

**Adopted Levels, Gammas**

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

Q(β<sup>-</sup>)=-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 197771.32 127999 5551.6 12 2003Au03,2009AuZZ.

Q(β<sup>-</sup>): 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.

<sup>168</sup>Er Levels

E(j),J(j) From <sup>168</sup>Er(γ,γ'), (γ,γ').

Cross Reference (XREF) Flags

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

E(level) <sup>†</sup>	J <sup>π</sup> <sup>‡</sup>	T <sub>1/2</sub> <sup>#</sup>	XREF	Comments
0.0 <sup>i</sup>	0 <sup>+d</sup>	stable	ABCDEF HIJKLMN OP S	
79.804 <sup>i</sup> 1	2 <sup>+d</sup>	1.853 ns 25	ABCDEF G JKLMN P S	<p>μ=+0.642 12</p> <p>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(<sup>166</sup>Er, 81)=0.312 10 (Mössbauer, 1967St17), +0.62 6 (IPAC, 1980Fu03).</p> <p>&lt;r<sup>2</sup>&gt;<sup>1/2</sup>(charge)=5.267 4 (2004An14).</p> <p>J<sup>π</sup>: E2 80γ to 0<sup>+</sup> g.s..</p> <p>T<sub>1/2</sub>: 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 <sup>168</sup>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.</p> <p>μ: From g(<sup>166</sup>Er 81)/g=0.960 13 (1968Mu01; Mössbauer effect) if g(<sup>166</sup>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 <sup>166</sup>Er(265).</p>
264.0888 <sup>i</sup> 14	4 <sup>+d</sup>	114 ps 3	ABCDEF G JKLMN P S	<p>μ=+1.17 12; Q=-2.2 10</p> <p>μ: From 1996Br09 (transient field). Other: +1.26 16 (1968De28; IMPAC), relative to <sup>166</sup>Er(265).</p> <p>Q: Coul. ex. reorientation (1989Ra17 from 1970McZQ).</p> <p>J<sup>π</sup>: E2 intraband 184γ to 2<sup>+</sup> 80.</p> <p>T<sub>1/2</sub>: weighted average of 117 ps 7 from B(E2) in Coulomb excitation and the following from <sup>168</sup>Tm ε decay: 106 ps 6,</p>

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**Adopted Levels, Gammas (continued)** $^{168}\text{Er}$  Levels (continued)

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

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**Adopted Levels, Gammas (continued)** $^{168}\text{Er}$  Levels (continued)

E(level) <sup>†</sup>	J <sup>π‡</sup>	T <sub>1/2</sub> <sup>#</sup>	XREF	Comments
				Q/Q(2 <sup>+</sup> 80 level)=0.69 3 (2002Th14) from TDPAC. J <sup>π</sup> : M2+E3 1014γ to 2 <sup>+</sup> 80; E1+M2 830γ to 4 <sup>+</sup> 264. T <sub>1/2</sub> : weighted average of data from <sup>168</sup> 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 <sup>167</sup> Er(n,γ) E=thermal): 89 ns (1974Iv02).
1117.5703 <sup>j</sup> 16	5 <sup>+</sup> e	2.4 ps +8-2	AB EF JK	J <sup>π</sup> : M1+E2 853γ to 4 <sup>+</sup> 264; E1 75γ from 5 <sup>-</sup> 1193; β band member. 2 <sup>+</sup> ,5 <sup>+</sup> from average resonance capture. T <sub>1/2</sub> : from measured B(E2)(853γ) in Coulomb excitation and adopted γ properties; measured B(E2) values for 222γ and 123γ imply similar T <sub>1/2</sub> (2.0 ps +3-7 and 2.2 ps 6).
1193.0251 <sup>k</sup> 17	5 <sup>-</sup> f	0.70 ns 7	AB DEFG JKLMN RS	J <sup>π</sup> : E1 644γ to 6 <sup>+</sup> 549; E1 929γ to 4 <sup>+</sup> 264. T <sub>1/2</sub> : γγ(t) in <sup>167</sup> Er(n,γ) E=thermal (1991Pe12). Other value: 0.6 ns 1 (1988Pe06; probably superseded by 1991Pe12).
1217.169 <sup>h</sup> 14	0 <sup>+</sup>		B DE JK N	J <sup>π</sup> : L=0 in <sup>166</sup> Er(t,p).
1263.9047 <sup>j</sup> 19	6 <sup>+</sup> e	3.63 ps 26	E JKL	J <sup>π</sup> : M1+E2 146γ to 5 <sup>+</sup> 1118; M1+E2 715γ to 6 <sup>+</sup> 548; 336γ to 8 <sup>+</sup> 928. T <sub>1/2</sub> : 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 <sup>a</sup>			F	
1276.2716 <sup>h</sup> 20	2 <sup>+</sup>	2.0 ps +21-7	AB DEFG JK N	J <sup>π</sup> : E2 1276γ to 0 <sup>+</sup> g.s.. T <sub>1/2</sub> : from lineshape broadening in (n,γ) (1998Le03).
1311.4606 <sup>k</sup> 17	6 <sup>-</sup> f		A E G JK M RS	J <sup>π</sup> : E2 217γ to 4 <sup>-</sup> 1094; E2 118γ to 5 <sup>-</sup> 1193; band assignment.
1358.899 <sup>m</sup> 5	1 <sup>-</sup>		B DE G KL N	J <sup>π</sup> : E1 1279γ to 2 <sup>+</sup> 80; E2 469γ from 3 <sup>-</sup> 1828; 1359γ to 0 <sup>+</sup> g.s..
1396.826 <sup>i</sup> 5	10 <sup>+</sup> 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( <sup>168</sup> Er, 548.7 level)=0.98 20; +3.0 4 (1992Br07; transient field). J <sup>π</sup> : intraband 469γ to 8 <sup>+</sup> 928. T <sub>1/2</sub> : 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 <sup>m</sup> 23	(2) <sup>-</sup>		B EFG K	J <sup>π</sup> : E1 1324γ to 2 <sup>+</sup> 80; 508γ to 3 <sup>+</sup> 896; 2 <sup>-</sup> ,5 <sup>-</sup> from average resonance capture.
1411.0959 <sup>h</sup> 18	4 <sup>+</sup>	>0.83 ps	B dEFG JK	J <sup>π</sup> : M1+E2 294γ to 5 <sup>+</sup> 1118; E2 589γ to 2 <sup>+</sup> 821. T <sub>1/2</sub> : from lineshape broadening in (n,γ) (1998Le03).
1422.12 <sup>n</sup> 3	0 <sup>+</sup>		B dE K N	J <sup>π</sup> : L=0 in <sup>170</sup> Er(p,t).
1431.466 <sup>m</sup> 4	3 <sup>-</sup>	41 ps	B dEFG KL N	J <sup>π</sup> : E1 1167γ to 4 <sup>+</sup> 264; E1 1352γ to 2 <sup>+</sup> 80. T <sub>1/2</sub> : from 1987Me04 (see <sup>168</sup> Tm ε decay).
1432.9508 <sup>j</sup> 23	7 <sup>+</sup> e		E JK	T <sub>1/2</sub> : 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.
1448.9555 <sup>k</sup> 17	7 <sup>-</sup> f		DE G K N RS	J <sup>π</sup> : M1+E2 884γ to 6 <sup>+</sup> 549; M1 505γ to 8 <sup>+</sup> 928. J <sup>π</sup> : E2 137γ to 6 <sup>-</sup> 1311; E2 256γ to 5 <sup>-</sup> 1193; 520γ to 8 <sup>+</sup> 928. Member of established K <sup>π</sup> =4 <sup>-</sup> band.

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**Adopted Levels, Gammas (continued)**

$^{168}\text{Er}$  Levels (continued)

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

$^{168}\text{Er}$ Levels (continued)					
E(level) <sup>†</sup>	$J^{\pi\ddagger}$	$T_{1/2}^{\#}$	XREF		Comments
1820.1321 <sup>l</sup> 18	6 <sup>-</sup>		E g	K mN	$J^{\pi}$ : M1+E2 112 $\gamma$ to 5 <sup>-</sup> 1708; M1 371 $\gamma$ to 7 <sup>-</sup> 1449.
1820.476 <sup>o</sup> 3	5 <sup>-</sup>		EFg	K mn	$J^{\pi}$ : E1 557 $\gamma$ to 6 <sup>+</sup> 1264; E1 826 $\gamma$ to 4 <sup>+</sup> 995.
1828.0639 <sup>s</sup> 20	3 <sup>-</sup>	0.82 ps +32-19	EFG	KLmn	$J^{\pi}$ : E1 1007 $\gamma$ to 2 <sup>+</sup> 821; E1 833 $\gamma$ to 4 <sup>+</sup> 995. $T_{1/2}$ : from $\gamma$ -induced broadening (GRID technique) in (n, $\gamma$ ) E=thermal (2000Ge14).
1833.54 <sup>t</sup> 11	0 <sup>+</sup>		DE	K mN	$J^{\pi}$ : L=0 in $^{166}\text{Er}(t,p)$ .
1839.3474 <sup>p</sup> 20	5 <sup>+</sup> 8		EF	K	$J^{\pi}$ : M1 845 $\gamma$ to 4 <sup>+</sup> 995; E1 528 $\gamma$ to 6 <sup>-</sup> 1311.
1848.354 <sup>u</sup> 4	2 <sup>+</sup>		A DEF	K N	$J^{\pi}$ : E2 1848 $\gamma$ to 0 <sup>+</sup> g.s..
1881.82 3			E		$J^{\pi}$ : 689 $\gamma$ to 5 <sup>-</sup> 1193.
1892.9346 <sup>s</sup> 20	(4) <sup>-</sup>	177 fs +17-15	EFg	K m	$J^{\pi}$ : M1 700 $\gamma$ to 5 <sup>-</sup> 1193; M1 799 $\gamma$ to 4 <sup>-</sup> 1094; 3 <sup>-</sup> ,4 <sup>-</sup> from average resonance capture. $T_{1/2}$ : from $\gamma$ -induced broadening (GRID technique) in (n, $\gamma$ ) E=thermal (2000Ge14).
1893.100 <sup>f</sup> 6	2 <sup>+</sup>		E g	K mN	$J^{\pi}$ : E2 676 $\gamma$ to 0 <sup>+</sup> 1217.
1896.379 <sup>q</sup> 3	(7) <sup>-</sup>		E g	m S	$J^{\pi}$ : M1+E2 123 $\gamma$ to (6) <sup>-</sup> 1773; band assignment.
1902.696 <sup>n</sup> 7	(6 <sup>+</sup> )		DE	K m	$J^{\pi}$ : 246 $\gamma$ to 4 <sup>+</sup> 1656; 974 $\gamma$ to 8 <sup>+</sup> 928.
1905.0922 <sup>v</sup> 25	(4) <sup>-</sup>		EFG	K m	$J^{\pi}$ : M1 712 $\gamma$ to 5 <sup>-</sup> 1193; M1 811 $\gamma$ to 4 <sup>-</sup> 1094; 3 <sup>-</sup> ,4 <sup>-</sup> from average resonance capture.
1913.92 <sup>r</sup> 3	3 <sup>-</sup>	<11 fs	EfG	KL N	$J^{\pi}$ : E1 1650 $\gamma$ to 4 <sup>+</sup> 264; E1 1834 $\gamma$ to 2 <sup>+</sup> 80. $T_{1/2}$ : from $\gamma$ -induced broadening (GRID technique) in (n, $\gamma$ ) E=thermal (2000Ge14).
1915.502 <sup>u</sup> 4	(3) <sup>+</sup>		A Ef	K	$J^{\pi}$ : 1836 $\gamma$ to 2 <sup>+</sup> 80; E2 921 $\gamma$ to 4 <sup>+</sup> 995; 798 $\gamma$ to 5 <sup>+</sup> 1118; 346 $\gamma$ to (2) <sup>-</sup> 1569.
1930.391 <sup>w</sup> 4	2 <sup>+</sup>		A EF	K N	$J^{\pi}$ : E2 1930 $\gamma$ to 0 <sup>+</sup> g.s..
1936.596 <sup>x</sup> 10	1 <sup>-</sup>	0.24 ps 3	E GH	K	$J^{\pi}$ : E1 1936 $\gamma$ to 0 <sup>+</sup> g.s..
1947.3 <sup>i</sup> 5	12 <sup>+</sup> d	0.60 ps 3		J	E(level): from Coulomb excitation. $J^{\pi}$ : $\gamma$ to 10 <sup>+</sup> ; 12 <sup>+</sup> 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 547 $\gamma$ properties), all from Coulomb excitation.
1949.636 <sup>o</sup> 3	(6) <sup>-</sup>		E	K	$J^{\pi}$ : 230 $\gamma$ to 4 <sup>-</sup> 1719; 517 $\gamma$ to 7 <sup>+</sup> 1433; band assignment.
1950.8067 <sup>l</sup> 20	7 <sup>-</sup>		E G		$J^{\pi}$ : M1 131 $\gamma$ to 6 <sup>-</sup> 1820; M1+E2 345 $\gamma$ to 8 <sup>-</sup> 1606.
1952.2 <sup>c</sup> 7	2 <sup>+</sup>			N	$J^{\pi}$ : L(p,t)=2.
1961.3992 <sup>p</sup> 20	6 <sup>+</sup> 8		DE	K N	$J^{\pi}$ : continuation of established band; 225 $\gamma$ to 4 <sup>+</sup> 1737; 337 $\gamma$ to 8 <sup>+</sup> 1625.
1972.314 <sup>x</sup> 14	(2) <sup>-</sup>	0.13 ps +8-4	EF	K	$J^{\pi}$ : E1 1077 $\gamma$ to 3 <sup>+</sup> 896; 2 <sup>-</sup> ,5 <sup>-</sup> from average resonance capture. $T_{1/2}$ : from $\gamma$ -induced broadening (GRID technique) in (n, $\gamma$ ) E=thermal (2000Ge14).
1975.75 <sup>k</sup> 20	10 <sup>-</sup> f				RS
1983.0398 <sup>s</sup> 24	5 <sup>-</sup>	0.29 ps +8-5	DEFG	K M	$J^{\pi}$ : M1 889 $\gamma$ to 4 <sup>-</sup> 1094; 672 $\gamma$ to 6 <sup>-</sup> 1311. $T_{1/2}$ : from $\gamma$ -induced broadening (GRID technique) in (n, $\gamma$ ) E=thermal (2000Ge14).
1994.821 <sup>w</sup> 4	(3) <sup>+</sup>		A EF	K	$J^{\pi}$ : E2 1915 $\gamma$ to 2 <sup>+</sup> 80; E2 1731 $\gamma$ to 4 <sup>+</sup> 264; band assignment.
1999.2239 <sup>y</sup> 22	(3) <sup>-</sup>	0.44 ns +12-8	A dEFg	KL	$J^{\pi}$ : M1 430 $\gamma$ to (2) <sup>-</sup> 1569; M1 384 $\gamma$ to 4 <sup>-</sup> 1615. $T_{1/2}$ : $\gamma\gamma(t)$ in $^{167}\text{Er}(n,\gamma)$ E=thermal (1991Pe12).
2001.953 <sup>v</sup> 4	5 <sup>-</sup>		dEFg	K m	$J^{\pi}$ : M1 690 $\gamma$ to 6 <sup>-</sup> 1311; M1 908 $\gamma$ to 4 <sup>-</sup> 1094.
2002.465 <sup>u</sup> 4	(4) <sup>+</sup>		dEFg	K m	$J^{\pi}$ : M1 1008 $\gamma$ to 4 <sup>+</sup> 995; (E2) 1923 $\gamma$ to 2 <sup>+</sup> 80; 163 $\gamma$ to 5 <sup>+</sup> 1839; band assignment.
2022.358 <sup>x</sup> 21	(3) <sup>-</sup>	105 fs +37-25	dEFG	K	$J^{\pi}$ : E1 1942 $\gamma$ to 2 <sup>+</sup> 80; 264 $\gamma$ to 4 <sup>+</sup> 264; band

Continued on next page (footnotes at end of table)

**Adopted Levels, Gammas (continued)**

$^{168}\text{Er}$  Levels (continued)

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

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**Adopted Levels, Gammas (continued)**

$^{168}\text{Er}$  Levels (continued)

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

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**Adopted Levels, Gammas (continued)** $^{168}\text{Er}$  Levels (continued)

E(level) <sup>†</sup>	J <sup>π</sup> <sup>‡</sup>	T <sub>1/2</sub> <sup>#</sup>	XREF	Comments
2302.666 <sup>6</sup> 4	(3) <sup>-</sup>		E g K	$K^{\pi}=5^{+}$ band (1991Da12). XREF: g(2302.0). J <sup>π</sup> : M1 733γ to (2) <sup>-</sup> 1569; M1 669γ to 3 <sup>-</sup> 1633; 154γ to 5 <sup>-</sup> 2148.
2303.10 <sup>x</sup> 3	(6) <sup>-</sup>		E g	XREF: g(2302.0). J <sup>π</sup> : 1039γ to 6 <sup>+</sup> 1264; 729γ to 5 <sup>-</sup> 1574; band assignment.
2306.882 <sup>c</sup> 24	(6 <sup>+</sup> )		E J	J <sup>π</sup> : 1042γ to 6 <sup>+</sup> 1264; 1114γ to 5 <sup>-</sup> 1193; band assignment.
2311.07 <sup>3</sup> 3	(4) <sup>+</sup>		DE G K	J <sup>π</sup> : E2 2047γ to 4 <sup>+</sup> 264; 1762γ to 6 <sup>+</sup> 549; band assignment.
2322.2 <sup>c</sup> 2	2 <sup>+</sup>		g N	J <sup>π</sup> : L(p,t)=2.
2323.01 <sup>9</sup> 5	3 <sup>-</sup>		E g KL N	J <sup>π</sup> : 1501γ to 2 <sup>+</sup> 821; 1328γ to 4 <sup>+</sup> 995; $\sigma(\theta)$ and isoscalar transition strength in $^{168}\text{Er}(\alpha,\alpha')$ .
2331.987 <sup>y</sup> 3	6 <sup>-</sup>		E G m	XREF: G(2330). J <sup>π</sup> : M1 382γ to (6) <sup>-</sup> 1950; 381γ to 7 <sup>-</sup> 1951; 624γ to 5 <sup>-</sup> 1708; band assignment.
2336.26 <sup>5</sup> 10	4 <sup>+</sup>		dE g m	XREF: g(2336.7). J <sup>π</sup> : 1440γ to 3 <sup>+</sup> 896; 1118γ to 5 <sup>+</sup> 1118; band assignment.
2337.100 <sup>!</sup> 20	3 <sup>-</sup>		dE g K m	XREF: g(2336.7). J <sup>π</sup> : M1 1243γ to 4 <sup>-</sup> 1094; 1516γ to 2 <sup>+</sup> 821; band assignment.
2341.78 24	1	0.11 ps 3	H K	J <sup>π</sup> : D 2342γ to 0 <sup>+</sup> g.s.. T <sub>1/2</sub> : from (γ,γ').
2346.20 9	1 <sup>-</sup> , 2 <sup>-</sup> , 3 <sup>-</sup>		dE g K	XREF: g(2347.1). J <sup>π</sup> : E1 1524γ to 2 <sup>+</sup> 821.
2348.581 <sup>8</sup> 18	4 <sup>-</sup>		dE g K	XREF: g(2347.1). J <sup>π</sup> : possible M1 1156γ to 5 <sup>-</sup> 1193; 695γ to 3 <sup>+</sup> 1654; band assignment.
2349.3 3			MN	E(level): from $^{170}\text{Er}(p,t)$ . J <sup>π</sup> : L(p,t)=2.
2361.40 19	1	108 fs 22	H K	XREF: H(2363). T <sub>1/2</sub> , J <sup>π</sup> : from (γ,γ').
2365.196 14	(5) <sup>-</sup>		E g K	XREF: g(2364.7). J <sup>π</sup> : M1 1271γ to 4 <sup>-</sup> 1094; M1 1172γ to 5 <sup>-</sup> 1193; band assignment.
2365.33 <sup>!</sup> 12	(1 <sup>+</sup> )	94 fs 22	E gH K	XREF: g(2364.7). J <sup>π</sup> : (1) from $^{168}\text{Er}(\gamma,\gamma)$ , (γ,γ'); $\pi=+$ from band assignment.
2366.2 <sup>c</sup> 2	0 <sup>+</sup>		N	J <sup>π</sup> : L(p,t)=0.
2368.585 <sup>7</sup> 9	(5 <sup>+</sup> )		E K	J <sup>π</sup> : γ's to 4 <sup>-</sup> and (5) <sup>+</sup> ; band assignment.
2373.657 18	2,3		E G	J <sup>π</sup> : 1553γ to 2 <sup>+</sup> 821; 401γ to (2) <sup>-</sup> 1972.
2378.12 8			E	J <sup>π</sup> : 1284γ to 4 <sup>-</sup> 1094.
2382.587 4	(2) <sup>+</sup>		E G K	J <sup>π</sup> : E1 383γ to (3) <sup>-</sup> 1999; 2382γ to 0 <sup>+</sup> g.s..
2392.1 <sup>c</sup> 2	(0 <sup>+</sup> )		g N	J <sup>π</sup> : L(p,t)=(0).
2392.118 7	(5,6 <sup>+</sup> )		E g	J <sup>π</sup> : 655γ to (4) <sup>+</sup> 1737; 1080γ to 6 <sup>-</sup> 1311; 1128γ to 6 <sup>+</sup> 1264. If 1298γ is correctly placed, J <sup>π</sup> =6 <sup>+</sup> is very unlikely.
2392.927 9	(3 <sup>-</sup> , 4 <sup>+</sup> )		E g K m	J <sup>π</sup> : 1200γ to 5 <sup>-</sup> 1193; 900γ to 2 <sup>+</sup> 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 <sup>!</sup> 9	(2 <sup>+</sup> )		E g K m	J <sup>π</sup> : 2393γ to 0 <sup>+</sup> g.s.; 2129γ to 4 <sup>+</sup> 264.
2398.52 9	(3 <sup>+</sup> , 4, 5 <sup>+</sup> )		E g K m	XREF: g(2400.1).

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**Adopted Levels, Gammas (continued)** $^{168}\text{Er}$  Levels (continued)

E(level) <sup>†</sup>	J <sup>π</sup> <sup>‡</sup>	T <sub>1/2</sub> <sup>#</sup>	XREF	Comments
2401.94 24	(1 <sup>-</sup> )		E g K m	J <sup>π</sup> : 1281γ to 5 <sup>+</sup> 1118; 1503γ to 3 <sup>+</sup> 896. XREF: g(2400.1).
2402.29 <sup>9</sup> 7	(4) <sup>-</sup>		E g K m	J <sup>π</sup> : 1581γ to 2 <sup>+</sup> 821 is probably E1; 2402γ to 0 <sup>+</sup> g.s.. XREF: g(2400.1).
2411.795 25	(5) <sup>+</sup>		dE G K	J <sup>π</sup> : E1 1506γ to 3 <sup>+</sup> 896; E1 1408γ to 4 <sup>+</sup> 995; band assignment.
2417.02 20	1 <sup>(-)</sup>	20 fs 4	d H K	J <sup>π</sup> : M1 1417γ to 4 <sup>+</sup> 995; 1100γ to 6 <sup>-</sup> 1311. Proposed by 1991Da12 as J=4 member of a possible K <sup>π</sup> =3 <sup>-</sup> band built on 2337 level but, if placement and multipolarity of 1417γ are correct, that band assignment is untenable.
2419.0 <sup>k</sup> 3	12 <sup>-f</sup>			D γ to 0 <sup>+</sup> g.s.; π based on K=0 (1996Ma18) from (γ,γ').
2423.25 9			E K n	RS J <sup>π</sup> : 2159γ to 4 <sup>+</sup> 264.
2424.91/ 6	(2) <sup>+</sup>		A dE K n	J <sup>π</sup> : log ft<5.9 from 3 <sup>+</sup> ; 2425γ to 0 <sup>+</sup> g.s..
2427.2 6			dE 1m	
2434.659 5			E g 1m	XREF: g(2434.9).
2440.054 20	(4 <sup>+</sup> ,5 <sup>+</sup> )		E G K	J <sup>π</sup> : 1176γ to 6 <sup>+</sup> 1264; 445γ to (3) <sup>+</sup> 1995.
2440.46 5	(2 <sup>+</sup> )		E K	J <sup>π</sup> : 1446γ to 4 <sup>+</sup> 995; 1223γ to 0 <sup>+</sup> 1217.
2450.5 <sup>c</sup> 3	2 <sup>+</sup>		g N	XREF: g(2450). J <sup>π</sup> : L(p,t)=2.
2451.165 <sup>8</sup> 24	(5) <sup>-</sup>		E g K	XREF: g(2450.5). J <sup>π</sup> : 195γ to (6) <sup>-</sup> 2255; 1456γ to 4 <sup>+</sup> 995; 909γ to (4) <sup>-</sup> 1542; band assignment.
2455.96 6	(3 <sup>+</sup> ,4,5 <sup>+</sup> )		E g K M	XREF: g(2458). J <sup>π</sup> : 1339γ to 5 <sup>+</sup> 1118; 1560γ to 3 <sup>+</sup> 896.
2458.7 4	1	0.17 ps 5	gH K	XREF: g(2458).
2461.8 <sup>c</sup> 2	2 <sup>+</sup>			J <sup>π</sup> : L(p,t)=2.
2468.8 9			dE g	XREF: g(2458).
2474.10 6	(6) <sup>-</sup>		dE g	XREF: g(2476.4). J <sup>π</sup> : 1041γ to 7 <sup>+</sup> 1433; 472γ to 5 <sup>-</sup> 2002; band assignment.
2477.20 6	(5) <sup>-</sup>		dE g K m	XREF: g(2476.4). J <sup>π</sup> : M1 1166γ to 6 <sup>-</sup> 1311; 1383γ to 4 <sup>-</sup> 1094; possible bandhead for a K <sup>π</sup> =5 <sup>-</sup> band.
2478.08 7	(3) <sup>-</sup>		dE g K m	XREF: g(2476.4). J <sup>π</sup> : 1657γ to 2 <sup>+</sup> 821; E1 1484γ to 4 <sup>+</sup> 995. Proposed by 1991Da12 as J=3 member of a possible K <sup>π</sup> =1 <sup>+</sup> band built on 2365 level but, if placement and multipolarity of 1484γ are correct, that band assignment is untenable.
2484.52/ 6	(3 <sup>+</sup> )		A dE g K m	XREF: g(2484.8). J <sup>π</sup> : log ft=5.91 from 3 <sup>+</sup> ; 2405γ to 2 <sup>+</sup> 80; 2221γ to 4 <sup>+</sup> 264; band assignment.
2486 5	3 <sup>-</sup>		d g Lm	XREF: g(2484.8). E(level): from $^{168}\text{Er}(\alpha,\alpha')$ . J <sup>π</sup> : angular distribution and isoscalar transition strength in $^{168}\text{Er}(\alpha,\alpha')$ .
2493.5 3	1 <sup>+</sup>	37 fs 4	gH K	XREF: g(2497.8). K=1 (1996Ma18) from (γ,γ').
2494.528 15	(3) <sup>-</sup>		E K	J <sup>π</sup> : E1 1673γ to 2 <sup>+</sup> 821; 512γ to 5 <sup>-</sup> 1983.
2499.1 5			E g	XREF: g(2497.8).
2510.72 24	1 <sup>(-)</sup>	59 fs 18	GH K	π based on K=0 (1996Ma18) from (γ,γ').
2513.67 5	(4) <sup>-</sup>		E G K	XREF: G(2510.8). J <sup>π</sup> : E1 1618γ to 3 <sup>+</sup> 896; E1 1519γ to 4 <sup>+</sup> 995; 1396γ to 5 <sup>+</sup> 1118. Proposed by 1991Da12 as J=5 member of a K <sup>π</sup> =3 <sup>-</sup> band, but multipolarity of 1519γ and 1618γ rule this out.
2517.48 20	(3 <sup>+</sup> ,4 <sup>+</sup> )		E G K	XREF: G(2517.6).

Continued on next page (footnotes at end of table)

**Adopted Levels, Gammas (continued)**

$^{168}\text{Er}$ Levels (continued)				
E(level) <sup>†</sup>	$J^{\pi\ddagger}$	$T_{1/2}^{\#}$	XREF	Comments
2526.583 <sup>!</sup> 12	(5) <sup>-</sup>		DE g K	$J^{\pi}$ : 1696 $\gamma$ to 2 <sup>+</sup> 821; 408 $\gamma$ to 5 <sup>+</sup> 2109. XREF: g(2527.2).
2527.78 7			E g	$J^{\pi}$ : E2 1433 $\gamma$ to 4 <sup>-</sup> 1094; 1532 $\gamma$ to 4 <sup>+</sup> 995; band assignment. XREF: g(2527).
2528.80 10	(5) <sup>-</sup>		E K	$J^{\pi}$ : 1434 $\gamma$ to 4 <sup>-</sup> 1094.
2538.1 5	2 <sup>+</sup>		E g LM	$J^{\pi}$ : E1 1534 $\gamma$ to 4 <sup>+</sup> 995; 1265 $\gamma$ to 6 <sup>+</sup> 1264. XREF: g(2539.3).
2540.22 5	(3,4,5) <sup>+</sup>		E g K	$J^{\pi}$ : L(p,t)=2. XREF: g(2539.3).
2547.25 <sup>!</sup> 7	(4) <sup>+</sup>		E	$J^{\pi}$ : E2 1644 $\gamma$ to 3 <sup>+</sup> 896; 1423 $\gamma$ to 5 <sup>+</sup> 1117.
2551.48 7	(4,5) <sup>-</sup>		E K	$J^{\pi}$ : E1 1651 $\gamma$ to 3 <sup>+</sup> 896; 1998 $\gamma$ to 6 <sup>+</sup> 549; band assignment.
2552.7 4	2 <sup>+</sup>		E G N	$J^{\pi}$ : E1 1557 $\gamma$ to 4 <sup>+</sup> 995; 443 $\gamma$ to 5 <sup>+</sup> 2109. XREF: G(2553.1).
2558.66 5	(5) <sup>-</sup>		dE K	$J^{\pi}$ : L(p,t)=2. $J^{\pi}$ : E1 $\gamma$ from 3 <sup>+</sup> ,4 <sup>+</sup> in $^{167}\text{Er}(n,\gamma)$ E=thermal; 984 $\gamma$ to 5 <sup>-</sup> 1574; 1294 $\gamma$ to 6 <sup>+</sup> 1264; 235 $\gamma$ to 3 <sup>-</sup> 2323.
2561.56 <sup>/</sup> 5	(4) <sup>+</sup>		dE g K	XREF: g(2562.2).
2563.5 5			dE g	$J^{\pi}$ : 2297 $\gamma$ to 4 <sup>+</sup> 264; 2012 $\gamma$ to 6 <sup>+</sup> 549; band assignment.
2571.31 5			E G	XREF: g(2562.2). XREF: G(2569.0).
2571.9 <sup>@i</sup> 5	14 <sup>+</sup> <sup>d</sup>	0.248 ps +24-14	J	$J^{\pi}$ : 1577 $\gamma$ to 4 <sup>+</sup> 995; 1675 $\gamma$ to 3 <sup>+</sup> 896, so $J^{\pi}=(2^+,3,4,5^+)$ . $T_{1/2}$ : from B(E2) in Coulomb excitation and adopted 625 $\gamma$ properties.
2572.0 <sup>@j calc</sup>	(12 <sup>+</sup> ) <sup>e</sup>		J	$J^{\pi}$ : from band assignment in Coulomb excitation.
2572.5 <sup>c</sup> 2	0 <sup>+</sup>		N	$J^{\pi}$ : L(p,t)=0.
2578.8 5			E	
2586.2 6			E G	XREF: G(2584.8).
2594.4 <sup>&amp;</sup> 10			G	
2601.2 4			E G M	XREF: G(2603.7).
2617.4 2	0 <sup>+</sup>		D N	$J^{\pi}$ : $\pi=-$ from E1 5170 $\gamma$ from 3 <sup>+</sup> ,4 <sup>+</sup> in $^{167}\text{Er}(n,\gamma)$ E=thermal; however, 2522 $\gamma$ to 2 <sup>+</sup> 80 and 2052 $\gamma$ to 6 <sup>+</sup> 549 favor 4 <sup>+</sup> . E(level): from $^{166}\text{Er}(p,t)$ . $J^{\pi}$ : L(p,t)=0.
2626.3 10			G	
2628.57 22	(3 <sup>+</sup> ,4,5 <sup>+</sup> )		E K	$J^{\pi}$ : 1733 $\gamma$ to 3 <sup>+</sup> 896; 1511 $\gamma$ to 5 <sup>+</sup> 1118.
2629.2 4			E K1	$J^{\pi}$ : $\gamma$ to 4 <sup>+</sup> 264.
2637.2 <sup>&amp;</sup> 10			G 1	
2643.71 13	1 <sup>(+)</sup>	70 fs 15	E H K	K=1 (1996Ma18) from ( $\gamma,\gamma'$ ).
2644.1 6	(0 <sup>+</sup> )		E G N	XREF: G(2646.2). E(level): from (p,t). $J^{\pi}$ : L(p,t)=(0).
2651.9 5			E g	
2653.8 <sup>k</sup> 4	13 <sup>-</sup> <sup>f</sup>		E g	XREF: g(2656.3).
2656.86 5			E g	$J^{\pi}$ : gammas to 2 <sup>+</sup> 821 and 3 <sup>+</sup> 896, so $J^{\pi}=(1^+,2,3,4^+)$ .
2657.66 4	(2,3,4)		E g m	XREF: g(2656.3).

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**Adopted Levels, Gammas (continued)**

<sup>168</sup>Er Levels (continued)

E(level) <sup>†</sup>	J <sup>π</sup> <sup>‡</sup>	T <sub>1/2</sub> <sup>#</sup>	XREF	Comments
2660.59 7	(3,4) <sup>+</sup>		E K m	J <sup>π</sup> : 1226γ to 3 <sup>-</sup> 1431; 1004γ to 3 <sup>+</sup> 1654; 1042γ to 4 <sup>-</sup> 1615. J <sup>π</sup> : M1 1666γ to 4 <sup>+</sup> 995; 2580γ to 2 <sup>+</sup> 80; 1542γ to 5 <sup>+</sup> 1118.
2663.229 <sup>&lt;</sup> 20	(4) <sup>+</sup>		E G K m	XREF: G(2663.1). J <sup>π</sup> : E2 1010γ to 3 <sup>+</sup> 1654; 1193γ to 5 <sup>-</sup> 1193; band assignment.
2672.1 5	(4 <sup>+</sup> ,5,6 <sup>+</sup> )	27 fs 3	E K	J <sup>π</sup> : 1677γ to 4 <sup>+</sup> 995; 1409γ to 6 <sup>+</sup> 1264.
2676.3 4	1 <sup>+</sup>		GH K	J <sup>π</sup> : M1 2676γ to 0 <sup>+</sup> g.s.. K=1 (1996Ma18) from (γ,γ').
2683.8 3	(2 <sup>+</sup> )		E K N	J <sup>π</sup> : 2420γ to 4 <sup>+</sup> 264; 2684γ to 0 <sup>+</sup> g.s..
2689.0 4	(1,2 <sup>+</sup> )		E G K	XREF: G(2691.8). J <sup>π</sup> : 2689γ to 0 <sup>+</sup> g.s.; 2609γ to 2 <sup>+</sup> 80.
2694	1 <sup>(+)</sup>		H	T <sub>1/2</sub> : 0.24 ps 5 if level deexcites to g.s. only.
2700.60 20			E	J <sup>π</sup> : 2436γ to 4 <sup>+</sup> 264.
2703.2 10			G	
2713.2 6			E G	XREF: G(2711.9).
2716.0 <sup>b</sup> 16	(2 <sup>+</sup> ,3,4 <sup>+</sup> )		E	J <sup>π</sup> : 2636γ to 2 <sup>+</sup> 80; 2452γ to 4 <sup>+</sup> 264.
2727.77 5	(4,5) <sup>-</sup>		E g K	XREF: g(2727.9). J <sup>π</sup> : M1+E2 1112γ to 4 <sup>-</sup> 1615; 1611γ to 5 <sup>+</sup> 1118.
2728.43 22	1 <sup>+</sup>	13.9 fs 24	gH K	XREF: g(2727.9). J <sup>π</sup> : M1 2729γ to 0 <sup>+</sup> g.s..
2733.0 12			E	J <sup>π</sup> : 1837γ to 3 <sup>+</sup> 896, 2469γ to 4 <sup>+</sup> 264, so J <sup>π</sup> =(2 <sup>+</sup> ,3,4,5 <sup>+</sup> ).
2738.56 4			E g	XREF: g(2739.6).
2740.16 15	(4,5,6) <sup>+</sup>		E g K	J <sup>π</sup> : 1031γ to 5 <sup>-</sup> 1708, 1123γ to 4 <sup>-</sup> 1615, so J <sup>π</sup> =(3 <sup>-</sup> ,4,5,6 <sup>-</sup> ).
2740.9 3	1	38 fs 6	gH K	XREF: g(2739.6). J <sup>π</sup> : 1476γ to 6 <sup>+</sup> 1264; E2 1746γ to 4 <sup>+</sup> 995.
2741.9 <sup>c</sup> 4	2 <sup>+</sup>			J <sup>π</sup> : D γ to 0 <sup>+</sup> .
2746.6 3	(≤4)		E G K N	J <sup>π</sup> : L(p,t)=2. XREF: G(2746.3). J <sup>π</sup> : 2667γ to 2 <sup>+</sup> 80.
2751.9 6			E	
2757.3 4	(1,2 <sup>+</sup> )		G K	J <sup>π</sup> : gammas to 0 <sup>+</sup> g.s. and 2 <sup>+</sup> 80.
2763.9 8	(1,2 <sup>+</sup> )		E K	J <sup>π</sup> : gammas to 0 <sup>+</sup> g.s. and 2 <sup>+</sup> 80.
2768.55 6			E	J <sup>π</sup> : 1060γ to 5 <sup>-</sup> 1708, 1153γ to 4 <sup>-</sup> 1615, so J <sup>π</sup> =(3 <sup>-</sup> ,4,5,6 <sup>-</sup> ).
2769.81 <sup>&lt;</sup> 15	(5 <sup>+</sup> )		E K	J <sup>π</sup> : 1675γ to 4 <sup>-</sup> 1094; 1458γ to 6 <sup>-</sup> 1311; band assignment.
2778.03 20			E	J <sup>π</sup> : 2229γ to 6 <sup>+</sup> 549.
2782.9 6	(1,2 <sup>+</sup> )		K	J <sup>π</sup> : 2783γ to 0 <sup>+</sup> g.s.; 2703γ to 2 <sup>+</sup> 80 level.
2786.80 7	(3,4 <sup>+</sup> )		E m	J <sup>π</sup> : 2523γ to 4 <sup>+</sup> 264; 1965γ to 2 <sup>+</sup> 821; 385γ to (4) <sup>-</sup> 2402.3.
2788.1 16			E m	J <sup>π</sup> : 2524γ to 4 <sup>+</sup> 264.
2789.2 <sup>c</sup> 6	0 <sup>+</sup>			J <sup>π</sup> : L(p,t)=0.
2792.0 4	1 <sup>+</sup>	24.5 fs 17	H K m	J <sup>π</sup> : M1 2792γ to 0 <sup>+</sup> g.s.. K=1 (1996Ma18) from (γ,γ').
2798.1 3	1 <sup>+</sup>	25.6 fs 21	H K	J <sup>π</sup> : M1 2798γ to 0 <sup>+</sup> g.s.. K=1 (1996Ma18) from (γ,γ').
2806.5 6			E	
2810.9 <sup>b</sup> 4			E	J <sup>π</sup> : 2547γ to 4 <sup>+</sup> 264.
2817.0? 4	(1,2 <sup>+</sup> )		K	J <sup>π</sup> : 2817γ to 0 <sup>+</sup> g.s.; 2737γ to 2 <sup>+</sup> 80.
2819.7 <sup>b</sup> 4			E	J <sup>π</sup> : 2556γ to 4 <sup>+</sup> 264.
2825.0 <sup>c</sup> 4	2 <sup>+</sup>			J <sup>π</sup> : L(p,t)=2.
2826.4 3	1 <sup>(+)</sup>	38 fs 6	H K	J <sup>π</sup> : D, Δπ=(no) γ to 0 <sup>+</sup> . K=1 (1996Ma18) from (γ,γ').
2833.7 5	1 <sup>(-)</sup>		H K	J <sup>π</sup> : D, Δπ=(yes) γ to 0 <sup>+</sup> .

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**Adopted Levels, Gammas (continued)**

<sup>168</sup>Er Levels (continued)

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

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**Adopted Levels, Gammas (continued)**

<sup>168</sup>Er Levels (continued)

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

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**Adopted Levels, Gammas (continued)**

<sup>168</sup> Er Levels (continued)					
E(level) <sup>†</sup>	J <sup>π</sup> <sup>‡</sup>	T <sub>1/2</sub> <sup>#</sup>	XREF	Comments	
3238.0 <sup>b</sup> 16			E	J <sup>π</sup> : 2974γ to 4 <sup>+</sup> 264.	
3242.6 8	1		H K	T <sub>1/2</sub> : 0.18 ps 4 if level deexcites to g.s. only.	
3259.5 <sup>@i</sup> 10	16 <sup>+d</sup>	0.195 ps +59-16	J	T <sub>1/2</sub> : from B(E2) in Coulomb excitation and adopted 688γ properties.	
3269.4 <sup>c</sup> 8	2 <sup>+</sup>		N	J <sup>π</sup> : L(p,t)=2.	
3285.1 <sup>b</sup> 16	(4 <sup>+</sup> )		E	J <sup>π</sup> : 3205γ to 2 <sup>+</sup> 80; 2736γ to 6 <sup>+</sup> 549.	
3286.8 <sup>c</sup> 8	2 <sup>+</sup>		N	J <sup>π</sup> : L(p,t)=2.	
3300.0 7	1		H K	T <sub>1/2</sub> : 0.17 ps 4 if level deexcites to g.s. only.	
3312.8 <sup>c</sup>			N	J <sup>π</sup> : possibly 0 <sup>+</sup> based on forward-peaking of σ(θ) in (p,t).	
3327.3 <sup>b</sup> 16	(≤4)		E	J <sup>π</sup> : 3248γ to 2 <sup>+</sup> 80, so J <sup>π</sup> =1,2,3,4 <sup>+</sup> .	
3335.0 <sup>b</sup> 16	(4 <sup>+</sup> ,5 <sup>+</sup> )		E	J <sup>π</sup> : 2439γ to 3 <sup>+</sup> 896; 2786γ to 6 <sup>+</sup> 549.	
3338.2 6	(2 <sup>+</sup> )	73 fs 25	H K	J <sup>π</sup> : (Q) γ to 0 <sup>+</sup> in (γ,γ').	
3342.0 10	1(+)		H K	J <sup>π</sup> : D, Δπ=(no) γ to 0 <sup>+</sup> .	
3342.9 <sup>c</sup> 10	2 <sup>+</sup>		N	T <sub>1/2</sub> : 123 fs 30 if level deexcites to g.s. only. J <sup>π</sup> : L(p,t)=2.	
3347.7 <sup>b</sup> 16			E	J <sup>π</sup> : 2353γ to 4 <sup>+</sup> 995.	
3358.7 6	1 <sup>+</sup>	5.4 fs 4	HI K	J <sup>π</sup> : M1 3359γ to 0 <sup>+</sup> g.s..	
3361.9 <sup>c</sup> 10	2 <sup>+</sup>		N	J <sup>π</sup> : L(p,t)=2.	
3370.9 7	(2 <sup>+</sup> )	55 fs 11	H K	J <sup>π</sup> : (Q) γ to 0 <sup>+</sup> in (γ,γ').	
3376.6 <sup>b</sup> 16	(4 <sup>+</sup> )		E	J <sup>π</sup> : 3297γ to 2 <sup>+</sup> 80; 2828γ to 6 <sup>+</sup> 549.	
3391 1	1 <sup>+</sup>	2.79 fs 22	HI	K=1 (1996Ma18).	
3394.5 <sup>b</sup> 16			E	J <sup>π</sup> : 2300γ to 4 <sup>-</sup> 1094.	
3399.3 <sup>b</sup> 16	(≤4)		E	J <sup>π</sup> : 3320γ to 2 <sup>+</sup> 80.	
3409.7 9	1 <sup>+</sup>	9.3 fs 12	H K	J <sup>π</sup> : M1 γ to 0 <sup>+</sup> .	
3415.5 <sup>b</sup> 16	(≤4)		E	J <sup>π</sup> : 3336γ to 2 <sup>+</sup> 80.	
3429.2 <sup>c</sup> 10	2 <sup>+</sup>		N	J <sup>π</sup> : L(p,t)=2.	
3432.0 <sup>b</sup> 16	(4 <sup>+</sup> )		E	J <sup>π</sup> : 23352 to 2 <sup>+</sup> 80; 2883γ to 6 <sup>+</sup> 549.	
3439.6 9	1(-)	19 fs 4	H K	J <sup>π</sup> : D, Δπ=(yes) γ to 0 <sup>+</sup> . K=0 (1996Ma18) from (γ,γ').	
3441.7 <sup>c</sup> 10	2 <sup>+</sup>		N	J <sup>π</sup> : L(p,t)=2.	
3449	1		H	T <sub>1/2</sub> : 43 fs 9 if level deexcites to g.s. only.	
3451.6 <sup>c</sup> 10	2 <sup>+</sup>		N	J <sup>π</sup> : L(p,t)=2.	
3458 2	1 <sup>+</sup>	5.9 fs 5	HI	K=1 (1996Ma18) from (γ,γ').	
3459.9 <sup>c</sup> 10	2 <sup>+</sup>		N	J <sup>π</sup> : L(p,t)=2.	
3469 2	1 <sup>-</sup>	10.2 fs 13	H	K=(1) (1996Ma18) in (γ,γ').	
3471.6 <sup>c</sup> 10	2 <sup>+</sup>		N	J <sup>π</sup> : L(p,t)=2.	
3475.7 <sup>b</sup> 16	(≤4)		E	J <sup>π</sup> : 3396γ to 2 <sup>+</sup> 80.	
3481 2	1 <sup>-</sup>	3.0 fs 4	H	K=0 (1996Ma18) in (γ,γ').	
3482.6 <sup>c</sup> 10	2 <sup>+</sup>		N	J <sup>π</sup> : L(p,t)=2.	
3487.3 <sup>b</sup> 16			E	J <sup>π</sup> : 2592γ to 3 <sup>+</sup> 896.	
3493.3 <sup>c</sup> 10	2 <sup>+</sup>		N	J <sup>π</sup> : L(p,t)=2.	
3496.4 <sup>b</sup> 16	(4 <sup>+</sup> )		E	J <sup>π</sup> : 3417γ to 2 <sup>+</sup> 80; 2950γ to 6 <sup>+</sup> 549.	
3499.3 <sup>b</sup> 16			E	J <sup>π</sup> : 2405γ to 4 <sup>-</sup> 1094.	
3504.2 9	1 <sup>-</sup>	22 fs 8	H K	D γ to 0 <sup>+</sup> ; π=- based on K=0 (1996Ma18) in (γ,γ').	
3506.3 <sup>c</sup> 10	2 <sup>+</sup>		N	J <sup>π</sup> : L(p,t)=2.	
3507.8 <sup>b</sup> 16	(≤4)		E	J <sup>π</sup> : 3428γ to 2 <sup>+</sup> 80.	
3513.9 <sup>b</sup> 16			E	J <sup>π</sup> : 2965γ to 6 <sup>+</sup> 549.	
3515.7 <sup>c</sup> 12	2 <sup>+</sup>		N	J <sup>π</sup> : L(p,t)=2.	
3516	1 <sup>-</sup>	13.1 fs 24	H		

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**Adopted Levels, Gammas (continued)** $^{168}\text{Er}$  Levels (continued)

E(level) <sup>†</sup>	$J^{\pi\ddagger}$	$T_{1/2}$ <sup>#</sup>	XREF	Comments
3521.1 <sup>b</sup> 16	( $\leq 4$ )		E	$J^{\pi}$ : 3441 $\gamma$ to 2 <sup>+</sup> 80.
3529	1		H	$T_{1/2}$ : 120 fs 25 if level deexcites to g.s. only.
3529.0 <sup>c</sup>			N	$J^{\pi}$ : possibly 0 <sup>+</sup> based on forward-peaking of $\sigma(\theta)$ in (p,t).
3560.0 <sup>b</sup> 16			E	$J^{\pi}$ : 3011 $\gamma$ to 6 <sup>+</sup> 549.
3561.9 <sup>c</sup> 12	2 <sup>+</sup>		N	$J^{\pi}$ : L(p,t)=2.
3566	1		H	$T_{1/2}$ : 0.14 ps 3 if level deexcites to g.s. only.
3569.4 <sup>c</sup> 10	0 <sup>+</sup>		N	$J^{\pi}$ : L(p,t)=0.
3570.9 <sup>b</sup> 16	(4 <sup>+</sup> )		E	$J^{\pi}$ : 2750 $\gamma$ to 2 <sup>+</sup> 821; 3022 $\gamma$ to 6 <sup>+</sup> 549.
3581.1 <sup>c</sup>			N	$J^{\pi}$ : possibly 0 <sup>+</sup> based on forward-peaking of $\sigma(\theta)$ in (p,t).
3586.3 <sup>c</sup> 10	0 <sup>+</sup>		N	$J^{\pi}$ : L(p,t)=0.
3588.0 <sup>b</sup> 16			E	$J^{\pi}$ : 2593 $\gamma$ to 4 <sup>+</sup> 995.
3591	1(+) )	33 fs 6	H	K=1 (1996Ma18) from ( $\gamma,\gamma'$ ).
3598	1	17 fs 3	H	K=(1) (1996Ma18) from ( $\gamma,\gamma'$ ).
3606.8 <sup>b</sup> 16	( $\leq 4$ )		E	$J^{\pi}$ : 3527 $\gamma$ to 2 <sup>+</sup> 80.
3617.6 <sup>c</sup> 12	2 <sup>+</sup>		N	$J^{\pi}$ : L(p,t)=2.
3627	1		H	$T_{1/2}$ : 152 fs 25 if level deexcites to g.s. only.
3629.9 <sup>c</sup> 12	2 <sup>+</sup>		N	$J^{\pi}$ : L(p,t)=2.
3634	1(-)		H	$T_{1/2}$ : 76 fs 16 if level deexcites to g.s. only.
3643.1 <sup>b</sup> 16	( $\leq 4$ )		E	$J^{\pi}$ : 2822 $\gamma$ to 2 <sup>+</sup> 821.
3657	1(+) )	8.9 fs 11	H	K=1 (1996Ma18) from ( $\gamma,\gamma'$ ).
3660.9 <sup>b</sup> 16	( $\leq 4$ )		E	$J^{\pi}$ : 2840 $\gamma$ to 2 <sup>+</sup> 821.
3663.9 <sup>c</sup> 10	0 <sup>+</sup>		N	$J^{\pi}$ : L(p,t)=0.
3680.1 <sup>b</sup> 16	(2 <sup>+</sup> ,3,4 <sup>+</sup> )		E	$J^{\pi}$ : 2859 $\gamma$ to 2 <sup>+</sup> 821; 2685 $\gamma$ to 4 <sup>+</sup> 995.
3682.5 <sup>c</sup>			N	$J^{\pi}$ : possibly 0 <sup>+</sup> based on forward-peaking of $\sigma(\theta)$ in (p,t).
3696	1	35 fs 8	H	K=(1) (1996Ma18) from ( $\gamma,\gamma'$ ).
3696.7 <sup>c</sup>			N	$J^{\pi}$ : possibly 0 <sup>+</sup> based on forward-peaking of $\sigma(\theta)$ in (p,t).
3702.5 <sup>b</sup> 16	( $\leq 4$ )		E	$J^{\pi}$ : 3623 $\gamma$ to 2 <sup>+</sup> 80.
3703	1-	5.1 fs 9	H	$\pi=-$ based on K=0 (1996Ma18) in ( $\gamma,\gamma'$ ).
3714.9 <sup>c</sup> 10	(0 <sup>+</sup> )		N	$J^{\pi}$ : L(p,t)=(0).
3715.2 <sup>b</sup> 16			E	$J^{\pi}$ : 2819 $\gamma$ to 3 <sup>+</sup> 896.
3719	1(-)	9.3 fs 24	H	
3720.0 <sup>c</sup> 15	2 <sup>+</sup>		N	$J^{\pi}$ : L(p,t)=2.
3725.2 <sup>c</sup> 15	2 <sup>+</sup>		N	$J^{\pi}$ : L(p,t)=2.
3734.4 <sup>c</sup> 10	0 <sup>+</sup>		N	$J^{\pi}$ : L(p,t)=0.
3737	1		H	$T_{1/2}$ : 60 fs 17 if level deexcites to g.s. only.
3739.0 <sup>b</sup> 16	(2 <sup>-</sup> ,3,4 <sup>+</sup> )		E	$J^{\pi}$ : 2918 $\gamma$ to 2 <sup>+</sup> 821; 2645 $\gamma$ to 4 <sup>-</sup> 1094.
3740.4 <sup>c</sup> 15	2 <sup>+</sup>		N	$J^{\pi}$ : L(p,t)=2.
3745	1(-)	5.3 fs 8	H	K=(0) (1996Ma18) from ( $\gamma,\gamma'$ ).
3755.4 <sup>b</sup> 16			E	$J^{\pi}$ : 2860 $\gamma$ to 3 <sup>+</sup> 896.
3760.1 <sup>c</sup> 10	0 <sup>+</sup>		N	$J^{\pi}$ : L(p,t)=0.
3761.6 <sup>b</sup> 16	( $\leq 4$ )		E	$J^{\pi}$ : 2940 $\gamma$ to 2 <sup>+</sup> 821.
3776	1(+) )	27 fs 5	H	K=1 (1996Ma18) from ( $\gamma,\gamma'$ ).
3781.7 <sup>b</sup> 16	(4 <sup>+</sup> ,5,6 <sup>+</sup> )		E	$J^{\pi}$ : 3518 $\gamma$ to 4 <sup>+</sup> 264; 3233 $\gamma$ to 6 <sup>+</sup> 549.
3789	1		H	$T_{1/2}$ : 29 fs 7 if level deexcites to g.s. only.
3789.5 <sup>c</sup> 15	2 <sup>+</sup>		N	$J^{\pi}$ : L(p,t)=2.
3799.4 <sup>b</sup> 16			E	$J^{\pi}$ : 3251 $\gamma$ to 6 <sup>+</sup> 549.
3800	1(-)	12 fs 3	H	K=0 (1996Ma18) from ( $\gamma,\gamma'$ ).
3806	1+	7.0 fs 11	H	K=1 (1996Ma18).
3808.5 <sup>c</sup> 15	2 <sup>+</sup>		N	$J^{\pi}$ : L(p,t)=2.
3814	1(-)	10.3 fs 19	H	

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**Adopted Levels, Gammas (continued)**

<sup>168</sup> Er Levels (continued)					
E(level) <sup>†</sup>	J <sup>π</sup> <sup>‡</sup>	T <sub>1/2</sub> <sup>#</sup>	XREF		Comments
3817.0 <sup>b</sup> 16	(≤4)		E		J <sup>π</sup> : 2996γ to 2 <sup>+</sup> 821.
3819.4 <sup>c</sup> 15	2 <sup>+</sup>			N	J <sup>π</sup> : L(p,t)=2.
3835.2 <sup>b</sup> 16			E		J <sup>π</sup> : 3571γ to 4 <sup>+</sup> 264.
3861.9 <sup>c</sup> 15	2 <sup>+</sup>			N	J <sup>π</sup> : L(p,t)=2.
3868.7 <sup>c</sup> 15	2 <sup>+</sup>			N	J <sup>π</sup> : L(p,t)=2.
3869	1		H		T <sub>1/2</sub> : 48 fs 9 if level deexcites to g.s. only.
3876.3 <sup>c</sup> 15	2 <sup>+</sup>			N	J <sup>π</sup> : L(p,t)=2.
3888.4 <sup>b</sup> 16			E		J <sup>π</sup> : 2993γ to 3 <sup>+</sup> 896.
3895.2 <sup>b</sup> 16			E		J <sup>π</sup> : 3631γ to 4 <sup>+</sup> 264.
3908.3 <sup>b</sup> 16			E		J <sup>π</sup> : 3644γ to 4 <sup>+</sup> 264.
3912	1		H		T <sub>1/2</sub> : 44 fs 9 if level deexcites to g.s. only.
3921	1 <sup>(-)</sup>	22 fs 5	H	N	K=1 (1996Ma18) from (γ,γ').
3928.9 <sup>c</sup> 10	0 <sup>+</sup>			N	J <sup>π</sup> : L(p,t)=0.
3933.0 <sup>c</sup> 15	2 <sup>+</sup>			N	J <sup>π</sup> : L(p,t)=2.
3960 <sup>c</sup>				N	E(level): from (p,t).
3964.9 <sup>c</sup> 15	2 <sup>+</sup>			N	J <sup>π</sup> : L(p,t)=2.
3993 <sup>c</sup>				N	E(level): from (p,t).
4033.5 <sup>c</sup> 15	2 <sup>+</sup>			N	J <sup>π</sup> : L(p,t)=2.
4055.9 <sup>c</sup> 15	2 <sup>+</sup>			N	J <sup>π</sup> : L(p,t)=2.
4069 <sup>c</sup>				N	E(level): from (p,t).
4075.6 <sup>c</sup> 15	2 <sup>+</sup>			N	J <sup>π</sup> : L(p,t)=2.

<sup>†</sup> From least-squares fit to E<sub>γ</sub>, 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 E<sub>γ</sub> fits their placement particularly poorly. Nevertheless, 24 of the remaining E<sub>γ</sub> 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.

<sup>‡</sup> Nilsson analysis of angular distributions and configuration strengths in <sup>167</sup>Er(d,p), (t,d), except where noted.

<sup>#</sup> From radiative widths in <sup>168</sup>Er(γ,γ), (γ,γ'), except where noted. T<sub>1/2</sub> for E(level)=2363 and higher may be upper limits since Γ<sub>γ0</sub>/Γ includes only the branch to the 79.8 level in addition to the g.s. branch.

@ From Coulomb excitation.

& From <sup>167</sup>Er(d,p), (t,d).

<sup>a</sup> From <sup>167</sup>Er(n,γ) E=2, 24 keV.

<sup>b</sup> From E<sub>γ</sub> for primary γ feeding level in (n,γ) E=thermal.

<sup>c</sup> From (p,t).

<sup>d</sup> Based on established J<sup>π</sup>=0<sup>+</sup> 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<sup>π</sup> is assigned to members of the 0<sup>+</sup> g.s. band.

<sup>e</sup> Based on established J<sup>π</sup>=2<sup>+</sup> 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<sup>π</sup> is assigned to J≤10 members of the K+2 γ vibration band.

<sup>f</sup> Based on established J<sup>π</sup>=5<sup>-</sup> 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<sup>π</sup> is assigned to all members of the K<sup>π</sup>=4<sup>-</sup> band built on the 1094 level.

<sup>g</sup> Based on established J<sup>π</sup>=5<sup>+</sup> 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<sup>π</sup> is assigned to all members of the K<sup>π</sup>=3<sup>+</sup> band built on the 1654 level.

<sup>h</sup> Band(A): K<sup>π</sup>=0<sup>+</sup> band (2). A=9.9, B=-8.3 (J=0, 2, 4, 6 levels).

<sup>i</sup> Band(B): K<sup>π</sup>=0<sup>+</sup> g.s. band. A=13.3, B=-6.3 (J=0, 2, 4, 6 levels).

<sup>j</sup> Band(C): K<sup>π</sup>=2<sup>+</sup> K+2 γ-vibration band. A=12.5, B=-4.9 (J=2, 3, 4, 5 levels).

<sup>k</sup> Band(D): K<sup>π</sup>=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).

<sup>l</sup> Band(E): K<sup>π</sup>=3<sup>-</sup> band (1). A=9.2, B=3.1 (J=3, 4, 5, 6 levels). Configuration: (ν 7/2[633])-(ν 1/2[521]) (1985Bu12).

Continued on next page (footnotes at end of table)



**Adopted Levels, Gammas (continued)** $^{168}\text{Er}$  Levels (continued)

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

**Adopted Levels, Gammas (continued)**

E <sub>i</sub> (level)	J <sub>i</sub> <sup>π</sup>	$\gamma(^{168}\text{Er})$							Comments
		E <sub>γ</sub> <sup>†</sup>	I <sub>γ</sub> <sup>‡</sup>	E <sub>f</sub>	J <sub>f</sub> <sup>π</sup>	Mult. <sup>†</sup>	δ <sup>†</sup>	α <sup>f</sup>	
79.804	2 <sup>+</sup>	79.804 1	100	0.0	0 <sup>+</sup>	E2		7.04	B(E2)(W.u.)=213 4
264.0888	4 <sup>+</sup>	184.285 1	100	79.804	2 <sup>+</sup>	E2		0.331	B(E2)(W.u.)=319 9
548.7470	6 <sup>+</sup>	284.655 2	100	264.0888	4 <sup>+</sup>	E2		0.0811	B(E2)(W.u.)=424 18
821.1685	2 <sup>+</sup>	557.079 3	1.74 <sup>d</sup> 8	264.0888	4 <sup>+</sup>	E2 <sup>c</sup>		0.01252	B(E2)(W.u.)=0.61 4
		741.356 3	100 <sup>d</sup> 2	79.804	2 <sup>+</sup>	E2+M1 <sup>b</sup>	>25 <sup>b#</sup>	0.00639 9	B(M1)(W.u.)<1.6×10 <sup>-5</sup> ; B(E2)(W.u.)>8.0
		821.164 5	93.6 <sup>d</sup> 4	0.0	0 <sup>+</sup>	E2		0.00510 8	B(E2)(W.u.)=4.68 16
895.7947	3 <sup>+</sup>	74.626 3	0.04 1	821.1685	2 <sup>+</sup>	M1+E2	+1.42 +4-5	8.35 13	B(M1)(W.u.)=0.0018 +5-7; B(E2)(W.u.)=3.1×10 <sup>2</sup> +8-12 δ: sign from γγ(θ) (1996Al31) in ε decay; magnitude from L1/L3 in (n,γ) E=thermal (1980Sc15).
		631.703 3	18.1 <sup>d</sup> 2	264.0888	4 <sup>+</sup>	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 <sup>d</sup> 2	79.804	2 <sup>+</sup>	M1+E2	+17.7& 23	0.00518 8	B(M1)(W.u.)=3.4×10 <sup>-5</sup> +9-13; B(E2)(W.u.)=7.4 +5-21
928.3029	8 <sup>+</sup>	379.545 3	100	548.7470	6 <sup>+</sup>	E2		0.0346	B(E2)(W.u.)=354 13
994.7474	4 <sup>+</sup>	(98.95)		895.7947	3 <sup>+</sup>				B(E2)(W.u.)=505 +122-40 B(E2)(W.u.): From measured B(E2) in Coulomb excitation. E <sub>γ</sub> : 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 <sup>d</sup> 5	821.1685	2 <sup>+</sup>	E2		0.406	B(E2)(W.u.)=92 20
		445.995 4	1.1 <sup>d</sup> 1	548.7470	6 <sup>+</sup>	[E2]		0.0222	B(E2)(W.u.)=1.13 25
		730.660 2	100 <sup>d</sup> 2	264.0888	4 <sup>+</sup>	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 γ(θ) in (n,n'γ); Δπ from ce data in (n,γ).
1094.0383	4 <sup>-</sup>	914.944 6	59.1 <sup>d</sup> 3	79.804	2 <sup>+</sup>	E2		0.00404 6	B(E2)(W.u.)=1.7 4
		99.289 2	7.77 <sup>d</sup> 8	994.7474	4 <sup>+</sup>	E1+M2 <sup>b</sup>	-0.06 <sup>b</sup> 5	0.43 23	B(E1)(W.u.)=1.2×10 <sup>-7</sup> 3; B(M2)(W.u.)=0.20 +34-20
		198.241 1	100 <sup>d</sup> 2	895.7947	3 <sup>+</sup>	E1+M2 <sup>b</sup>	-0.12 <sup>b</sup> 3	0.084 18	B(E1)(W.u.)=1.94×10 <sup>-7</sup> 8; B(M2)(W.u.)=0.33 17
		272.876 2	0.17 <sup>d</sup> 1	821.1685	2 <sup>+</sup>	M2		0.754	B(M2)(W.u.)=0.0079 6
		829.958 7	12.8 <sup>d</sup> 1	264.0888	4 <sup>+</sup>	E1+M2 <sup>b</sup>	-0.05 <sup>b</sup> 3	0.00201 10	B(E1)(W.u.)=3.43×10 <sup>-10</sup> 10; B(M2)(W.u.)=6×10 <sup>-6</sup> +7-6
1117.5703	5 <sup>+</sup>	1014.11 4	0.135 <sup>d</sup> 5	79.804	2 <sup>+</sup>	M2+E3 <sup>b</sup>	-0.55 <sup>b</sup> 2	0.01304 21	B(M2)(W.u.)=6.8×10 <sup>-6</sup> 4; B(E3)(W.u.)=0.00142 11
		122.821 1	0.38 6	994.7474	4 <sup>+</sup>	M1+E2	1.57 +7-9	1.434 21	B(M1)(W.u.)=0.0044 +9-17; B(E2)(W.u.)=3.4×10 <sup>2</sup> +7-13
		221.775 2	3.6 3	895.7947	3 <sup>+</sup>	E2		0.179	B(E2)(W.u.)=2.4×10 <sup>2</sup> +4-9
		568.821 6	16.2 8	548.7470	6 <sup>+</sup>	E2+M1	3.6 3	0.01284 25	B(M1)(W.u.)=0.00047 +10-18; B(E2)(W.u.)=8.9 +11-31
1193.0251	5 <sup>-</sup>	853.473 6	100 9	264.0888	4 <sup>+</sup>	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
		75.466 7	0.28 8	1117.5703	5 <sup>+</sup>	E1		0.682	B(E1)(W.u.)=4.4×10 <sup>-7</sup> 15 Mult.: from α(K)exp in ε decay.
		98.982 2	100 15	1094.0383	4 <sup>-</sup>	E2		3.06	B(E2)(W.u.)=330 80 E <sub>γ</sub> ,I <sub>γ</sub> : possibly includes contribution from an expected γ from 995 level.

## Adopted Levels, Gammas (continued)

$\gamma(^{168}\text{Er})$ (continued)									
$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult. <sup>†</sup>	$\delta^\dagger$	$\alpha^f$	Comments
1193.0251	5 <sup>-</sup>	644.277 5	11.0 13	548.7470	6 <sup>+</sup>	E1		0.00324 5	B(E1)(W.u.)=2.8×10 <sup>-8</sup> 6 Other I $\gamma$ : 8.2 14 in $\varepsilon$ decay.
		928.935 5	53.0 20	264.0888	4 <sup>+</sup>	E1		1.57×10 <sup>-3</sup>	B(E1)(W.u.)=4.5×10 <sup>-8</sup> 8 Other I $\gamma$ : 41.8 11 in $\varepsilon$ decay, 40 5 in $\beta^-$ decay.
1217.169	0 <sup>+</sup>	1137.357 16 1217.1	100	79.804	2 <sup>+</sup>	E2		0.00259 4	E $\gamma$ ,Mult.: from $\varepsilon$ decay.
1263.9047	6 <sup>+</sup>	146.331 7	0.78 16	1117.5703	5 <sup>+</sup>	M1+E2	1.9 +4-3	0.784 19	B(M1)(W.u.)=0.0019 8; B(E2)(W.u.)=1.5×10 <sup>2</sup> 4
		269.161 2	17.8 13	994.7474	4 <sup>+</sup>	E2		0.0964	B(E2)(W.u.)=202 22
		335.589 3	0.77 14	928.3029	8 <sup>+</sup>	[E2]		0.0494	B(E2)(W.u.)=2.9 6
		715.163 6	100 4	548.7470	6 <sup>+</sup>	M1+E2	3.0 +16-6	0.00720 19	B(M1)(W.u.)=0.0009 9; B(E2)(W.u.)=7.7 11 Other $\delta$ : -1.7 +3-9 or -50 +150-20 from (n,n' $\gamma$ ).
1276.2716	2 <sup>+</sup>	999.827 11 (59.17)	54 3 0.15 8	264.0888	4 <sup>+</sup>	E2		0.00336 5	B(E2)(W.u.)=0.87 9
				1217.169	0 <sup>+</sup>	[E2]		24.4	E $\gamma$ ,I $\gamma$ : E $\gamma$ from level energy difference. Unobserved $\gamma$ needed for intensity balance at the 1217 level in $\varepsilon$ decay.
		380.479 5	2.7 6	895.7947	3 <sup>+</sup>				
		455.096 3	5.4 8	821.1685	2 <sup>+</sup>				
		1012.190 10 1196.513 20	100 4 57 3	264.0888 79.804	4 <sup>+</sup> 2 <sup>+</sup>	E2 M1+E2(+E0)	-5.0 +19-26	0.00328 5	B(E2)(W.u.)=2.2 +8-22 B(M1)(W.u.)=0.0016 +6-16 Other I $\gamma$ : 38 10 from $\beta^-$ decay. Mult., $\delta$ : D+Q with $\delta$ =-5.0 +19-26 from (n,n' $\gamma$ ). $\alpha$ (K)exp in (n, $\gamma$ ) and $\varepsilon$ decay is consistent with pure M1 but allows small E0 component; 1999Wo07 estimate $\rho^2$ =0.8×10 <sup>-3</sup> 8.
1311.4606	6 <sup>-</sup>	1276.27 3 118.437 1	54 7 27.8 13	0.0	0 <sup>+</sup>	E2		0.00208 3	B(E2)(W.u.)=0.37 +14-37
				1193.0251	5 <sup>-</sup>	E2		1.568	I $\gamma$ : weighted average of 28.7 19 from <sup>170</sup> Er( <sup>136</sup> Xe,X $\gamma$ ), 28.2 22 from 1991DaZT in (n, $\gamma$ ) E=thermal and 25 3 from (n,n' $\gamma$ ). Other: 20.6 8 (2007ChZX, Budapest data) in (n, $\gamma$ ) E=thermal.
1358.899	1 <sup>-</sup>	193.888 1	1.8 3	1117.5703	5 <sup>+</sup>				
		217.422 1	100 4	1094.0383	4 <sup>-</sup>	E2		0.191	
		762.75 4	0.50 17	548.7470	6 <sup>+</sup>				
1358.899	1 <sup>-</sup>	537.76 6	0.88 18	821.1685	2 <sup>+</sup>				E $\gamma$ ,I $\gamma$ : from $\varepsilon$ decay.
		1279.100 23	100 <sup>d</sup> 6	79.804	2 <sup>+</sup>	E1			E $\gamma$ ,I $\gamma$ : from $\varepsilon$ decay.
1396.826	10 <sup>+</sup>	1358.904 14	28.8 15	0.0	0 <sup>+</sup>				E $\gamma$ ,I $\gamma$ : from $\varepsilon$ decay.
		468.529 5	100	928.3029	8 <sup>+</sup>	[E2]		0.0195	B(E2)(W.u.)=308 13

**Adopted Levels, Gammas (continued)**

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

$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult. <sup>†</sup>	$\delta^\dagger$	$\alpha^f$	Comments
1403.7357	(2) <sup>-</sup>	507.936 3	3.2 4	895.7947	3 <sup>+</sup>				
		582.567 3	31.9 20	821.1685	2 <sup>+</sup>	E1		0.00401 6	
		1323.913 20	100 4	79.804	2 <sup>+</sup>	E1			$\delta(\text{D,Q})=+0.05 +11-6$ from (n,n' $\gamma$ ).
1411.0959	4 <sup>+</sup>	134.824 1	5.8 13	1276.2716	2 <sup>+</sup>				
		293.523 2	1.05 21	1117.5703	5 <sup>+</sup>	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 <sup>+</sup>	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 <sup>+</sup>	E2		0.01522	B(E2)(W.u.)<23
		589.913 8	3.2 5	821.1685	2 <sup>+</sup>	E2		0.01088	B(E2)(W.u.)<1.9
		862.355 11	81 4	548.7470	6 <sup>+</sup>	E2		0.00459 7	B(E2)(W.u.)<7.2
		1146.998 9	67 4	264.0888	4 <sup>+</sup>	M1		0.00443 7	B(M1)(W.u.)<0.0040
		1331.324 15	100 8	79.804	2 <sup>+</sup>	E2		0.00193 3	B(E2)(W.u.)<1.0
1422.12	0 <sup>+</sup>	205.1		1217.169	0 <sup>+</sup>	E0			$E_\gamma$ ,Mult.: from $\epsilon$ decay.
		1342.44 7	100	79.804	2 <sup>+</sup>	E2		0.00190 3	
		1422.2		0.0	0 <sup>+</sup>	E0			$E_\gamma$ ,Mult.: from $\epsilon$ decay.
1431.466	3 <sup>-</sup>	535.642 <sup>g</sup> 21	<0.41 <sup>g</sup>	895.7947	3 <sup>+</sup>	[E1]		0.00480 7	B(E1)(W.u.)=3.62 $\times 10^{-8}$
		1167.396 15	100 8	264.0888	4 <sup>+</sup>	E1		1.04 $\times 10^{-3}$	B(E1)(W.u.)=1.70 $\times 10^{-6}$
		1351.54 4	99 4	79.804	2 <sup>+</sup>	E1		8.93 $\times 10^{-4}$	B(E1)(W.u.)=1.09 $\times 10^{-6}$
		1431.7 <sup>d</sup> 4	0.50 <sup>d</sup> 18	0.0	0 <sup>+</sup>	[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 <sup>+</sup>	169.043 3	1.07 21	1263.9047	6 <sup>+</sup>	M1+E2	1.5 +4-2	0.505 20	B(E2)(W.u.)=198 +87-183 $\delta$ : estimate from (n, $\gamma$ ) E=thermal based on Alaga rule. B(E2) $\downarrow$ : From measured B(E2) in Coulomb excitation.
		315.383 3	37.2 24	1117.5703	5 <sup>+</sup>	E2		0.0594	B(E2)(W.u.)=380 +14-176 B(E2) $\downarrow$ : From measured B(E2) in Coulomb excitation.
		504.644 4	14.1 17	928.3029	8 <sup>+</sup>	M1+E2	<0.22	0.0337 7	B(E2)(W.u.)=17 +14-7 Mult., $\delta$ : $\alpha(\text{K})\text{exp}$ in (n, $\gamma$ ) E=thermal implies $\delta$ <0.22, but measured B(E2) requires nonzero E2 component. B(E2) $\downarrow$ : From measured B(E2) in Coulomb excitation.
		884.219 9	100 10	548.7470	6 <sup>+</sup>	M1+E2	1.3 +8-4	0.0058 8	B(E2)(W.u.)=12 +7-5 B(E2) $\downarrow$ : From measured B(E2) in Coulomb excitation.
1448.9555	7 <sup>-</sup>	137.494 1	14.0 22	1311.4606	6 <sup>-</sup>	E2		0.916	$I_\gamma$ : unweighted average of 11.5 14 from 1991DaZT in (n, $\gamma$ ) E=thermal and 16.1 13 from <sup>170</sup> Er( <sup>136</sup> Xe,X $\gamma$ ). Other $I_\gamma$ : 16.2 25 (2007ChZX) from (n, $\gamma$ ) E=thermal for probable doublet.

## Adopted Levels, Gammas (continued)

$\gamma(^{168}\text{Er})$ (continued)									
$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult. <sup>†</sup>	$\delta^\ddagger$	$\alpha^f$	Comments
1448.9555	7 <sup>-</sup>	185.056 5	0.72 16	1263.9047	6 <sup>+</sup>			0.1130	
		255.929 1	100 4	1193.0251	5 <sup>-</sup>	E2			
		520.667 9	1.6 3	928.3029	8 <sup>+</sup>				
		900.206 15	13.5 18	548.7470	6 <sup>+</sup>				
1493.133	2 <sup>+</sup>	70.9		1422.12	0 <sup>+</sup>	(E2)		11.35	$E_\gamma, \text{Mult.}$ : from L2/L3 in $\varepsilon$ decay.
		498.46 6	1.4 5	994.7474	4 <sup>+</sup>				
		597.327 7	5.5 10	895.7947	3 <sup>+</sup>				
		671.961 9	6.7 12	821.1685	2 <sup>+</sup>				
		1229.080 15	100 7	264.0888	4 <sup>+</sup>	E2			
		1413.317 23	84 6	79.804	2 <sup>+</sup>	M1+E2	+0.7 4		
1541.5564	3 <sup>-</sup>	1493.09 8	22 4	0.0	0 <sup>+</sup>	E2		$1.59 \times 10^{-3}$	$E_\gamma, \text{Mult.}$ : from $\varepsilon$ decay. B(E2)(W.u.)=2.02 B(M1)(W.u.)=0.0167; B(E2)(W.u.)=0.31 7 B(E1)(W.u.)= $1.03 \times 10^{-5}$ ; B(M2)(W.u.)=0.008 +51-8 B(E1)(W.u.)= $3.53 \times 10^{-6}$ Other I $\gamma$ : 8.2 11 from $\beta^-$ decay, 17 3 from (n, $\gamma$ ) E=thermal. B(E1)(W.u.)= $2.07 \times 10^{-5}$ ; B(M2)(W.u.)=0.03 +5-3 B(E1)(W.u.)= $5.1 \times 10^{-7}$ ; B(M2)(W.u.)=0.0023 21 B(E1)(W.u.)= $5.0 \times 10^{-8}$ B(E3)(W.u.)=0.230
		110.2 <sup>i</sup>		1431.466	3 <sup>-</sup>	M1(+E2)		2.10 7	
		348.523 2	1.48 <sup>d</sup> 3	1193.0251	5 <sup>-</sup>	E2		0.0442	
		447.515 3	100 <sup>d</sup> 2	1094.0383	4 <sup>-</sup>	M1+E2 <sup>b</sup>	-0.09 <sup>b</sup> 1	0.0463	
		546.802 5	11.1 <sup>d</sup> 2	994.7474	4 <sup>+</sup>	E1(+M2) <sup>b</sup>	+0.007 <sup>b</sup> 23	0.00460 10	
		645.775 15	6.26 <sup>d</sup> 6	895.7947	3 <sup>+</sup>	E1		0.00323 5	
		720.392 5	51.0 <sup>d</sup> 5	821.1685	2 <sup>+</sup>	E1+M2 <sup>b</sup>	-0.012 <sup>b</sup> 10	0.00259 4	
		1277.451 <sup>d</sup> 5	7.04 <sup>d</sup> 7	264.0888	4 <sup>+</sup>	E1+M2 <sup>b</sup>	-0.040 <sup>b</sup> 18	$9.47 \times 10^{-4}$ 19	
		1461.750 <sup>d</sup> 4	1.03 <sup>d</sup> 1	79.804	2 <sup>+</sup>	[E1]		$8.66 \times 10^{-4}$ 13	
		1541.46 25	0.0096 <sup>d</sup> 5	0.0	0 <sup>+</sup>	[E3]		0.00282 4	
1541.7094	(4) <sup>-</sup>	110.245 4	0.31 6	1431.466	3 <sup>-</sup>			0.904	
		137.974 4	1.6 3	1403.7357	(2) <sup>-</sup>	E2			
		546.960 5	28 6	994.7474	4 <sup>+</sup>	[E1]			
		645.939 11	17 3	895.7947	3 <sup>+</sup>	[E1]			
		1277.592 20	100 13	264.0888	4 <sup>+</sup>	E1			
1569.4527	(2) <sup>-</sup>	27.80		1541.5564	3 <sup>-</sup>	M1,E2		$5 \times 10^2$ 5	$E_\gamma, \text{Mult.}$ : from $\varepsilon$ decay.
		165.3		1403.7357	(2) <sup>-</sup>	M1(+E2)		0.58 11	$E_\gamma, \text{Mult.}$ : from $\varepsilon$ decay.
		673.666 4	38 <sup>d</sup> 2	895.7947	3 <sup>+</sup>	E1		0.00296 5	B(E1)(W.u.)=0.00046 +9-13
		748.281 4	100 <sup>d</sup> 2	821.1685	2 <sup>+</sup>	E1		0.00239 4	B(E1)(W.u.)=0.00089 +17-23
		1489.66 <sup>d</sup> 3	0.50 <sup>d</sup> 3	79.804	2 <sup>+</sup>				
1574.117	5 <sup>-</sup>	1569.5 <sup>d</sup> 4	0.005 <sup>d</sup> 2	0.0	0 <sup>+</sup>	[M2]		$1.31 \times 10^{-3}$	B(M2)(W.u.)=0.009 +4-5
		1025.377 11	58 4	548.7470	6 <sup>+</sup>	E1			

**Adopted Levels, Gammas (continued)**

$\gamma(^{168}\text{Er})$ (continued)									
$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult. <sup>†</sup>	$\delta^\ddagger$	$\alpha^f$	Comments
1574.117	5 <sup>-</sup>	1310.030 8	100 4	264.0888	4 <sup>+</sup>	E1		9.14×10 <sup>-4</sup> 13	
1605.8503	8 <sup>-</sup>	156.884 4	7.1 8	1448.9555	7 <sup>-</sup>				$I_\gamma$ : weighted average of 7.4 9 from <sup>170</sup> Er( <sup>136</sup> Xe,X $\gamma$ ) and 4.9 24 from (n, $\gamma$ ) E=thermal.
1615.3420	4 <sup>-</sup>	294.390 2	100	1311.4606	6 <sup>-</sup>	E2		0.0731	
		73.784 3	3.6 8	1541.5564	3 <sup>-</sup>	M1+E2	0.11 +3-2	6.87	
		303.878 4	0.93 15	1311.4606	6 <sup>-</sup>				
		422.318 4	100 4	1193.0251	5 <sup>-</sup>	M1		0.0540	
		497.768 6	17.9 23	1117.5703	5 <sup>+</sup>	E1		0.00564 8	
		521.303 3	13.9 19	1094.0383	4 <sup>-</sup>	M1+E2	1.1 +9-5	0.022 5	
		620.590 17	3.6 5	994.7474	4 <sup>+</sup>				
1616.8060	6 <sup>+</sup>	719.550 5	72 8	895.7947	3 <sup>+</sup>	E1+M2	-0.007 4	0.00259 4	$\delta$ : from $\gamma\gamma(\theta)$ in $\varepsilon$ decay.
		1351.2 <sup>d</sup>	$\approx 3.9^d$	264.0888	4 <sup>+</sup>				
		205.710 1	27 4	1411.0959	4 <sup>+</sup>	E2		0.229	
		352.900 3	7.7 9	1263.9047	6 <sup>+</sup>	M1+E2		0.065 22	
		499.233 3	15.2 18	1117.5703	5 <sup>+</sup>	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 <sup>+</sup>	E2		0.00958 14	B(E2)(W.u.)<2.2
		688.538 20	8.0 23	928.3029	8 <sup>+</sup>	[E2]			B(E2)(W.u.)<1.5
		1068.079 13	100 16	548.7470	6 <sup>+</sup>	M1		0.00526 8	B(M1)(W.u.)<0.0050
		1352.53 13	$\approx 38$	264.0888	4 <sup>+</sup>	E2		0.00187 3	B(E2)(W.u.)<0.24
									$I_\gamma$ : estimate from $I_\gamma(1351.2\gamma)/I_\gamma(422.3\gamma)$ for 1615.3 level in <sup>168</sup> Tm $\varepsilon$ decay and $I_\gamma(1352.5\gamma)/I_\gamma(1068.1\gamma)$ for 1616.8 level in <sup>167</sup> Er(n, $\gamma$ ) E=thermal.
1624.507	8 <sup>+</sup>	191.555 10	1.4 7	1432.9508	7 <sup>+</sup>	[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 <sup>+</sup>	[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 <sup>+</sup>	E2		0.0401	B(E2)(W.u.)=70 30
		696.132 28	32 10	928.3029	8 <sup>+</sup>	[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 <sup>+</sup>	[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 <sup>-</sup> ,5 <sup>-</sup> ,6 <sup>-</sup>	436.672 5	100 22	1193.0251	5 <sup>-</sup>	M1		0.0495	
		535.642 <sup>g</sup> 21	<30 <sup>g</sup>	1094.0383	4 <sup>-</sup>				
1633.4627	3 <sup>-</sup>	64.0		1569.4527	(2) <sup>-</sup>	(E2)		17.36	$E_\gamma$ : from $\varepsilon$ decay. Mult.: from L2/L3 in $\varepsilon$ decay.

**Adopted Levels, Gammas (continued)**

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

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

## Adopted Levels, Gammas (continued)

E <sub>i</sub> (level)	J <sub>i</sub> <sup>π</sup>	γ( <sup>168</sup> Er) (continued)							Comments
		E <sub>γ</sub> <sup>†</sup>	I <sub>γ</sub> <sup>‡</sup>	E <sub>f</sub>	J <sub>f</sub> <sup>π</sup>	Mult. <sup>†</sup>	δ <sup>†</sup>	α <sup>f</sup>	
1736.6881	4 <sup>+</sup>	1656.848 <sup>g</sup> 9	<7.4 <sup>g</sup>	79.804	2 <sup>+</sup>				
1760.760	(6) <sup>-</sup>	186.644 3	1.5 3	1574.117	5 <sup>-</sup>				
		219.050 2	17.4 23	1541.7094	(4) <sup>-</sup>				
		496.858 4	11.9 16	1263.9047	6 <sup>+</sup>				
		643.181 8	37 4	1117.5703	5 <sup>+</sup>	E1		0.00325 5	
		1212.045 20	100 13	548.7470	6 <sup>+</sup>	E1		9.92×10 <sup>-4</sup> 14	
1773.205	(6) <sup>-</sup>	324.256 14	1.39 21	1448.9555	7 <sup>-</sup>				
		461.739 3	33 5	1311.4606	6 <sup>-</sup>	M1		0.0429	
		580.176 4	100 6	1193.0251	5 <sup>-</sup>	M1		0.0239	
		679.180 5	73 7	1094.0383	4 <sup>-</sup>				
1780.00	9 <sup>-</sup>	173.9 2	<10	1605.8503	8 <sup>-</sup>				E <sub>γ</sub> , I <sub>γ</sub> : from <sup>170</sup> Er( <sup>136</sup> Xe, Xγ).
		331.3 2	100	1448.9555	7 <sup>-</sup>				E <sub>γ</sub> , I <sub>γ</sub> : from <sup>170</sup> Er( <sup>136</sup> Xe, Xγ).
1786.123	1 <sup>-</sup>	1706.37 8	100 14	79.804	2 <sup>+</sup>	E1		8.86×10 <sup>-4</sup> 13	B(E1)(W.u.)=0.0091 20
		1786.20 8	41 9	0.0	0 <sup>+</sup>	E1		9.06×10 <sup>-4</sup> 13	B(E1)(W.u.)=0.0032 9
1795.325	(7 <sup>-</sup> )	867.014 11	88 12	928.3029	8 <sup>+</sup>				
		1246.70 5	100 29	548.7470	6 <sup>+</sup>				
1812.5	(2 <sup>+</sup> , 3, 4 <sup>+</sup> )	817.7 <sup>e</sup>		994.7474	4 <sup>+</sup>				
		916.7 <sup>e</sup>		895.7947	3 <sup>+</sup>				
		991.3 <sup>e</sup>		821.1685	2 <sup>+</sup>				
1820.1321	6 <sup>-</sup>	112.139 1	28 3	1707.9929	5 <sup>-</sup>	M1+E2		1.98 8	
		204.790 1	11 3	1615.3420	4 <sup>-</sup>				
		371.173 3	100 8	1448.9555	7 <sup>-</sup>	M1		0.0757	
		387.191 6	7.5 17	1432.9508	7 <sup>+</sup>				
		508.679 5	13.9 23	1311.4606	6 <sup>-</sup>				
		627.104 6	32 5	1193.0251	5 <sup>-</sup>				
		702.576 6	50 8	1117.5703	5 <sup>+</sup>	E1		0.00271 4	
		726.16 4	4.1 12	1094.0383	4 <sup>-</sup>				
1820.476	5 <sup>-</sup>	187.01 3	0.27 7	1633.4627	3 <sup>-</sup>				
		556.571 4	40 7	1263.9047	6 <sup>+</sup>	E1		0.00442 7	
		702.914 6	21.3 25	1117.5703	5 <sup>+</sup>				
		825.729 7	100 8	994.7474	4 <sup>+</sup>	E1		0.00197 3	
1828.0639	3 <sup>-</sup>	212.720 2	2.4 4	1615.3420	4 <sup>-</sup>	M1		0.339	B(M1)(W.u.)=0.030 +9-13
		286.509 4	21.2 17	1541.5564	3 <sup>-</sup>	M1		0.1509	B(M1)(W.u.)=0.11 +3-5
		424.329 <sup>g</sup> 4	<7.9 <sup>g</sup>	1403.7357	(2) <sup>-</sup>				
		469.168 5	13.2 13	1358.899	1 <sup>-</sup>	E2		0.0194	B(E2)(W.u.)=32 +9-13
		833.294 9	59 9	994.7474	4 <sup>+</sup>	E1		0.00193 3	B(E1)(W.u.)=0.00012 +4-6
		932.269 9	100 5	895.7947	3 <sup>+</sup>	E1		1.56×10 <sup>-3</sup> 2	B(E1)(W.u.)=0.00015 +4-6
		1006.91 3	22 4	821.1685	2 <sup>+</sup>	E1		1.35×10 <sup>-3</sup> 2	B(E1)(W.u.)=2.6×10 <sup>-5</sup> +8-12
1833.54	0 <sup>+</sup>	1753.73 11	100	79.804	2 <sup>+</sup>	E2		1.30×10 <sup>-3</sup> 2	
1839.3474	5 <sup>+</sup>	102.659 1	3.8 7	1736.6881	4 <sup>+</sup>	M1+E2	1.3 +10-5	2.65	



## Adopted Levels, Gammas (continued)

$\gamma(^{168}\text{Er})$ (continued)									
$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult. <sup>†</sup>	$\delta^\dagger$	$\alpha^f$	Comments
1839.3474	5 <sup>+</sup>	120.170 8	1.28 20	1719.1786	4 <sup>-</sup>				
		185.797 2	4.5 8	1653.5486	3 <sup>+</sup>	E2		0.322	
		265.233 6	0.22 7	1574.117	5 <sup>-</sup>				
		297.640 3	0.83 15	1541.7094	(4) <sup>-</sup>				
		527.884 3	100 5	1311.4606	6 <sup>-</sup>	E1		0.00496 7	
		721.71 3	4.7 13	1117.5703	5 <sup>+</sup>				
		745.293 10	9.8 15	1094.0383	4 <sup>-</sup>				
		844.614 15	11.0 12	994.7474	4 <sup>+</sup>	M1		0.00933 13	
		1575.11 17	8 3	264.0888	4 <sup>+</sup>				
		1848.354	2 <sup>+</sup>	194.821 7	0.62 17	1653.5486	3 <sup>+</sup>		
214.865 17	0.67 17			1633.4627	3 <sup>-</sup>				
278.860 23	0.88 21			1569.4527	(2) <sup>-</sup>				
355.215 8	2.0 3			1493.133	2 <sup>+</sup>				
572.068 14	4.6 13			1276.2716	2 <sup>+</sup>				
952.611 15	29 6			895.7947	3 <sup>+</sup>	M1+E2	0.8 +9-6	0.0057 12	
1027.11 7	17 3			821.1685	2 <sup>+</sup>				
1768.49 7	92 13			79.804	2 <sup>+</sup>	E2		1.29×10 <sup>-3</sup> 2	
1848.31 7	100 21			0.0	0 <sup>+</sup>	E2		1.24×10 <sup>-3</sup> 2	
1881.82				688.79 <sup>g</sup> 3	100 <sup>g</sup>	1193.0251	5 <sup>-</sup>		
1892.9346	(4) <sup>-</sup>	277.589 3	0.49 9	1615.3420	4 <sup>-</sup>				
		699.921 6	7.9 9	1193.0251	5 <sup>-</sup>	M1		0.01487	B(M1)(W.u.)=0.026 4
		775.378 13	1.4 5	1117.5703	5 <sup>+</sup>				
1893.100	2 <sup>+</sup>	798.890 7	100 4	1094.0383	4 <sup>-</sup>	M1		0.01070	B(M1)(W.u.)=0.220 +23-25
		616.827 5	26 5	1276.2716	2 <sup>+</sup>	M1		0.0204	
		675.96 3	3.2 7	1217.169	0 <sup>+</sup>	E2		0.00788 11	
		997.24 3	13.6 23	895.7947	3 <sup>+</sup>	E2		0.00338 5	
		1071.74 13	5.5 16	821.1685	2 <sup>+</sup>				
		1813.29 5	100 10	79.804	2 <sup>+</sup>	M1		1.74×10 <sup>-3</sup> 3	
1896.379	(7) <sup>-</sup>	123.174 1	100	1773.205	(6) <sup>-</sup>	M1+E2	0.25 2	1.556	
1902.696	(6 <sup>+</sup> )	246.422 4	33 5	1656.274	(4) <sup>+</sup>				
		974.42 4	100 22	928.3029	8 <sup>+</sup>				
1905.0922	(4) <sup>-</sup>	1353.7 <sup>i</sup> 3		548.7470	6 <sup>+</sup>				E $\gamma$ and placement from (n,n' $\gamma$ ).
		289.72 3	0.14 3	1615.3420	4 <sup>-</sup>				
		363.540 6	0.31 7	1541.5564	3 <sup>-</sup>				
		712.079 7	6.0 10	1193.0251	5 <sup>-</sup>	M1		0.01425	
1913.92	3 <sup>-</sup>	811.043 8	100 8	1094.0383	4 <sup>-</sup>	M1		0.01031	
		1018.33 17	5.0 14	895.7947	3 <sup>+</sup>				
		1649.77 6	100 12	264.0888	4 <sup>+</sup>	E1		8.75×10 <sup>-4</sup> 13	B(E1)(W.u.)>0.0022
1915.502	(3) <sup>+</sup>	1834.05 9	95 19	79.804	2 <sup>+</sup>	E1		9.21×10 <sup>-4</sup> 13	B(E1)(W.u.)>0.0016
		178.829 23	0.34 9	1736.6881	4 <sup>+</sup>				
		282.043 4	0.43 13	1633.4627	3 <sup>-</sup>				

## Adopted Levels, Gammas (continued)

$\gamma(^{168}\text{Er})$ (continued)										
$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult. <sup>†</sup>	$\delta^\dagger$	$\alpha^f$	Comments	
1915.502	(3) <sup>+</sup>	346.054 10	0.94 21	1569.4527	(2) <sup>-</sup>					
		797.94 10	4.3 13	1117.5703	5 <sup>+</sup>					
		920.78 4	21 9	994.7474	4 <sup>+</sup>	E2		0.00399 6		
		1019.57 7	11.3 17	895.7947	3 <sup>+</sup>					
		1094.43 10	>23	821.1685	2 <sup>+</sup>					
		1651.37 21	14.7 22	264.0888	4 <sup>+</sup>	[M1]		0.00202 3		
		1835.4 5	100 4	79.804	2 <sup>+</sup>			1.24×10 <sup>-3</sup>	$I_\gamma$ : from $I_\gamma=27$ 4 relative to 1835 $\gamma$ doublet in (n, $\gamma$ ) E=thermal. $E_\gamma, I_\gamma$ : from $\beta^-$ decay. $E_\gamma, I_\gamma$ : from $\beta^-$ decay. Mult.: E2 from $\alpha(\text{K})\text{exp}$ in (n, $\gamma$ ) E=thermal for doubly-placed $\gamma$ .	
1930.391	2 <sup>+</sup>	276.843 3	2.5 6	1653.5486	3 <sup>+</sup>					
		1034.49 4	19 4	895.7947	3 <sup>+</sup>	E2		0.00314		
		1109.36 8	16 5	821.1685	2 <sup>+</sup>					
		1850.46 10	100 13	79.804	2 <sup>+</sup>	E2		1.23×10 <sup>-3</sup>		
1936.596	1 <sup>-</sup>	1930.49 12	69 8	0.0	0 <sup>+</sup>	E2		1.20×10 <sup>-3</sup>		
		150.480 10	0.30 10	1786.123	1 <sup>-</sup>					
1947.3	12 <sup>+</sup>	577.690 9	1.7 5	1358.899	1 <sup>-</sup>					
		1936.40 13	100 10	0.0	0 <sup>+</sup>	E1		9.56×10 <sup>-4</sup> 14	B(E1)(W.u.)=0.000125 24	
		551.1 <sup>a</sup> 7	100	1396.826	10 <sup>+</sup>	[E2]		0.01309	B(E2)(W.u.)=345 18 $E_\gamma$ : from level-energy difference. $E_\gamma=547.1$ 5 reported in Coulomb excitation.	
1949.636	(6) <sup>-</sup>	230.461 4	0.90 25	1719.1786	4 <sup>-</sup>					
		516.683 2	37 5	1432.9508	7 <sup>+</sup>					
		685.760 15	14.0 25	1263.9047	6 <sup>+</sup>					
		832.05 4	100 20	1117.5703	5 <sup>+</sup>					
1950.8067	7 <sup>-</sup>	130.675 1	26 5	1820.1321	6 <sup>-</sup>	M1		1.326		
		242.811 3	21 5	1707.9929	5 <sup>-</sup>					
		344.954 3	58 11	1605.8503	8 <sup>-</sup>	M1+E2	1.9 +22-6	0.056 8		
		639.24 4	100 24	1311.4606	6 <sup>-</sup>					
1961.3992	6 <sup>+</sup>	122.049 2	7.2 14	1839.3474	5 <sup>+</sup>					
		140.929 6	1.2 4	1820.476	5 <sup>-</sup>					
		224.712 1	20 3	1736.6881	4 <sup>+</sup>					
		336.881 14	3.5 6	1624.507	8 <sup>+</sup>					
		512.441 2	100 12	1448.9555	7 <sup>-</sup>					
		768.368 11	36 7	1193.0251	5 <sup>-</sup>					
1972.314	(2) <sup>-</sup>	843.83 5	9 4	1117.5703	5 <sup>+</sup>					
		430.731 20	0.44 15	1541.5564	3 <sup>-</sup>					
		1076.524 23	52 11	895.7947	3 <sup>+</sup>	E1		1.19×10 <sup>-3</sup>	B(E1)(W.u.)=0.00040 +16-27	
		1151.19 4	24 7	821.1685	2 <sup>+</sup>					
1975.75	10 <sup>-</sup>	1892.63 9	100 11	79.804	2 <sup>+</sup>					
		369.9 2	100	1605.8503	8 <sup>-</sup>				$E_\gamma$ : from $^{170}\text{Er}(^{136}\text{Xe}, X\gamma)$ .	

Adopted Levels, Gammas (continued)

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

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

## Adopted Levels, Gammas (continued)

$\gamma(^{168}\text{Er})$ (continued)								
$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult. $^\ddagger$	$\alpha^f$	Comments
2031.097	(4) <sup>+</sup>	1135.39 7 1766.99 5 1950.94 15	5.0 21 100 12 14 5	895.7947 264.0888 79.804	3 <sup>+</sup> 4 <sup>+</sup> 2 <sup>+</sup>	M1	0.00180 3	
2038.66	(8) <sup>-</sup>	142.3 2 (265.4)	100 <25	1896.379 1773.205	(7) <sup>-</sup> (6) <sup>-</sup>			$E_\gamma, I_\gamma$ : from $^{170}\text{Er}(^{136}\text{Xe}, X\gamma)$ . $E_\gamma$ : rounded value from level energy difference; $\gamma$ expected but not observed. $I_\gamma$ : from $^{170}\text{Er}(^{136}\text{Xe}, X\gamma)$ .
2055.914	(4) <sup>+</sup>	792.11 <sup>g</sup> 6 862.98 6 938.22 <sup>g</sup> 5 961.875 8 1061.13 5 1160.077 20 1234.760 23	<8.6 <sup>g</sup> 26 7 <6.0 <sup>g</sup> 100 9 23 5 46 10 93 8	1263.9047 1193.0251 1117.5703 1094.0383 994.7474 895.7947 821.1685	6 <sup>+</sup> 5 <sup>-</sup> 5 <sup>+</sup> 4 <sup>-</sup> 4 <sup>+</sup> 3 <sup>+</sup> 2 <sup>+</sup>	[E2] [E1] [M1,E2] E1 [M1,E2] E2 E2	0.00551 8 0.00181 3 0.0055 17 0.00147 2 0.0042 12 0.00249 4 0.00221 3	B(E2)(W.u.)=1.5 +17-15 B(E1)(W.u.)=9×10 <sup>-5</sup> 6 B(E1)(W.u.)=0.00026 14 B(E2)(W.u.)=2.4 13 B(E2)(W.u.)=3.5 18
2059.9751	(4) <sup>-</sup>	154.884 2 167.040 1 231.911 1 351.970 7 444.638 5 518.405 9 965.937 6 445.5 <sup>a</sup>	4.2 9 5.1 7 3.5 7 1.14 18 4.6 9 2.3 5 100 5 100	1905.0922 1892.9346 1828.0639 1707.9929 1615.3420 1541.5564 1094.0383 1624.507	(4) <sup>-</sup> (4) <sup>-</sup> 3 <sup>-</sup> 5 <sup>-</sup> 4 <sup>-</sup> 3 <sup>-</sup> 4 <sup>-</sup> 8 <sup>+</sup>	E2 M1 M1 M1 E2 M1	0.602 0.664 0.0871 0.00671 10 0.0223	B(E2)(W.u.)=225 +44-13 B(E2) <sub>↓</sub> : From measured B(E2) in Coulomb excitation.
2080.457	(4) <sup>+</sup>	150.083 18 241.109 2 669.34 4 986.40 4 1259.27 5 1816.34 6 2000.56 15	0.21 8 1.8 3 8.3 17 25 5 52 10 100 11 40 11	1930.391 1839.3474 1411.0959 1094.0383 821.1685 264.0888 79.804	2 <sup>+</sup> 5 <sup>+</sup> 4 <sup>+</sup> 4 <sup>-</sup> 2 <sup>+</sup> 4 <sup>+</sup> 2 <sup>+</sup>	E2 M1	0.00213 3 0.00173 3	
2089.348	4 <sup>-</sup>	90.104 <sup>g</sup> 5 196.409 6 268.880 7 370.170 6 381.349 3 455.899 8 474.004 5 547.805 7 1825.0 16	<1.15 <sup>g</sup> 1.4 3 2.0 3 26 4 20 3 35 4 100 10 75 12	1999.2239 1892.9346 1820.476 1719.1786 1707.9929 1633.4627 1615.3420 1541.5564 264.0888	(3) <sup>-</sup> (4) <sup>-</sup> 5 <sup>-</sup> 4 <sup>-</sup> 5 <sup>-</sup> 3 <sup>-</sup> 4 <sup>-</sup> 3 <sup>-</sup> 4 <sup>+</sup>	M1 M1 M1 M1	0.0763 0.0705 0.0400 0.0276	
2091.272	(6) <sup>-</sup>	140.457 8 642.324 18	1.2 4 17 5	1950.8067 1448.9555	7 <sup>-</sup> 7 <sup>-</sup>			

Adopted Levels, Gammas (continued)

E <sub>i</sub> (level)	J <sub>i</sub> <sup>π</sup>	E <sub>γ</sub> <sup>†</sup>	I <sub>γ</sub> <sup>‡</sup>	E <sub>f</sub>	J <sub>f</sub> <sup>π</sup>	γ( <sup>168</sup> Er) (continued)		Comments
						Mult. <sup>†</sup>	α <sup>f</sup>	
2091.272	(6) <sup>-</sup>	658.393 24	12 3	1432.9508	7 <sup>+</sup>			
		779.806 6	100 14	1311.4606	6 <sup>-</sup>			
		898.32 3	47 8	1193.0251	5 <sup>-</sup>	M1	0.00802 12	
		973.70 3	27 6	1117.5703	5 <sup>+</sup>			
2097.571	4 <sup>-</sup>	523.480 18	0.97 18	1574.117	5 <sup>-</sup>			
		555.866 17	2.1 8	1541.7094	(4) <sup>-</sup>			
		666.10 4	2.1 8	1431.466	3 <sup>-</sup>			
		979.996 6	66 9	1117.5703	5 <sup>+</sup>	E1	0.00142 2	B(E1)(W.u.)=0.00029 +8-10
		1102.80 5	16 4	994.7474	4 <sup>+</sup>			
		1201.757 21	68 8	895.7947	3 <sup>+</sup>	E1	1.00×10 <sup>-3</sup>	B(E1)(W.u.)=0.00016 +4-6
2100.361	7 <sup>+</sup>	1833.43 10	100 21	264.0888	4 <sup>+</sup>			
		138.956 8	9 3	1961.3992	6 <sup>+</sup>			
		261.017 3	45 12	1839.3474	5 <sup>+</sup>			
2108.987	(5) <sup>+</sup>	494.480 10	100 17	1605.8503	8 <sup>-</sup>			
		106.524 3	1.3 4	2002.465	(4) <sup>+</sup>			
		147.583 10	0.28 8	1961.3992	6 <sup>+</sup>			
		193.502 7	1.5 4	1915.502	(3) <sup>+</sup>			
		288.497 11	2.5 5	1820.476	5 <sup>-</sup>			
		389.804 4	1.8 4	1719.1786	4 <sup>-</sup>			
		991.388 21	35 6	1117.5703	5 <sup>+</sup>	E2	0.00342 5	
2118.791	(6) <sup>-</sup>	1844.75 7	100 12	264.0888	4 <sup>+</sup>			
		669.835 11	12.0 17	1448.9555	7 <sup>-</sup>			
		807.30 4	100 11	1311.4606	6 <sup>-</sup>	M1	0.01043	
2122.428	(5,6,7) <sup>-</sup>	925.762 15	29 5	1193.0251	5 <sup>-</sup>	M1	0.00745 11	
		226.048 1	100 16	1896.379	(7) <sup>-</sup>			
		349.229 3	40 8	1773.205	(6) <sup>-</sup>	M1	0.0890	
2125.424		471.874 <sup>g</sup> 6	100 <sup>g</sup>	1653.5486	3 <sup>+</sup>			
2129.246	(5) <sup>-</sup>	215.35 3	0.29 9	1913.92	3 <sup>-</sup>			
		865.329 23	19.3 26	1263.9047	6 <sup>+</sup>			
		1580.72 <sup>g</sup> 8	<117 <sup>g</sup>	548.7470	6 <sup>+</sup>			
2133.767	(1 <sup>+</sup> )	1865.10 10	100 9	264.0888	4 <sup>+</sup>	E1		Mult.: E1 from α(K)exp for doubly-placed γ.
		240.658 14	1.7 4	1893.100	2 <sup>+</sup>			
		640.567 <sup>g</sup> 20	<15 <sup>g</sup>	1493.133	2 <sup>+</sup>			
		711.666 24	15 5	1422.12	0 <sup>+</sup>			
		2133.94 10	100 20	0.0	0 <sup>+</sup>			
2135.9	1 <sup>-</sup>	2056	82 12	79.804	2 <sup>+</sup>			
		2136	100	0.0	0 <sup>+</sup>	E1	1.03×10 <sup>-3</sup>	B(E1)(W.u.)=0.00022 6
2137.08	(2) <sup>+</sup>	1873.12 13	100 30	264.0888	4 <sup>+</sup>	[E2]	1.22×10 <sup>-3</sup>	B(E2)(W.u.)=12 9
		2057.20 20	70 20	79.804	2 <sup>+</sup>	M1	1.50×10 <sup>-3</sup> 2	B(M1)(W.u.)=0.04 4
		2136.89 16	100 30	0.0	0 <sup>+</sup>	[E2]	1.13×10 <sup>-3</sup>	B(E2)(W.u.)=5 5

## Adopted Levels, Gammas (continued)

$\gamma(^{168}\text{Er})$ (continued)									
$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult. <sup>†</sup>	$\delta^\dagger$	$\alpha^f$	Comments
2144.53		538.68 <sup>g</sup> 3	100 <sup>g</sup>	1605.8503	8 <sup>-</sup>				Mult.: E2 from $\alpha(\text{K})\text{exp}$ in (n, $\gamma$ ) E=thermal for doubly-placed $\gamma$ .
2148.3685	5 <sup>-</sup>	88.392 3 146.420 5 165.326 2 255.436 2 440.391 12 955.339 11 1054.297 19 1883.47 14	1.9 5 7.4 15 2.3 6 11.9 19 5.2 7 100 11 41 9 26 7	2059.9751 2001.953 1983.0398 1892.9346 1707.9929 1193.0251 1094.0383 264.0888	(4) <sup>-</sup> 5 <sup>-</sup> 5 <sup>-</sup> (4) <sup>-</sup> 5 <sup>-</sup> 5 <sup>-</sup> 4 <sup>-</sup> 4 <sup>+</sup>	M1+E2 M1  M1 M1+E2	1.2 +7-4    1.1 +8-4	4.45 15 0.961  0.206 0.00689 10 0.0041 6	
2169.516	(5) <sup>+</sup>	736.56 6 858.063 23 905.30 15 976.498 14 1051.86 7 1174.56 7 1273.74 9 2094.77 8	9 3 25 5 6 2 65 12 27 12 51 13 100 47 100	1432.9508 1311.4606 1263.9047 1193.0251 1117.5703 994.7474 895.7947 79.804	7 <sup>+</sup> 6 <sup>-</sup> 6 <sup>+</sup> 5 <sup>-</sup> 5 <sup>+</sup> 4 <sup>+</sup> 3 <sup>+</sup> 2 <sup>+</sup>	[E2] [E1] [M1,E2] E1 [M1,E2] E2 E2		0.00648 9 0.00183 3 0.0060 19 1.43 $\times$ 10 <sup>-3</sup> 2 0.0042 13 0.00243 4 0.00209 3	B(E2)(W.u.)=7 6 B(E1)(W.u.)=0.00015 11 B(E1)(W.u.)=0.00026 19 B(M1)(W.u.)=0.004 4; B(E2)(W.u.)=1.8 15 B(E2)(W.u.)=4 3 B(E2)(W.u.)=5 5 E $\gamma$ : from (n,n' $\gamma$ ).
2174.59		2094.77 8	100	79.804	2 <sup>+</sup>				
2177.79	(2) <sup>+</sup>	684.654 <sup>g</sup> 15 755.66 8 2177.80 15	<30 <sup>g</sup> 21 5 100 25	1493.133 1422.12 0.0	2 <sup>+</sup> 0 <sup>+</sup> 0 <sup>+</sup>				Other I $\gamma$ : 65 15 from (n,n' $\gamma$ ).
2182.80	11 <sup>-</sup>	402.8 2	100	1780.00	9 <sup>-</sup>				E $\gamma$ : from $^{170}\text{Er}(^{136}\text{Xe},\text{X}\gamma)$ .
2185.11	(5) <sup>-</sup>	271.189 4 424.329 <sup>g</sup> 4 1636.60 10 1921.11 10	1.6 3 <15 <sup>g</sup> 43 7 100 18	1913.92 1760.760 548.7470 264.0888	3 <sup>-</sup> (6) <sup>-</sup> 6 <sup>+</sup> 4 <sup>+</sup>			8.7 $\times$ 10 <sup>-4</sup>	B(E1)(W.u.)=0.00033 +14-20
2186.741	(3) <sup>+</sup>	450.048 3 533.202 5 571.428 19 645.21 3 1192.7 5	8.1 15 100 8 1.8 6 6.2 12 15 4	1736.6881 1653.5486 1615.3420 1541.5564 994.7474	4 <sup>+</sup> 4 <sup>+</sup> 3 <sup>+</sup> 3 <sup>-</sup> 4 <sup>+</sup>	M1 M1		0.0458 0.0296	
2188.408	(5) <sup>+</sup>	226.98 <sup>g</sup> 3 348.94 <sup>g</sup> 3 451.68 3 534.793 15 877.072 17 995.306 25 1639.73 10 1924.36 13	<0.70 <sup>g</sup> <1.9 <sup>g</sup> 1.1 4 3.6 6 12.7 27 36 5 32 9 100 23	1961.3992 1839.3474 1736.6881 1653.5486 1311.4606 1193.0251 548.7470 264.0888	6 <sup>+</sup> 5 <sup>+</sup> 4 <sup>+</sup> 3 <sup>+</sup> 6 <sup>-</sup> 5 <sup>-</sup> 6 <sup>+</sup> 4 <sup>+</sup>				
2188.74	(2 <sup>+</sup> ,3,4 <sup>+</sup> )	1194.08 16 2108.85 15	42 13 100 27	994.7474 79.804	4 <sup>+</sup> 2 <sup>+</sup>				

Adopted Levels, Gammas (continued)

$\gamma(^{168}\text{Er})$ (continued)								
$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult. <sup>†</sup>	$\alpha^f$	Comments
2193.19	2 <sup>+</sup>	1297.32 6	23.0 9	895.7947	3 <sup>+</sup>			$I_\gamma$ : from $\beta^-$ decay. Other I(1297 $\gamma$ ):I(1372 $\gamma$ )=44 13:100 14 from (n, $\gamma$ ) E=thermal.
2200.4193	(5) <sup>-</sup>	1372.05 4	100 4	821.1685	2 <sup>+</sup>	M1	0.00292 4	$I_\gamma$ : from $\beta^-$ decay.
		111.068 9	7.4 13	2089.348	4 <sup>-</sup>	M1	2.11	
		201.160 17	0.9 3	1999.2239	(3) <sup>-</sup>			
		250.784 4	2.8 6	1949.636	(6) <sup>-</sup>			
		307.481 5	2.3 5	1892.9346	(4) <sup>-</sup>			
		379.954 8	27 4	1820.476	5 <sup>-</sup>	M1	0.0712	
		380.286 6	20 4	1820.1321	6 <sup>-</sup>			
		481.239 3	34 5	1719.1786	4 <sup>-</sup>	M1	0.0385	
		492.427 3	62 8	1707.9929	5 <sup>-</sup>			
		585.066 5	100 10	1615.3420	4 <sup>-</sup>	M1	0.0234	
		1651.5 16		548.7470	6 <sup>+</sup>			
		1936.4 16		264.0888	4 <sup>+</sup>			
2200.5	(9) <sup>-</sup>	161.8 2 (304.1)	100 <31	2038.66 1896.379	(8) <sup>-</sup> (7) <sup>-</sup>			$E_\gamma, I_\gamma$ : from $^{170}\text{Er}(^{136}\text{Xe}, X\gamma)$ . $E_\gamma$ : rounded value from level energy difference; $\gamma$ expected but not observed. $I_\gamma$ : from $^{170}\text{Er}(^{136}\text{Xe}, X\gamma)$ .
2210.016	(7) <sup>-</sup>	226.98 <sup>g</sup> 3 259.209 5	<5.2 <sup>g</sup> 100 24	1983.0398 1950.8067	5 <sup>-</sup> 7 <sup>-</sup>			
2218.5		1322.7 <sup>e</sup>	100	895.7947	3 <sup>+</sup>			
2230.30	(2) <sup>-</sup>	614.996 <sup>g</sup> 24 660.85 4 688.79 <sup>g</sup> 3 1409.15 <sup>g</sup> 4	<26 <sup>g</sup> 15 3 <20 <sup>g</sup> 100 <sup>g</sup> 31	1615.3420 1569.4527 1541.5564 821.1685	4 <sup>-</sup> (2) <sup>-</sup> 3 <sup>-</sup> 2 <sup>+</sup>	M1	0.01718	
2238.179	(4) <sup>+</sup>	333.086 4	33 5	1905.0922	(4) <sup>-</sup>			
		345.247 7	25 5	1892.9346	(4) <sup>-</sup>			
		398.829 3	16 3	1839.3474	5 <sup>+</sup>			
		501.506 10	100 13	1736.6881	4 <sup>+</sup>			
		1045.31 7	76 26	1193.0251	5 <sup>-</sup>			
2243.514	(3) <sup>+</sup>	1144.112 <sup>i</sup> 11	1.11 $\times 10^3$ 18	1094.0383	4 <sup>-</sup>	E1		
		587.253 19	1.7 8	1656.274	(4) <sup>+</sup>			
		1979.36 9	67 14	264.0888	4 <sup>+</sup>	E2	1.18 $\times 10^{-3}$	
2246.530	(6) <sup>+</sup>	2163.44 9	100 15	79.804	2 <sup>+</sup>			
		629.724 9	50 9	1616.8060	6 <sup>+</sup>			
		813.46 5	42 9	1432.9508	7 <sup>+</sup>			
		982.64 4	18 5	1263.9047	6 <sup>+</sup>			
2249.68		1697.86 7	100 16	548.7470	6 <sup>+</sup>	M1	0.00192 3	
		938.22 <sup>g</sup> 5	100 <sup>g</sup>	1311.4606	6 <sup>-</sup>			
2254.754	(2) <sup>+</sup>	426.66 3	10.2 13	1828.0639	3 <sup>-</sup>			
		1037.88 18	20 8	1217.169	0 <sup>+</sup>			

**Adopted Levels, Gammas (continued)**

γ(<sup>168</sup>Er) (continued)

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



Adopted Levels, Gammas (continued)

γ(<sup>168</sup>Er) (continued)

<u>E<sub>i</sub>(level)</u>	<u>J<sub>i</sub><sup>π</sup></u>	<u>E<sub>γ</sub><sup>†</sup></u>	<u>I<sub>γ</sub><sup>‡</sup></u>	<u>E<sub>f</sub></u>	<u>J<sub>f</sub><sup>π</sup></u>	<u>Mult.<sup>†</sup></u>	<u>α<sup>f</sup></u>	<u>Comments</u>
2302.666	(3) <sup>-</sup>	733.231 10 761.11 5 1309.0 <sup>i</sup> 16	34 8 21 5 150 45	1569.4527 (2) <sup>-</sup> 1541.5564 3 <sup>-</sup> 994.7474 4 <sup>+</sup>	(2) <sup>-</sup> 3 <sup>-</sup> 4 <sup>+</sup>	M1	0.01324	
		1406.93 7 1481.71 13	70.0 20 100 20	895.7947 3 <sup>+</sup> 821.1685 2 <sup>+</sup>	3 <sup>+</sup> 2 <sup>+</sup>			E <sub>γ</sub> ,I <sub>γ</sub> : 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.
2303.10	(6) <sup>-</sup>	542.35 4 729.00 5 1038.73 16	18 6 50 21 100 35	1760.760 (6) <sup>-</sup> 1574.117 5 <sup>-</sup> 1263.9047 6 <sup>+</sup>	(6) <sup>-</sup> 5 <sup>-</sup> 6 <sup>+</sup>			
2306.882	(6) <sup>+</sup>	995.420 25 1042.35 <sup>g</sup> 21	100 16 <38 <sup>g</sup>	1311.4606 6 <sup>-</sup> 1263.9047 6 <sup>+</sup>	6 <sup>-</sup> 6 <sup>+</sup>			
2311.07	(4) <sup>+</sup>	1113.84 7 654.79 3 1762.19 <sup>g</sup> 18	96 17 1.00 20 <38 <sup>g</sup>	1193.0251 5 <sup>-</sup> 1656.274 (4) <sup>+</sup> 548.7470 6 <sup>+</sup>	5 <sup>-</sup> (4) <sup>+</sup> 6 <sup>+</sup>			
2323.01	3 <sup>-</sup>	2047.03 10 1328.57 21 1427.40 11 1501.92 18	100 10 92 38 100 50 <450	264.0888 4 <sup>+</sup> 994.7474 4 <sup>+</sup> 895.7947 3 <sup>+</sup> 821.1685 2 <sup>+</sup>	4 <sup>+</sup> 4 <sup>+</sup> 3 <sup>+</sup> 2 <sup>+</sup>	E2	1.15×10 <sup>-3</sup>	
2331.987	6 <sup>-</sup>	131.566 2 381.181 14 382.346 9 624.005 5 1020.70 8	9.0 20 10.3 12 13.3 26 38 5 100 13	2200.4193 (5) <sup>-</sup> 1950.8067 7 <sup>-</sup> 1949.636 (6) <sup>-</sup> 1707.9929 5 <sup>-</sup> 1311.4606 6 <sup>-</sup>	(5) <sup>-</sup> 7 <sup>-</sup> (6) <sup>-</sup> 5 <sup>-</sup> 6 <sup>-</sup>	M1	0.0701	
2336.26	4 <sup>+</sup>	1218.68 <sup>g</sup> 7 1341.58 14 1440.41 12	<64 <sup>g</sup> 100 27 91 27	1117.5703 5 <sup>+</sup> 994.7474 4 <sup>+</sup> 895.7947 3 <sup>+</sup>	5 <sup>+</sup> 4 <sup>+</sup> 3 <sup>+</sup>			
2337.100	3 <sup>-</sup>	1243.072 20 1441.41 <sup>g</sup> 7 1515.98 <sup>g</sup> 6 2256.73 12	93.5 23 <131 <sup>g</sup> <341 <sup>g</sup> 100 18	1094.0383 4 <sup>-</sup> 895.7947 3 <sup>+</sup> 821.1685 2 <sup>+</sup> 79.804 2 <sup>+</sup>	4 <sup>-</sup> 3 <sup>+</sup> 2 <sup>+</sup> 2 <sup>+</sup>	M1	0.00366 6	
2341.78	1	2262.0 3 2341.7 4	67 11 100 18	79.804 2 <sup>+</sup> 0.0 0 <sup>+</sup>	2 <sup>+</sup> 0 <sup>+</sup>	D		E <sub>γ</sub> ,I <sub>γ</sub> : from (n,n'γ). E <sub>γ</sub> ,I <sub>γ</sub> : from (n,n'γ).
2346.20	1 <sup>-</sup> ,2 <sup>-</sup> ,3 <sup>-</sup>	1449.26 12 1524.18 13	97 22 100 33	895.7947 3 <sup>+</sup> 821.1685 2 <sup>+</sup>	3 <sup>+</sup> 2 <sup>+</sup>	E1	8.63×10 <sup>-4</sup> 12	
2348.581	4 <sup>-</sup>	612.0 5 629.397 20 640.567 <sup>g</sup> 20 695.04 4 1155.56 <sup>i</sup> 3 1231.04 9	100 71 70 17 <33 <sup>g</sup> 13 4 89 20 57 3	1736.6881 4 <sup>+</sup> 1719.1786 4 <sup>-</sup> 1707.9929 5 <sup>-</sup> 1653.5486 3 <sup>+</sup> 1193.0251 5 <sup>-</sup> 1117.5703 5 <sup>+</sup>	4 <sup>+</sup> 4 <sup>-</sup> 5 <sup>-</sup> 3 <sup>+</sup> 5 <sup>-</sup> 5 <sup>+</sup>	M1	0.00435 6	

Adopted Levels, Gammas (continued)

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

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

**Adopted Levels, Gammas (continued)**

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

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

## Adopted Levels, Gammas (continued)

$\gamma(^{168}\text{Er})$ (continued)								
$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult. <sup>†</sup>	$\alpha^f$	Comments
2440.054	(4 <sup>+</sup> ,5 <sup>+</sup> )	445.234 20	11.5 25	1994.821	(3) <sup>+</sup>			
		1029.45 5	50 11	1411.0959	4 <sup>+</sup>			
		1176.42 <sup>g</sup> 5	<146 <sup>g</sup>	1263.9047	6 <sup>+</sup>			Mult.: M1 from $\alpha(\text{K})\text{exp}$ in (n, $\gamma$ ) E=thermal for doubly-placed $\gamma$ .
2440.46	(2 <sup>+</sup> )	1322.6 2	100 50	1117.5703	5 <sup>+</sup>			
		1445.26 8	50 25	994.7474	4 <sup>+</sup>			
		1223.00 7	100 40	1217.169	0 <sup>+</sup>			
2451.165	(5 <sup>-</sup> )	1446.00 7	80 40	994.7474	4 <sup>+</sup>			
		195.836 25	0.9 3	2255.343	(6) <sup>-</sup>			
		909.41 9	15 5	1541.7094	(4) <sup>-</sup>			
2455.96	(3 <sup>+</sup> ,4,5 <sup>+</sup> )	1333.44 <sup>g</sup> 15	<149 <sup>g</sup>	1117.5703	5 <sup>+</sup>			
		1358.0 16		1094.0383	4 <sup>-</sup>			
		1456.15 12	100 23	994.7474	4 <sup>+</sup>			
		1338.67 15	20 10	1117.5703	5 <sup>+</sup>			
		1461.13 8	37 9	994.7474	4 <sup>+</sup>			
2458.7	1	1560.16 8	100 11	895.7947	3 <sup>+</sup>			
		2189.7 <sup>i</sup> 3		264.0888	4 <sup>+</sup>			$E_\gamma$ : from (n,n' $\gamma$ ) alone; possibly misplaced.
		2378.6 7	12 6	79.804	2 <sup>+</sup>			$E_\gamma, I_\gamma$ : from (n,n' $\gamma$ ).
2474.10	(6 <sup>-</sup> )	2458.8 5	100 16	0.0	0 <sup>+</sup>	D		$E_\gamma, I_\gamma, \text{Mult.}$ : from (n,n' $\gamma$ ).
		472.218 <sup>g</sup> 12	<28 <sup>g</sup>	2001.953	5 <sup>-</sup>			
		653.88 7	9 4	1820.1321	6 <sup>-</sup>			
2477.20	(5 <sup>-</sup> )	1041.35 11	100 31	1432.9508	7 <sup>+</sup>			
		1165.65 10	33 11	1311.4606	6 <sup>-</sup>	M1	0.00426 6	
		1284.08 <sup>g</sup> 8	<63 <sup>g</sup>	1193.0251	5 <sup>-</sup>	M1,E2		Mult.: M1,E2 from $\alpha(\text{K})\text{exp}$ in (n, $\gamma$ ) E=thermal for doubly-placed $\gamma$ . Other $E_\gamma$ : 1283.5 2 from (n,n' $\gamma$ ).
2478.08	(3 <sup>-</sup> )	1383.36 9	31 13	1094.0383	4 <sup>-</sup>			
		1928.21 12	100 19	548.7470	6 <sup>+</sup>	(E1)		
		1484.46 8	100 13	994.7474	4 <sup>+</sup>	E1	8.64 $\times$ 10 <sup>-4</sup>	
		1582.95 20	55 18	895.7947	3 <sup>+</sup>			
		1656.84 <sup>g</sup> 9	<61 <sup>g</sup>	821.1685	2 <sup>+</sup>			
2484.52	(3 <sup>+</sup> )	2214.47 20	79 18	264.0888	4 <sup>+</sup>			
		2398.25 <sup>i</sup> 15	94 15	79.804	2 <sup>+</sup>			
		1208.30 <sup>g</sup> 9	<43 <sup>g</sup>	1276.2716	2 <sup>+</sup>			
		1489.8 2	31 15	994.7474	4 <sup>+</sup>			
		1588.75 10	33 15	895.7947	3 <sup>+</sup>			
		1663.21 10	38 15	821.1685	2 <sup>+</sup>			
2493.5	1 <sup>+</sup>	2220.70 21	100 23	264.0888	4 <sup>+</sup>			
		2404.84 20	62 15	79.804	2 <sup>+</sup>			$E_\gamma$ : from (n,n' $\gamma$ ) for doublet.
		2414.4 5	34 5	79.804	2 <sup>+</sup>			$I_\gamma$ : from ( $\gamma, \gamma'$ ).
		2493.2 3	100	0.0	0 <sup>+</sup>	M1	1.35 $\times$ 10 <sup>-3</sup>	B(M1)(W.u.)=0.029 4

**Adopted Levels, Gammas (continued)**

$\gamma(^{168}\text{Er})$ (continued)								
$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult. <sup>†</sup>	$\alpha^f$	Comments
2494.528	(3) <sup>-</sup>	511.504 <i>15</i>	8.4 <i>16</i>	1983.0398	5 <sup>-</sup>			$E_\gamma$ : from (n,n' $\gamma$ ). $I_\gamma$ ,Mult.: from ( $\gamma,\gamma'$ ).
		1672.84 <i>9</i>	100 <i>16</i>	821.1685	2 <sup>+</sup>	E1	$8.79 \times 10^{-4}$	
		2229.27 <sup>g</sup> <i>20</i>	<37 <sup>g</sup>	264.0888	4 <sup>+</sup>			
		2414.33 <i>19</i>	42 <i>11</i>	79.804	2 <sup>+</sup>			
2510.72	1 <sup>(-)</sup>	2430.9 <i>3</i>	100 <i>25</i>	79.804	2 <sup>+</sup>			$E_\gamma, I_\gamma$ : from (n,n' $\gamma$ ). B(E1)(W.u.)=9.E-5 <i>4</i>
		2510.7 <i>4</i>	63	0.0	0 <sup>+</sup>	(E1)		Mult.: D from $\gamma(\theta)$ in (n,n' $\gamma$ ); $\pi=(-)$ from K=0 in ( $\gamma,\gamma'$ ). $E_\gamma, I_\gamma$ : from (n,n' $\gamma$ ).
2513.67	(4) <sup>-</sup>	1396.13 <i>6</i>	96 <i>35</i>	1117.5703	5 <sup>+</sup>			
		1518.95 <i>16</i>	79 <i>26</i>	994.7474	4 <sup>+</sup>	E1	$8.62 \times 10^{-4}$	
		1617.75 <i>10</i>	100 <i>16</i>	895.7947	3 <sup>+</sup>	E1	$8.70 \times 10^{-4}$	
2517.48	(3 <sup>+</sup> ,4 <sup>+</sup> )	408.457 <sup>gi</sup> <i>8</i>	8.7 <sup>g</sup> <i>20</i>	2108.987	(5) <sup>+</sup>			
		1696.30 <i>20</i>	100 <i>22</i>	821.1685	2 <sup>+</sup>			
2526.583	(5) <sup>-</sup>	466.603 <i>12</i>	4.3 <i>10</i>	2059.9751	(4) <sup>-</sup>			
		1333.44 <sup>g</sup> <i>15</i>	<141 <sup>g</sup>	1193.0251	5 <sup>-</sup>			
		1432.64 <i>7</i>	100 <i>38</i>	1094.0383	4 <sup>-</sup>	E2	$1.70 \times 10^{-3}$	
		1532.18 <i>21</i>	38 <i>13</i>	994.7474	4 <sup>+</sup>			
2527.78		1433.74 <i>7</i>	100	1094.0383	4 <sup>-</sup>			Mult.: $\alpha(K)\text{exp}=0.0013$ <i>4</i> , mult=E2 for doubly-placed $\gamma$ .
2528.80	(5) <sup>-</sup>	614.996 <sup>g</sup> <i>24</i>	<16 <sup>g</sup>	1913.92	3 <sup>-</sup>			
		1265.0 <sup>i</sup> <i>2</i>	8 <i>4</i>	1263.9047	6 <sup>+</sup>			
		1534.05 <i>10</i>	100 <i>19</i>	994.7474	4 <sup>+</sup>	E1		
2540.22	(3,4,5) <sup>+</sup>	1422.58 <i>8</i>	31 <i>15</i>	1117.5703	5 <sup>+</sup>			
2547.25	(4) <sup>+</sup>	1644.45 <i>6</i>	100 <i>23</i>	895.7947	3 <sup>+</sup>	E2	$1.40 \times 10^{-3}$	
		1651.49 <i>7</i>	$\leq 225$	895.7947	3 <sup>+</sup>	[M1]	0.00202 <i>3</i>	$E_\gamma$ and undivided $I_\gamma$ for doubly-placed $\gamma$ .
		1997.9 <i>3</i>	75 <i>52</i>	548.7470	6 <sup>+</sup>			
		2282.8 <i>5</i>	100 <i>52</i>	264.0888	4 <sup>+</sup>			
2551.48	(4,5) <sup>-</sup>	313.420 <sup>i</sup> <i>14</i>	0.78 <i>19</i>	2238.179	(4) <sup>+</sup>			
		442.593 <sup>i</sup> <i>20</i>	2.2 <i>7</i>	2108.987	(5) <sup>+</sup>			
		814.77 <i>7</i>	5.9 <i>19</i>	1736.6881	4 <sup>+</sup>			
		1556.84 <i>15</i>	100 <i>15</i>	994.7474	4 <sup>+</sup>	E1		
2558.66	(5) <sup>-</sup>	235.652 <i>18</i>	1.5 <i>5</i>	2323.01	3 <sup>-</sup>			
		984.42 <i>8</i>	15 <i>3</i>	1574.117	5 <sup>-</sup>			
		1294.053 <sup>g</sup> <i>25</i>	<182 <sup>g</sup>	1263.9047	6 <sup>+</sup>			$\gamma$ not reported in (n,n' $\gamma$ ), so branching probably small.
		1441.41 <sup>g</sup> <i>7</i>	<156 <sup>g</sup>	1117.5703	5 <sup>+</sup>			
		1563.85 <i>9</i>	100 <i>16</i>	994.7474	4 <sup>+</sup>			
2561.56	(4) <sup>+</sup>	944.79 <i>6</i>	10 <i>3</i>	1616.8060	6 <sup>+</sup>			
		1444.06 <i>14</i>	17 <i>9</i>	1117.5703	5 <sup>+</sup>			

**Adopted Levels, Gammas (continued)**

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

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

## Adopted Levels, Gammas (continued)

$\gamma(^{168}\text{Er})$ (continued)									
$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult. <sup>†</sup>	$\delta^\ddagger$	$\alpha^f$	Comments
2663.229	(4) <sup>+</sup>	1569.30 11	43 10	1094.0383	4 <sup>-</sup>				Other I $\gamma$ : 76 19 in (n,n' $\gamma$ ).
2672.1	(4 <sup>+</sup> ,5,6 <sup>+</sup> )	1409.15 <sup>g</sup> 4	<810 <sup>g</sup>	1263.9047	6 <sup>+</sup>				
		1677.2 5	100 33	994.7474	4 <sup>+</sup>				
		2410.0 16		264.0888	4 <sup>+</sup>				
2676.3	1 <sup>+</sup>	2596.5 4	30 3	79.804	2 <sup>+</sup>				E $\gamma$ : from (n,n' $\gamma$ ). I $\gamma$ : from ( $\gamma,\gamma'$ ).
		2676 4	100	0.0	0 <sup>+</sup>	M1		1.34×10 <sup>-3</sup>	B(M1)(W.u.)=0.033 4 E $\gamma$ ,I $\gamma$ ,Mult.: from ( $\gamma,\gamma'$ ). E $\gamma$ : absent in (n,n' $\gamma$ ).
2683.8	(2 <sup>+</sup> )	2420.0 16		264.0888	4 <sup>+</sup>				E $\gamma$ ,I $\gamma$ : from (n,n' $\gamma$ ).
		2604.0 3	100 20	79.804	2 <sup>+</sup>				E $\gamma$ : absent in (n,n' $\gamma$ ).
		2684.0 <sup>g</sup> 4	<141 <sup>g</sup>	0.0	0 <sup>+</sup>				E $\gamma$ ,I $\gamma$ : from (n,n' $\gamma$ ).
2689.0	(1,2 <sup>+</sup> )	2608.9 5	100 25	79.804	2 <sup>+</sup>				E $\gamma$ ,I $\gamma$ : from (n,n' $\gamma$ ).
		2689.3 5	70 15	0.0	0 <sup>+</sup>				E $\gamma$ ,I $\gamma$ : from (n,n' $\gamma$ ).
2694	1 <sup>(+)</sup>	2694	100	0.0	0 <sup>+</sup>	(M1)		1.35×10 <sup>-3</sup>	E $\gamma$ ,Mult.: from ( $\gamma,\gamma'$ ); D, $\Delta\pi$ =(no) $\gamma$ (1996Ma18).
2700.60		2436.49 20	100	264.0888	4 <sup>+</sup>				
2716.0	(2 <sup>+</sup> ,3,4 <sup>+</sup> )	2451.9 <sup>e</sup>		264.0888	4 <sup>+</sup>				
		2636.2 <sup>e</sup>		79.804	2 <sup>+</sup>				
2727.77	(4,5) <sup>-</sup>	1112.41 5	100 20	1615.3420	4 <sup>-</sup>	M1+E2	1.2 +14-5	0.0036 6	
		1611.4 5	53 27	1117.5703	5 <sup>+</sup>				
		1732.76 <sup>g</sup> 16	<160 <sup>g</sup>	994.7474	4 <sup>+</sup>				
2728.43	1 <sup>+</sup>	2648.4 3	91 4	79.804	2 <sup>+</sup>				E $\gamma$ : from (n,n' $\gamma$ ). I $\gamma$ : from ( $\gamma,\gamma'$ ); other I $\gamma$ : 125 20 in (n,n' $\gamma$ ).
		2728.6 3	100	0.0	0 <sup>+</sup>	M1		1.35×10 <sup>-3</sup>	B(M1)(W.u.)=0.041 7 E $\gamma$ : from (n,n' $\gamma$ ). I $\gamma$ ,Mult.: from ( $\gamma,\gamma'$ ).
2733.0		1837.0 16	56 21	895.7947	3 <sup>+</sup>				
		2469.0 16	100 23	264.0888	4 <sup>+</sup>				
2738.56		1030.50 5	95 20	1707.9929	5 <sup>-</sup>				
		1123.30 6	100 20	1615.3420	4 <sup>-</sup>				
2740.16	(4,5,6) <sup>+</sup>	1476.0 3	9 4	1263.9047	6 <sup>+</sup>				
		1622.0 5	29 14	1117.5703	5 <sup>+</sup>				
		1745.58 18	100 29	994.7474	4 <sup>+</sup>	E2		1.30×10 <sup>-3</sup>	
		2475.0 16		264.0888	4 <sup>+</sup>				
2740.9	1	2661.2 3	100 14	79.804	2 <sup>+</sup>				E $\gamma$ : from (n,n' $\gamma$ ). I $\gamma$ : from ( $\gamma,\gamma'$ ).
		2740.5 5	91	0.0	0 <sup>+</sup>	D			E $\gamma$ : from (n,n' $\gamma$ ). I $\gamma$ ,Mult.: from ( $\gamma,\gamma'$ ). Other I $\gamma$ : 51 9 in (n,n' $\gamma$ ).
2746.6	( $\leq$ 4)	1925.0 16		821.1685	2 <sup>+</sup>				E $\gamma$ : absent in (n,n' $\gamma$ ).
		2666.8 3		79.804	2 <sup>+</sup>				E $\gamma$ : from (n,n' $\gamma$ ).
2757.3	(1,2 <sup>+</sup> )	2678.1 4	<263	79.804	2 <sup>+</sup>				E $\gamma$ ,I $\gamma$ : from (n,n' $\gamma$ ) for doubly-placed $\gamma$ .
		2756.0 6	100 21	0.0	0 <sup>+</sup>				E $\gamma$ ,I $\gamma$ : from (n,n' $\gamma$ ).

## Adopted Levels, Gammas (continued)

$\gamma(^{168}\text{Er})$ (continued)								
$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult. <sup>†</sup>	$\alpha^f$	Comments
2763.9	(1,2 <sup>+</sup> )	2684.0 <sup>g</sup> 4	<390 <sup>g</sup>	79.804	2 <sup>+</sup>			$E_\gamma, I_\gamma$ : from (n,n' $\gamma$ ).
		2763.9 8	100 33	0.0	0 <sup>+</sup>			$E_\gamma, I_\gamma$ : from (n,n' $\gamma$ ).
2768.55		1060.06 13	100 38	1707.9929	5 <sup>-</sup>			
		1153.31 6	100 29	1615.3420	4 <sup>-</sup>			
2769.81	(5 <sup>+</sup> )	1458.34 15	38 16	1311.4606	6 <sup>-</sup>			
		1576.58 <sup>g</sup> 8	<53 <sup>g</sup>	1193.0251	5 <sup>-</sup>			
		1675.49 <sup>g</sup> 6	100 <sup>g</sup> 11	1094.0383	4 <sup>-</sup>			
2778.03		2229.27 <sup>g</sup> 20	100 <sup>g</sup>	548.7470	6 <sup>+</sup>			
2782.9	(1,2 <sup>+</sup> )	2703.1 6	100 27	79.804	2 <sup>+</sup>			$E_\gamma, I_\gamma$ : from (n,n' $\gamma$ ).
		2783.0 <sup>g</sup> 5	<91 <sup>g</sup>	0.0	0 <sup>+</sup>			$E_\gamma, I_\gamma$ : from (n,n' $\gamma$ ).
2786.80	(3,4 <sup>+</sup> )	384.510 9	2.3 5	2402.29	(4) <sup>-</sup>			
		1890.9 4	18 9	895.7947	3 <sup>+</sup>			
		1965.19 15	32 9	821.1685	2 <sup>+</sup>			
		2523.2 4	100 18	264.0888	4 <sup>+</sup>			
2788.1		2524.0 16	100	264.0888	4 <sup>+</sup>			
2792.0	1 <sup>+</sup>	2712	24 3	79.804	2 <sup>+</sup>			$E_\gamma, I_\gamma$ : from ( $\gamma, \gamma'$ ).
		2792.0 4	100	0.0	0 <sup>+</sup>	M1	$1.35 \times 10^{-3}$	B(M1)(W.u.)=0.0333 25 $E_\gamma$ : from (n,n' $\gamma$ ). $I_\gamma, \text{Mult.}$ : from ( $\gamma, \gamma'$ ).
2798.1	1 <sup>+</sup>	2719.9 8	10.1 18	79.804	2 <sup>+</sup>			$E_\gamma$ : from (n,n' $\gamma$ ).
		2797.8 3	100	0.0	0 <sup>+</sup>	M1	$1.35 \times 10^{-3}$	$I_\gamma$ : from ( $\gamma, \gamma'$ ). Other $I_\gamma$ : 15 7 in (n,n' $\gamma$ ). B(M1)(W.u.)=0.036 3 $E_\gamma$ : from (n,n' $\gamma$ ). $I_\gamma, \text{Mult.}$ : from ( $\gamma, \gamma'$ ).
2810.9		2547.0 16	100	264.0888	4 <sup>+</sup>			
2817.0?	(1,2 <sup>+</sup> )	2737.0 9	80 40	79.804	2 <sup>+</sup>			$E_\gamma, I_\gamma$ : from (n,n' $\gamma$ ).
		2817.0 4	100 30	0.0	0 <sup>+</sup>			$E_\gamma, I_\gamma$ : from (n,n' $\gamma$ ).
2819.7		2556.0 16	100	264.0888	4 <sup>+</sup>			
2826.4	1 <sup>(+)</sup>	2745.7 5	51 6	79.804	2 <sup>+</sup>			$E_\gamma$ : from (n,n' $\gamma$ ).
		2826.7 3	100	0.0	0 <sup>+</sup>	(M1)	$1.36 \times 10^{-3}$	$I_\gamma$ : from ( $\gamma, \gamma'$ ). Other $I_\gamma$ : 32 11 in (n,n' $\gamma$ ). B(M1)(W.u.)=0.017 3 $E_\gamma$ : from (n,n' $\gamma$ ).
2833.7	1 <sup>(-)</sup>	2833.7 5	100	0.0	0 <sup>+</sup>	(E1)	$1.33 \times 10^{-3}$	$I_\gamma, \text{Mult.}$ : from ( $\gamma, \gamma'$ ): D, $\Delta\pi$ =(no) $\gamma$ (1996Ma18). $E_\gamma$ : from (n,n' $\gamma$ ). Mult.: D, $\Delta\pi$ =(yes) (1996Ma18) from ( $\gamma, \gamma'$ ).
2849.60	(4 <sup>+</sup> )	1141.47 7	10 4	1707.9929	5 <sup>-</sup>			
		1585.89 24	15 6	1263.9047	6 <sup>+</sup>			
		1756.0 16	31 8	1094.0383	4 <sup>-</sup>			
		1855.6 3	9 3	994.7474	4 <sup>+</sup>			
		1954.0 16	21 7	895.7947	3 <sup>+</sup>			
		2029.78 18	21 6	821.1685	2 <sup>+</sup>	(E2)		Mult.: E1,E2 from $\alpha(\text{K})\text{exp}$ in (n, $\gamma$ ) E=thermal; $\Delta\pi$ =no from level scheme.



Adopted Levels, Gammas (continued)

							$\gamma(^{168}\text{Er})$ (continued)			
$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult. <sup>†</sup>	$\alpha^f$	Comments		
2849.60	(4 <sup>+</sup> )	2300.63 9 2586.0 16 2770.0 16	100 18 20 4 10 4	548.7470 264.0888 79.804	6 <sup>+</sup> 4 <sup>+</sup> 2 <sup>+</sup>					
2850.3	1 <sup>-</sup>	2769 2850.5 4	71 8 100	79.804 0.0	2 <sup>+</sup> 0 <sup>+</sup>	E1	1.34×10 <sup>-3</sup>	E <sub>γ</sub> ,I <sub>γ</sub> : from (γ,γ'). B(E1)(W.u.)=0.000181 25 E <sub>γ</sub> : from (n,n'γ). I <sub>γ</sub> ,Mult.: from (γ,γ').		
2852.0		792.118 <sup>g</sup> 6 1734.4 5	<65 <sup>g</sup> 100 50	2059.9751 1117.5703	(4) <sup>-</sup> 5 <sup>+</sup>			Possible multiplet.		
2856.5	(2 <sup>+</sup> )	2776.8 6	100 11	79.804	2 <sup>+</sup>			E <sub>γ</sub> : from (n,n'γ). I <sub>γ</sub> : from (γ,γ').		
2863.6?	(1,2 <sup>+</sup> )	2856 2783.0 <sup>g</sup> 5 2863.6 5	40 <83 <sup>g</sup> 100 25	0.0 79.804 0.0	0 <sup>+</sup> 2 <sup>+</sup> 0 <sup>+</sup>	(Q)		E <sub>γ</sub> ,I <sub>γ</sub> ,Mult.: from (γ,γ'). E <sub>γ</sub> ,I <sub>γ</sub> : from (n,n'γ). E <sub>γ</sub> ,I <sub>γ</sub> : from (n,n'γ).		
2874.61	(3,4,5)	969.51 3 1780.51 8 1880.47 20 2611.0 16	47 11 100 29 43 14 54 14	1905.0922 1094.0383 994.7474 264.0888	(4) <sup>-</sup> 4 <sup>-</sup> 4 <sup>+</sup> 4 <sup>+</sup>					
2890.65		2341.89 24	100	548.7470	6 <sup>+</sup>					
2896.7	(3,4 <sup>+</sup> )	1281.038 <sup>g</sup> 7 1355.3 3 2631.0 16 2815.0 16	<19 <sup>g</sup> 100 12	1615.3420 1541.5564 264.0888 79.804	4 <sup>-</sup> 3 <sup>-</sup> 4 <sup>+</sup> 2 <sup>+</sup>			α(K)exp for doubly-placed γ consistent with α(K)(M1).		
2920.00		2656.0 16	100	264.0888	4 <sup>+</sup>					
2929.9	1 <sup>(+)</sup>	2850.5 4 2929.2 5	46 7 100	79.804 0.0	2 <sup>+</sup> 0 <sup>+</sup>	(M1)	1.37×10 <sup>-3</sup>	E <sub>γ</sub> : from (n,n'γ). I <sub>γ</sub> : from (γ,γ'). B(M1)(W.u.)=0.0078 13 E <sub>γ</sub> : from (n,n'γ). I <sub>γ</sub> ,Mult.: from (γ,γ'); D, Δπ=(no) γ (1996Ma18). May Be misplaced; placement requires mult=M2.		
2933.44	2 <sup>+</sup>	1839.0 <sup>i</sup> 16 1938.69 18 2669.0 16 2853.0 16	260 50 90 36 100 20 54 24	1094.0383 994.7474 264.0888 79.804	4 <sup>-</sup> 4 <sup>+</sup> 4 <sup>+</sup> 2 <sup>+</sup>					
2934.0	14 <sup>-</sup>	515.0 2	100	2419.0	12 <sup>-</sup>			E <sub>γ</sub> : from <sup>170</sup> Er( <sup>136</sup> Xe,Xγ).		
2946.6	1 <sup>(-)</sup>	2866.7 5 2946.7 6	100 6 57	79.804 0.0	2 <sup>+</sup> 0 <sup>+</sup>	D		E <sub>γ</sub> : from (n,n'γ). I <sub>γ</sub> : from (γ,γ'). E <sub>γ</sub> : from (n,n'γ). I <sub>γ</sub> ,Mult.: from (γ,γ'). Other I <sub>γ</sub> : 108 23 in (n,n'γ).		
2950.7		2686.0 16	100	264.0888	4 <sup>+</sup>					
2955.6	1	2955.6 8	100	0.0	0 <sup>+</sup>	D		E <sub>γ</sub> : from (n,n'γ). I <sub>γ</sub> ,Mult.: from (γ,γ').		

Adopted Levels, Gammas (continued)

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

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

**Adopted Levels, Gammas (continued)**

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

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

## Adopted Levels, Gammas (continued)

$\gamma(^{168}\text{Er})$ (continued)									
$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult. $^\ddagger$	$\alpha^f$	Comments	
3285.1	(4 <sup>+</sup> )	2736.4 <sup>e</sup> 3021.0 <sup>e</sup> 3205.3 <sup>e</sup>		548.7470 264.0888 79.804	6 <sup>+</sup> 4 <sup>+</sup> 2 <sup>+</sup>				
3300.0	1	3300.0 7	100	0.0	0 <sup>+</sup>	D		E <sub>γ</sub> : from (n,n'γ).	
3327.3	(≤4)	3247.5 <sup>e</sup>	100	79.804	2 <sup>+</sup>				
3335.0	(4 <sup>+</sup> ,5 <sup>+</sup> )	2439.2 <sup>e</sup> 2786.3 <sup>e</sup>		895.7947 548.7470	3 <sup>+</sup> 6 <sup>+</sup>				
3338.2	(2 <sup>+</sup> )	3258.4 6 3338.0 10	100 27 67	79.804 0.0	2 <sup>+</sup> 0 <sup>+</sup>	(Q)		E <sub>γ</sub> : from (n,n'γ). E <sub>γ</sub> : from (n,n'γ). Other I <sub>γ</sub> : 89 45 in (n,n'γ).	
3342.0	1 <sup>(+)</sup>	3342.0 10	100	0.0	0 <sup>+</sup>	(M1)	1.45×10 <sup>-3</sup>	E <sub>γ</sub> : from (n,n'γ). Mult.: D, Δπ=(no) (1996Ma18) from (γ,γ').	
3347.7		2352.9 <sup>e</sup>	100	994.7474	4 <sup>+</sup>				
3358.7	1 <sup>+</sup>	3278 3358.7 6	66.9 19 100	79.804 0.0	2 <sup>+</sup> 0 <sup>+</sup>	M1	1.46×10 <sup>-3</sup>	B(M1)(W.u.)=0.064 5 E <sub>γ</sub> : from (n,n'γ). E <sub>γ</sub> : from (n,n'γ).	
3370.9	(2 <sup>+</sup> )	3291.9 9 3370.9 7	100 16 87	79.804 0.0	2 <sup>+</sup> 0 <sup>+</sup>	(Q)		E <sub>γ</sub> : from (n,n'γ). Other I <sub>γ</sub> : 89 33 in (n,n'γ).	
3376.6	(4 <sup>+</sup> )	2555.4 <sup>e</sup> 2827.9 <sup>e</sup> 3296.8 <sup>e</sup>		821.1685 548.7470 79.804	2 <sup>+</sup> 6 <sup>+</sup> 2 <sup>+</sup>				
3391	1 <sup>+</sup>	3311 3391	44.7 9 100	79.804 0.0	2 <sup>+</sup> 0 <sup>+</sup>	M1	1.46×10 <sup>-3</sup>	B(M1)(W.u.)=0.140 11 Other B(M1)(W.u.): 0.30 7 from (e,e').	
3394.5		2300.2 <sup>e</sup>	100	1094.0383	4 <sup>-</sup>				
3399.3	(≤4)	3319.5 <sup>e</sup>	100	79.804	2 <sup>+</sup>				
3409.7	1 <sup>+</sup>	3330 3409.7 9	62 4 100	79.804 0.0	2 <sup>+</sup> 0 <sup>+</sup>	M1	1.47×10 <sup>-3</sup>	E <sub>γ</sub> ,I <sub>γ</sub> : from (γ,γ'). B(M1)(W.u.)=0.037 5 E <sub>γ</sub> : from (n,n'γ). Mult.,I <sub>γ</sub> : from (γ,γ').	
3415.5	(≤4)	3335.7 <sup>e</sup>	100	79.804	2 <sup>+</sup>				
3432.0	(4 <sup>+</sup> )	2883.3 <sup>e</sup> 3352.2 <sup>e</sup>		548.7470 79.804	6 <sup>+</sup> 2 <sup>+</sup>				
3439.6	1 <sup>(-)</sup>	3361 3439.6 9	100 17 56	79.804 0.0	2 <sup>+</sup> 0 <sup>+</sup>	(E1)	1.57×10 <sup>-3</sup>	E <sub>γ</sub> ,I <sub>γ</sub> : from (γ,γ'). B(E1)(W.u.)=0.000103 25 E <sub>γ</sub> : from (n,n'γ). I <sub>γ</sub> : from (γ,γ'). Mult.: D, Δπ=(yes) (1996Ma18) from (γ,γ').	
3449	1	3449	100	0.0	0 <sup>+</sup>	D		E <sub>γ</sub> ,Mult.: from (γ,γ').	

**Adopted Levels, Gammas (continued)**

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

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

Adopted Levels, Gammas (continued)

$\gamma(^{168}\text{Er})$ (continued)									
$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult. <sup>†</sup>	$\alpha^f$	Comments	
3617.6	2 <sup>+</sup>	3538.0 <sup>e</sup>		79.804	2 <sup>+</sup>				
3627	1	3627	100	0.0	0 <sup>+</sup>	D			$E_\gamma, \text{Mult.}$ : from $(\gamma, \gamma')$ .
3634	1 <sup>(-)</sup>	3634	100	0.0	0 <sup>+</sup>	(E1)	1.65×10 <sup>-3</sup>		$E_\gamma$ : from $(\gamma, \gamma')$ . Mult.: D, $\Delta\pi$ =(yes) (1996Ma18) in $(\gamma, \gamma')$ .
3643.1	(≤4)	2821.9 <sup>e</sup>	100	821.1685	2 <sup>+</sup>				
3657	1 <sup>(+)</sup>	3577	40 3	79.804	2 <sup>+</sup>				$E_\gamma, I_\gamma$ : from $(\gamma, \gamma')$ .
		3657	100	0.0	0 <sup>+</sup>	(M1)	1.53×10 <sup>-3</sup>		B(M1)(W.u.)=0.036 5 $E_\gamma, I_\gamma$ : from $(\gamma, \gamma')$ . Mult.: D, $\Delta\pi$ =(no) (1996Ma18) in $(\gamma, \gamma')$ .
3660.9	(≤4)	2839.7 <sup>e</sup>	100	821.1685	2 <sup>+</sup>				
3680.1	(2 <sup>+</sup> , 3, 4 <sup>+</sup> )	2685.3 <sup>e</sup>		994.7474	4 <sup>+</sup>				
		2858.9 <sup>e</sup>		821.1685	2 <sup>+</sup>				
3696	1	3616	75 15	79.804	2 <sup>+</sup>				$E_\gamma, I_\gamma$ : from $(\gamma, \gamma')$ .
		3696	100	0.0	0 <sup>+</sup>	D			$E_\gamma, I_\gamma, \text{Mult.}$ : from $(\gamma, \gamma')$ .
3702.5	(≤4)	3622.7 <sup>e</sup>	100	79.804	2 <sup>+</sup>				
3703	1 <sup>-</sup>	3623	100 9	79.804	2 <sup>+</sup>				$E_\gamma, I_\gamma$ : from $(\gamma, \gamma')$ .
		3703	44	0.0	0 <sup>+</sup>	E1	1.67×10 <sup>-3</sup>		B(E1)(W.u.)=0.00026 5 $E_\gamma, I_\gamma, \text{Mult.}$ : from $(\gamma, \gamma')$ .
3715.2		2819.4 <sup>e</sup>	100	895.7947	3 <sup>+</sup>				
3719	1 <sup>(-)</sup>	3639	100 18	79.804	2 <sup>+</sup>				$E_\gamma, I_\gamma$ : from $(\gamma, \gamma')$ .
		3719	84	0.0	0 <sup>+</sup>	(E1)	1.68×10 <sup>-3</sup>		B(E1)(W.u.)=0.00021 6 $E_\gamma, I_\gamma$ : from $(\gamma, \gamma')$ . Mult.: D, $\Delta\pi$ =(yes) (1996Ma18) from $(\gamma, \gamma')$ .
3737	1	3737	100	0.0	0 <sup>+</sup>	D			$E_\gamma, \text{Mult.}$ : from $(\gamma, \gamma')$ .
3739.0	(2 <sup>-</sup> , 3, 4 <sup>+</sup> )	2645.0 <sup>e</sup>		1094.0383	4 <sup>-</sup>				
		2917.8 <sup>e</sup>		821.1685	2 <sup>+</sup>				
3745	1 <sup>(-)</sup>	3665	100 6	79.804	2 <sup>+</sup>				$E_\gamma, I_\gamma$ : from $(\gamma, \gamma')$ .
		3745	64	0.0	0 <sup>+</sup>	(E1)	1.69×10 <sup>-3</sup>		B(E1)(W.u.)=0.00031 5 $E_\gamma, I_\gamma$ : from $(\gamma, \gamma')$ . Mult.: D, $\Delta\pi$ =(yes) (1996Ma18) in $(\gamma, \gamma')$ .
3755.4		2859.6 <sup>e</sup>	100	895.7947	3 <sup>+</sup>				
3761.6	(≤4)	2940.4 <sup>e</sup>	100	821.1685	2 <sup>+</sup>				
3776	1 <sup>(+)</sup>	3696	47 8	79.804	2 <sup>+</sup>				$E_\gamma, I_\gamma$ : from $(\gamma, \gamma')$ .
		3776	100	0.0	0 <sup>+</sup>	(M1)	1.56×10 <sup>-3</sup>		B(M1)(W.u.)=0.0103 20 $E_\gamma, I_\gamma$ : from $(\gamma, \gamma')$ . Mult.: D, $\Delta\pi$ =(no) (1996Ma18) in $(\gamma, \gamma')$ .
3781.7	(4 <sup>+</sup> , 5, 6 <sup>+</sup> )	2786.9 <sup>e</sup>		994.7474	4 <sup>+</sup>				
		3233.0 <sup>e</sup>		548.7470	6 <sup>+</sup>				
		3517.6 <sup>e</sup>		264.0888	4 <sup>+</sup>				

**Adopted Levels, Gammas (continued)**

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

$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_f$	$J_f^\pi$	Mult. <sup>†</sup>	$\alpha^f$	Comments
3789	1	3789	100	0.0	0 <sup>+</sup>	D		$E_\gamma, \text{Mult.}$ : from $(\gamma, \gamma')$ .
3799.4		3250.7 <sup>e</sup>	100	548.7470	6 <sup>+</sup>			
3800	1 <sup>(-)</sup>	3720	190 40	79.804	2 <sup>+</sup>			$E_\gamma, I_\gamma$ : from $(\gamma, \gamma')$ .
		3800	100	0.0	0 <sup>+</sup>	(E1)	$1.71 \times 10^{-3}$	$B(E1)(\text{W.u.})=0.00012$ 4 $E_\gamma, I_\gamma$ : from $(\gamma, \gamma')$ . Mult.: D, $\Delta\pi=(\text{yes})$ (1996Ma18) in $(\gamma, \gamma')$ .
3806	1 <sup>+</sup>	3726	53 4	79.804	2 <sup>+</sup>			$E_\gamma, I_\gamma$ : from $(\gamma, \gamma')$ .
		3806	100	0.0	0 <sup>+</sup>	M1	$1.57 \times 10^{-3}$	$B(M1)(\text{W.u.})=0.037$ 6 $E_\gamma, I_\gamma, \text{Mult.}$ : from $(\gamma, \gamma')$ .
3814	1 <sup>(-)</sup>	3734	74 10	79.804	2 <sup>+</sup>			$E_\gamma, I_\gamma$ : from $(\gamma, \gamma')$ .
		3814	100	0.0	0 <sup>+</sup>	(E1)	$1.72 \times 10^{-3}$	$B(E1)(\text{W.u.})=0.00022$ 5 $E_\gamma, I_\gamma$ : from $(\gamma, \gamma')$ . Mult.: D, $\Delta\pi=(\text{yes})$ (1996Ma18) in $(\gamma, \gamma')$ .
3817.0	( $\leq 4$ )	2995.8 <sup>e</sup>	100	821.1685	2 <sup>+</sup>			
3835.2		3571.1 <sup>e</sup>	100	264.0888	4 <sup>+</sup>			
3869	1	3869	100	0.0	0 <sup>+</sup>	D		$E_\gamma, \text{Mult.}$ : from $(\gamma, \gamma')$ .
3888.4		2992.6 <sup>e</sup>	100	895.7947	3 <sup>+</sup>			
3895.2		3631.1 <sup>e</sup>	100	264.0888	4 <sup>+</sup>			
3908.3		3644.2 <sup>e</sup>	100	264.0888	4 <sup>+</sup>			
3912	1	3912	100	0.0	0 <sup>+</sup>	D		$E_\gamma, \text{Mult.}$ : from $(\gamma, \gamma')$ .
3921	1 <sup>(-)</sup>	3841	42 8	79.804	2 <sup>+</sup>			$E_\gamma, I_\gamma$ : from $(\gamma, \gamma')$ .
		3921	100	0.0	0 <sup>+</sup>	(E1)	$1.75 \times 10^{-3}$	$B(E1)(\text{W.u.})=0.00012$ 3 $E_\gamma, I_\gamma$ : from $(\gamma, \gamma')$ . Mult.: D, $\Delta\pi=(\text{yes})$ (1996Ma18) in $(\gamma, \gamma')$ .

<sup>†</sup> From <sup>167</sup>Er(n, $\gamma$ ) E=thermal, except where noted.

<sup>‡</sup> Relative photon branching from each level; values are from <sup>167</sup>Er(n, $\gamma$ ) E=thermal, except where noted. Upper limits are given for photon branchings affected by multiple placement.

<sup>#</sup> <-91 or >+200, or +32 +24-9 (1998A115), -28 +6-12 (1981Iw04), -28 +9-23 (1975Be43), +64 +135-26 (1971La11 from  $\gamma\gamma(\theta)$  in  $\epsilon$  decay;  $\geq 29$  (1972Do01) and  $\leq -25$  (1978Mc02) from Coulomb excitation; +26 +27-8 from (n,n' $\gamma$ ). Data are inconsistent, but M1 admixture (if any) clearly is small. Evaluator adopts a magnitude of 25 as a lower limit for  $\delta(741)$ .

<sup>@</sup> From  $\gamma\gamma(\theta)$  (1981Iw04) in <sup>168</sup>Tm  $\epsilon$  decay. Other  $\delta$ :  $\delta=5.1 +56-13$  from ce data in Er(n, $\gamma$ ) E=thermal; -4.9 3 (1975Be43) in  $\epsilon$  decay; however  $\delta > 71$  (1975Ab06) in  $\epsilon$  decay and  $\delta = -12.0 +16-23$  from  $\gamma(\theta)$  in (n,n' $\gamma$ ).

<sup>&</sup> Weighted average of +20 4 (1981Iw04), +17 3 (1975Be43), +13 +9-3 (1975Ab06) from  $\gamma\gamma(\theta)$  in <sup>168</sup>Tm  $\epsilon$  decay. Other  $\delta$ :  $1/(+0.005$  15) (i.e.,  $\delta < -100$  or  $\delta > +50$ ) (1998A115) from 816 $\gamma$ -80 $\gamma(\theta)$  in  $\epsilon$  decay; 5.1 +12-7 from sub-shell ratios in Er(n, $\gamma$ ) E=thermal; -70 +40-570 from  $\gamma(\theta)$  in (n,n' $\gamma$ ).

<sup>a</sup> From Coulomb excitation.

<sup>b</sup> From  $\gamma\gamma(\theta)$  in <sup>168</sup>Tm  $\epsilon$  decay.

**Adopted Levels, Gammas (continued)**

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

<sup>c</sup> From ce data in  $^{168}\text{Tm}$   $\varepsilon$  decay.

<sup>d</sup> From  $^{168}\text{Tm}$   $\varepsilon$  decay.

<sup>e</sup> From level energy difference in (n, $\gamma$ ) E=thermal.

<sup>f</sup> Total theoretical internal conversion coefficients, calculated using the BrIcc code ([2008Ki07](#)) with Frozen orbital approximation based on  $\gamma$ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

<sup>g</sup> Multiply placed with undivided intensity.

<sup>h</sup> Multiply placed with intensity suitably divided.

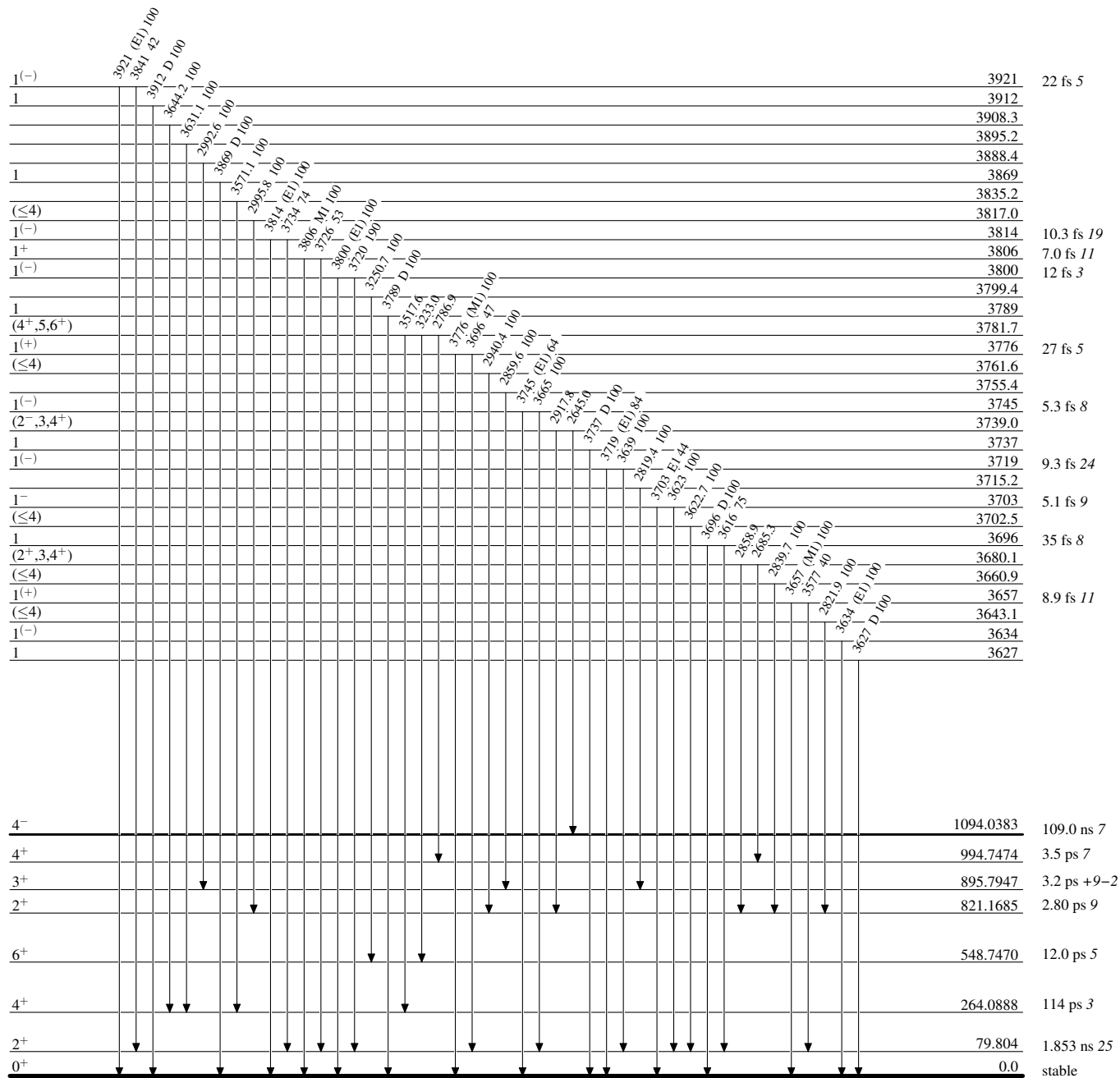
<sup>i</sup> Placement of transition in the level scheme is uncertain.



**Adopted Levels, Gammas**

**Level Scheme**

Intensities: Relative photon branching from each level

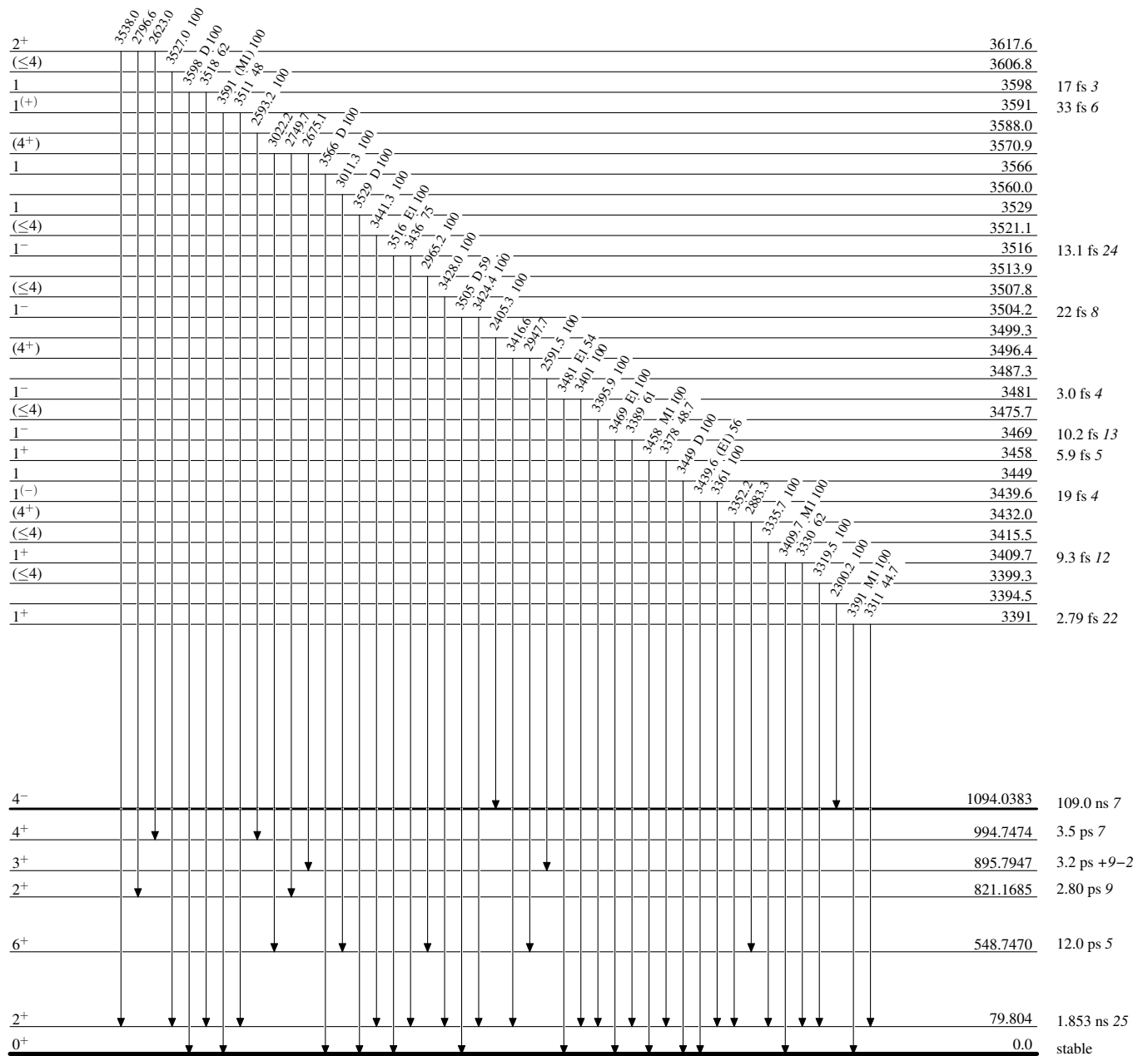


$^{168}_{68}\text{Er}_{100}$

**Adopted Levels, Gammas**

**Level Scheme (continued)**

Intensities: Relative photon branching from each level

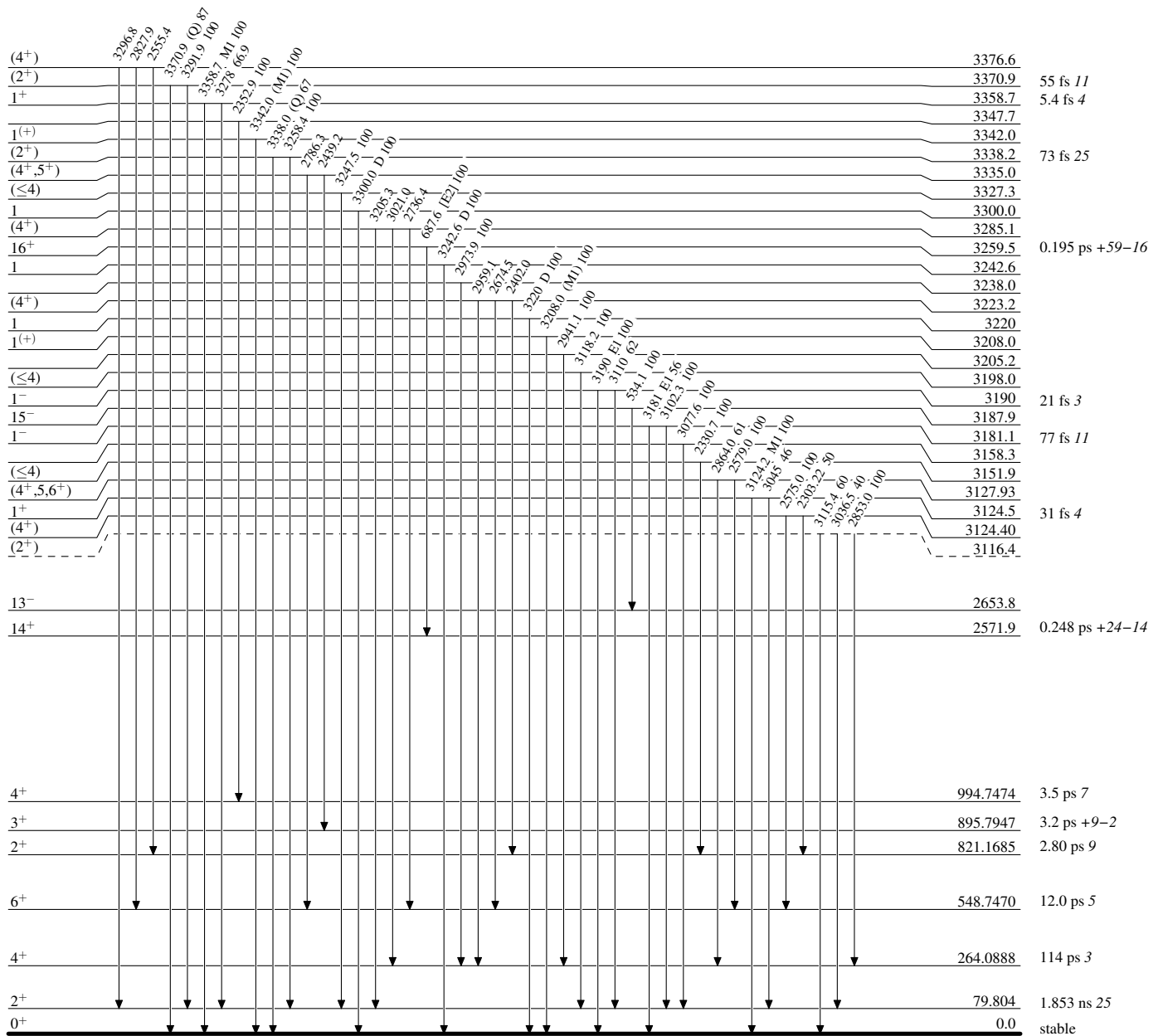


$^{168}_{68}\text{Er}_{100}$

**Adopted Levels, Gammas**

**Level Scheme (continued)**

Intensities: Relative photon branching from each level



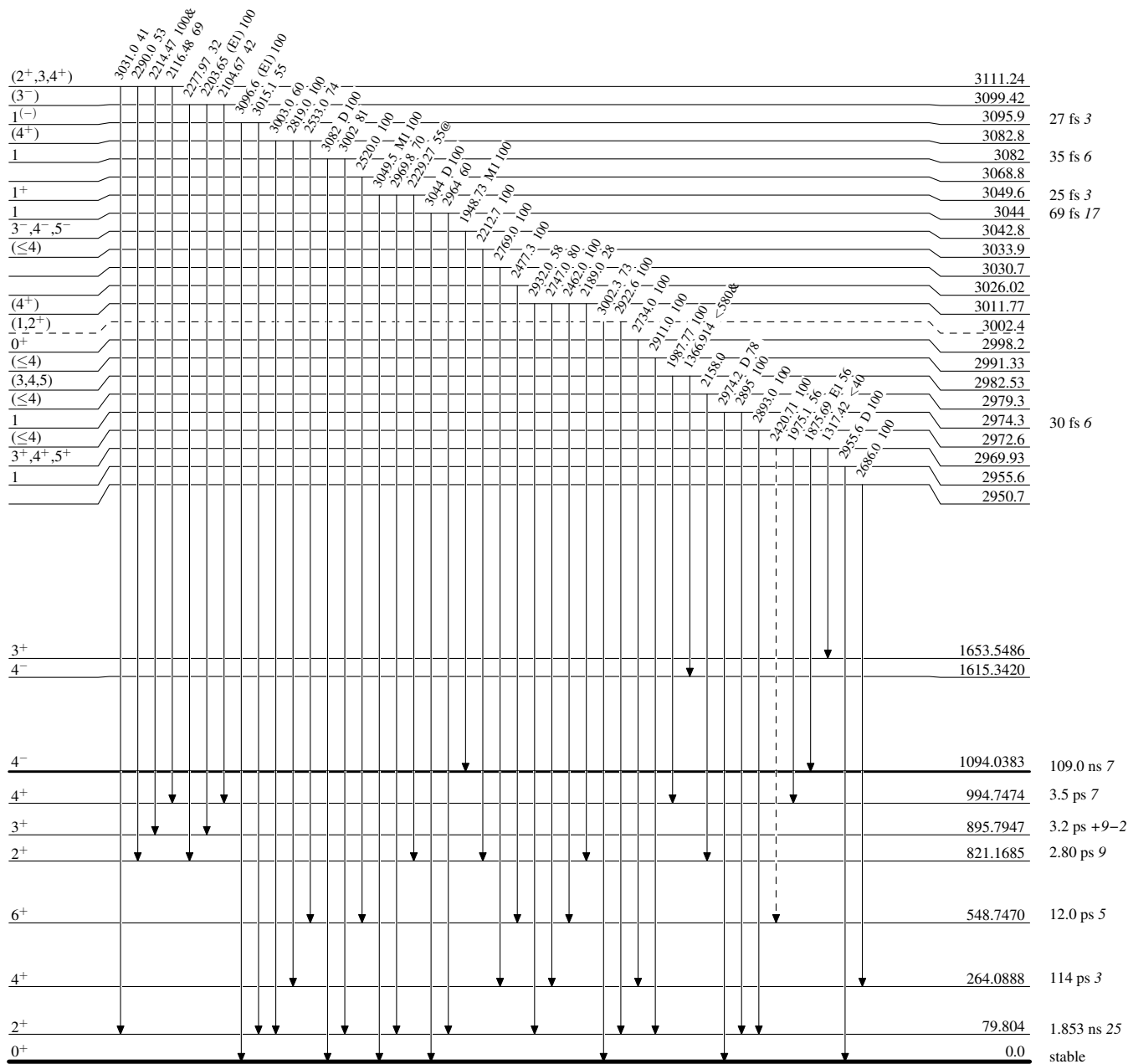
**Adopted Levels, Gammas**

**Level Scheme (continued)**

Legend

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

-----▶  $\gamma$  Decay (Uncertain)



<sup>168</sup>Er<sub>100</sub>

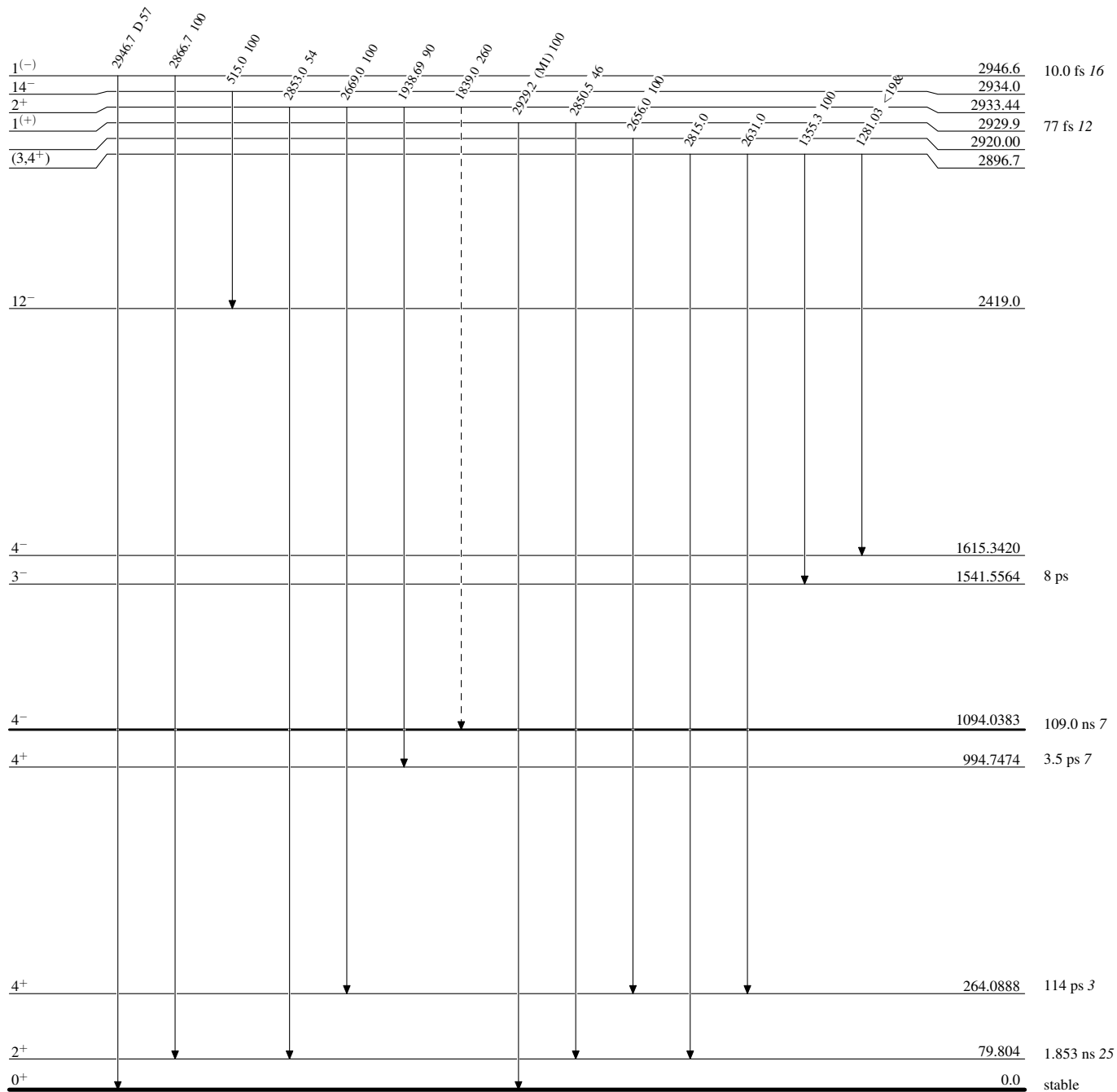
**Adopted Levels, Gammas**

**Level Scheme (continued)**

**Legend**

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

-----▶  $\gamma$  Decay (Uncertain)

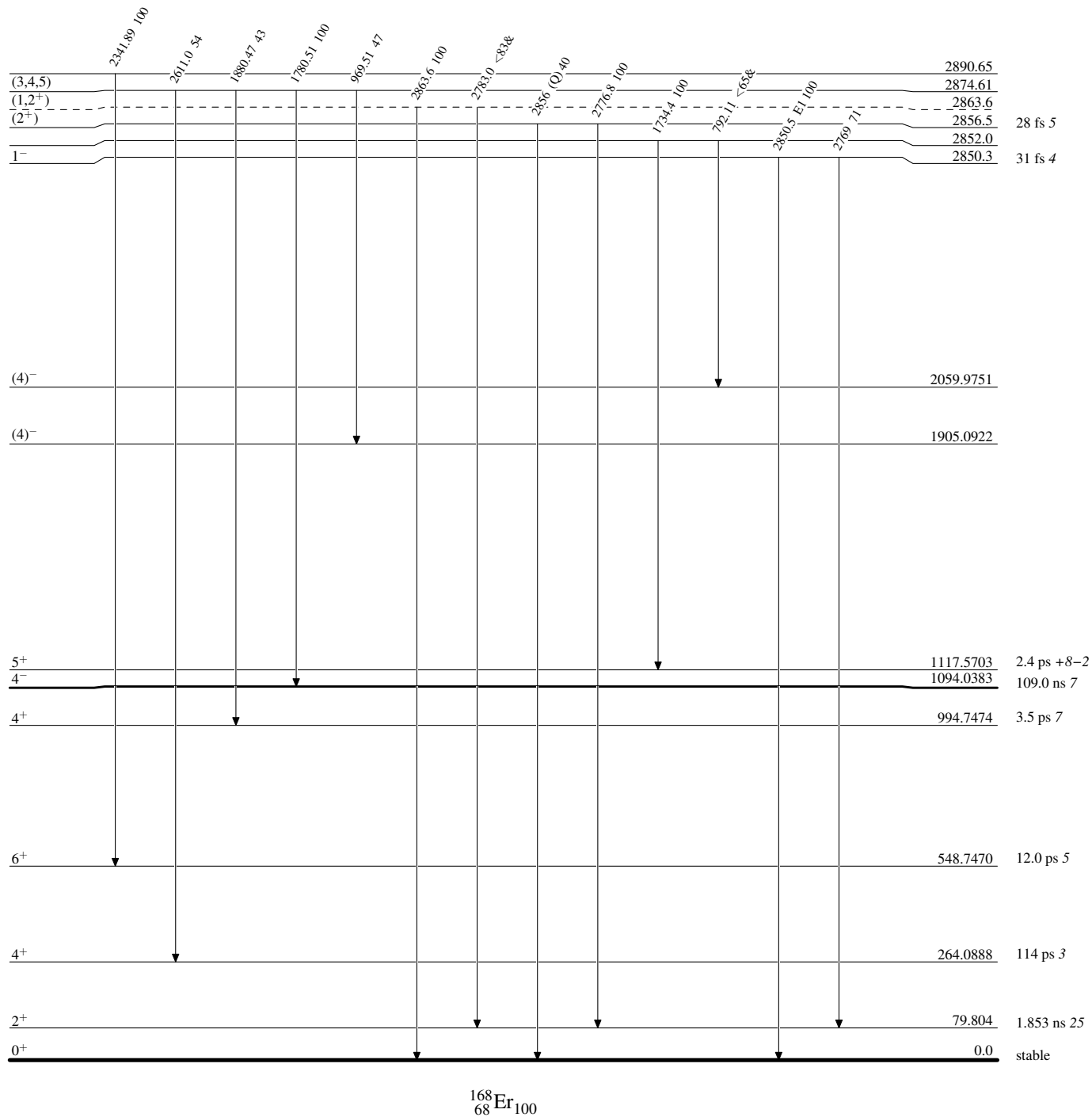


$^{168}_{68}\text{Er}_{100}$

**Adopted Levels, Gammas**

Level Scheme (continued)

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

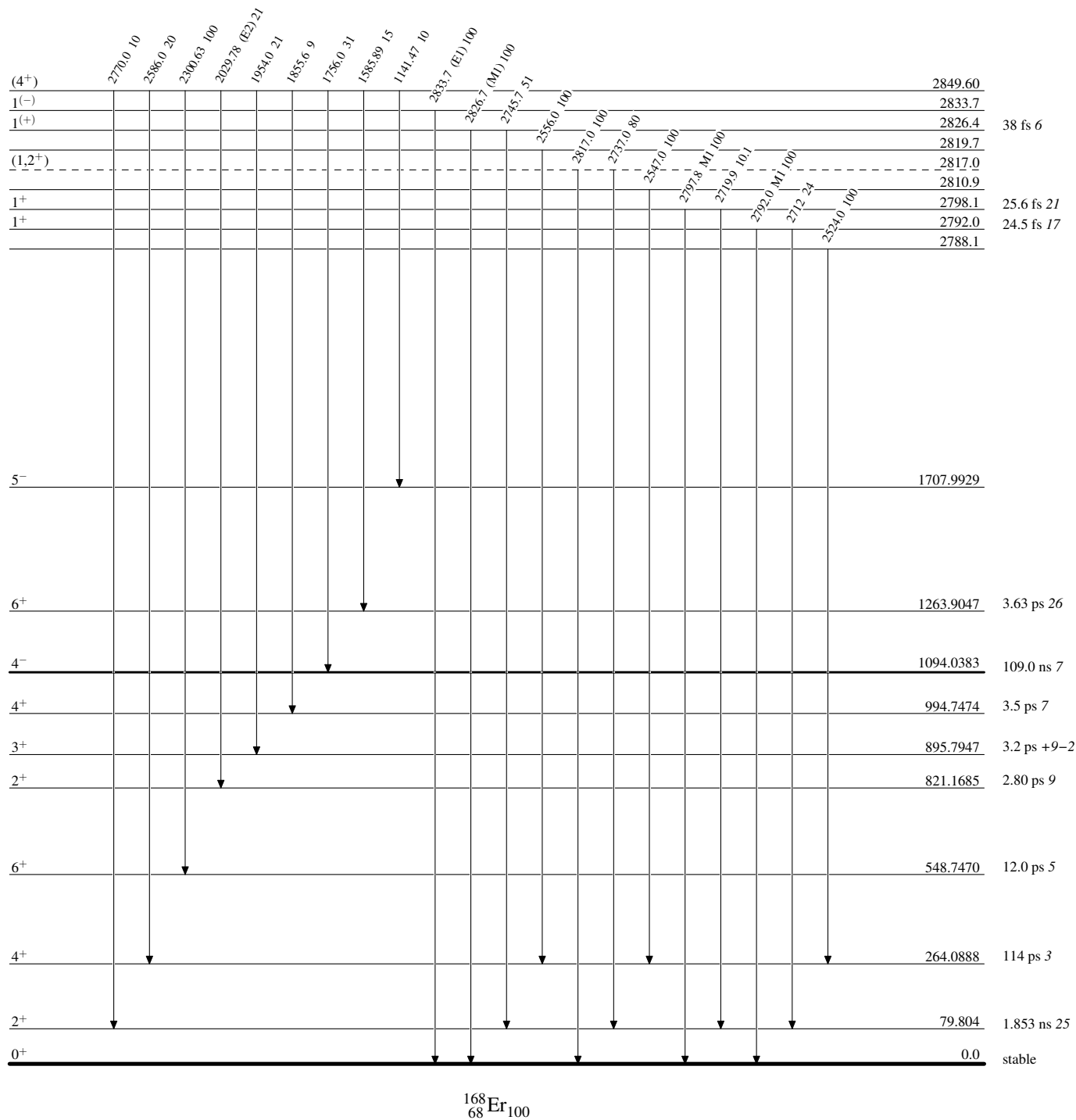


$^{168}_{68}\text{Er}_{100}$

**Adopted Levels, Gammas**

Level Scheme (continued)

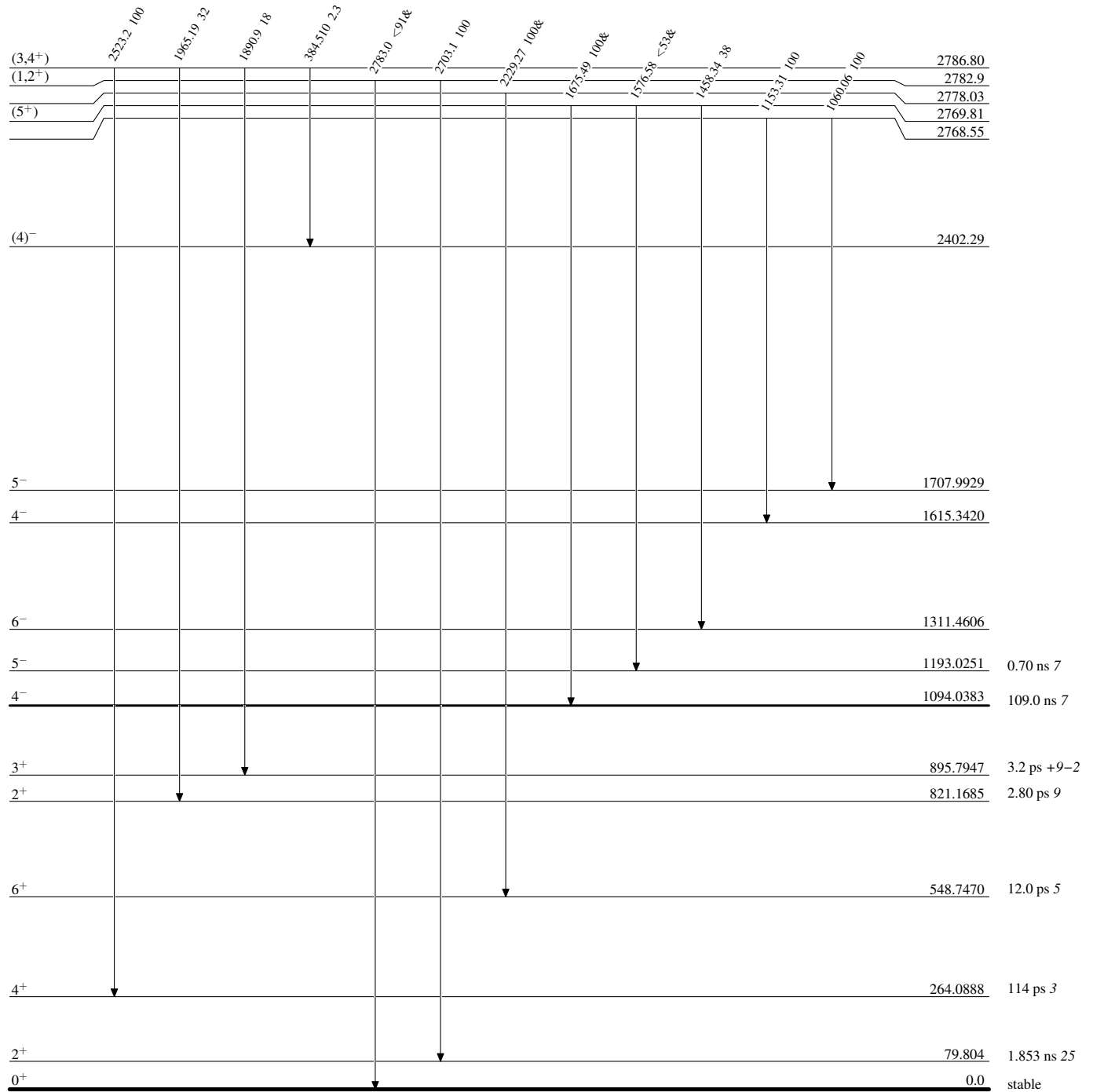
Intensities: Relative photon branching from each level  
 & Multiply placed: undivided intensity given  
 @ Multiply placed: intensity suitably divided



**Adopted Levels, Gammas**

Level Scheme (continued)

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



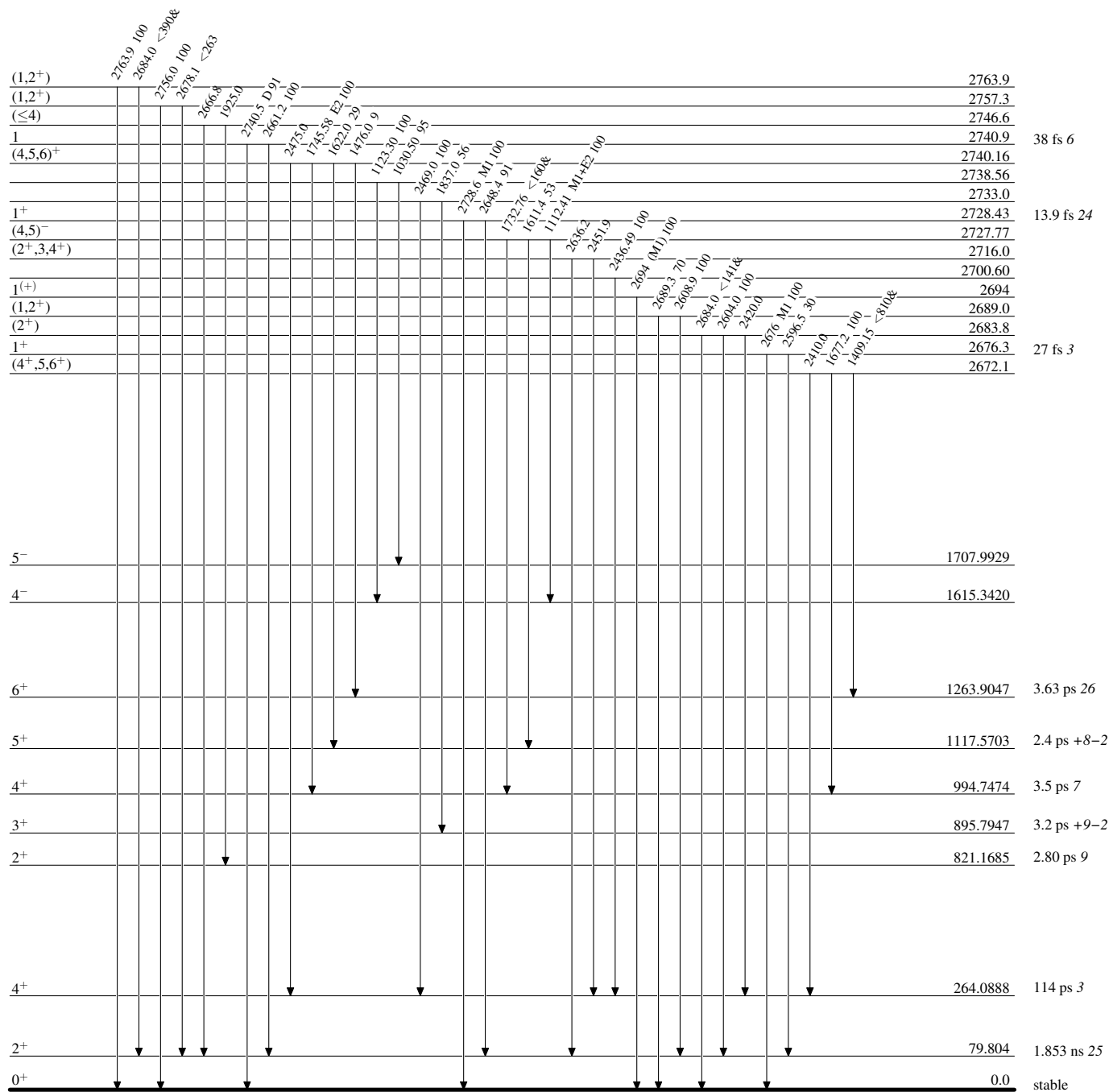
$^{168}_{68}\text{Er}_{100}$



**Adopted Levels, Gammas**

**Level Scheme (continued)**

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

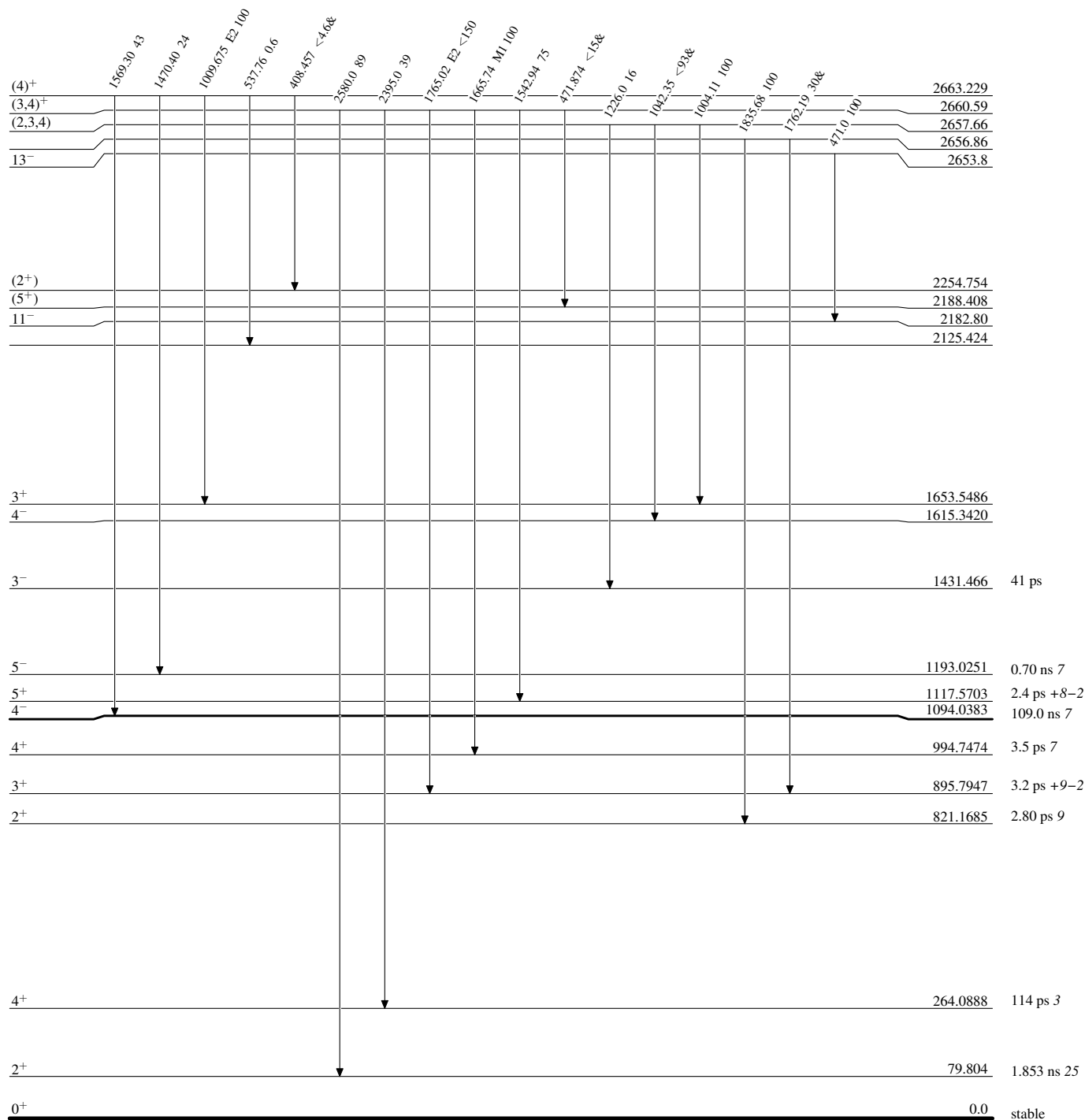


$^{168}_{68}\text{Er}_{100}$

**Adopted Levels, Gammas**

**Level Scheme (continued)**

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

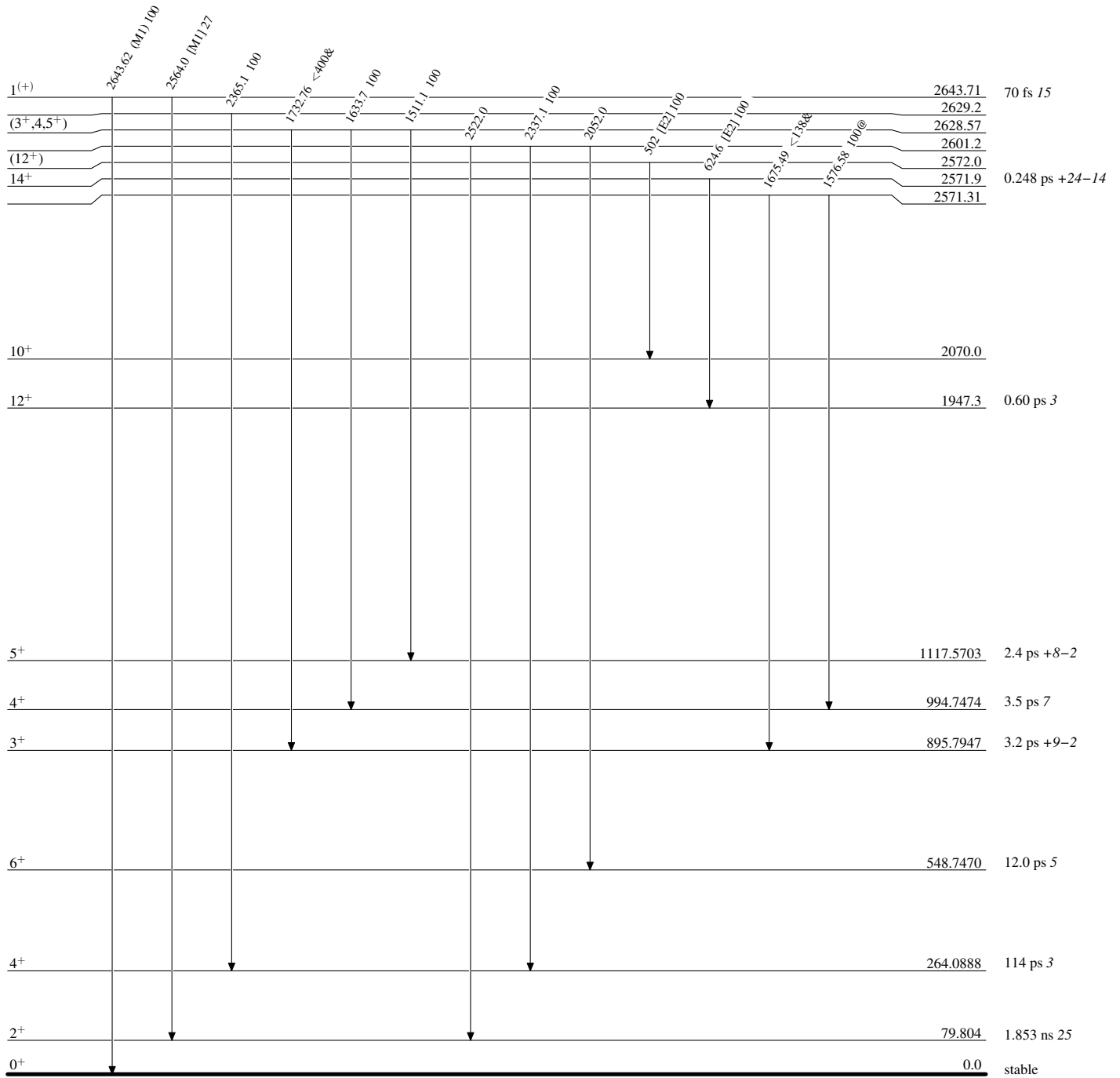


$^{168}_{68}\text{Er}_{100}$

**Adopted Levels, Gammas**

Level Scheme (continued)

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



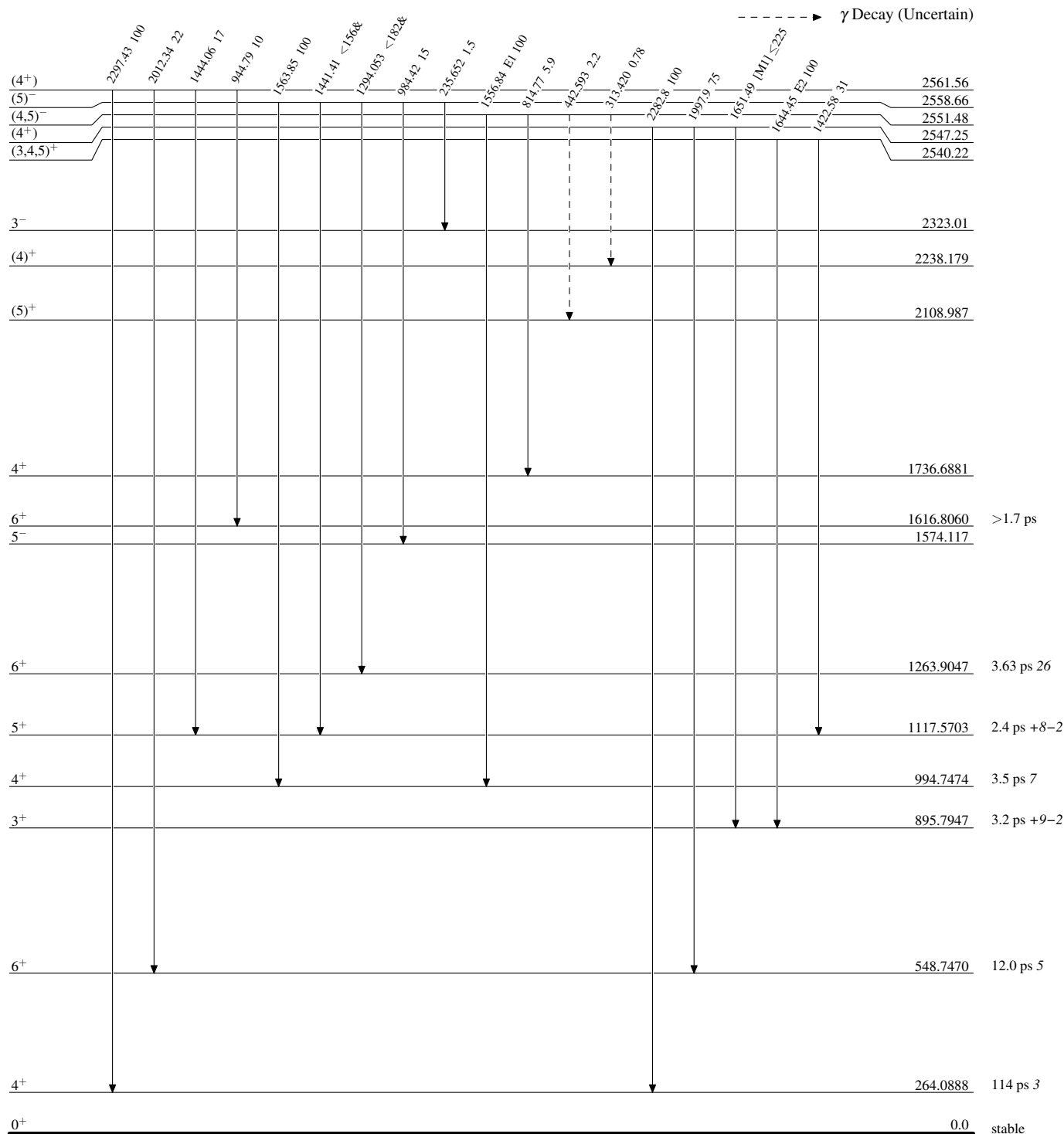
$^{168}_{68}\text{Er}_{100}$

**Adopted Levels, Gammas**

**Level Scheme (continued)**

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

Legend



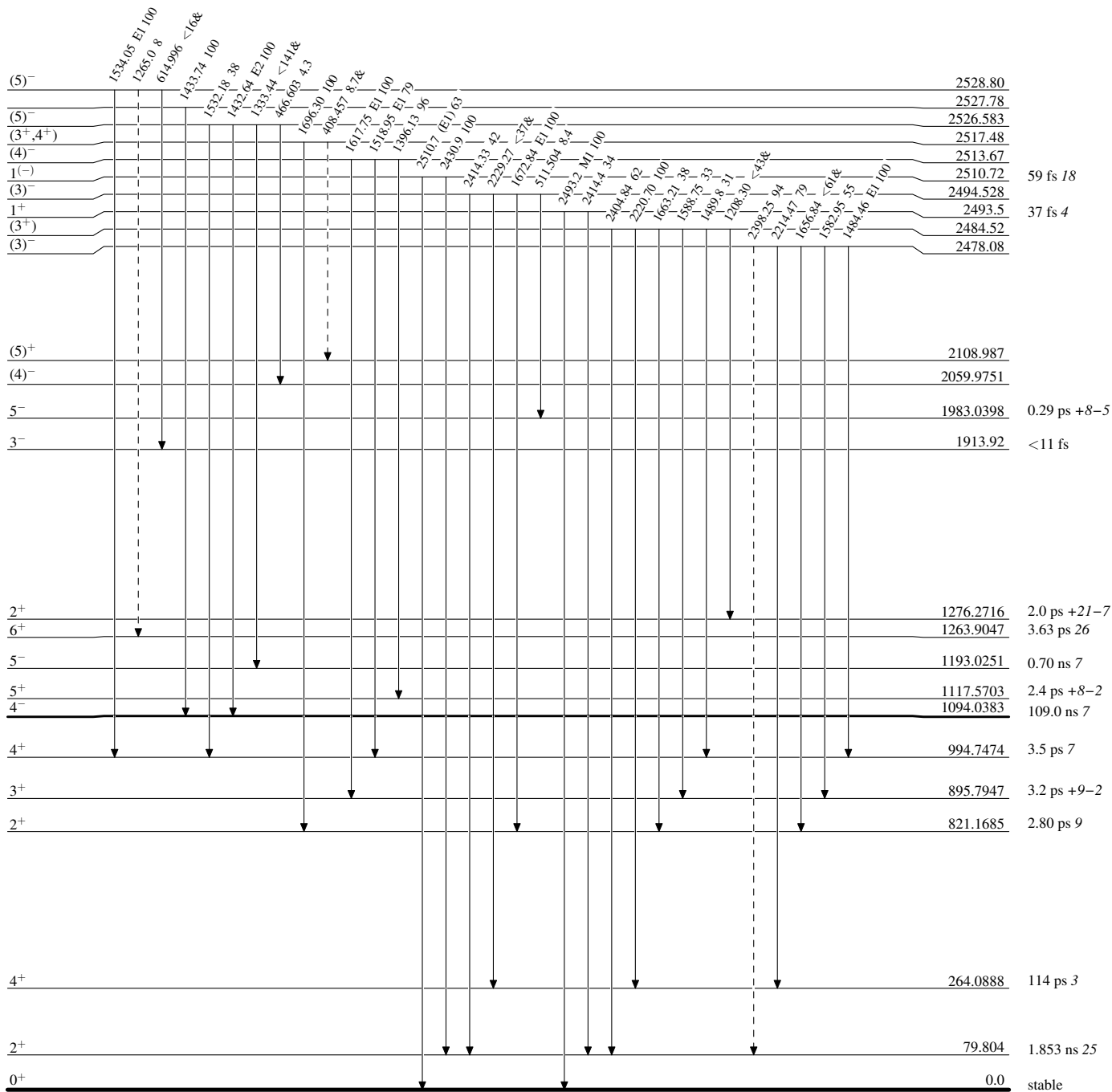
**Adopted Levels, Gammas**

**Level Scheme (continued)**

**Legend**

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

-----▶  $\gamma$  Decay (Uncertain)

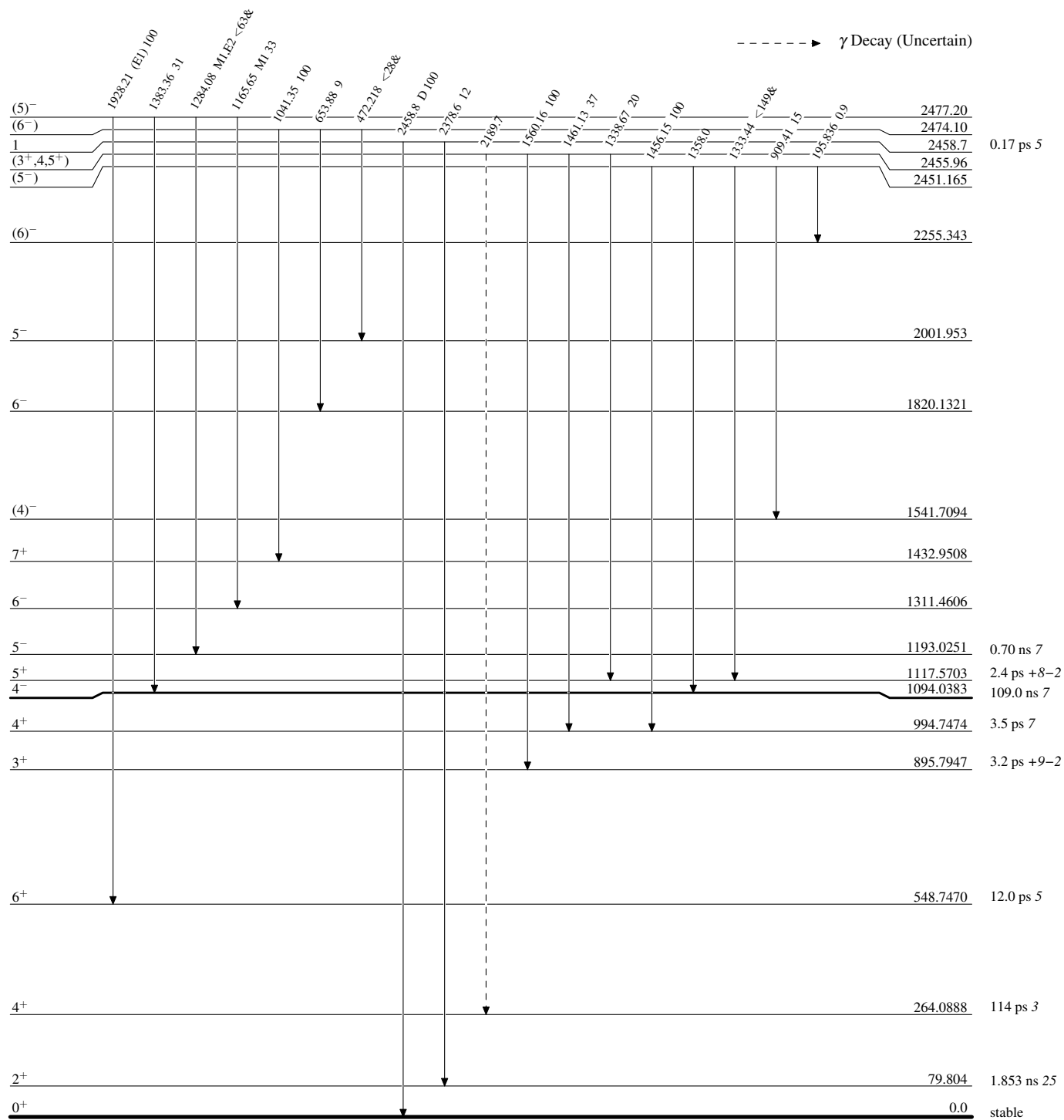


$^{168}\text{Er}_{100}$

**Adopted Levels, Gammas****Level Scheme (continued)**

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

Legend



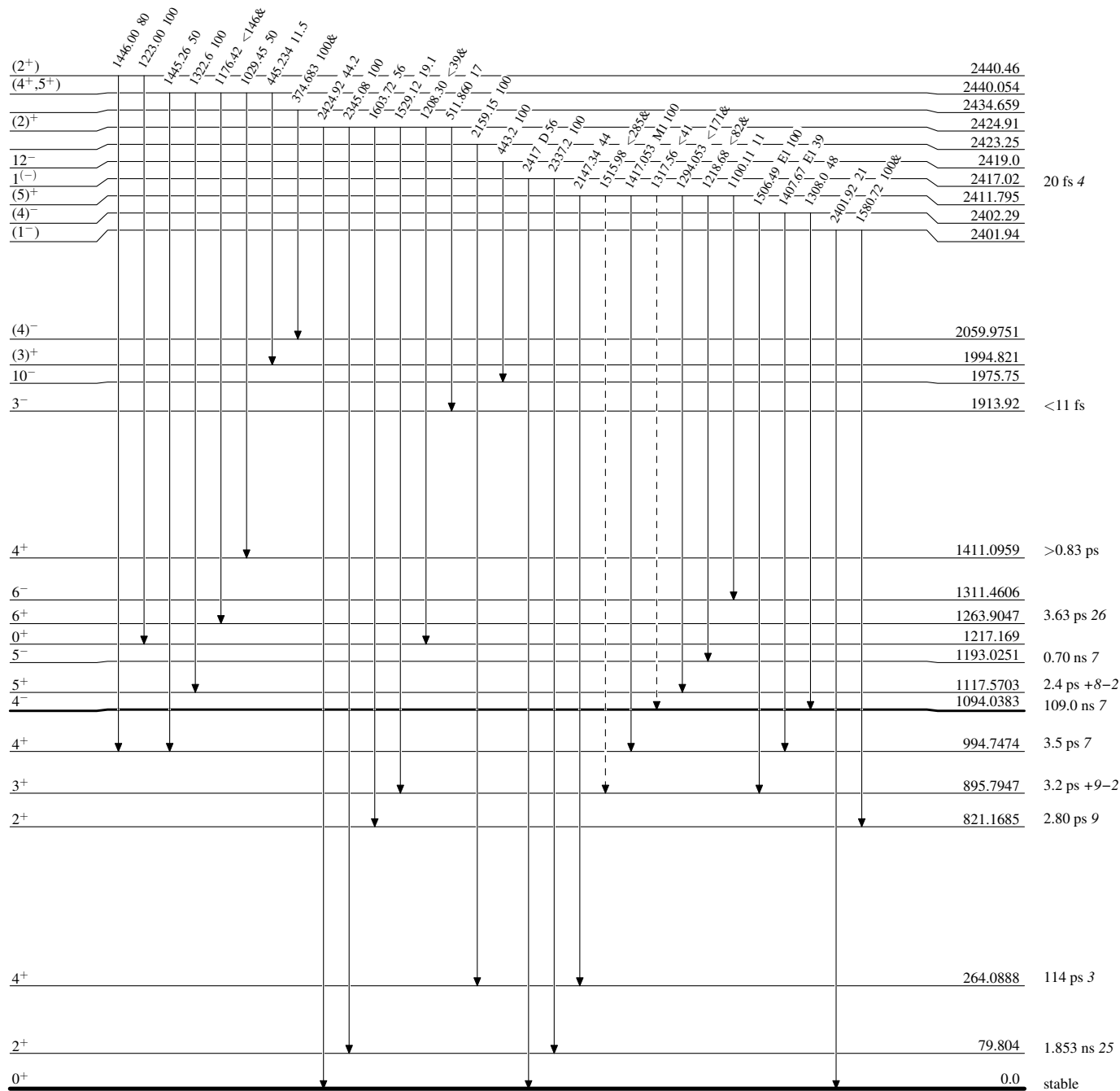
**Adopted Levels, Gammas**

Level Scheme (continued)

Legend

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

-----▶  $\gamma$  Decay (Uncertain)



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

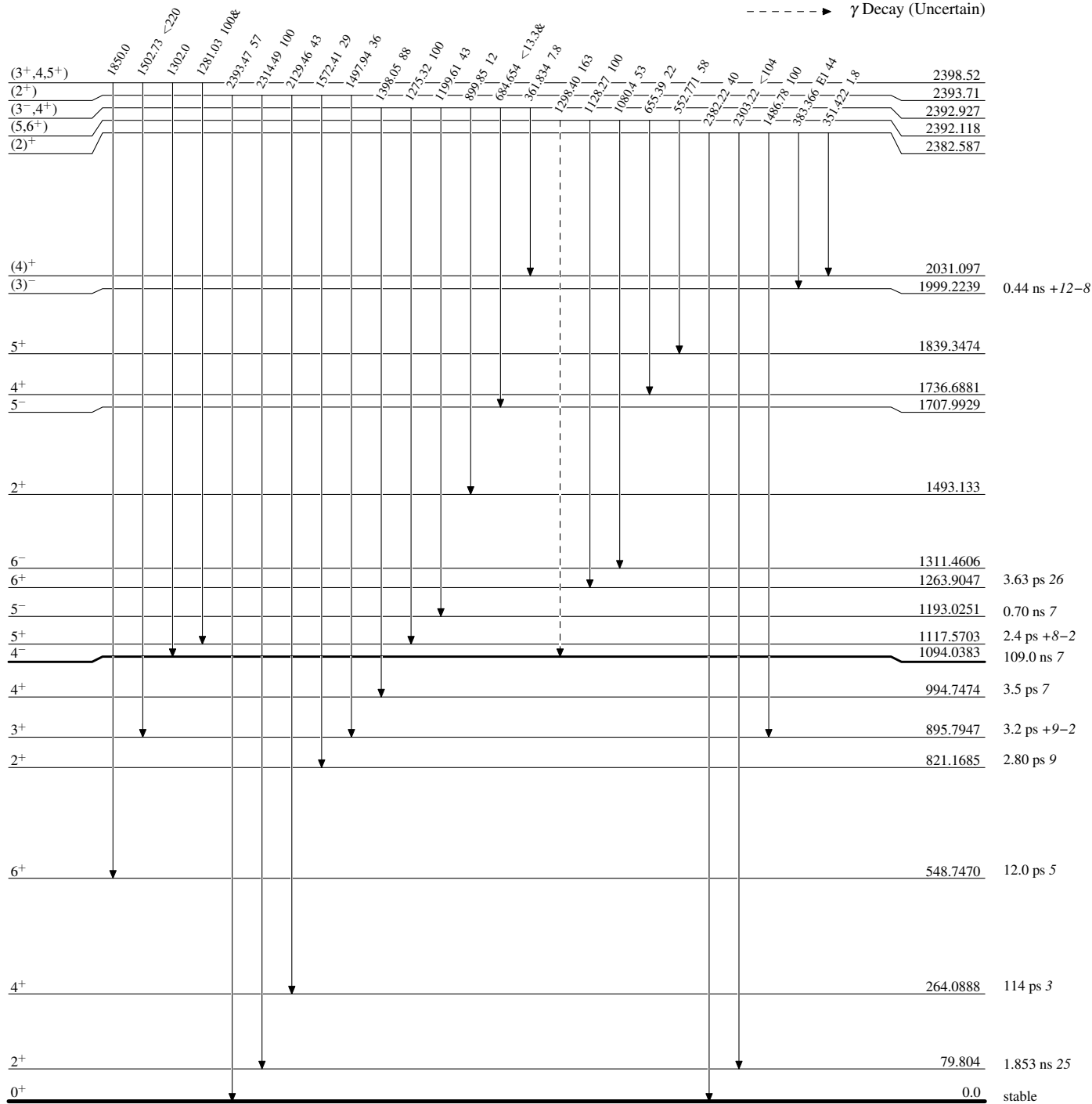
**Adopted Levels, Gammas**

Level Scheme (continued)

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

Legend

-----▶  $\gamma$  Decay (Uncertain)



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



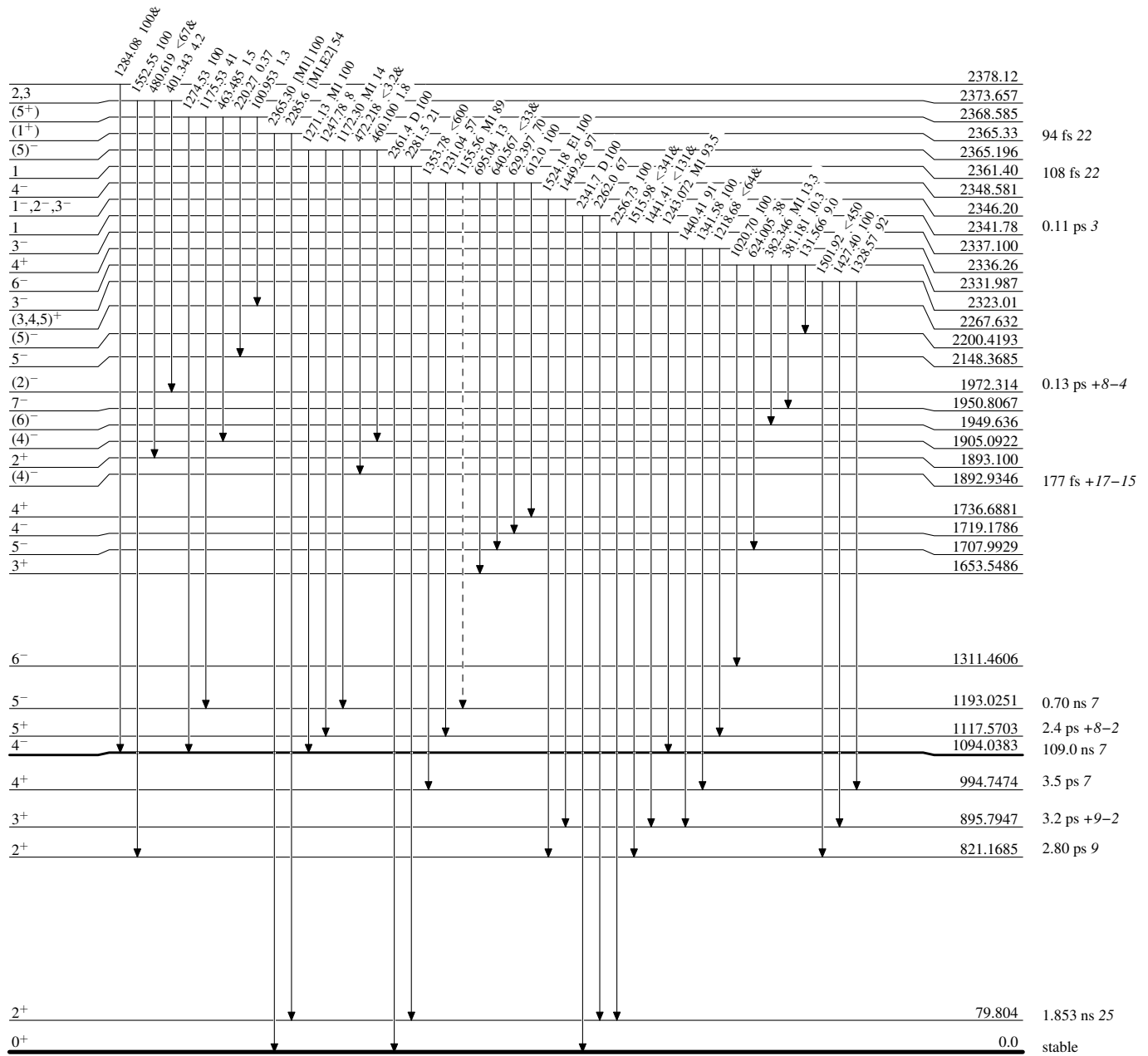
**Adopted Levels, Gammas**

**Level Scheme (continued)**

Legend

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

----->  $\gamma$  Decay (Uncertain)



<sup>168</sup>Er<sub>68</sub>100

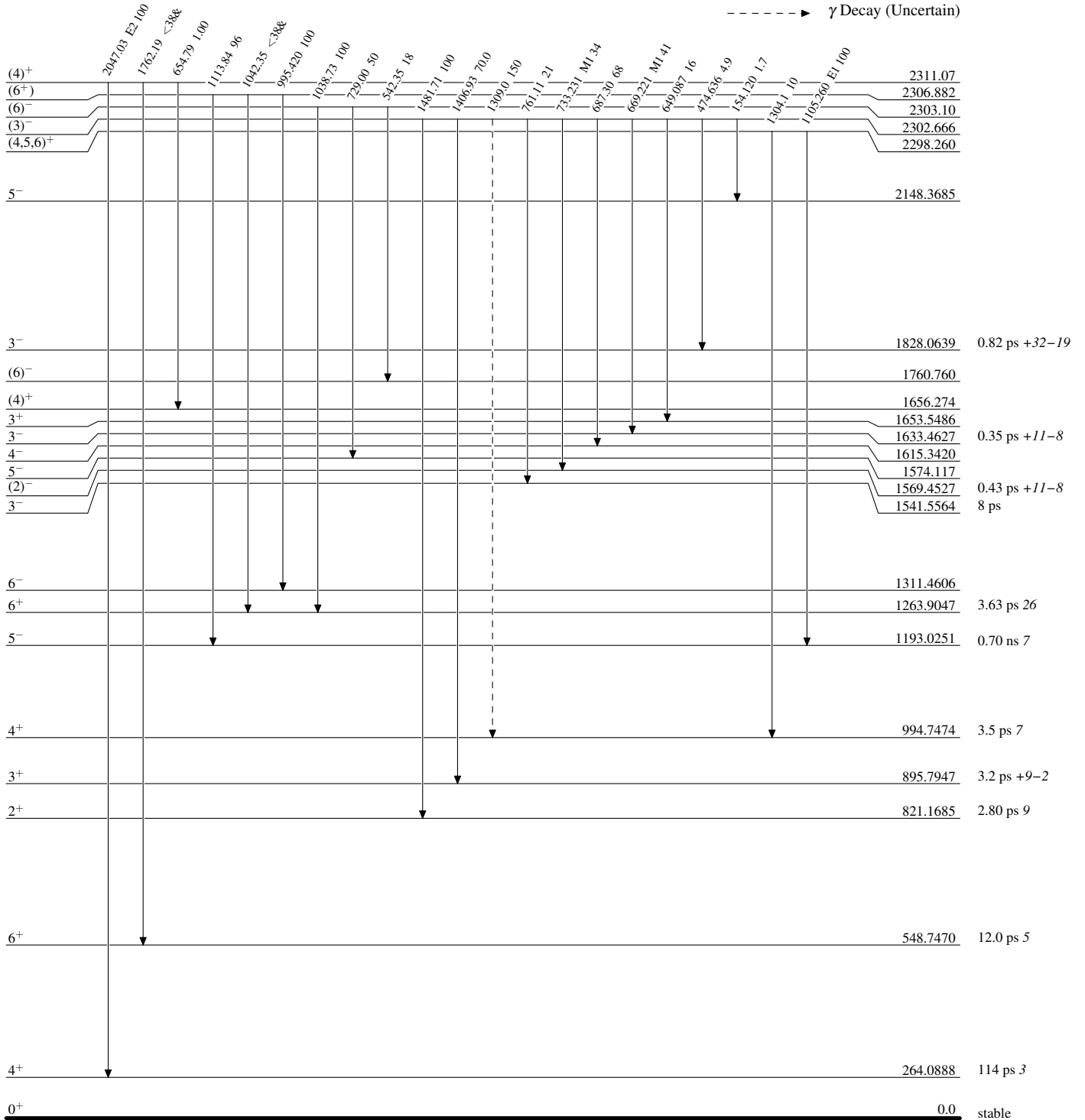
**Adopted Levels, Gammas**

**Level Scheme (continued)**

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

Legend

-----▶  $\gamma$  Decay (Uncertain)



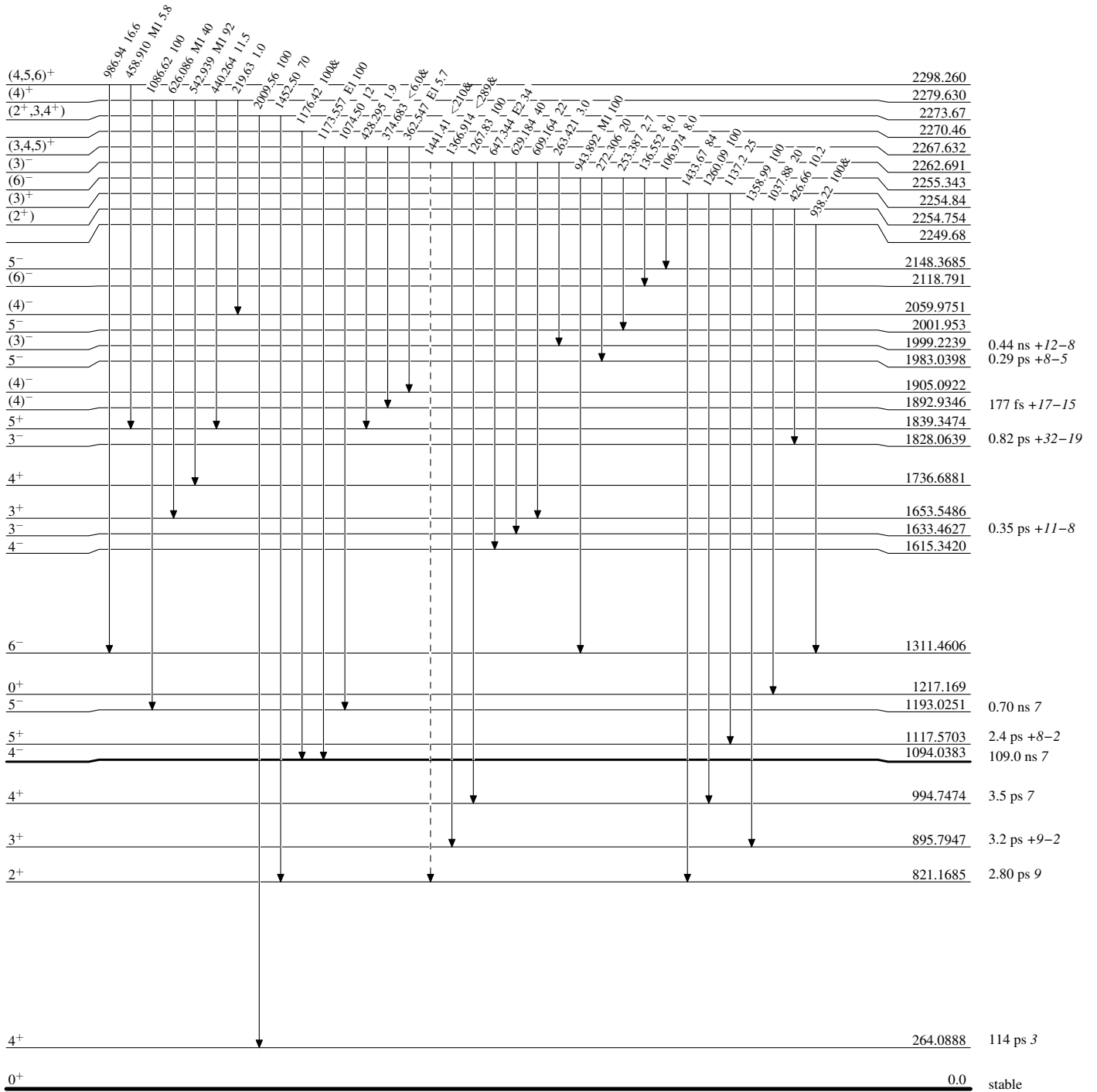
**Adopted Levels, Gammas**

Level Scheme (continued)

Legend

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

----->  $\gamma$  Decay (Uncertain)



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

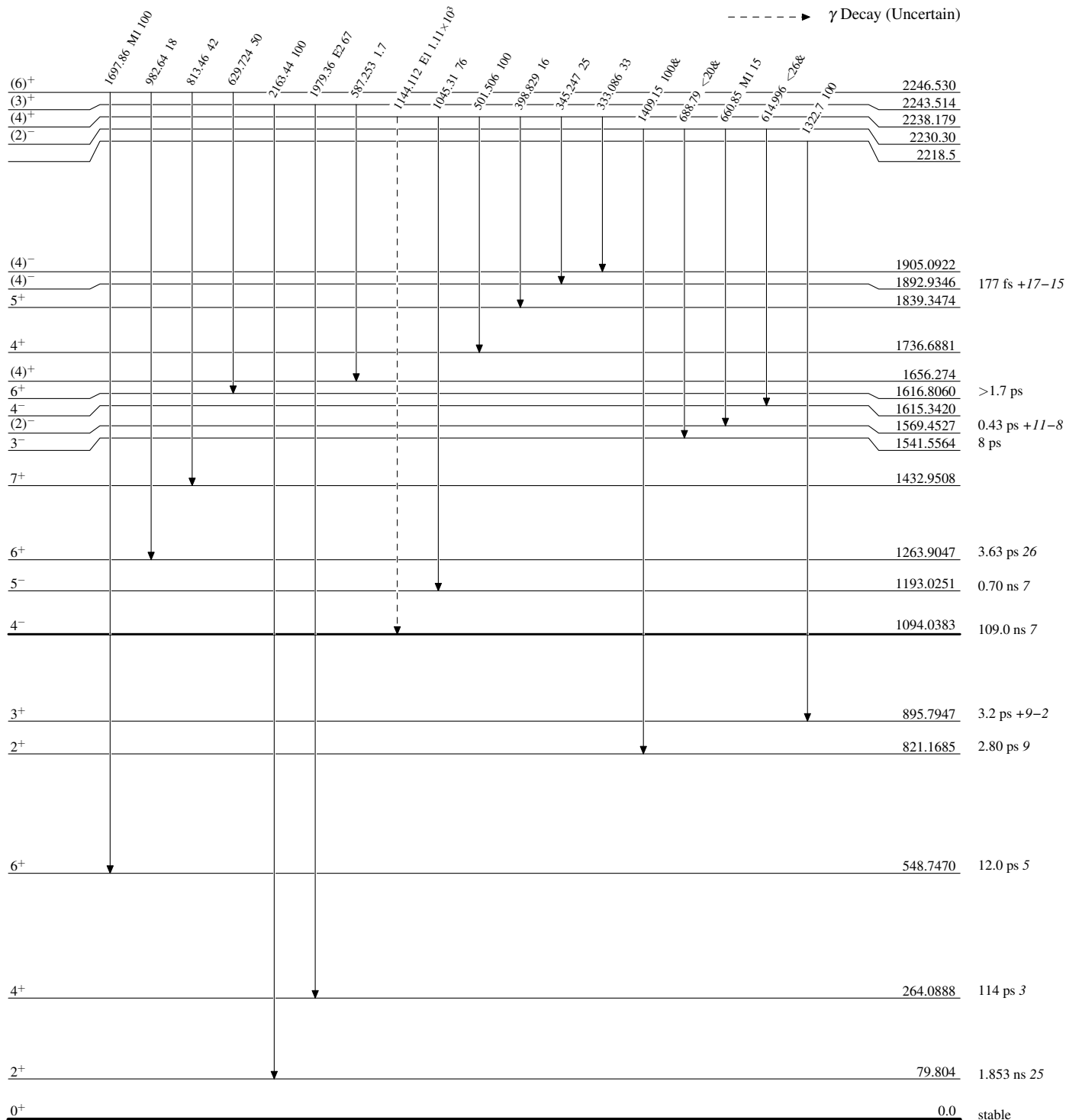
**Adopted Levels, Gammas**

**Level Scheme (continued)**

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

Legend

----->  $\gamma$  Decay (Uncertain)



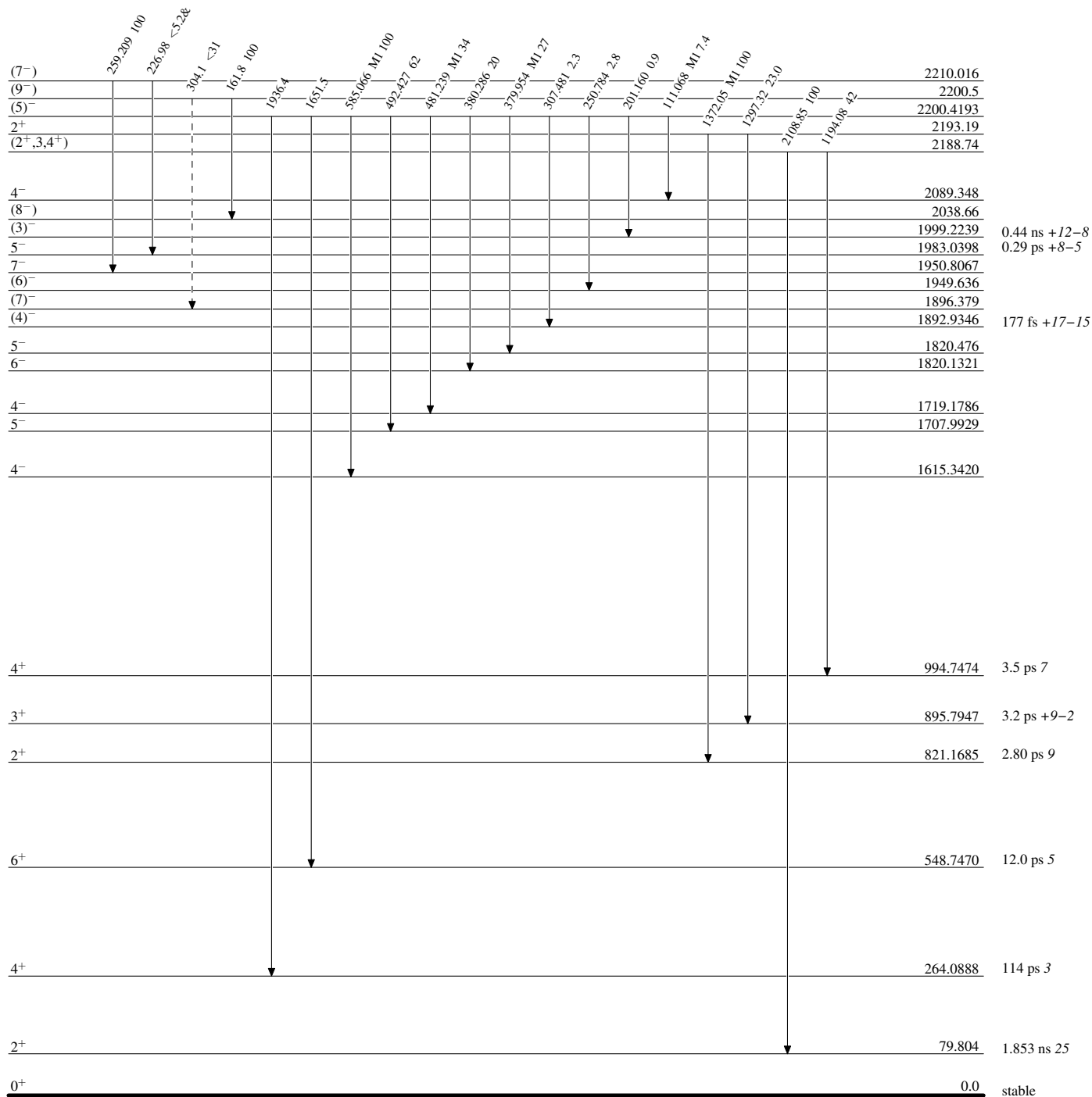
**Adopted Levels, Gammas**

Level Scheme (continued)

Legend

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

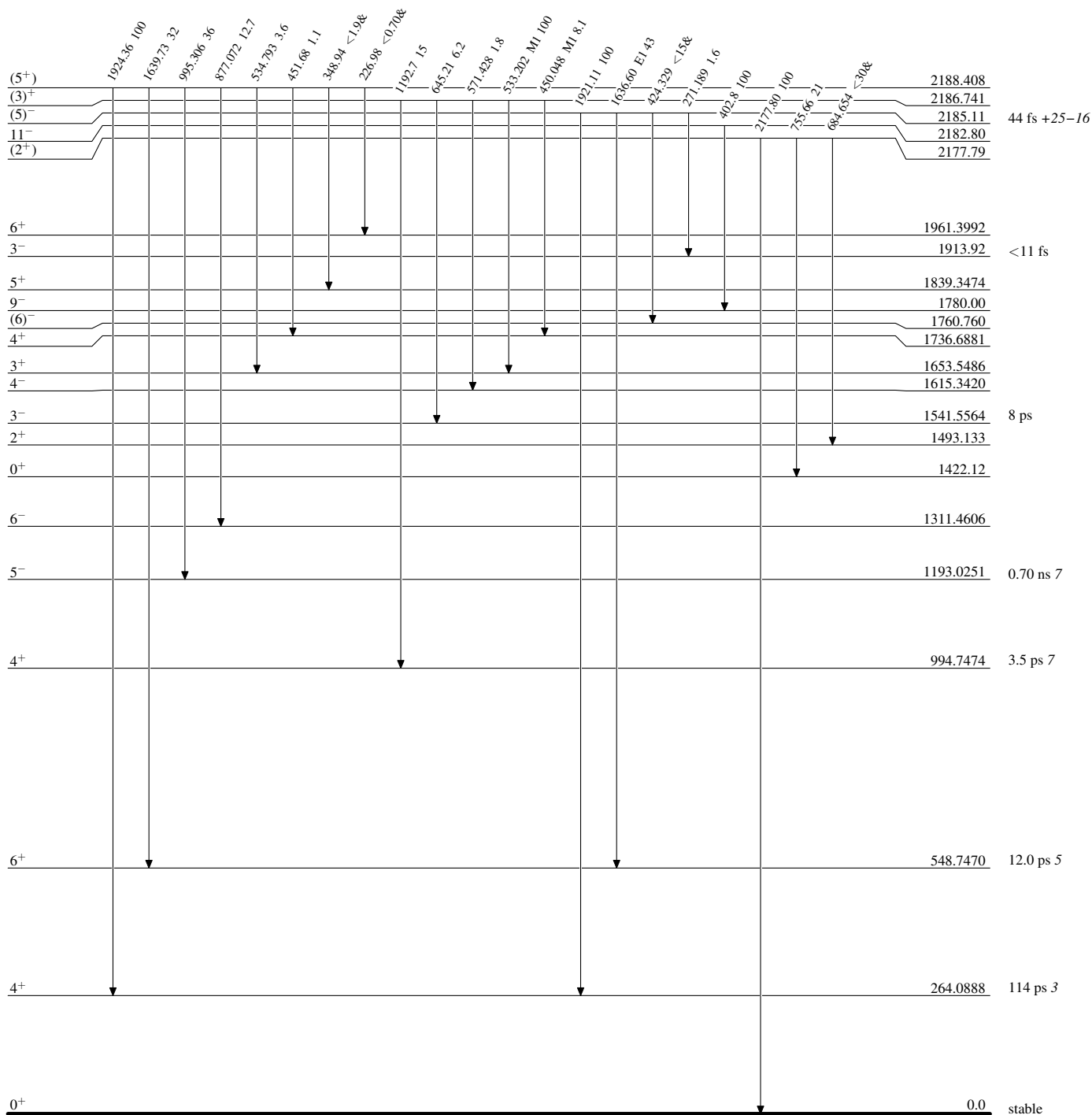
-----▶  $\gamma$  Decay (Uncertain)



**Adopted Levels, Gammas**

**Level Scheme (continued)**

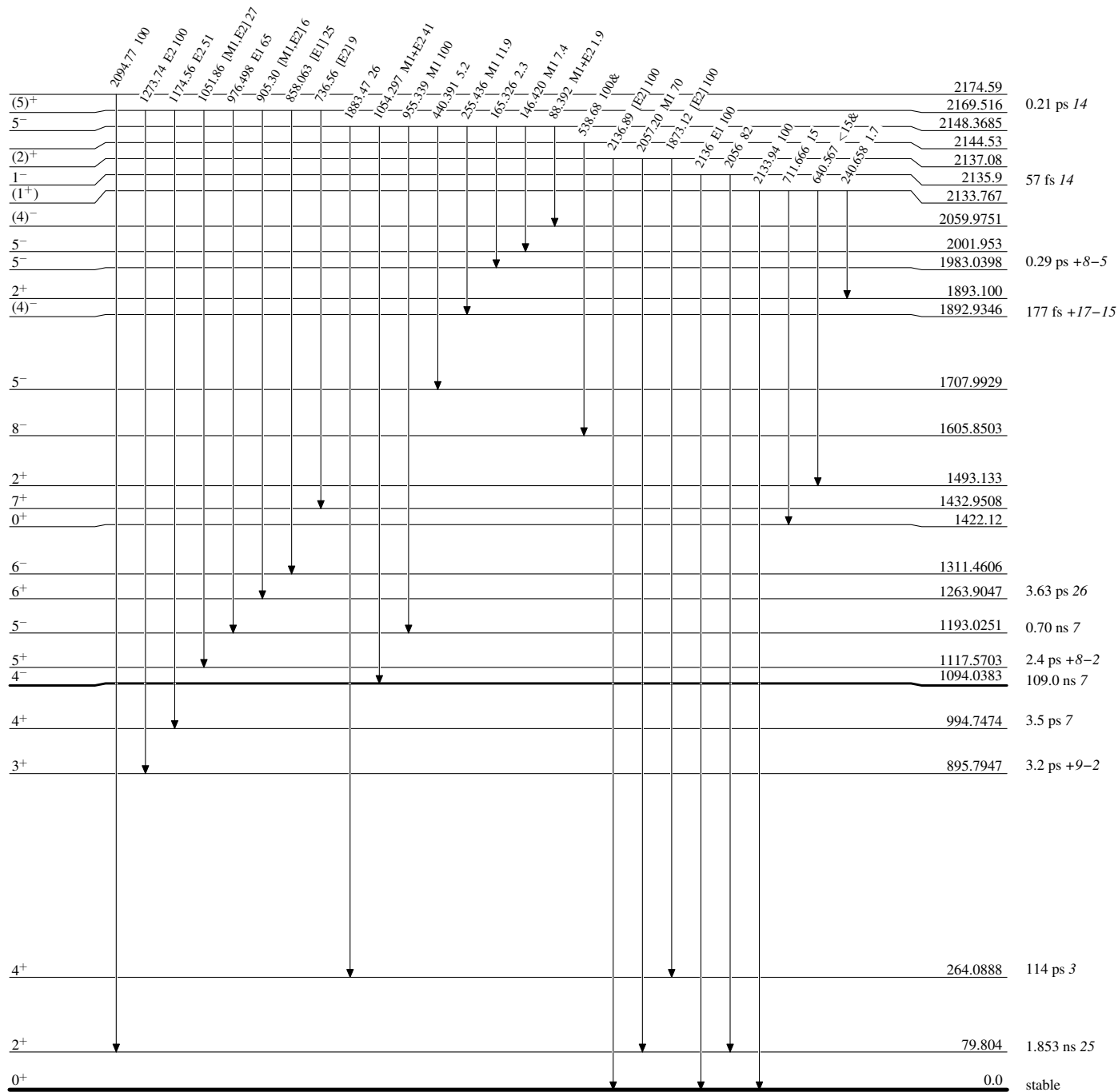
Intensities: Relative photon branching from each level  
 & Multiply placed: undivided intensity given  
 @ Multiply placed: intensity suitably divided



**Adopted Levels, Gammas**

**Level Scheme (continued)**

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

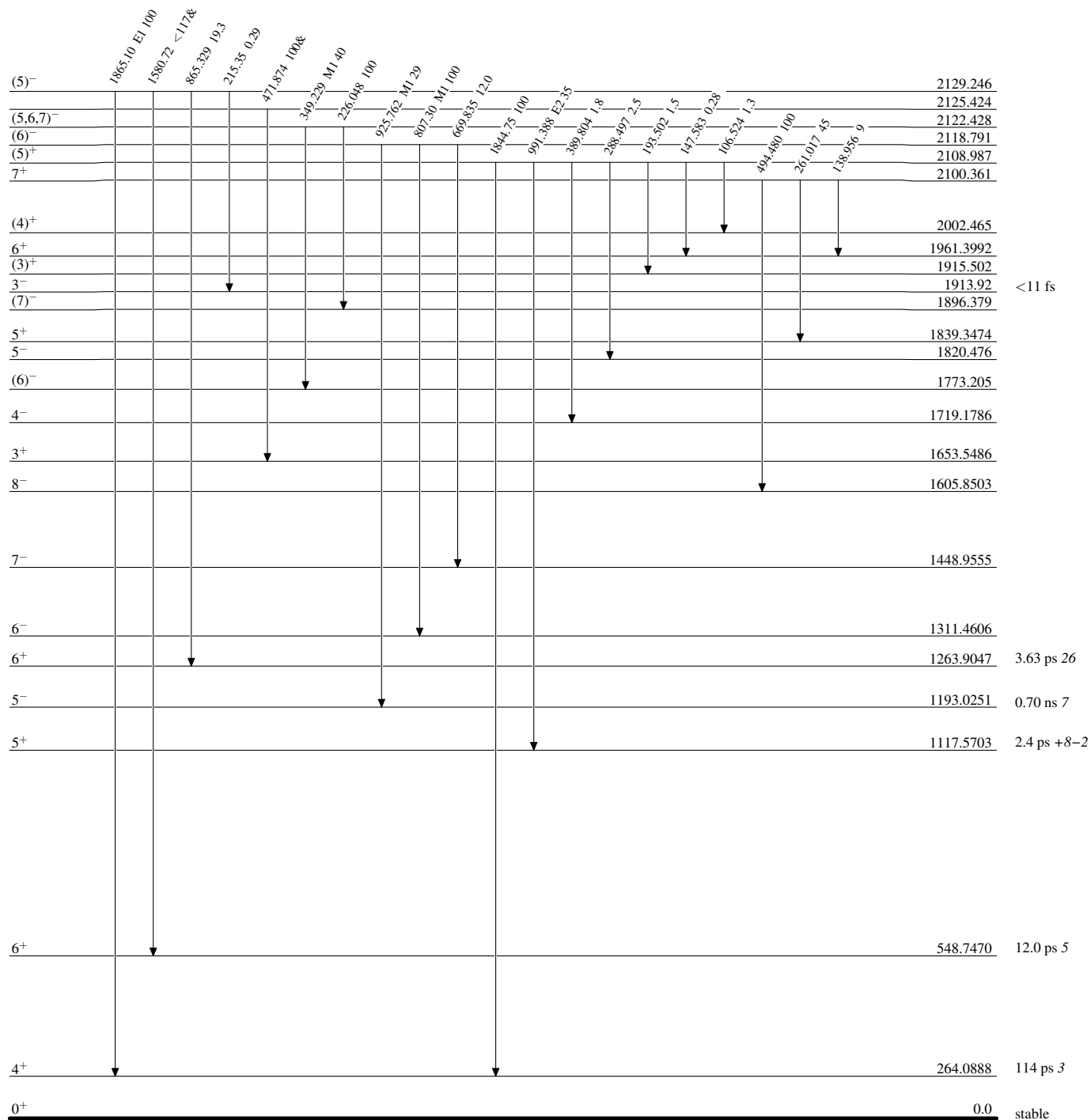


$^{168}_{68}\text{Er}_{100}$

**Adopted Levels, Gammas**

**Level Scheme (continued)**

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

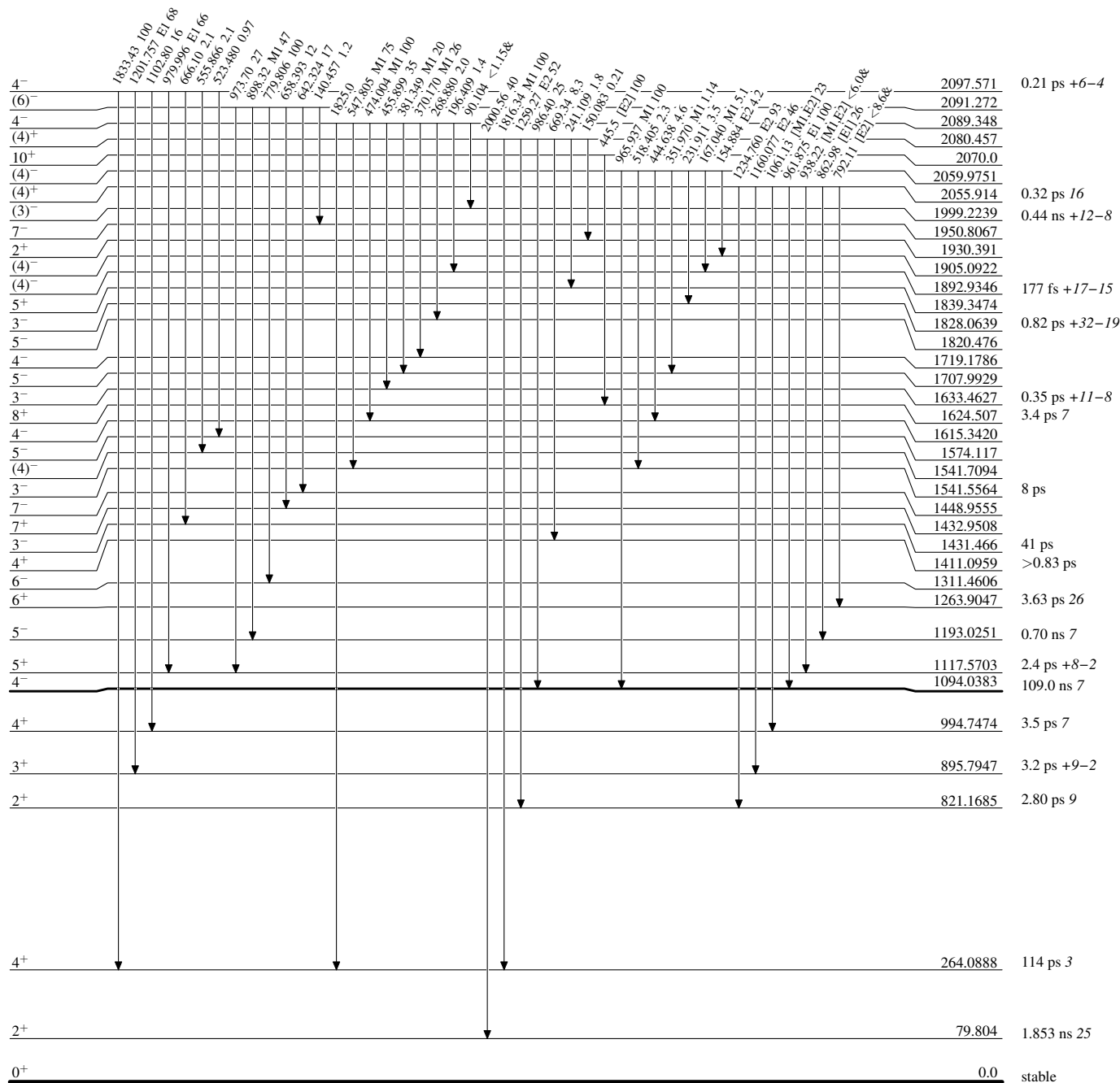




**Adopted Levels, Gammas**

**Level Scheme (continued)**

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



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

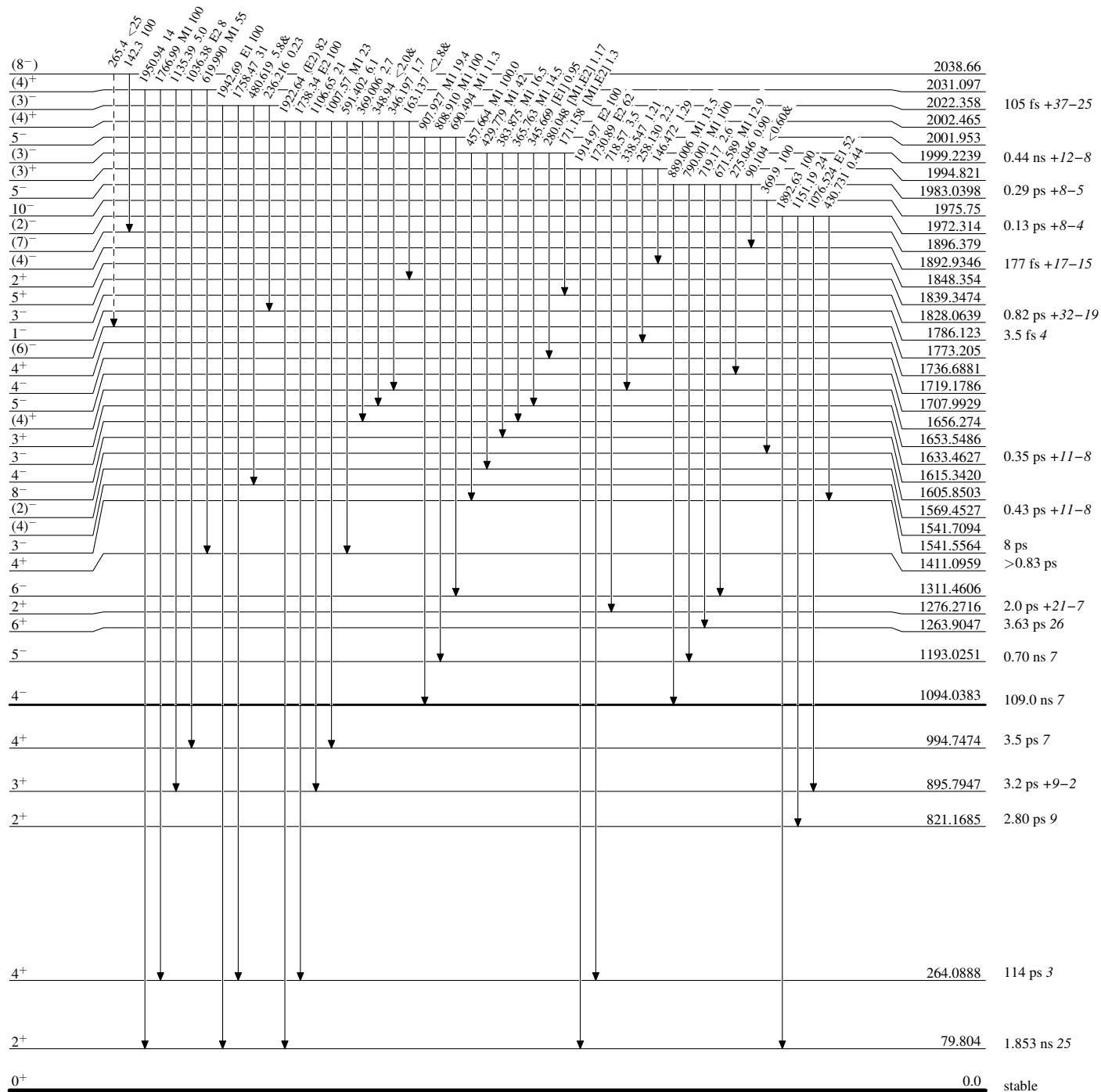
**Adopted Levels, Gammas**

Level Scheme (continued)

Legend

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

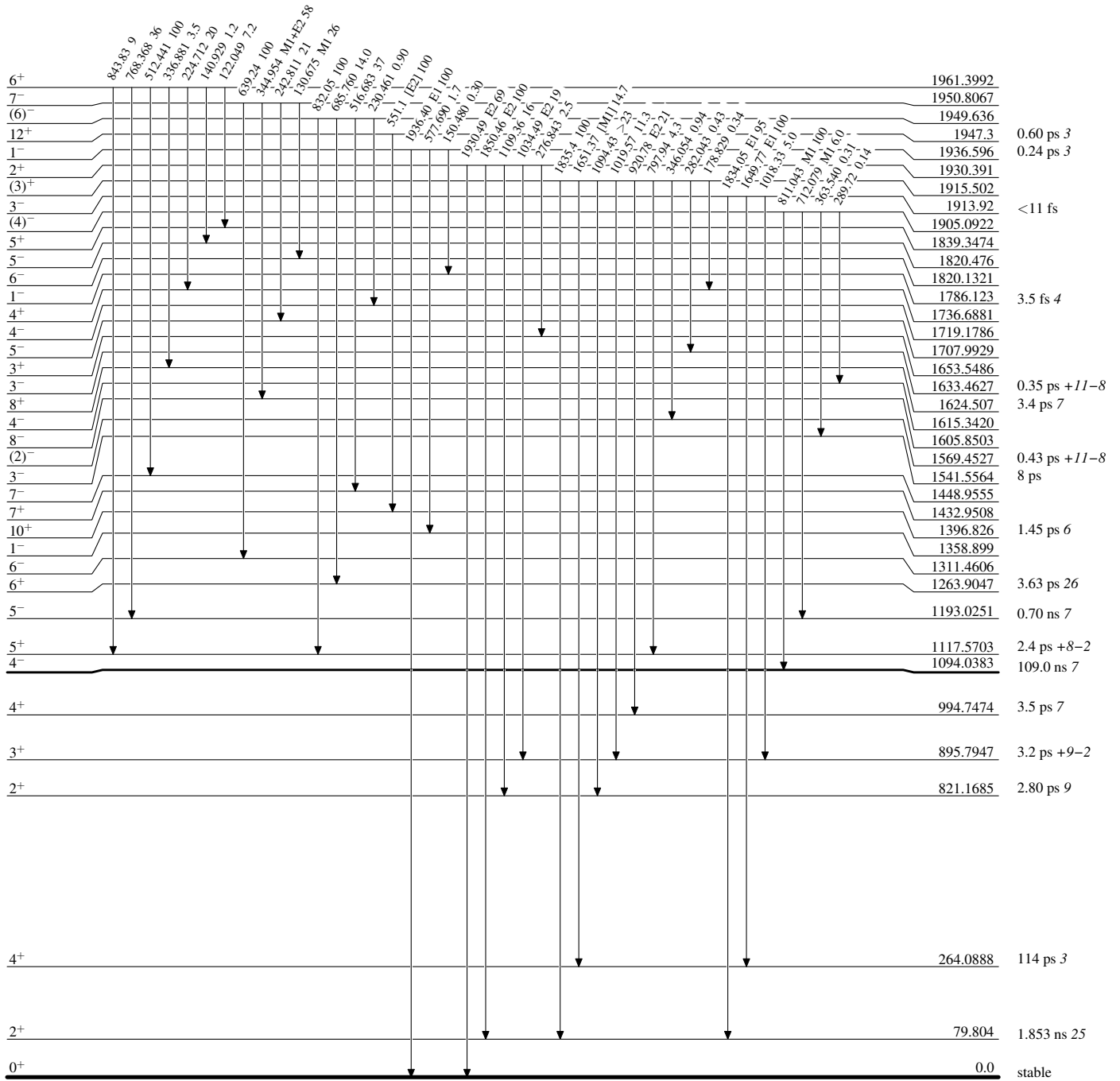
-----▶  $\gamma$  Decay (Uncertain)



**Adopted Levels, Gammas**

**Level Scheme (continued)**

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



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

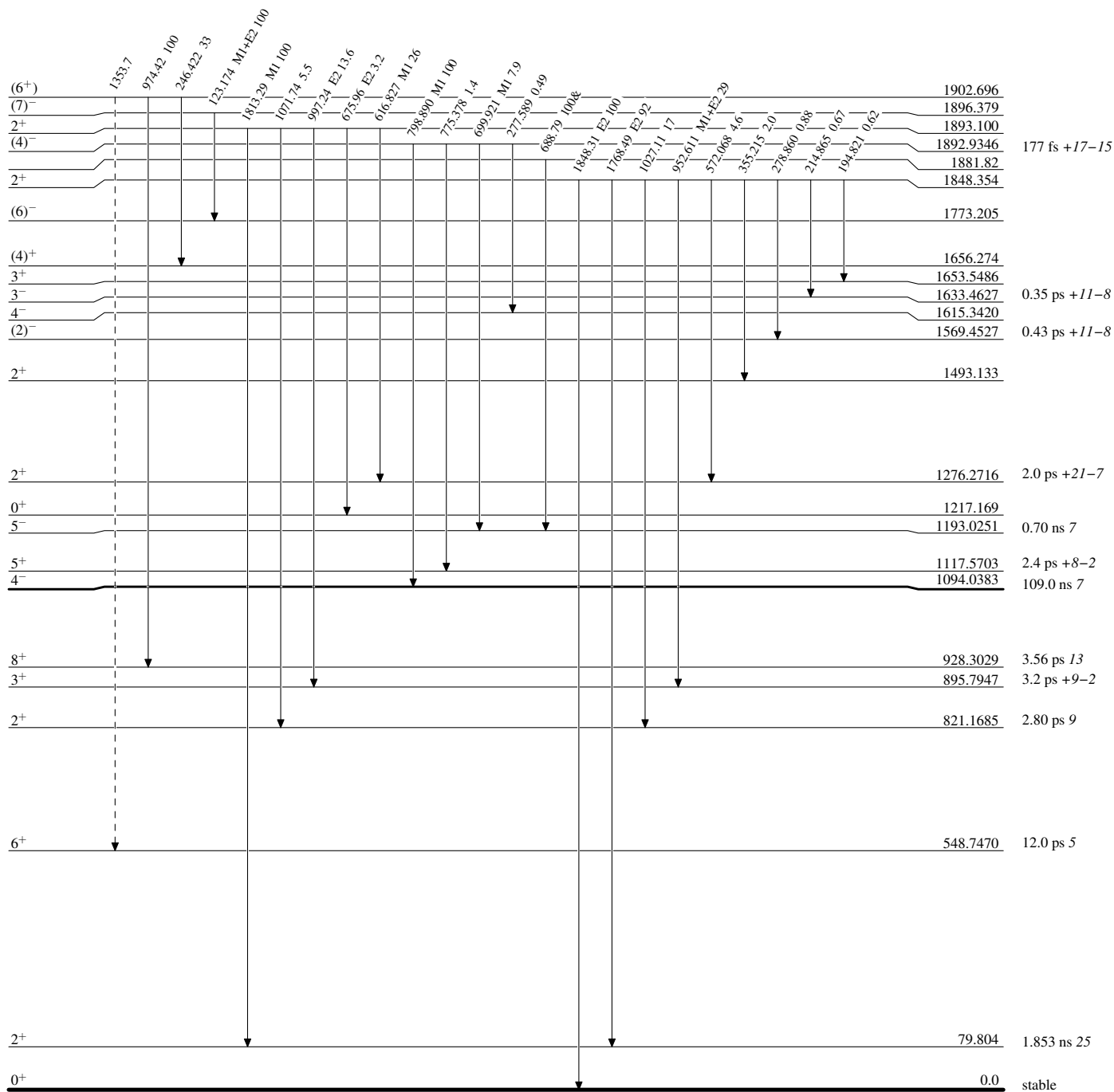
**Adopted Levels, Gammas**

**Level Scheme (continued)**

**Legend**

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

----->  $\gamma$  Decay (Uncertain)

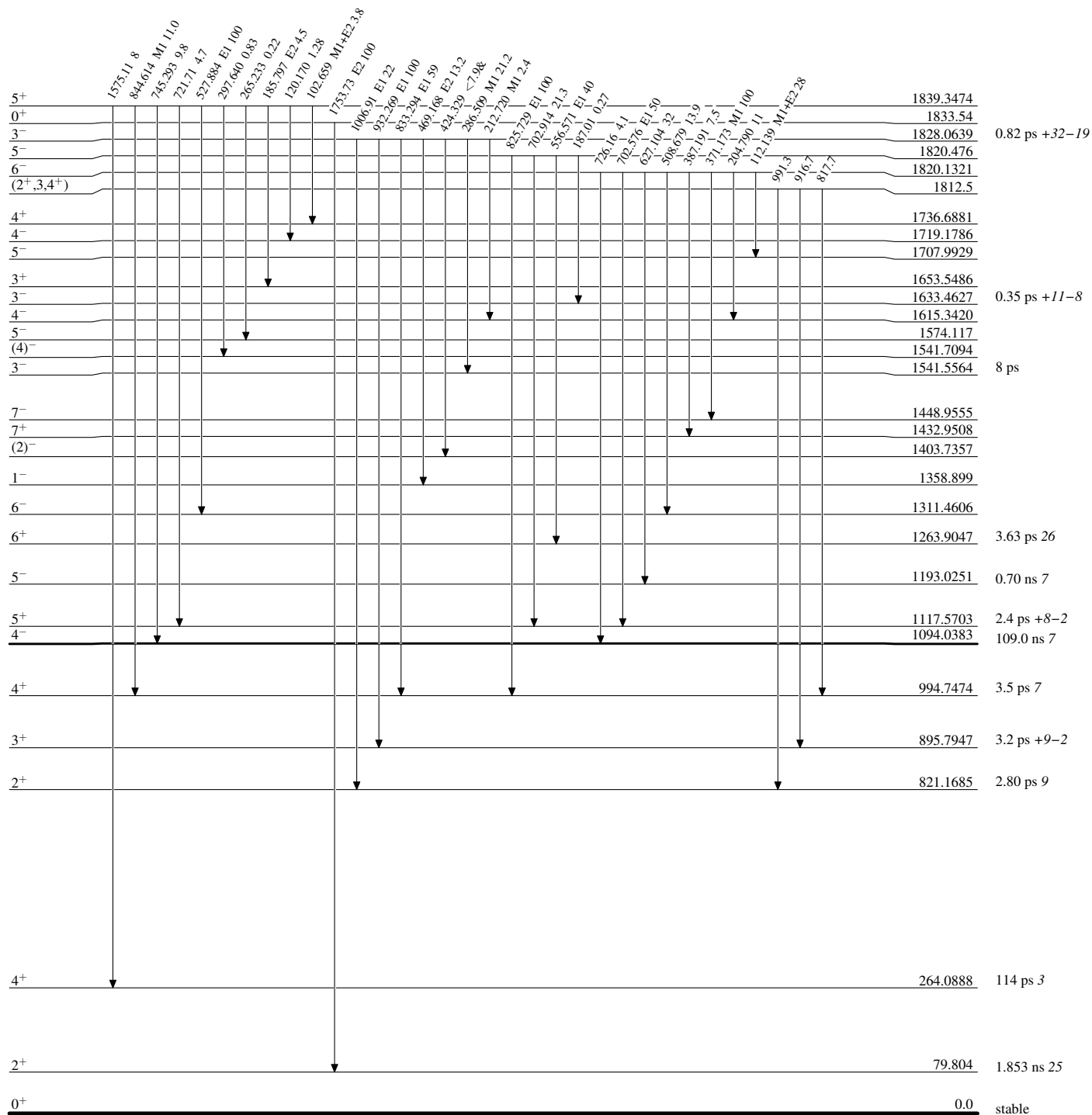


$^{168}_{68}\text{Er}_{100}$

**Adopted Levels, Gammas**

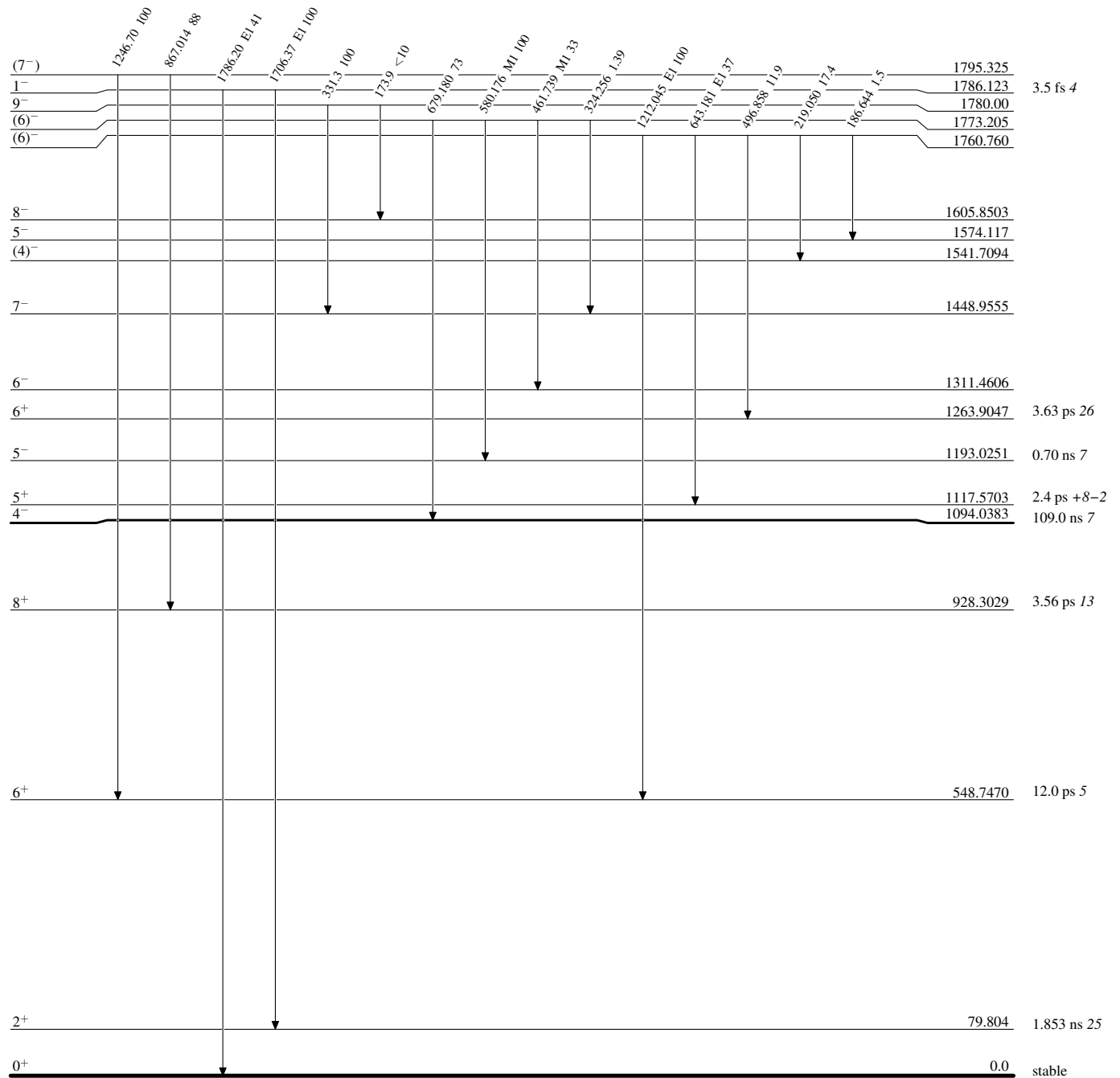
**Level Scheme (continued)**

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

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

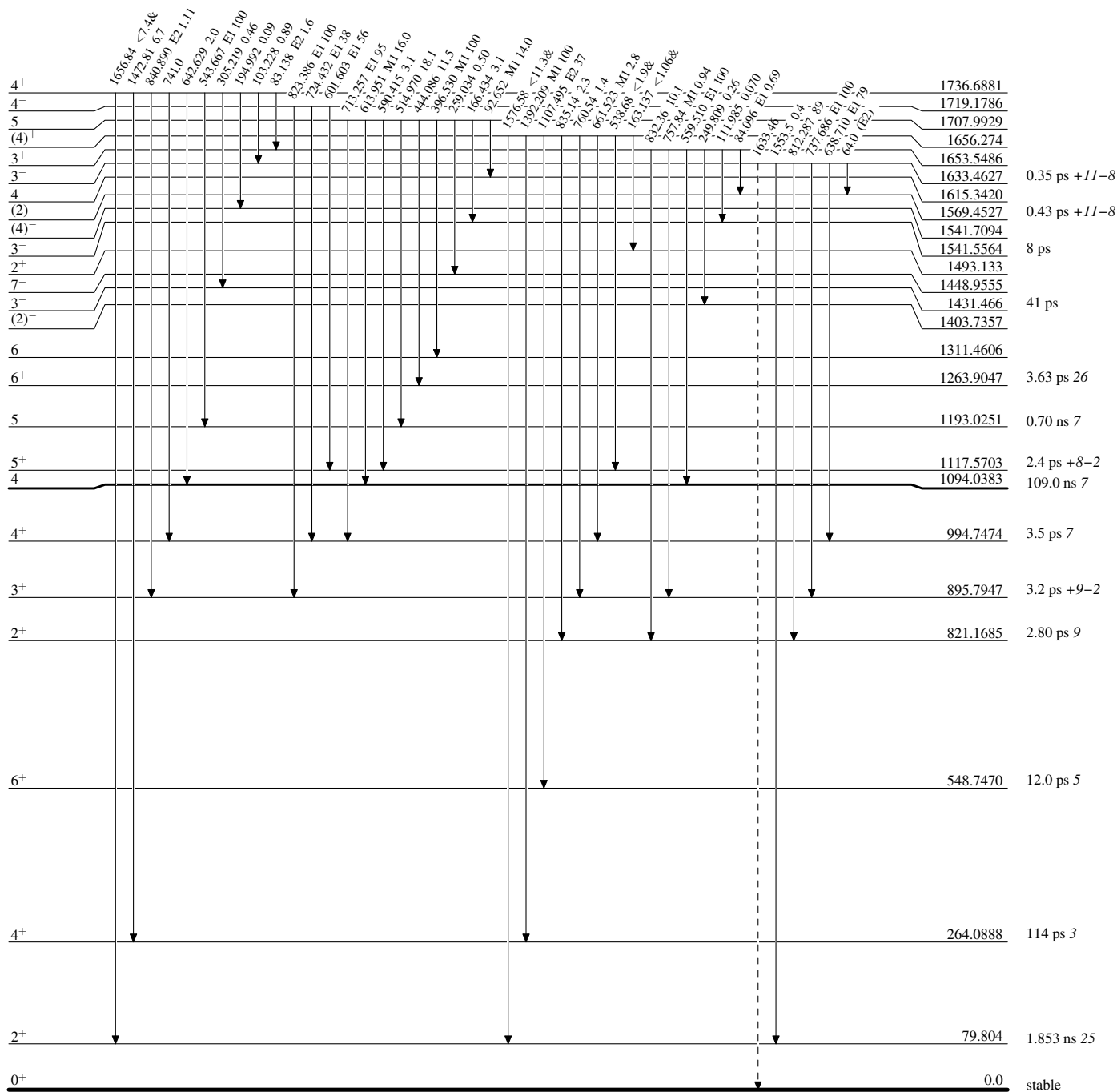
**Adopted Levels, Gammas**

**Level Scheme (continued)**

**Legend**

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

----->  $\gamma$  Decay (Uncertain)

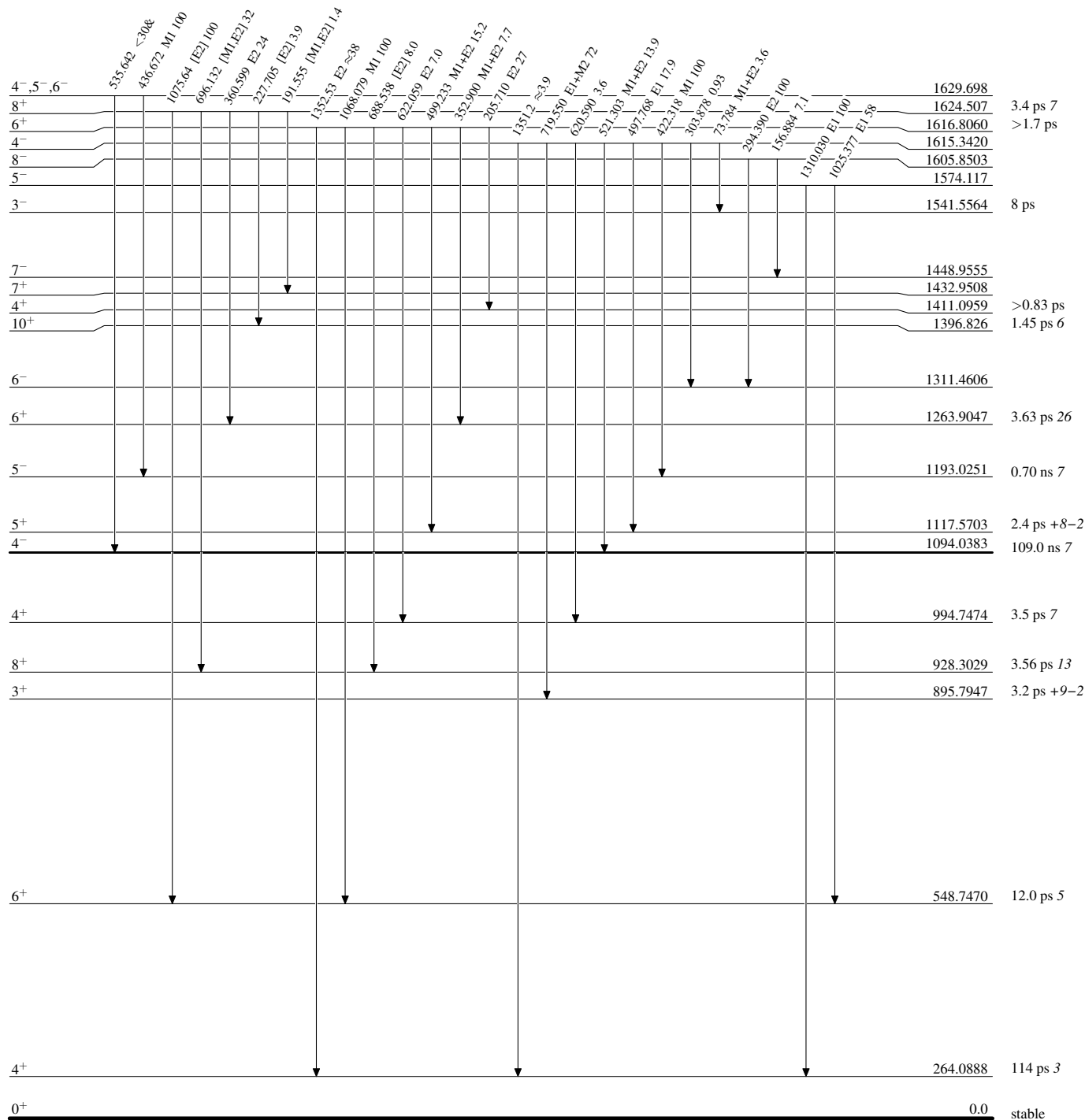


$^{168}_{68}\text{Er}_{100}$

**Adopted Levels, Gammas**

**Level Scheme (continued)**

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





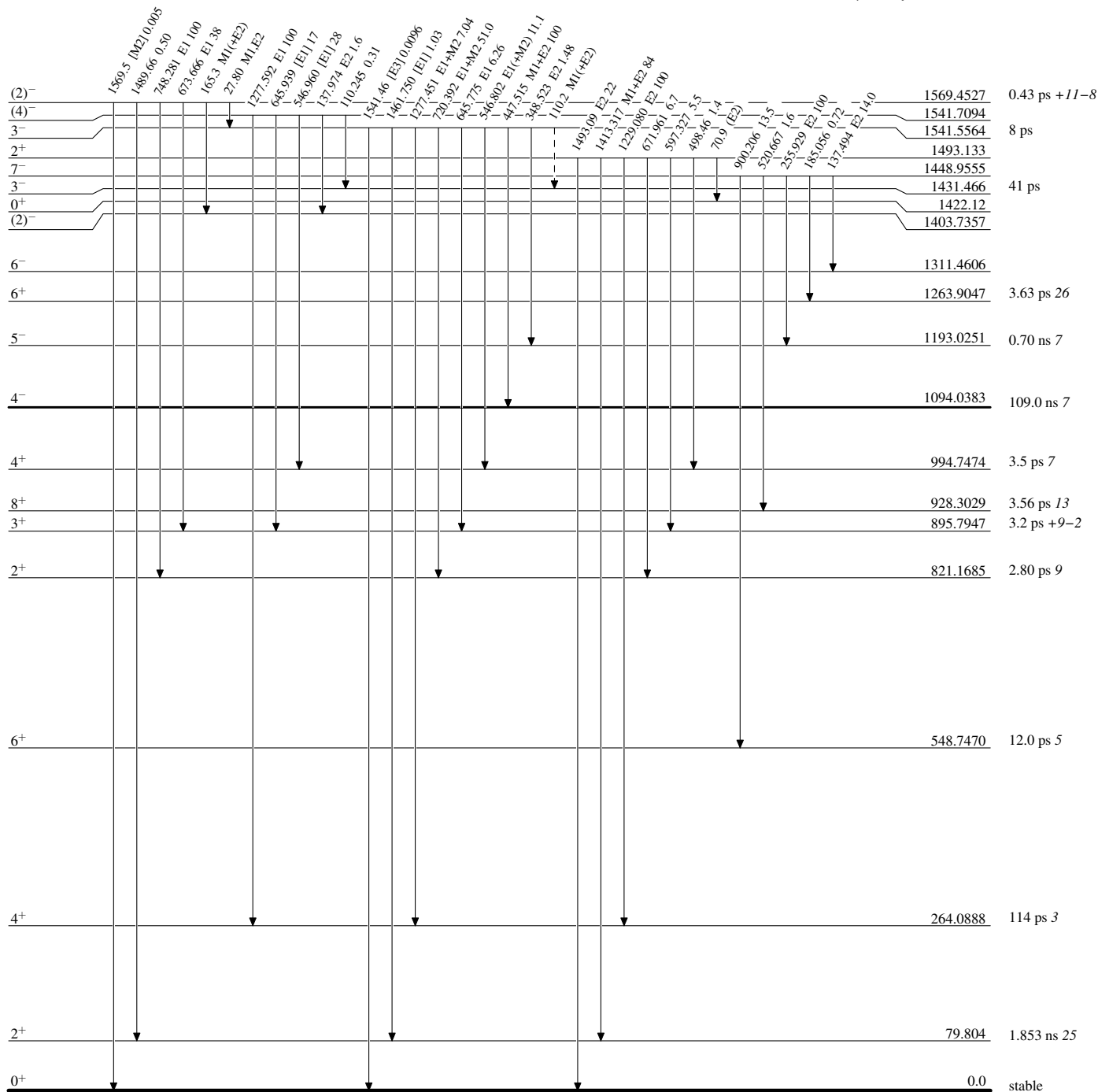
**Adopted Levels, Gammas**

Level Scheme (continued)

Legend

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

----->  $\gamma$  Decay (Uncertain)

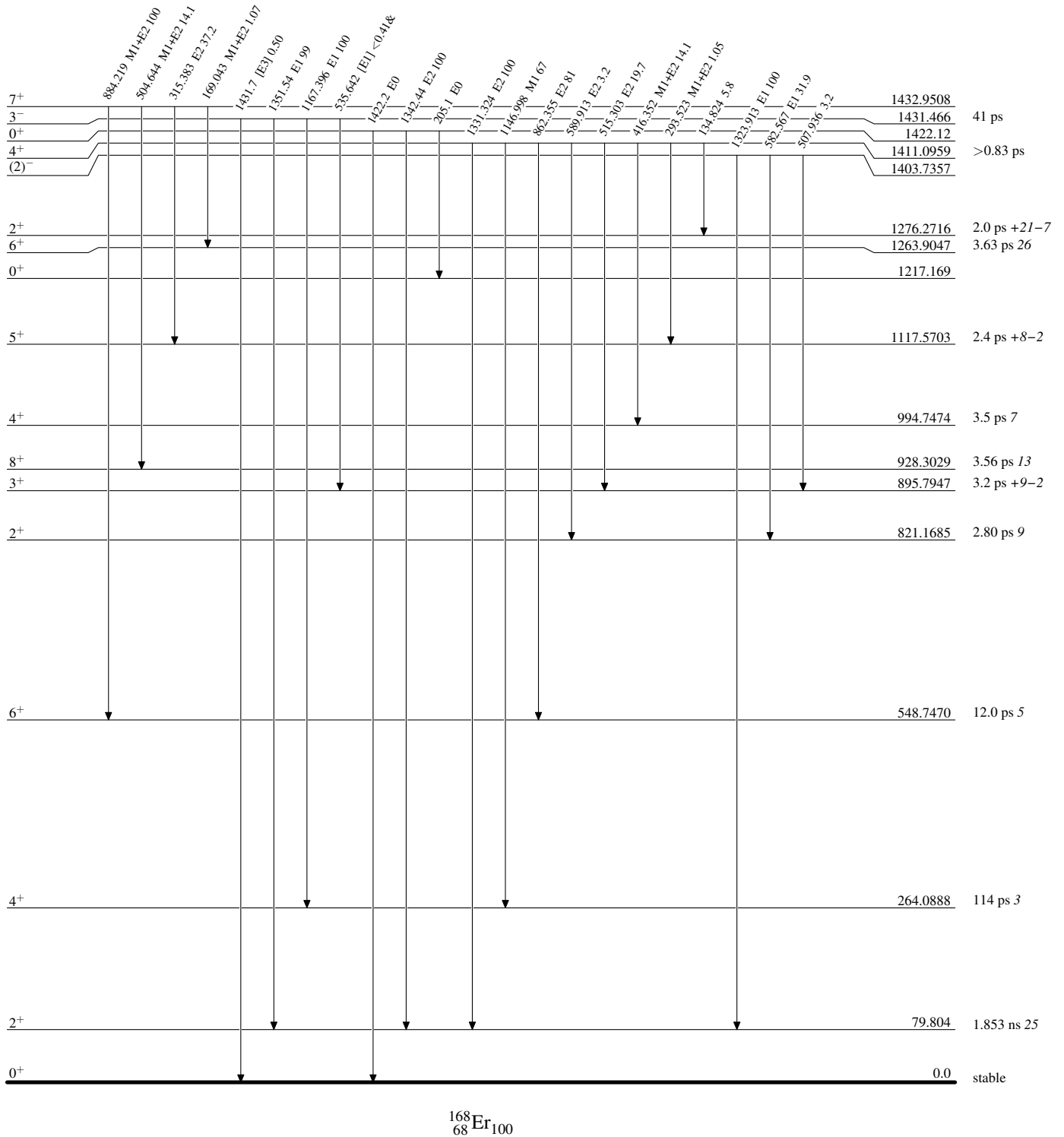


$^{168}_{68}\text{Er}_{100}$

**Adopted Levels, Gammas**

**Level Scheme (continued)**

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



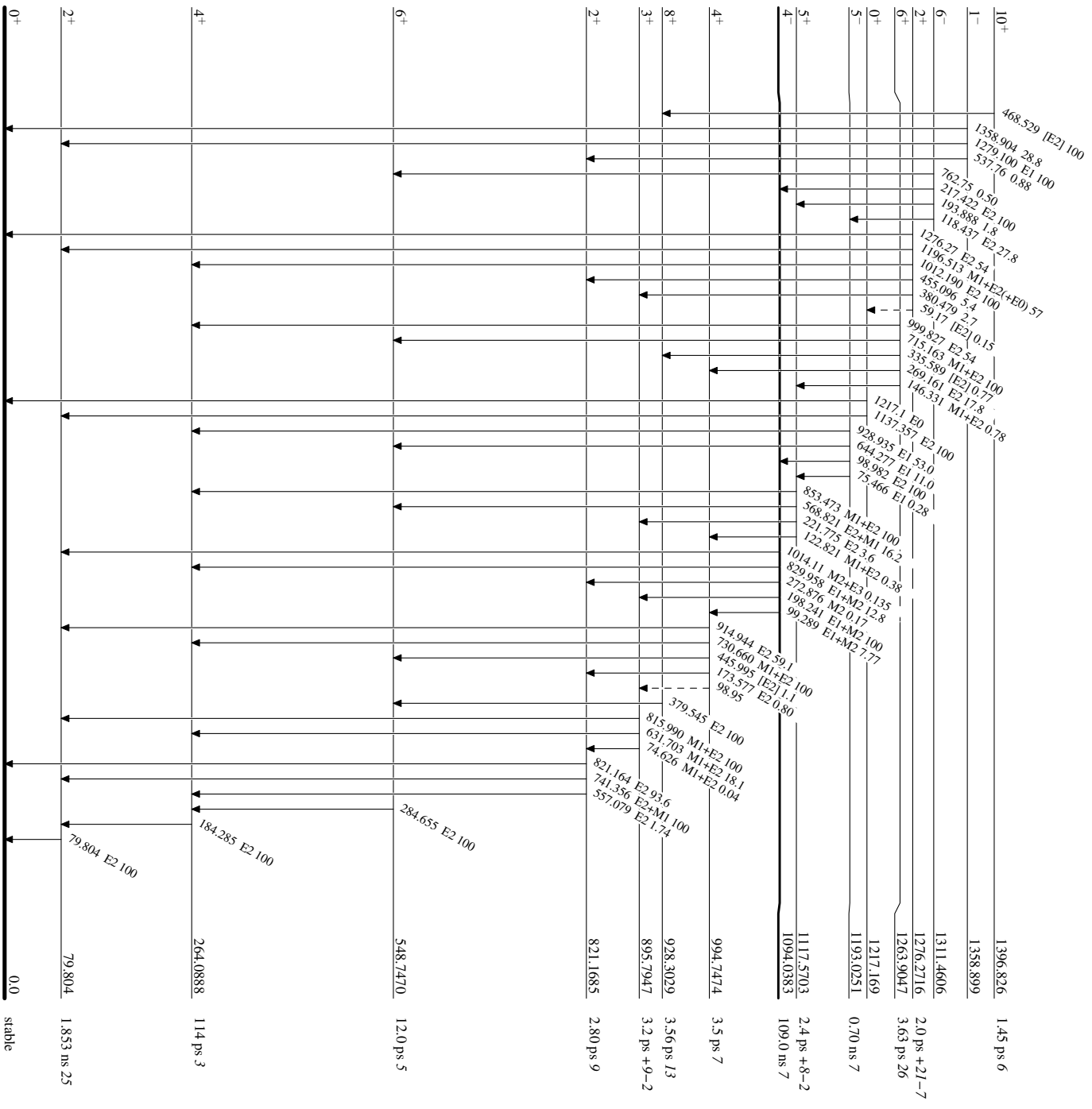
**Adopted Levels, Gammas**

Level Scheme (continued)

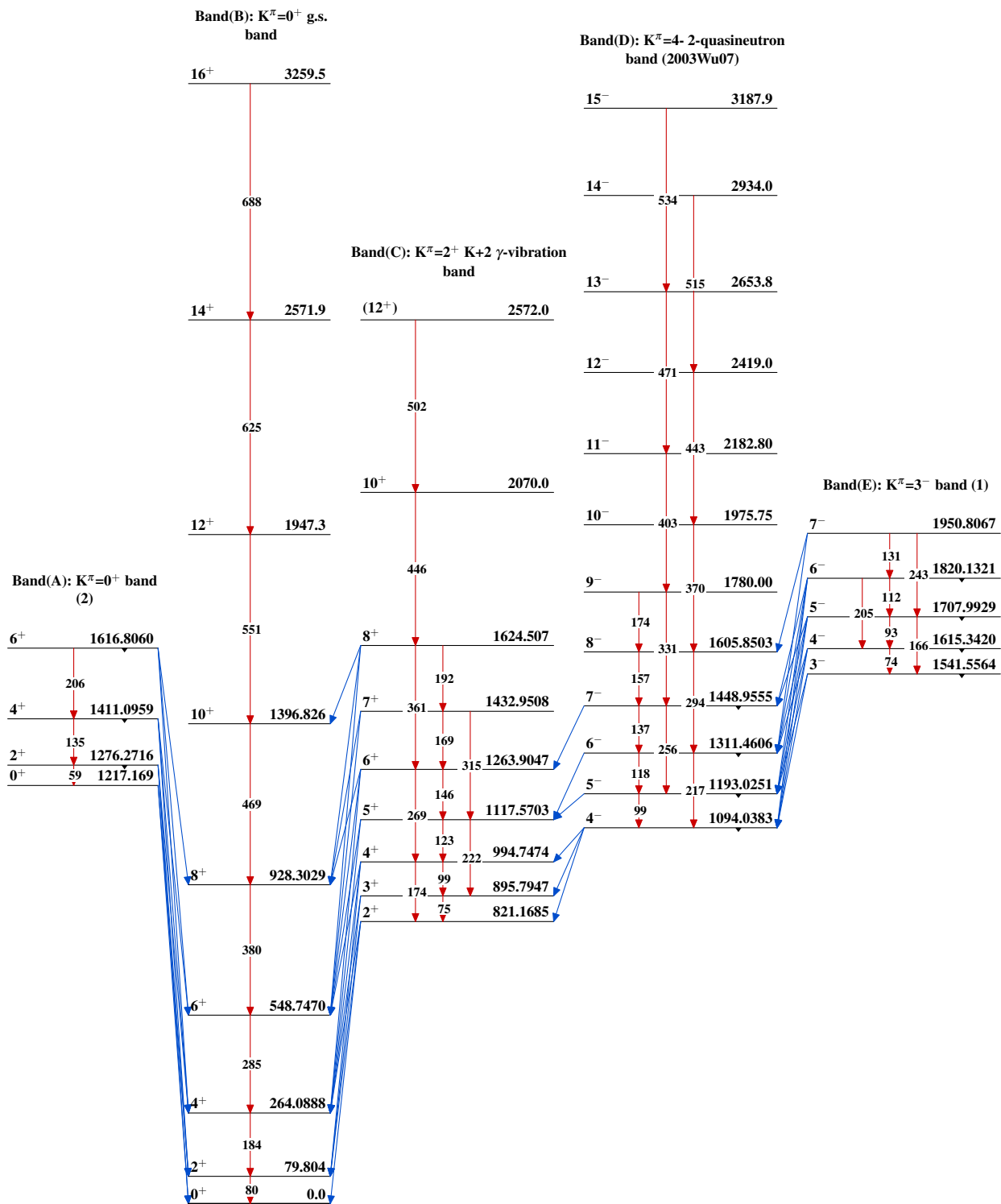
Legend

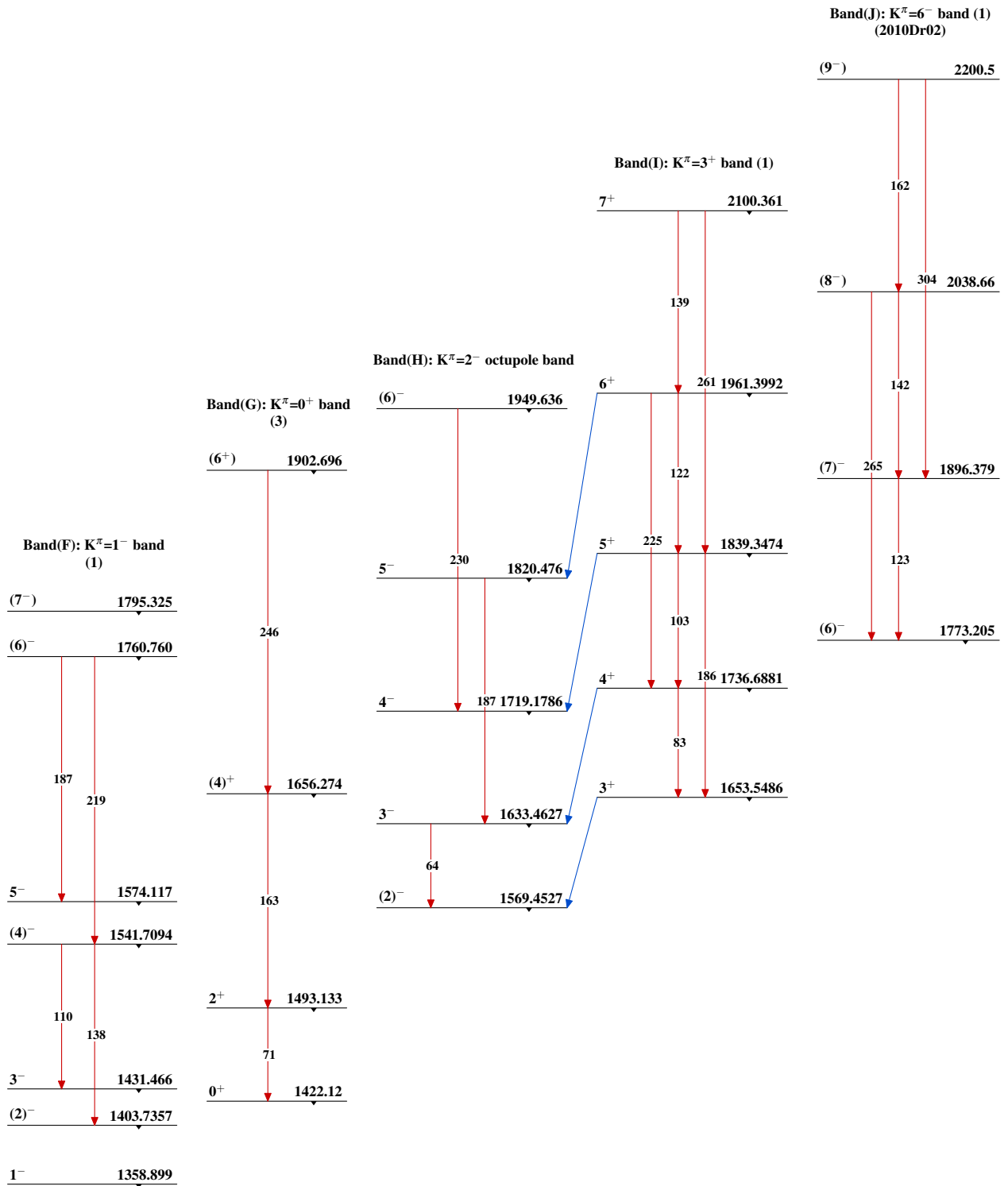
Intensities: Relative photon branching from each level  
 & Multiply placed: undivided intensity given  
 @ Multiply placed: intensity suitably divided

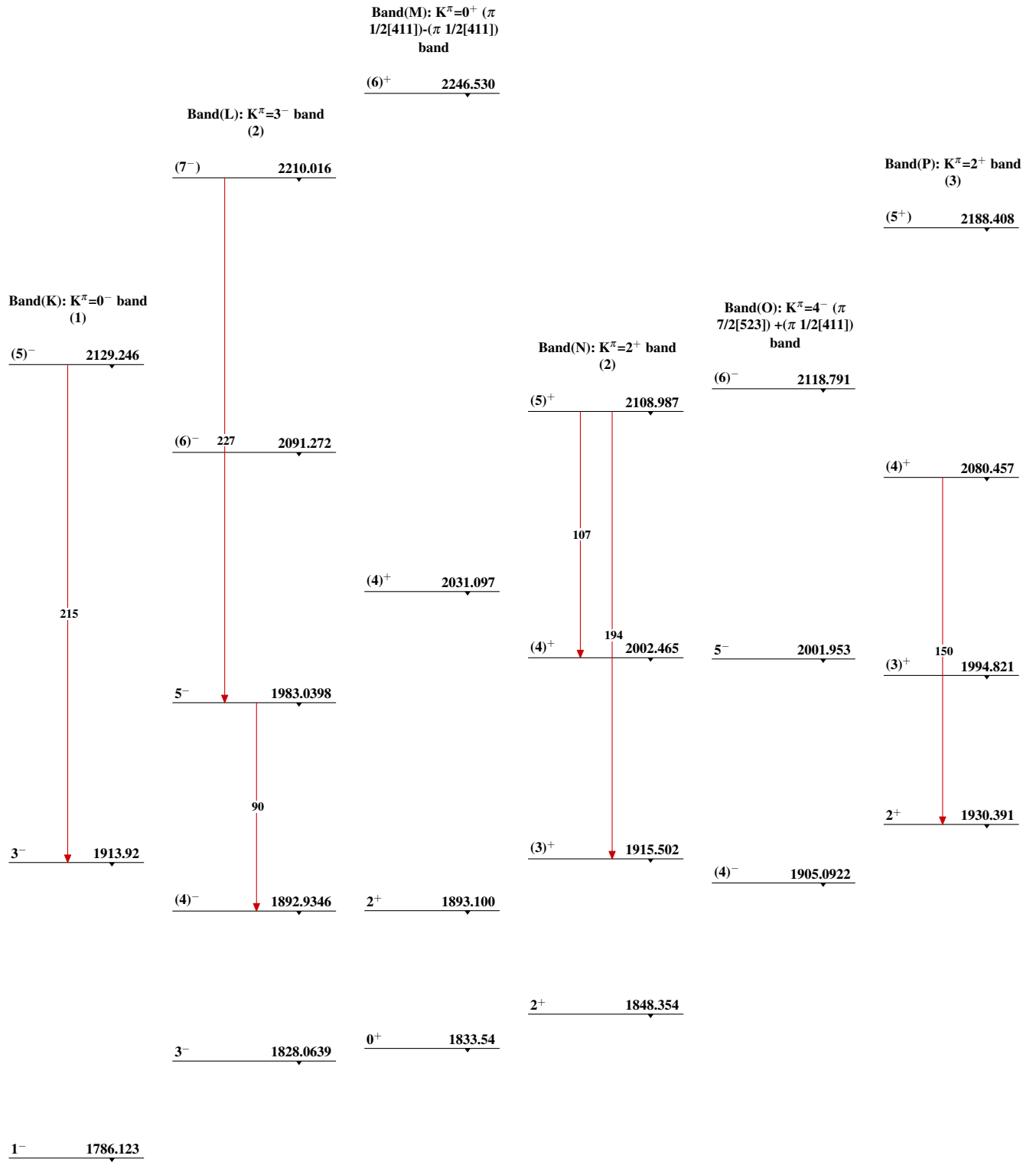
-----▶  $\gamma$  Decay (Uncertain)

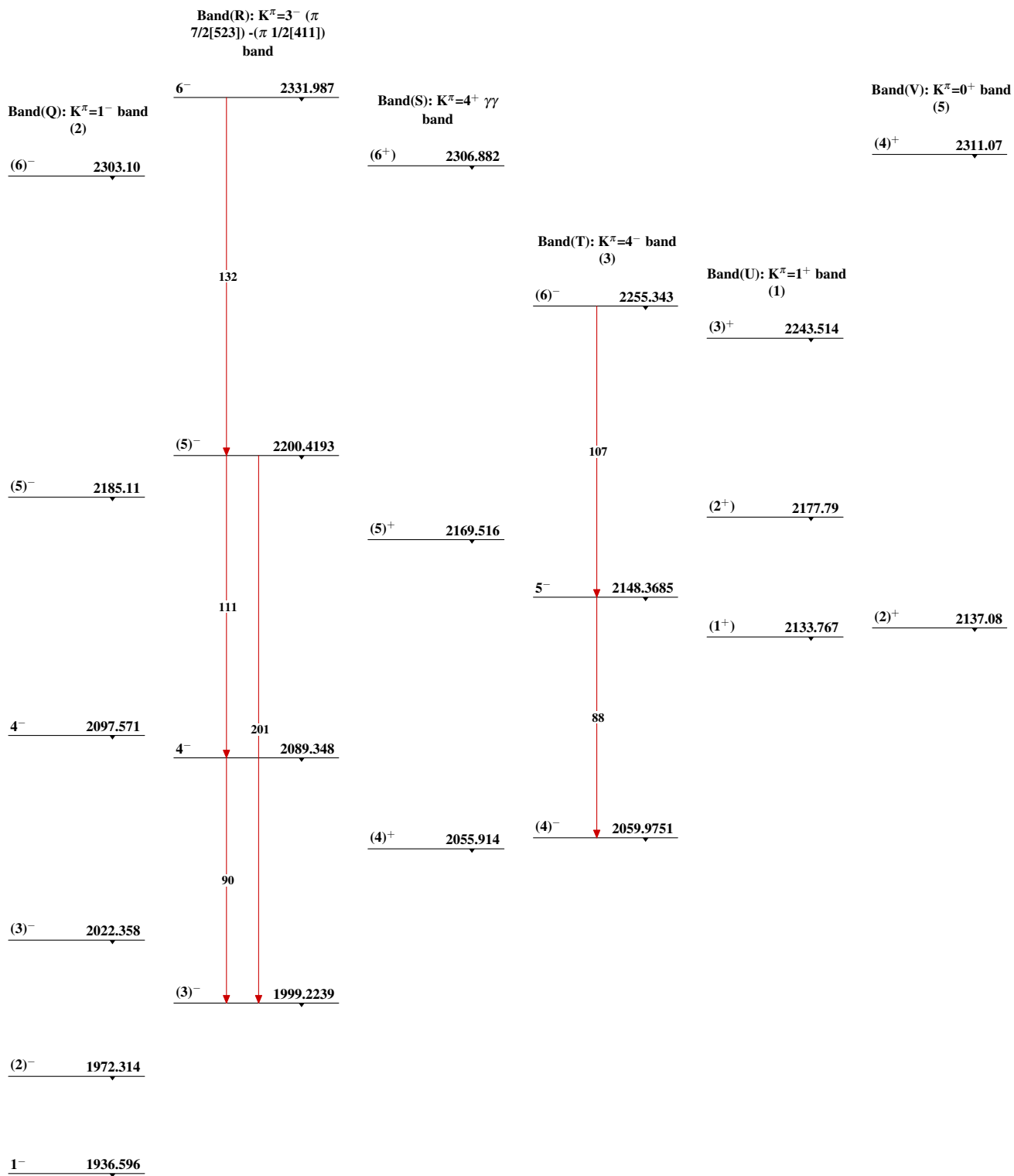


<sup>168</sup>Er-100  
<sup>68</sup>Er-100

Adopted Levels, Gammas $^{168}_{68}\text{Er}_{100}$

**Adopted Levels, Gammas (continued)** $^{168}_{68}\text{Er}_{100}$

Adopted Levels, Gammas (continued)

Adopted Levels, Gammas (continued)

Adopted Levels, Gammas (continued)

			<b>Band(b): <math>K^\pi=(3)^-</math> band</b> (4)	
			(5 <sup>-</sup> )	<u>2451.165</u>
				↓
			<b>Band(c): <math>K^\pi=3^-</math> band</b> (5) ?	
			(4 <sup>-</sup> )	<u>2402.29</u>
				↓
			<b>Band(Z): <math>K^\pi=4^+</math> band</b> (2)	
			(5 <sup>+</sup> )	<u>2368.585</u>
				↓
			<b>Band(X): <math>K^\pi=(2)^+</math> (<math>\pi</math> <math>3/2[411])+(\pi</math> <math>1/2[411])</math> band</b>	
			4 <sup>+</sup>	<u>2336.26</u>
				↓
				4 <sup>-</sup>
				<u>2348.581</u>
				↓
				3 <sup>-</sup>
				<u>2323.01</u>
				↓
			<b>Band(Y): <math>K^\pi=2^-</math> band</b> (2)	
			(3 <sup>-</sup> )	<u>2302.666</u>
				↓
			<b>Band(W): <math>K^\pi=(3)^+</math> band</b> (2)	
			(4 <sup>+</sup> )	<u>2279.630</u>
				↓
				(3 <sup>-</sup> )
				<u>2262.691</u>
				↓
			(3 <sup>+</sup> )	<u>2254.84</u>
				↓
				(4 <sup>+</sup> )
				<u>2238.179</u>
				↓
			(2 <sup>-</sup> )	<u>2230.30</u>
				↓
				2 <sup>+</sup>
				<u>2193.19</u>
				↓
			(3 <sup>+</sup> )	<u>2186.741</u>
				↓



Adopted Levels, Gammas (continued)

					<b>Band(e): <math>K^\pi=(4)^+</math> band (3)</b>
					<u>(5<sup>+</sup>)      2769.81</u>
					<u>(4<sup>+</sup>)      2663.229</u>
					<b>Band(g): <math>K^\pi=2^+</math> band (5)</b>
					<u>(4<sup>+</sup>)      2561.56</u>
					<b>Band(f): <math>K^\pi=(1^+)</math> (<math>\pi</math> 3/2[411])-(<math>\pi</math> 1/2[411]) band</b>
					<u>(4<sup>+</sup>)      2547.25</u>
					<b>Band(d): <math>K^\pi=3^-</math> band (6)</b>
					<u>(5<sup>-</sup>)      2526.583</u>
					<b>Band(a): <math>K^\pi=(5)^-</math> band (1)</b>
					<u>(6<sup>-</sup>)      2474.10</u>
					<u>(3<sup>+</sup>)      2484.52</u>
					<u>(2<sup>+</sup>)      2424.91</u>
					<u>(2<sup>+</sup>)      2393.71</u>
					<u>(5<sup>-</sup>)      2365.196</u>
					<u>(1<sup>+</sup>)      2365.33</u>
					<u>3<sup>-</sup>      2337.100</u>