.)=0.12 *4* α(K)=1.91 *3*; α(L)=0.255 *4*; α(M)=0.0523 *8*; α(N+..)=0.01266 *20* α(N)=0.01105 *17*; α(O)=0.001535 *24*; α(P)=7.51×10^{-5} *12* Mult.: from ^{127}Ba β^+ decay.
		139.00[@] *19*	43 *13*	0.0	$1/2^+$	[M1]		0.356	B(M1)(W.u.)=0.008 *3* α(K)=0.305 *5*; α(L)=0.0404 *6*; α(M)=0.00827 *12*; α(N+..)=0.00200 *3* α(N)=0.00175 *3*; α(O)=0.000243 *4*; α(P)=1.199×10^{-5} *18* I_γ: from ^{127}Cs IT decay. Others: 13 *7* in ^{127}Ba β^+ decay, 18 *1* in (α,4nγ).
180.92	$3/2^+$	114.8[‡] *3*	75 *3*	66.09	$(5/2)^+$	M1		0.609 *10*	B(M1)(W.u.)>0.075 α(K)=0.522 *9*; α(L)=0.0693 *11*; α(M)=0.01420 *23*; α(N+..)=0.00344 *6* α(N)=0.00300 *5*; α(O)=0.000417 *7*; α(P)=2.05×10^{-5} *4* Mult.,δ: from ^{127}Ba β^+ decay.
		180.8[‡] *3*	100	0.0	$1/2^+$	M1+E2	0.47 *20*	0.184 *9*	B(M1)(W.u.)>0.018; B(E2)(W.u.)>29 α(K)=0.154 *5*; α(L)=0.024 *3*; α(M)=0.0049 *7*; α(N+..)=0.00117 *15* α(N)=0.00102 *14*; α(O)=0.000138 *15*; α(P)=5.77×10^{-6} *9* Mult.,δ: from ^{127}Ba β^+ decay.
246.53	$(5/2^+)$	180.38[a] *20*	100	66.09	$(5/2)^+$	(M1+E2)		0.21 *4*	α(K)=0.166 *18*; α(L)=0.031 *12*; α(M)=0.007 *3*; α(N+..)=0.0015 *6* α(N)=0.0014 *6*; α(O)=0.00018 *6*; α(P)=5.76×10^{-6} *11* Mult.: from ^{127}Ba β^+ decay.
272.88	$(7/2)^+$	133.92[&] *15*	16 *1*	138.96	$(3/2)^+$	(E2)		0.666	α(K)=0.481 *7*; α(L)=0.1467 *22*; α(M)=0.0314 *5*; α(N+..)=0.00720 *11* α(N)=0.00641 *10*; α(O)=0.000774 *12*; α(P)=1.414×10^{-5} *21* I_γ: from ^{127}Cs IT decay. Other: 42 *1* in (HI,xnγ).
		206.7 *3*	100 *1*	66.09	$(5/2)^+$	(M1+E2)	+0.28 *3*	0.1218 *19*	α(K)=0.1038 *16*; α(L)=0.0143 *3*; α(M)=0.00294 *6*; α(N+..)=0.000709 *14* α(N)=0.000620 *12*; α(O)=8.53×10^{-5} *15*; α(P)=4.00×10^{-6} *6* E_γ: weighted av from IT decay, (HI,xnγ) and (α,4nγ). I_γ: from ^{127}Cs IT decay.
452.23	$(11/2)^-$	179.30 *20*	100 *4*	272.88	$(7/2)^+$	M2		1.097	B(M2)(W.u.)=0.051 *5*

$^{127}_{55}Cs_{72}$-4

Adopted Levels, Gammas (continued)

γ(^{127}Cs) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
									α(K)=0.900 *13*; α(L)=0.1564 *23*; α(M)=0.0330 *5*; α(N+..)=0.00797 *12* α(N)=0.00697 *11*; α(O)=0.000953 *14*; α(P)=4.33×10^{-5} *7* I_γ: from ^{127}Cs IT decay. Mult.: M2 from α(exp)=0.93 *10*, obtained by intensity balance in ^{127}Cs IT decay. RUL also rules out E3.
452.23	(11/2)$^-$	386.3[&] *3*	24 *2*	66.09	(5/2)$^+$	(E3)		0.0647	B(E3)(W.u.)=1.82 *20* α(K)=0.0493 *7*; α(L)=0.01222 *18*; α(M)=0.00262 *4*; α(N+..)=0.000609 *9* α(N)=0.000539 *8*; α(O)=6.76×10^{-5} *10*; α(P)=1.755×10^{-6} *25* I_γ,Mult.: from ^{127}Cs IT decay. Additional information 1.
454.4	(9/2$^+$)	181 *1*	<15	272.88	(7/2)$^+$				E_γ: unresolved doublet in (HI,xnγ).
		388.8[a] *16*	100 *7*	66.09	(5/2)$^+$	(E2)		0.0195 *4*	α(K)=0.0162 *3*; α(L)=0.00258 *5*; α(M)=0.000536 *11*; α(N+..)=0.0001271 *25* α(N)=0.0001117 *22*; α(O)=1.48×10^{-5} *3*; α(P)=5.69×10^{-7} *11*
567.62	1/2,3/2	429.3[‡] *6*	79 *14*	138.96	(3/2)$^+$				
		567.5[‡] *3*	100 *11*	0.0	1/2$^+$				
578.0?		578.0[‡] *3*	100	0.0	1/2$^+$				
589.7?		451.0[‡] *10*	20 *6*	138.96	(3/2)$^+$				
		523.5[‡] *7*	100 *23*	66.09	(5/2)$^+$				
621.7?		441.0[‡] *10*	100 *50*	180.92	3/2$^+$				
		621.5[‡] *8*	50 *25*	0.0	1/2$^+$				
686.0	(9/2$^+$)	231 *1*	<100	454.4	(9/2$^+$)				
		413 *1*	<100	272.88	(7/2)$^+$				
		439.3 *3*	100 *14*	246.53	(5/2$^+$)	(E2)		0.01358	α(K)=0.01139 *16*; α(L)=0.001745 *25*; α(M)=0.000361 *6*; α(N+..)=8.59×10^{-5} *13* α(N)=7.54×10^{-5} *11*; α(O)=1.006×10^{-5} *15*; α(P)=4.05×10^{-7} *6*
707.35	(11/2$^+$)	253 *1*	<7	454.4	(9/2$^+$)				
		434.48[a] *19*	100 *3*	272.88	(7/2)$^+$	(E2)		0.01402	B(E2)(W.u.)>0.12 α(K)=0.01175 *17*; α(L)=0.00181 *3*; α(M)=0.000374 *6*; α(N+..)=8.89×10^{-5} *13* α(N)=7.81×10^{-5} *11*; α(O)=1.041×10^{-5} *15*; α(P)=4.17×10^{-7} *6*
713.1	1/2,3/2	532.1[‡] *7*	57 *14*	180.92	3/2$^+$				
		573.9[‡] *5*	100 *29*	138.96	(3/2)$^+$				
		647.1[‡] *8*	57 *14*	66.09	(5/2)$^+$				
		713.5[‡] *8*	14 *14*	0.0	1/2$^+$				
854.15	(9/2$^+$)	167 *1*	<16	686.0	(9/2$^+$)				

$^{127}_{55}Cs_{72}$-5

Adopted Levels, Gammas (continued)

γ(^{127}Cs) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
854.15	(9/2$^+$)	581.31[a] *17*	100 *8*	272.88	(7/2)$^+$	(M1+E2)	+0.19 *2*	0.00829 *12*	α(K)=0.00715 *11*; α(L)=0.000909 *13*; α(M)=0.000185 *3*; α(N+..)=4.50×10^{-5} *7* α(N)=3.92×10^{-5} *6*; α(O)=5.48×10^{-6} *8*; α(P)=2.75×10^{-7} *4*
866.5	(15/2$^-$)	414.3[a] *3*	100	452.23	(11/2)$^-$	(E2)		0.01611	B(E2)(W.u.)>0.15 α(K)=0.01347 *19*; α(L)=0.00210 *3*; α(M)=0.000436 *7*; α(N+..)=0.0001034 *15* α(N)=9.09×10^{-5} *13*; α(O)=1.208×10^{-5} *18*; α(P)=4.76×10^{-7} *7*
872.5	1/2,3/2	691.9[‡] *7*	50 *13*	180.92	3/2$^+$				
		872.5[‡] *5*	100 *13*	0.0	1/2$^+$				
1043.4	(13/2$^+$)	336 *1*	<16	707.35	(11/2$^+$)				
		589 *1*	100 *8*	454.4	(9/2$^+$)	(E2)		0.00605 *9*	α(K)=0.00514 *8*; α(L)=0.000729 *11*; α(M)=0.0001500 *23*; α(N+..)=3.59×10^{-5} *6* α(N)=3.15×10^{-5} *5*; α(O)=4.27×10^{-6} *7*; α(P)=1.87×10^{-7} *3* E_γ: unresolved doublet in (HI,xnγ); possible stretched E2 but not confirmed in (HI,xnγ).
1131.0	(11/2$^+$)	276.82[a] *19*	100	854.15	(9/2$^+$)	(M1+E2)	+0.11 *6*	0.0549	α(K)=0.0472 *7*; α(L)=0.00616 *10*; α(M)=0.001260 *20*; α(N+..)=0.000305 *5* α(N)=0.000266 *4*; α(O)=3.71×10^{-5} *6*; α(P)=1.84×10^{-6} *3*
1151.0?		1012.3[‡] *5*	26 *3*	138.96	(3/2)$^+$				
		1084.9[‡] *5*	100 *9*	66.09	(5/2)$^+$				
		1150.7[‡b] *7*	≤43	0.0	1/2$^+$				
1200.95	1/2,3/2	1019.8[‡] *5*	10.0 *8*	180.92	3/2$^+$				
		1062.0[‡] *10*	3.1 *8*	138.96	(3/2)$^+$				
		1135.2[‡] *10*	≈0.8	66.09	(5/2)$^+$				
		1201.0[‡] *3*	100 *12*	0.0	1/2$^+$				
1289.3	1/2,3/2	1108.3[‡] *5*	60 *13*	180.92	3/2$^+$				
		1150.7[‡b] *7*	100 *13*	138.96	(3/2)$^+$				
		1222.9[‡] *8*	13 *7*	66.09	(5/2)$^+$				
		1289.3[‡] *4*	67 *7*	0.0	1/2$^+$				
1316.1	(13/2$^+$)	630.1 *3*	100	686.0	(9/2$^+$)	(E2)		0.00508 *8*	α(K)=0.00432 *6*; α(L)=0.000605 *9*; α(M)=0.0001243 *18*; α(N+..)=2.98×10^{-5} *5* α(N)=2.61×10^{-5} *4*; α(O)=3.55×10^{-6} *5*; α(P)=1.578×10^{-7} *23*
1323.8	(15/2$^+$)	616.5[a] *4*	100	707.35	(11/2$^+$)	(E2)		0.00538 *8*	B(E2)(W.u.)>0.021 α(K)=0.00457 *7*; α(L)=0.000642 *9*; α(M)=0.0001320 *19*; α(N+..)=3.16×10^{-5} *5* α(N)=2.77×10^{-5} *4*; α(O)=3.76×10^{-6} *6*; α(P)=1.666×10^{-7} *24*

$^{127}_{55}Cs_{72}$-6

Adopted Levels, Gammas (continued)

γ(^{127}Cs) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
1442.4	(13/2$^+$)	311.5[a] *3*	100 *20*	1131.0	(11/2$^+$)				E_γ: unresolved doublet in (HI,xnγ).
		588 *1*	40	854.15	(9/2$^+$)				
1458.2	(19/2$^-$)	591.7[a] *4*	100	866.5	(15/2$^-$)	(E2)		0.00598 *9*	B(E2)(W.u.)>0.026 α(K)=0.00508 *8*; α(L)=0.000720 *11*; α(M)=0.0001481 *21*; α(N+..)=3.55×10^{-5} *5* α(N)=3.11×10^{-5} *5*; α(O)=4.21×10^{-6} *6*; α(P)=1.85×10^{-7} *3*
1492.3	(17/2$^-$,19/2$^-$)	626.7[a] *3*	100	866.5	(15/2$^-$)	D,Q			E_γ: unresolved doublet in (HI,xnγ). Mult.: from (α,4nγ).
1566.24	1/2,3/2	1385.2[‡] *5*	26 *7*	180.92	3/2$^+$				
		1500.1[‡] *3*	97 *10*	66.09	(5/2)$^+$				
		1566.3[‡] *3*	100 *10*	0.0	1/2$^+$				
1618.0?		1437.5[‡] *10*	≈5	180.92	3/2$^+$				
		1618.0[‡] *3*	100 *15*	0.0	1/2$^+$				
1787.9	(15/2$^+$)	345.6 *3*	100 *33*	1442.4	(13/2$^+$)	(M1+E2)	+0.11 *1*	0.0308	α(K)=0.0265 *4*; α(L)=0.00343 *5*; α(M)=0.000700 *10*; α(N+..)=0.0001697 *24* α(N)=0.0001480 *21*; α(O)=2.07×10^{-5} *3*; α(P)=1.028×10^{-6} *15*
		656 *1*	<67	1131.0	(11/2$^+$)				
1802.1	(17/2$^+$)	758.7 *3*	100	1043.4	(13/2$^+$)	(E2)		0.00321 *5*	α(K)=0.00275 *4*; α(L)=0.000371 *6*; α(M)=7.60×10^{-5} *11*; α(N+..)=1.83×10^{-5} *3* α(N)=1.599×10^{-5} *23*; α(O)=2.19×10^{-6} *3*; α(P)=1.011×10^{-7} *15*
1956.3	(19/2$^-$)	464.4 *3*	100 *13*	1492.3	(17/2$^-$,19/2$^-$)	(M1+E2)	−0.84 *28*	0.0133 *6*	α(K)=0.0114 *6*; α(L)=0.00155 *4*; α(M)=0.000317 *6*; α(N+..)=7.64×10^{-5} *17* α(N)=6.68×10^{-5} *14*; α(O)=9.18×10^{-6} *25*; α(P)=4.28×10^{-7} *25* E_γ: 465.2 *2* in (α,4nγ).
		1088.9 *3*	50 *13*	866.5	(15/2$^-$)	(E2)		0.001427 *20*	B(E2)(W.u.)>0.00041 α(K)=0.001230 *18*; α(L)=0.0001578 *23*; α(M)=3.22×10^{-5} *5*; α(N+..)=7.77×10^{-6} α(N)=6.79×10^{-6} *10*; α(O)=9.41×10^{-7} *14*; α(P)=4.56×10^{-8} *7* E=1092.0 *2*, Iγ=55 *4* in (α,4nγ).
1981.56	1/2,3/2	1800.1[‡] *6*	33 *11*	180.92	3/2$^+$				
		1842.2[‡] *6*	50 *11*	138.96	(3/2)$^+$				
		1915.3[‡] *6*	50 *17*	66.09	(5/2)$^+$				

$^{127}_{55}Cs_{72}$-7

Adopted Levels, Gammas (continued)

$\gamma(^{127}Cs)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
1981.56	1/2,3/2	1981.8[‡] *3*	100 *11*	0.0	$1/2^+$				
2089.7	1/2,3/2	1511.2[‡] *10*	77 *8*	578.0?					
		1522.0[‡] *7*	46 *8*	567.62	1/2,3/2				
		1950.8[‡] *6*	85 *15*	138.96	$(3/2)^+$				
		2089.8[‡] *4*	100 *15*	0.0	$1/2^+$				
2094.2	$(13/2^-)$	963.2 *3*	100	1131.0	$(11/2^+)$	(E1+(M2))	0.00 *3*	0.000775 *12*	α(K)=0.000673 *11*; α(L)=8.20×10^{-5} *13*; α(M)=1.66×10^{-5} *3*; α(N+..)=4.03×10^{-6} *7* α(N)=3.51×10^{-6} *6*; α(O)=4.90×10^{-7} *8*; α(P)=2.45×10^{-8} *4* Mult.: Mixing ratio is obtained by $\gamma(\theta)$ in (HI,xnγ).
2096.9	$(19/2)^+$	773.1 *3*	100	1323.8	$(15/2^+)$	(E2)		0.00307 *5*	B(E2)(W.u.)>0.0067 α(K)=0.00263 *4*; α(L)=0.000354 *5*; α(M)=7.25×10^{-5} *11*; α(N+..)=1.743×10^{-5} *25* α(N)=1.524×10^{-5} *22*; α(O)=2.09×10^{-6} *3*; α(P)=9.68×10^{-8} *14* E_γ: 774.5 *2* in (α,4nγ).
2104.8	$(17/2^+)$	788.6 *3*	100	1316.1	$(13/2^+)$	(E2)		0.00293 *5*	α(K)=0.00251 *4*; α(L)=0.000337 *5*; α(M)=6.89×10^{-5} *10*; α(N+..)=1.659×10^{-5} *24* α(N)=1.450×10^{-5} *21*; α(O)=1.99×10^{-6} *3*; α(P)=9.25×10^{-8} *13* Mult.: possible stretched E2 but not confirmed in (HI,xnγ).
2117.5	$(21/2^-)$	625.42[a] *19*	100 *8*	1492.3	$(17/2^-,19/2^-)$				E_γ: unresolved doublet in (HI,xnγ). I_γ: 29 *2* in (α,4nγ).
		659.2[a] *3*	100 *8*	1458.2	$(19/2^-)$	(M1+E2)	−0.70 *5*	0.00563 *10*	α(K)=0.00484 *9*; α(L)=0.000627 *10*; α(M)=0.0001281 *20*; α(N+..)=3.10×10^{-5} *5* α(N)=2.70×10^{-5} *5*; α(O)=3.76×10^{-6} *6*; α(P)=1.84×10^{-7} *4*
2143.8	1/2,3/2	1576.3[‡] *10*	100 *20*	567.62	1/2,3/2				
		1962.8[‡] *8*	100 *20*	180.92	$3/2^+$				
2167.1	$(17/2^+)$	379 *1*	<100	1787.9	$(15/2^+)$				
		725 *1*	100	1442.4	$(13/2^+)$				
2202.5	$(15/2^-)$	108.3 *3*	100	2094.2	$(13/2^-)$	(M1+(E2))	−1.5 *15*	1.2 *5*	α(K)=0.84 *23*; α(L)=0.28 *20*; α(M)=0.06 *5*; α(N+..)=0.014 *10* α(N)=0.012 *9*; α(O)=0.0015 *10*; α(P)=2.59×10^{-5} *18*
2238.5	1/2,3/2	2057.0[‡] *6*	91 *18*	180.92	$3/2^+$				
		2100.3[‡] *5*	100 *18*	138.96	$(3/2)^+$				

Adopted Levels, Gammas (continued)

γ(^{127}Cs) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
2238.5	1/2,3/2	2172.0[‡] *6*	100 *18*	66.09	$(5/2)^+$				
		2238.1[‡] *10*	36 *9*	0.0	$1/2^+$				
2255.6	1/2,3/2	2075.0[‡] *6*	100 *22*	180.92	$3/2^+$				
		2189.0[‡] *7*	33 *11*	66.09	$(5/2)^+$				
2258.3	$(23/2^-)$	800.2 *3*	100	1458.2	$(19/2^-)$	E2		0.00283 *4*	B(E2)(W.u.)>0.0057 α(K)=0.00243 *4*; α(L)=0.000325 *5*; α(M)=6.64×10^{-5} *10*; α(N+..)=1.599×10^{-5} *23* α(N)=1.398×10^{-5} *20*; α(O)=1.92×10^{-6} *3*; α(P)=8.94×10^{-8} *13* E_γ: 801.5 *2* in (α,4nγ).
2321.19	$1/2^+,3/2^+$	1448.8[‡] *5*	20 *5*	872.5	1/2,3/2				
		1753.6[‡] *3*	100 *15*	567.62	1/2,3/2				
		2141.0[‡] *8*	15 *5*	180.92	$3/2^+$				
		2182.0[‡] *3*	90 *10*	138.96	$(3/2)^+$				
		2321.2[‡] *5*	60 *10*	0.0	$1/2^+$				
2440.3	$(17/2^-)$	237.8 *3*	<100	2202.5	$(15/2^-)$	(M1+E2)	−1.1 *7*	0.088 *5*	α(K)=0.0727 *19*; α(L)=0.0122 *23*; α(M)=0.0025 *5*; α(N+..)=0.00060 *11* α(N)=0.00053 *10*; α(O)=7.0×10^{-5} *11*; α(P)=2.58×10^{-6} *14*
		346 *1*	<100	2094.2	$(13/2^-)$				
2578.0	$(19/2^+)$	411 *1*	<100	2167.1	$(17/2^+)$				
		790 *1*	<100	1787.9	$(15/2^+)$				
2639.1	$(23/2^-)$	522.2 *3*	46 *9*	2117.5	$(21/2^-)$	(M1+E2)	−0.9 *3*	0.0097 *5*	α(K)=0.0083 *5*; α(L)=0.00112 *4*; α(M)=0.000230 *7*; α(N+..)=5.54×10^{-5} *18* α(N)=4.84×10^{-5} *15*; α(O)=6.67×10^{-6} *24*; α(P)=3.14×10^{-7} *21*
		682.4 *3*	100 *9*	1956.3	$(19/2^-)$	(E2)		0.00416 *6*	α(K)=0.00355 *5*; α(L)=0.000488 *7*; α(M)=0.0001002 *14*; α(N+..)=2.40×10^{-5} *4* α(N)=2.10×10^{-5} *3*; α(O)=2.87×10^{-6} *4*; α(P)=1.299×10^{-7} *19* E_γ: 683.6 *2* in (α,4nγ).
		1180 *1*	<27	1458.2	$(19/2^-)$	(E2)		0.001211 *17*	α(K)=0.001041 *15*; α(L)=0.0001324 *19*; α(M)=2.70×10^{-5} *4*; α(N+..)=1.083×10^{-5} α(N)=5.69×10^{-6} *8*; α(O)=7.91×10^{-7} *12*; α(P)=3.86×10^{-8} *6*; α(IPF)=4.30×10^{-6} *12*
2691.0	$(21/2^+)$	888.9 *3*	100	1802.1	$(17/2^+)$	(E2)		0.00222 *4*	α(K)=0.00191 *3*; α(L)=0.000251 *4*; α(M)=5.14×10^{-5} *8*; α(N+..)=1.239×10^{-5} *18* α(N)=1.082×10^{-5} *16*; α(O)=1.492×10^{-6} *21*; α(P)=7.06×10^{-8} *10*

$^{127}_{55}Cs_{72}$-9

Adopted Levels, Gammas (continued)

γ(^{127}Cs) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
2696.8	(19/2$^-$)	256.4 *3*	<100	2440.3	(17/2$^-$)	(M1+E2)	−1.0 *7*	0.0698 *24*	α(K)=0.0581 *9*; α(L)=0.0093 *15*; α(M)=0.0019 *4*; α(N+..)=0.00046 *8* α(N)=0.00040 *7*; α(O)=5.4×10^{-5} *7*; α(P)=2.10×10^{-6} *14*
		495 *1*	<100	2202.5	(15/2$^-$)				
2747.8	(19/2$^+$)	642[f] *1*	<67	2104.8	(17/2$^+$)				
		1255.5 *3*	<100	1492.3	(17/2$^-$,19/2$^-$)	(E1)		0.000535 *8*	α(K)=0.000414 *6*; α(L)=5.00×10^{-5} *7*; α(M)=1.013×10^{-5} *15*; α(N+..)=6.09×10^{-5} *9* α(N)=2.14×10^{-6} *3*; α(O)=2.99×10^{-7} *5*; α(P)=1.510×10^{-8} *22*; α(IPF)=5.84×10^{-5} *9*
2897.6	(21/2$^+$)	150 *1*	<3	2747.8	(19/2$^+$)				E_γ: unresolved doublet in (HI,xnγ).
		792 *1*	<100	2104.8	(17/2$^+$)	(E2)		0.00290 *5*	α(K)=0.00248 *4*; α(L)=0.000333 *5*; α(M)=6.82×10^{-5} *10*; α(N+..)=1.641×10^{-5} *24* α(N)=1.435×10^{-5} *21*; α(O)=1.97×10^{-6} *3*; α(P)=9.15×10^{-8} *13*
		941 *1*	<100	1956.3	(19/2$^-$)				
		1440 *1*	<100	1458.2	(19/2$^-$)				
2935.7	(25/2$^-$)	677.7 *4*	72 *14*	2258.3	(23/2$^-$)	(M1+E2)	−1.1 *8*	0.0049 *8*	α(K)=0.0042 *7*; α(L)=0.00056 *7*; α(M)=0.000114 *13*; α(N+..)=2.7×10^{-5} *3* α(N)=2.4×10^{-5} *3*; α(O)=3.3×10^{-6} *4*; α(P)=1.6×10^{-7} *3* E_γ: 678.4 *2* in (α,4nγ). Mult.: M1,E2 in (α,4nγ).
		818.0 *3*	100 *14*	2117.5	(21/2$^-$)	(E2)		0.00269 *4*	B(E2)(W.u.)>0.0030 α(K)=0.00231 *4*; α(L)=0.000307 *5*; α(M)=6.29×10^{-5} *9*; α(N+..)=1.515×10^{-5} *22* α(N)=1.324×10^{-5} *19*; α(O)=1.82×10^{-6} *3*; α(P)=8.50×10^{-8} *12* E_γ: 819.8 *2* in (α,4nγ).
2959.8		855 *1*	100	2104.8	(17/2$^+$)				
3000.2	(23/2$^+$)	903.4 *3*	100	2096.9	(19/2)$^+$	(E2)		0.00214 *3*	B(E2)(W.u.)>0.0031 α(K)=0.00184 *3*; α(L)=0.000242 *4*; α(M)=4.94×10^{-5} *7*; α(N+..)=1.192×10^{-5} *17* α(N)=1.042×10^{-5} *15*; α(O)=1.437×10^{-6} *21*; α(P)=6.81×10^{-8} *10* E_γ: 904.5 *2* in (α,4nγ).
3002.4	(23/2$^+$)	905.5 *3*	100	2096.9	(19/2)$^+$	(E2)		0.00213 *3*	B(E2)(W.u.)>0.0031 α(K)=0.00183 *3*; α(L)=0.000241 *4*; α(M)=4.92×10^{-5} *7*; α(N+..)=1.186×10^{-5} *17* α(N)=1.036×10^{-5} *15*; α(O)=1.429×10^{-6} *20*; α(P)=6.77×10^{-8} *10* E_γ: 907.4 *2* in (α,4nγ).

$^{127}_{55}Cs_{72}$-10

Adopted Levels, Gammas (continued)

γ(^{127}Cs) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
3008.4	(21/2$^-$)	311.7 *3*	<100	2696.8	(19/2$^-$)				
		568 *1*	<100	2440.3	(17/2$^-$)				
3018.0	(21/2$^+$)	440 *1*	<100	2578.0	(19/2$^+$)				
		851 *1*	<100	2167.1	(17/2$^+$)				
3061.2	(23/2$^+$)	163.6 *1*	100	2897.6	(21/2$^+$)	(M1+E2)	−1.5 *15*	0.30 *8*	α(K)=0.23 *4*; α(L)=0.05 *3*; α(M)=0.011 *6*; α(N+..)=0.0026 *13* α(N)=0.0023 *12*; α(O)=0.00028 *13*; α(P)=7.67×10^{-6} *12*
3062?		956[f] *1*	100	2104.8	(17/2$^+$)				
3156.8	(27/2$^-$)	220.8 *3*	42 *8*	2935.7	(25/2$^-$)	(M1+E2)	+0.28 *3*	0.1015	α(K)=0.0866 *13*; α(L)=0.01186 *22*; α(M)=0.00243 *5*; α(N+..)=0.000587 *11* α(N)=0.000513 *10*; α(O)=7.07×10^{-5} *12*; α(P)=3.34×10^{-6} *5*
		898.5 *3*	100 *8*	2258.3	(23/2$^-$)	(E2)		0.00217 *3*	B(E2)(W.u.)>0.0022 α(K)=0.00186 *3*; α(L)=0.000245 *4*; α(M)=5.01×10^{-5} *7*; α(N+..)=1.208×10^{-5} *17* α(N)=1.055×10^{-5} *15*; α(O)=1.455×10^{-6} *21*; α(P)=6.89×10^{-8} *10*
3261.9	(25/2$^+$)	201 *3*	100 *33*	3061.2	(23/2$^+$)	M1(+E2)	−0.14 *18*	0.130 *7*	E$_\gamma$: 900.6 *2* in (α,4nγ). α(K)=0.111 *5*; α(L)=0.0148 *12*; α(M)=0.0030 *3*; α(N+..)=0.00073 *6* α(N)=0.00064 *6*; α(O)=8.9×10^{-5} *7*; α(P)=4.33×10^{-6} *20*
		259.50[a] *17*	100 *33*	3002.4	(23/2$^+$)	(M1+E2)	−0.7 *6*	0.0666 *18*	α(K)=0.0561 *8*; α(L)=0.0084 *11*; α(M)=0.00173 *24*; α(N+..)=0.00041 *6* α(N)=0.00036 *5*; α(O)=4.9×10^{-5} *5*; α(P)=2.08×10^{-6} *11*
		262.0[a] *6*	100 *33*	3000.2	(23/2$^+$)	(M1+E2)	−1.0 *8*	0.0655 *21*	α(K)=0.0546 *9*; α(L)=0.0087 *15*; α(M)=0.0018 *4*; α(N+..)=0.00043 *7* α(N)=0.00038 *7*; α(O)=5.0×10^{-5} *7*; α(P)=1.97×10^{-6} *15*
3353.8	(25/2$^+$)	292.5 *3*	100 *20*	3061.2	(23/2$^+$)	(M1+E2)	−0.23 *20*	0.0475	α(K)=0.0407 *7*; α(L)=0.00538 *19*; α(M)=0.00110 *4*; α(N+..)=0.000266 *9* α(N)=0.000233 *8*; α(O)=3.23×10^{-5} *9*; α(P)=1.58×10^{-6} *4*
		354 *1*	<40	3000.2	(23/2$^+$)				
3365.8	(27/2$^-$)	726.8 *3*	100 *13*	2639.1	(23/2$^-$)	(E2)		0.00356 *5*	α(K)=0.00304 *5*; α(L)=0.000414 *6*; α(M)=8.49×10^{-5} *12*; α(N+..)=2.04×10^{-5} *3* α(N)=1.78×10^{-5} *3*; α(O)=2.44×10^{-6} *4*; α(P)=1.118×10^{-7} *16*
		1107 *1*		2258.3	(23/2$^-$)	(E2)		0.001379 *20*	α(K)=0.001188 *17*; α(L)=0.0001522 *22*; α(M)=3.10×10^{-5} *5*; α(N+..)=8.02×10^{-6} α(N)=6.54×10^{-6} *10*; α(O)=9.08×10^{-7} *13*; α(P)=4.41×10^{-8} *7*; α(IPF)=5.25×10^{-7} *21*
3369.8		361.6 *3*	100	3008.4	(21/2$^-$)				

$^{127}_{55}Cs_{72}$-11

Adopted Levels, Gammas (continued)

γ(^{127}Cs) (continued)

E_i(level)	J_i^π	E_γ †	I_γ	E_f	J_f^π	Mult.[c]	δ[c]	α[d]	Comments
3369.8		672 *1*	100	2696.8	(19/2$^-$)				
3563.6	(27/2$^+$)	301.75[a] *23*	100	3261.9	(25/2$^+$)	(M1+E2)	−0.24 *17*	0.0437	α(K)=0.0375 *6*; α(L)=0.00495 *14*; α(M)=0.00101 *3*; α(N+..)=0.000245 *7* α(N)=0.000214 *6*; α(O)=2.97×10^{-5} *7*; α(P)=1.45×10^{-6} *4*
		562[f] *1*		3000.2	(23/2$^+$)				E_γ: from author's level scheme in (HI,xnγ).
3645.8	(27/2$^+$)	292 *1*		3353.8	(25/2$^+$)				
3647.0		956 *1*		2691.0	(21/2$^+$)				
3766.0		396.2 *3*	<100	3369.8					
		757 *1*	<100	3008.4	(21/2$^-$)				
3815.6	(29/2$^-$)	658 *1*	<67	3156.8	(27/2$^-$)	(M1+E2)		0.0054 *9*	α(K)=0.0046 *8*; α(L)=0.00061 *7*; α(M)=0.000124 *14*; α(N+..)=3.0×10^{-5} *4* α(N)=2.6×10^{-5} *3*; α(O)=3.6×10^{-6} *5*; α(P)=1.7×10^{-7} *4*
		880.1 *3*	100 *33*	2935.7	(25/2$^-$)	(E2)		0.00228 *4*	α(K)=0.00195 *3*; α(L)=0.000257 *4*; α(M)=5.26×10^{-5} *8*; α(N+..)=1.269×10^{-5} *18* α(N)=1.109×10^{-5} *16*; α(O)=1.528×10^{-6} *22*; α(P)=7.21×10^{-8} *11*
3913.7	(29/2$^+$)	350.2 *3*	100 *25*	3563.6	(27/2$^+$)	(M1+E2)	−0.7 *6*	0.0288 *11*	α(K)=0.0245 *12*; α(L)=0.00342 *13*; α(M)=0.00070 *3*; α(N+..)=0.000169 *6* α(N)=0.000148 *6*; α(O)=2.02×10^{-5} *4*; α(P)=9.2×10^{-7} *8*
		651 *1*	<50	3261.9	(25/2$^+$)				
3984.2		983[f] *1*	100	3002.4	(23/2$^+$)				
4036.8		391 *1*	100	3645.8	(27/2$^+$)				
4101.3	(31/2$^-$)	287 *1*	<34	3815.6	(29/2$^-$)	(M1+E2)		0.0500 *9*	α(K)=0.0419 *13*; α(L)=0.0065 *9*; α(M)=0.00134 *20*; α(N+..)=0.00032 *5* α(N)=0.00028 *4*; α(O)=3.7×10^{-5} *4*; α(P)=1.53×10^{-6} *15*
		944.4 *3*	100 *17*	3156.8	(27/2$^-$)	(E2)		0.00194 *3*	α(K)=0.001669 *24*; α(L)=0.000218 *3*; α(M)=4.45×10^{-5} *7*; α(N+..)=1.074×10^{-5} *15* α(N)=9.38×10^{-6} *14*; α(O)=1.296×10^{-6} *19*; α(P)=6.18×10^{-8} *9*
4175.3		810[e] *1*		3365.8	(27/2$^-$)				
		1018 *1*	100	3156.8	(27/2$^-$)				
4305.2	(31/2$^+$)	391.6 *3*	100	3913.7	(29/2$^+$)	(M1+E2)	−0.6 *3*	0.0215 *7*	α(K)=0.0184 *7*; α(L)=0.00249 *4*; α(M)=0.000510 *8*; α(N+..)=0.0001230 *18* α(N)=0.0001075 *16*; α(O)=1.481×10^{-5} *23*; α(P)=7.0×10^{-7} *4*
		741 *1*	<67	3563.6	(27/2$^+$)				
4391.8		355 *1*	100	4036.8					
4640.4	(33/2$^-$)	539 *1*	<100	4101.3	(31/2$^-$)	(M1+E2)		0.0089 *12*	α(K)=0.0076 *11*; α(L)=0.00102 *9*; α(M)=0.000209 *16*; α(N+..)=5.0×10^{-5} *5* α(N)=4.4×10^{-5} *4*; α(O)=6.1×10^{-6} *6*; α(P)=2.8×10^{-7} *5*
		825 *1*	<100	3815.6	(29/2$^-$)				

$^{127}_{55}Cs_{72}$-12

Adopted Levels, Gammas (continued)

γ(^{127}Cs) (continued)

E_i(level)	J_i^π	E_γ †	I_γ	E_f	J_f^π	Mult.[c]	α[d]	Comments
4724.0		419 *1*	<100	4305.2	(31/2$^+$)			
		810[e] *1*	<100	3913.7	(29/2$^+$)			
4954.4	(35/2$^-$)	314 *1*	<100	4640.4	(33/2$^-$)	(M1+E2)	0.0385 *12*	α(K)=0.0324 *17*; α(L)=0.0049 *5*; α(M)=0.00101 *11*; α(N+..)=0.000240 *23* α(N)=0.000211 *21*; α(O)=2.83×10^{-5} *19*; α(P)=1.19×10^{-6} *14*
		853 *1*	<100	4101.3	(31/2$^-$)	(E2)	0.00244 *4*	α(K)=0.00210 *3*; α(L)=0.000278 *4*; α(M)=5.68×10^{-5} *9*; α(N+..)=1.368×10^{-5} *20* α(N)=1.195×10^{-5} *17*; α(O)=1.646×10^{-6} *24*; α(P)=7.74×10^{-8} *11*
5179.1		455 *1*	<100	4724.0				
		874 *1*	<100	4305.2	(31/2$^+$)			
5187.3		1012 *1*	100	4175.3				
5535.4		581 *1*		4954.4	(35/2$^-$)			
		895 *1*	100	4640.4	(33/2$^-$)			
5865.4		330 *1*	100	5535.4				
		911 *1*		4954.4	(35/2$^-$)			

† From (HI,xnγ), unless otherwise noted.
‡ From ^{127}Ba β$^+$ decay.
# Weighted av from ^{127}Ba β$^+$ decay, ^{127}Cs IT decay, (α,xnγ), and (HI,xnγ).
@ Weighted av from ^{127}Ba β$^+$ decay, ^{127}Cs IT decay, and (α,4nγ).
& Weighted av from IT decay and (α,4nγ).
[a] Weighted av from (α,4nγ) and (HI,xnγ).
[b] Doubly placed but intensity not divided.
[c] From (HI,xnγ), unless otherwise noted. RUL also is used for γ′s from levels with the half-life given.
[d] 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.
[e] Multiply placed.
[f] Placement of transition in the level scheme is uncertain.

$^{127}_{55}Cs_{72}$-13

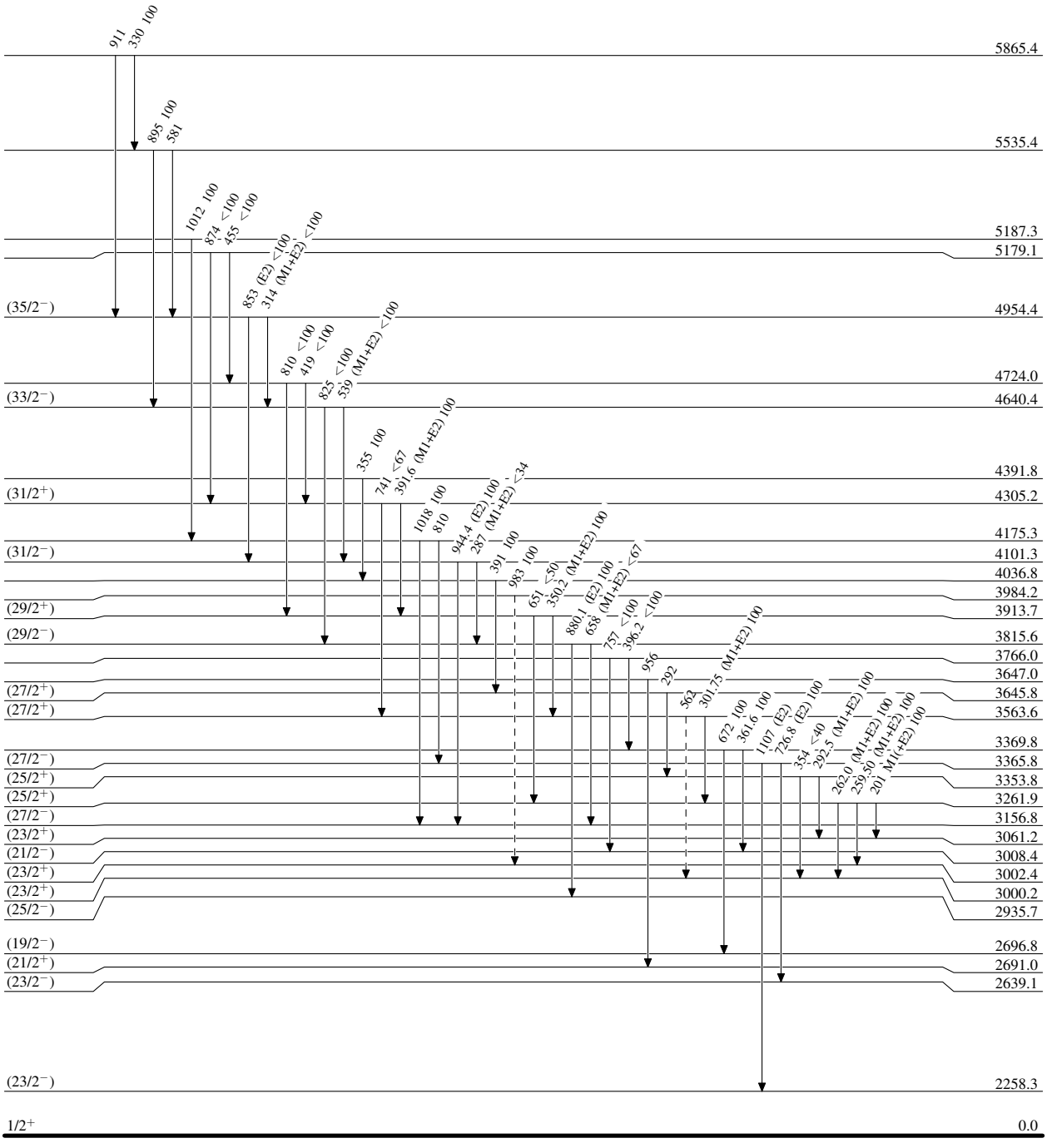
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)



$^{127}_{55}Cs_{72}$

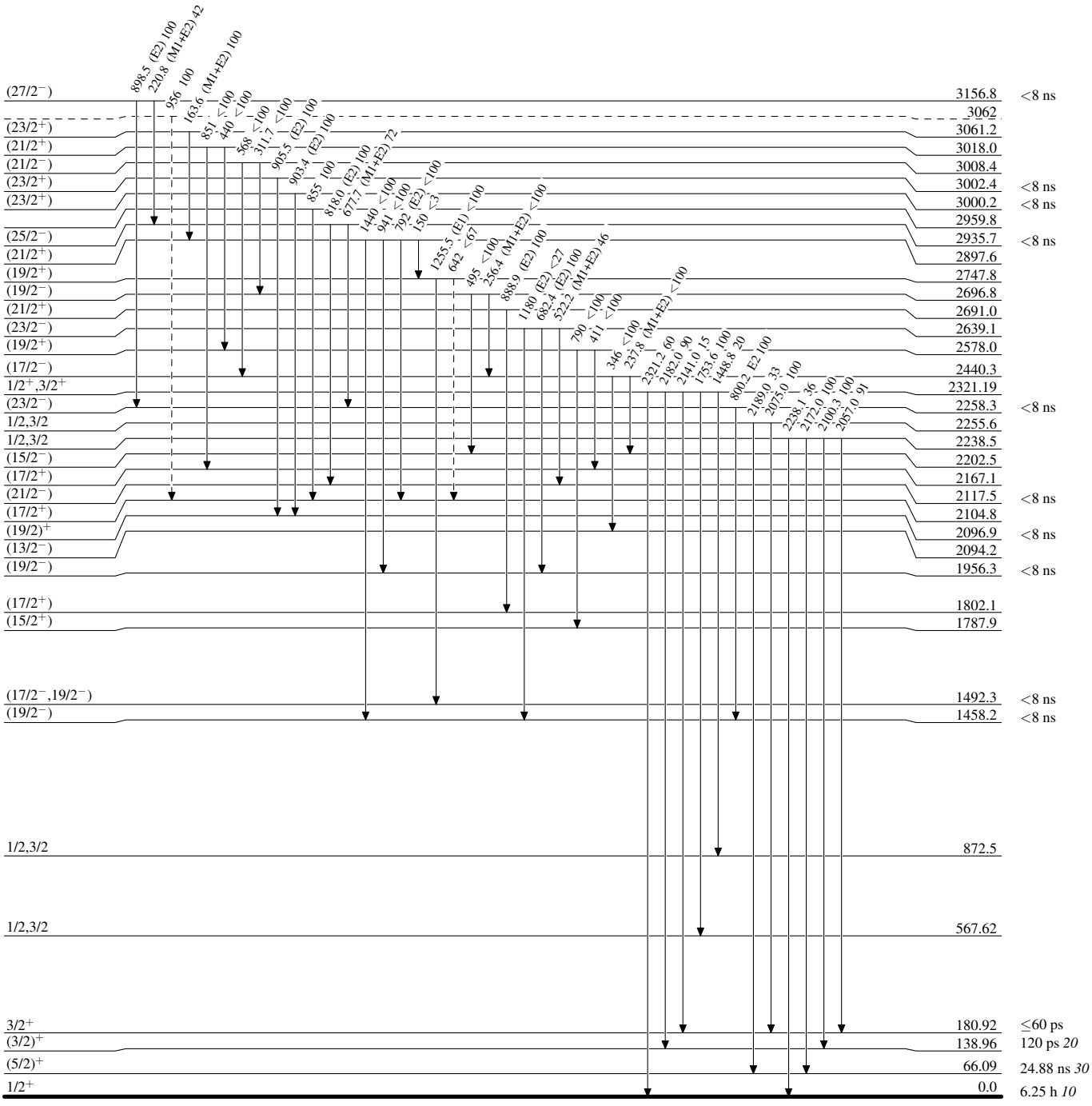
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

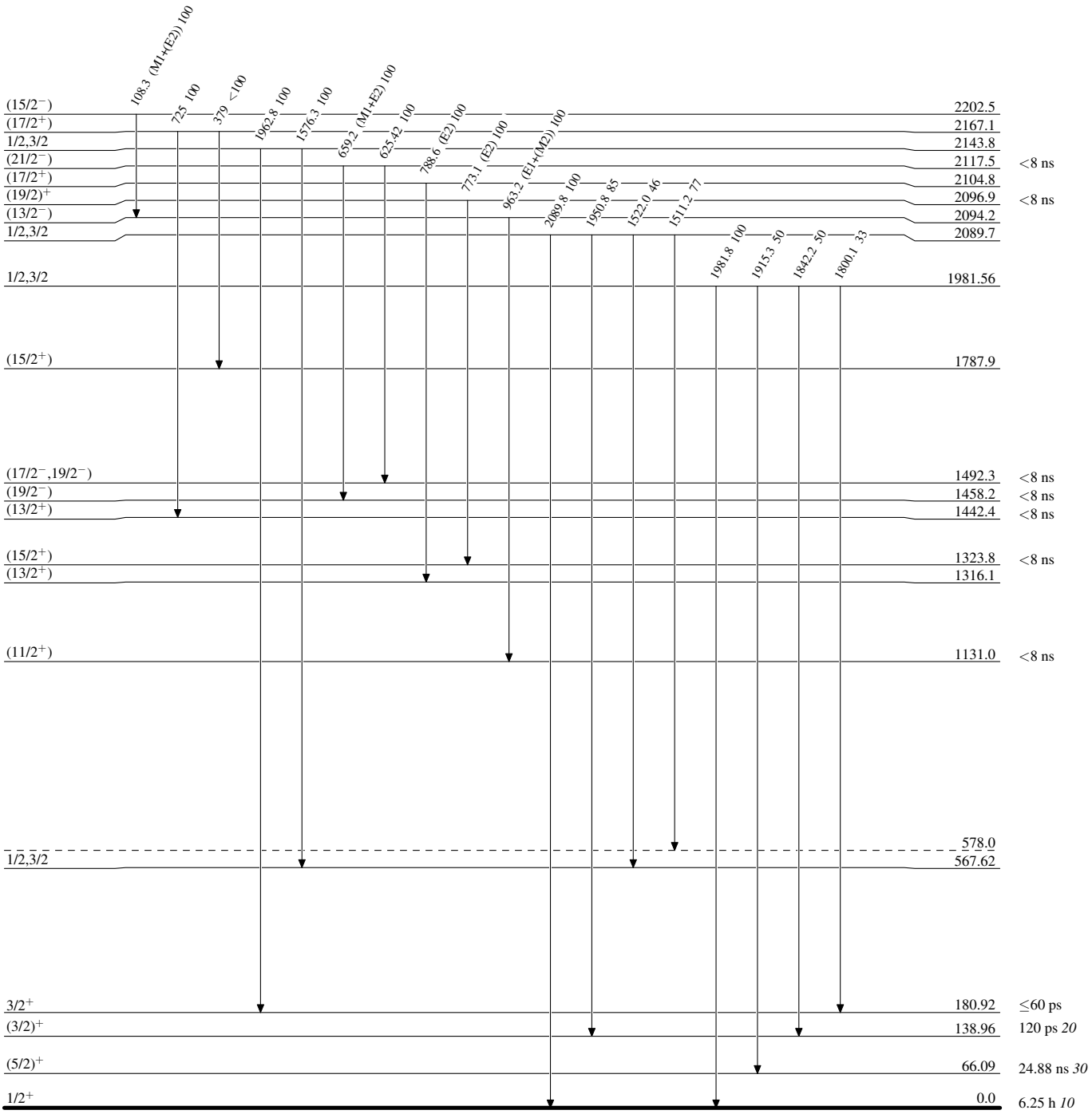


$^{127}_{55}Cs_{72}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

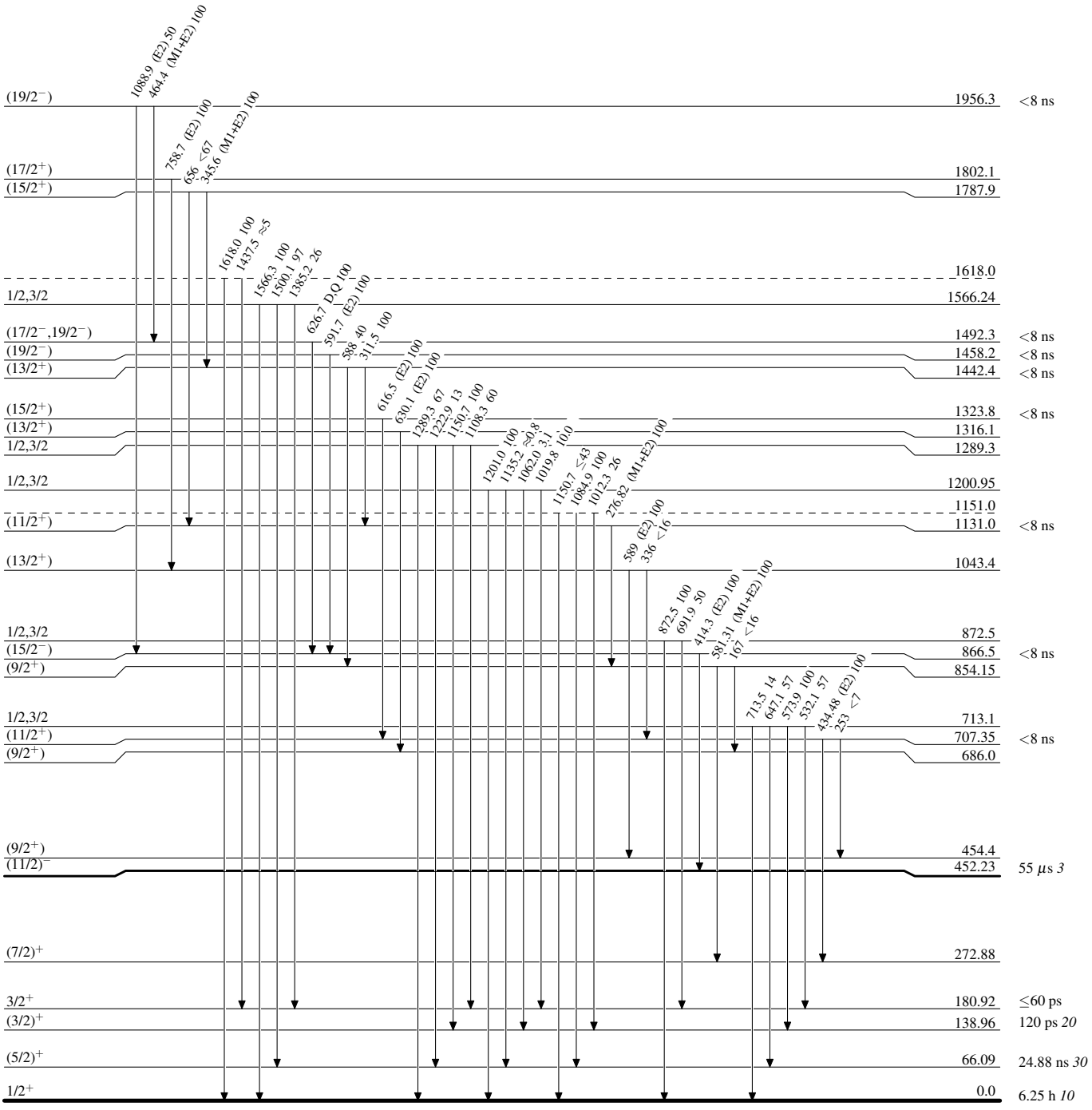


$^{127}_{55}Cs_{72}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

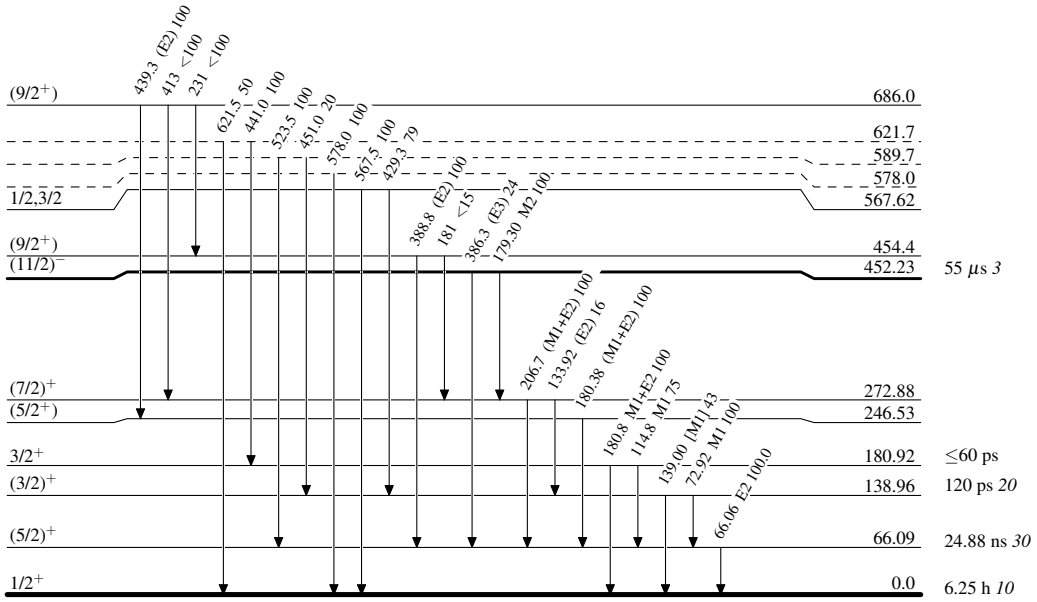


$^{127}_{55}Cs_{72}$

Adopted Levels, Gammas

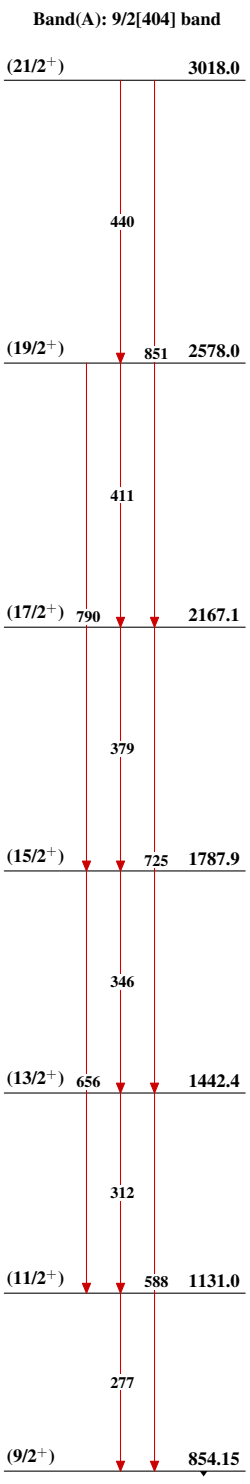
Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{127}_{55}Cs_{72}$

Adopted Levels, Gammas



$^{127}_{55}Cs_{72}$