Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 111,1807 (2010)	15-Jun-2010

Q(β^-)=−1677.4 *19*; S(n)=7771.31 *12*; S(p)=7999 *6*; Q(α)=551.0 *12* 2012Wa38
Note: Current evaluation has used the following Q record \$ −1678.9 *19*7771.32 *12*7999 5551.6 12 2003Au03,2009AuZZ.
Q(β^-): From 2009AuZZ; 1679.1 *19* from 2003Au03.
See 1983Pf01, 1985Be34, 1985Ne09, 1987Ah03, 1987Ok03, 1990Ji07, 1992Kr06, 2000As04 for recent hfs and/or isotope shift data.
Muonic x-ray data: see 1970Hi03 (deduced B(E2)↑=6.00 *12*).
For detailed discussion of band properties and interactions see, e.g., 2000Gr33, 2001Gu12, 2002Gr12.

^{168}Er Levels

E(j),J(j) From ^{168}Er(γ,γ), (γ,γ').

Cross Reference (XREF) Flags

A	^{168}Ho β^- decay	H	^{168}Er(γ,γ'), (γ,pol γ')	O	^{171}Yb(n,α)
B	^{168}Tm ε decay	I	^{168}Er(e,e′)	P	^{168}Er(pol p,p), (pol p,p′)
C	^{165}Ho(α,pγ)	J	Coulomb excitation	Q	^{168}Er(d,d), (d,d′)
D	^{166}Er(t,p)	K	^{168}Er(n,n′γ)	R	^{168}Er(^{238}U,^{238}U′γ)
E	^{167}Er(n,γ) E=thermal	L	^{168}Er(α,α')	S	^{170}Er(^{136}Xe,Xγ)
F	^{167}Er(n,γ) E=2, 24 keV	M	^{169}Tm(pol t,α), (t,α)		
G	^{167}Er(d,p), (t,d)	N	^{170}Er(p,t)		

E(level)[†]	J$^\pi$[‡]	T$_{1/2}$[#]	XREF	Comments
0.0[i]	0+[d]	stable	ABCDEF HIJKLMNOP S	
79.804[i] *1*	2+[d]	1.853 ns *25*	ABCDEFG JKLMN P S	μ=+0.642 *12* μ: value adopted by 1989Do12; based on +0.54 *6* (IPAC, revision of datum from 1962Bo18), 0.69 *6* (recoil into gas/vacuum; 1967Ku07), 0.666 *16* (Mössbauer, 1968Mu01), +0.610 *20* (recoil into gas/vacuum, 1970Be36). Others: 0.66 *4* if g(^{166}Er, 81)=0.312 *10* (Mössbauer, 1967St17), +0.62 *6* (IPAC, 1980Fu03). <r^2>$^{1/2}$(charge)=5.267 *4* (2004An14). J$^\pi$: E2 80γ to 0$^+$ g.s.. T$_{1/2}$: unweighted average of 1.84 ns *6* (B(E2) in Coulomb excitation), 1.85 ns *3* (pulsed-beam in Coulomb excitation), 1.79 ns *6* (muonic x-ray data (see 1970Hi03)), and the following from ^{168}Tm ε decay: 1.72 ns *6*, 1.92 ns *2*, 1.92 ns *4*, 1.90 ns *6*, and 1.88 ns *5*. Weighted average is 1.883 ns *20*. μ: From g(^{166}Er 81)/g=0.960 *13* (1968Mu01; Mössbauer effect) if g(^{166}Er 81)=+0.641 *10*, the mean of +0.649 *10* (1981Ho31) and +0.632 *10* (1968Mu01). Other: +0.62 *6* (1980Fu03; IPAC) relative to ^{166}Er(265).
264.0888[i] *14*	4+[d]	114 ps *3*	ABCDEFG JKLMN P S	μ=+1.17 *12*; Q=−2.2 *10* μ: From 1996Br09 (transient field). Other: +1.26 *16* (1968De28; IMPAC), relative to ^{166}Er(265). Q: Coul. ex. reorientation (1989Ra17 from 1970McZQ). J$^\pi$: E2 intraband 184γ to 2$^+$ 80. T$_{1/2}$: weighted average of 117 ps *7* from B(E2) in Coulomb excitation and the following from ^{168}Tm ε decay: 106 ps *6*,

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Adopted Levels, Gammas (continued)

^{168}Er Levels (continued)

E(level)[†]	J^{π}[‡]	$T_{1/2}$[#]	XREF	Comments
				μ=+1.17 *12*; Q=−2.2 *10* μ: From 1996Br09 (transient field). Other: +1.26 *16* (1968De28; IMPAC), relative to ^{166}Er(265). Q: Coul. ex. reorientation (1989Ra17 from 1970McZQ). J^{π}: E2 intraband 184γ to 2^+ 80. $T_{1/2}$: weighted average of 117 ps *7* from B(E2) in Coulomb excitation and the following from ^{168}Tm ε decay: 106 ps *6*, 113 ps *13*, 121 ps *8*, and 119 ps *7*.
548.7470[i] *20*	6^+[d]	12.0 ps *5*	ABCDEFG JKLMN P S	μ=+1.81 *12* μ: From 1996Br09 (transient field). Others: +2.0 *3* (1989Do12; transient field IPAC) from g/g(^{168}Er, 549 level)=0.92 *7*; +2.10 *12* (1992Br07; transient field). J^{π}: E2 intraband 285γ to 4^+ 264; g.s. band member. 1^+,6^+ from average resonance capture. $T_{1/2}$: weighted average of 11.6 ps *7* (recoil distance) and 12.3 ps *7* (B(E2) and adopted 285γ properties) in Coulomb excitation.
821.1685[j] *16*	2^+[e]	2.80 ps *9*	AB DEFG JKLMN P S	μ=+0.72 *14*; Q=2.25 *23* μ: transient field IPAC (1989Do12); g/g(^{168}Er, 548.7 level)=1.10 *14*. Q: Coulomb excitation reorientation (1989Ra17 from 183hu01). J^{π}: E2 821γ to 0^+ g.s.. $T_{1/2}$: from B(E2)($0+_g$ to $2+_{\gamma}$) in Coulomb excitation. Other values: 3.5 ps *7* (recoil distance), 2.91 ps *+12−25* and 3.9 ps *+4−5* from measured B(E2) and adopted γ properties for 741γ and 557γ, respectively, in Coulomb excitation.
895.7947[j] *17*	3^+[e]	3.2 ps *+9−2*	AB EFG JK MNO S	J^{π}: M1+E2 632γ to 4^+ 264; M1+E2 816γ to 2^+ 80. $T_{1/2}$: from B(E2)($2+_g$−$3+_{\gamma}$) in Coulomb excitation and adopted 816γ properties. Others: ≤120 ps from γγ(t) in ^{168}Tm ε decay (1991De24); 2.9 ps *13* and 3.3 ps *+11−8*, respectively, from adopted properties for 632γ and 75γ and measured B(E2) in Coulomb excitation.
928.3029[i] *25*	8^+[d]	3.56 ps *13*	C E G JKL S	μ=+2.44 *21* μ: From 1996Br09 (transient field). Others: +2.7 *5* (1989Do12; transient field) from g/g(^{168}Er, 549 level)=1.01 *13* and adopted μ(549 level); +2.40 *16* (1992Br07, superseded by 1996Br09). J^{π}: E2 intraband 379γ to 6^+ 549; 8^+ member of g.s. band expected at 926.6, based on energies of 2^+ and 6^+ members. $T_{1/2}$: weighted average of 3.42 ps *26* (Doppler broadening), 3.67 ps *21* (recoil distance) and 3.53 ps *21* (B(E2) and adopted 380γ properties) in Coulomb excitation.
994.7474[j] *16*	4^+[e]	3.5 ps *7*	AB DEFG JKLMN P S	J^{π}: E2 173γ to 2^+ 821; M1+E2 731γ to 4^+ 264; 446γ to 6^+; member of γ band. 3^+,4^+ from average resonance capture. $T_{1/2}$: recoil distance in Coulomb excitation. However, adopted properties and measured B(E2) for 915γ, 731γ, 445γ and 174γ imply $T_{1/2}$=2.82 ps *18*, 2.89 ps *16*, 4.4 ps *+8−24* and 1.92 ps *15*, respectively, if 99γ branch is negligible.
1094.0383[k] *16*	4^-[f]	109.0 ns *7*	AB EFG JK M RS	μ=+0.96 *4* μ: From TDPAC (1989Ra17 from 1980Fu03).

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Adopted Levels, Gammas (continued)

^{168}Er Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	XREF	Comments
				Q/Q(2+ 80 level)=0.69 3 (2002Th14) from TDPAC. Jπ: M2+E3 1014γ to 2+ 80; E1+M2 830γ to 4+ 264. $T_{1/2}$: weighted average of data from ^{168}Tm ε decay: 108.9 ns 7, 120 ns 20, 110 ns 15, 107 ns 10, 115.7 ns 33, and 107.3 ns 22. Other (from ^{167}Er(n,γ) E=thermal): 89 ns (1974Iv02).
1117.5703[j] 16	5+[e]	2.4 ps +8−2	AB EF JK	Jπ: M1+E2 853γ to 4+ 264; E1 75γ from 5− 1193; β band member. 2+,5+ from average resonance capture. $T_{1/2}$: from measured B(E2)(853γ) in Coulomb excitation and adopted γ properties; measured B(E2) values for 222γ and 123γ imply similar $T_{1/2}$ (2.0 ps +3−7 and 2.2 ps 6).
1193.0251[k] 17	5−[f]	0.70 ns 7	AB DEFG JKLMN RS	Jπ: E1 644γ to 6+ 549; E1 929γ to 4+ 264. $T_{1/2}$: γγ(t) in ^{167}Er(n,γ) E=thermal (1991Pe12). Other value: 0.6 ns 1 (1988Pe06; probably superseded by 1991Pe12).
1217.169[h] 14	0+		B DE JK N	Jπ: L=0 in ^{166}Er(t,p).
1263.9047[j] 19	6+[e]	3.63 ps 26	E JKL	Jπ: M1+E2 146γ to 5+ 1118; M1+E2 715γ to 6+ 548; 336γ to 8+ 928. $T_{1/2}$: from measured B(E2)(1000γ) and adopted γ properties. Others: 4.4 ps 9 from recoil distance in Coulomb excitation; 3.7 ps 4, 5.2 ps +14−39, 4.5 ps +15−10, 2.65 ps 21, respectively, from measured B(E2) for 715γ, 336γ 146γ and 269γ.
≈1266.07[a]			F	
1276.2716[h] 20	2+	2.0 ps +21−7	AB DEFG JK N	Jπ: E2 1276γ to 0+ g.s.. $T_{1/2}$: from lineshape broadening in (n,γ) (1998Le03).
1311.4606[k] 17	6−[f]		A E G JK M RS	Jπ: E2 217γ to 4− 1094; E2 118γ to 5− 1193; band assignment.
1358.899[m] 5	1−		B DE G KL N	Jπ: E1 1279γ to 2+ 80; E2 469γ from 3− 1828; 1359γ to 0+ g.s..
1396.826[i] 5	10+[d]	1.45 ps 6	C E J S	μ=+3.1 4 μ: From 1996Br09 (transient field). Others: +3.2 8 (1989Do12; transient field IPAC) from g/g(^{168}Er, 548.7 level)=0.98 20; +3.0 4 (1992Br07; transient field). Jπ: intraband 469γ to 8+ 928. $T_{1/2}$: weighted average of 1.42 ps 8 (Doppler broadening), 1.66 ps 14 (recoil distance), 1.41 8 (from B(E2)) in Coulomb excitation.
1403.7357[m] 23	(2)−		B EFG K	Jπ: E1 1324γ to 2+ 80; 508γ to 3+ 896; 2−,5− from average resonance capture.
1411.0959[h] 18	4+	>0.83 ps	B dEFG JK	Jπ: M1+E2 294γ to 5+ 1118; E2 589γ to 2+ 821. $T_{1/2}$: from lineshape broadening in (n,γ) (1998Le03).
1422.12[n] 3	0+		B dE K N	Jπ: L=0 in ^{170}Er(p,t).
1431.466[m] 4	3−	41 ps	B dEFG KL N	Jπ: E1 1167γ to 4+ 264; E1 1352γ to 2+ 80. $T_{1/2}$: from 1987Me04 (see ^{168}Tm ε decay).
1432.9508[j] 23	7+[e]		E JK	$T_{1/2}$: values deduced from measured B(E2) in Coulomb excitation and adopted properties for 169γ, 315γ and 884γ range from 0.6 ps 4 to 2.1 ps +9−2. Jπ: M1+E2 884γ to 6+ 549; M1 505γ to 8+ 928.
1448.9555[k] 17	7−[f]		DE G K N RS	Jπ: E2 137γ to 6− 1311; E2 256γ to 5− 1193; 520γ to 8+ 928. Member of established K^π=4− band.

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Adopted Levels, Gammas (continued)

^{168}Er Levels (continued)

E(level)[†]	J^{π}[‡]	$T_{1/2}$[#]	XREF	Comments
1493.133[n] *5*	2^+		B DEFG K MN	J^{π}: E2 1493γ to 0^+ g.s..
1541.5564[l] *18*	3^-	8 ps	AB EfG KL	J^{π}: E1 547γ to 4^+ 995; E1 720γ to 2^+ 821. $T_{1/2}$: from 1987Me04 (see ^{168}Tm ε decay).
1541.7094[m] *24*	$(4)^-$		EfG K	J^{π}: E1 1278γ to 4^+ 264; E2 138γ to $(2)^-$ 1404; M1 213γ from 3^- 1828.
1569.4527[o] *25*	$(2)^-$	0.43 ps *+11−8*	AB dEFG K N	J^{π}: E1 748γ to 2^+ 821; E1 674γ to 3^+ 896; 1695γ to 0^+ g.s.; 2^-,5^- from average resonance capture. $T_{1/2}$: from γ-induced broadening (GRID technique) in (n,γ) E=thermal (2000Ge14).
1574.117[m] *4*	5^-		B dEFG KL N	J^{π}: E1 1025γ to 6^+ 549; E1 1310γ to 4^+ 264.
1605.8503[k] *23*	8^-[f]		E K R	J^{π}: E2 294γ to 6^- 1311; 157γ to 7^- 1449.
1615.3420[l] *18*	4^-		AB EFG K	J^{π}: M1 422γ to 5^- 1193; M1+E2 74γ to 3^- 1542.
1616.8060[h] *19*	6^+	>1.7 ps	E K	J^{π}: E2 206γ to 4^+ 1411; M1 1068γ to 6^+ 549; 689γ to 8^+ 928. $T_{1/2}$: from lineshape broadening in (n,γ) (1998Le03).
1624.507[j] *4*	8^+[e]	3.4 ps *7*	E J	J^{π}: E2 361γ to 6^+ 1264; γ to 10^+; member of established β band. $T_{1/2}$: recoil distance in Coulomb excitation. Note that $T_{1/2}$ values from B(E2) in Coulomb excitation and adopted properties for 1076γ and 361γ are inconsistent with this, however.
1629.698 *6*	4^-,5^-,6^-		E	J^{π}: M1 437γ to 5^- 1193.
1633.4627[o] *23*	3^-	0.35 ps *+11−8*	B DEFG JKLMN P	J^{π}: E1 639γ to 4^+ 995; E1 738γ to 3^+ 896; excitation in Coulomb excitation. $T_{1/2}$: from γ-induced broadening (GRID technique) in (n,γ) E=thermal (2000Ge14).
1653.5486[p] *21*	3^+[g]		AB dEF K	J^{π}: E1 560γ to 4^- 1094; M1 758γ to 3^+ 896; E1 84γ to $(2)^-$ 1569; member of band with established J^{π}.
1656.274[n] *5*	$(4)^+$		B dEF K N	J^{π}: M1 1392γ to 4^+ 264; E2 1107γ to 6^+ 549; 835γ to 2^+ 821.
1707.9929[l] *17*	5^-		DEFG K M	J^{π}: M1 614γ to 4^- 1094; M1 397γ to 6^- 1311.
1719.1786[o] *24*	4^-		EFG K	J^{π}: E1 602γ to 5^+ 1118; E1 823γ to 3^+ 896.
1736.6881[p] *20*	4^+[g]		DEF KL N	J^{π}: E1 544γ to 5^- 1193; E2 841γ to 3^+ 896; member of band with established J^{π}.
1760.760[m] *3*	$(6)^-$		E K	J^{π}: E1 643γ to 5^+ 1118; E1 1212γ to 6^+ 549; band assignment.
1764.0 *4*			G	
≈1768.17[a]			F	
1773.205[q] *3*	$(6)^-$		E G K S	J^{π}: M1 580γ to 5^- 1193; M1 462γ to 6^- 1311; band assignment.
1780.00[k] *15*	9^-[f]		RS	
1786.123[r] *14*	1^-	3.5 fs *4*	DE GH KL N	J^{π}: E1 1786γ to 0^+ g.s.. $T_{1/2}$: other value: 13 fs *+9−8* from from γ-induced broadening (GRID technique) in (n,γ) E=thermal (2000Ge14).
1795.325[m] *11*	(7^-)		DE G K	J^{π}: 1247γ to 6^+ 549; 867γ to 8^+ 928; band assignment.
1812.5[b] *16*	$(2^+,3,4^+)$		E	J^{π}: 991γ to 2^+ 821; 818γ to 4^+ 995. E(level): level reported only in two-photon cascade data in (n,γ) E=thermal. One would expect such a low-lying level to have been observed in other experiments also.

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Adopted Levels, Gammas (continued)

^{168}Er Levels (continued)

E(level)[†]	J^π[‡]	$T_{1/2}$[#]	XREF	Comments
1820.1321[l] *18*	6^-		E g K mN	J^π: M1+E2 112γ to 5^- 1708; M1 371γ to 7^- 1449.
1820.476[o] *3*	5^-		EFg K mn	J^π: E1 557γ to 6^+ 1264; E1 826γ to 4^+ 995.
1828.0639[s] *20*	3^-	0.82 ps *+32−19*	EFG KLmn	J^π: E1 1007γ to 2^+ 821; E1 833γ to 4^+ 995. $T_{1/2}$: from γ-induced broadening (GRID technique) in (n,γ) E=thermal (2000Ge14).
1833.54[t] *11*	0^+		DE K mN	J^π: L=0 in ^{166}Er(t,p).
1839.3474[p] *20*	5^+[g]		EF K	J^π: M1 845γ to 4^+ 995; E1 528γ to 6^- 1311.
1848.354[u] *4*	2^+		A DEF K N	J^π: E2 1848γ to 0^+ g.s..
1881.82 *3*			E	J^π: 689γ to 5^- 1193.
1892.9346[s] *20*	$(4)^-$	177 fs *+17−15*	EFg K m	J^π: M1 700γ to 5^- 1193; M1 799γ to 4^- 1094; 3^-,4^- from average resonance capture. $T_{1/2}$: from γ-induced broadening (GRID technique) in (n,γ) E=thermal (2000Ge14).
1893.100[t] *6*	2^+		E g K mN	J^π: E2 676γ to 0^+ 1217.
1896.379[q] *3*	$(7)^-$		E g m S	J^π: M1+E2 123γ to $(6)^-$ 1773; band assignment.
1902.696[n] *7*	(6^+)		DE K m	J^π: 246γ to 4^+ 1656; 974γ to 8^+ 928.
1905.0922[v] *25*	$(4)^-$		EFG K m	J^π: M1 712γ to 5^- 1193; M1 811γ to 4^- 1094; 3^-,4^- from average resonance capture.
1913.92[r] *3*	3^-	<11 fs	EfG KL N	J^π: E1 1650γ to 4^+ 264; E1 1834γ to 2^+ 80. $T_{1/2}$: from γ-induced broadening (GRID technique) in (n,γ) E=thermal (2000Ge14).
1915.502[u] *4*	$(3)^+$		A Ef K	J^π: 1836γ to 2^+ 80; E2 921γ to 4^+ 995; 798γ to 5^+ 1118; 346γ to $(2)^-$ 1569.
1930.391[w] *4*	2^+		A EF K N	J^π: E2 1930γ to 0^+ g.s..
1936.596[x] *10*	1^-	0.24 ps *3*	E GH K	J^π: E1 1936γ to 0^+ g.s..
1947.3[i] *5*	12^+[d]	0.60 ps *3*	J	E(level): from Coulomb excitation. J^π: γ to 10^+; 12^+ member of established g.s. band. $T_{1/2}$: weighted and unweighted average of 0.62 ps *4* (Doppler broadening), 0.62 ps *14* (recoil distance), 0.58 ps *4* (B(E2) and adopted 547γ properties), all from Coulomb excitation.
1949.636[o] *3*	$(6)^-$		E K	J^π: 230γ to 4^- 1719; 517γ to 7^+ 1433; band assignment.
1950.8067[l] *20*	7^-		E G	J^π: M1 131γ to 6^- 1820; M1+E2 345γ to 8^- 1606.
1952.2[c] *7*	2^+		N	J^π: L(p,t)=2.
1961.3992[p] *20*	6^+[g]		DE K N	J^π: continuation of established band; 225γ to 4^+ 1737; 337γ to 8^+ 1625.
1972.314[x] *14*	$(2)^-$	0.13 ps *+8−4*	EF K	J^π: E1 1077γ to 3^+ 896; 2^-,5^- from average resonance capture. $T_{1/2}$: from γ-induced broadening (GRID technique) in (n,γ) E=thermal (2000Ge14).
1975.75[k] *20*	10^-[f]		RS	
1983.0398[s] *24*	5^-	0.29 ps *+8−5*	DEFG K M	J^π: M1 889γ to 4^- 1094; 672γ to 6^- 1311. $T_{1/2}$: from γ-induced broadening (GRID technique) in (n,γ) E=thermal (2000Ge14).
1994.821[w] *4*	$(3)^+$		A EF K	J^π: E2 1915γ to 2^+ 80; E2 1731γ to 4^+ 264; band assignment.
1999.2239[y] *22*	$(3)^-$	0.44 ns *+12−8*	A dEFg KL	J^π: M1 430γ to $(2)^-$ 1569; M1 384γ to 4^- 1615. $T_{1/2}$: $\gamma\gamma$(t) in ^{167}Er(n,γ) E=thermal (1991Pe12).
2001.953[v] *4*	5^-		dEfg K m	J^π: M1 690γ to 6^- 1311; M1 908γ to 4^- 1094.
2002.465[u] *4*	$(4)^+$		dEfg K m	J^π: M1 1008γ to 4^+ 995; (E2) 1923γ to 2^+ 80; 163γ to 5^+ 1839; band assignment.
2022.358[x] *21*	$(3)^-$	105 fs *+37−25*	dEFG K	J^π: E1 1942γ to 2^+ 80; 264γ to 4^+ 264; band

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Adopted Levels, Gammas (continued)

^{168}Er Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	T$_{1/2}$[#]	XREF	Comments
				assignment. T$_{1/2}$: from γ-induced broadening (GRID technique) in (n,γ) E=thermal (2000Ge14).
2031.097[t] *7*	(4)$^+$		dEFG K M	J$^{\pi}$: M1 1767γ to 4$^+$ 264; 1951γ to 2$^+$ 80; band assignment.
2038.66[q] *20*	(8$^-$)		G S	
2055.914[z] *8*	(4)$^+$	0.32 ps *16*	EF JKL	J$^{\pi}$: E1 962γ to 4$^-$ 1094; E2 1235γ to 2$^+$ 80; 863γ to 5$^-$ 1193. 3$^+$,4$^+$ from average resonance capture. T$_{1/2}$: γ-ray-induced Doppler broadening in ^{167}Er(n,γ) E=thermal (1991Bo18).
2059.9751[1] *20*	(4)$^-$		EFG K	J$^{\pi}$: M1 352γ to 5$^-$ 1708; M1 966γ to 4$^-$ 1094; 3$^-$,4$^-$ from average resonance capture.
2070.0[j] *10*	10$^+$[e]		J	E(level): from Coulomb excitation.
2080.457[w] *3*	(4)$^+$		DEF K N	J$^{\pi}$: M1 1816γ to 4$^+$ 264; E2 1259γ to 2$^+$ 821; band assignment.
2089.348[y] *3*	4$^-$		EFg K m	J$^{\pi}$: M1 548γ to 3$^-$ 1542; M1 381γ to 5$^-$ 1708.
2091.272[s] *5*	(6)$^-$		dE g m	J$^{\pi}$: M1 898γ to 5$^-$ 1193; 658γ to 7$^+$ 1433; band assignment.
2097.571[x] *6*	4$^-$	0.21 ps *+6−4*	dEF K	J$^{\pi}$: E1 979γ to 5$^+$ 1118; E1 1202γ to 3$^+$ 896. T$_{1/2}$: from γ-induced broadening (GRID technique) in (n,γ) E=thermal (2000Ge14).
2100.361[p] *4*	7$^+$[g]		E G	J$^{\pi}$: 261γ to 5$^+$ 1839; 494γ to 8$^-$ 1606; continuation of established band.
2108.987[u] *4*	(5)$^+$		EFG K	J$^{\pi}$: E2 991γ to 5$^+$ 1118; 194γ to 3$^+$ 1916; 148γ to 6$^+$ 1961; 2$^+$,5$^+$ from average resonance capture.
2114.1[c] *4*	0$^+$		N	J$^{\pi}$: L(p,t)=0.
2118.791[v] *5*	(6)$^-$		E g K m	J$^{\pi}$: M1 926γ to 5$^-$ 1311; M1 807γ to 6$^-$ 1311; band assignment.
2122.428 *3*	(5,6,7)$^-$		E g m	XREF: g(2127.6). J$^{\pi}$: M1 349γ to (6)$^-$ 1773; 226γ to (7)$^-$ 1896. Possible bandhead for K^{π}=7$^-$ band (1991Da12, 1985Bu12).
2125.424 *7*			E g	XREF: g(2127.6). J$^{\pi}$: 472γ to 3$^+$ 1654.
2129.246[r] *21*	(5)$^-$		EFg KL	XREF: g(2127.6). J$^{\pi}$: E1 1865γ to 4$^+$ 264; 2$^-$,5$^-$ from average resonance capture.
2133.767[2] *15*	(1$^+$)		E g	XREF: g(2136). J$^{\pi}$: 2133γ to 0$^+$ g.s.; 641γ to 2$^+$ 1493; band assignment.
2135.9 *7*	1$^-$	57 fs *14*	H k	J$^{\pi}$: E1 2136γ to 0$^+$ g.s..
2137.08[3] *9*	(2)$^+$		EFg k	XREF: g(2136). J$^{\pi}$: M1 2057γ to 2$^+$ 80; 2137γ to 0$^+$ g.s.; 2$^+$,(3$^+$),(4$^+$),5$^+$ from average resonance capture.
2144.53 *3*			E	J$^{\pi}$: 539γ to 8$^-$ 1606.
2148.3685[1] *23*	5$^-$		EFG K M	J$^{\pi}$: M1+E2 1054γ to 4$^-$ 1094; M1 955γ to 5$^-$ 1193; 2$^-$,5$^-$ from average resonance capture.
2169.516[z] *12*	(5)$^+$	0.21 ps *14*	EF JK	J$^{\pi}$: E1 976γ to 5$^-$ 1193; E2 1274γ to 3$^+$ 896; 737γ to 7$^+$ 1433; band assignment. T$_{1/2}$: γ-ray-induced Doppler broadening in ^{167}Er(n,γ) E=thermal (1991Bo18).
2174.59 *8*			D K N	XREF: N(2174.0). J$^{\pi}$: 2095γ to 2$^+$ 80.
2177.79[2] *8*	(2$^+$)		E K	J$^{\pi}$: 2178γ to 0$^+$ g.s.; band assignment.
2182.80[k] *25*	11$^-$[f]		RS	

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Adopted Levels, Gammas (continued)

^{168}Er Levels (continued)

E(level)[†]	J$^\pi$[‡]	T$_{1/2}$[#]	XREF	Comments
2185.11[x] 3	(5)$^-$	44 fs +25−16	dEfg K	XREF: g(2186). J$^\pi$: E1 1637γ to 6$^+$ 549; 271γ to 3$^-$ 1914; 2,3,4,5 from average resonance capture. T$_{1/2}$: from γ-induced broadening (GRID technique) in (n,γ) E=thermal (2000Ge14).
2186.741[4] 4	(3)$^+$		dEfg K	XREF: g(2186). J$^\pi$: M1 450γ to 4$^+$ 1737, M1 533γ to 3$^+$ 1654; band assignment.
2188.408[w] 10	(5$^+$)		dE g K	XREF: g(2186). J$^\pi$: 1640γ to 6$^+$ 549; 1924γ to 4$^+$ 264; 535γ to 3$^+$ 1654; band assignment.
2188.74 11	(2$^+$,3,4$^+$)		E K	J$^\pi$: 1194γ to 4$^+$ 995; 2109γ to 2$^+$ 80.
2193.19[5] 4	2$^+$		A dE k N	J$^\pi$: L(p,t)=2; M1 1372γ 2$^+$ 821; log *ft*=5.27 from 3$^+$.
2200.4193[y] 23	(5)$^-$		EFg k	XREF: g(2204). J$^\pi$: 2$^-$,5$^-$ from average resonance capture; M1 585γ to 4$^-$ 1615; M1 380γ to 5$^-$ 1820.
2200.5[q] 3	(9$^-$)		S	
2200.6[c] 4	0$^+$		N	J$^\pi$: L(p,t)=0.
2210.016[s] 6	(7$^-$)		E g	XREF: g(2204). J$^\pi$: 227γ to 5$^-$ 1983; 259γ to 7$^-$ 1951; band assignment.
2218.5[b] 16			E	
2221[&]			d G	
2230.30[6] 4	(2)$^-$		dEFG K	XREF: G(2230.76). J$^\pi$: M1 661γ to (2)$^-$ 1569; 2$^-$,5$^-$ from average resonance capture.
2238.179[7] 3	(4)$^+$		EFG K N	XREF: G(2239.5). J$^\pi$: E1 1144γ to 4$^-$ 1094; gammas to 5$^-$ and 5$^+$; band assignment.
2243.514[2] 19	(3)$^+$		EFG K	XREF: G(2244.3). J$^\pi$: E2 1979γ to 4$^+$ 264; 3$^+$,4$^+$ from average resonance capture; 2163γ to 2$^+$ 80; band assignment.
2246.530[t] 9	(6)$^+$		E K	J$^\pi$: M1 1698γ to 6$^+$ 549; band assignment.
2249.68 5			E	J$^\pi$: 938γ to 6$^-$ 1311.
2254.754 24	(2$^+$)		A E	J$^\pi$: 1038γ to 0$^+$ 1217; gammas to 3$^+$ 896 and 3$^-$ 1828.
2254.84[5] 5	(3)$^+$		A E g K m	J$^\pi$: 1434γ to 2$^+$ 821; log *ft*=5.8 from 3$^+$; band assignment.
2255.343[1] 3	(6)$^-$		E g K m	J$^\pi$: M1 944γ to 6$^-$ 1311; band assignment.
2262.691[8] 7	(3)$^-$		E K mn	J$^\pi$: E2 647γ to 4$^-$ 1615; 1441γ to 2$^+$ 821; band assignment.
2264 4	(0$^+$)		D n	E(level): from ^{166}Er(t,p). J$^\pi$: L=(0) in ^{166}Er(t,p).
2267.632 8	(3,4,5)$^+$		A E g K	J$^\pi$: E1 1174γ to 4$^-$ 1094; band assignment. Suggested bandhead for a K^π=5$^+$ band (1991Da12).
2269 5	3$^-$		g L n	E(level): from ^{168}Er(α,α'). J$^\pi$: angular distribution and isoscalar transition strength in ^{168}Er(α,α').
2270.46 5			A E	J$^\pi$: 1176γ to 4$^-$ 1094.
2273.67 9	(2$^+$,3,4$^+$)		E g JK	J$^\pi$: 1453γ to 2$^+$ 821; 2010γ to 4$^+$ 264.
2279.630[4] 5	(4)$^+$		E g K N	J$^\pi$: M1 543γ to 4$^+$ 1737; M1 626γ to 3$^+$ 1654; band assignment.
2286 5			M	E(level): from ^{169}Tm(pol t,α), (t,α).
2294.0[&] 10			G	
2298.260 4	(4,5,6)$^+$		E K	J$^\pi$: E1 1105γ to 5$^-$ 1193. Suggested as bandhead for a

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Adopted Levels, Gammas (continued)

^{168}Er Levels (continued)

E(level)[†]	J^{π}[‡]	$T_{1/2}$[#]	XREF	Comments
				$K^{\pi}=5^{+}$ band (1991Da12).
2302.666[6] *4*	$(3)^-$		E g K	XREF: g(2302.0). J^{π}: M1 733γ to $(2)^-$ 1569; M1 669γ to 3^- 1633; 154γ to 5^- 2148.
2303.10[x] *3*	$(6)^-$		E g	XREF: g(2302.0). J^{π}: 1039γ to 6^+ 1264; 729γ to 5^- 1574; band assignment.
2306.882[z] *24*	(6^+)		E J	J^{π}: 1042γ to 6^+ 1264; 1114γ to 5^- 1193; band assignment.
2311.07[3] *3*	$(4)^+$		DE G K	J^{π}: E2 2047γ to 4^+ 264; 1762γ to 6^+ 549; band assignment.
2322.2[c] *2*	2^+		g N	J^{π}: L(p,t)=2.
2323.01[9] *5*	3^-		E g KL N	J^{π}: 1501γ to 2^+ 821; 1328γ to 4^+ 995; σ(θ) and isoscalar transition strength in ^{168}Er(α,α′).
2331.987[y] *3*	6^-		E G m	XREF: G(2330). J^{π}: M1 382γ to $(6)^-$ 1950; 381γ to 7^- 1951; 624γ to 5^- 1708; band assignment.
2336.26[5] *10*	4^+		dE g m	XREF: g(2336.7). J^{π}: 1440γ to 3^+ 896; 1118γ to 5^+ 1118; band assignment.
2337.100[!] *20*	3^-		dE g K m	XREF: g(2336.7). J^{π}: M1 1243γ to 4^- 1094; 1516γ to 2^+ 821; band assignment.
2341.78 *24*	1	0.11 ps *3*	H K	J^{π}: D 2342γ to 0^+ g.s.. $T_{1/2}$: from (γ,γ′).
2346.20 *9*	$1^-,2^-,3^-$		dE g K	XREF: g(2347.1). J^{π}: E1 1524γ to 2^+ 821.
2348.581[8] *18*	4^-		dE g K	XREF: g(2347.1). J^{π}: possible M1 1156γ to 5^- 1193; 695γ to 3^+ 1654; band assignment.
2349.3 *3*			MN	E(level): from ^{170}Er(p,t). J^{π}: L(p,t)=2.
2361.40 *19*	1	108 fs *22*	H K	XREF: H(2363). $T_{1/2}$,J^{π}: from (γ,γ′).
2365.196 *14*	$(5)^-$		E g K	XREF: g(2364.7). J^{π}: M1 1271γ to 4^- 1094; M1 1172γ to 5^- 1193; band assignment.
2365.33[l] *12*	(1^+)	94 fs *22*	E gH K	XREF: g(2364.7). J^{π}: (1) from ^{168}Er(γ,γ), (γ,γ′); π=+ from band assignment.
2366.2[c] *2*	0^+		N	J^{π}: L(p,t)=0.
2368.585[7] *9*	(5^+)		E K	J^{π}: γ′s to 4^- and $(5)^+$; band assignment.
2373.657 *18*	2,3		E G	J^{π}: 1553γ to 2^+ 821; 401γ to $(2)^-$ 1972.
2378.12 *8*			E	J^{π}: 1284γ to 4^- 1094.
2382.587 *4*	$(2)^+$		E G K	J^{π}: E1 383γ to $(3)^-$ 1999; 2382γ to 0^+ g.s..
2392.1[c] *2*	(0^+)		g N	J^{π}: L(p,t)=(0).
2392.118 *7*	$(5,6^+)$		E g	J^{π}: 655γ to $(4)^+$ 1737; 1080γ to 6^- 1311; 1128γ to 6^+ 1264. If 1298γ is correctly placed, $J^{\pi}=6^+$ is very unlikely.
2392.927 *9*	$(3^-,4^+)$		E g K m	J^{π}: 1200γ to 5^- 1193; 900γ to 2^+ 1493. Level proposed by 1991Da12 as J=4 member of a $K^{\pi}=2^-$ band built on the 2230 level. This is incompatible with placement (supported by γγ coin data) of the M1 362γ from this level but consistent with placement of the E2 1200γ from the level.
2393.71[l] *9*	(2^+)		E g K m	J^{π}: 2393γ to 0^+ g.s.; 2129γ to 4^+ 264.
2398.52 *9*	$(3^+,4,5^+)$		E g K m	XREF: g(2400.1).

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Adopted Levels, Gammas (continued)

^{168}Er Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	XREF	Comments
				Jπ: 1281γ to 5⁺ 1118; 1503γ to 3⁺ 896.
2401.94 *24*	(1⁻)		E g K m	XREF: g(2400.1). Jπ: 1581γ to 2⁺ 821 is probably E1; 2402γ to 0⁺ g.s..
2402.29[9] *7*	(4)⁻		E g K m	XREF: g(2400.1). Jπ: E1 1506γ to 3⁺ 896; E1 1408γ to 4⁺ 995; band assignment.
2411.795 *25*	(5)⁺		dE G K	Jπ: M1 1417γ to 4⁺ 995; 1100γ to 6⁻ 1311. Proposed by 1991Da12 as J=4 member of a possible K^π=3⁻ band built on 2337 level but, if placement and multipolarity of 1417γ are correct, that band assignment is untenable.
2417.02 *20*	1⁽⁻⁾	20 fs *4*	d H K	D γ to 0⁺ g.s.; π based on K=0 (1996Ma18) from (γ,γ′).
2419.0[k] *3*	12⁻[f]		RS	
2423.25 *9*			E K n	Jπ: 2159γ to 4⁺ 264.
2424.91[l] *6*	(2)⁺		A dE K n	Jπ: log *ft*<5.9 from 3⁺; 2425γ to 0⁺ g.s..
2427.2 *6*			dE lm	
2434.659 *5*			E g lm	XREF: g(2434.9).
2440.054 *20*	(4⁺,5⁺)		E G K	Jπ: 1176γ to 6⁺ 1264; 445γ to (3)⁺ 1995.
2440.46 *5*	(2⁺)		E K	Jπ: 1446γ to 4⁺ 995; 1223γ to 0⁺ 1217.
2450.5?[c] *3*	2⁺		g N	XREF: g(2450). Jπ: L(p,t)=2.
2451.165[8] *24*	(5⁻)		E g K	XREF: g(2450.5). Jπ: 195γ to (6)⁻ 2255; 1456γ to 4⁺ 995; 909γ to (4)⁻ 1542; band assignment.
2455.96 *6*	(3⁺,4,5⁺)		E g K M	XREF: g(2458). Jπ: 1339γ to 5⁺ 1118; 1560γ to 3⁺ 896.
2458.7 *4*	1	0.17 ps *5*	gH K	XREF: g(2458).
2461.8[c] *2*	2⁺		N	Jπ: L(p,t)=2.
2468.8 *9*			dE g	XREF: g(2458).
2474.10 *6*	(6⁻)		dE g	XREF: g(2476.4). Jπ: 1041γ to 7⁺ 1433; 472γ to 5⁻ 2002; band assignment.
2477.20 *6*	(5)⁻		dE g K m	XREF: g(2476.4). Jπ: M1 1166γ to 6⁻ 1311; 1383γ to 4⁻ 1094; possible bandhead for a K^π=5⁻ band.
2478.08 *7*	(3)⁻		dE g K m	XREF: g(2476.4). Jπ: 1657γ to 2⁺ 821; E1 1484γ to 4⁺ 995. Proposed by 1991Da12 as J=3 member of a possible K^π=1⁺ band built on 2365 level but, if placement and multipolarity of 1484γ are correct, that band assignment is untenable.
2484.52[l] *6*	(3⁺)		A dE g K m	XREF: g(2484.8). Jπ: log *ft*=5.91 from 3⁺; 2405γ to 2⁺ 80; 2221γ to 4⁺ 264; band assignment.
2486 *5*	3⁻		d g Lm	XREF: g(2484.8). E(level): from ^{168}Er(α,α′). Jπ: angular distribution and isoscalar transition strength in ^{168}Er(α,α′).
2493.5 *3*	1⁺	37 fs *4*	gH K	XREF: g(2497.8). K=1 (1996Ma18) from (γ,γ′).
2494.528 *15*	(3)⁻		E K	Jπ: E1 1673γ to 2⁺ 821; 512γ to 5⁻ 1983.
2499.1 *5*			E g	XREF: g(2497.8).
2510.72 *24*	1⁽⁻⁾	59 fs *18*	GH K	π based on K=0 (1996Ma18) from (γ,γ′).
2513.67 *5*	(4)⁻		E G K	XREF: G(2510.8). Jπ: E1 1618γ to 3⁺ 896; E1 1519γ to 4⁺ 995; 1396γ to 5⁺ 1118. Proposed by 1991Da12 as J=5 member of a K^π=3⁻ band, but multipolarity of 1519γ and 1618γ rule this out.
2517.48 *20*	(3⁺,4⁺)		E G K	XREF: G(2517.6).

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Adopted Levels, Gammas (continued)

^{168}Er Levels (continued)

E(level)[†]	J^{π}[‡]	$T_{1/2}$[#]	XREF	Comments
				J^{π}: 1696γ to 2$^+$ 821; 408γ to 5$^+$ 2109.
2526.583[!] *12*	(5)$^-$		DE g K	XREF: g(2527.2). J^{π}: E2 1433γ to 4$^-$ 1094; 1532γ to 4$^+$ 995; band assignment.
2527.78 *7*			E g	XREF: g(2527). J^{π}: 1434γ to 4$^-$ 1094.
2528.80 *10*	(5)$^-$		E K	J^{π}: E1 1534γ to 4$^+$ 995; 1265γ to 6$^+$ 1264.
2538.1 *5*	2$^+$		E g LM	XREF: g(2539.3). J^{π}: L(p,t)=2.
2540.22 *5*	(3,4,5)$^+$		E g K	XREF: g(2539.3). J^{π}: E2 1644γ to 3$^+$ 896; 1423γ to 5$^+$ 1117.
2547.25[|] *7*	(4$^+$)		E	J^{π}: 1651γ to 3$^+$ 896; 1998γ to 6$^+$ 549; band assignment.
2551.48 *7*	(4,5)$^-$		E K	J^{π}: E1 1557γ to 4$^+$ 995; 443γ to 5$^+$ 2109.
2552.7 *4*	2$^+$		E G N	XREF: G(2553.1). J^{π}: L(p,t)=2.
2558.66 *5*	(5)$^-$		dE K	J^{π}: E1 γ from 3$^+$,4$^+$ in ^{167}Er(n,γ) E=thermal; 984γ to 5$^-$ 1574; 1294γ to 6$^+$ 1264; 235γ to 3$^-$ 2323.
2561.56[/] *5*	(4$^+$)		dE g K	XREF: g(2562.2). J^{π}: 2297γ to 4$^+$ 264; 2012γ to 6$^+$ 549; band assignment.
2563.5 *5*			dE g	XREF: g(2562.2).
2571.31 *5*			E G	XREF: G(2569.0). J^{π}: 1577γ to 4$^+$ 995; 1675γ to 3$^+$ 896, so J^{π}=(2$^+$,3,4,5$^+$).
2571.9[@i] *5*	14$^+$[d]	0.248 ps *+24−14*	J	$T_{1/2}$: from B(E2) in Coulomb excitation and adopted 625γ properties.
2572.0[@j] *calc*	(12$^+$)[e]		J	J^{π}: from band assignment in Coulomb excitation.
2572.5[c] *2*	0$^+$		N	J^{π}: L(p,t)=0.
2578.8 *5*			E	
2586.2 *6*			E G	XREF: G(2584.8).
2594.4[&] *10*			G	
2601.2 *4*			E G M	XREF: G(2603.7). J^{π}: π=− from E1 5170γ from 3$^+$,4$^+$ in ^{167}Er(n,γ) E=thermal; however, 2522γ to 2$^+$ 80 and 2052γ to 6$^+$ 549 favor 4$^+$.
2617.4 *2*	0$^+$		D N	E(level): from ^{166}Er(p,t). J^{π}: L(p,t)=0.
2626.3 *10*			G	
2628.57 *22*	(3$^+$,4,5$^+$)		E K	J^{π}: 1733γ to 3$^+$ 896; 1511γ to 5$^+$ 1118.
2629.2 *4*			E Kl	J^{π}: γ to 4$^+$ 264.
2637.2[&] *10*			G l	
2643.71 *13*	1$^{(+)}$	70 fs *15*	E H K	K=1 (1996Ma18) from (γ,γ′).
2644.1 *6*	(0$^+$)		E G N	XREF: G(2646.2). E(level): from (p,t). J^{π}: L(p,t)=(0).
2651.9 *5*			E g	
2653.8[k] *4*	13$^-$[f]		RS	
2656.86 *5*			E g	XREF: g(2656.3). J^{π}: gammas to 2$^+$ 821 and 3$^+$ 896, so J^{π}=(1$^+$,2,3,4$^+$).
2657.66 *4*	(2,3,4)		E g m	XREF: g(2656.3).

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Adopted Levels, Gammas (continued)

^{168}Er Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	$T_{1/2}$[#]	XREF	Comments
				J$^{\pi}$: 1226γ to 3$^-$ 1431; 1004γ to 3$^+$ 1654; 1042γ to 4$^-$ 1615.
2660.59 *7*	(3,4)$^+$		E K m	J$^{\pi}$: M1 1666γ to 4$^+$ 995; 2580γ to 2$^+$ 80; 1542γ to 5$^+$ 1118.
2663.229[<] *20*	(4)$^+$		E G K m	XREF: G(2663.1). J$^{\pi}$: E2 1010γ to 3$^+$ 1654; 1193γ to 5$^-$ 1193; band assignment.
2672.1 *5*	(4$^+$,5,6$^+$)		E K	J$^{\pi}$: 1677γ to 4$^+$ 995; 1409γ to 6$^+$ 1264.
2676.3 *4*	1$^+$	27 fs *3*	GH K	J$^{\pi}$: M1 2676γ to 0$^+$ g.s.. K=1 (1996Ma18) from (γ,γ′).
2683.8 *3*	(2$^+$)		E K N	J$^{\pi}$: 2420γ to 4$^+$ 264; 2684γ to 0$^+$ g.s..
2689.0 *4*	(1,2$^+$)		E G K	XREF: G(2691.8). J$^{\pi}$: 2689γ to 0$^+$ g.s.; 2609γ to 2$^+$ 80.
2694	1$^{(+)}$		H	$T_{1/2}$: 0.24 ps *5* if level deexcites to g.s. only.
2700.60 *20*			E	J$^{\pi}$: 2436γ to 4$^+$ 264.
2703.2 *10*			G	
2713.2 *6*			E G	XREF: G(2711.9).
2716.0[b] *16*	(2$^+$,3,4$^+$)		E	J$^{\pi}$: 2636γ to 2$^+$ 80; 2452γ to 4$^+$ 264.
2727.77 *5*	(4,5)$^-$		E g K	XREF: g(2727.9). J$^{\pi}$: M1+E2 1112γ to 4$^-$ 1615; 1611γ to 5$^+$ 1118.
2728.43 *22*	1$^+$	13.9 fs *24*	gH K	XREF: g(2727.9). J$^{\pi}$: M1 2729γ to 0$^+$ g.s..
2733.0 *12*			E	J$^{\pi}$: 1837γ to 3$^+$ 896, 2469γ to 4$^+$ 264, so *J*$^{\pi}$=(2$^+$,3,4,5$^+$).
2738.56 *4*			E g	XREF: g(2739.6). J$^{\pi}$: 1031γ to 5$^-$ 1708, 1123γ to 4$^-$ 1615, so *J*$^{\pi}$=(3$^-$,4,5,6$^-$).
2740.16 *15*	(4,5,6)$^+$		E g K	XREF: g(2739.6). J$^{\pi}$: 1476γ to 6$^+$ 1264; E2 1746γ to 4$^+$ 995.
2740.9 *3*	1	38 fs *6*	gH K	XREF: g(2739.6). J$^{\pi}$: D γ to 0$^+$.
2741.9[c] *4*	2$^+$		N	J$^{\pi}$: L(p,t)=2.
2746.6 *3*	(≤4)		E G K N	XREF: G(2746.3). J$^{\pi}$: 2667γ to 2$^+$ 80.
2751.9 *6*			E	
2757.3 *4*	(1,2$^+$)		G K	J$^{\pi}$: gammas to 0$^+$ g.s. and 2$^+$ 80.
2763.9 *8*	(1,2$^+$)		E K	J$^{\pi}$: gammas to 0$^+$ g.s. and 2$^+$ 80.
2768.55 *6*			E	J$^{\pi}$: 1060γ to 5$^-$ 1708, 1153γ to 4$^-$ 1615, so *J*$^{\pi}$=(3$^-$,4,5,6$^-$).
2769.81[<] *15*	(5$^+$)		E K	J$^{\pi}$: 1675γ to 4$^-$ 1094; 1458γ to 6$^-$ 1311; band assignment.
2778.03 *20*			E	J$^{\pi}$: 2229γ to 6$^+$ 549.
2782.9 *6*	(1,2$^+$)		K	J$^{\pi}$: 2783γ to 0$^+$ g.s.; 2703γ to 2$^+$ 80 level.
2786.80 *7*	(3,4$^+$)		E m	J$^{\pi}$: 2523γ to 4$^+$ 264; 1965γ to 2$^+$ 821; 385γ to (4)$^-$ 2402.3.
2788.1 *16*			E m	J$^{\pi}$: 2524γ to 4$^+$ 264.
2789.2[c] *6*	0$^+$		N	J$^{\pi}$: L(p,t)=0.
2792.0 *4*	1$^+$	24.5 fs *17*	H K m	J$^{\pi}$: M1 2792γ to 0$^+$ g.s.. K=1 (1996Ma18) from (γ,γ′).
2798.1 *3*	1$^+$	25.6 fs *21*	H K	J$^{\pi}$: M1 2798γ to 0$^+$ g.s.. K=1 (1996Ma18) from (γ,γ′).
2806.5 *6*			E	
2810.9[b] *4*			E	J$^{\pi}$: 2547γ to 4$^+$ 264.
2817.0? *4*	(1,2$^+$)		K	J$^{\pi}$: 2817γ to 0$^+$ g.s.; 2737γ to 2$^+$ 80.
2819.7[b] *4*			E	J$^{\pi}$: 2556γ to 4$^+$ 264.
2825.0[c] *4*	2$^+$		N	J$^{\pi}$: L(p,t)=2.
2826.4 *3*	1$^{(+)}$	38 fs *6*	H K	J$^{\pi}$: D, Δπ=(no) γ to 0$^+$. K=1 (1996Ma18) from (γ,γ′).
2833.7 *5*	1$^{(-)}$		H K	J$^{\pi}$: D, Δπ=(yes) γ to 0$^+$.

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Adopted Levels, Gammas (continued)

^{168}Er Levels (continued)

E(level)[†]	J^{π}[‡]	$T_{1/2}$[#]	XREF	Comments
				$T_{1/2}$: 127 fs *18* if level deexcites to g.s. only.
2842.1[c] *3*	0^+		E N	J^π: L(p,t)=0.
2849.60 *5*	(4^+)		E	J^π: 2770γ to 2^+ 80; 2301γ to 6^+ 549.
2850.3 *4*	1^-	31 fs *4*	H K	J^π: E1 2851γ to 0^+ g.s..
2852.0 *5*			E	
2854.6[b] *4*			E	
2856.5 *6*	(2^+)	28 fs *5*	H K	J^π: (Q) 2856γ to 0^+ in (γ,γ').
2863.6? *5*	$(1,2^+)$		K	J^π: 2864γ to 0^+ g.s.; 2783γ to 2^+ 80.
2872.2 *3*	0^+		E mN	E(level): from (p,t). J^π: L(p,t)=0.
2874.61 *3*	(3,4,5)		E m	J^π: 2611γ to 4^+ 264; 1781γ to 4^- 1094.
2878.9[c] *4*	2^+		N	J^π: L(p,t)=2.
2880.6[b] *3*			E m	
2890.65 *24*			E	J^π: 2342γ to 6^+ 549.
2896.7 *3*	$(3,4^+)$		E	J^π: 2815γ to 2^+ 80; 2631γ to 4^+ 264; 1281γ to 4^- 1615.
2901.6[b] *3*			E	
2906.0[c] *4*	2^+		N	J^π: L(p,t)=2.
2907.8[b] *3*			E	
2920.00[b] *24*			E	J^π: 2656γ to 4^+ 264.
2929.9 *4*	$1^{(+)}$	77 fs *12*	E H K	J^π: D, $\Delta\pi$=(no) γ to 0^+. K=1 (1996Ma18) from (γ,γ').
2933.44 *18*	2^+		E N	J^π: L(p,t)=2.
2934.0[k] *4*	14^-[f]		RS	
2942.9 *5*			E	
2946.6 *4*	$1^{(-)}$	10.0 fs *16*	H K	J^π: D γ to 0^+; π from K=0 (1996Ma18) in (γ,γ').
2947.4[c] *4*	0^+		N	J^π: L(p,t)=0.
2950.7[b] *3*			E	J^π: 2686γ to 4^+ 264.
2955.6 *8*	1		H K	J^π: D γ to 0^+. $T_{1/2}$: 0.20 ps *3* if level deexcites to g.s. only.
2959.1 *10*			E	
2961.2[c] *6*	2^+		N	J^π: L(p,t)=2.
2969.93 *6*	$3^+,4^+,5^+$		E K	J^π: E1 1876γ to 4^- 1094. Possible 2421γ to 6^+ 549 disfavors J=3.
2972.6[b] *7*	(≤4)		E	J^π: 2893γ to 2^+ 80.
2974.3 *5*	1	30 fs *6*	H K	J^π: D γ to 0^+.
2979.3[b] *3*	(≤4)		E	J^π: 2158γ to 2^+ 821.
2982.53 *10*	(3,4,5)		E	J^π: 1988γ to 4^+ 995; 1367γ to 4^- 1615.
2984.03[b] *23*			E	
2991.33[b] *23*	(≤4)		E	J^π: 2911γ to 2^+ 80.
2998.2 *4*	0^+		E N	E(level): from (n,γ) E=thermal. J^π: L(p,t)=0.
3002.4? *4*	$(1,2^+)$		E K	J^π: 3002γ to 0^+ g.s.; 2923γ to 2^+ 80.
3009.0[c] *3*	2^+		N	J^π: L(t,p)=2.
3011.77[b] *23*	(4^+)		E	J^π: 2932γ to 2^+ 80; 2462γ to 6^+ 549.
3019.6 *5*	2^+		E N	E(level): weighted average of 3019.1 *4* from (n,γ) E=thermal and 3020.0 *5* from (p,t). J^π: L(p,t)=2.
3026.02[b] *19*			E	J^π: 2477γ to 6^+ 549.
3028.6[c] *6*	0^+		N	J^π: L(p,t)=0.
3030.7[b] *5*			E	J^π: 2769γ to 4^+ 264.
3033.9 *5*	(≤4)		E	J^π: 2213γ to 2^+ 821.

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Adopted Levels, Gammas (continued)

^{168}Er Levels (continued)

E(level)[†]	J^{π}[‡]	$T_{1/2}$[#]	XREF	Comments
3042.3[c] *4*	2^+		N	J^π: L(p,t)=2.
3042.8 *3*	$3^-,4^-,5^-$		E	J^π: M1 1949γ to 4^- 1094.
3044	1	69 fs *17*	H	K=1 (1996Ma18) from (γ,γ').
3049.6 *4*	1^+	25 fs *3*	E H K	J^π: M1 γ to 0^+.
3049.9[c] *5*	2^+		N	J^π: L(p,t)=2.
3055.95[b] *23*	2^+		E N	E(level): other E: 3055.1 *5* from (p,t). J^π: L(p,t)=2.
3063.6[b] *3*			E	
3065.0[c] *7*	(0^+)		N	J^π: L(p,t)=(0).
3068.8[b] *3*			E	J^π: 2520γ to 6^+ 549.
3078.0 *14*			E	
3081.3[c] *6*	2^+		N	J^π: L(p,t)=2.
3082	1	35 fs *6*	H	
3082.8 *5*	(4^+)		E	J^π: 3003γ to 2^+ 80; 2533γ to 6^+ 549.
3087.8[b] *4*			E	
3095.9 *6*	$1^{(-)}$	27 fs *3*	H K	J^π: D, $\Delta\pi$=(yes) γ to 0^+. K=1 (1996Ma18) from (γ,γ').
3098.4[c] *6*	2^+		N	J^π: L(p,t)=2.
3099.42 *8*	(3^-)		E	J^π: (E1) 2205γ to 3^+ 896; 2278γ to 2^+ 821; 2105γ to 4^+ 995.
3106.0[b] *6*			E	
3111.24 *15*	$(2^+,3,4^+)$		E	J^π: 3031γ to 2^+ 80; 2116γ to 4^+ 995.
3116.4? *5*	(2^+)		K	J^π: 3037γ to 0^+ g.s.; 2853γ to 4^+ 264.
3116.8[c]			N	J^π: possibly 0^+ based on forward-peaking of $\sigma(\theta)$ in (p,t).
3118.1[b] *5*			E	
3124.40 *20*	(4^+)		E	J^π: 2575γ to 6^+ 549; 2303γ to 2^+ 821.
3124.5 *7*	1^+	31 fs *4*	H K	J^π: M1 3124γ to 0^+ g.s.. K=1 (1996Ma18) in (γ,γ').
3127.93[b] *25*	$(4^+,5,6^+)$		E	J^π: 2579γ to 6^+ 549; 2864γ to 4^+ 264.
3131.9[b] *5*			E	
3137.6[b] *6*			E	
3139.6[c] *6*	2^+		N	J^π: L(p,t)=2.
3142.7[b] *5*			E	
3147.2[c]			N	J^π: possibly 0^+ based on forward-peaking of $\sigma(\theta)$ in (p,t).
3151.9[b] *16*	(≤4)		E	J^π: 2331γ to 2^+ 821.
3157.5[c] *7*	0^+		N	J^π: L(p,t)=0.
3158.3[b] *16*			E	
3172.5[c] *7*	2^+		N	J^π: L(p,t)=2.
3181.1 *6*	1^-	77 fs *11*	H K	J^π: E1 3181γ to 0^+ g.s.. K=0 (1996Ma18) in (γ,γ').
3183.7[c] *8*	2^+		N	J^π: L(p,t)=2.
3187.9[k] *4*	15^-[f]		RS	
3190	1^-	21 fs *3*	H	
3194.4[c] *8*	2^+		N	J^π: L(p,t)=2.
3198.0[b] *16*	(≤4)		E	J^π: 3118γ to 2^+ 80.
3205.2[b] *16*			E	J^π: 2941γ to 4^+ 264.
3208.0 *8*	$1^{(+)}$		H K	J^π: D, $\Delta\pi$=(no) γ to 0^+. $T_{1/2}$: 152 fs *25* if level deexcites to g.s. only.
3220	1		H	$T_{1/2}$: 175 fs *34* if level deexcites to g.s. only.
3223.2[b] *16*	(4^+)		E	J^π: 2402γ to 2^+ 821; 2675γ to 6^+ 549.
3237.2[c] *8*	2^+		N	J^π: L(p,t)=2.

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Adopted Levels, Gammas (continued)

^{168}Er Levels (continued)

E(level)[†]	J^{π}[‡]	$T_{1/2}$[#]	XREF	Comments
3238.0[b] *16*			E	J^{π}: 2974γ to 4$^+$ 264.
3242.6 *8*	1		H K	$T_{1/2}$: 0.18 ps *4* if level deexcites to g.s. only.
3259.5[@i] *10*	16$^+$[d]	0.195 ps *+59−16*	J	$T_{1/2}$: from B(E2) in Coulomb excitation and adopted 688γ properties.
3269.4[c] *8*	2$^+$		N	J^{π}: L(p,t)=2.
3285.1[b] *16*	(4$^+$)		E	J^{π}: 3205γ to 2$^+$ 80; 2736γ to 6$^+$ 549.
3286.8[c] *8*	2$^+$		N	J^{π}: L(p,t)=2.
3300.0 *7*	1		H K	$T_{1/2}$: 0.17 ps *4* if level deexcites to g.s. only.
3312.8[c]			N	J^{π}: possibly 0$^+$ based on forward-peaking of σ(θ) in (p,t).
3327.3[b] *16*	(≤4)		E	J^{π}: 3248γ to 2$^+$ 80, so J^{π}=1,2,3,4$^+$.
3335.0[b] *16*	(4$^+$,5$^+$)		E	J^{π}: 2439γ to 3$^+$ 896; 2786γ to 6$^+$ 549.
3338.2 *6*	(2$^+$)	73 fs *25*	H K	J^{π}: (Q) γ to 0$^+$ in (γ,γ′).
3342.0 *10*	1$^{(+)}$		H K	J^{π}: D, Δπ=(no) γ to 0$^+$. $T_{1/2}$: 123 fs *30* if level deexcites to g.s. only.
3342.9[c] *10*	2$^+$		N	J^{π}: L(p,t)=2.
3347.7[b] *16*			E	J^{π}: 2353γ to 4$^+$ 995.
3358.7 *6*	1$^+$	5.4 fs *4*	HI K	J^{π}: M1 3359γ to 0$^+$ g.s..
3361.9[c] *10*	2$^+$		N	J^{π}: L(p,t)=2.
3370.9 *7*	(2$^+$)	55 fs *11*	H K	J^{π}: (Q) γ to 0$^+$ in (γ,γ′).
3376.6[b] *16*	(4$^+$)		E	J^{π}: 3297γ to 2$^+$ 80; 2828γ to 6$^+$ 549.
3391 *1*	1$^+$	2.79 fs *22*	HI	K=1 (1996Ma18).
3394.5[b] *16*			E	J^{π}: 2300γ to 4$^-$ 1094.
3399.3[b] *16*	(≤4)		E	J^{π}: 3320γ to 2$^+$ 80.
3409.7 *9*	1$^+$	9.3 fs *12*	H K	J^{π}: M1 γ to 0$^+$.
3415.5[b] *16*	(≤4)		E	J^{π}: 3336γ to 2$^+$ 80.
3429.2[c] *10*	2$^+$		N	J^{π}: L(p,t)=2.
3432.0[b] *16*	(4$^+$)		E	J^{π}: 23352 to 2$^+$ 80; 2883γ to 6$^+$ 549.
3439.6 *9*	1$^{(-)}$	19 fs *4*	H K	J^{π}: D, Δπ=(yes) γ to 0$^+$. K=0 (1996Ma18) from (γ,γ′).
3441.7[c] *10*	2$^+$		N	J^{π}: L(p,t)=2.
3449	1		H	$T_{1/2}$: 43 fs *9* if level deexcites to g.s. only.
3451.6[c] *10*	2$^+$		N	J^{π}: L(p,t)=2.
3458 *2*	1$^+$	5.9 fs *5*	HI	K=1 (1996Ma18) from (γ,γ′).
3459.9[c] *10*	2$^+$		N	J^{π}: L(p,t)=2.
3469 *2*	1$^-$	10.2 fs *13*	H	K=(1) (1996Ma18) in (γ,γ′).
3471.6[c] *10*	2$^+$		N	J^{π}: L(p,t)=2.
3475.7[b] *16*	(≤4)		E	J^{π}: 3396γ to 2$^+$ 80.
3481 *2*	1$^-$	3.0 fs *4*	H	K=0 (1996Ma18) in (γ,γ′).
3482.6[c] *10*	2$^+$		N	J^{π}: L(p,t)=2.
3487.3[b] *16*			E	J^{π}: 2592γ to 3$^+$ 896.
3493.3[c] *10*	2$^+$		N	J^{π}: L(p,t)=2.
3496.4[b] *16*	(4$^+$)		E	J^{π}: 3417γ to 2$^+$ 80; 2950γ to 6$^+$ 549.
3499.3[b] *16*			E	J^{π}: 2405γ to 4$^-$ 1094.
3504.2 *9*	1$^-$	22 fs *8*	H K	D γ to 0$^+$; π=− based on K=0 (1996Ma18) in (γ,γ′).
3506.3[c] *10*	2$^+$		N	J^{π}: L(p,t)=2.
3507.8[b] *16*	(≤4)		E	J^{π}: 3428γ to 2$^+$ 80.
3513.9[b] *16*			E	J^{π}: 2965γ to 6$^+$ 549.
3515.7[c] *12*	2$^+$		N	J^{π}: L(p,t)=2.
3516	1$^-$	13.1 fs *24*	H	

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Adopted Levels, Gammas (continued)

^{168}Er Levels (continued)

E(level)[†]	J^{π}[‡]	$T_{1/2}$[#]	XREF	Comments
3521.1[b] *16*	(≤4)		E	J^{π}: 3441γ to 2^+ 80.
3529	1		H	$T_{1/2}$: 120 fs *25* if level deexcites to g.s. only.
3529.0[c]			N	J^{π}: possibly 0^+ based on forward-peaking of σ(θ) in (p,t).
3560.0[b] *16*			E	J^{π}: 3011γ to 6^+ 549.
3561.9[c] *12*	2^+		N	J^{π}: L(p,t)=2.
3566	1		H	$T_{1/2}$: 0.14 ps *3* if level deexcites to g.s. only.
3569.4[c] *10*	0^+		N	J^{π}: L(p,t)=0.
3570.9[b] *16*	(4^+)		E	J^{π}: 2750γ to 2^+ 821; 3022γ to 6^+ 549.
3581.1[c]			N	J^{π}: possibly 0^+ based on forward-peaking of σ(θ) in (p,t).
3586.3[c] *10*	0^+		N	J^{π}: L(p,t)=0.
3588.0[b] *16*			E	J^{π}: 2593γ to 4^+ 995.
3591	$1^{(+)}$	33 fs *6*	H	K=1 (1996Ma18) from (γ,γ′).
3598	1	17 fs *3*	H	K=(1) (1996Ma18) from (γ,γ′).
3606.8[b] *16*	(≤4)		E	J^{π}: 3527γ to 2^+ 80.
3617.6[c] *12*	2^+		E N	J^{π}: L(p,t)=2.
3627	1		H	$T_{1/2}$: 152 fs *25* if level deexcites to g.s. only.
3629.9[c] *12*	2^+		N	J^{π}: L(p,t)=2.
3634	$1^{(-)}$		H	$T_{1/2}$: 76 fs *16* if level deexcites to g.s. only.
3643.1[b] *16*	(≤4)		E	J^{π}: 2822γ to 2^+ 821.
3657	$1^{(+)}$	8.9 fs *11*	H	K=1 (1996Ma18) from (γ,γ′).
3660.9[b] *16*	(≤4)		E	J^{π}: 2840γ to 2^+ 821.
3663.9[c] *10*	0^+		N	J^{π}: L(p,t)=0.
3680.1[b] *16*	$(2^+,3,4^+)$		E	J^{π}: 2859γ to 2^+ 821; 2685γ to 4^+ 995.
3682.5[c]			N	J^{π}: possibly 0^+ based on forward-peaking of σ(θ) in (p,t).
3696	1	35 fs *8*	H	K=(1) (1996Ma18) from (γ,γ′).
3696.7[c]			N	J^{π}: possibly 0^+ based on forward-peaking of σ(θ) in (p,t).
3702.5[b] *16*	(≤4)		E	J^{π}: 3623γ to 2^+ 80.
3703	1^-	5.1 fs *9*	H	π=− based on K=0 (1996Ma18) in (γ,γ′).
3714.9[c] *10*	(0^+)		N	J^{π}: L(p,t)=(0).
3715.2[b] *16*			E	J^{π}: 2819γ to 3^+ 896.
3719	$1^{(-)}$	9.3 fs *24*	H	
3720.0[c] *15*	2^+		N	J^{π}: L(p,t)=2.
3725.2[c] *15*	2^+		N	J^{π}: L(p,t)=2.
3734.4[c] *10*	0^+		N	J^{π}: L(p,t)=0.
3737	1		H	$T_{1/2}$: 60 fs *17* if level deexcites to g.s. only.
3739.0[b] *16*	$(2^-,3,4^+)$		E	J^{π}: 2918γ to 2^+ 821; 2645γ to 4^- 1094.
3740.4[c] *15*	2^+		N	J^{π}: L(p,t)=2.
3745	$1^{(-)}$	5.3 fs *8*	H	K=(0) (1996Ma18) from (γ,γ′).
3755.4[b] *16*			E	J^{π}: 2860γ to 3^+ 896.
3760.1[c] *10*	0^+		N	J^{π}: L(p,t)=0.
3761.6[b] *16*	(≤4)		E	J^{π}: 2940γ to 2^+ 821.
3776	$1^{(+)}$	27 fs *5*	H	K=1 (1996Ma18) from (γ,γ′).
3781.7[b] *16*	$(4^+,5,6^+)$		E	J^{π}: 3518γ to 4^+ 264; 3233γ to 6^+ 549.
3789	1		H	$T_{1/2}$: 29 fs *7* if level deexcites to g.s. only.
3789.5[c] *15*	2^+		N	J^{π}: L(p,t)=2.
3799.4[b] *16*			E	J^{π}: 3251γ to 6^+ 549.
3800	$1^{(-)}$	12 fs *3*	H	K=0 (1996Ma18) from (γ,γ′).
3806	1^+	7.0 fs *11*	H	K=1 (1996Ma18).
3808.5[c] *15*	2^+		N	J^{π}: L(p,t)=2.
3814	$1^{(-)}$	10.3 fs *19*	H	

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Adopted Levels, Gammas (continued)

^{168}Er Levels (continued)

E(level)[†]	J^{π}[‡]	$T_{1/2}$[#]	XREF	Comments
3817.0[b] *16*	(≤4)		E	J^{π}: 2996γ to 2^+ 821.
3819.4[c] *15*	2^+		N	J^{π}: L(p,t)=2.
3835.2[b] *16*			E	J^{π}: 3571γ to 4^+ 264.
3861.9[c] *15*	2^+		N	J^{π}: L(p,t)=2.
3868.7[c] *15*	2^+		N	J^{π}: L(p,t)=2.
3869	1		H	$T_{1/2}$: 48 fs *9* if level deexcites to g.s. only.
3876.3[c] *15*	2^+		N	J^{π}: L(p,t)=2.
3888.4[b] *16*			E	J^{π}: 2993γ to 3^+ 896.
3895.2[b] *16*			E	J^{π}: 3631γ to 4^+ 264.
3908.3[b] *16*			E	J^{π}: 3644γ to 4^+ 264.
3912	1		H	$T_{1/2}$: 44 fs *9* if level deexcites to g.s. only.
3921	$1^{(-)}$	22 fs *5*	H N	K=1 (1996Ma18) from (γ,γ′).
3928.9[c] *10*	0^+		N	J^{π}: L(p,t)=0.
3933.0[c] *15*	2^+		N	J^{π}: L(p,t)=2.
3960[c]			N	E(level): from (p,t).
3964.9[c] *15*	2^+		N	J^{π}: L(p,t)=2.
3993[c]			N	E(level): from (p,t).
4033.5[c] *15*	2^+		N	J^{π}: L(p,t)=2.
4055.9[c] *15*	2^+		N	J^{π}: L(p,t)=2.
4069[c]			N	E(level): from (p,t).
4075.6[c] *15*	2^+		N	J^{π}: L(p,t)=2.

[†] From least-squares fit to Eγ, except where noted, omitting questionably- or multiply-placed transitions unless all gammas deexciting a given level are of that character. The 154.120γ, 511.8γ, 1029.45γ and 1875.69γ were also excluded because their Eγ fits their placement particularly poorly. Nevertheless, 24 of the remaining Eγ data differ from their expected values by at least 3σ (5 of those by at least 5σ), so presumably some incorrect placements remain. The reduced χ-squared for the fit is 2.4.

[‡] Nilsson analysis of angular distributions and configuration strengths in ^{167}Er(d,p), (t,d), except where noted.

[#] From radiative widths in ^{168}Er(γ,γ), (γ,γ′), except where noted. $T_{1/2}$ for E(level)=2363 and higher may be upper limits since $\Gamma_{\gamma 0}/\Gamma$ includes only the branch to the 79.8 level in addition to the g.s. branch.

[@] From Coulomb excitation.

[&] From ^{167}Er(d,p), (t,d).

[a] From ^{167}Er(n,γ) E=2, 24 keV.

[b] From Eγ for primary γ feeding level in (n,γ) E=thermal.

[c] From (p,t).

[d] Based on established $J^{\pi}=0^+$ for the bandhead, mult=E2 for the 80γ connecting the J=2 and J=0 band members and the uniform progression of level energies, definite J^{π} is assigned to members of the 0^+ g.s. band.

[e] Based on established $J^{\pi}=2^+$ for the bandhead, mult=M1+E2 for the 75γ connecting the J=3 and J=2 band members and the uniform progression of level energies, definite J^{π} is assigned to J≤10 members of the K+2 γ vibration band.

[f] Based on established $J^{\pi}=5^-$ for the J=5 member, mult=E2 for the 217γ connecting the J=6 and J=4 band members and the uniform progression of level energies, definite J^{π} is assigned to all members of the $K^{\pi}=4^-$ band built on the 1094 level.

[g] Based on established $J^{\pi}=5^+$ for the J=5 member, mult=E2 for the 186γ connecting the J=5 and J=3 band members and the uniform progression of level energies, definite J^{π} is assigned to all members of the $K^{\pi}=3^+$ band built on the 1654 level.

[h] Band(A): $K^{\pi}=0^+$ band (2). A=9.9, B=−8.3 (J=0, 2, 4, 6 levels).

[i] Band(B): $K^{\pi}=0^+$ g.s. band. A=13.3, B=−6.3 (J=0, 2, 4, 6 levels).

[j] Band(C): $K^{\pi}=2^+$ K+2 γ-vibration band. A=12.5, B=−4.9 (J=2, 3, 4, 5 levels).

[k] Band(D): K^{π}=4- 2-quasineutron band (2003Wu07). Primarily (ν 7/2[633])+(ν 1/2[521]) with 25% admixture of (π 7/2[523])+(π 1/2[411]) (1985Bu18). A=9.9, B=−1.6 (J=4, 5, 6, 7 levels).

[l] Band(E): $K^{\pi}=3^-$ band (1). A=9.2, B=3.1 (J=3, 4, 5, 6 levels). Configuration: (ν 7/2[633])-(ν 1/2[521]) (1985Bu12).

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Adopted Levels, Gammas (continued)

^{168}Er Levels (continued)

[m] Band(F): K$^{\pi}$=1^{-} band (1). Octupole. A=7.0 (J=1, 2, 3 levels). Configuration: (ν 7/2[633])-(ν 5/2[512]) (1985Bu12); probably heavily mixed with K^{π}=3^{-} (ν 7/2[633])-(ν 1/2[521]).
[n] Band(G): K$^{\pi}$=0^{+} band (3). A=12.0, B=−12.0 (J=0, 2, 4, 6 levels).
[o] Band(H): K$^{\pi}$=2^{-} octupole band. A=11.0, B=−19.9 (J=2, 3, 4, 5 levels). Configuration: principal contributions from (ν 7/2[633])-(ν 3/2[521]) and (ν 7/2[523])-(ν 3/2[411]) (1987Me04).
[p] Band(I): K$^{\pi}$=3^{+} band (1). A=10.5, B=−5.3 (J=3, 4, 5, 6 levels).
[q] Band(J): K$^{\pi}$=6^{-} band (1) (2010Dr02). A=8.70, B=+3.5 (J=6, 7, 8 levels). Configuration: (ν 7/2[633)]+(ν 5/2[512]) (1985Bu12).
[r] Band(K): K$^{\pi}$=0^{-} band (1). Octupole vibration. A=12.8 (J=1, 3 levels). Configuration: principal contributions from (ν 7/2[633])-(ν 7/2[514]) and (ν 7/2[523])-(ν 7/2[404]) (1987Me04).
[s] Band(L): K$^{\pi}$=3^{-} band (2). A=8.1, B=19.3 (J=3, 4, 5, 6 levels). Configuration: (ν 7/2[633])-(ν 1/2[510]) (1985Bu12).
[t] Band(M): K$^{\pi}$=0^{+} (π 1/2[411])-(π 1/2[411]) band. A=9.9 (J=0, 2, 4 levels).
[u] Band(N): K$^{\pi}$=2^{+} band (2). A=11.0 (J=2, 3, 4 levels).
[v] Band(O): K$^{\pi}$=4^{-} (π 7/2[523]) +(π 1/2[411]) band. A=9.7 (J=4, 5 levels).
[w] Band(P): K$^{\pi}$=2^{+} band (3). A=10.7 (J=2, 3, 4 levels).
[x] Band(Q): K$^{\pi}$=1^{-} band (2). A=8.2, B=35.5 (J=1, 2, 3, 4 levels).
[y] Band(R): K$^{\pi}$=3^{-} (π 7/2[523]) -(π 1/2[411]) band. A=11.2 (J=3, 4, 5 levels).
[z] Band(S): K$^{\pi}$=4^{+} $\gamma\gamma$ band. A=11.4 (J=4, 5 levels).
[1] Band(T): K$^{\pi}$=4^{-} band (3). A=8.8 (J=4, 5 levels). Configuration: (ν 7/2[633])+(ν 1/2[510]) (1985Bu12).
[2] Band(U): K$^{\pi}$=1^{+} band (1). A=11.0 (J=1, 2 levels).
[3] Band(V): K$^{\pi}$=0^{+} band (5). Bandhead undetermined.
[4] Band(W): K$^{\pi}$=(3)$^{+}$ band (2).
[5] Band(X): K$^{\pi}$=(2)$^{+}$ (π 3/2[411])+(π 1/2[411]) band. A=10.3 (J=2, 3 levels).
[6] Band(Y): K$^{\pi}$=2^{-} band (2). A=12.1 (J=2, 3 levels).
[7] Band(Z): K$^{\pi}$=4^{+} band (2).
[8] Band(b): K$^{\pi}$=(3)$^{-}$ band (4). A=10.7 (J=3, 4 levels).
[9] Band(c): K$^{\pi}$=3^{-} band (5) ?. A=9.9 (J=3, 4 levels).
[!] Band(d): K$^{\pi}$=3^{-} band (6). A=9.3 (J=3, 4 levels).
Band(a): K$^{\pi}$=(5)$^{-}$ band (1).
[|] Band(f): K$^{\pi}$=(1^{+}) (π 3/2[411])-(π 1/2[411]) band. A=9.5 (J=1, 2 levels).
[/] Band(g): K$^{\pi}$=2^{+} band (5). A=9.9 (J=2, 3 levels).
[<] Band(e): K$^{\pi}$=(4)$^{+}$ band (3).

$\gamma(^{168}\mathrm{Er})$

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[†]	δ[†]	α[f]	Comments
79.804	2^+	79.804 *1*	100	0.0	0^+	E2		7.04	B(E2)(W.u.)=213 *4*
264.0888	4^+	184.285 *1*	100	79.804	2^+	E2		0.331	B(E2)(W.u.)=319 *9*
548.7470	6^+	284.655 *2*	100	264.0888	4^+	E2		0.0811	B(E2)(W.u.)=424 *18*
821.1685	2^+	557.079 *3*	1.74[d] *8*	264.0888	4^+	E2[c]		0.01252	B(E2)(W.u.)=0.61 *4*
		741.356 *3*	100[d] *2*	79.804	2^+	E2+M1[b]	>25[b#]	0.00639 *9*	B(M1)(W.u.)<1.6×10^{-5}; B(E2)(W.u.)>8.0
		821.164 *5*	93.6[d] *4*	0.0	0^+	E2		0.00510 *8*	B(E2)(W.u.)=4.68 *16*
895.7947	3^+	74.626 *3*	0.04 *1*	821.1685	2^+	M1+E2	+1.42 *+4−5*	8.35 *13*	B(M1)(W.u.)=0.0018 *+5−7*; B(E2)(W.u.)=3.1×10^{2} *+8−12* δ: sign from $\gamma\gamma(\theta)$ (1996Al31) in ε decay; magnitude from L1/L3 in (n,γ) E=thermal (1980Sc15).
		631.703 *3*	18.1[d] *2*	264.0888	4^+	M1+E2	−4.8[@] *2*	0.00965 *14*	B(M1)(W.u.)=0.000172 *+18−51*; B(E2)(W.u.)=4.6 *+3−14*
		815.990 *4*	100[d] *2*	79.804	2^+	M1+E2	+17.7[&] *23*	0.00518 *8*	B(M1)(W.u.)=3.4×10^{-5} *+9−13*; B(E2)(W.u.)=7.4 *+5−21*
928.3029	8^+	379.545 *3*	100	548.7470	6^+	E2		0.0346	B(E2)(W.u.)=354 *13*
994.7474	4^+	(98.95)		895.7947	3^+				B(E2)(W.u.)=505 *+122−40* B(E2)(W.u.): From measured B(E2) in Coulomb excitation. E_γ: from level energy difference. Existence implied in Coulomb excitation; possibly obscured in (n,γ) E=thermal by 99γ from 1193 level.
		173.577 *1*	0.80[d] *5*	821.1685	2^+	E2		0.406	B(E2)(W.u.)=92 *20*
		445.995 *4*	1.1[d] *1*	548.7470	6^+	[E2]		0.0222	B(E2)(W.u.)=1.13 *25*
		730.660 *2*	100[d] *2*	264.0888	4^+	M1+E2	+13 *+16−3*	0.00664 *10*	B(M1)(W.u.)=6.E−5 *+15−6*; B(E2)(W.u.)=8.6 *18* Mult.,δ: D+Q from $\gamma(\theta)$ in (n,n′γ); $\Delta\pi$ from ce data in (n,γ).
		914.944 *6*	59.1[d] *3*	79.804	2^+	E2		0.00404 *6*	B(E2)(W.u.)=1.7 *4*
1094.0383	4^-	99.289 *2*	7.77[d] *8*	994.7474	4^+	E1+M2[b]	−0.06[b] *5*	0.43 *23*	B(E1)(W.u.)=1.2×10^{-7} *3*; B(M2)(W.u.)=0.20 *+34−20*
		198.241 *1*	100[d] *2*	895.7947	3^+	E1+M2[b]	−0.12[b] *3*	0.084 *18*	B(E1)(W.u.)=1.94×10^{-7} *8*; B(M2)(W.u.)=0.33 *17*
		272.876 *2*	0.17[d] *1*	821.1685	2^+	M2		0.754	B(M2)(W.u.)=0.0079 *6*
		829.958 *7*	12.8[d] *1*	264.0888	4^+	E1+M2[b]	−0.05[b] *3*	0.00201 *10*	B(E1)(W.u.)=3.43×10^{-10} *10*; B(M2)(W.u.)=6×10^{-6} *+7−6*
		1014.11 *4*	0.135[d] *5*	79.804	2^+	M2+E3[b]	−0.55[b] *2*	0.01304 *21*	B(M2)(W.u.)=6.8×10^{-6} *4*; B(E3)(W.u.)=0.00142 *11*
1117.5703	5^+	122.821 *1*	0.38 *6*	994.7474	4^+	M1+E2	1.57 *+7−9*	1.434 *21*	B(M1)(W.u.)=0.0044 *+9−17*; B(E2)(W.u.)=3.4×10^{2} *+7−13*
		221.775 *2*	3.6 *3*	895.7947	3^+	E2		0.179	B(E2)(W.u.)=2.4×10^{2} *+4−9*
		568.821 *6*	16.2 *8*	548.7470	6^+	E2+M1	3.6 *3*	0.01284 *25*	B(M1)(W.u.)=0.00047 *+10−18*; B(E2)(W.u.)=8.9 *+11−31*
		853.473 *6*	100 *9*	264.0888	4^+	M1+E2	3.6 *+24−8*	0.00500 *21*	B(M1)(W.u.)=0.0009 *+11−9*; B(E2)(W.u.)=7.2 *+13−27*
1193.0251	5^-	75.466 *7*	0.28 *8*	1117.5703	5^+	E1		0.682	B(E1)(W.u.)=4.4×10^{-7} *15* Mult.: from α(K)exp in ε decay.
		98.982 *2*	100 *15*	1094.0383	4^-	E2		3.06	B(E2)(W.u.)=330 *80* E_γ,I_γ: possibly includes contribution from an expected γ from 995 level.

$\gamma(^{168}$Er) (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[†]	δ[†]	α[f]	Comments
1193.0251	5^-	644.277 *5*	11.0 *13*	548.7470	6^+	E1		0.00324 *5*	B(E1)(W.u.)=2.8×10^{-8} *6* Other Iγ: 8.2 *14* in ε decay.
		928.935 *5*	53.0 *20*	264.0888	4^+	E1		1.57×10^{-3}	B(E1)(W.u.)=4.5×10^{-8} *8* Other Iγ: 41.8 *11* in ε decay, 40 *5* in β^- decay.
1217.169	0^+	1137.357 *16*	100	79.804	2^+	E2		0.00259 *4*	
		1217.1		0.0	0^+	E0			E_γ,Mult.: from ε decay.
1263.9047	6^+	146.331 *7*	0.78 *16*	1117.5703	5^+	M1+E2	1.9 *+4−3*	0.784 *19*	B(M1)(W.u.)=0.0019 *8*; B(E2)(W.u.)=1.5×10^2 *4*
		269.161 *2*	17.8 *13*	994.7474	4^+	E2		0.0964	B(E2)(W.u.)=202 *22*
		335.589 *3*	0.77 *14*	928.3029	8^+	[E2]		0.0494	B(E2)(W.u.)=2.9 *6*
		715.163 *6*	100 *4*	548.7470	6^+	M1+E2	3.0 *+16−6*	0.00720 *19*	B(M1)(W.u.)=0.0009 *9*; B(E2)(W.u.)=7.7 *11* Other δ: −1.7 *+3−9* or −50 *+150−20* from (n,n′γ).
		999.827 *11*	54 *3*	264.0888	4^+	E2		0.00336 *5*	B(E2)(W.u.)=0.87 *9*
1276.2716	2^+	(59.17)	0.15 *8*	1217.169	0^+	[E2]		24.4	E_γ,I_γ: Eγ from level energy difference. Unobserved γ needed for intensity balance at the 1217 level in ε decay.
		380.479 *5*	2.7 *6*	895.7947	3^+				
		455.096 *3*	5.4 *8*	821.1685	2^+				
		1012.190 *10*	100 *4*	264.0888	4^+	E2		0.00328 *5*	B(E2)(W.u.)=2.2 *+8−22*
		1196.513 *20*	57 *3*	79.804	2^+	M1+E2(+E0)	−5.0 *+19−26*		B(M1)(W.u.)=0.0016 *+6−16* Other Iγ: 38 *10* from β^- decay. Mult.,δ: D+Q with δ=−5.0 *+19−26* from (n,n′γ). α(K)exp in (n,γ) and ε decay is consistent with pure M1 but allows small E0 component; 1999Wo07 estimate ρ^2=0.8×10^{-3} *8*.
		1276.27 *3*	54 *7*	0.0	0^+	E2		0.00208 *3*	B(E2)(W.u.)=0.37 *+14−37*
1311.4606	6^-	118.437 *1*	27.8 *13*	1193.0251	5^-	E2		1.568	I_γ: weighted average of 28.7 *19* from ^{170}Er(^{136}Xe,Xγ), 28.2 *22* from 1991DaZT in (n,γ) E=thermal and 25 *3* from (n,n′γ). Other: 20.6 *8* (2007ChZX, Budapest data) in (n,γ) E=thermal.
		193.888 *1*	1.8 *3*	1117.5703	5^+				
		217.422 *1*	100 *4*	1094.0383	4^-	E2		0.191	
		762.75 *4*	0.50 *17*	548.7470	6^+				
1358.899	1^-	537.76 *6*	0.88 *18*	821.1685	2^+				E_γ,I_γ: from ε decay.
		1279.100 *23*	100[d] *6*	79.804	2^+	E1			E_γ,I_γ: from ε decay.
		1358.904 *14*	28.8 *15*	0.0	0^+				E_γ,I_γ: from ε decay.
1396.826	10^+	468.529 *5*	100	928.3029	8^+	[E2]		0.0195	B(E2)(W.u.)=308 *13*

$^{168}_{68}$Er$_{100}$-19

γ(^{168}Er) (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[†]	δ[†]	α[f]	Comments
1403.7357	(2)$^-$	507.936 3	3.2 4	895.7947	3$^+$				
		582.567 3	31.9 20	821.1685	2$^+$	E1		0.00401 6	
		1323.913 20	100 4	79.804	2$^+$	E1			δ(D,Q)=+0.05 +11−6 from (n,n′γ).
1411.0959	4$^+$	134.824 1	5.8 13	1276.2716	2$^+$				
		293.523 2	1.05 21	1117.5703	5$^+$	M1+E2	1.4 +14−5	0.097 16	B(M1)(W.u.)<0.0030; B(E2)(W.u.)<23
		416.352 4	14.1 11	994.7474	4$^+$	M1+E2	1.7 +11−5	0.034 5	B(M1)(W.u.)<0.0089; B(E2)(W.u.)<47
		515.303 2	19.7 23	895.7947	3$^+$	E2		0.01522	B(E2)(W.u.)<23
		589.913 8	3.2 5	821.1685	2$^+$	E2		0.01088	B(E2)(W.u.)<1.9
		862.355 11	81 4	548.7470	6$^+$	E2		0.00459 7	B(E2)(W.u.)<7.2
		1146.998 9	67 4	264.0888	4$^+$	M1		0.00443 7	B(M1)(W.u.)<0.0040
		1331.324 15	100 8	79.804	2$^+$	E2		0.00193 3	B(E2)(W.u.)<1.0
1422.12	0$^+$	205.1		1217.169	0$^+$	E0			E_γ,Mult.: from ε decay.
		1342.44 7	100	79.804	2$^+$	E2		0.00190 3	
		1422.2		0.0	0$^+$	E0			E_γ,Mult.: from ε decay.
1431.466	3$^-$	535.642[g] 21	<0.41[g]	895.7947	3$^+$	[E1]		0.00480 7	B(E1)(W.u.)=3.62×10^{-8}
		1167.396 15	100 8	264.0888	4$^+$	E1		1.04×10^{-3}	B(E1)(W.u.)=1.70×10^{-6}
		1351.54 4	99 4	79.804	2$^+$	E1		8.93×10^{-4}	B(E1)(W.u.)=1.09×10^{-6}
		1431.7[d] 4	0.50[d] 18	0.0	0$^+$	[E3]		0.00328 5	B(E3)(W.u.)=3.58 B(E3)(W.u.)=3.7 5 from measured B(E3)=0.043 6 in Coulomb excitation (1978Mc02).
1432.9508	7$^+$	169.043 3	1.07 21	1263.9047	6$^+$	M1+E2	1.5 +4−2	0.505 20	B(E2)(W.u.)=198 +87−183 δ: estimate from (n,γ) E=thermal based on Alaga rule. B(E2)↓: From measured B(E2) in Coulomb excitation.
		315.383 3	37.2 24	1117.5703	5$^+$	E2		0.0594	B(E2)(W.u.)=380 +14−176 B(E2)↓: From measured B(E2) in Coulomb excitation.
		504.644 4	14.1 17	928.3029	8$^+$	M1+E2	<0.22	0.0337 7	B(E2)(W.u.)=17 +14−7 Mult.,δ: α(K)exp in (n,γ) E=thermal implies δ<0.22, but measured B(E2) requires nonzero E2 component. B(E2)↓: From measured B(E2) in Coulomb excitation.
		884.219 9	100 10	548.7470	6$^+$	M1+E2	1.3 +8−4	0.0058 8	B(E2)(W.u.)=12 +7−5 B(E2)↓: From measured B(E2) in Coulomb excitation.
1448.9555	7$^-$	137.494 1	14.0 22	1311.4606	6$^-$	E2		0.916	I_γ: unweighted average of 11.5 14 from 1991DaZT in (n,γ) E=thermal and 16.1 13 from ^{170}Er(^{136}Xe,Xγ). Other Iγ: 16.2 25 (2007ChZX) from (n,γ) E=thermal for probable doublet.

$^{168}_{68}$Er$_{100}$-20

Adopted Levels, Gammas (continued)

$\gamma(^{168}\mathrm{Er})$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[†]	δ[†]	α[f]	Comments
1448.9555	7⁻	185.056 *5*	0.72 *16*	1263.9047	6⁺				
		255.929 *1*	100 *4*	1193.0251	5⁻	E2		0.1130	
		520.667 *9*	1.6 *3*	928.3029	8⁺				
		900.206 *15*	13.5 *18*	548.7470	6⁺				
1493.133	2⁺	70.9		1422.12	0⁺	(E2)		11.35	E_γ,Mult.: from L2/L3 in ε decay.
		498.46 *6*	1.4 *5*	994.7474	4⁺				
		597.327 *7*	5.5 *10*	895.7947	3⁺				
		671.961 *9*	6.7 *12*	821.1685	2⁺				
		1229.080 *15*	100 *7*	264.0888	4⁺	E2		0.00223 *4*	
		1413.317 *23*	84 *6*	79.804	2⁺	M1+E2	+0.7 *4*	0.00241 *25*	Mult.,δ: α(K)exp consistent with M1 in (n,γ); D+Q from (n,n′γ) with δ=+0.7 *4*.
		1493.09 *8*	22 *4*	0.0	0⁺	E2		1.59×10^{-3}	
1541.5564	3⁻	110.2[i]		1431.466	3⁻	M1(+E2)		2.10 *7*	E_γ,Mult.: from ε decay.
		348.523 *2*	1.48[d] *3*	1193.0251	5⁻	E2		0.0442	B(E2)(W.u.)=2.02
		447.515 *3*	100[d] *2*	1094.0383	4⁻	M1+E2[b]	−0.09[b] *1*	0.0463	B(M1)(W.u.)=0.0167; B(E2)(W.u.)=0.31 *7*
		546.802 *5*	11.1[d] *2*	994.7474	4⁺	E1(+M2)[b]	+0.007[b] *23*	0.00460 *10*	B(E1)(W.u.)=1.03×10^{-5}; B(M2)(W.u.)=0.008 *+51−8*
		645.775 *15*	6.26[d] *6*	895.7947	3⁺	E1		0.00323 *5*	B(E1)(W.u.)=3.53×10^{-6} Other Iγ: 8.2 *11* from β^- decay, 17 *3* from (n,γ) E=thermal.
		720.392 *5*	51.0[d] *5*	821.1685	2⁺	E1+M2[b]	−0.012[b] *10*	0.00259 *4*	B(E1)(W.u.)=2.07×10^{-5}; B(M2)(W.u.)=0.03 *+5−3*
		1277.451[d] *5*	7.04[d] *7*	264.0888	4⁺	E1+M2[b]	−0.040[b] *18*	9.47×10^{-4} *19*	B(E1)(W.u.)=5.1×10^{-7}; B(M2)(W.u.)=0.0023 *21*
		1461.750[d] *4*	1.03[d] *1*	79.804	2⁺	[E1]		8.66×10^{-4} *13*	B(E1)(W.u.)=5.0×10^{-8}
		1541.46 *25*	0.0096[d] *5*	0.0	0⁺	[E3]		0.00282 *4*	B(E3)(W.u.)=0.230
1541.7094	(4)⁻	110.245 *4*	0.31 *6*	1431.466	3⁻				
		137.974 *4*	1.6 *3*	1403.7357	(2)⁻	E2		0.904	
		546.960 *5*	28 *6*	994.7474	4⁺	[E1]			
		645.939 *11*	17 *3*	895.7947	3⁺	[E1]			
		1277.592 *20*	100 *13*	264.0888	4⁺	E1		9.35×10^{-4} *13*	
1569.4527	(2)⁻	27.80		1541.5564	3⁻	M1,E2		5×10^{2} *5*	E_γ,Mult.: from ε decay.
		165.3		1403.7357	(2)⁻	M1(+E2)		0.58 *11*	E_γ,Mult.: from ε decay.
		673.666 *4*	38[d] *2*	895.7947	3⁺	E1		0.00296 *5*	B(E1)(W.u.)=0.00046 *+9−13*
		748.281 *4*	100[d] *2*	821.1685	2⁺	E1		0.00239 *4*	B(E1)(W.u.)=0.00089 *+17−23*
		1489.66[d] *3*	0.50[d] *3*	79.804	2⁺				
		1569.5[d] *4*	0.005[d] *2*	0.0	0⁺	[M2]			B(M2)(W.u.)=0.009 *+4−5*
1574.117	5⁻	1025.377 *11*	58 *4*	548.7470	6⁺	E1		1.31×10^{-3}	

$^{168}_{68}\mathrm{Er}_{100}$-21

$\gamma(^{168}Er)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[†]	δ[†]	α[f]	Comments
1574.117	5^-	1310.030 *8*	100 *4*	264.0888	4^+	E1		9.14×10^{-4} *13*	
1605.8503	8^-	156.884 *4*	7.1 *8*	1448.9555	7^-				I_γ: weighted average of 7.4 *9* from $^{170}Er(^{136}Xe,X\gamma)$ and 4.9 *24* from (n,γ) E=thermal.
		294.390 *2*	100	1311.4606	6^-	E2		0.0731	
1615.3420	4^-	73.784 *3*	3.6 *8*	1541.5564	3^-	M1+E2	0.11 *+3−2*	6.87	
		303.878 *4*	0.93 *15*	1311.4606	6^-				
		422.318 *4*	100 *4*	1193.0251	5^-	M1		0.0540	
		497.768 *6*	17.9 *23*	1117.5703	5^+	E1		0.00564 *8*	
		521.303 *3*	13.9 *19*	1094.0383	4^-	M1+E2	1.1 *+9−5*	0.022 *5*	
		620.590 *17*	3.6 *5*	994.7474	4^+				
		719.550 *5*	72 *8*	895.7947	3^+	E1+M2	−0.007 *4*	0.00259 *4*	δ: from $\gamma\gamma(\theta)$ in ε decay.
		1351.2[d]	≈3.9[d]	264.0888	4^+				
1616.8060	6^+	205.710 *1*	27 *4*	1411.0959	4^+	E2		0.229	
		352.900 *3*	7.7 *9*	1263.9047	6^+	M1+E2		0.065 *22*	
		499.233 *3*	15.2 *18*	1117.5703	5^+	M1+E2	1.0 *+9−5*	0.026 *6*	B(M1)(W.u.)<0.0072; B(E2)(W.u.)<13
		622.059 *5*	7.0 *9*	994.7474	4^+	E2		0.00958 *14*	B(E2)(W.u.)<2.2
		688.538 *20*	8.0 *23*	928.3029	8^+	[E2]			B(E2)(W.u.)<1.5
		1068.079 *13*	100 *16*	548.7470	6^+	M1		0.00526 *8*	B(M1)(W.u.)<0.0050
		1352.53 *13*	≈38	264.0888	4^+	E2		0.00187 *3*	B(E2)(W.u.)<0.24 I_γ: estimate from $I\gamma(1351.2\gamma)/I\gamma(422.3\gamma)$ for 1615.3 level in ^{168}Tm ε decay and $I\gamma(1352.5\gamma)/I\gamma(1068.1\gamma)$ for 1616.8 level in $^{167}Er(n,\gamma)$ E=thermal.
1624.507	8^+	191.555 *10*	1.4 *7*	1432.9508	7^+	[M1,E2]		0.37 *9*	B(E2)(W.u.)=27 *+15−27* B(E2)(W.u.) from measured B(E2) in Coulomb excitation.
		227.705 *10*	3.9 *10*	1396.826	10^+	[E2]		0.1643	B(E2)(W.u.)=120 *50* Other B(E2)(W.u.): 1.7 *+7−17* from measured B(E2) in Coulomb excitation.
		360.599 *4*	24 *5*	1263.9047	6^+	E2		0.0401	B(E2)(W.u.)=70 *30*
		696.132 *28*	32 *10*	928.3029	8^+	[M1,E2]		0.011 *4*	B(E2)(W.u.)=7.0 *+5−9* B(E2)(W.u.) from measured B(E2) in Coulomb excitation.
		1075.64 *8*	100 *31*	548.7470	6^+	[E2]		0.00290 *4*	B(E2)(W.u.)=1.3 *6* Other B(E2)(W.u.): 0.43 *+4−3* from measured B(E2) in Coulomb excitation.
1629.698	$4^-,5^-,6^-$	436.672 *5*	100 *22*	1193.0251	5^-	M1		0.0495	
		535.642[g] *21*	<30[g]	1094.0383	4^-				
1633.4627	3^-	64.0		1569.4527	$(2)^-$	(E2)		17.36	E_γ: from ε decay. Mult.: from L2/L3 in ε decay.

$^{168}_{68}Er_{100}$-22

Adopted Levels, Gammas (continued)

$\gamma(^{168}\mathrm{Er})$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[†]	α[f]	Comments
1633.4627	3^-	638.710 *8*	79 *9*	994.7474	4^+	E1	0.00330 *5*	B(E1)(W.u.)=0.00072 *+19−25*
		737.686 *4*	100 *5*	895.7947	3^+	E1	0.00246 *4*	B(E1)(W.u.)=0.00059 *+15−19*
		812.287 *11*	89 *11*	821.1685	2^+			
		1553.5[d] *7*	0.4[d] *2*	79.804	2^+			
		(1633.46)		0.0	0^+			B(E3)↓=4.3 *9* B(E3)↓: From measured B(E3)=0.050 *10* in Coulomb excitation.
1653.5486	3^+	84.096 *3*	0.69 *19*	1569.4527	$(2)^-$	E1	0.514	
		111.985 *13*	0.070 *25*	1541.5564	3^-			
		249.809 *3*	0.26 *5*	1403.7357	$(2)^-$			
		559.510 *4*	100 *4*	1094.0383	4^-	E1	0.00437	
		757.84 *3*	0.94 *25*	895.7947	3^+	M1	0.01220	
		832.36 *4*	10.1 *19*	821.1685	2^+			
1656.274	$(4)^+$	163.137[g] *2*	<1.06[g]	1493.133	2^+			
		538.68[g] *3*	<1.9[g]	1117.5703	5^+			Mult.: E2 from α(K)exp in (n,γ) E=thermal for doubly-placed γ.
		661.523 *7*	2.8 *5*	994.7474	4^+	M1	0.01713	
		760.54 *9*	1.4 *3*	895.7947	3^+			
		835.14 *3*	2.3 *9*	821.1685	2^+			
		1107.495 *19*	37 *3*	548.7470	6^+	E2	0.00273 *4*	
		1392.209 *13*	100 *5*	264.0888	4^+	M1	0.00283 *4*	
		1576.58[g] *8*	<11.3[g]	79.804	2^+			
1707.9929	5^-	92.652 *1*	14.0 *21*	1615.3420	4^-	M1	3.54	
		166.434 *1*	3.1 *6*	1541.5564	3^-			
		259.034 *5*	0.50 *10*	1448.9555	7^-			
		396.530 *3*	100 *6*	1311.4606	6^-	M1	0.0637	
		444.086 *4*	11.5 *17*	1263.9047	6^+			
		514.970 *2*	18.1 *19*	1193.0251	5^-			
		590.415 *12*	3.1 *6*	1117.5703	5^+			
		613.951 *4*	16.0 *25*	1094.0383	4^-	M1	0.0207	
		713.257 *6*	95 *5*	994.7474	4^+	E1	0.00263 *4*	
1719.1786	4^-	601.603 *5*	56 *5*	1117.5703	5^+	E1	0.00374 *6*	
		724.432 *5*	38 *3*	994.7474	4^+	E1	0.00255 *4*	
		823.386 *8*	100 *7*	895.7947	3^+	E1	0.00198 *3*	
1736.6881	4^+	83.138 *2*	1.6 *3*	1653.5486	3^+	E2	5.99	
		103.228 *4*	0.89 *22*	1633.4627	3^-			
		194.992 *8*	0.09 *3*	1541.7094	$(4)^-$			
		305.219 *5*	0.46 *6*	1431.466	3^-			
		543.667 *7*	100 *4*	1193.0251	5^-	E1	0.00465 *7*	
		642.629 *20*	2.0 *6*	1094.0383	4^-			
		741.0 *16*		994.7474	4^+			
		840.890 *8*	1.11 *22*	895.7947	3^+	E2	0.00484 *7*	
		1472.81 *11*	6.7 *15*	264.0888	4^+			

$^{168}_{68}\mathrm{Er}_{100}$-23

$\gamma(^{168}Er)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[†]	δ[†]	α[f]	Comments
1736.6881	4^+	1656.84[g] 9	<7.4[g]	79.804	2^+				
1760.760	$(6)^-$	186.644 3	1.5 3	1574.117	5^-				
		219.050 2	17.4 23	1541.7094	$(4)^-$				
		496.858 4	11.9 16	1263.9047	6^+				
		643.181 8	37 4	1117.5703	5^+	E1		0.00325 5	
		1212.045 20	100 13	548.7470	6^+	E1		9.92×10^{-4} 14	
1773.205	$(6)^-$	324.256 14	1.39 21	1448.9555	7^-				
		461.739 3	33 5	1311.4606	6^-	M1		0.0429	
		580.176 4	100 6	1193.0251	5^-	M1		0.0239	
		679.180 5	73 7	1094.0383	4^-				
1780.00	9^-	173.9 2	<10	1605.8503	8^-				E_γ,I_γ: from $^{170}Er(^{136}Xe,X\gamma)$.
		331.3 2	100	1448.9555	7^-				E_γ,I_γ: from $^{170}Er(^{136}Xe,X\gamma)$.
1786.123	1^-	1706.37 8	100 14	79.804	2^+	E1		8.86×10^{-4} 13	B(E1)(W.u.)=0.0091 20
		1786.20 8	41 9	0.0	0^+	E1		9.06×10^{-4} 13	B(E1)(W.u.)=0.0032 9
1795.325	(7^-)	867.014 11	88 12	928.3029	8^+				
		1246.70 5	100 29	548.7470	6^+				
1812.5	$(2^+,3,4^+)$	817.7[e]		994.7474	4^+				
		916.7[e]		895.7947	3^+				
		991.3[e]		821.1685	2^+				
1820.1321	6^-	112.139 1	28 3	1707.9929	5^-	M1+E2		1.98 8	
		204.790 1	11 3	1615.3420	4^-				
		371.173 3	100 8	1448.9555	7^-	M1		0.0757	
		387.191 6	7.5 17	1432.9508	7^+				
		508.679 5	13.9 23	1311.4606	6^-				
		627.104 6	32 5	1193.0251	5^-				
		702.576 6	50 8	1117.5703	5^+	E1		0.00271 4	
		726.16 4	4.1 12	1094.0383	4^-				
1820.476	5^-	187.01 3	0.27 7	1633.4627	3^-				
		556.571 4	40 7	1263.9047	6^+	E1		0.00442 7	
		702.914 6	21.3 25	1117.5703	5^+				
		825.729 7	100 8	994.7474	4^+	E1		0.00197 3	
1828.0639	3^-	212.720 2	2.4 4	1615.3420	4^-	M1		0.339	B(M1)(W.u.)=0.030 +9−13
		286.509 4	21.2 17	1541.5564	3^-	M1		0.1509	B(M1)(W.u.)=0.11 +3−5
		424.329[g] 4	<7.9[g]	1403.7357	$(2)^-$				
		469.168 5	13.2 13	1358.899	1^-	E2		0.0194	B(E2)(W.u.)=32 +9−13
		833.294 9	59 9	994.7474	4^+	E1		0.00193 3	B(E1)(W.u.)=0.00012 +4−6
		932.269 9	100 5	895.7947	3^+	E1		1.56×10^{-3} 2	B(E1)(W.u.)=0.00015 +4−6
		1006.91 3	22 4	821.1685	2^+	E1		1.35×10^{-3} 2	B(E1)(W.u.)=2.6×10^{-5} +8−12
1833.54	0^+	1753.73 11	100	79.804	2^+	E2		1.30×10^{-3} 2	
1839.3474	5^+	102.659 1	3.8 7	1736.6881	4^+	M1+E2	1.3 +10−5	2.65	

$^{168}_{68}Er_{100}$-24

Adopted Levels, Gammas (continued)

$\gamma(^{168}Er)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[†]	δ[†]	α[f]	Comments
1839.3474	5^+	120.170 *8*	1.28 *20*	1719.1786	4^-				
		185.797 *2*	4.5 *8*	1653.5486	3^+	E2		0.322	
		265.233 *6*	0.22 *7*	1574.117	5^-				
		297.640 *3*	0.83 *15*	1541.7094	$(4)^-$				
		527.884 *3*	100 *5*	1311.4606	6^-	E1		0.00496 *7*	
		721.71 *3*	4.7 *13*	1117.5703	5^+				
		745.293 *10*	9.8 *15*	1094.0383	4^-				
		844.614 *15*	11.0 *12*	994.7474	4^+	M1		0.00933 *13*	
		1575.11 *17*	8 *3*	264.0888	4^+				
1848.354	2^+	194.821 *7*	0.62 *17*	1653.5486	3^+				
		214.865 *17*	0.67 *17*	1633.4627	3^-				
		278.860 *23*	0.88 *21*	1569.4527	$(2)^-$				
		355.215 *8*	2.0 *3*	1493.133	2^+				
		572.068 *14*	4.6 *13*	1276.2716	2^+				
		952.611 *15*	29 *6*	895.7947	3^+	M1+E2	0.8 *+9−6*	0.0057 *12*	
		1027.11 *7*	17 *3*	821.1685	2^+				
		1768.49 *7*	92 *13*	79.804	2^+	E2		1.29×10^{-3} *2*	
		1848.31 *7*	100 *21*	0.0	0^+	E2		1.24×10^{-3} *2*	
1881.82		688.79[g] *3*	100[g]	1193.0251	5^-				
1892.9346	$(4)^-$	277.589 *3*	0.49 *9*	1615.3420	4^-				
		699.921 *6*	7.9 *9*	1193.0251	5^-	M1		0.01487	B(M1)(W.u.)=0.026 *4*
		775.378 *13*	1.4 *5*	1117.5703	5^+				
		798.890 *7*	100 *4*	1094.0383	4^-	M1		0.01070	B(M1)(W.u.)=0.220 *+23−25*
1893.100	2^+	616.827 *5*	26 *5*	1276.2716	2^+	M1		0.0204	
		675.96 *3*	3.2 *7*	1217.169	0^+	E2		0.00788 *11*	
		997.24 *3*	13.6 *23*	895.7947	3^+	E2		0.00338 *5*	
		1071.74 *13*	5.5 *16*	821.1685	2^+				
		1813.29 *5*	100 *10*	79.804	2^+	M1		1.74×10^{-3} *3*	
1896.379	$(7)^-$	123.174 *1*	100	1773.205	$(6)^-$	M1+E2	0.25 *2*	1.556	
1902.696	(6^+)	246.422 *4*	33 *5*	1656.274	$(4)^+$				
		974.42 *4*	100 *22*	928.3029	8^+				
		1353.7[i] *3*		548.7470	6^+				Eγ and placement from (n,n′γ).
1905.0922	$(4)^-$	289.72 *3*	0.14 *3*	1615.3420	4^-				
		363.540 *6*	0.31 *7*	1541.5564	3^-				
		712.079 *7*	6.0 *10*	1193.0251	5^-	M1		0.01425	
		811.043 *8*	100 *8*	1094.0383	4^-	M1		0.01031	
1913.92	3^-	1018.33 *17*	5.0 *14*	895.7947	3^+				
		1649.77 *6*	100 *12*	264.0888	4^+	E1		8.75×10^{-4} *13*	B(E1)(W.u.)>0.0022
		1834.05 *9*	95 *19*	79.804	2^+	E1		9.21×10^{-4} *13*	B(E1)(W.u.)>0.0016
1915.502	$(3)^+$	178.829 *23*	0.34 *9*	1736.6881	4^+				
		282.043 *4*	0.43 *13*	1633.4627	3^-				

$^{168}_{68}Er_{100}$-25

Adopted Levels, Gammas (continued)

$\gamma(^{168}Er)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[†]	δ[†]	α[f]	Comments
1915.502	$(3)^+$	346.054 10	0.94 21	1569.4527	$(2)^-$				
		797.94 10	4.3 13	1117.5703	5^+				
		920.78 4	21 9	994.7474	4^+	E2		0.00399 6	
		1019.57 7	11.3 17	895.7947	3^+				
		1094.43 10	>23	821.1685	2^+				I_γ: from $I\gamma$=27 4 relative to 1835γ doublet in (n,γ) E=thermal.
		1651.37 21	14.7 22	264.0888	4^+	[M1]		0.00202 3	E_γ,I_γ: from β^- decay.
		1835.4 5	100 4	79.804	2^+			1.24×10^{-3}	E_γ,I_γ: from β^- decay. Mult.: E2 from α(K)exp in (n,γ) E=thermal for doubly-placed γ.
1930.391	2^+	276.843 3	2.5 6	1653.5486	3^+				
		1034.49 4	19 4	895.7947	3^+	E2		0.00314	
		1109.36 8	16 5	821.1685	2^+				
		1850.46 10	100 13	79.804	2^+	E2		1.23×10^{-3}	
		1930.49 12	69 8	0.0	0^+	E2		1.20×10^{-3}	
1936.596	1^-	150.480 10	0.30 10	1786.123	1^-				
		577.690 9	1.7 5	1358.899	1^-				
		1936.40 13	100 10	0.0	0^+	E1		9.56×10^{-4} 14	B(E1)(W.u.)=0.000125 24
1947.3	12^+	551.1[a] 7	100	1396.826	10^+	[E2]		0.01309	B(E2)(W.u.)=345 18 E_γ: from level-energy difference. $E\gamma$=547.1 5 reported in Coulomb excitation.
1949.636	$(6)^-$	230.461 4	0.90 25	1719.1786	4^-				
		516.683 2	37 5	1432.9508	7^+				
		685.760 15	14.0 25	1263.9047	6^+				
		832.05 4	100 20	1117.5703	5^+				
1950.8067	7^-	130.675 1	26 5	1820.1321	6^-	M1		1.326	
		242.811 3	21 5	1707.9929	5^-				
		344.954 3	58 11	1605.8503	8^-	M1+E2	1.9 +22−6	0.056 8	
		639.24 4	100 24	1311.4606	6^-				
1961.3992	6^+	122.049 2	7.2 14	1839.3474	5^+				
		140.929 6	1.2 4	1820.476	5^-				
		224.712 1	20 3	1736.6881	4^+				
		336.881 14	3.5 6	1624.507	8^+				
		512.441 2	100 12	1448.9555	7^-				
		768.368 11	36 7	1193.0251	5^-				
		843.83 5	9 4	1117.5703	5^+				
1972.314	$(2)^-$	430.731 20	0.44 15	1541.5564	3^-				
		1076.524 23	52 11	895.7947	3^+	E1		1.19×10^{-3}	B(E1)(W.u.)=0.00040 +16−27
		1151.19 4	24 7	821.1685	2^+				
		1892.63 9	100 11	79.804	2^+				
1975.75	10^-	369.9 2	100	1605.8503	8^-				E_γ: from $^{170}Er(^{136}Xe,X\gamma)$.

γ(^{168}Er) (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[†]	α[f]	Comments
1983.0398	5⁻	90.104[g] 5	<0.60[g]	1892.9346	(4)⁻			
		275.046 3	0.90 15	1707.9929	5⁻			
		671.589 8	12.9 17	1311.4606	6⁻	M1	0.01649	B(M1)(W.u.)=0.025 +6−8
		719.17 10	2.6 13	1263.9047	6⁺			
		790.001 5	100 5	1193.0251	5⁻	M1	0.01100	B(M1)(W.u.)=0.117 +22−34
		889.006 10	13.5 26	1094.0383	4⁻	M1	0.00822 12	B(M1)(W.u.)=0.011 +3−4
1994.821	(3)⁺	146.472 5	1.29 24	1848.354	2⁺			
		258.130 3	2.2 6	1736.6881	4⁺			
		338.547 17	1.21 24	1656.274	(4)⁺			
		718.57 8	3.5 15	1276.2716	2⁺			
		1730.89 7	62 9	264.0888	4⁺	E2	0.00132 2	
		1914.97 8	100 9	79.804	2⁺	E2	0.00120 2	
1999.2239	(3)⁻	171.158 2	1.3 3	1828.0639	3⁻	[M1,E2]	0.52 10	
		280.048 6	1.17 22	1719.1786	4⁻	[M1,E2]	0.12 4	
		345.669 7	0.95 16	1653.5486	3⁺	[E1]	0.01312	B(E1)(W.u.)=6.2×10^{-8} +16−20
		365.763 2	14.5 13	1633.4627	3⁻	M1	0.0787	B(M1)(W.u.)=8.0×10^{-5} +17−23 I_γ: weighted average from β^- decay and (n,γ) E=thermal.
		383.875 6	16.5 13	1615.3420	4⁻	M1	0.0693	B(M1)(W.u.)=7.8×10^{-5} +16−23 I_γ: weighted average from β^- decay and (n,γ) E=thermal.
		429.779 5	42 3	1569.4527	(2)⁻	M1	0.0516	B(M1)(W.u.)=0.00014 +3−4 I_γ: weighted average from β^- decay and (n,γ) E=thermal.
		457.664 5	100.0 26	1541.5564	3⁻	M1	0.0438	B(M1)(W.u.)=0.00028 +6−8 I_γ: weighted average from β^- decay and (n,γ) E=thermal.
2001.953	5⁻	690.494 6	11.3 23	1311.4606	6⁻	M1	0.01539	
		808.910 13	100 9	1193.0251	5⁻	M1	0.01038	
		907.927 25	19.4 25	1094.0383	4⁻	M1	0.00781 11	
2002.465	(4)⁺	163.137[g] 2	<2.8[g]	1839.3474	5⁺			
		346.197 8	1.7 3	1656.274	(4)⁺			
		348.94[g] 3	<2.0[g]	1653.5486	3⁺			
		369.006 8	2.7 6	1633.4627	3⁻			
		591.402 20	6.1 9	1411.0959	4⁺			
		1007.57 6	23 5	994.7474	4⁺	M1	0.00606 9	
		1106.65 5	21 6	895.7947	3⁺			
		1738.34 6	100 12	264.0888	4⁺	E2	0.00131 2	
		1922.64 9	82 15	79.804	2⁺	(E2)	0.00120 2	
2022.358	(3)⁻	236.216 18	0.23 8	1786.123	1⁻			
		480.619[g] 5	5.8[g] 8	1541.7094	(4)⁻			
		1758.47 8	31 4	264.0888	4⁺			
		1942.69 8	100 7	79.804	2⁺	E1	9.58×10^{-4}	B(E1)(W.u.)=0.00021 +6−8
2031.097	(4)⁺	619.990 8	55 7	1411.0959	4⁺	M1	0.0202	
		1036.38 6	8 3	994.7474	4⁺	E2	0.00312 5	

$^{168}_{68}$Er$_{100}$-27

$\gamma(^{168}Er)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[†]	α[f]	Comments
2031.097	$(4)^+$	1135.39 *7*	5.0 *21*	895.7947	3^+			
		1766.99 *5*	100 *12*	264.0888	4^+	M1	0.00180 *3*	
		1950.94 *15*	14 *5*	79.804	2^+			
2038.66	(8^-)	142.3 *2*	100	1896.379	$(7)^-$			E_γ,I_γ: from $^{170}Er(^{136}Xe,X\gamma)$.
		(265.4)	<25	1773.205	$(6)^-$			E_γ: rounded value from level energy difference; γ expected but not observed.
								I_γ: from $^{170}Er(^{136}Xe,X\gamma)$.
2055.914	$(4)^+$	792.11[g] *6*	<8.6[g]	1263.9047	6^+	[E2]	0.00551 *8*	B(E2)(W.u.)=1.5 *+17−15*
		862.98 *6*	26 *7*	1193.0251	5^-	[E1]	0.00181 *3*	B(E1)(W.u.)=9×10^{-5} *6*
		938.22[g] *5*	<6.0[g]	1117.5703	5^+	[M1,E2]	0.0055 *17*	
		961.875 *8*	100 *9*	1094.0383	4^-	E1	0.00147 *2*	B(E1)(W.u.)=0.00026 *14*
		1061.13 *5*	23 *5*	994.7474	4^+	[M1,E2]	0.0042 *12*	
		1160.077 *20*	46 *10*	895.7947	3^+	E2	0.00249 *4*	B(E2)(W.u.)=2.4 *13*
		1234.760 *23*	93 *8*	821.1685	2^+	E2	0.00221 *3*	B(E2)(W.u.)=3.5 *18*
2059.9751	$(4)^-$	154.884 *2*	4.2 *9*	1905.0922	$(4)^-$	E2	0.602	
		167.040 *1*	5.1 *7*	1892.9346	$(4)^-$	M1	0.664	
		231.911 *1*	3.5 *7*	1828.0639	3^-			
		351.970 *7*	1.14 *18*	1707.9929	5^-	M1	0.0871	
		444.638 *5*	4.6 *9*	1615.3420	4^-			
		518.405 *9*	2.3 *5*	1541.5564	3^-			
		965.937 *6*	100 *5*	1094.0383	4^-	M1	0.00671 *10*	
2070.0	10^+	445.5[a]	100	1624.507	8^+	[E2]	0.0223	B(E2)(W.u.)=225 *+44−13*
								B(E2)↓: From measured B(E2) in Coulomb excitation.
2080.457	$(4)^+$	150.083 *18*	0.21 *8*	1930.391	2^+			
		241.109 *2*	1.8 *3*	1839.3474	5^+			
		669.34 *4*	8.3 *17*	1411.0959	4^+			
		986.40 *4*	25 *5*	1094.0383	4^-			
		1259.27 *5*	52 *10*	821.1685	2^+	E2	0.00213 *3*	
		1816.34 *6*	100 *11*	264.0888	4^+	M1	0.00173 *3*	
		2000.56 *15*	40 *11*	79.804	2^+			
2089.348	4^-	90.104[g] *5*	<1.15[g]	1999.2239	$(3)^-$			
		196.409 *6*	1.4 *3*	1892.9346	$(4)^-$			
		268.880 *7*	2.0 *3*	1820.476	5^-			
		370.170 *6*	26 *4*	1719.1786	4^-	M1	0.0763	
		381.349 *3*	20 *3*	1707.9929	5^-	M1	0.0705	
		455.899 *8*	35 *4*	1633.4627	3^-			
		474.004 *5*	100 *10*	1615.3420	4^-	M1	0.0400	
		547.805 *7*	75 *12*	1541.5564	3^-	M1	0.0276	
		1825.0 *16*		264.0888	4^+			
2091.272	$(6)^-$	140.457 *8*	1.2 *4*	1950.8067	7^-			
		642.324 *18*	17 *5*	1448.9555	7^-			

$^{168}_{68}Er_{100}$-28

$\gamma(^{168}Er)$ (continued)

E_i(level)	J^π_i	E_γ†	I_γ‡	E_f	J^π_f	Mult.†	α[f]	Comments
2091.272	$(6)^-$	658.393 24	12 3	1432.9508	7^+			
		779.806 6	100 14	1311.4606	6^-			
		898.32 3	47 8	1193.0251	5^-	M1	0.00802 12	
		973.70 3	27 6	1117.5703	5^+			
2097.571	4^-	523.480 18	0.97 18	1574.117	5^-			
		555.866 17	2.1 8	1541.7094	$(4)^-$			
		666.10 4	2.1 8	1431.466	3^-			
		979.996 6	66 9	1117.5703	5^+	E1	0.00142 2	B(E1)(W.u.)=0.00029 +8−10
		1102.80 5	16 4	994.7474	4^+			
		1201.757 21	68 8	895.7947	3^+	E1	1.00×10^{-3}	B(E1)(W.u.)=0.00016 +4−6
		1833.43 10	100 21	264.0888	4^+			
2100.361	7^+	138.956 8	9 3	1961.3992	6^+			
		261.017 3	45 12	1839.3474	5^+			
		494.480 10	100 17	1605.8503	8^-			
2108.987	$(5)^+$	106.524 3	1.3 4	2002.465	$(4)^+$			
		147.583 10	0.28 8	1961.3992	6^+			
		193.502 7	1.5 4	1915.502	$(3)^+$			
		288.497 11	2.5 5	1820.476	5^-			
		389.804 4	1.8 4	1719.1786	4^-			
		991.388 21	35 6	1117.5703	5^+	E2	0.00342 5	
		1844.75 7	100 12	264.0888	4^+			
2118.791	$(6)^-$	669.835 11	12.0 17	1448.9555	7^-			
		807.30 4	100 11	1311.4606	6^-	M1	0.01043	
		925.762 15	29 5	1193.0251	5^-	M1	0.00745 11	
2122.428	$(5,6,7)^-$	226.048 1	100 16	1896.379	$(7)^-$			
		349.229 3	40 8	1773.205	$(6)^-$	M1	0.0890	
2125.424		471.874[g] 6	100[g]	1653.5486	3^+			
2129.246	$(5)^-$	215.35 3	0.29 9	1913.92	3^-			
		865.329 23	19.3 26	1263.9047	6^+			
		1580.72[g] 8	<117[g]	548.7470	6^+			Mult.: E1 from α(K)exp for doubly-placed γ.
		1865.10 10	100 9	264.0888	4^+	E1		
2133.767	(1^+)	240.658 14	1.7 4	1893.100	2^+			
		640.567[g] 20	<15[g]	1493.133	2^+			
		711.666 24	15 5	1422.12	0^+			
		2133.94 10	100 20	0.0	0^+			
2135.9	1^-	2056	82 12	79.804	2^+			
		2136	100	0.0	0^+	E1	1.03×10^{-3}	B(E1)(W.u.)=0.00022 6
2137.08	$(2)^+$	1873.12 13	100 30	264.0888	4^+	[E2]	1.22×10^{-3}	B(E2)(W.u.)=12 9
		2057.20 20	70 20	79.804	2^+	M1	1.50×10^{-3} 2	B(M1)(W.u.)=0.04 4
		2136.89 16	100 30	0.0	0^+	[E2]	1.13×10^{-3}	B(E2)(W.u.)=5 5

$^{168}_{68}Er_{100}$-29

$\gamma(^{168}Er)$ (continued)

E_i(level)	J_i^π	E_γ †	I_γ ‡	E_f	J_f^π	Mult. †	δ †	α f	Comments
2144.53		538.68[g] *3*	100[g]	1605.8503	8^-				Mult.: E2 from α(K)exp in (n,γ) E=thermal for doubly-placed γ.
2148.3685	5^-	88.392 *3*	1.9 *5*	2059.9751	$(4)^-$	M1+E2	1.2 *+7−4*	4.45 *15*	
		146.420 *5*	7.4 *15*	2001.953	5^-	M1		0.961	
		165.326 *2*	2.3 *6*	1983.0398	5^-				
		255.436 *2*	11.9 *19*	1892.9346	$(4)^-$	M1		0.206	
		440.391 *12*	5.2 *7*	1707.9929	5^-				
		955.339 *11*	100 *11*	1193.0251	5^-	M1		0.00689 *10*	
		1054.297 *19*	41 *9*	1094.0383	4^-	M1+E2	1.1 *+8−4*	0.0041 *6*	
		1883.47 *14*	26 *7*	264.0888	4^+				
2169.516	$(5)^+$	736.56 *6*	9 *3*	1432.9508	7^+	[E2]		0.00648 *9*	B(E2)(W.u.)=7 *6*
		858.063 *23*	25 *5*	1311.4606	6^-	[E1]		0.00183 *3*	B(E1)(W.u.)=0.00015 *11*
		905.30 *15*	6 *2*	1263.9047	6^+	[M1,E2]		0.0060 *19*	
		976.498 *14*	65 *12*	1193.0251	5^-	E1		1.43×10^{-3} *2*	B(E1)(W.u.)=0.00026 *19*
		1051.86 *7*	27 *12*	1117.5703	5^+	[M1,E2]		0.0042 *13*	B(M1)(W.u.)=0.004 *4*; B(E2)(W.u.)=1.8 *15*
		1174.56 *7*	51 *13*	994.7474	4^+	E2		0.00243 *4*	B(E2)(W.u.)=4 *3*
		1273.74 *9*	100 *47*	895.7947	3^+	E2		0.00209 *3*	B(E2)(W.u.)=5 *5*
2174.59		2094.77 *8*	100	79.804	2^+				E_γ: from (n,n′γ).
2177.79	(2^+)	684.654[g] *15*	<30[g]	1493.133	2^+				
		755.66 *8*	21 *5*	1422.12	0^+				Other $I\gamma$: 65 *15* from (n,n′γ).
		2177.80 *15*	100 *25*	0.0	0^+				
2182.80	11^-	402.8 *2*	100	1780.00	9^-				E_γ: from ^{170}Er(^{136}Xe,Xγ).
2185.11	$(5)^-$	271.189 *4*	1.6 *3*	1913.92	3^-				
		424.329[g] *4*	<15[g]	1760.760	$(6)^-$				
		1636.60 *10*	43 *7*	548.7470	6^+	E1		8.7×10^{-4}	B(E1)(W.u.)=0.00033 *+14−20*
		1921.11 *10*	100 *18*	264.0888	4^+				
2186.741	$(3)^+$	450.048 *3*	8.1 *15*	1736.6881	4^+	M1		0.0458	
		533.202 *5*	100 *8*	1653.5486	3^+	M1		0.0296	
		571.428 *19*	1.8 *6*	1615.3420	4^-				
		645.21 *3*	6.2 *12*	1541.5564	3^-				
		1192.7 *5*	15 *4*	994.7474	4^+				
2188.408	(5^+)	226.98[g] *3*	<0.70[g]	1961.3992	6^+				
		348.94[g] *3*	<1.9[g]	1839.3474	5^+				
		451.68 *3*	1.1 *4*	1736.6881	4^+				
		534.793 *15*	3.6 *6*	1653.5486	3^+				
		877.072 *17*	12.7 *27*	1311.4606	6^-				
		995.306 *25*	36 *5*	1193.0251	5^-				
		1639.73 *10*	32 *9*	548.7470	6^+				
		1924.36 *13*	100 *23*	264.0888	4^+				
2188.74	$(2^+,3,4^+)$	1194.08 *16*	42 *13*	994.7474	4^+				
		2108.85 *15*	100 *27*	79.804	2^+				

$^{168}_{68}Er_{100}$-30

$\gamma(^{168}$Er) (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[†]	α[f]	Comments
2193.19	2^+	1297.32 *6*	23.0 *9*	895.7947	3^+			I_γ: from β^- decay. Other I(1297γ):I(1372γ)=44 *13*:100 *14* from (n,γ) E=thermal.
		1372.05 *4*	100 *4*	821.1685	2^+	M1	0.00292 *4*	I_γ: from β^- decay.
2200.4193	$(5)^-$	111.068 *9*	7.4 *13*	2089.348	4^-	M1	2.11	
		201.160 *17*	0.9 *3*	1999.2239	$(3)^-$			
		250.784 *4*	2.8 *6*	1949.636	$(6)^-$			
		307.481 *5*	2.3 *5*	1892.9346	$(4)^-$			
		379.954 *8*	27 *4*	1820.476	5^-	M1	0.0712	
		380.286 *6*	20 *4*	1820.1321	6^-			
		481.239 *3*	34 *5*	1719.1786	4^-	M1	0.0385	
		492.427 *3*	62 *8*	1707.9929	5^-			
		585.066 *5*	100 *10*	1615.3420	4^-	M1	0.0234	
		1651.5 *16*		548.7470	6^+			
		1936.4 *16*		264.0888	4^+			
2200.5	(9^-)	161.8 *2*	100	2038.66	(8^-)			E_γ,I_γ: from ^{170}Er(^{136}Xe,Xγ).
		(304.1)	<31	1896.379	$(7)^-$			E_γ: rounded value from level energy difference; γ expected but not observed. I_γ: from ^{170}Er(^{136}Xe,Xγ).
2210.016	(7^-)	226.98[g] *3*	<5.2[g]	1983.0398	5^-			
		259.209 *5*	100 *24*	1950.8067	7^-			
2218.5		1322.7[e]	100	895.7947	3^+			
2230.30	$(2)^-$	614.996[g] *24*	<26[g]	1615.3420	4^-			
		660.85 *4*	15 *3*	1569.4527	$(2)^-$	M1	0.01718	
		688.79[g] *3*	<20[g]	1541.5564	3^-			
		1409.15[g] *4*	100[g] *31*	821.1685	2^+			
2238.179	$(4)^+$	333.086 *4*	33 *5*	1905.0922	$(4)^-$			
		345.247 *7*	25 *5*	1892.9346	$(4)^-$			
		398.829 *3*	16 *3*	1839.3474	5^+			
		501.506 *10*	100 *13*	1736.6881	4^+			
		1045.31 *7*	76 *26*	1193.0251	5^-			
		1144.112[i] *11*	1.11×10^3 *18*	1094.0383	4^-	E1		
2243.514	$(3)^+$	587.253 *19*	1.7 *8*	1656.274	$(4)^+$			
		1979.36 *9*	67 *14*	264.0888	4^+	E2	1.18×10^{-3}	
		2163.44 *9*	100 *15*	79.804	2^+			
2246.530	$(6)^+$	629.724 *9*	50 *9*	1616.8060	6^+			
		813.46 *5*	42 *9*	1432.9508	7^+			
		982.64 *4*	18 *5*	1263.9047	6^+			
		1697.86 *7*	100 *16*	548.7470	6^+	M1	0.00192 *3*	
2249.68		938.22[g] *5*	100[g]	1311.4606	6^-			
2254.754	(2^+)	426.66 *3*	10.2 *13*	1828.0639	3^-			
		1037.88 *18*	20 *8*	1217.169	0^+			

$^{168}_{68}Er_{100}$-31

$\gamma(^{168}Er)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[†]	α[f]	Comments
2254.754	(2^+)	1358.99 *4*	100 *33*	895.7947	3^+			E_γ: from β^- decay. I_γ: doublet in (n,γ) E=thermal; intensity suitably divided.
2254.84	$(3)^+$	1137.2 *3*	25 *8*	1117.5703	5^+			E_γ,I_γ: from β^- decay.
		1260.09 *5*	100 *7*	994.7474	4^+			I_γ: from β^- decay.
		1433.67 *7*	84 *19*	821.1685	2^+			E_γ,I_γ: from β^- decay. Other $I\gamma$: 60 *16* from (n,γ) E=thermal for doubly-placed γ. Mult.: α(K)exp=0.0013 *4*, mult=E2 for doubly-placed γ.
2255.343	$(6)^-$	106.974 *3*	8.0 *16*	2148.3685	5^-			
		136.552 *4*	8.0 *20*	2118.791	$(6)^-$			
		253.387 *4*	2.7 *7*	2001.953	5^-			
		272.306 *3*	20 *4*	1983.0398	5^-			
		943.892 *25*	100 *16*	1311.4606	6^-	M1	0.00710 *10*	
2262.691	$(3)^-$	263.421 *18*	3.0 *6*	1999.2239	$(3)^-$			
		609.164 *9*	22 *3*	1653.5486	3^+			
		629.184 *20*	40 *10*	1633.4627	3^-			
		647.344 *15*	34 *6*	1615.3420	4^-	E2	0.00872 *13*	
		1267.83 *10*	100 *30*	994.7474	4^+			
		1366.914[g] *20*	<289[g]	895.7947	3^+			
		1441.41[gi] *7*	<210[g]	821.1685	2^+			
2267.632	$(3,4,5)^+$	362.547 *15*	5.7 *8*	1905.0922	$(4)^-$	E1	0.01170	
		374.683[g] *4*	<6.0[g]	1892.9346	$(4)^-$			
		428.295 *13*	1.9 *4*	1839.3474	5^+			
		1074.50 *17*	12 *4*	1193.0251	5^-			
		1173.557 *20*	100 *6*	1094.0383	4^-	E1	1.04×10^{-3}	
2270.46		1176.42[g] *5*	100[g]	1094.0383	4^-			Mult.: α(K)exp=0.0039 *5*, mult=M1 for doubly-placed γ.
2273.67	$(2^+,3,4^+)$	1452.50 *11*	70 *30*	821.1685	2^+			
		2009.56 *16*	100 *20*	264.0888	4^+			
2279.630	$(4)^+$	219.63 *3*	1.0 *3*	2059.9751	$(4)^-$			
		440.264 *16*	11.5 *23*	1839.3474	5^+			
		542.939 *6*	92 *11*	1736.6881	4^+	M1	0.0283	
		626.086 *7*	40 *7*	1653.5486	3^+	M1	0.0197	
		1086.62 *3*	100 *24*	1193.0251	5^-			
2298.260	$(4,5,6)^+$	458.910 *3*	5.8 *10*	1839.3474	5^+	M1	0.0435	
		986.94 *5*	16.6 *3*	1311.4606	6^-			
		1105.260 *16*	100 *8*	1193.0251	5^-	E1	1.14×10^{-3}	
		1304.1 *3*	10 *3*	994.7474	4^+			
2302.666	$(3)^-$	154.120 *6*	1.7 *5*	2148.3685	5^-			
		474.636 *17*	4.9 *9*	1828.0639	3^-			
		649.087 *9*	16 *4*	1653.5486	3^+			
		669.221 *20*	41 *7*	1633.4627	3^-	M1	0.01664	
		687.30 *3*	68 *12*	1615.3420	4^-			

$^{168}_{68}Er_{100}$-32

γ(^{168}Er) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[†]	α[f]	Comments
2302.666	(3)$^-$	733.231 *10*	34 *8*	1569.4527	(2)$^-$	M1	0.01324	
		761.11 *5*	21 *5*	1541.5564	3$^-$			
		1309.0[i] *16*	150 *45*	994.7474	4$^+$			E_γ,I_γ: seen only in (n,γ) E=thermal two-photon cascade data. Placement shown as uncertain because such a strong branch should have been seen in other studies but was not.
		1406.93 *7*	70.0 *20*	895.7947	3$^+$			
		1481.71 *13*	100 *20*	821.1685	2$^+$			
2303.10	(6)$^-$	542.35 *4*	18 *6*	1760.760	(6)$^-$			
		729.00 *5*	50 *21*	1574.117	5$^-$			
		1038.73 *16*	100 *35*	1263.9047	6$^+$			
2306.882	(6$^+$)	995.420 *25*	100 *16*	1311.4606	6$^-$			
		1042.35[g] *21*	<38[g]	1263.9047	6$^+$			
		1113.84 *7*	96 *17*	1193.0251	5$^-$			
2311.07	(4)$^+$	654.79 *3*	1.00 *20*	1656.274	(4)$^+$			
		1762.19[g] *18*	<38[g]	548.7470	6$^+$			
		2047.03 *10*	100 *10*	264.0888	4$^+$	E2	1.15×10^{-3}	
2323.01	3$^-$	1328.57 *21*	92 *38*	994.7474	4$^+$			
		1427.40 *11*	100 *50*	895.7947	3$^+$			
		1501.92 *18*	<450	821.1685	2$^+$			
2331.987	6$^-$	131.566 *2*	9.0 *20*	2200.4193	(5)$^-$			
		381.181 *14*	10.3 *12*	1950.8067	7$^-$			
		382.346 *9*	13.3 *26*	1949.636	(6)$^-$	M1	0.0701	
		624.005 *5*	38 *5*	1707.9929	5$^-$			
		1020.70 *8*	100 *13*	1311.4606	6$^-$			
2336.26	4$^+$	1218.68[g] *7*	<64[g]	1117.5703	5$^+$			
		1341.58 *14*	100 *27*	994.7474	4$^+$			
		1440.41 *12*	91 *27*	895.7947	3$^+$			
2337.100	3$^-$	1243.072 *20*	93.5 *23*	1094.0383	4$^-$	M1	0.00366 *6*	
		1441.41[g] *7*	<131[g]	895.7947	3$^+$			
		1515.98[g] *6*	<341[g]	821.1685	2$^+$			
		2256.73 *12*	100 *18*	79.804	2$^+$			
2341.78	1	2262.0 *3*	67 *11*	79.804	2$^+$			E_γ,I_γ: from (n,n′γ).
		2341.7 *4*	100 *18*	0.0	0$^+$	D		E_γ,I_γ: from (n,n′γ).
2346.20	1$^-$,2$^-$,3$^-$	1449.26 *12*	97 *22*	895.7947	3$^+$			
		1524.18 *13*	100 *33*	821.1685	2$^+$	E1	8.63×10^{-4} *12*	
2348.581	4$^-$	612.0 *5*	100 *71*	1736.6881	4$^+$			
		629.397 *20*	70 *17*	1719.1786	4$^-$			
		640.567[g] *20*	<33[g]	1707.9929	5$^-$			
		695.04 *4*	13 *4*	1653.5486	3$^+$			
		1155.56[i] *3*	89 *20*	1193.0251	5$^-$	M1	0.00435 *6*	
		1231.04 *9*	57 *3*	1117.5703	5$^+$			

$^{168}_{68}$Er$_{100}$-33

Adopted Levels, Gammas (continued)

$\gamma(^{168}Er)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[†]	α[f]	Comments
2348.581	4^-	1353.78 10	<600	994.7474	4^+			E_γ,I_γ,Mult.: for doubly-placed γ. Undivided Iγ given. Mult=E2 for doublet.
2361.40	1	2281.5 5	21 7	79.804	2^+			I_γ: from (n,n′γ). Other 25 16 in (γ,γ').
		2361.4 2	100 14	0.0	0^+	D		Mult.: from (γ,γ').
2365.196	$(5)^-$	460.100 15	1.8 4	1905.0922	$(4)^-$			
		472.218[g] 12	<3.2[g]	1892.9346	$(4)^-$			
		1172.30 8	14 6	1193.0251	5^-	M1	0.00420 6	
		1247.78 13	8 3	1117.5703	5^+			
		1271.13 4	100 10	1094.0383	4^-	M1	0.00347 5	
2365.33	(1^+)	2285.6 3	54 15	79.804	2^+	[M1,E2]	0.00125 14	
		2365.30 12	100 23	0.0	0^+	[M1]	1.37×10^{-3}	B(M1)(W.u.)=0.011 5
2368.585	(5^+)	100.953 5	1.3 3	2267.632	$(3,4,5)^+$			
		220.27 4	0.37 16	2148.3685	5^-			
		463.485 14	1.5 3	1905.0922	$(4)^-$			
		1175.53 7	41 11	1193.0251	5^-			
		1274.53 12	100 37	1094.0383	4^-			
2373.657	2,3	401.343 11	4.2 10	1972.314	$(2)^-$			
		480.619[g] 5	<67[g]	1893.100	2^+			
		1552.55 25	100 33	821.1685	2^+			
2378.12		1284.08[g] 8	100[g]	1094.0383	4^-			Mult.: M1,E2 from α(K)exp in (n,γ) E=thermal for doubly-placed γ.
2382.587	$(2)^+$	351.422 14	1.8 3	2031.097	$(4)^+$			
		383.366 3	44 4	1999.2239	$(3)^-$	E1	0.01025	
		1486.78 8	100 27	895.7947	3^+			
		2303.22 20	<104	79.804	2^+			E_γ,I_γ: for doubly-placed γ; intensity not divided.
		2382.22 24	40 13	0.0	0^+			
2392.118	$(5,6^+)$	552.771 6	58 9	1839.3474	5^+			
		655.39 3	22 4	1736.6881	4^+			
		1080.4 2	53 13	1311.4606	6^-			
		1128.27 8	100 22	1263.9047	6^+			
		1298.40[i] 9	163 51	1094.0383	4^-			
2392.927	$(3^-,4^+)$	361.834 5	7.8 17	2031.097	$(4)^+$			Mult.: M1 from α(K)exp in (n,γ) E=thermal, however, see comment on 1200γ.
		684.654[g] 15	<13.3[g]	1707.9929	5^-			
		899.85 5	12 5	1493.133	2^+			
		1199.61 4	43 11	1193.0251	5^-			Note that mult=E2 from (n,γ) E=thermal is in conflict with placement of the M1 362γ from the same level.
		1275.32 9	100 39	1117.5703	5^+			
		1398.05 6	88 14	994.7474	4^+			
2393.71	(2^+)	1497.94 22	36 14	895.7947	3^+			
		1572.41 15	29 7	821.1685	2^+			

$^{168}_{68}Er_{100}$-34

γ(^{168}Er) (continued)

E_i(level)	J^{π}_i	E_γ[†]	I_γ[‡]	E_f	J^{π}_f	Mult.[†]	α[f]	Comments
2393.71	(2$^+$)	2129.46 20	43 14	264.0888	4$^+$			
		2314.49 20	100 21	79.804	2$^+$			
		2393.47 18	57 14	0.0	0$^+$			
2398.52	(3$^+$,4,5$^+$)	1281.03[g] 7	100[g] 30	1117.5703	5$^+$			α(K)exp for doubly-placed γ consistent with α(K)(M1).
		1302.0 16		1094.0383	4$^-$			
		1502.73 9	<220	895.7947	3$^+$			I_γ: for 1501.9γ+1502.7γ.
		1850.0 16		548.7470	6$^+$			
2401.94	(1$^-$)	1580.72[g] 8	100[g] 8	821.1685	2$^+$			Mult.: E1 from α(K)exp for doubly-placed γ.
		2401.92 24	21 5	0.0	0$^+$			E_γ: absent in (n.n′γ).
2402.29	(4)$^-$	1308.0 16	48 13	1094.0383	4$^-$			Branching from two-photon cascade data in (n,γ) E=thermal.
		1407.67 9	39 7	994.7474	4$^+$	E1		Branching from two-photon cascade data in (n,γ) E=thermal.
		1506.49 12	100 20	895.7947	3$^+$	E1		E_γ: for doubly-placed γ. Branching from two-photon cascade data in (n,γ) E=thermal.
2411.795	(5)$^+$	1100.11 15	11 4	1311.4606	6$^-$			
		1218.68[g] 7	<82[g]	1193.0251	5$^-$			
		1294.053[g] 25	<171[g]	1117.5703	5$^+$			
		1317.56[i] 10	<41	1094.0383	4$^-$			E_γ,I_γ: for undivided doublet.
		1417.053 25	100 14	994.7474	4$^+$	M1	0.00272 4	
		1515.98[gi] 6	<285[g]	895.7947	3$^+$			
		2147.34 20	44 13	264.0888	4$^+$			
2417.02	1$^{(-)}$	2337.2 2	100 10	79.804	2$^+$			E_γ: from (n,n′γ). I_γ: from (γ,γ′).
		2417	56	0.0	0$^+$	D		E_γ,I_γ,Mult.: from (γ,γ′).
2419.0	12$^-$	443.2 2	100	1975.75	10$^-$			E_γ: from ^{170}Er(^{136}Xe,Xγ).
2423.25		2159.15 9	100	264.0888	4$^+$			Mult.: α(K)exp=0.00053 13, mult=E1,E2.
2424.91	(2)$^+$	511.860 7	17 3	1913.92	3$^-$			
		1208.30[g] 9	<39[g]	1217.169	0$^+$			
		1529.12 13	19.1 20	895.7947	3$^+$			From β^- decay. Other Eγ (Iγ): 1530.1 3 (22 3) from (n,n′γ), 1529.67 17 (20 7) from (n,γ) E=thermal. Placement questioned in (n,γ) E=thermal but branching is consistent with that in β^- decay and (n,n′γ).
		1603.72 8	56 3	821.1685	2$^+$			From β^- decay. Other Eγ (Iγ): 1603.8 2 (58 13)from (n,n′γ), 1604.09 18 (34 14) from (n,γ) E=thermal.
		2345.08 12	100 3	79.804	2$^+$			From β^- decay. Other Eγ (Iγ): 2345.6 4 (100 25) from (n,n′γ), 2345.58 17 (100 20) from (n,γ) E=thermal. Placement questioned in (n,γ) E=thermal but branching is consistent with that in β^- decay and (n,n′γ).
		2424.92 14	44.2 20	0.0	0$^+$			E_γ,I_γ: from β^- decay. Other Eγ (Iγ): 2425.1 2 (44 2) from (n,n′γ), but 2425.35 20 (100 18) from (n,γ) E=thermal. Possibly transition is a doublet in (n,γ) E=thermal.
2434.659		374.683[g] 4	100[g]	2059.9751	(4)$^-$			

Adopted Levels, Gammas (continued)

γ(^{168}Er) (continued)

E_i(level)	J^{π}_i	E_{γ}[†]	I_{γ}[‡]	E_f	J^{π}_f	Mult.[†]	α[f]	Comments
2440.054	(4$^+$,5$^+$)	445.234 *20*	11.5 *25*	1994.821	(3)$^+$			
		1029.45 *5*	50 *11*	1411.0959	4$^+$			
		1176.42[g] *5*	<146[g]	1263.9047	6$^+$			Mult.: M1 from α(K)exp in (n,γ) E=thermal for doubly-placed γ.
		1322.6 *2*	100 *50*	1117.5703	5$^+$			
		1445.26 *8*	50 *25*	994.7474	4$^+$			
2440.46	(2$^+$)	1223.00 *7*	100 *40*	1217.169	0$^+$			
		1446.00 *7*	80 *40*	994.7474	4$^+$			
2451.165	(5$^-$)	195.836 *25*	0.9 *3*	2255.343	(6)$^-$			
		909.41 *9*	15 *5*	1541.7094	(4)$^-$			
		1333.44[g] *15*	<149[g]	1117.5703	5$^+$			
		1358.0 *16*		1094.0383	4$^-$			
		1456.15 *12*	100 *23*	994.7474	4$^+$			
2455.96	(3$^+$,4,5$^+$)	1338.67 *15*	20 *10*	1117.5703	5$^+$			
		1461.13 *8*	37 *9*	994.7474	4$^+$			
		1560.16 *8*	100 *11*	895.7947	3$^+$			
		2189.7[i] *3*		264.0888	4$^+$			E_{γ}: from (n,n$'\gamma$) alone; possibly misplaced.
2458.7	1	2378.6 *7*	12 *6*	79.804	2$^+$			E_{γ},I_{γ}: from (n,n$'\gamma$).
		2458.8 *5*	100 *16*	0.0	0$^+$	D		E_{γ},I_{γ},Mult.: from (n,n$'\gamma$).
2474.10	(6$^-$)	472.218[g] *12*	<28[g]	2001.953	5$^-$			
		653.88 *7*	9 *4*	1820.1321	6$^-$			
		1041.35 *11*	100 *31*	1432.9508	7$^+$			
2477.20	(5)$^-$	1165.65 *10*	33 *11*	1311.4606	6$^-$	M1	0.00426 *6*	
		1284.08[g] *8*	<63[g]	1193.0251	5$^-$	M1,E2		Mult.: M1,E2 from α(K)exp in (n,γ) E=thermal for doubly-placed γ. Other Eγ: 1283.5 *2* from (n,n$'\gamma$).
		1383.36 *9*	31 *13*	1094.0383	4$^-$			
		1928.21 *12*	100 *19*	548.7470	6$^+$	(E1)		
2478.08	(3)$^-$	1484.46 *8*	100 *13*	994.7474	4$^+$	E1	8.64$\times10^{-4}$	
		1582.95 *20*	55 *18*	895.7947	3$^+$			
		1656.84[g] *9*	<61[g]	821.1685	2$^+$			
		2214.47 *20*	79 *18*	264.0888	4$^+$			
		2398.25[i] *15*	94 *15*	79.804	2$^+$			
2484.52	(3$^+$)	1208.30[g] *9*	<43[g]	1276.2716	2$^+$			
		1489.8 *2*	31 *15*	994.7474	4$^+$			
		1588.75 *10*	33 *15*	895.7947	3$^+$			
		1663.21 *10*	38 *15*	821.1685	2$^+$			
		2220.70 *21*	100 *23*	264.0888	4$^+$			
		2404.84 *20*	62 *15*	79.804	2$^+$			
2493.5	1$^+$	2414.4 *5*	34 *5*	79.804	2$^+$			E_{γ}: from (n,n$'\gamma$) for doublet. I_{γ}: from (γ,γ').
		2493.2 *3*	100	0.0	0$^+$	M1	1.35$\times10^{-3}$	B(M1)(W.u.)=0.029 *4*

$^{168}_{68}Er_{100}$-36

$\gamma(^{168}\mathrm{Er})$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[†]	α[f]	Comments
								E_γ: from (n,n′γ). I_γ,Mult.: from (γ,γ′).
2494.528	$(3)^-$	511.504 *15*	8.4 *16*	1983.0398	5^-			
		1672.84 *9*	100 *16*	821.1685	2^+	E1	8.79×10^{-4}	
		2229.27[g] *20*	<37[g]	264.0888	4^+			
		2414.33 *19*	42 *11*	79.804	2^+			
2510.72	$1^{(-)}$	2430.9 *3*	100 *25*	79.804	2^+			E_γ,I_γ: from (n,n′γ).
		2510.7 *4*	63	0.0	0^+	(E1)		B(E1)(W.u.)=9.E−5 *4* Mult.: D from γ(θ) in (n,n′γ); π=(−) from K=0 in (γ,γ′). E_γ,I_γ: from (n,n′γ).
2513.67	$(4)^-$	1396.13 *6*	96 *35*	1117.5703	5^+			
		1518.95 *16*	79 *26*	994.7474	4^+	E1	8.62×10^{-4}	
		1617.75 *10*	100 *16*	895.7947	3^+	E1	8.70×10^{-4}	
2517.48	$(3^+,4^+)$	408.457[gi] *8*	8.7[g] *20*	2108.987	$(5)^+$			
		1696.30 *20*	100 *22*	821.1685	2^+			
2526.583	$(5)^-$	466.603 *12*	4.3 *10*	2059.9751	$(4)^-$			
		1333.44[g] *15*	<141[g]	1193.0251	5^-			
		1432.64 *7*	100 *38*	1094.0383	4^-	E2	1.70×10^{-3}	
		1532.18 *21*	38 *13*	994.7474	4^+			
2527.78		1433.74 *7*	100	1094.0383	4^-			Mult.: α(K)exp=0.0013 *4*, mult=E2 for doubly-placed γ.
2528.80	$(5)^-$	614.996[g] *24*	<16[g]	1913.92	3^-			
		1265.0[i] *2*	8 *4*	1263.9047	6^+			
		1534.05 *10*	100 *19*	994.7474	4^+	E1		
2540.22	$(3,4,5)^+$	1422.58 *8*	31 *15*	1117.5703	5^+			
		1644.45 *6*	100 *23*	895.7947	3^+	E2	1.40×10^{-3}	
2547.25	(4^+)	1651.49 *7*	≤225	895.7947	3^+	[M1]	0.00202 *3*	Eγ and undivided Iγ for doubly-placed γ.
		1997.9 *3*	75 *52*	548.7470	6^+			
		2282.8 *5*	100 *52*	264.0888	4^+			
2551.48	$(4,5)^-$	313.420[i] *14*	0.78 *19*	2238.179	$(4)^+$			
		442.593[i] *20*	2.2 *7*	2108.987	$(5)^+$			
		814.77 *7*	5.9 *19*	1736.6881	4^+			
		1556.84 *15*	100 *15*	994.7474	4^+	E1		
2558.66	$(5)^-$	235.652 *18*	1.5 *5*	2323.01	3^-			
		984.42 *8*	15 *3*	1574.117	5^-			
		1294.053[g] *25*	<182[g]	1263.9047	6^+			γ not reported in (n,n′γ), so branching probably small.
		1441.41[g] *7*	<156[g]	1117.5703	5^+			
		1563.85 *9*	100 *16*	994.7474	4^+			
2561.56	(4^+)	944.79 *6*	10 *3*	1616.8060	6^+			
		1444.06 *14*	17 *9*	1117.5703	5^+			

$^{168}_{68}\mathrm{Er}_{100}$-37

Adopted Levels, Gammas (continued)

γ(^{168}Er) (continued)

E_i(level)	J^{π}_i	E_{γ}†	I_{γ}‡	E_f	J^{π}_f	Mult.†	α[f]	Comments
2561.56	(4$^+$)	2012.34 *21*	22 *9*	548.7470	6$^+$			
		2297.43 *10*	100 *13*	264.0888	4$^+$			
2571.31		1576.58[h] *8*	100[h] *36*	994.7474	4$^+$			
		1675.49[g] *6*	<138[g]	895.7947	3$^+$			
2571.9	14$^+$	624.6 *7*	100	1947.3	12$^+$	[E2]	0.00961 *14*	B(E2)(W.u.)=432 *+25−42* B(E2)↓: From measured B(E2) in Coulomb excitation. E_{γ}: from level energy difference. γ seen in Coulomb excitation but Eγ not stated.
2572.0	(12$^+$)	502	100	2070.0	10$^+$	[E2]	0.01628	B(E2)(W.u.)=336 *+20−69* B(E2)↓: From measured B(E2) in Coulomb excitation.
2601.2		2052.0 *16*		548.7470	6$^+$			
		2337.1 *4*	100 *25*	264.0888	4$^+$			
		2522.0 *16*		79.804	2$^+$			
2628.57	(3$^+$,4,5$^+$)	1511.1 *3*	100 *67*	1117.5703	5$^+$			
		1633.7 *3*	100 *33*	994.7474	4$^+$			
		1732.76[g] *16*	<400[g]	895.7947	3$^+$			
2629.2		2365.1 *4*	100	264.0888	4$^+$			E_{γ}: from (n,n′γ).
2643.71	1$^{(+)}$	2564.0 *2*	27 *7*	79.804	2$^+$	[M1]		B(M1)(W.u.)=0.0040 *14* E_{γ}: from (n,n′γ). I_{γ}: weighted average of 47 *14* from (γ,γ′) and 24 *5* from (n,n′γ).
		2643.62 *16*	100	0.0	0$^+$	(M1)	1.34×10^{-3}	B(M1)(W.u.)=0.013 *3* E_{γ}: from (n,n′γ). Mult.: Δπ=(no) (1996Ma18) from (γ,γ′) for D γ.
2653.8	13$^-$	471.0 *2*	100	2182.80	11$^-$			E_{γ}: from ^{170}Er(^{136}Xe,Xγ).
2656.86		1762.19[g] *18*	30[g] *4*	895.7947	3$^+$			
		1835.68 *5*	100 *13*	821.1685	2$^+$			Eγ and undivided Iγ are for doubly-placed γ.
2657.66	(2,3,4)	1004.11 *4*	100 *22*	1653.5486	3$^+$			
		1042.35[g] *21*	<93[g]	1615.3420	4$^-$			
		1226.0 *5*	16 *8*	1431.466	3$^-$			
2660.59	(3,4)$^+$	471.874[g] *6*	<15[g]	2188.408	(5$^+$)			
		1542.94 *25*	75 *25*	1117.5703	5$^+$			
		1665.74 *8*	100 *25*	994.7474	4$^+$	M1	0.00199 *3*	
		1765.02 *12*	<150	895.7947	3$^+$	E2	1.29×10^{-3}	I_{γ},E_{γ}: 1763.4γ and 1765.0γ unresolved in (n,γ).
		2395.0 *16*	39 *15*	264.0888	4$^+$			
		2580.0 *16*	89 *15*	79.804	2$^+$			
2663.229	(4)$^+$	408.457[g] *8*	<4.6[g]	2254.754	(2$^+$)			
		537.76 *6*	0.6 *9*	2125.424				Eγ is for doubly-placed γ; Iγ has been suitably divided.
		1009.675 *21*	100 *14*	1653.5486	3$^+$	E2	0.00329 *5*	
		1470.40 *17*	24 *10*	1193.0251	5$^-$			

$\gamma(^{168}Er)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[†]	δ[†]	α[f]	Comments
2663.229	(4)$^+$	1569.30 *11*	43 *10*	1094.0383	4$^-$				Other Iγ: 76 *19* in (n,n$'\gamma$).
2672.1	(4$^+$,5,6$^+$)	1409.15[g] *4*	<810[g]	1263.9047	6$^+$				
		1677.2 *5*	100 *33*	994.7474	4$^+$				
		2410.0 *16*		264.0888	4$^+$				
2676.3	1$^+$	2596.5 *4*	30 *3*	79.804	2$^+$				E$_\gamma$: from (n,n$'\gamma$). I$_\gamma$: from (γ,γ').
		2676 *4*	100	0.0	0$^+$	M1		1.34×10^{-3}	B(M1)(W.u.)=0.033 *4* E$_\gamma$,I$_\gamma$,Mult.: from (γ,γ').
2683.8	(2$^+$)	2420.0 *16*		264.0888	4$^+$				E$_\gamma$: absent in (n,n$'\gamma$).
		2604.0 *3*	100 *20*	79.804	2$^+$				E$_\gamma$,I$_\gamma$: from (n,n$'\gamma$).
		2684.0[g] *4*	<141[g]	0.0	0$^+$				E$_\gamma$,I$_\gamma$: from (n,n$'\gamma$).
2689.0	(1,2$^+$)	2608.9 *5*	100 *25*	79.804	2$^+$				E$_\gamma$,I$_\gamma$: from (n,n$'\gamma$).
		2689.3 *5*	70 *15*	0.0	0$^+$				E$_\gamma$,I$_\gamma$: from (n,n$'\gamma$).
2694	1$^{(+)}$	2694	100	0.0	0$^+$	(M1)		1.35×10^{-3}	E$_\gamma$,Mult.: from (γ,γ'); D, $\Delta\pi$=(no) γ (1996Ma18).
2700.60		2436.49 *20*	100	264.0888	4$^+$				
2716.0	(2$^+$,3,4$^+$)	2451.9[e]		264.0888	4$^+$				
		2636.2[e]		79.804	2$^+$				
2727.77	(4,5)$^-$	1112.41 *5*	100 *20*	1615.3420	4$^-$	M1+E2	1.2 *+14−5*	0.0036 *6*	
		1611.4 *5*	53 *27*	1117.5703	5$^+$				
		1732.76[g] *16*	<160[g]	994.7474	4$^+$				
2728.43	1$^+$	2648.4 *3*	91 *4*	79.804	2$^+$				E$_\gamma$: from (n,n$'\gamma$). I$_\gamma$: from (γ,γ'); other Iγ: 125 *20* in (n,n$'\gamma$).
		2728.6 *3*	100	0.0	0$^+$	M1		1.35×10^{-3}	B(M1)(W.u.)=0.041 *7* E$_\gamma$: from (n,n$'\gamma$). I$_\gamma$,Mult.: from (γ,γ').
2733.0		1837.0 *16*	56 *21*	895.7947	3$^+$				
		2469.0 *16*	100 *23*	264.0888	4$^+$				
2738.56		1030.50 *5*	95 *20*	1707.9929	5$^-$				
		1123.30 *6*	100 *20*	1615.3420	4$^-$				
2740.16	(4,5,6)$^+$	1476.0 *3*	9 *4*	1263.9047	6$^+$				
		1622.0 *5*	29 *14*	1117.5703	5$^+$				
		1745.58 *18*	100 *29*	994.7474	4$^+$	E2		1.30×10^{-3}	
		2475.0 *16*		264.0888	4$^+$				
2740.9	1	2661.2 *3*	100 *14*	79.804	2$^+$				E$_\gamma$: from (n,n$'\gamma$). I$_\gamma$: from (γ,γ').
		2740.5 *5*	91	0.0	0$^+$	D			E$_\gamma$: from (n,n$'\gamma$). I$_\gamma$,Mult.: from (γ,γ'). Other Iγ: 51 *9* in (n,n$'\gamma$).
2746.6	($\le$4)	1925.0 *16*		821.1685	2$^+$				E$_\gamma$: absent in (n,n$'\gamma$).
		2666.8 *3*		79.804	2$^+$				E$_\gamma$: from (n,n$'\gamma$).
2757.3	(1,2$^+$)	2678.1 *4*	<263	79.804	2$^+$				E$_\gamma$,I$_\gamma$: from (n,n$'\gamma$) for doubly-placed γ.
		2756.0 *6*	100 *21*	0.0	0$^+$				E$_\gamma$,I$_\gamma$: from (n,n$'\gamma$).

$^{168}_{68}Er_{100}$-39

$\gamma(^{168}Er)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[†]	α[f]	Comments
2763.9	(1,2+)	2684.0[g] *4*	<390[g]	79.804	2+			E_γ,I_γ: from (n,n′γ).
		2763.9 *8*	100 *33*	0.0	0+			E_γ,I_γ: from (n,n′γ).
2768.55		1060.06 *13*	100 *38*	1707.9929	5−			
		1153.31 *6*	100 *29*	1615.3420	4−			
2769.81	(5+)	1458.34 *15*	38 *16*	1311.4606	6−			
		1576.58[g] *8*	<53[g]	1193.0251	5−			
		1675.49[g] *6*	100[g] *11*	1094.0383	4−			
2778.03		2229.27[g] *20*	100[g]	548.7470	6+			
2782.9	(1,2+)	2703.1 *6*	100 *27*	79.804	2+			E_γ,I_γ: from (n,n′γ).
		2783.0[g] *5*	<91[g]	0.0	0+			E_γ,I_γ: from (n,n′γ).
2786.80	(3,4+)	384.510 *9*	2.3 *5*	2402.29	(4)−			
		1890.9 *4*	18 *9*	895.7947	3+			
		1965.19 *15*	32 *9*	821.1685	2+			
		2523.2 *4*	100 *18*	264.0888	4+			
2788.1		2524.0 *16*	100	264.0888	4+			
2792.0	1+	2712	24 *3*	79.804	2+			E_γ,I_γ: from (γ,γ′).
		2792.0 *4*	100	0.0	0+	M1	1.35×10^{-3}	B(M1)(W.u.)=0.0333 *25* E_γ: from (n,n′γ). I_γ,Mult.: from (γ,γ′).
2798.1	1+	2719.9 *8*	10.1 *18*	79.804	2+			E_γ: from (n,n′γ). I_γ: from (γ,γ′). Other Iγ: 15 *7* in (n,n′γ).
		2797.8 *3*	100	0.0	0+	M1	1.35×10^{-3}	B(M1)(W.u.)=0.036 *3* E_γ: from (n,n′γ). I_γ,Mult.: from (γ,γ′).
2810.9		2547.0 *16*	100	264.0888	4+			
2817.0?	(1,2+)	2737.0 *9*	80 *40*	79.804	2+			E_γ,I_γ: from (n,n′γ).
		2817.0 *4*	100 *30*	0.0	0+			E_γ,I_γ: from (n,n′γ).
2819.7		2556.0 *16*	100	264.0888	4+			
2826.4	1(+)	2745.7 *5*	51 *6*	79.804	2+			E_γ: from (n,n′γ). I_γ: from (γ,γ′). Other Iγ: 32 *11* in (n,n′γ).
		2826.7 *3*	100	0.0	0+	(M1)	1.36×10^{-3}	B(M1)(W.u.)=0.017 *3* E_γ: from (n,n′γ). I_γ,Mult.: from (γ,γ′): D, Δπ=(no) γ (1996Ma18).
2833.7	1(−)	2833.7 *5*	100	0.0	0+	(E1)	1.33×10^{-3}	E_γ: from (n,n′γ). Mult.: D, Δπ=(yes) (1996Ma18) from (γ,γ′).
2849.60	(4+)	1141.47 *7*	10 *4*	1707.9929	5−			
		1585.89 *24*	15 *6*	1263.9047	6+			
		1756.0 *16*	31 *8*	1094.0383	4−			
		1855.6 *3*	9 *3*	994.7474	4+			
		1954.0 *16*	21 *7*	895.7947	3+			
		2029.78 *18*	21 *6*	821.1685	2+	(E2)		Mult.: E1,E2 from α(K)exp in (n,γ) E=thermal; Δπ=no from level scheme.

$^{168}_{68}Er_{100}$-40

Adopted Levels, Gammas (continued)

$\gamma(^{168}Er)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[†]	α[f]	Comments
2849.60	(4^+)	2300.63 *9*	100 *18*	548.7470	6^+			
		2586.0 *16*	20 *4*	264.0888	4^+			
		2770.0 *16*	10 *4*	79.804	2^+			
2850.3	1^-	2769	71 *8*	79.804	2^+			E_γ,I_γ: from (γ,γ').
		2850.5 *4*	100	0.0	0^+	E1	1.34×10^{-3}	B(E1)(W.u.)=0.000181 *25* E_γ: from $(n,n'\gamma)$. I_γ,Mult.: from (γ,γ').
2852.0		792.11[g] *6*	<65[g]	2059.9751	$(4)^-$			
		1734.4 *5*	100 *50*	1117.5703	5^+			Possible multiplet.
2856.5	(2^+)	2776.8 *6*	100 *11*	79.804	2^+			E_γ: from $(n,n'\gamma)$. I_γ: from (γ,γ').
		2856	40	0.0	0^+	(Q)		E_γ,I_γ,Mult.: from (γ,γ').
2863.6?	$(1,2^+)$	2783.0[g] *5*	<83[g]	79.804	2^+			E_γ,I_γ: from $(n,n'\gamma)$.
		2863.6 *5*	100 *25*	0.0	0^+			E_γ,I_γ: from $(n,n'\gamma)$.
2874.61	(3,4,5)	969.51 *3*	47 *11*	1905.0922	$(4)^-$			
		1780.51 *8*	100 *29*	1094.0383	4^-			
		1880.47 *20*	43 *14*	994.7474	4^+			
		2611.0 *16*	54 *14*	264.0888	4^+			
2890.65		2341.89 *24*	100	548.7470	6^+			
2896.7	$(3,4^+)$	1281.03[g] *7*	<19[g]	1615.3420	4^-			α(K)exp for doubly-placed γ consistent with α(K)(M1).
		1355.3 *3*	100 *12*	1541.5564	3^-			
		2631.0 *16*		264.0888	4^+			
		2815.0 *16*		79.804	2^+			
2920.00		2656.0 *16*	100	264.0888	4^+			
2929.9	$1^{(+)}$	2850.5 *4*	46 *7*	79.804	2^+			E_γ: from $(n,n'\gamma)$. I_γ: from (γ,γ').
		2929.2 *5*	100	0.0	0^+	(M1)	1.37×10^{-3}	B(M1)(W.u.)=0.0078 *13* E_γ: from $(n,n'\gamma)$. I_γ,Mult.: from (γ,γ'); D, $\Delta\pi$=(no) γ (1996Ma18).
2933.44	2^+	1839.0[i] *16*	260 *50*	1094.0383	4^-			May Be misplaced; placement requires mult=M2.
		1938.69 *18*	90 *36*	994.7474	4^+			
		2669.0 *16*	100 *20*	264.0888	4^+			
		2853.0 *16*	54 *24*	79.804	2^+			
2934.0	14^-	515.0 *2*	100	2419.0	12^-			E_γ: from $^{170}Er(^{136}Xe,X\gamma)$.
2946.6	$1^{(-)}$	2866.7 *5*	100 *6*	79.804	2^+			E_γ: from $(n,n'\gamma)$. I_γ: from (γ,γ').
		2946.7 *6*	57	0.0	0^+	D		E_γ: from $(n,n'\gamma)$. I_γ,Mult.: from (γ,γ'). Other Iγ: 108 *23* in $(n,n'\gamma)$.
2950.7		2686.0 *16*	100	264.0888	4^+			
2955.6	1	2955.6 *8*	100	0.0	0^+	D		E_γ: from $(n,n'\gamma)$. I_γ,Mult.: from (γ,γ').

$^{168}_{68}Er_{100}$-41

Adopted Levels, Gammas (continued)

$\gamma(^{168}Er)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[†]	α[f]	Comments
2969.93	$3^+,4^+,5^+$	1317.42 *6*	<40	1653.5486	3^+			I_γ: undivided $I\gamma$ for doublet from (n,γ) E=thermal.
		1875.69 *12*	56 *13*	1094.0383	4^-	E1	9.35×10^{-4}	
		1975.1 *3*	56 *13*	994.7474	4^+			
		2420.71[i] *24*	100 *25*	548.7470	6^+			
2972.6	(≤4)	2893.0 *16*	100	79.804	2^+			
2974.3	1	2895	100 *14*	79.804	2^+			I_γ,E_γ: from (γ,γ').
		2974.2 *5*	78	0.0	0^+	D		E_γ: from (n,n$'\gamma$). I_γ,Mult.: from (γ,γ').
2979.3	(≤4)	2158.0 *16*		821.1685	2^+			
2982.53	(3,4,5)	1366.914[g] *20*	<580[g]	1615.3420	4^-			
		1987.77 *10*	100 *40*	994.7474	4^+			
2991.33	(≤4)	2911.0 *16*	100	79.804	2^+			
2998.2	0^+	2734.0 *16*	100	264.0888	4^+			
3002.4?	$(1,2^+)$	2922.6 *5*	100 *20*	79.804	2^+			E_γ,I_γ: from (n,n$'\gamma$).
		3002.3 *4*	73 *20*	0.0	0^+			E_γ,I_γ: from (n,n$'\gamma$).
3011.77	(4^+)	2189.0 *16*	28 *12*	821.1685	2^+			
		2462.0 *16*	100 *20*	548.7470	6^+			
		2747.0 *16*	80 *14*	264.0888	4^+			
		2932.0 *16*	58 *14*	79.804	2^+			
3026.02		2477.3 *16*	100	548.7470	6^+			
3030.7		2769.0 *16*	100	264.0888	4^+			
3033.9	(≤4)	2212.7 *5*	100	821.1685	2^+			
3042.8	$3^-,4^-,5^-$	1948.73 *25*	100	1094.0383	4^-	M1		
3044	1	2964	60 *15*	79.804	2^+			
		3044	100	0.0	0^+	D		
3049.6	1^+	2229.27[h] *20*	55[h] *20*	821.1685	2^+			E_γ: for multiply-placed γ. I_γ: from I(2229γ):I(2970γ) in two-photon cascade experiment in (n,γ) E=thermal and 2970γ branching here.
		2969.8 *5*	70 *6*	79.804	2^+			E_γ: from (n,n$'\gamma$). I_γ: from (γ,γ'). Other $I\gamma$: 106 *22* in (n,n$'\gamma$).
		3049.5 *7*	100	0.0	0^+	M1	1.39×10^{-3}	B(M1)(W.u.)=0.0138 *21* E_γ: from (n,n$'\gamma$). I_γ,Mult.: from (γ,γ').
3068.8		2520.0 *16*	100	548.7470	6^+			
3082	1	3002	81 *11*	79.804	2^+			
		3082	100	0.0	0^+	D		
3082.8	(4^+)	2533.0 *16*	74 *28*	548.7470	6^+			
		2819.0 *16*	100 *35*	264.0888	4^+			
		3003.0 *16*	60 *35*	79.804	2^+			
3095.9	$1^{(-)}$	3015.1 *7*	55 *6*	79.804	2^+			E_γ: from (n,n$'\gamma$). Other $I\gamma$: 62 *23* in (n,n$'\gamma$).
		3096.6 *6*	100	0.0	0^+	(E1)	1.44×10^{-3}	B(E1)(W.u.)=0.000179 *21*

$^{168}_{68}Er_{100}$-42

γ(^{168}Er) (continued)

E_i(level)	J_i^π	E_γ †	I_γ ‡	E_f	J_f^π	Mult. †	α f	Comments
								E_γ: from (n,n′γ). Mult.: D, $\Delta\pi$=(yes) (1996Ma18) from (γ,γ').
3099.42	(3$^-$)	2104.67 *15*	42 *11*	994.7474	4$^+$			
		2203.65 *9*	100 *21*	895.7947	3$^+$	(E1)		
		2277.97 *22*	32 *11*	821.1685	2$^+$			
3111.24	(2$^+$,3,4$^+$)	2116.48 *15*	69 *15*	994.7474	4$^+$			
		2214.47 g *20*	100 g *23*	895.7947	3$^+$			
		2290.0 *16*	53 *14*	821.1685	2$^+$			
		3031.0 *16*	41 *11*	79.804	2$^+$			
3116.4?	(2$^+$)	2853.0 *7*	100 *20*	264.0888	4$^+$			E_γ,I_γ: from (n,n′γ).
		3036.5 *7*	40 *15*	79.804	2$^+$			E_γ,I_γ: from (n,n′γ).
		3115.4 *9*	60 *15*	0.0	0$^+$			E_γ,I_γ: from (n,n′γ).
3124.40	(4$^+$)	2303.22 *20*	50 *10*	821.1685	2$^+$			E_γ,I_γ: for doubly-placed γ; divided Iγ given.
		2575.0 *16*	100 *62*	548.7470	6$^+$			
3124.5	1$^+$	3045	46 *5*	79.804	2$^+$			
		3124.2 *10*	100	0.0	0$^+$	M1	1.40×10^{-3}	B(M1)(W.u.)=0.0159 *22* E_γ: from (n,n′γ).
3127.93	(4$^+$,5,6$^+$)	2579.0 *16*	100 *27*	548.7470	6$^+$			
		2864.0 *16*	61 *7*	264.0888	4$^+$			
3151.9	(≤4)	2330.7 e	100	821.1685	2$^+$			
3158.3		3077.6 e	100	79.804	2$^+$			
3181.1	1$^-$	3102.3 *6*	100 *6*	79.804	2$^+$			E_γ: from (n,n′γ).
		3181	56	0.0	0$^+$	E1	1.48×10^{-3}	B(E1)(W.u.)=3.2×10^{-5} *5*
3187.9	15$^-$	534.1 *2*	100	2653.8	13$^-$			E_γ: from ^{170}Er(^{136}Xe,Xγ).
3190	1$^-$	3110	62 *6*	79.804	2$^+$			
		3190	100	0.0	0$^+$	E1	1.48×10^{-3}	B(E1)(W.u.)=0.00020 *3*
3198.0	(≤4)	3118.2 e	100	79.804	2$^+$			
3205.2		2941.1 e	100	264.0888	4$^+$			
3208.0	1$^{(+)}$	3208.0 *8*	100	0.0	0$^+$	(M1)	1.42×10^{-3}	E_γ: from (n,n′γ). Mult.: D, $\Delta\pi$=(no) (1996Ma18) from (γ,γ').
3220	1	3220	100	0.0	0$^+$	D		
3223.2	(4$^+$)	2402.0 e		821.1685	2$^+$			
		2674.5 e		548.7470	6$^+$			
		2959.1 e		264.0888	4$^+$			
3238.0		2973.9 e	100	264.0888	4$^+$			
3242.6	1	3242.6 *8*	100	0.0	0$^+$	D		E_γ: from (n,n′γ).
3259.5	16$^+$	687.6 *11*	100	2571.9	14$^+$	[E2]		B(E2)(W.u.)=3.4×10^2 *+3−11* E_γ: from level energy difference. Other Eγ: 687.6 from level energy difference in Coulomb excitation.

$^{168}_{68}$Er$_{100}$-43

γ(^{168}Er) (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[†]	α[f]	Comments
3285.1	(4$^+$)	2736.4[e]		548.7470	6$^+$			
		3021.0[e]		264.0888	4$^+$			
		3205.3[e]		79.804	2$^+$			
3300.0	1	3300.0 *7*	100	0.0	0$^+$	D		E_γ: from (n,n$'\gamma$).
3327.3	($\le$4)	3247.5[e]	100	79.804	2$^+$			
3335.0	(4$^+$,5$^+$)	2439.2[e]		895.7947	3$^+$			
		2786.3[e]		548.7470	6$^+$			
3338.2	(2$^+$)	3258.4 *6*	100 *27*	79.804	2$^+$			E_γ: from (n,n$'\gamma$).
		3338.0 *10*	67	0.0	0$^+$	(Q)		E_γ: from (n,n$'\gamma$). Other Iγ: 89 *45* in (n,n$'\gamma$).
3342.0	1$^{(+)}$	3342.0 *10*	100	0.0	0$^+$	(M1)	1.45×10^{-3}	E_γ: from (n,n$'\gamma$). Mult.: D, $\Delta\pi$=(no) (1996Ma18) from (γ,γ').
3347.7		2352.9[e]	100	994.7474	4$^+$			
3358.7	1$^+$	3278	66.9 *19*	79.804	2$^+$			
		3358.7 *6*	100	0.0	0$^+$	M1	1.46×10^{-3}	B(M1)(W.u.)=0.064 *5* E_γ: from (n,n$'\gamma$).
3370.9	(2$^+$)	3291.9 *9*	100 *16*	79.804	2$^+$			E_γ: from (n,n$'\gamma$).
		3370.9 *7*	87	0.0	0$^+$	(Q)		E_γ: from (n,n$'\gamma$). Other Iγ: 89 *33* in (n.n$'\gamma$).
3376.6	(4$^+$)	2555.4[e]		821.1685	2$^+$			
		2827.9[e]		548.7470	6$^+$			
		3296.8[e]		79.804	2$^+$			
3391	1$^+$	3311	44.7 *9*	79.804	2$^+$			
		3391	100	0.0	0$^+$	M1	1.46×10^{-3}	B(M1)(W.u.)=0.140 *11* Other B(M1)(W.u.): 0.30 *7* from (e,e$'$).
3394.5		2300.2[e]	100	1094.0383	4$^-$			
3399.3	($\le$4)	3319.5[e]	100	79.804	2$^+$			
3409.7	1$^+$	3330	62 *4*	79.804	2$^+$			E_γ,I_γ: from (γ,γ').
		3409.7 *9*	100	0.0	0$^+$	M1	1.47×10^{-3}	B(M1)(W.u.)=0.037 *5* E_γ: from (n,n$'\gamma$). Mult.,I_γ: from (γ,γ').
3415.5	($\le$4)	3335.7[e]	100	79.804	2$^+$			
3432.0	(4$^+$)	2883.3[e]		548.7470	6$^+$			
		3352.2[e]		79.804	2$^+$			
3439.6	1$^{(-)}$	3361	100 *17*	79.804	2$^+$			E_γ,I_γ: from (γ,γ').
		3439.6 *9*	56	0.0	0$^+$	(E1)	1.57×10^{-3}	B(E1)(W.u.)=0.000103 *25* E_γ: from (n,n$'\gamma$). I_γ: from (γ,γ'). Mult.: D, $\Delta\pi$=(yes) (1996Ma18) from (γ,γ').
3449	1	3449	100	0.0	0$^+$	D		E_γ,Mult.: from (γ,γ').

Adopted Levels, Gammas (continued)

γ(^{168}Er) (continued)

E_i(level)	J^{π}_i	E_{γ}[†]	I_{γ}[‡]	E_f	J^{π}_f	Mult.[†]	α[f]	Comments
3458	1^+	3378	48.7 *19*	79.804	2^+			E_{γ},I_{γ}: from (γ,γ').
		3458	100	0.0	0^+	M1	1.48×10^{-3}	B(M1)(W.u.)=0.061 *6* E_{γ},I_{γ},Mult.: from (γ,γ').
3469	1^-	3389	61 *7*	79.804	2^+			E_{γ},I_{γ}: from (γ,γ').
		3469	100	0.0	0^+	E1	1.58×10^{-3}	B(E1)(W.u.)=0.00032 *5* E_{γ},I_{γ},Mult.: from (γ,γ').
3475.7	(≤4)	3395.9[e]	100	79.804	2^+			
3481	1^-	3401	100 *5*	79.804	2^+			E_{γ},I_{γ}: from (γ,γ').
		3481	54	0.0	0^+	E1	1.59×10^{-3}	B(E1)(W.u.)=0.00062 *9* E_{γ},I_{γ},Mult.: from (γ,γ').
3487.3		2591.5[e]	100	895.7947	3^+			
3496.4	(4^+)	2947.7[e]		548.7470	6^+			
		3416.6[e]		79.804	2^+			
3499.3		2405.3[e]	100	1094.0383	4^-			
3504.2	1^-	3424.4 *9*	100 *29*	79.804	2^+			E_{γ}: from (n,n$'\gamma$). I_{γ}: from (γ,γ').
		3505	59	0.0	0^+	D		E_{γ},I_{γ},Mult.: from (γ,γ').
3507.8	(≤4)	3428.0[e]	100	79.804	2^+			
3513.9		2965.2[e]	100	548.7470	6^+			
3516	1^-	3436	75 *8*	79.804	2^+			E_{γ},I_{γ}: from (γ,γ').
		3516	100	0.0	0^+	E1	1.60×10^{-3}	B(E1)(W.u.)=0.00022 *5* E_{γ},I_{γ},Mult.: from (γ,γ').
3521.1	(≤4)	3441.3[e]	100	79.804	2^+			
3529	1	3529	100	0.0	0^+	D		E_{γ},Mult.: from (γ,γ').
3560.0		3011.3[e]	100	548.7470	6^+			
3566	1	3566	100	0.0	0^+	D		E_{γ},Mult.: from (γ,γ').
3570.9	(4^+)	2675.1[e]		895.7947	3^+			
		2749.7[e]		821.1685	2^+			
		3022.2[e]		548.7470	6^+			
3588.0		2593.2[e]	100	994.7474	4^+			
3591	$1^{(+)}$	3511	48 *8*	79.804	2^+			E_{γ},I_{γ}: from (γ,γ').
		3591	100	0.0	0^+	(M1)	1.51×10^{-3}	B(M1)(W.u.)=0.0097 *19* E_{γ},I_{γ}: from (γ,γ'). Mult.: D, $\Delta\pi$=(no) (1996Ma18) in (γ,γ').
3598	1	3518	62 *9*	79.804	2^+			E_{γ},I_{γ}: from (γ,γ').
		3598	100	0.0	0^+	D		E_{γ},I_{γ},Mult.: from (γ,γ').
3606.8	(≤4)	3527.0[e]	100	79.804	2^+			
3617.6	2^+	2623.0[e]		994.7474	4^+			
		2796.6[e]		821.1685	2^+			

γ(^{168}Er) (continued)

E_i(level)	J_i^π	E_γ †	I_γ ‡	E_f	J_f^π	Mult. †	α f	Comments
3617.6	2^+	3538.0 e		79.804	2^+			
3627	1	3627	100	0.0	0^+	D		E_γ,Mult.: from (γ,γ').
3634	$1^{(-)}$	3634	100	0.0	0^+	(E1)	1.65×10^{-3}	E_γ: from (γ,γ'). Mult.: D, $\Delta\pi$=(yes) (1996Ma18) in (γ,γ').
3643.1	(≤4)	2821.9 e	100	821.1685	2^+			
3657	$1^{(+)}$	3577	40 *3*	79.804	2^+			E_γ,I_γ: from (γ,γ').
		3657	100	0.0	0^+	(M1)	1.53×10^{-3}	B(M1)(W.u.)=0.036 *5* E_γ,I_γ: from (γ,γ'). Mult.: D, $\Delta\pi$=(no) (1996Ma18) in (γ,γ').
3660.9	(≤4)	2839.7 e	100	821.1685	2^+			
3680.1	(2^+,3,4^+)	2685.3 e		994.7474	4^+			
		2858.9 e		821.1685	2^+			
3696	1	3616	75 *15*	79.804	2^+			E_γ,I_γ: from (γ,γ').
		3696	100	0.0	0^+	D		E_γ,I_γ,Mult.: from (γ,γ').
3702.5	(≤4)	3622.7 e	100	79.804	2^+			
3703	1^-	3623	100 *9*	79.804	2^+			E_γ,I_γ: from (γ,γ').
		3703	44	0.0	0^+	E1	1.67×10^{-3}	B(E1)(W.u.)=0.00026 *5* E_γ,I_γ,Mult.: from (γ,γ').
3715.2		2819.4 e	100	895.7947	3^+			
3719	$1^{(-)}$	3639	100 *18*	79.804	2^+			E_γ,I_γ: from (γ,γ').
		3719	84	0.0	0^+	(E1)	1.68×10^{-3}	B(E1)(W.u.)=0.00021 *6* E_γ,I_γ: from (γ,γ'). Mult.: D, $\Delta\pi$=(yes) (1996Ma18) from (γ,γ').
3737	1	3737	100	0.0	0^+	D		E_γ,Mult.: from (γ,γ').
3739.0	(2^-,3,4^+)	2645.0 e		1094.0383	4^-			
		2917.8 e		821.1685	2^+			
3745	$1^{(-)}$	3665	100 *6*	79.804	2^+			E_γ,I_γ: from (γ,γ').
		3745	64	0.0	0^+	(E1)	1.69×10^{-3}	B(E1)(W.u.)=0.00031 *5* E_γ,I_γ: from (γ,γ'). Mult.: D, $\Delta\pi$=(yes) (1996Ma18) in (γ,γ').
3755.4		2859.6 e	100	895.7947	3^+			
3761.6	(≤4)	2940.4 e	100	821.1685	2^+			
3776	$1^{(+)}$	3696	47 *8*	79.804	2^+			E_γ,I_γ: from (γ,γ').
		3776	100	0.0	0^+	(M1)	1.56×10^{-3}	B(M1)(W.u.)=0.0103 *20* E_γ,I_γ: from (γ,γ'). Mult.: D, $\Delta\pi$=(no) (1996Ma18) in (γ,γ').
3781.7	(4^+,5,6^+)	2786.9 e		994.7474	4^+			
		3233.0 e		548.7470	6^+			
		3517.6 e		264.0888	4^+			

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$\gamma(^{168}Er)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[†]	α[f]	Comments
3789	1	3789	100	0.0	0^+	D		E_γ,Mult.: from (γ,γ').
3799.4		3250.7[e]	100	548.7470	6^+			
3800	$1^{(-)}$	3720	190 *40*	79.804	2^+			E_γ,I_γ: from (γ,γ').
		3800	100	0.0	0^+	(E1)	1.71×10^{-3}	B(E1)(W.u.)=0.00012 *4* E_γ,I_γ: from (γ,γ'). Mult.: D, $\Delta\pi$=(yes) (1996Ma18) in (γ,γ').
3806	1^+	3726	53 *4*	79.804	2^+			E_γ,I_γ: from (γ,γ').
		3806	100	0.0	0^+	M1	1.57×10^{-3}	B(M1)(W.u.)=0.037 *6* E_γ,I_γ,Mult.: from (γ,γ').
3814	$1^{(-)}$	3734	74 *10*	79.804	2^+			E_γ,I_γ: from (γ,γ').
		3814	100	0.0	0^+	(E1)	1.72×10^{-3}	B(E1)(W.u.)=0.00022 *5* E_γ,I_γ: from (γ,γ'). Mult.: D, $\Delta\pi$=(yes) (1996Ma18) in (γ,γ').
3817.0	(≤4)	2995.8[e]	100	821.1685	2^+			
3835.2		3571.1[e]	100	264.0888	4^+			
3869	1	3869	100	0.0	0^+	D		E_γ,Mult.: from (γ,γ').
3888.4		2992.6[e]	100	895.7947	3^+			
3895.2		3631.1[e]	100	264.0888	4^+			
3908.3		3644.2[e]	100	264.0888	4^+			
3912	1	3912	100	0.0	0^+	D		E_γ,Mult.: from (γ,γ').
3921	$1^{(-)}$	3841	42 *8*	79.804	2^+			E_γ,I_γ: from (γ,γ').
		3921	100	0.0	0^+	(E1)	1.75×10^{-3}	B(E1)(W.u.)=0.00012 *3* E_γ,I_γ: from (γ,γ'). Mult.: D, $\Delta\pi$=(yes) (1996Ma18) in (γ,γ').

[†] From ^{167}Er(n,γ) E=thermal, except where noted.

[‡] Relative photon branching from each level; values are from ^{167}Er(n,γ) E=thermal, except where noted. Upper limits are given for photon branchings affected by multiple placement.

[#] <-91 or $>+200$, or +32 *+24−9* (1998Al15), −28 *+6−12* (1981Iw04), −28 *+9−23* (1975Be43), +64 *+135−26* (1971La11 from $\gamma\gamma(\theta)$) in ε decay; ≥29 (1972Do01) and ≤-25 (1978Mc02) from Coulomb excitation; +26 *+27−8* from (n,n′γ). Data are inconsistent, but M1 admixture (if any) clearly is small. Evaluator adopts a magnitude of 25 as a lower limit for δ(741).

[@] From $\gamma\gamma(\theta)$ (1981Iw04) in ^{168}Tm ε decay. Other δ: δ=5.1 *+56−13* from ce data in Er(n,γ) E=thermal; −4.9 *3* (1975Be43) in ε decay; however $\delta>71$ (1975Ab06) in ε decay and $\delta=-12.0$ *+16−23* from $\gamma(\theta)$ in (n,n′γ).

[&] Weighted average of +20 *4* (1981Iw04), +17 *3* (1975Be43), +13 *+9−3* (1975Ab06) from $\gamma\gamma(\theta)$ in ^{168}Tm ε decay. Other δ: 1/(+0.005 *15*) (i.e., $\delta<-100$ or $\delta>+50$) (1998Al15) from 816γ-80$\gamma(\theta)$ in ε decay; 5.1 *+12−7* from sub-shell ratios in Er(n,γ) E=thermal; −70 *+40−570* from $\gamma(\theta)$ in (n,n′γ).

[a] From Coulomb excitation.

[b] From $\gamma\gamma(\theta)$ in ^{168}Tm ε decay.

$^{168}_{68}Er_{100}$-47

$\gamma(^{168}Er)$ (continued)

[c] From ce data in ^{168}Tm ε decay.
[d] From ^{168}Tm ε decay.
[e] From level energy difference in (n,γ) E=thermal.
[f] 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.
[g] Multiply placed with undivided intensity.
[h] Multiply placed with intensity suitably divided.
[i] Placement of transition in the level scheme is uncertain.

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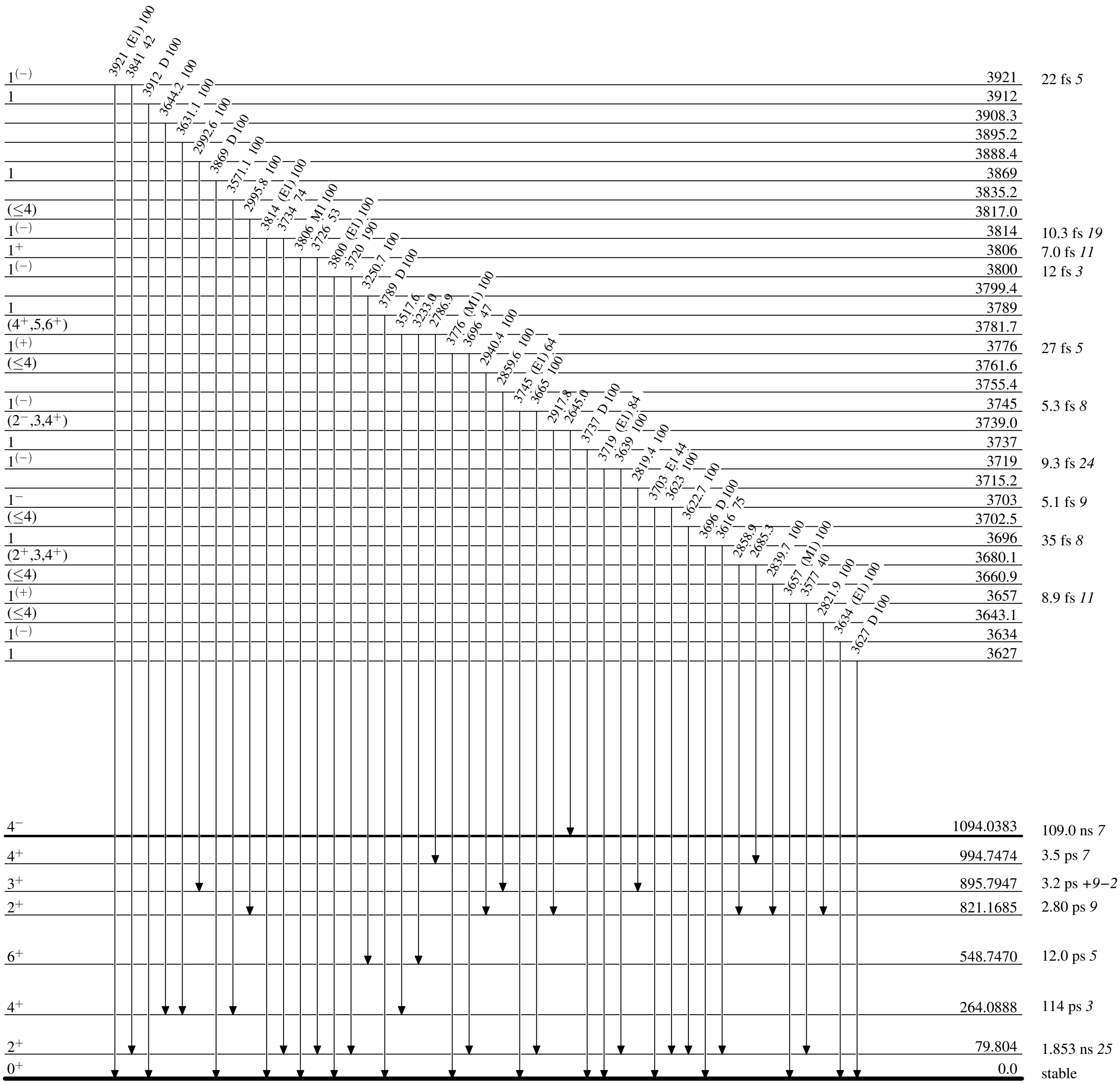
Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

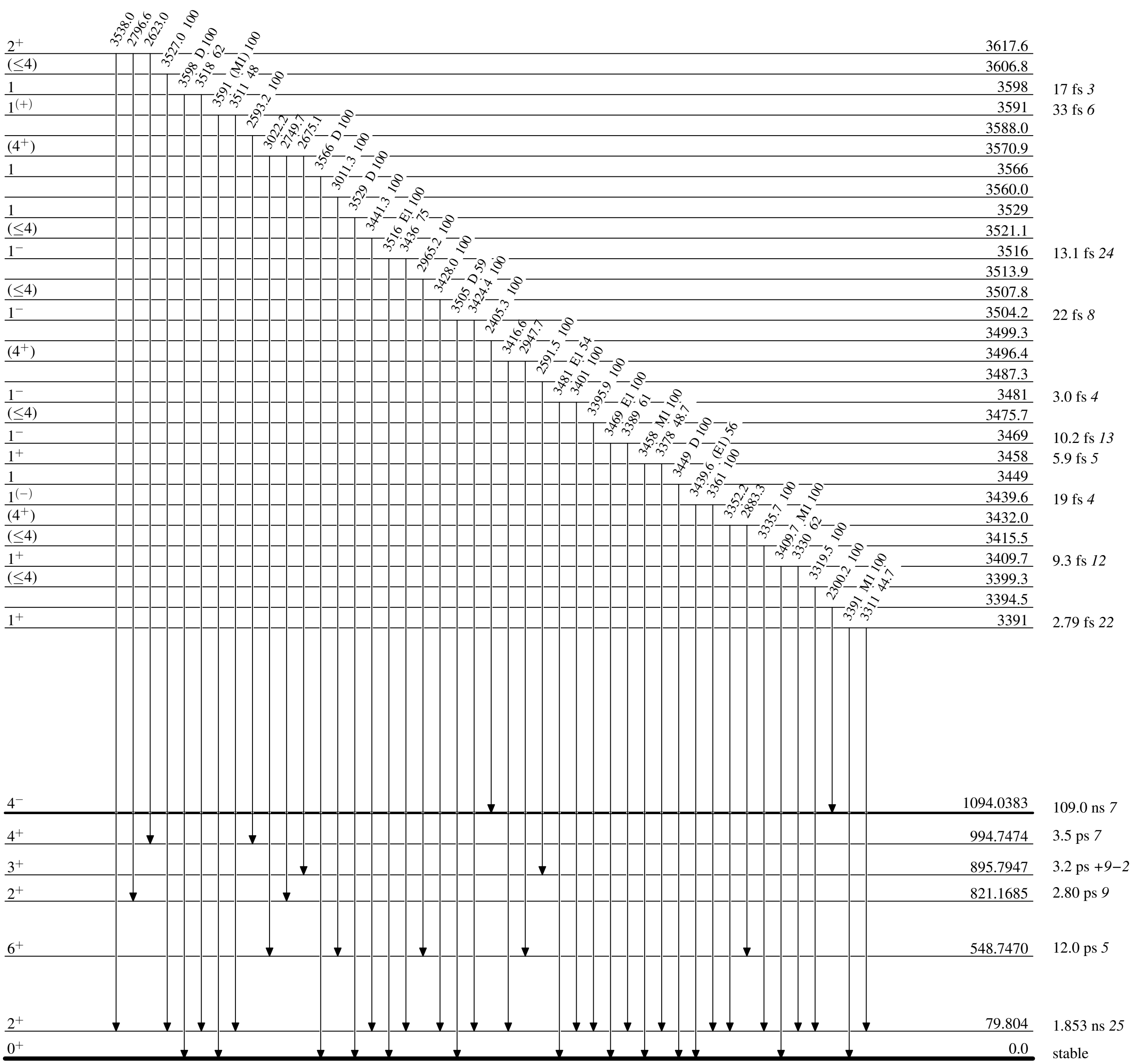


$^{168}_{68}Er_{100}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

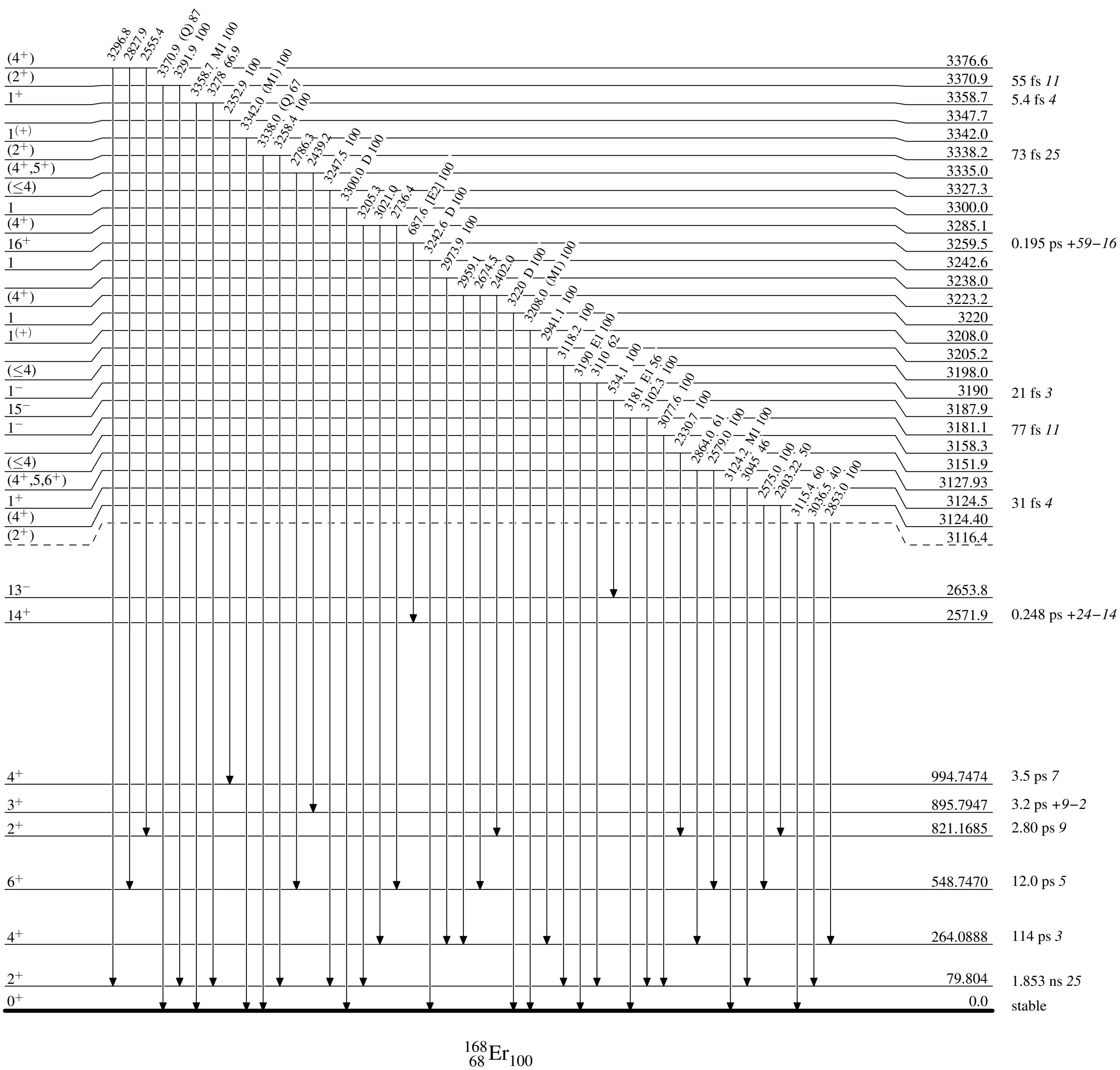


$^{168}_{68}Er_{100}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

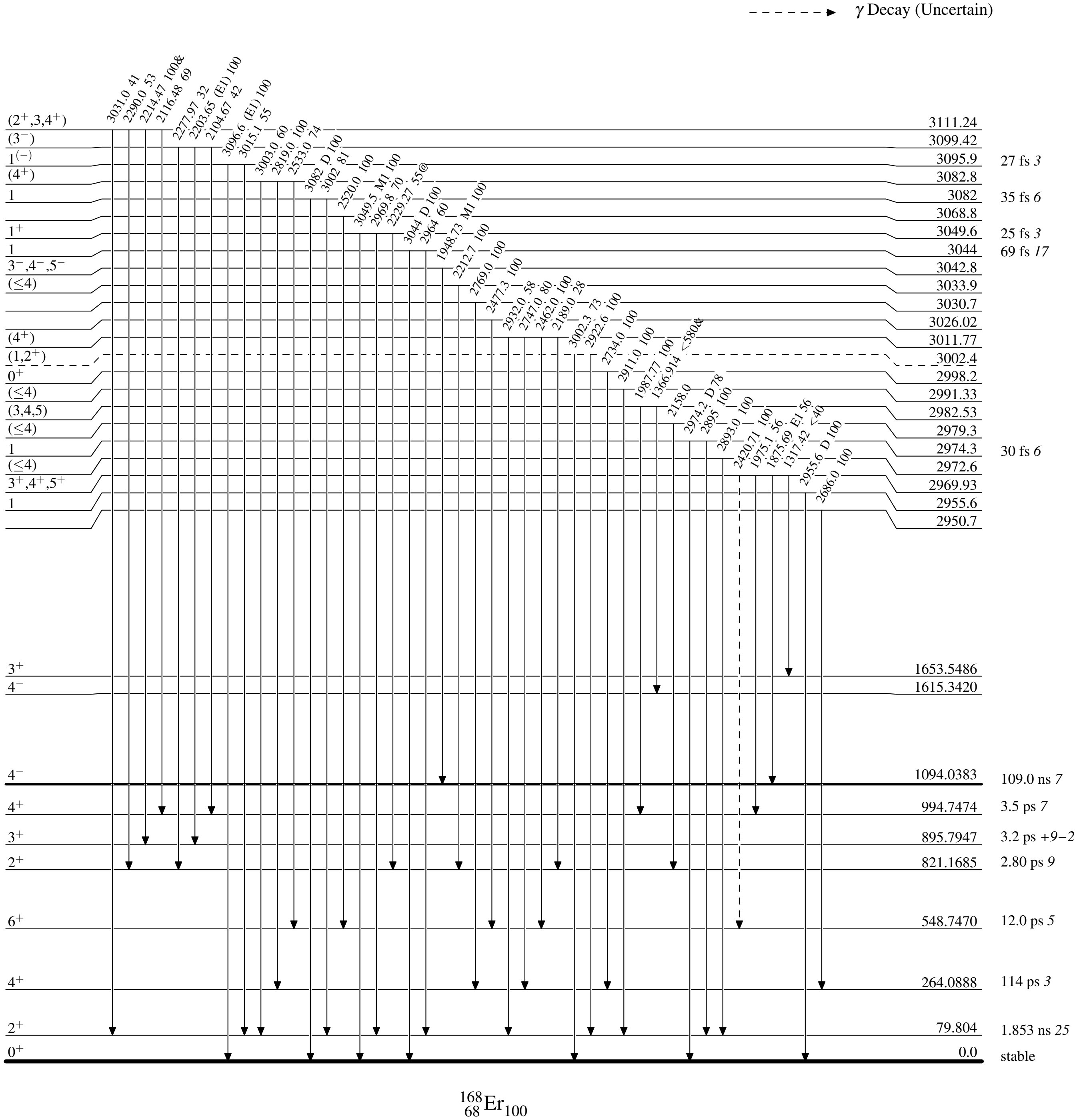


Adopted Levels, Gammas

Level Scheme (continued)

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

Legend



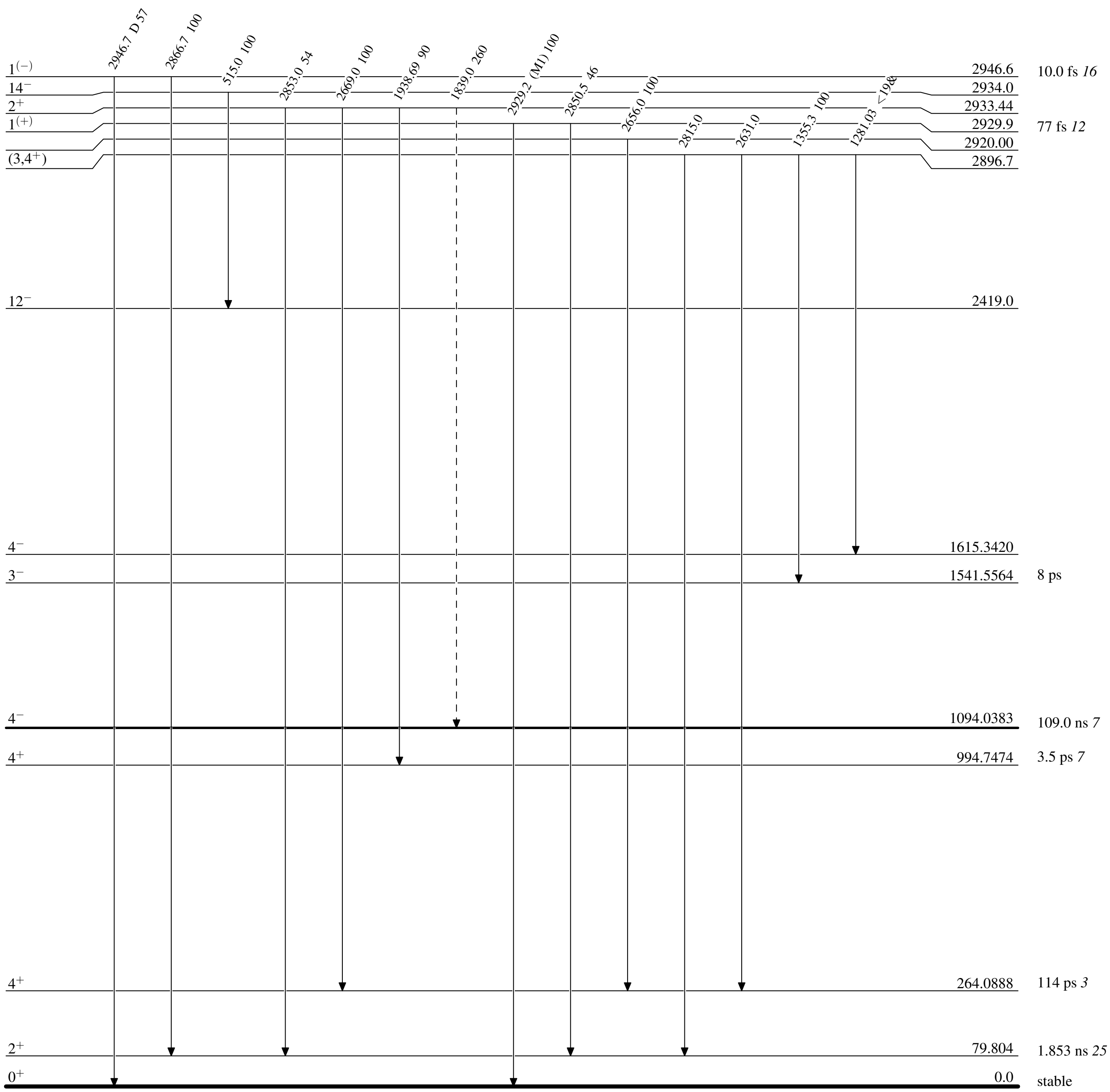
Adopted Levels, Gammas

Level Scheme (continued)

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

Legend

γ Decay (Uncertain)

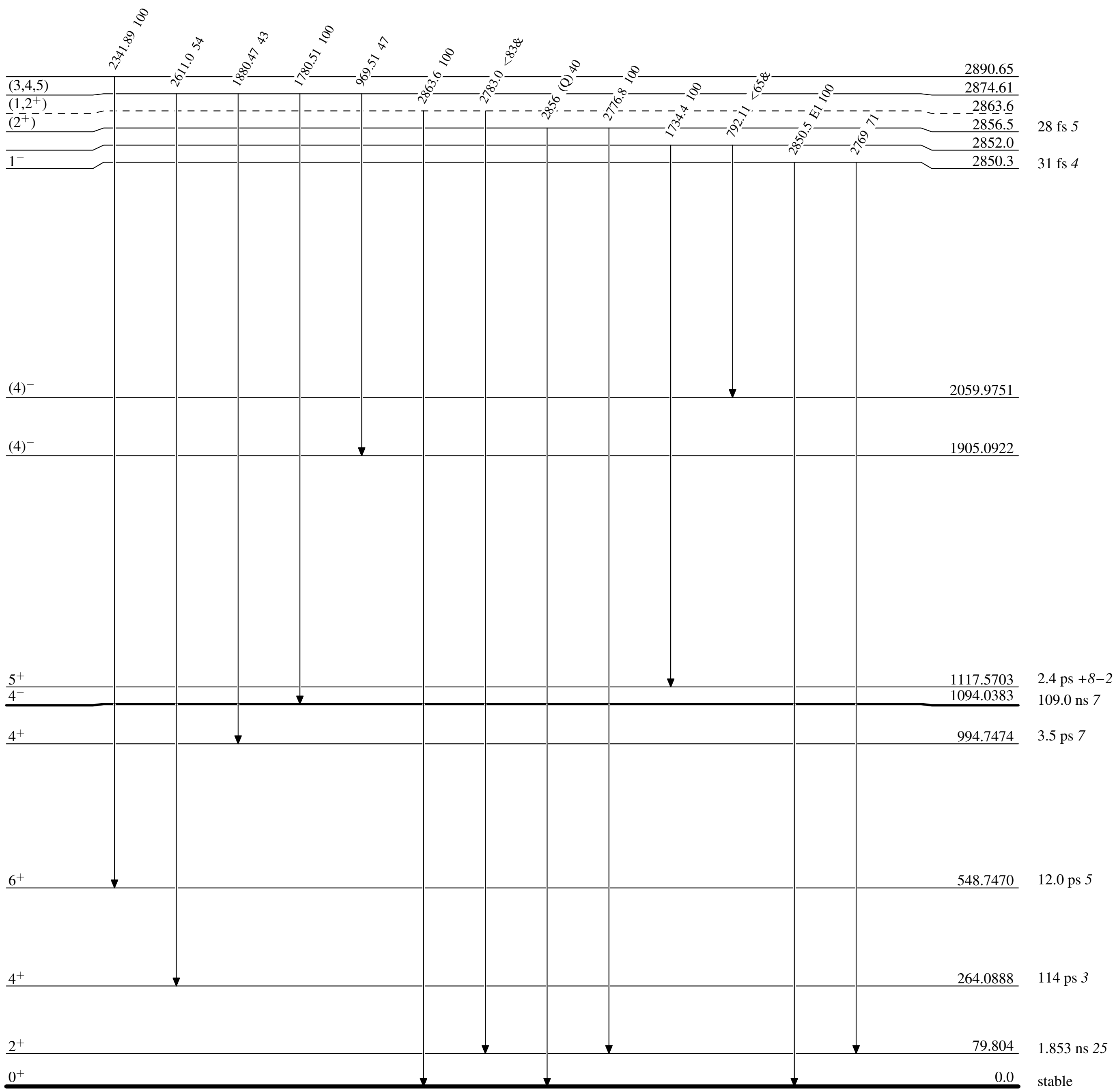


$^{168}_{68}Er_{100}$

Adopted Levels, Gammas

Level Scheme (continued)

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

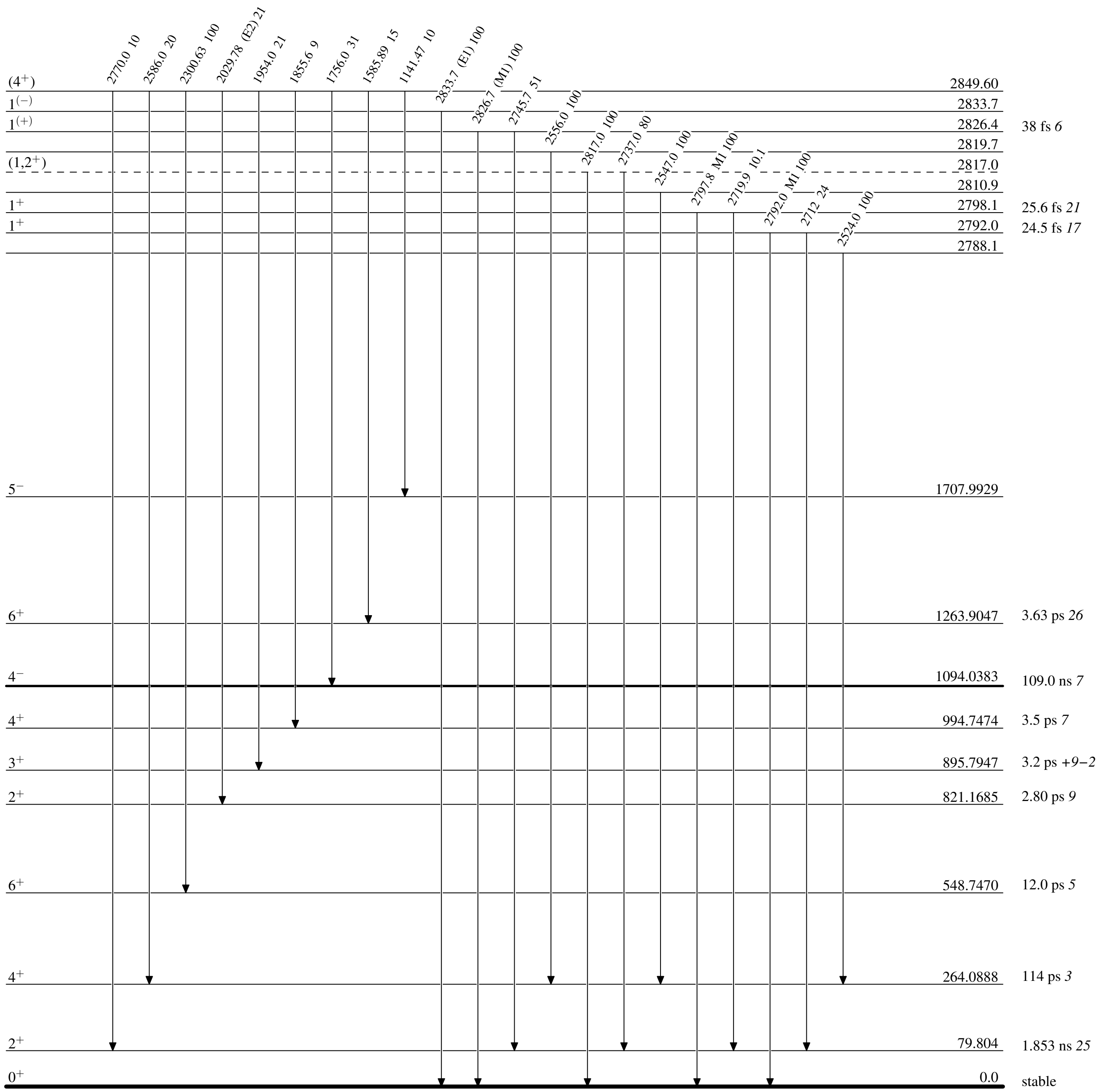


$^{168}_{68}Er_{100}$

Adopted Levels, Gammas

Level Scheme (continued)

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

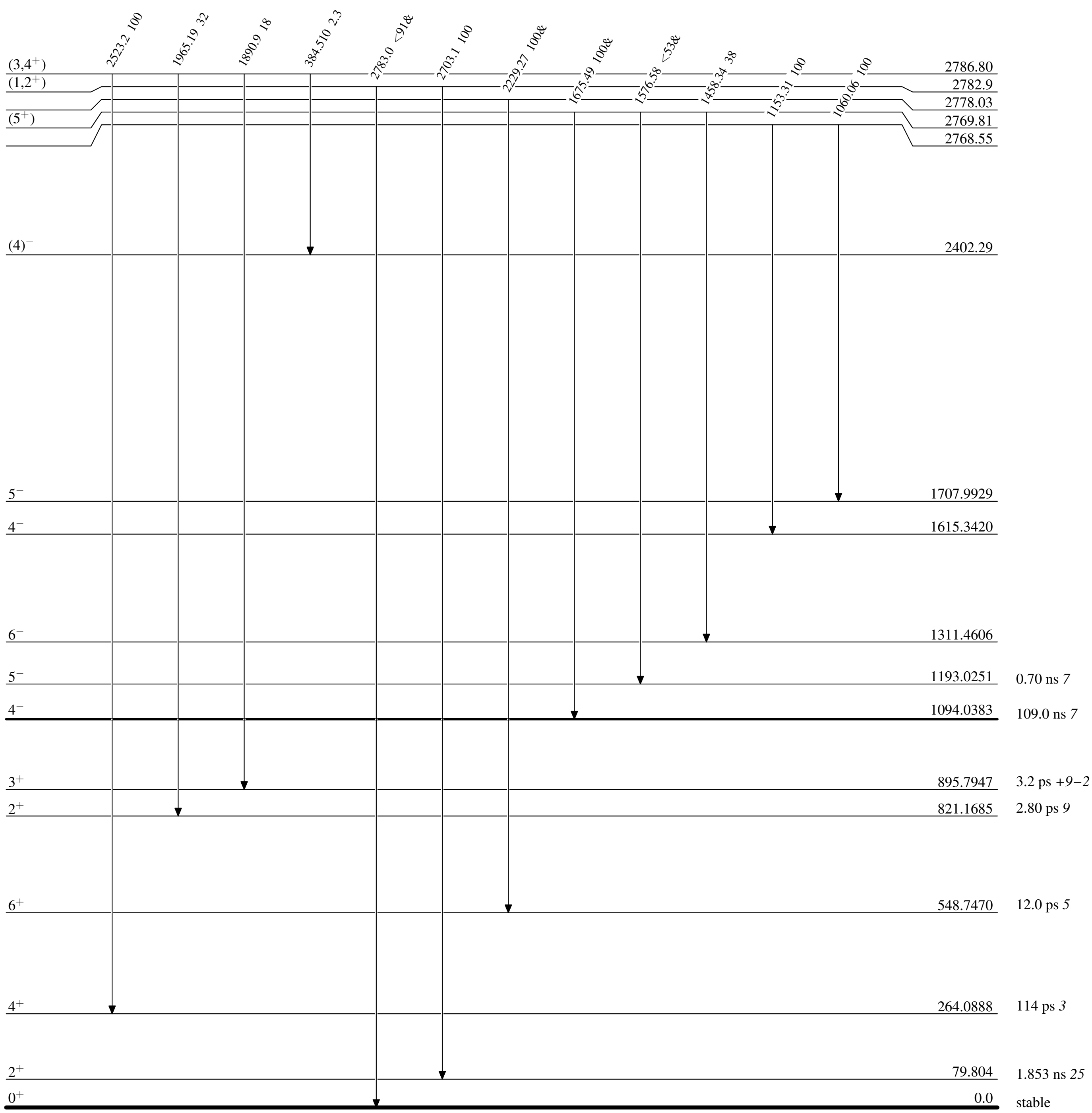


$^{168}_{68}Er_{100}$

Adopted Levels, Gammas

Level Scheme (continued)

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

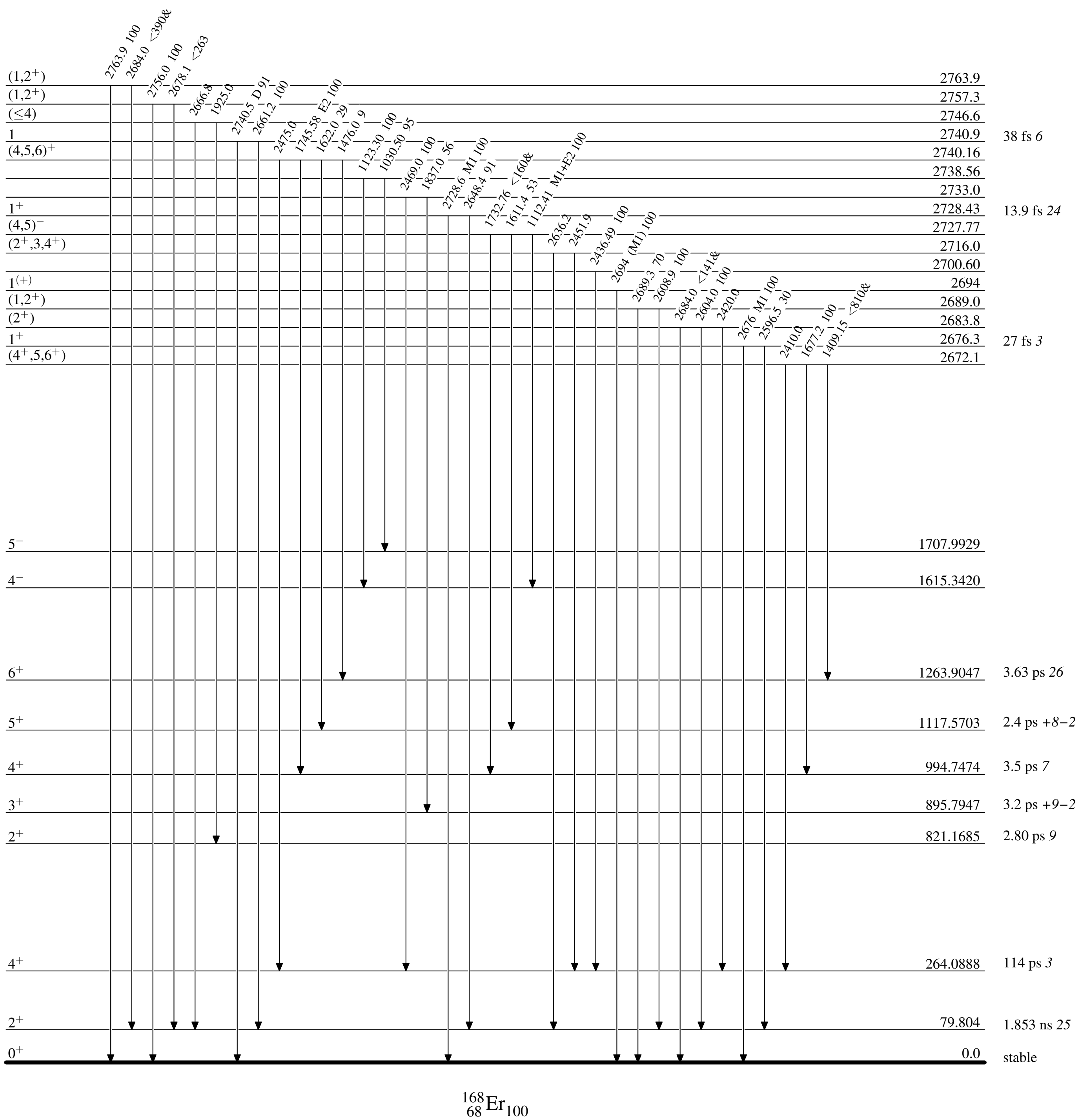


$^{168}_{68}Er_{100}$

Adopted Levels, Gammas

Level Scheme (continued)

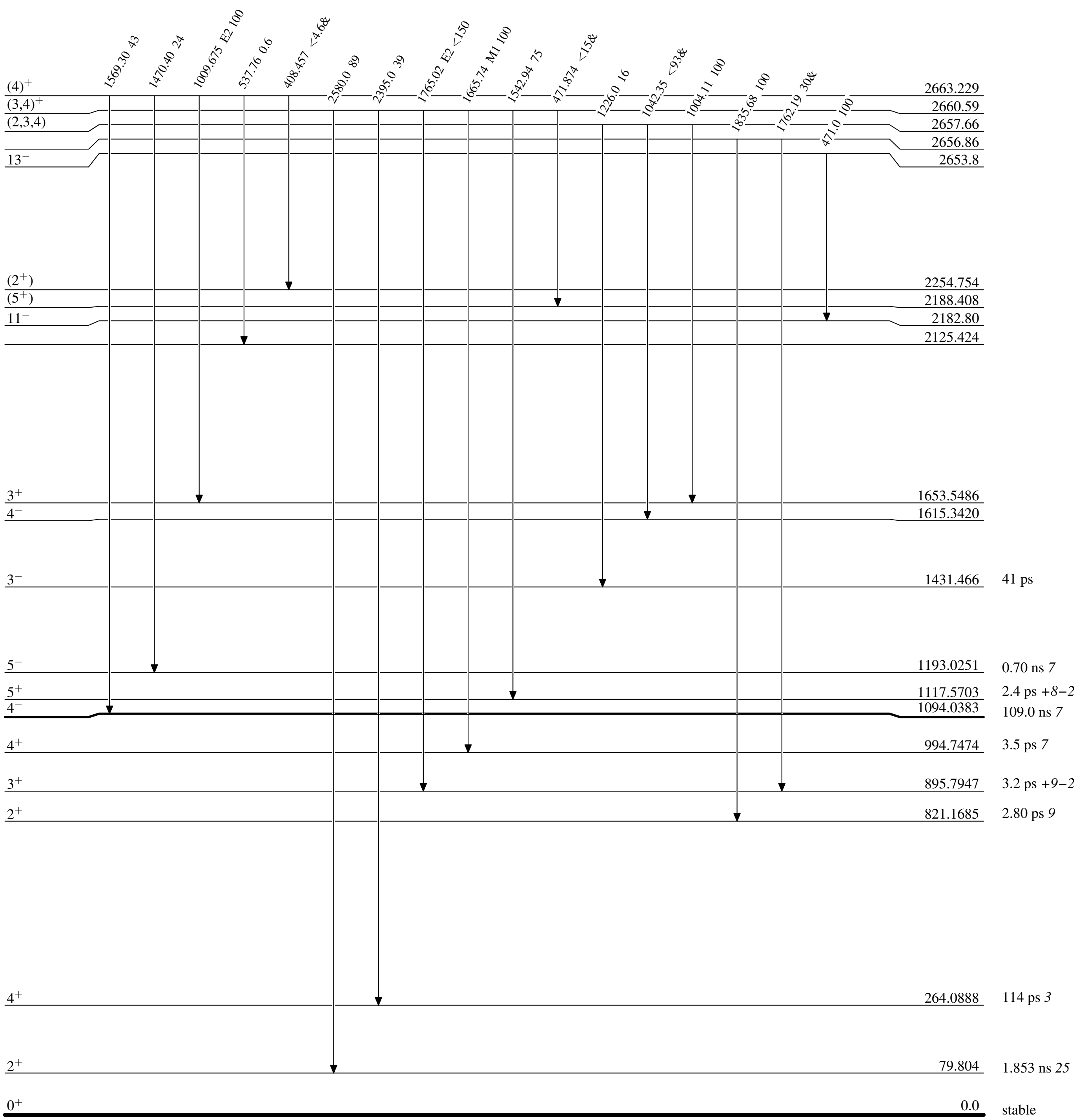
Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided



Adopted Levels, Gammas

Level Scheme (continued)

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

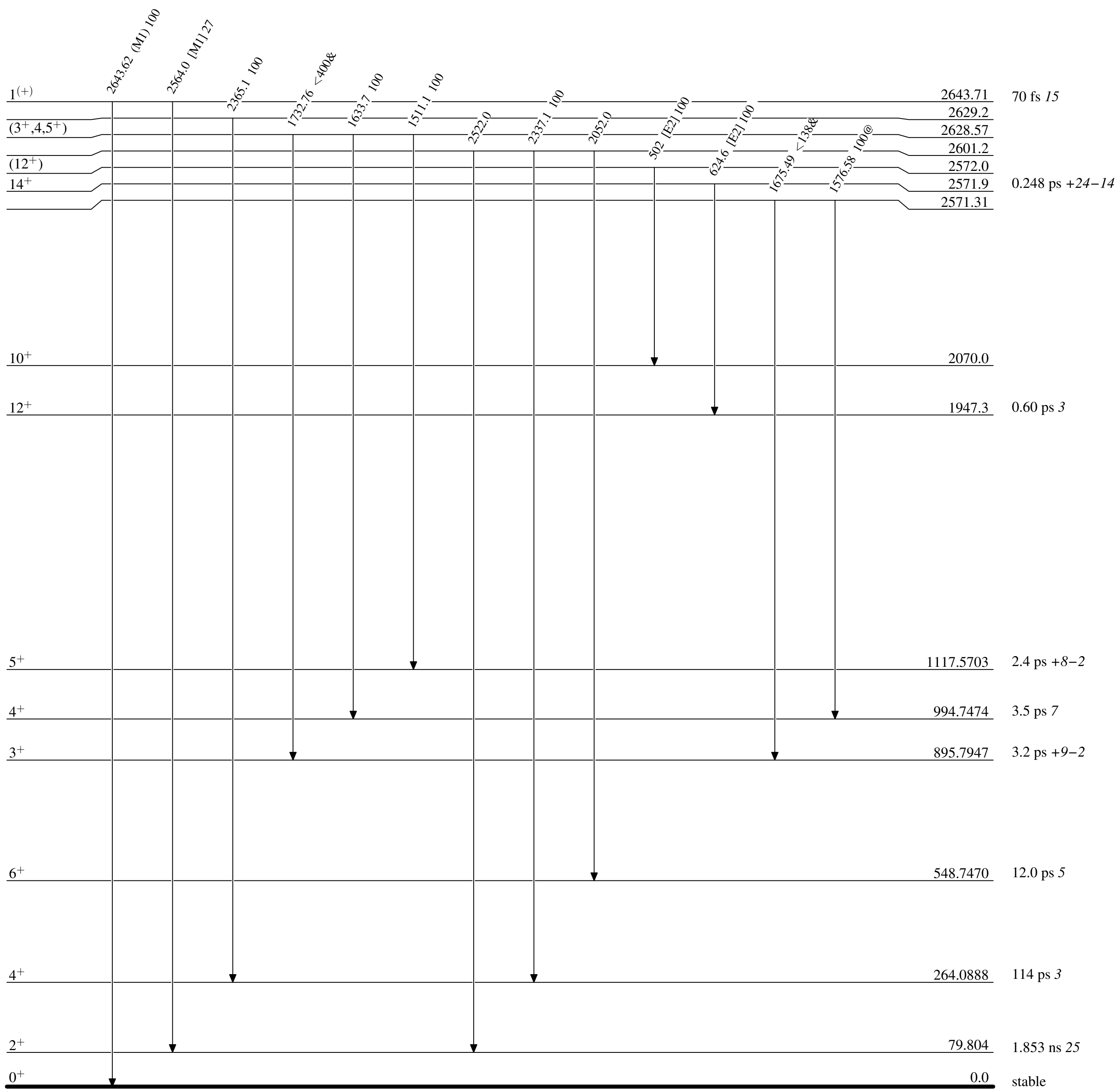


$^{168}_{68}Er_{100}$

Adopted Levels, Gammas

Level Scheme (continued)

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

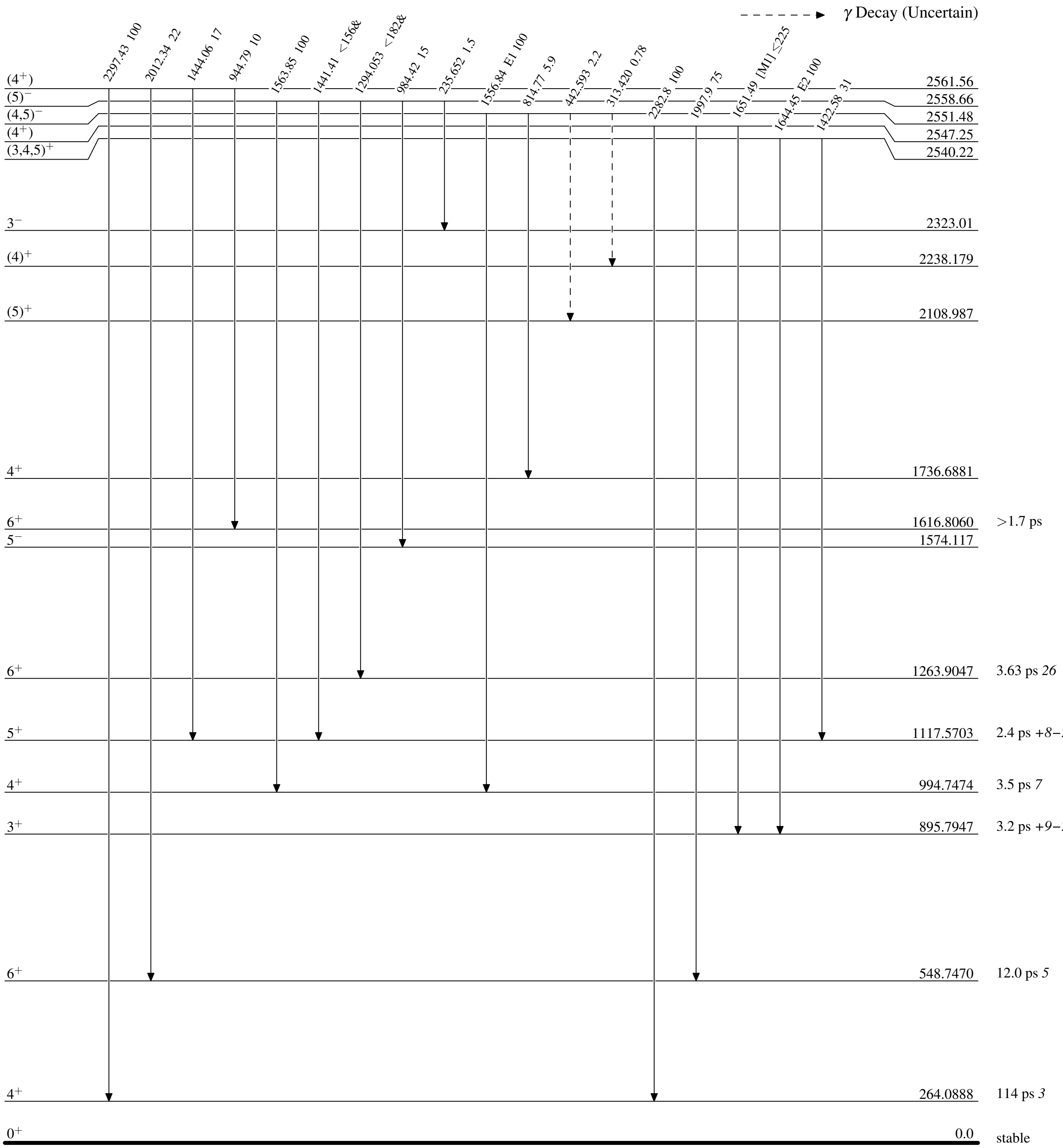


$^{168}_{68}Er_{100}$

Adopted Levels, Gammas

Level Scheme (continued)

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



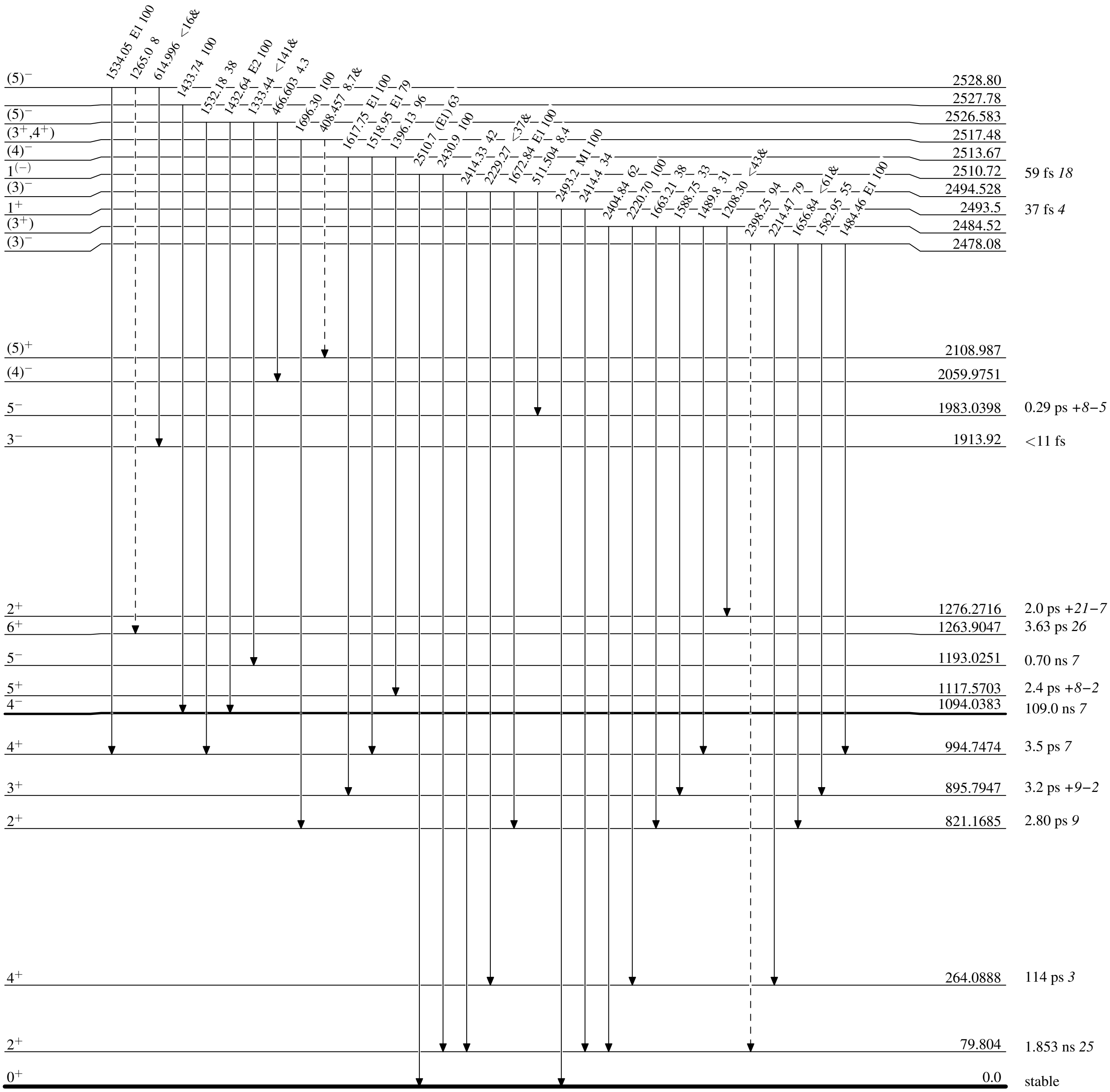
Adopted Levels, Gammas

Level Scheme (continued)

Legend

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

γ Decay (Uncertain)

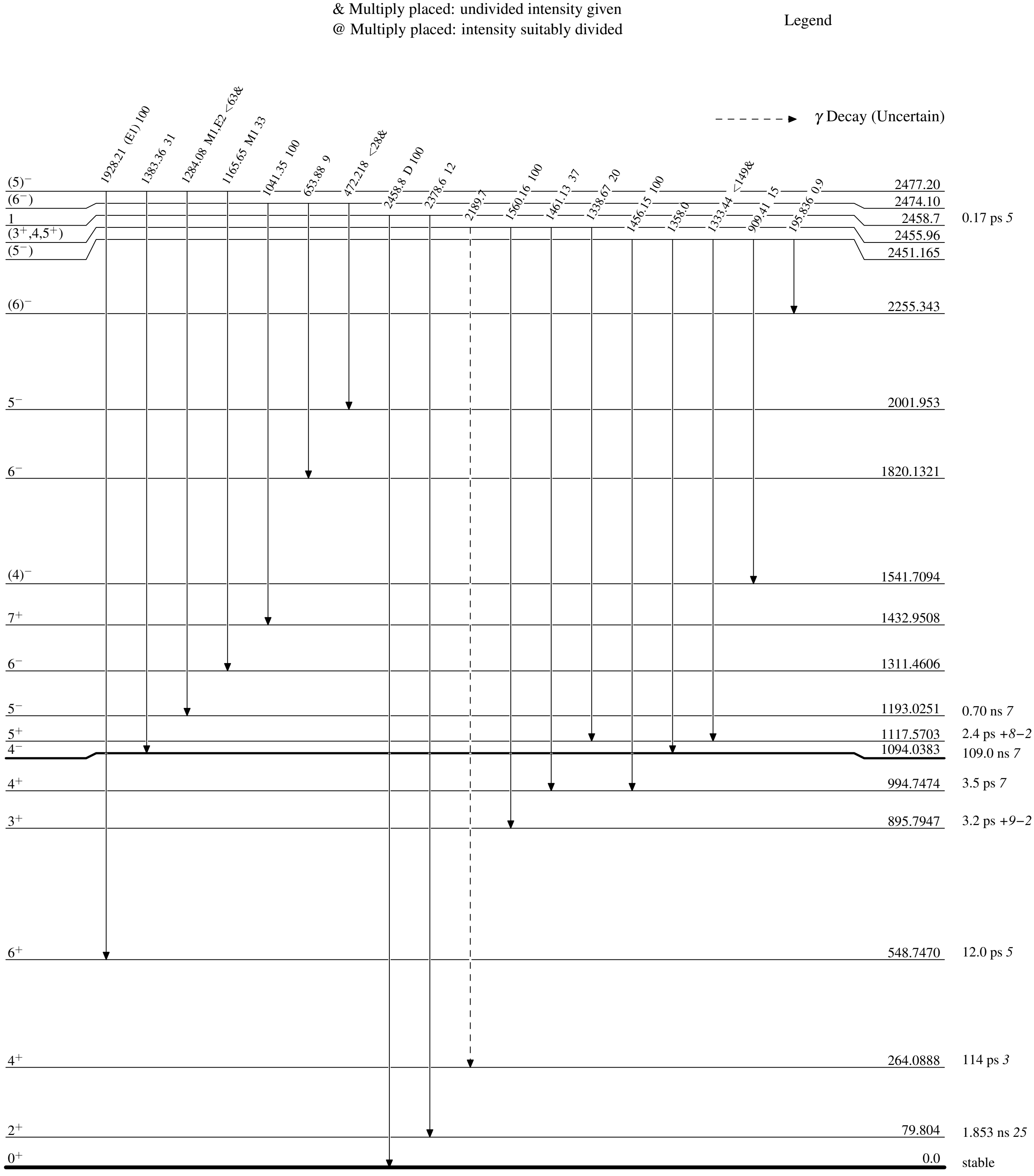


$^{168}_{68}Er_{100}$

Adopted Levels, Gammas

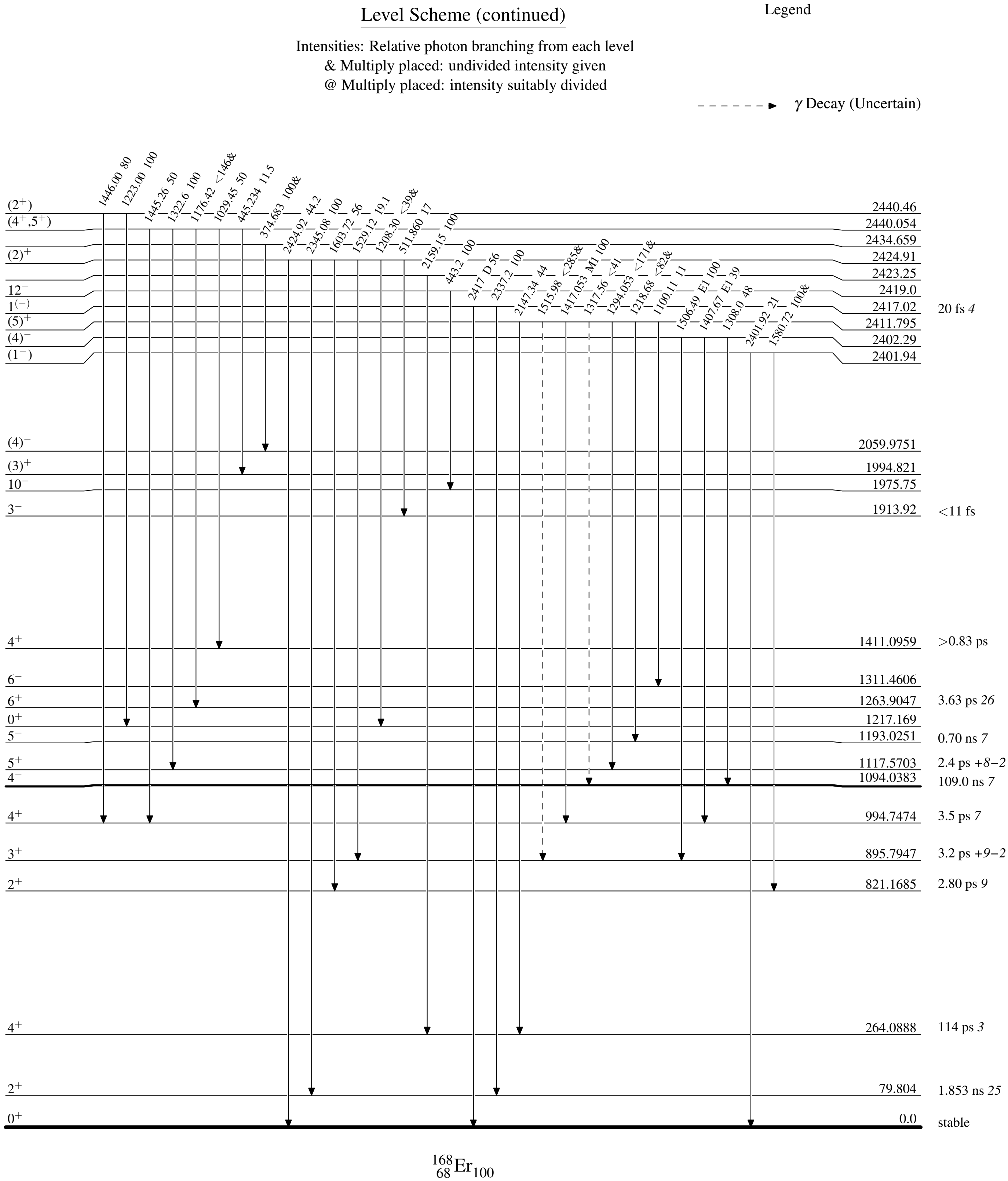
Level Scheme (continued)

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



$^{168}_{68}Er_{100}$

Adopted Levels, Gammas

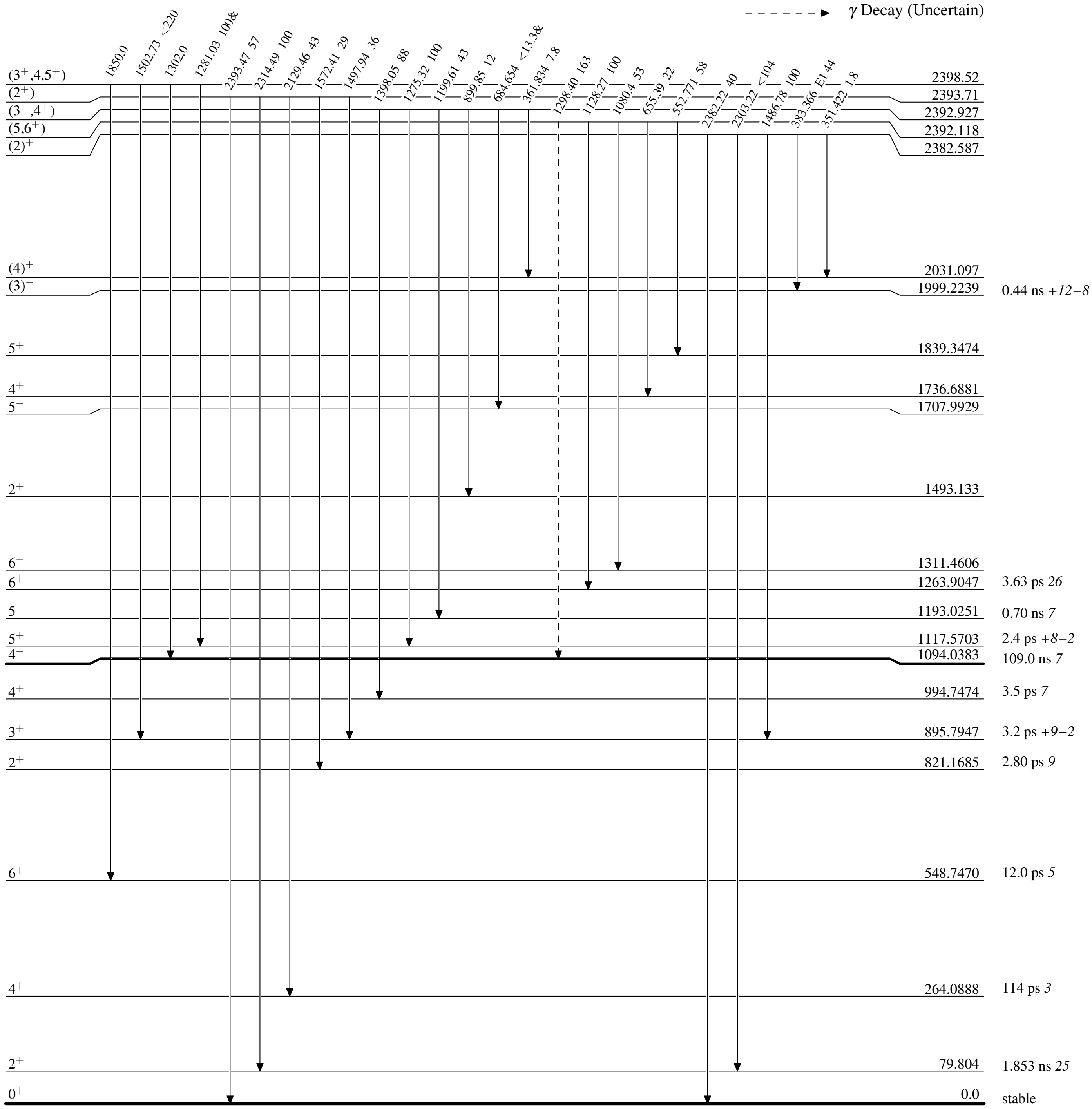


Adopted Levels, Gammas

Level Scheme (continued)

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

Legend



$^{168}_{68}Er_{100}$

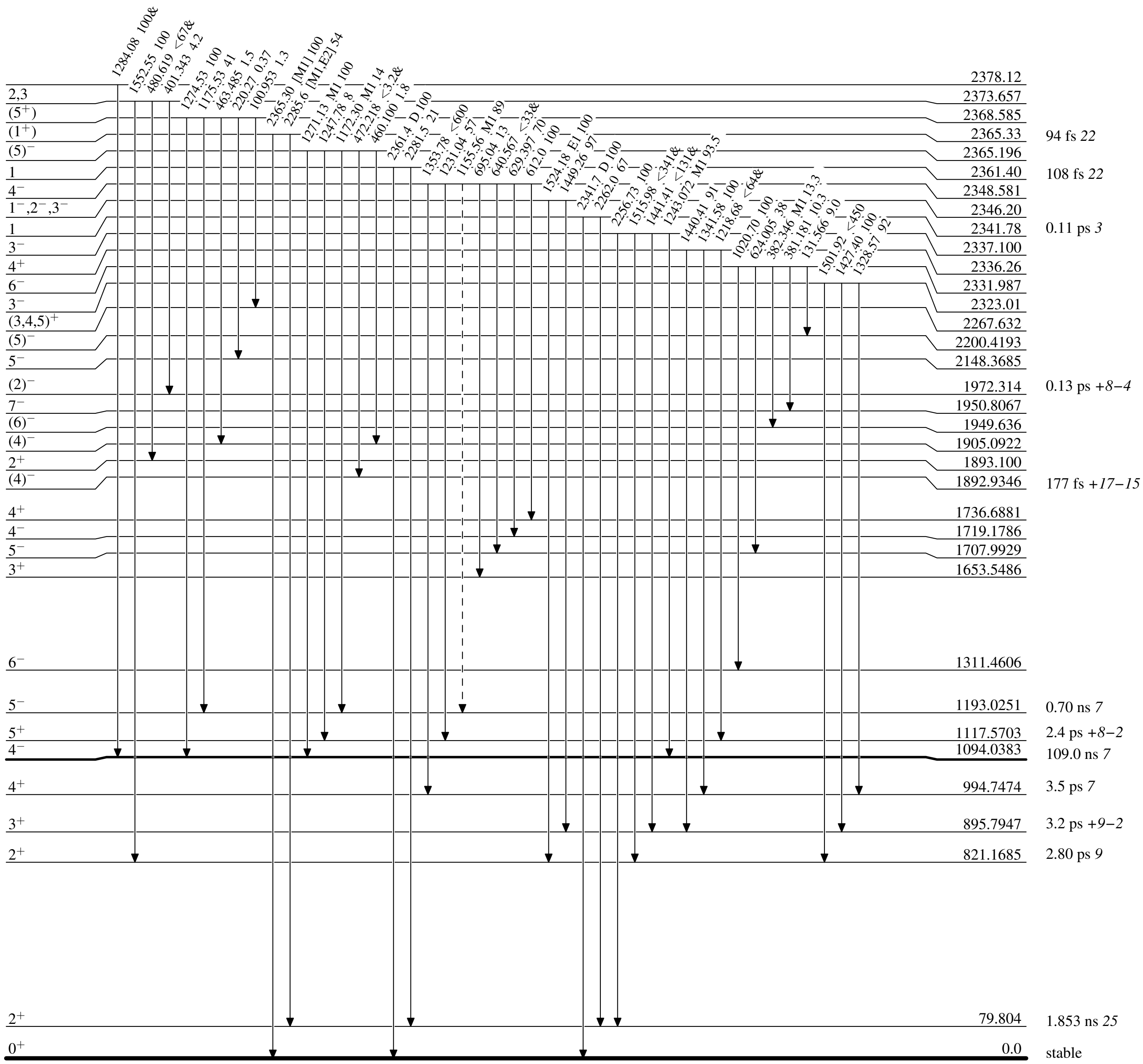
Adopted Levels, Gammas

Level Scheme (continued)

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

Legend

γ Decay (Uncertain)



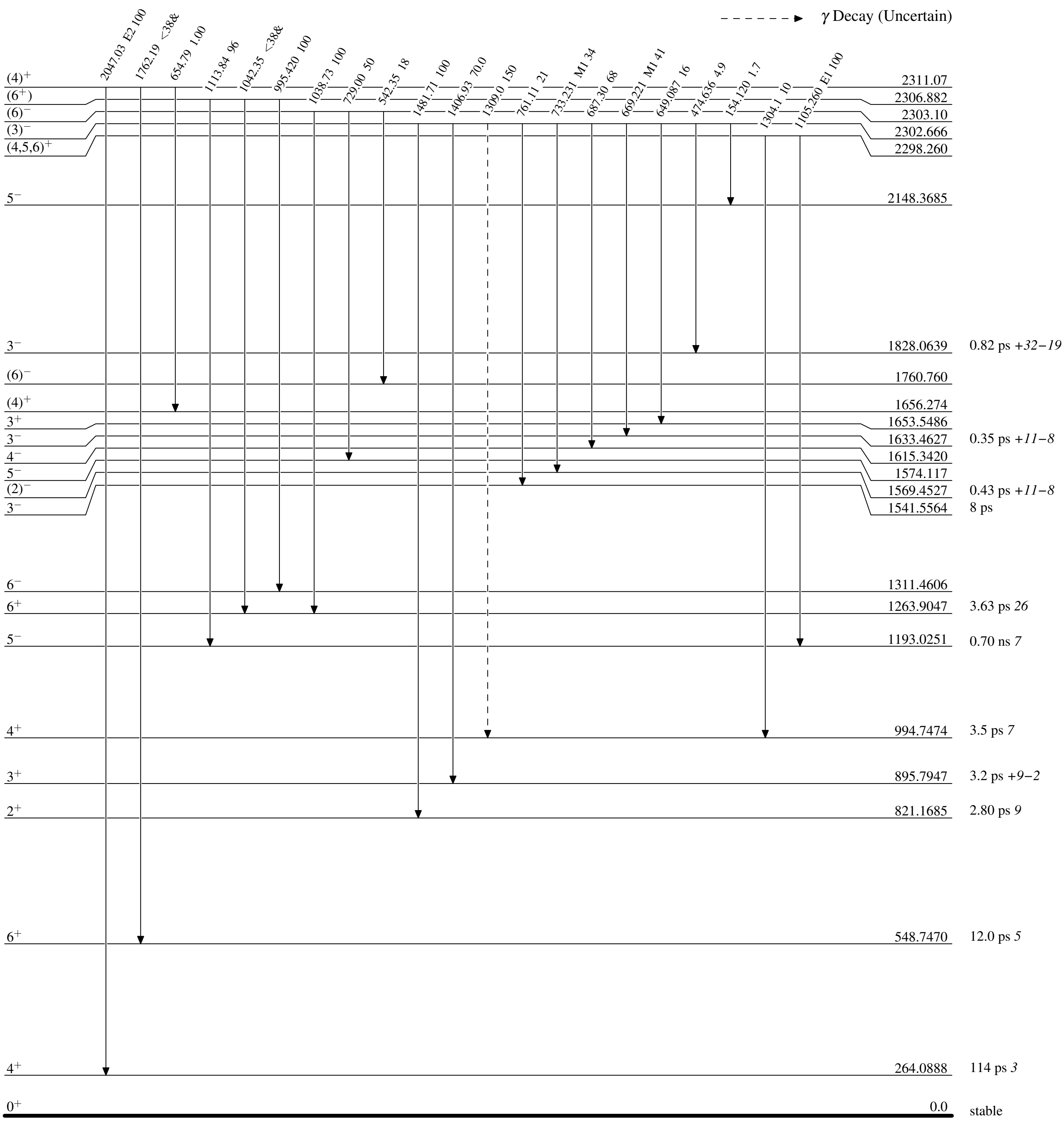
$^{168}_{68}Er_{100}$

Adopted Levels, Gammas

Level Scheme (continued)

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

Legend



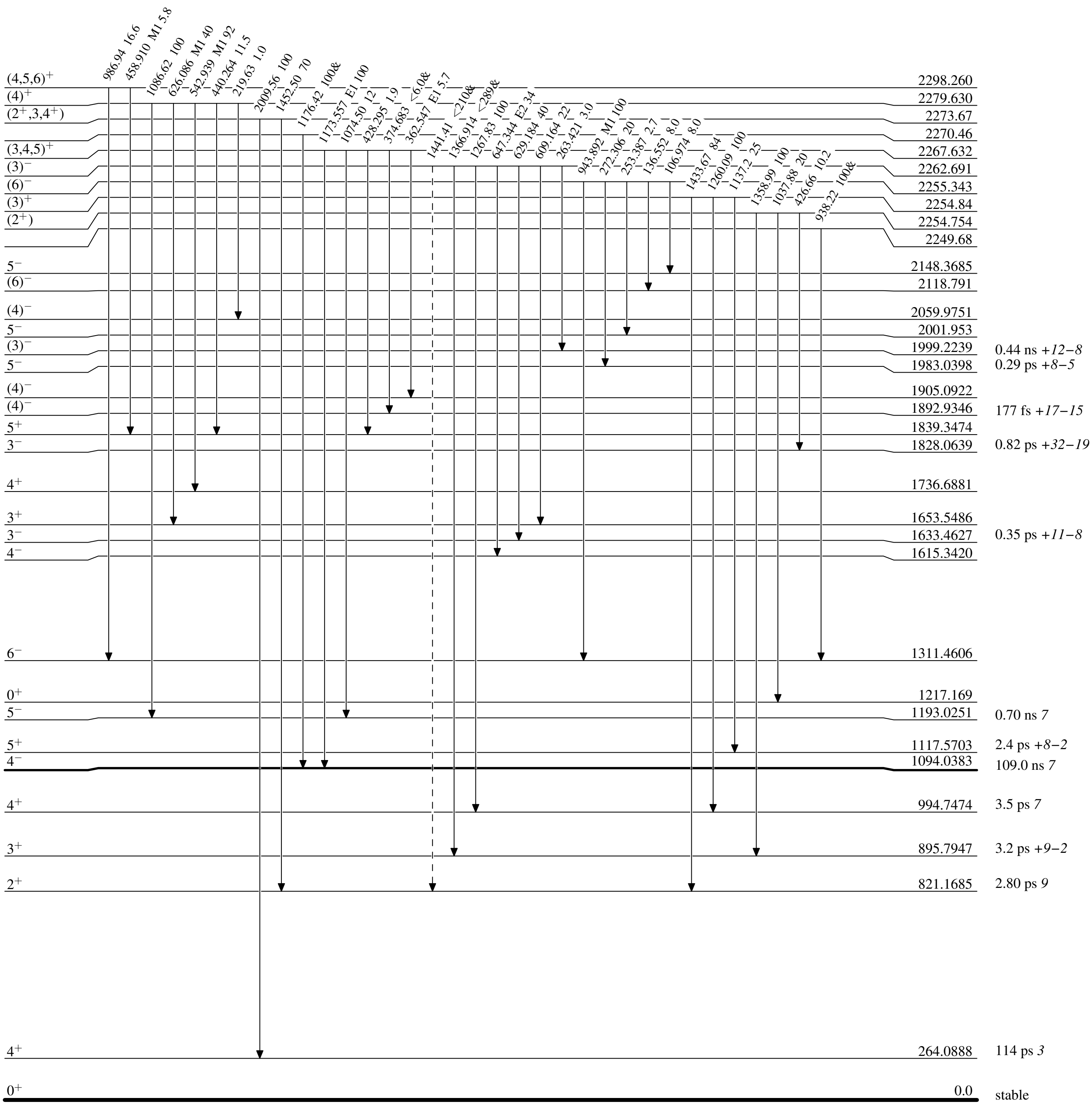
Adopted Levels, Gammas

Level Scheme (continued)

Legend

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

γ Decay (Uncertain)



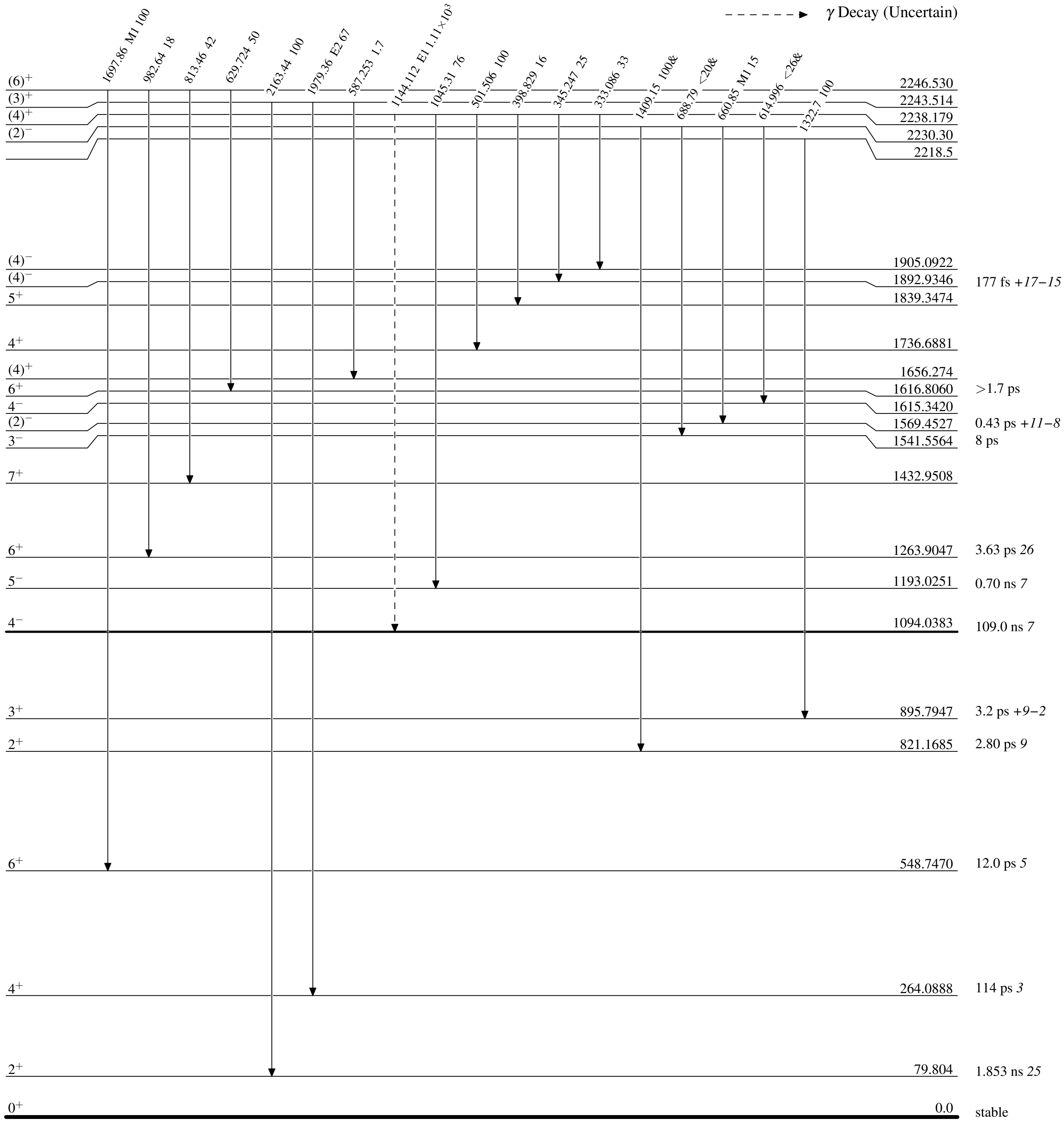
$^{168}_{68}$Er$_{100}$

Adopted Levels, Gammas

Level Scheme (continued)

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

Legend



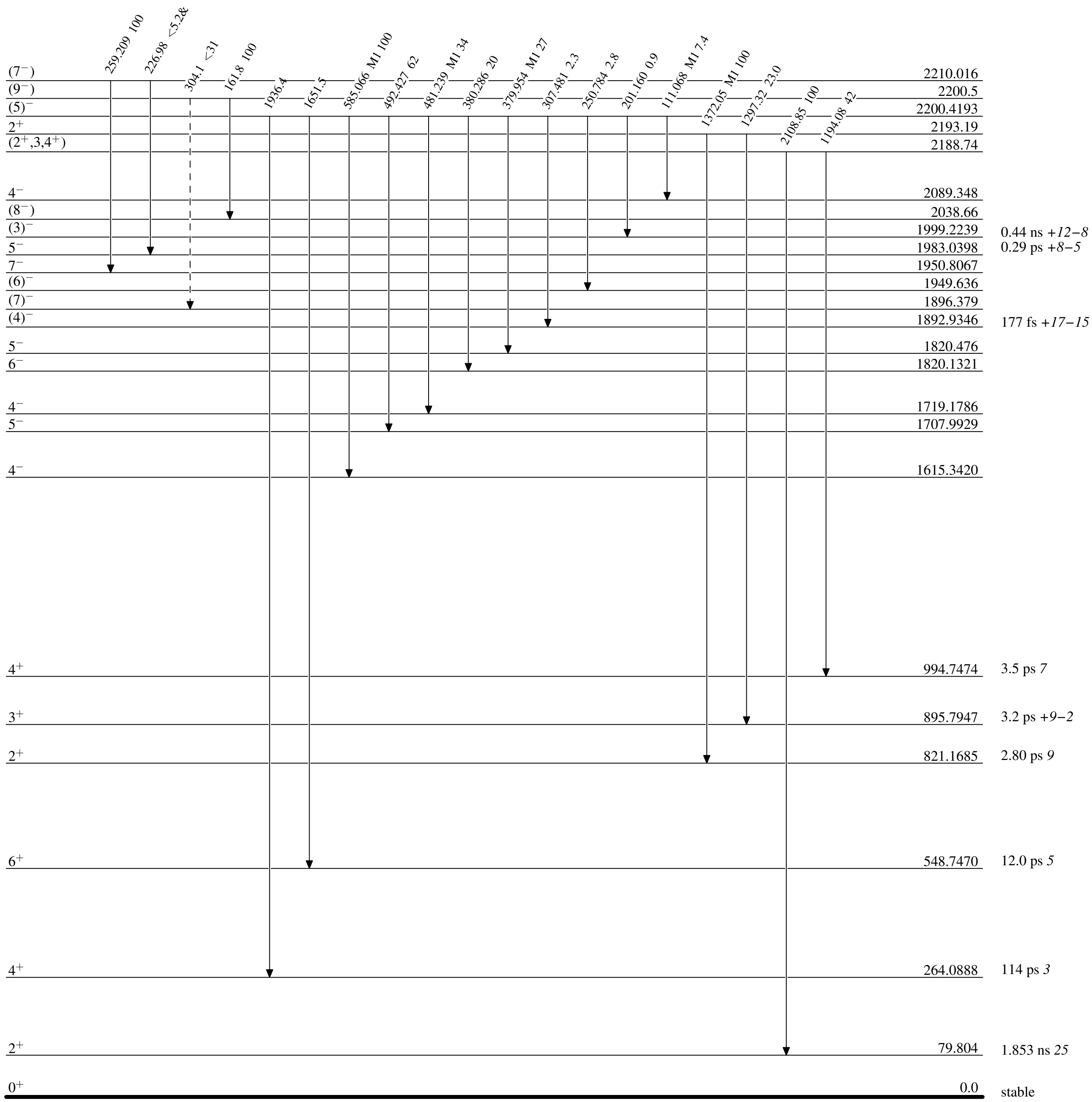
Adopted Levels, Gammas

Level Scheme (continued)

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

Legend

γ Decay (Uncertain)

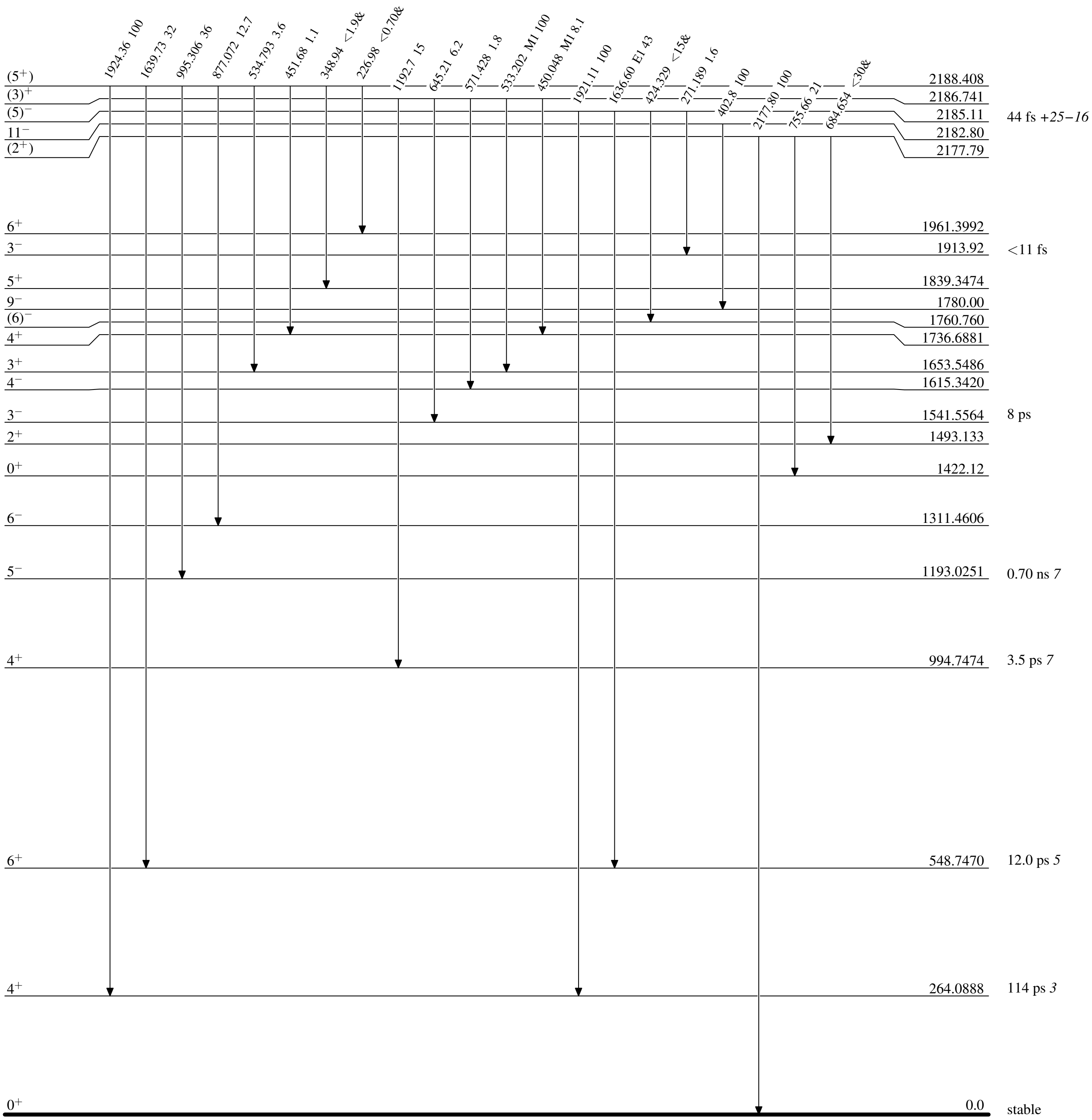


$^{168}_{68}Er_{100}$

Adopted Levels, Gammas

Level Scheme (continued)

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

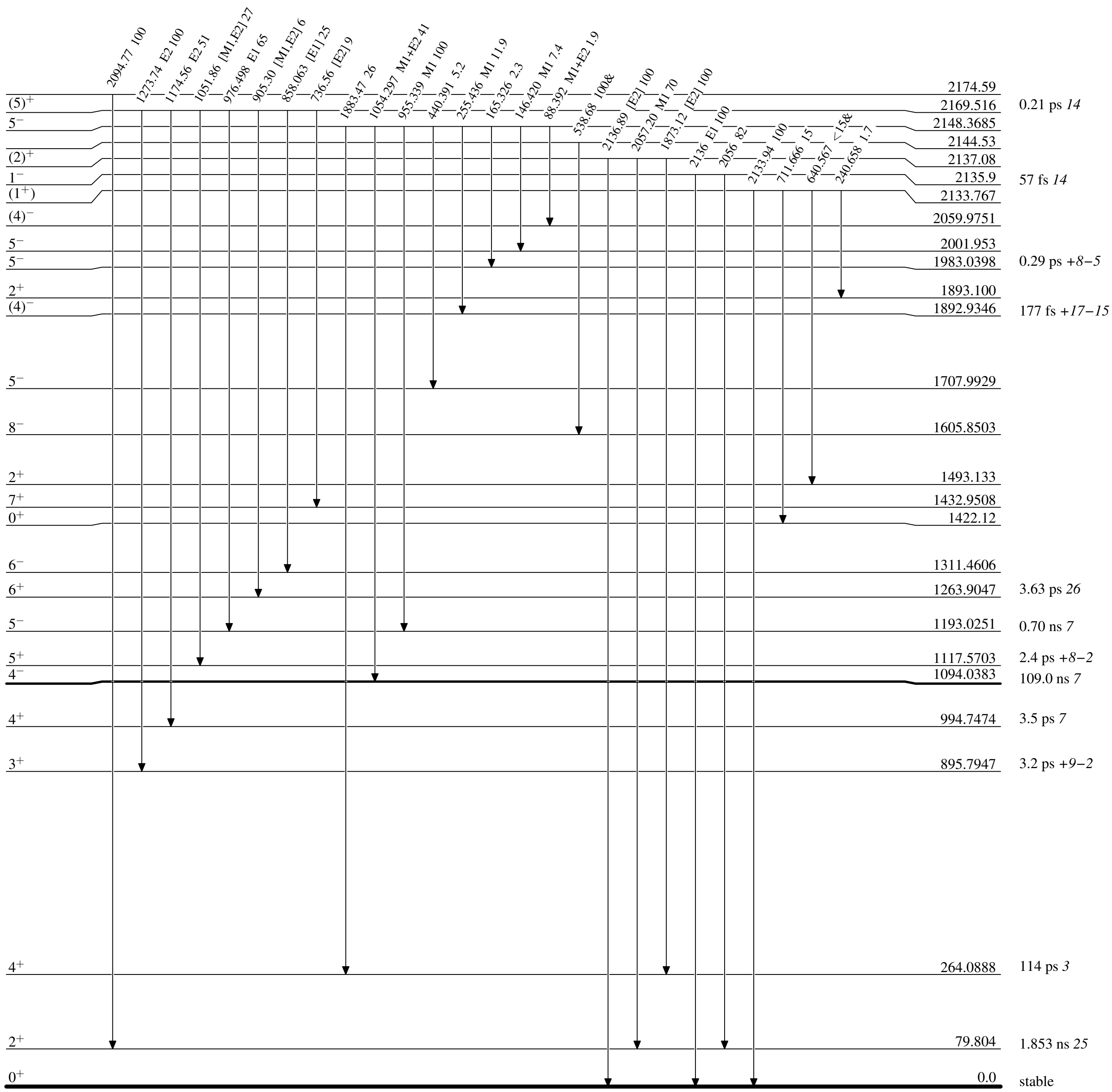


$^{168}_{68}Er_{100}$

Adopted Levels, Gammas

Level Scheme (continued)

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

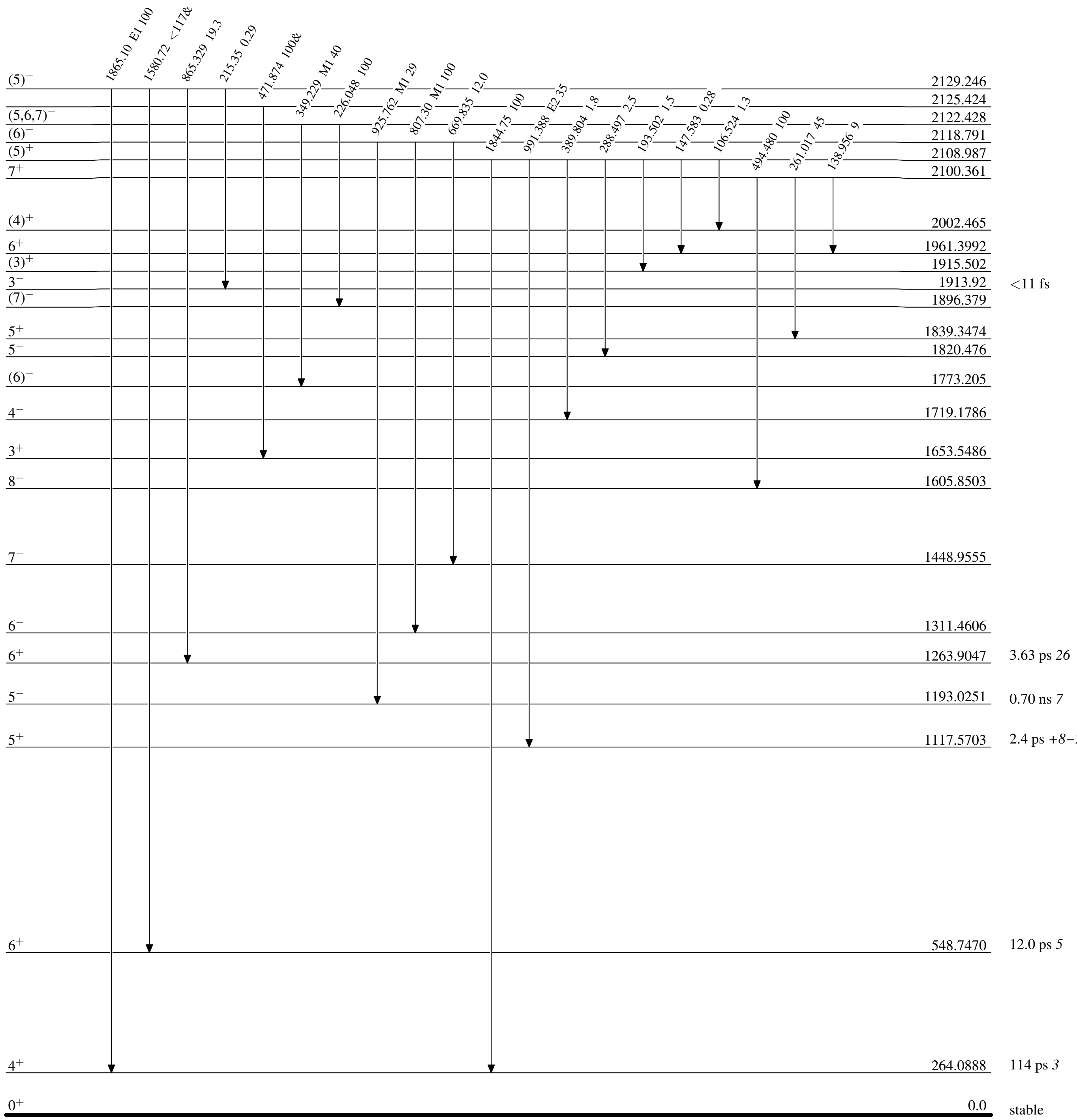


$^{168}_{68}Er_{100}$

Adopted Levels, Gammas

Level Scheme (continued)

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

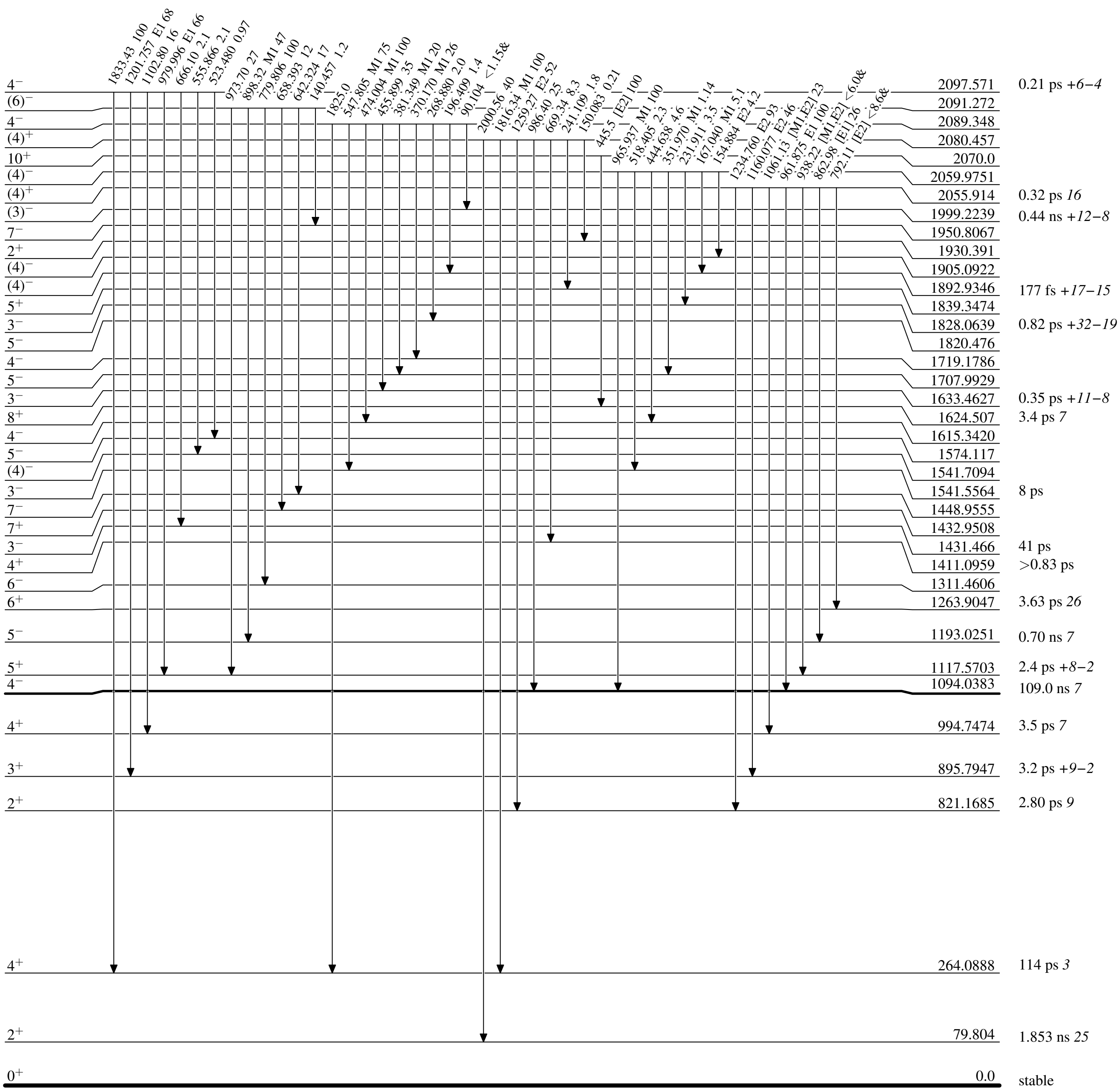


$^{168}_{68}Er_{100}$

Adopted Levels, Gammas

Level Scheme (continued)

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



$^{168}_{68}Er_{100}$

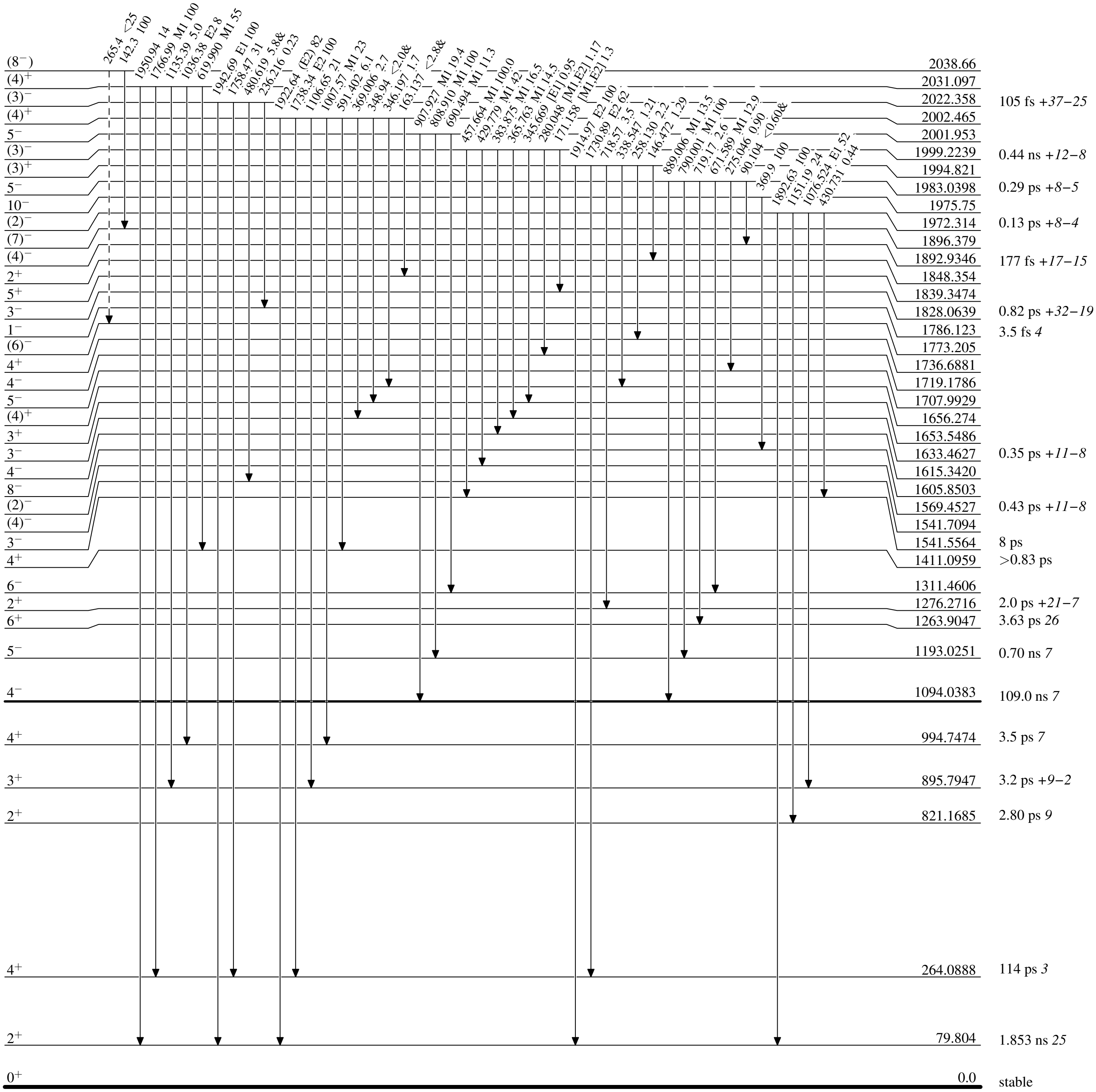
Adopted Levels, Gammas

Level Scheme (continued)

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

Legend

γ Decay (Uncertain)

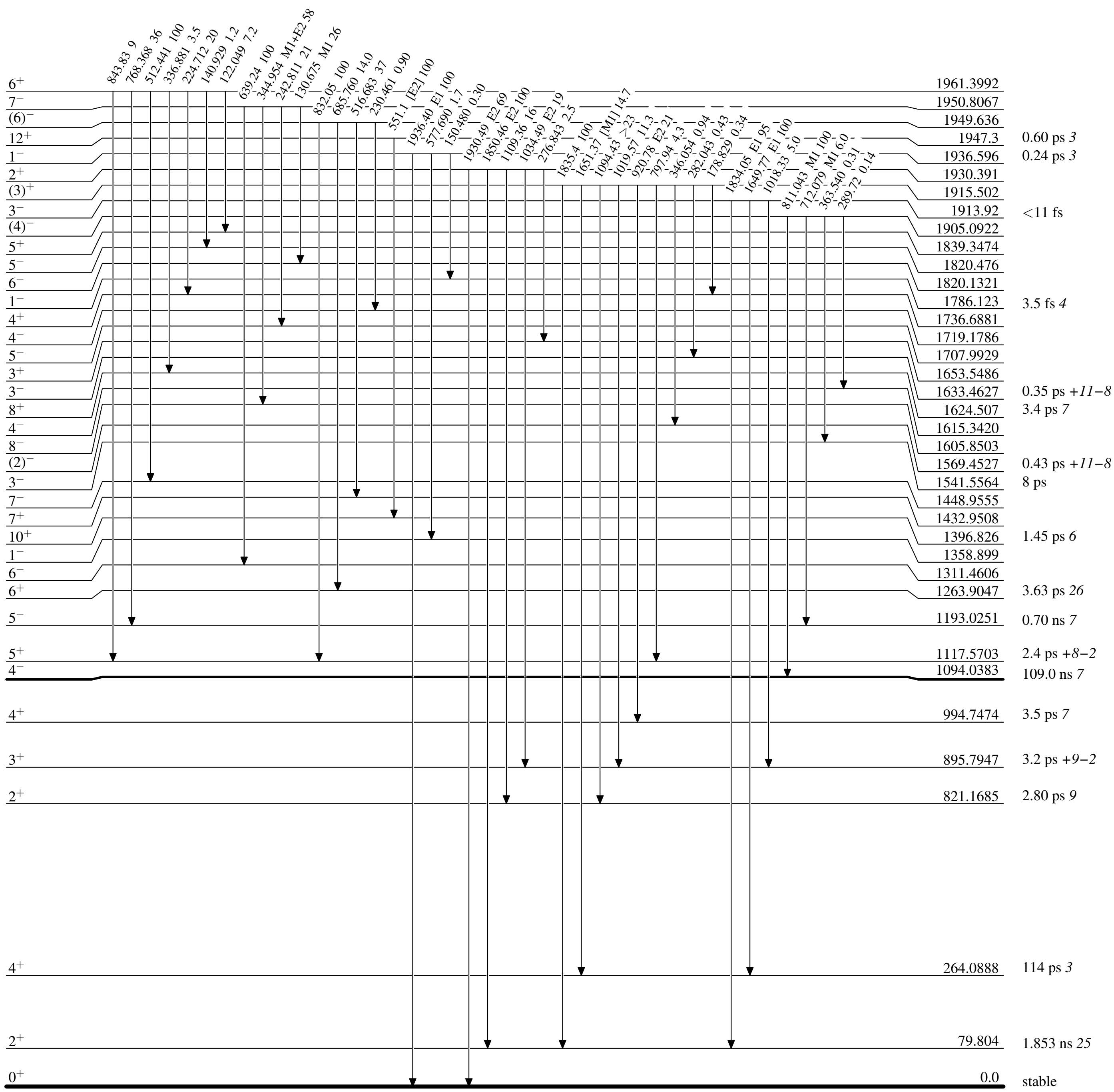


$^{168}_{68}Er_{100}$

Adopted Levels, Gammas

Level Scheme (continued)

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



$^{168}_{68}Er_{100}$

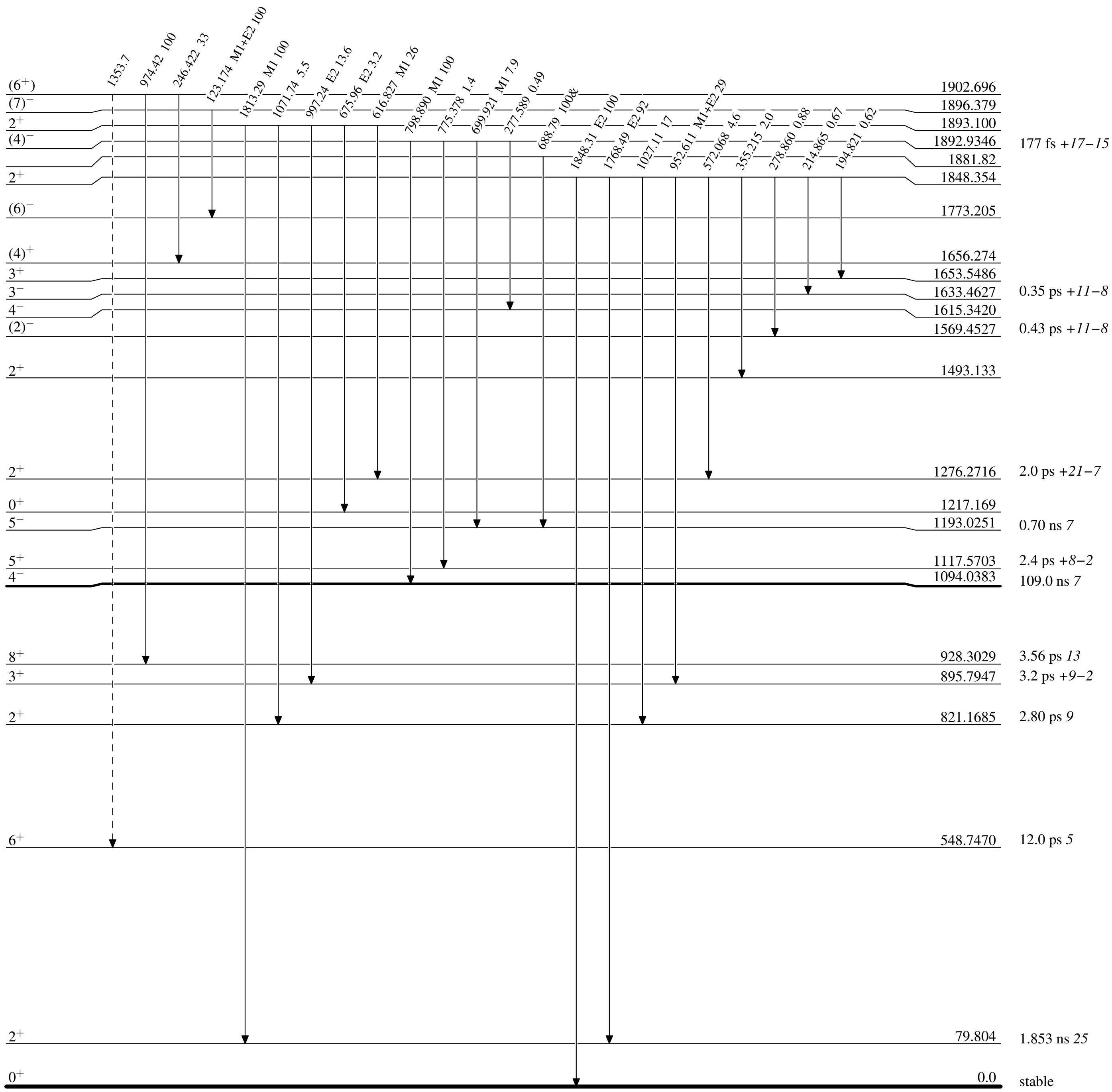
Adopted Levels, Gammas

Level Scheme (continued)

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

Legend

γ Decay (Uncertain)

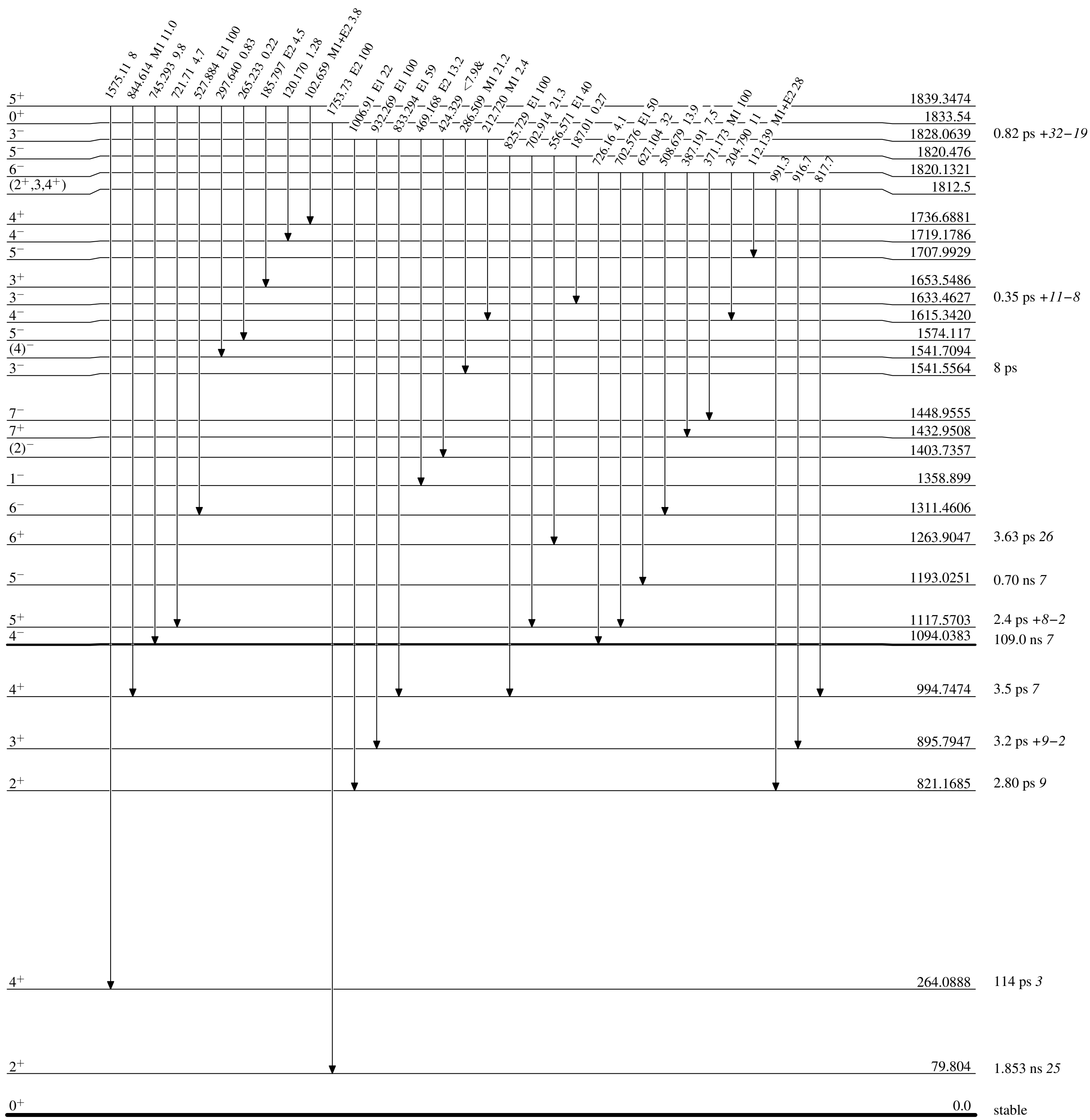


$^{168}_{68}Er_{100}$

Adopted Levels, Gammas

Level Scheme (continued)

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

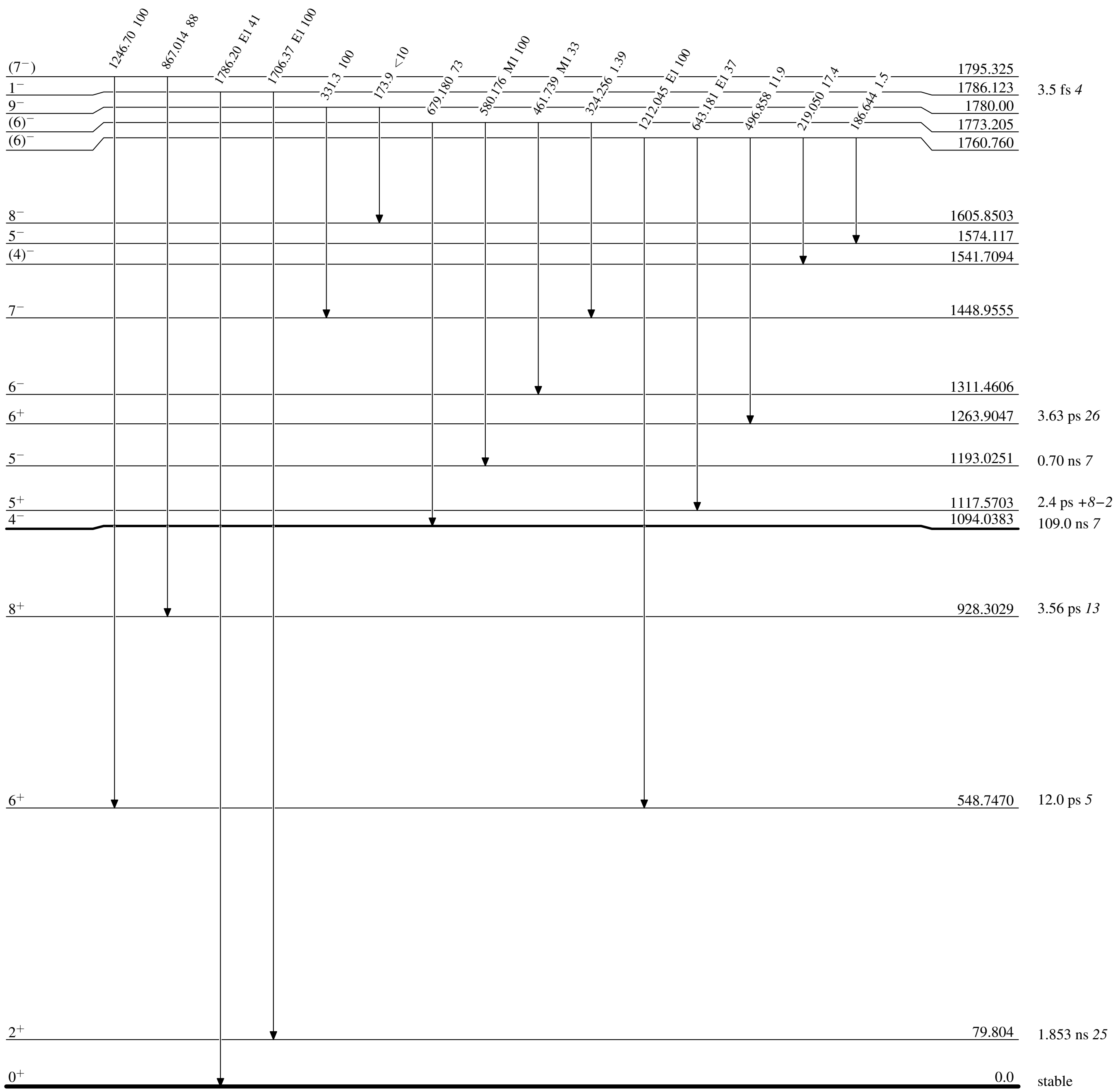


$^{168}_{68}Er_{100}$

Adopted Levels, Gammas

Level Scheme (continued)

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



$^{168}_{68}Er_{100}$

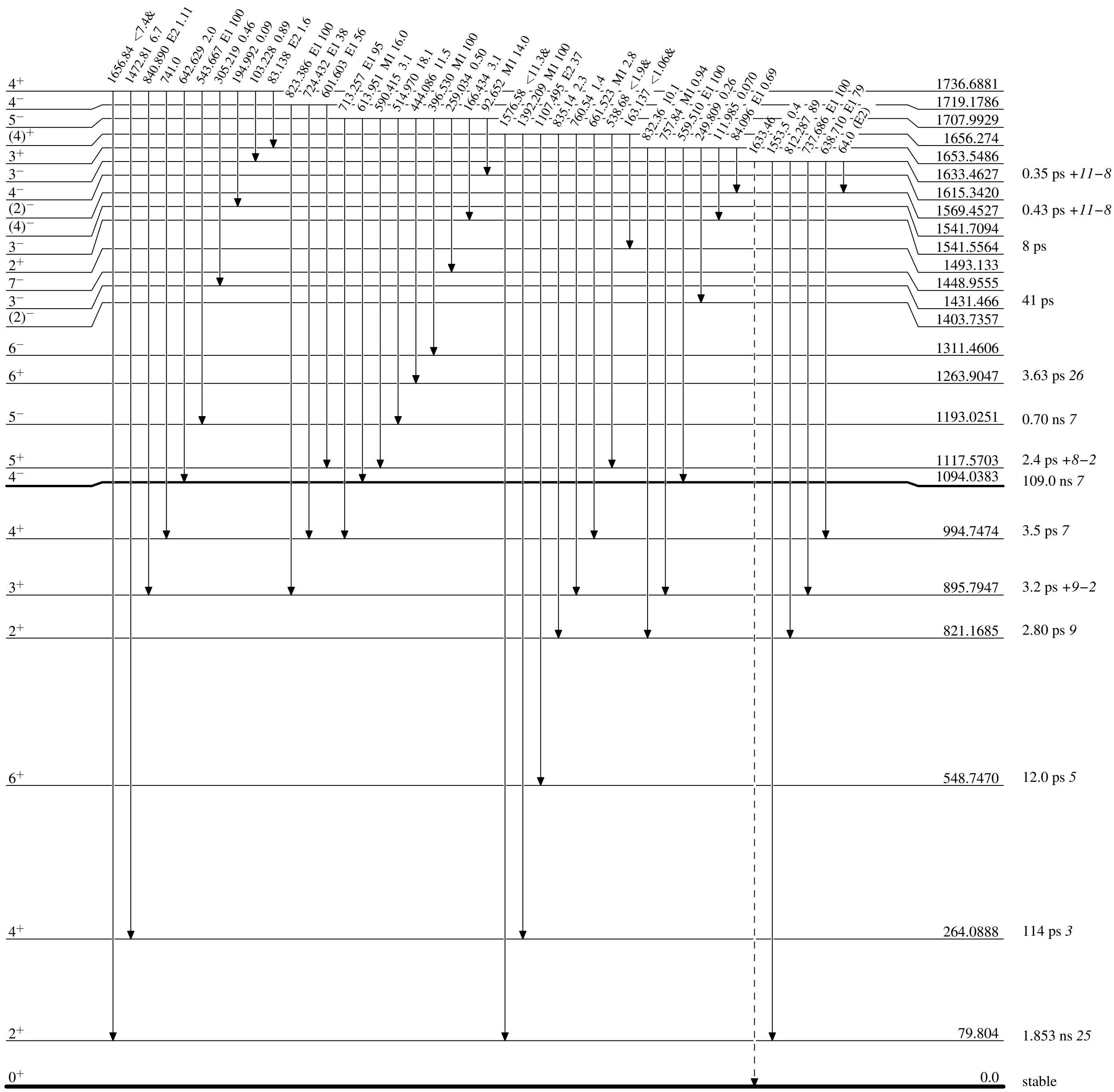
Adopted Levels, Gammas

Level Scheme (continued)

Legend

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

γ Decay (Uncertain)

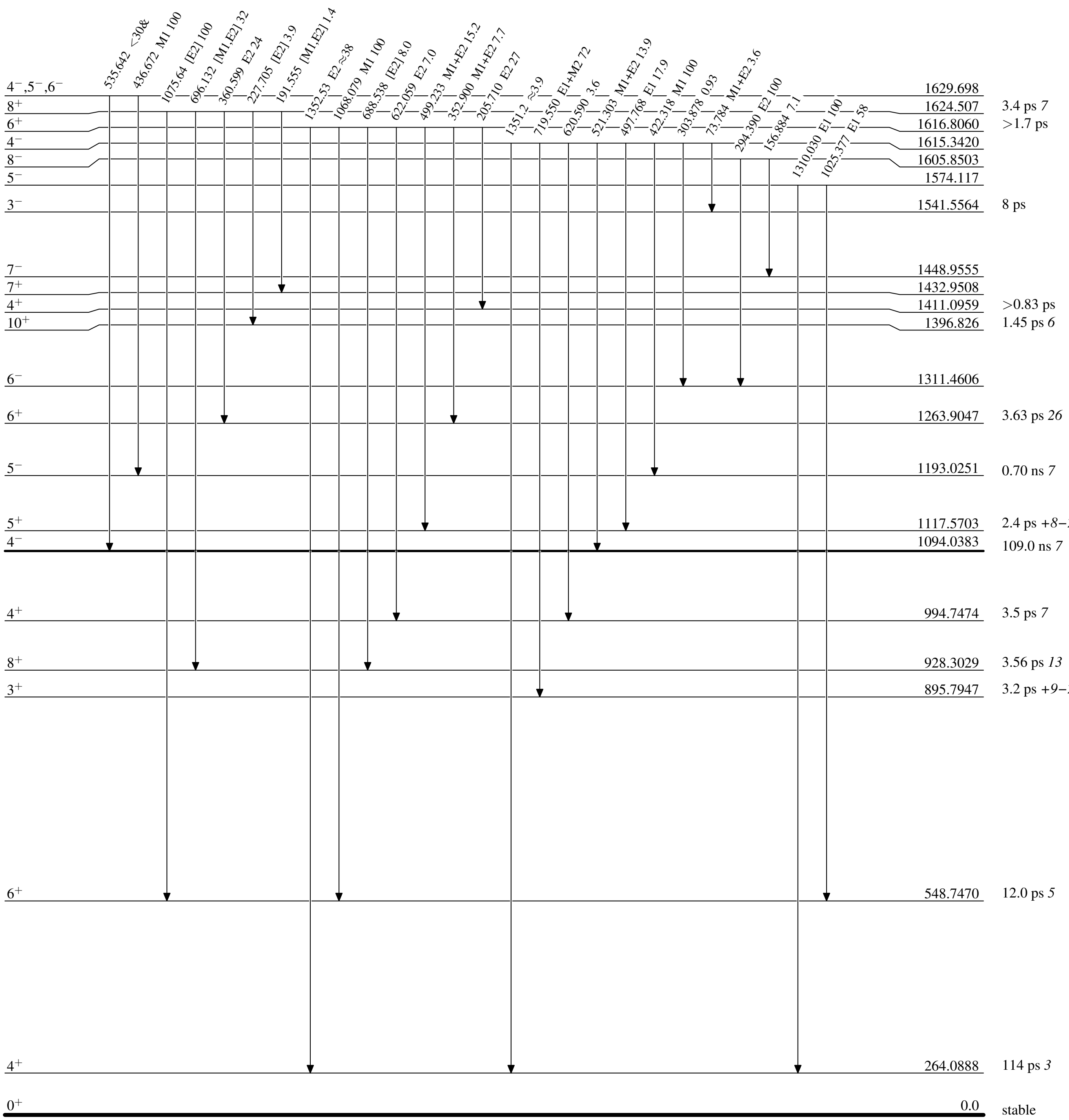


$^{168}_{68}Er_{100}$

Adopted Levels, Gammas

Level Scheme (continued)

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



$^{168}_{68}Er_{100}$

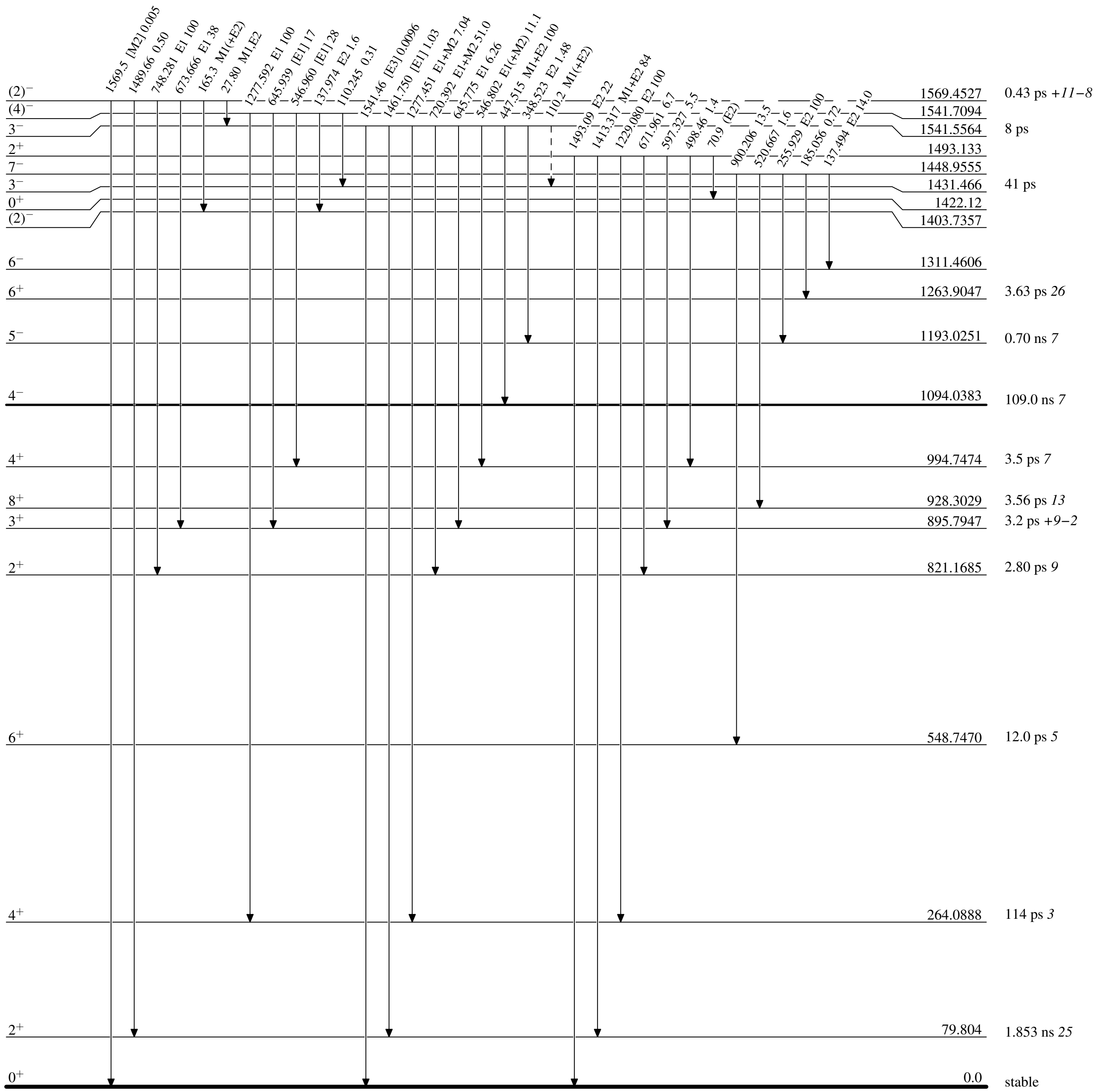
Adopted Levels, Gammas

Level Scheme (continued)

Legend

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

γ Decay (Uncertain)

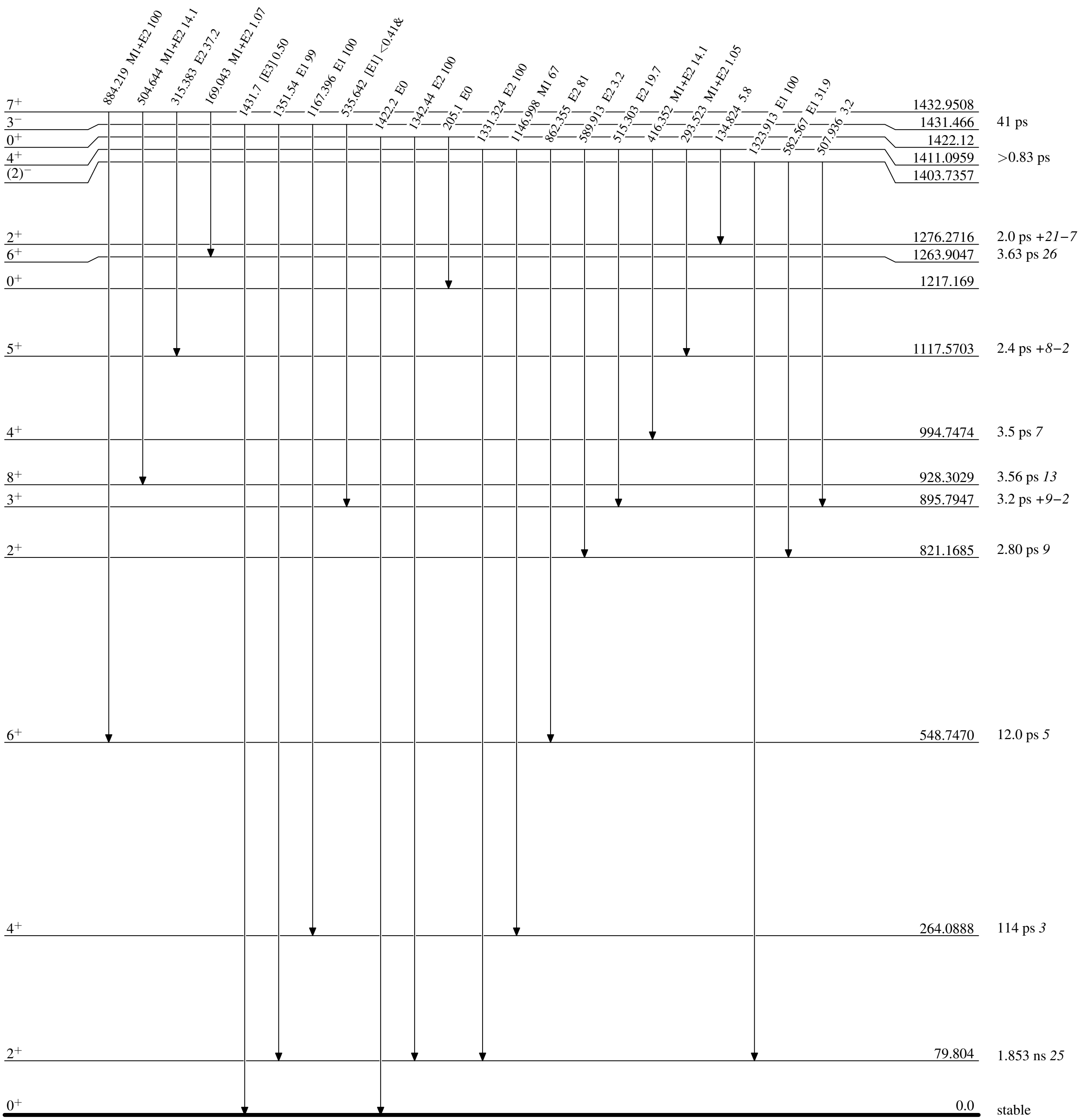


$^{168}_{68}Er_{100}$

Adopted Levels, Gammas

Level Scheme (continued)

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



$^{168}_{68}Er_{100}$

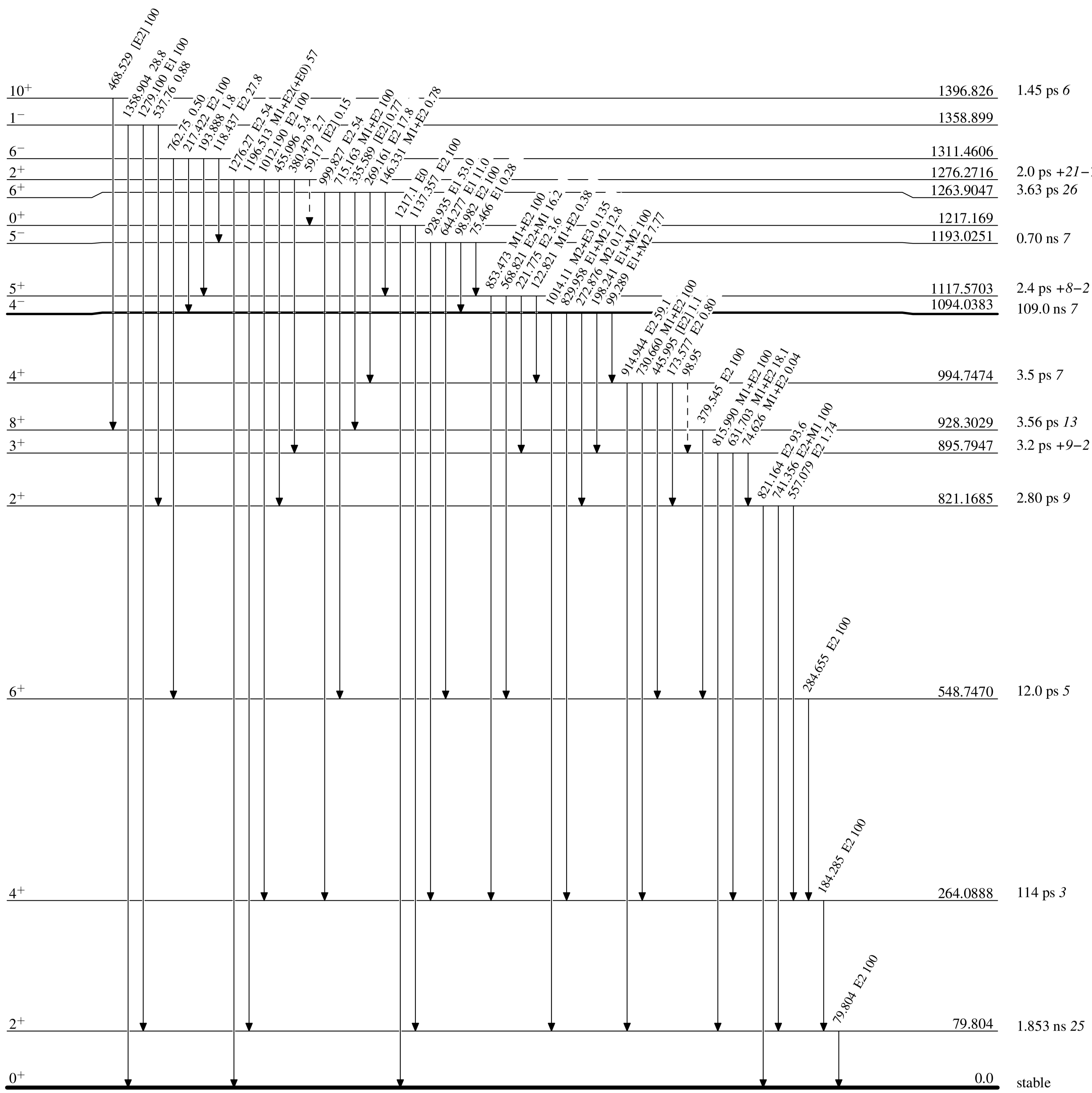
Adopted Levels, Gammas

Level Scheme (continued)

Legend

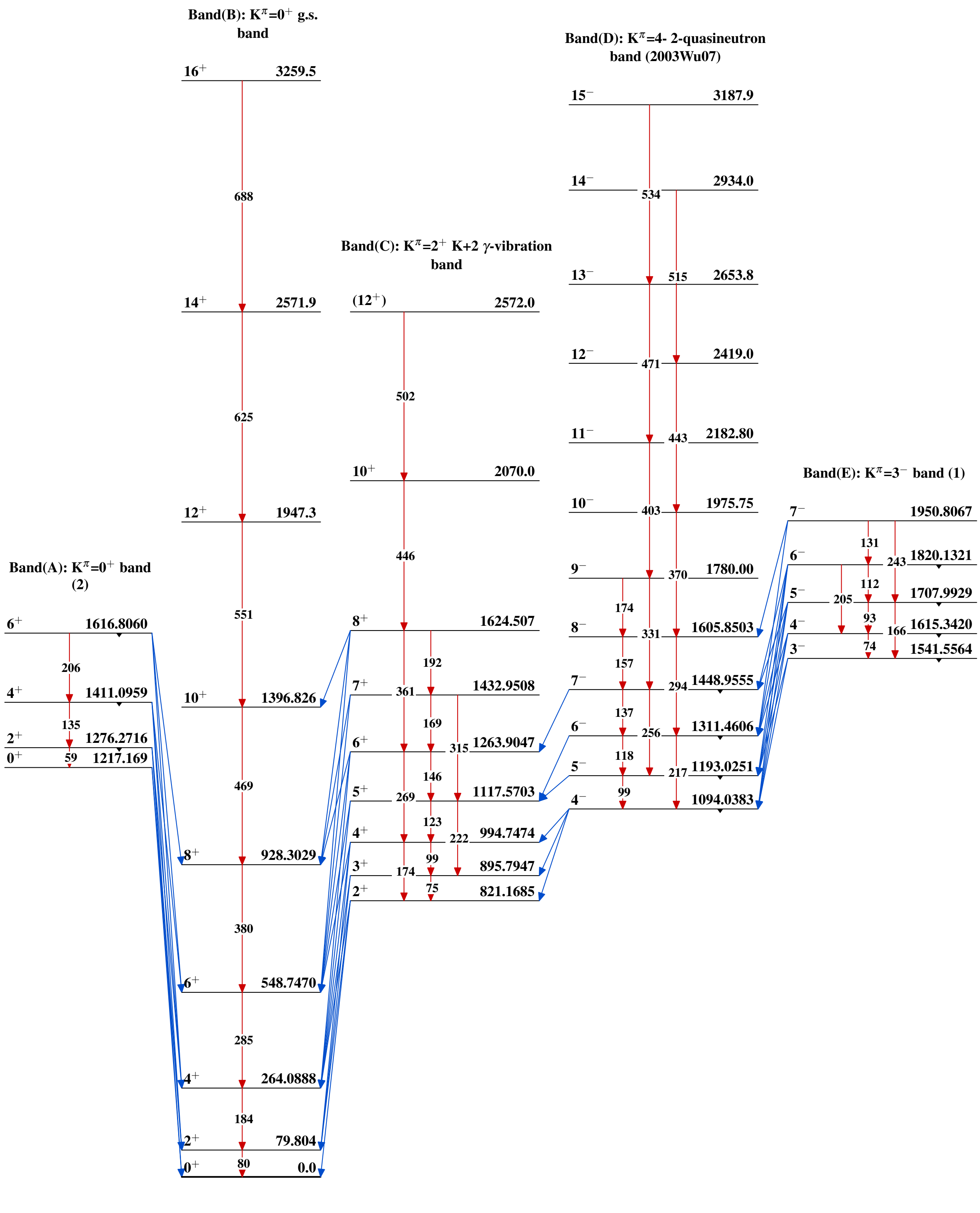
Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided

- - - - - -► γ Decay (Uncertain)



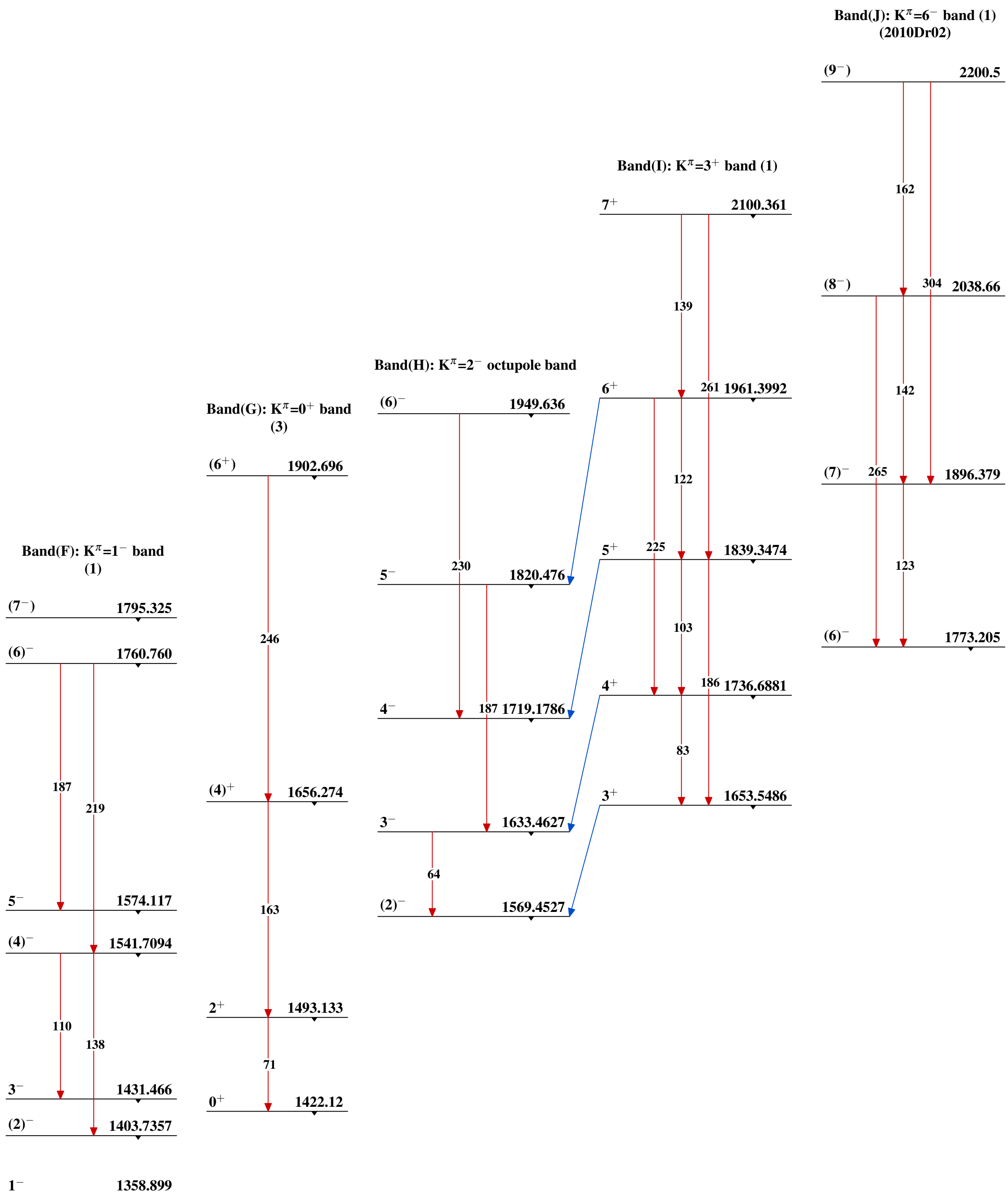
$^{168}_{68}Er_{100}$

Adopted Levels, Gammas



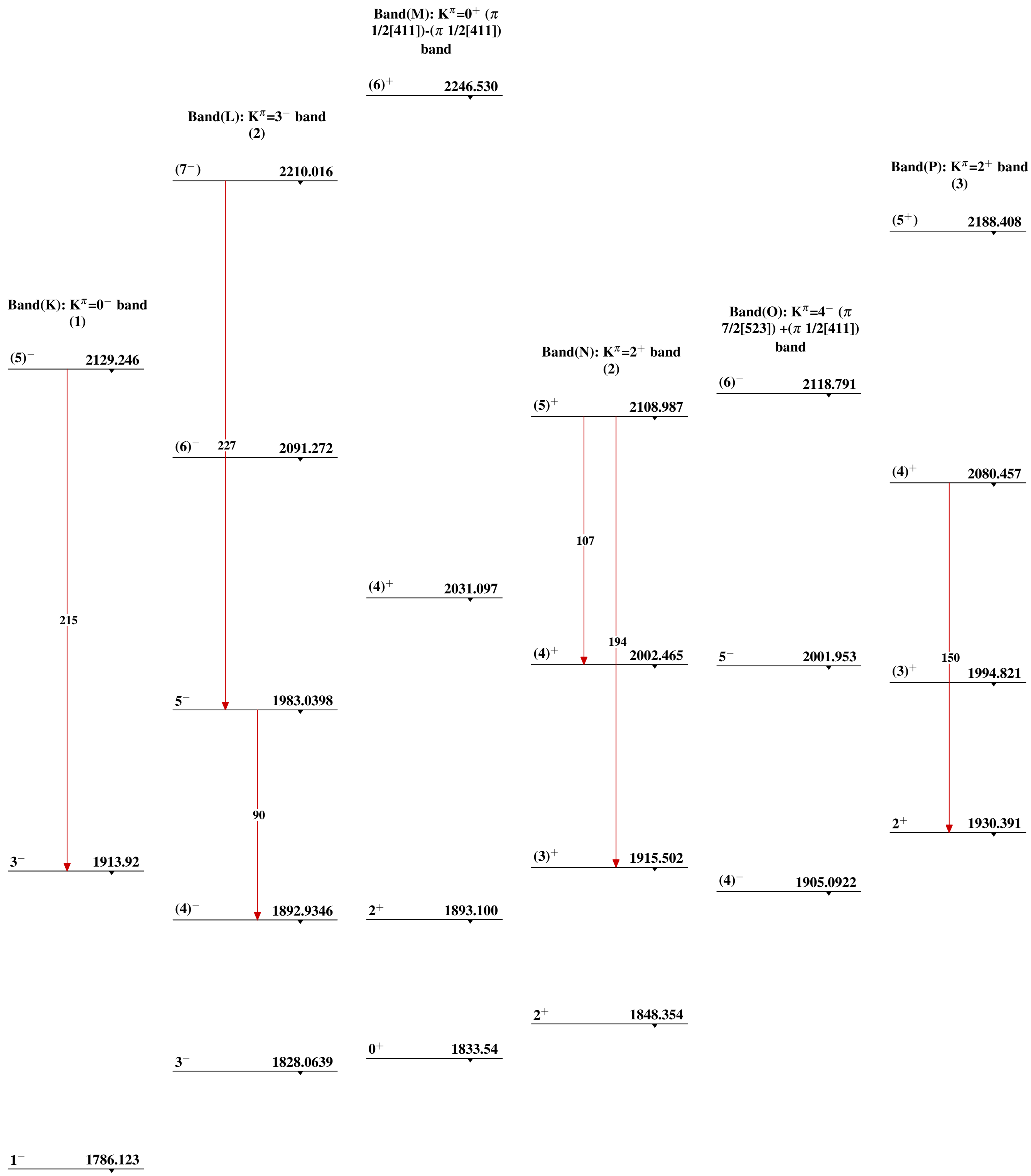
$^{168}_{68}Er_{100}$

Adopted Levels, Gammas (continued)



$^{168}_{68}Er_{100}$

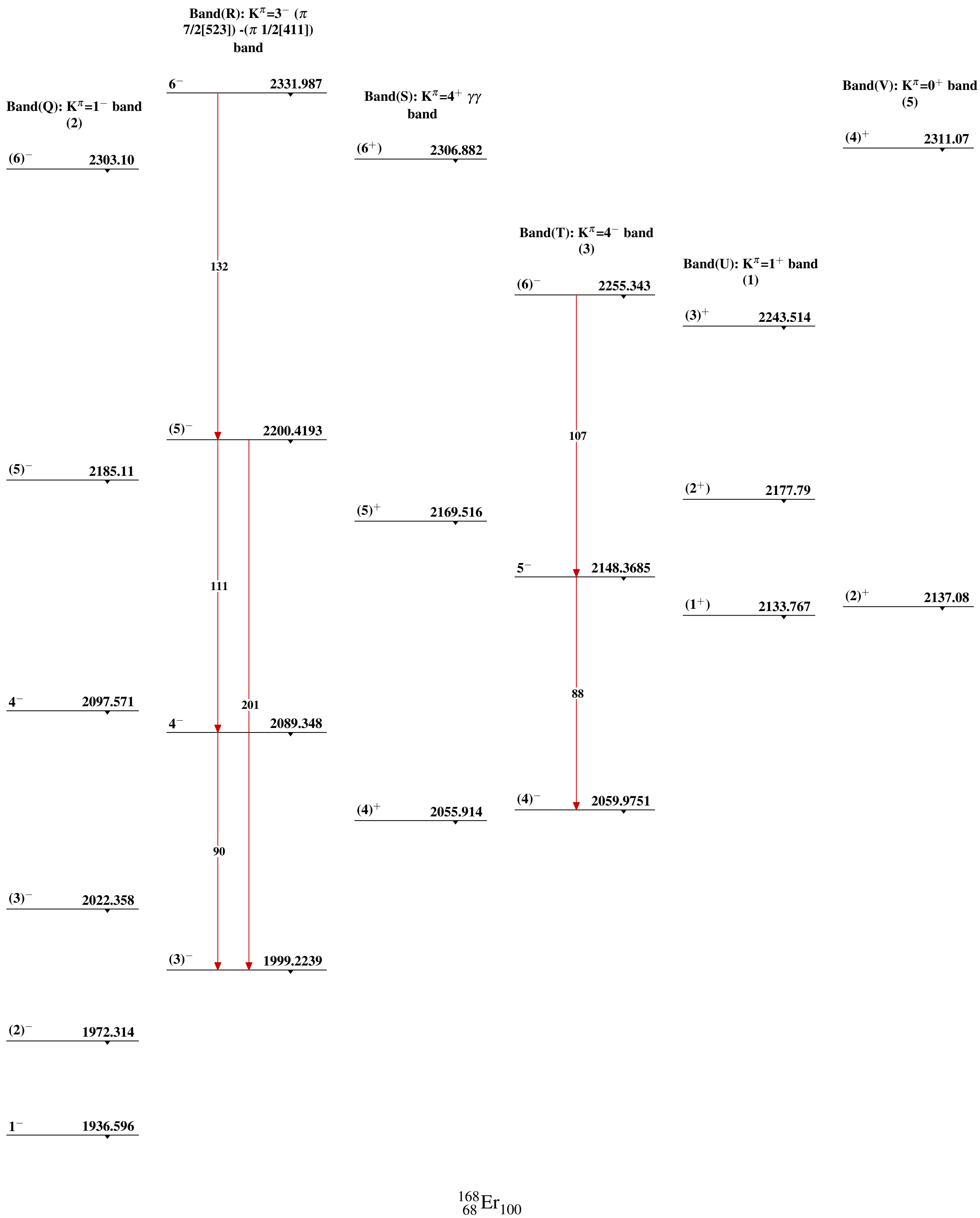
Adopted Levels, Gammas (continued)



$^{168}_{68}Er_{100}$

 $^{168}_{68}Er_{100}$-87

Adopted Levels, Gammas (continued)



Adopted Levels, Gammas (continued)

Band(b): K^{π}=(3)$^{-}$ band (4)

(5^{-}) 2451.165

4^{-} 2348.581

(3)$^{-}$ 2262.691

Band(c): K^{π}=3^{-} band (5) ?

(4)$^{-}$ 2402.29

3^{-} 2323.01

Band(Z): K^{π}=4^{+} band (2)

(5^{+}) 2368.585

(4)$^{+}$ 2238.179

Band(X): K^{π}=(2)$^{+}$ (π 3/2[411])+(π 1/2[411]) band

4^{+} 2336.26

(3)$^{+}$ 2254.84

2^{+} 2193.19

Band(Y): K^{π}=2^{-} band (2)

(3)$^{-}$ 2302.666

(2)$^{-}$ 2230.30

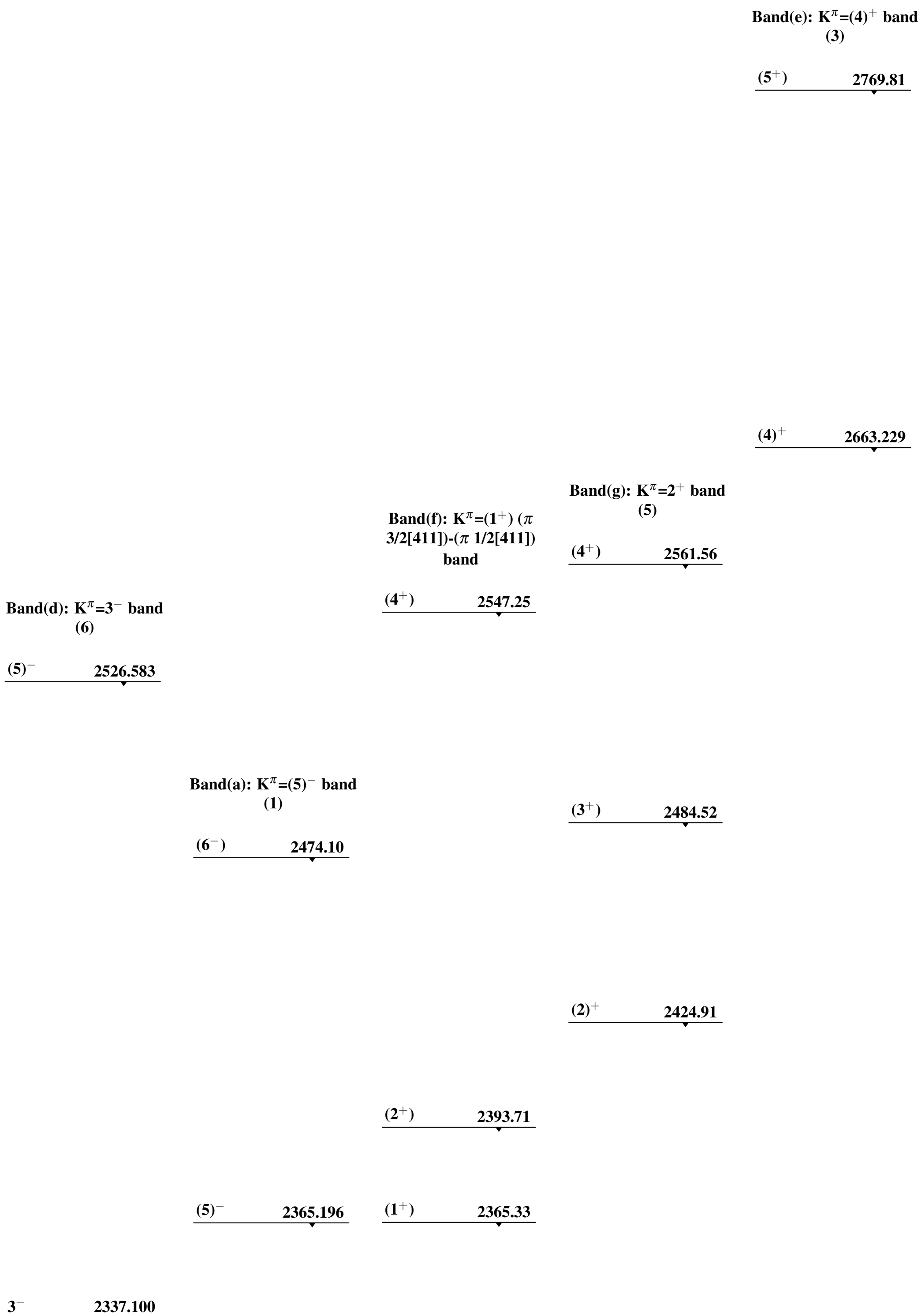
Band(W): K^{π}=(3)$^{+}$ band (2)

(4)$^{+}$ 2279.630

(3)$^{+}$ 2186.741

$^{168}_{68}Er_{100}$

Adopted Levels, Gammas (continued)



$^{168}_{68}Er_{100}$