Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 176, 1 (2021)	1-May-2021

Q(β^-)=−5760 *40*; S(n)=9574 *25*; S(p)=6024 *24*; Q(α)=2040 *24* 2021Wa16
S(2n)=16900 *30*, S(2p)=10235 *24* (2021Wa16).
Additional information 1.

^{160}Er Levels

Quasiparticle labeling scheme (adopted from 2011Ol02; $f_{7/2}$ and $h_{9/2}$ are highly mixed):
A: $\nu 3/2[651],\alpha=+1/2$; $i_{13/2}$ orbital.
B: $\nu 3/2[651],\alpha=-1/2$; $i_{13/2}$ orbital.
C: $\nu 1/2[660],\alpha=+1/2$; $i_{13/2}$ orbital.
D: $\nu 1/2[660],\alpha=-1/2$; $i_{13/2}$ orbital.
E: $\nu 3/2[521],\alpha=+1/2$; $h_{9/2}$ orbital.
F: $\nu 3/2[521],\alpha=-1/2$; $h_{9/2}$ orbital.
G: $\nu 5/2[523],\alpha=-1/2$; $f_{7/2}$ orbital.
H: $\nu 5/2[523],\alpha=+1/2$; $f_{7/2}$ orbital.
A_p: $\pi 7/2[523],\alpha=-1/2$; $h_{11/2}$ orbital.
B_p: $\pi 7/2[523],\alpha=+1/2$; $h_{11/2}$ orbital.
E_p: $\pi 7/2[404],\alpha=-1/2$; $g_{7/2}$ orbital.
F_p: $\pi 7/2[404],\alpha=+1/2$; $g_{7/2}$ orbital.

Cross Reference (XREF) Flags

- A ^{160}Tm ε decay (9.4 min)
- B ^{160}Tm ε decay (74.5 s)
- C (HI,xnγ)
- D ^{116}Cd(^{48}Ca,4nγ):tsd

E(level)†	Jπ#	$T_{1/2}$‡	XREF	Comments
0.0@	0^+	28.58 h *9*	ABCD	%ε=100 $\Delta\langle r^2\rangle(^{160}Er-^{150}Er)$=1.30 fm^2, estimated by the evaluator from the figure given in 1985Ne09. This same information, in graphical format, is given in a number of publications by this group. In an evaluation of nuclear rms charge radii, 2013An02 report $\langle r^2\rangle^{1/2}$=5.2045 fm *336*. $T_{1/2}$: deduced from γ(t) measurements of 197γ from ^{160}Ho(5.02-h) daughter in equilibrium with parent (1970Ka23). Other measurements: 1954Mi16, 1955Ne03, 1957Dz60, 1957Go72, 1958Pa16, 1961Bj02, 1963Ra15, 1966La11.
125.47@ *6*	2^+	919 ps *31*	ABCD	μ=+0.66 *12* Jπ: E2 transition to g.s. $T_{1/2}$: other: 850 ps *150*, from ^{160}Tm ε decay (1978Ad03). These authors also mention the value $T_{1/2}$=919 ps *46*, given in a 1972 monograph from another group. μ: From the compilation of 2014StZZ by perturbed angular correlation method (measured by 2005Wo06).
389.37@ *7*	4^+	32.3 ps *11*	ABCD	μ=1.28 *19* Jπ: collective E2 transition to 2^+ first excited state. Member of g.s. band. μ: From the compilation of 2014StZZ by recoil into gas or vacuum method (measured by 1970No01; see discussion of the experimental considerations underlying these data). g-factors for the g.s. band members are approximately constant up through the 8^+ state 1989Ra17.

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Adopted Levels, Gammas (continued)

^{160}Er Levels (continued)

E(level)[†]	Jπ[#]	$T_{1/2}$[‡]	XREF	Comments
765.01[@] *8*	6^+	5.4 ps *3*	BC	Jπ: collective E2 transition to 4^+ member of g.s. band. Energy spacings indicate that this is the 6^+ member of the g.s. band.
854.20[d] *13*	2^+		A	Jπ: E2 transition to g.s. Bandhead of γ-vibrational band.
893.5[e] *5*	0^+		A	Jπ: E0 γ to 0^+ g.s. This, together with the relatively low excitation energy, strongly suggests that this is the bandhead of the first excited $K^\pi=0^+$ band.
987.15[d] *8*	$(3)^+$		ABC	XREF: C(989). Jπ: γ′s only to 2^+ and 4^+ members of g.s. band require $J^\pi=2^+$, 3, or 4^+. Relative Iγ values, location of state in the level scheme and E2 character of transition to 2^+ member of g.s. band strongly suggest that this is the 3^+ member of the γ-vibrational band.
1007.93[e] *9*	2^+		ABC	Jπ: ΔJ=0 E0+M1+E2 γ to 2^+ and ΔJ=2 E2 γ to 0^+ Probable member of the first excited $K^\pi=0^+$ band.
1128.54[d] *8*	4^+		B	Jπ: 1983Si20 suggest this state may be the 4^+ member of the γ-vibrational band. M1+E2 γ to 4^+ and log *ft*=6.6 from J=5.
1229.06[@] *9*	8^+	1.7 ps *4*	C	Jπ: collective E2 transition to 6^+ member of the g.s. band and energy spacing indicate that this is the 8^+ member of the g.s. band.
1229.68[e] *13*	4^+		BC	Jπ: E0+M1+E2 γ to 4^+. 1983Si20 suggest that this may be the 4^+ member of the first excited $K^\pi=0^+$ band.
1316.36[d] *8*	5^+		BC	Jπ: M1+E2 transition to 4^+ state indicates $J^\pi=3^+$, 4^+, or 5^+; 2006Du02 in (HI,xnγ) dataset assign 5^+ as for member in the γ-vibrational band.
1374.6 *4*	(4^+)		AB	Jπ: log *ft*=6.8 from J=5. γ to 2^+.
1389.6 *6*	2^+,3,4^+		A	Jπ: γ′s to 2^+ and 4^+ levels.
1395.2? *7*			A	
1494.1 *4*			A	
1499.24[d] *9*	6^+		C	Jπ: M1+E2 γ to 6^+ and member in the γ-vibrational band.
1505.2 *3*			B	
1535.8 *4*	$1,2^+$		A	Jπ: γ′s to 0^+ and 2^+ levels.
1542.12[e] *11*	(6^+)		C	Jπ: γ′s to 4^+ and 6^+ and member of the first excited $K^\pi=0^+$ band.
1575.5 *3*			B	
1586.0 *5*	$1,2^+$		A	Jπ: γ′s to 0^+ and 2^+ levels.
1636.8?[&] *8*	(4^-)		C	Jπ: based only on tentative band assignment.
1651.9 *4*			A	
1740.71[d] *8*	7^+		C	Jπ: E2 γ to 5^+ member of γ-vibrational band and M1+E2 γ to 6^+ member of g.s. band.
1756.7[i] *5*	$5^{(-)}$		C	Jπ: ΔJ=1, D γ′s from this and 2151 second level of this band to 6^+ of g.s. determine J=5 for this level (band head) and J=7 for 2151. π=(−) based on assigned configurations.
1760.88[@] *10*	10^+	0.87 ps *21*	C	Jπ: E2 γ to 8^+ and member of the g.s. band.
1894.1 *7*	$1,2^+$		A	Jπ: γ′s to 0^+ and 2^+ levels.
1905.0[f] *5*	6^-		C	Jπ: E2, 387.2γ from 2292, 8^- level.
1906.2?[&] *5*	(6^-)		C	Jπ: based on band assignment and γ′s to (4^-) and 6^+.
1921.39[e] *11*	(8^+)		C	Jπ: γ′s to 6^+ and 8^+ and member of the first excited $K^\pi=0^+$ band.
1950.44[d] *10*	(8^+)		C	Jπ: γ to 6^+ member of γ-vibrational band.
2104.4[a] *4*	9^-		C	Jπ: E2 γ from 11^- and ΔJ=1 γ to 8^+.
2151.3[i] *4*	$7^{(-)}$		C	Jπ: ΔJ=1, D γ′s from 1756 band head and from this level to 6^+ of g.s. band determine J=5 for 1756 and J=7 for this level. π=(−) based on assigned configurations.
2194.3? *6*			A	
2242.11[d] *9*	(9^+)		C	Jπ: (E2) γ to 7^+ member of γ-vibrational band and (M1+E2) γ to 8^+ member of g.s. band.
2248.9 *5*			A	
2261.6[f] *4*	8^-		C	Jπ: in-band γ to 6^-.

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Adopted Levels, Gammas (continued)

^{160}Er Levels (continued)

E(level)[†]	Jπ[#]	$T_{1/2}$[‡]	XREF	Comments
2292.9[&] *4*	8^-		C	Jπ: ΔJ=1 (E1) γ to 7^+, 1741 of γ-vibrational band and member of negative parity band.
2326.2[j] *6*	$8^{(-)}$		C	Jπ: ΔJ=1, D+Q γ to $7^{(-)}$; π=(−) based on assigned configurations.
2340.11[@] *10*	12^+	0.58 ps *15*	C	Jπ: E2 γ to 10^+ and member of the g.s. band.
2360.06[e] *11*	(10^+)		C	Jπ: γ's to 8^+ and 10^+ and member of the first excited $K^\pi=0^+$ band.
2436.73[d] *10*	(10^+)		C	Jπ: γ to (8^+) member of γ-vibrational band.
2468.8 *5*	(10^+)		C	
2519.9[a] *4*	11^-		C	Jπ: ΔJ=1, E1 759γ to 10^+, 1760 yrast level.
2529.8[i] *6*	$9^{(-)}$		C	Jπ: ΔJ=1, D+Q γ to $8^{(-)}$ and in-band γ to $7^{(-)}$.
2531.0[&] *4*	10^-		C	Jπ: E1 γ to 10^+ and E2 γ to 8^-.
2671.1[f] *5*	10^-		C	Jπ: E2 in-band γ to 8^-.
2757.0[j] *7*	$10^{(-)}$		C	Jπ: ΔJ=1, D+Q γ to $9^{(-)}$ and in-band γ to $8^{(-)}$.
2800.04[d] *10*	(11^+)		C	Jπ: E2 γ to (9^+) member of γ-vibrational band.
2845.79[e] *12*	(12^+)		C	Jπ: γ's to 10^+ and 12^+ and member of the first excited $K^\pi=0^+$ band.
2852.9[k] *8*	(9^+)		C	Jπ: γ from in-band (11^+); band head of band 12.
2874.4[&] *4*	12^-		C	Jπ: E2 in-band γ to 10^-.
2931.38[@] *12*	14^+	0.62 ps *15*	C	Jπ: E2 γ to 12^+ and member of the g.s. band.
2979.4[a] *4*	13^-		C	Jπ: E2 in-band γ to 11^-.
2993.0[i] *7*	$11^{(-)}$		C	Jπ: ΔJ=1, D+Q γ to $10^{(-)}$ and in-band γ to $9^{(-)}$.
2998.29[d] *11*	(12^+)		C	Jπ: γ to (10^+) member of γ-vibrational band.
3024.2[l] *7*	(10^+)		C	Jπ: γ's to $9^{(-)}$,$10^{(-)}$ and π=(+) (based on assigned configurations) select the most likely J^π values equal to (9^+),(10^+); (10^+) from ΔJ=(1) interband transition from (11^+).
3038.2 *7*	(12^+)		C	
3093.1[f] *8*	12^-		C	Jπ: E2 in-band γ to 10^-.
3121.6[b] *5*	14^+		C	Jπ: E2 γ to 12^+ of g.s. band.
3187.4[k] *7*	(11^+)		C	Jπ: γ's to $10^{(-)}$,$11^{(-)}$ and π=(+) (based on assigned configurations) select the most likely J^π values equal to (10^+),(11^+); (11^+) is postulated by 2011Ol02 ((HI,xnγ) dataset).
3241.0[g] *8*	(13^+)		C	J=(13) compatible with γ to 12^+, assigned in (HI,xnγ) (2011Ol02) based on the fact that if J>13 this band would become yrast at higher spins, which is contrary to the observed intensities. π=(+) based on assigned configurations.
3275.5[j] *8*	(12^-)		C	Jπ: γ to $11^{(-)}$ and in-band γ to $10^{(-)}$.
3313.5[&] *4*	14^-		C	Jπ: E2 in-band γ to 12^-.
3362.86[d] *13*	(13^+)		C	Jπ: (E2) γ to (11^+) member of γ-vibrational band.
3371.78[e] *16*	(14^+)		C	Jπ: γ's to 12^+ and 14^+ and member of the first excited $K^\pi=0^+$ band.
3396.3[l] *8*	(12^+)		C	Jπ: γ to (11^+) and in-band γ to (10^+).
3461.8[h] *8*	(14^+)		C	J=(14) compatible with γ to (13^+), assigned in (HI,xnγ) (2011Ol02) based on the fact that if J>14 this band would become yrast at higher spins, which is contrary to the observed intensities. π=(+) based on assigned configurations.
3465.43[@] *13*	16^+	1.09 ps *14*	C	Jπ: E2 γ to 14^+ and member of the g.s. band.
3483.8[a] *5*	15^-		C	Jπ: E2 in-band γ to 13^-.
3525.3[i] *8*	(13^-)		C	Jπ: γ to (12^-) and in-band γ to $11^{(-)}$.
3566.50[d] *14*	(14^+)		C	
3587.8[f] *10*	14^-		C	Jπ: E2 in-band γ to 12^-.
3632.5[k] *8*	(13^+)		C	Jπ: γ's to (12^+) and in-band (11^+).
3654.1[b] *4*	16^+		C	Jπ: E2 in-band γ to 14^+.
3695.5[g] *8*	(15^+)		C	Jπ: γ to 14^+ of g.s. band and in-band γ to (13^+).
3830.5[&] *5*	16^-		C	Jπ: E2 in-band γ to 14^-.

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Adopted Levels, Gammas (continued)

^{160}Er Levels (continued)

E(level)[†]	J$^{\pi}$[#]	T$_{1/2}$[‡]	XREF	Comments
3836.6[d] 5	(15$^+$)		C	J$^{\pi}$: γ to (13$^+$) member of γ-vibrational band.
3850.3[j] 9	(14$^-$)		C	J$^{\pi}$: γ to (13$^-$) and in-band γ to (12$^-$).
3884.9?[l] 10	(14$^+$)		C	J$^{\pi}$: γ to (13$^+$) and in-band γ to (12$^+$).
3950.1[h] 8	(16$^+$)		C	J$^{\pi}$: γ to (15$^+$) and in-band γ to (14$^+$).
3964.1[c] 6	16$^+$		C	J$^{\pi}$: E2 γ to 14$^+$ of g.s. band.
3965.71[e] 18	(16$^+$)		C	
4020.9[@] 3	18$^+$	0.68 ps 19	C	J$^{\pi}$: E2 γ to 16$^+$ and member of the g.s. band.
4046.3[a] 6	17$^-$		C	J$^{\pi}$: E2 in-band γ to 15$^-$.
4089.8[i] 9	(15$^-$)		C	J$^{\pi}$: γ to (14$^-$) and in-band γ to (13$^-$).
4157.1[f] 12	(16$^-$)		C	J$^{\pi}$: in-band γ to 14$^-$.
4168.8[k] 10	(15$^+$)		C	J$^{\pi}$: γ's to (14$^+$) and in-band (13$^+$).
4223.3[g] 9	(17$^+$)		C	J$^{\pi}$: γ to (16$^+$) and in-band γ to (15$^+$).
4286.7[b] 5	18$^+$		C	J$^{\pi}$: E2 in-band γ to 16$^+$.
4373.1[d] 4	(17$^+$)		C	J$^{\pi}$: γ to (15$^+$) member of γ-vibrational band.
4403.3[&] 6	18$^-$		C	J$^{\pi}$: E2 in-band γ to 16$^-$.
4449.9[j] 9	(16$^-$)		C	J$^{\pi}$: γ to (15$^-$) and in-band γ to (14$^-$).
4462.8?[l] 12	(16$^+$)		C	J$^{\pi}$: γ to (15$^+$) and in-band γ to (14$^+$).
4514.0[h] 9	(18$^+$)		C	J$^{\pi}$: γ to (17$^+$) and in-band γ to (16$^+$).
4567.9[c] 8	(18$^+$)		C	J$^{\pi}$: in-band γ to 16$^+$.
4660.8[@] 4	20$^+$		C	J$^{\pi}$: E2 γ to 18$^+$ and member of the g.s. band.
4662.2[a] 6	19$^-$		C	J$^{\pi}$: E2 in-band γ to 17$^-$.
4684.9[i] 10	(17$^-$)		C	J$^{\pi}$: γ to (16$^-$) and in-band γ to (15$^-$).
4767.2[f] 13	(18$^-$)		C	J$^{\pi}$: in-band γ to (16$^-$).
4782.7[k] 11	(17$^+$)		C	J$^{\pi}$: in-band γ to (15$^+$).
4818.7[g] 10	(19$^+$)		C	J$^{\pi}$: γ to (18$^+$) and in-band γ to (17$^+$).
4954.7[j] 10	(18$^-$)		C	J$^{\pi}$: γ to (17$^-$) and in-band γ to (16$^-$).
4968.0[b] 7	20$^+$		C	J$^{\pi}$: E2 in-band γ to 18$^+$.
4991.3[d] 5	(19$^+$)		C	J$^{\pi}$: γ to (17$^+$) member of γ-vibrational band.
5017.2[&] 7	20$^-$		C	J$^{\pi}$: E2 in-band γ to 18$^-$.
5110.8?[l] 15	(18$^+$)		C	J$^{\pi}$: in-band γ to (16$^+$).
5136.7[h] 10	(20$^+$)		C	J$^{\pi}$: γ to (19$^+$) and in-band γ to (18$^+$).
5192.1[c] 9	(20$^+$)		C	J$^{\pi}$: E2 in-band γ to (18$^+$).
5247.4[i] 10	(19$^-$)		C	J$^{\pi}$: γ to (18$^-$) and in-band γ to (17$^-$).
5322.5[a] 7	21$^-$		C	J$^{\pi}$: E2 in-band γ to 19$^-$.
5382.7[@] 5	22$^+$		C	J$^{\pi}$: E2 γ to 20$^+$ and member of the g.s. band.
5412.4[f] 14	(20$^-$)		C	J$^{\pi}$: in-band γ to (18$^-$).
5458.9[k] 13	(19$^+$)		C	J$^{\pi}$: in-band γ to (17$^+$).
5472.0[g] 10	(21$^+$)		C	J$^{\pi}$: γ to (20$^+$) and in-band γ to (19$^+$).
5562.5[j] 11	(20$^-$)		C	J$^{\pi}$: γ to (19$^-$) and in-band γ to (18$^-$).
5676.0[&] 9	22$^-$		C	J$^{\pi}$: E2 in-band γ to 20$^-$.
5680.5[d] 6	(21$^+$)		C	J$^{\pi}$: γ to (19$^+$) member of γ-vibrational band.
5707.6[b] 8	22$^+$		C	J$^{\pi}$: E2 in-band γ to 20$^+$.
5806.9[h] 11	(22$^+$)		C	J$^{\pi}$: γ to (21$^+$) and in-band γ to (20$^+$).
5848.6[c] 9	(22$^+$)		C	J$^{\pi}$: in-band γ to (20$^+$).
5898.6[i] 11	(21$^-$)		C	J$^{\pi}$: γ to (20$^-$) and in-band γ to (19$^-$).
6026.6[a] 9	23$^-$		C	J$^{\pi}$: E2 in-band γ to 21$^-$.
6108.2[f] 16	(22$^-$)		C	J$^{\pi}$: in-band γ to (20$^-$).

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Adopted Levels, Gammas (continued)

^{160}Er Levels (continued)

E(level)[†]	J$^{\pi}$[#]	XREF	Comments
6156.5[g] *11*	(23$^+$)	C	J$^{\pi}$: γ to (22$^+$) and in-band γ to (21$^+$).
6175.1[@] *6*	24$^+$	C	J$^{\pi}$: E2 γ to 22$^+$ and member of the g.s. band.
6183.0[k] *14*	(21$^+$)	C	J$^{\pi}$: in-band γ to (19$^+$).
6257.1[j] *12*	(22$^-$)	C	J$^{\pi}$: γ to (21$^-$) and in-band γ to (20$^-$).
6392.7[&] *11*	24$^-$	C	J$^{\pi}$: E2 in-band γ to 22$^-$.
6436.6[d] *8*	(23$^+$)	C	J$^{\pi}$: γ to (21$^+$) member of γ-vibrational band.
6508.2[b] *9*	24$^+$	C	J$^{\pi}$: E2 in-band γ to 22$^+$.
6520.0[h] *11*	(24$^+$)	C	J$^{\pi}$: γ to (23$^+$) and in-band γ to (22$^+$).
6570.0[c] *9*	(24$^+$)	C	J$^{\pi}$: E2 in-band γ to (22$^+$).
6632.5[i] *12*	(23$^-$)	C	J$^{\pi}$: γ to (22$^-$) and in-band γ to (21$^-$).
6784.2[a] *11*	25$^-$	C	J$^{\pi}$: E2 in-band γ to 23$^-$.
6860.2[f] *17*	(24$^-$)	C	J$^{\pi}$: in-band γ to (22$^-$).
6893.9[g] *12*	(25$^+$)	C	J$^{\pi}$: γ to (24$^+$) and in-band γ to (23$^+$).
6943.5[k] *15*	(23$^+$)	C	J$^{\pi}$: in-band γ to (21$^+$).
7027.6[@] *9*	26$^+$	C	J$^{\pi}$: E2 γ to 24$^+$ and member of the g.s. band.
7027.8[j] *13*	(24$^-$)	C	J$^{\pi}$: in-band γ to (22$^-$).
7176.7[&] *12*	26$^-$	C	J$^{\pi}$: E2 in-band γ to 24$^-$.
7250.5[d] *10*	(25$^+$)	C	J$^{\pi}$: γ to (23$^+$) member of γ-vibrational band.
7284.7[h] *12*	(26$^+$)	C	J$^{\pi}$: γ to (25$^+$) and in-band γ to (24$^+$).
7334.6[b] *10*	26$^+$	C	J$^{\pi}$: E2 in-band γ to 24$^+$.
7368.1[c] *10*	(26$^+$)	C	J$^{\pi}$: E2 in-band γ to (24$^+$).
7438.2[i] *13*	(25$^-$)	C	J$^{\pi}$: in-band γ to (23$^-$).
7603.7[a] *13*	27$^-$	C	J$^{\pi}$: E2 in-band γ to 25$^-$.
7662.3[f] *18*	(26$^-$)	C	J$^{\pi}$: in-band γ to (24$^-$).
7692.0[g] *12*	(27$^+$)	C	J$^{\pi}$: γ to (26$^+$) and in-band γ to (25$^+$).
7747.5?[k] *18*	(25$^+$)	C	J$^{\pi}$: in-band γ to (23$^+$).
7867.8[j] *14*	(26$^-$)	C	J$^{\pi}$: in-band γ to (24$^-$).
7929.0[@] *10*	28$^+$	C	J$^{\pi}$: E2 γ to 26$^+$ and member of the g.s. band.
8024.4[&] *14*	28$^-$	C	J$^{\pi}$: E2 in-band γ to 26$^-$.
8115.3[d] *12*	(27$^+$)	C	J$^{\pi}$: γ to (25$^+$) member of γ-vibrational band.
8115.6[h] *13*	(28$^+$)	C	J$^{\pi}$: γ to (27$^+$) and in-band γ to (26$^+$).
8176.4[b] *12*	(28$^+$)	C	J$^{\pi}$: (E2) in-band γ to 26$^+$.
8237.1[c] *12*	(28$^+$)	C	J$^{\pi}$: in-band γ to (26$^+$).
8307.7[i] *15*	(27$^-$)	C	J$^{\pi}$: in-band γ to (25$^-$).
8478.3[a] *14*	29$^-$	C	J$^{\pi}$: E2 in-band γ to 27$^-$.
8494.6[f] *19*	(28$^-$)	C	J$^{\pi}$: in-band γ to (26$^-$).
8556.9[g] *13*	(29$^+$)	C	J$^{\pi}$: γ to (28$^+$) and in-band γ to (27$^+$).
8586.5?[k] *21*	(27$^+$)	C	J$^{\pi}$: in-band γ to (25$^+$).
8766.4[j] *16*	(28$^-$)	C	J$^{\pi}$: in-band γ to (26$^-$).
8865.6[@] *12*	30$^+$	C	J$^{\pi}$: E2 γ to 28$^+$ and member of the g.s. band.
8918.2[&] *15*	30$^-$	C	J$^{\pi}$: E2 in-band γ to 28$^-$.
8994.5[d] *13*	(29$^+$)	C	J$^{\pi}$: γ to (27$^+$) member of γ-vibrational band.
9019.0[h] *14*	(30$^+$)	C	J$^{\pi}$: in-band γ to (28$^+$).
9080.8[b] *13*	(30$^+$)	C	J$^{\pi}$: (E2) in-band γ to (28$^+$).
9147.4[c] *13*	(30$^+$)	C	J$^{\pi}$: E2 in-band γ to (28$^+$).
9234.5[i] *16*	(29$^-$)	C	J$^{\pi}$: in-band γ to (27$^-$).
9289.2[f] *20*	(30$^-$)	C	J$^{\pi}$: in-band γ to (28$^-$).

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Adopted Levels, Gammas (continued)

^{160}Er Levels (continued)

E(level)[†]	J$^{\pi}$[#]	XREF	Comments
9383.8[a] 15	31$^-$	C	J$^{\pi}$: E2 in-band γ to 29$^-$.
9498.4[g] 14	(31$^+$)	C	J$^{\pi}$: in-band γ to (29$^+$).
9720.7[j] 17	(30$^-$)	C	J$^{\pi}$: in-band γ to (28$^-$).
9825.6[@] 14	32$^+$	C	J$^{\pi}$: E2 γ to 30$^+$ and member of the g.s. band.
9830.5[&] 16	32$^-$	C	J$^{\pi}$: E2 in-band γ to 30$^-$.
9839.8[d] 15	(31$^+$)	C	J$^{\pi}$: γ to (29$^+$) member of γ-vibrational band.
9996.7[h] 15	(32$^+$)	C	J$^{\pi}$: in-band γ to (30$^+$).
10043.6[b] 14	(32$^+$)	C	J$^{\pi}$: (E2) in-band γ to (30$^+$).
10123.4?[c] 16	(32$^+$)	C	J$^{\pi}$: in-band γ to (30$^+$).
10136.5[f] 21	(32$^-$)	C	J$^{\pi}$: in-band γ to (30$^-$).
10213.7[i] 17	(31$^-$)	C	J$^{\pi}$: in-band γ to (29$^-$).
10302.7[a] 16	33$^-$	C	J$^{\pi}$: E2 in-band γ to 31$^-$.
10512.5[g] 15	(33$^+$)	C	J$^{\pi}$: in-band γ to (31$^+$).
10724.1[j] 18	(32$^-$)	C	J$^{\pi}$: in-band γ to (30$^-$).
10729.7[d] 16	(33$^+$)	C	J$^{\pi}$: γ to (31$^+$) member of γ-vibrational band.
10761.9[&] 17	34$^-$	C	J$^{\pi}$: E2 in-band γ to 32$^-$.
10808.8[@] 15	34$^+$	C	J$^{\pi}$: E2 γ to 32$^+$ and member of the g.s. band.
11042.8[b] 16	(34$^+$)	C	J$^{\pi}$: (E2) in-band γ to (32$^+$).
11047.1[h] 16	(34$^+$)	C	J$^{\pi}$: in-band γ to (32$^+$).
11064.6[f] 21	(34$^-$)	C	J$^{\pi}$: in-band γ to (32$^-$).
11168.4?[c] 19	(34$^+$)	C	J$^{\pi}$: in-band γ to (32$^+$).
11248.8[i] 18	(33$^-$)	C	J$^{\pi}$: in-band γ to (31$^-$).
11251.0[a] 17	35$^-$	C	J$^{\pi}$: E2 in-band γ to 33$^-$.
11597.6[g] 17	(35$^+$)	C	J$^{\pi}$: in-band γ to (33$^+$).
11684.4[d] 17	(35$^+$)	C	J$^{\pi}$: γ to (33$^+$) member of γ-vibrational band.
11735.5[&] 18	36$^-$	C	J$^{\pi}$: E2 in-band γ to 34$^-$.
11779.0[j] 19	(34$^-$)	C	J$^{\pi}$: in-band γ to (32$^-$).
11820.0[@] 16	36$^+$	C	J$^{\pi}$: E2 γ to 34$^+$ and member of the g.s. band.
12087.8[b] 17	(36$^+$)	C	J$^{\pi}$: (E2) in-band γ to (34$^+$).
12089.6[f] 22	(36$^-$)	C	J$^{\pi}$: in-band γ to (34$^-$).
12162.7[h] 17	(36$^+$)	C	J$^{\pi}$: in-band γ to (34$^+$).
12247.6[a] 18	37$^-$	C	J$^{\pi}$: E2 in-band γ to 35$^-$.
12325.4[i] 19	(35$^-$)	C	J$^{\pi}$: in-band γ to (33$^-$).
12702.0[d] 18	(37$^+$)	C	J$^{\pi}$: γ to (35$^+$) member of γ-vibrational band.
12761.9[&] 19	38$^-$	C	J$^{\pi}$: E2 in-band γ to 36$^-$.
12865.4[@] 17	38$^+$	C	J$^{\pi}$: E2 γ to 36$^+$ and member of the g.s. band.
13166.5[b] 18	(38$^+$)	C	J$^{\pi}$: (E2) in-band γ to (36$^+$).
13302.2[a] 19	39$^-$	C	J$^{\pi}$: E2 in-band γ to 37$^-$.
13333.1[h] 18	(38$^+$)	C	J$^{\pi}$: in-band γ to (36$^+$).
13777.9[d] 19	(39$^+$)	C	J$^{\pi}$: γ to (37$^+$) member of γ-vibrational band.
13845.2[&] 20	40$^-$	C	J$^{\pi}$: E2 in-band γ to 38$^-$.
13952.4[@] 18	40$^+$	C	J$^{\pi}$: E2 γ to 38$^+$ and member of the g.s. band.
14248.0[b] 19	(40$^+$)	C	J$^{\pi}$: in-band γ to (38$^+$).
14421.2[a] 20	41$^-$	C	J$^{\pi}$: E2 in-band γ to 39$^-$.
14904.1[d] 20	(41$^+$)	C	J$^{\pi}$: γ to (39$^+$) member of γ-vibrational band.
14986.6[&] 21	42$^-$	C	J$^{\pi}$: E2 in-band γ to 40$^-$.
15086.7[@] 19	42$^+$	C	J$^{\pi}$: E2 γ to 40$^+$ and member of the g.s. band.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{160}Er Levels (continued)

E(level)[†]	Jπ[#]	XREF	Comments
15337.0[b] *20*	(42$^+$)	C	Jπ: in-band γ to (40$^+$).
15610.6[a] *21*	43$^-$	C	Jπ: E2 in-band γ to 41$^-$.
16052.1[d] *21*	(43$^+$)	C	Jπ: γ to (41$^+$) member of γ-vibrational band.
16189.7[&] *22*	44$^-$	C	Jπ: E2 in-band γ to 42$^-$.
16273.0[@] *20*	44$^+$	C	Jπ: E2 γ to 42$^+$ and member of the g.s. band.
16474.8[b] *21*	(44$^+$)	C	Jπ: in-band γ to (42$^+$).
16865.2[a] *22*	(45$^-$)	C	Jπ: (E2) in-band γ to 43$^-$.
17453.4[&] *23*	46$^-$	C	Jπ: E2 in-band γ to 44$^-$.
17512.8[@] *21*	46$^+$	C	Jπ: E2 γ to 44$^+$ and member of the g.s. band.
17652.8?[b] *23*	(46$^+$)	C	Jπ: in-band γ to (44$^+$).
18171.6[a] *23*	(47$^-$)	C	Jπ: (E2) in-band γ to (45$^-$).
18773.4[&] *23*	(48$^-$)	C	Jπ: (E2) in-band γ to 46$^-$.
18797.1[@] *22*	(48$^+$)	C	Jπ: γ to 46$^+$ and member of the g.s. band.
19530.4[a] *24*	(49$^-$)	C	Jπ: (E2) in-band γ to (47$^-$).
20131.6[&] *24*	(50$^-$)	C	Jπ: (E2) in-band γ to (48$^-$).
20141.9[@] *23*	(50$^+$)	C	Jπ: γ to 14$^+$ and member of the g.s. band.
21597?[&] *3*	(52$^-$)	C	Jπ: in-band γ to (50$^-$).
0+x[m]		C	Additional information 2.
176.2+x[m] *8*		C	
371.8+x[m] *8*		C	
586.0+x[m] *10*		C	
816.8+x[m] *10*		C	
1063.1+x[m] *11*		C	
1323.4+x[m] *12*		C	
1594.2+x[m] *13*		C	
1874.4+x[m] *14*		C	
2162.0+x[m] *14*		C	
2455.0+x[m] *15*		C	
2758.5+x[m] *16*		C	
3070.9+x[m] *16*		C	
3390.2+x[m] *17*		C	
3722.1+x[m] *18*		C	
4067.1+x[m] *18*		C	
4425+x[m]		C	
y[n]	J1≈(33)	C	Additional information 3.
1017.3+y[n] *6*	J1+2	C	
2079.0+y[n] *9*	J1+4	C	
3179.0+y[n] *11*	J1+6	C	
4319.4+y[n] *12*	J1+8	C	
5505.0+y[n] *14*	J1+10	C	
6738.4+y[n] *15*	J1+12	C	
8024.6+y[n] *16*	J1+14	C	
9370.8+y[n] *17*	J1+16	C	
10777.7+y[n] *18*	J1+18	C	
12251.8+y[n] *19*	J1+20	C	
13784.2+y[n] *20*	J1+22	C	
15377.2+y?[n] *22*	J1+24	C	
17043.2+y?[n] *25*	J1+26	C	
z[o]	J2≈(33)	C	Additional information 4.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{160}Er Levels (continued)

E(level)[†]	J$^{\pi}$[#]	XREF	Comments
947.0+z?[o] *10*	J2+2	C	
1948.9+z[o] *12*	J2+4	C	
3003.3+z[o] *13*	J2+6	C	
4101.6+z[o] *15*	J2+8	C	
5239.6+z[o] *16*	J2+10	C	
6425.2+z[o] *17*	J2+12	C	
7668.0+z[o] *18*	J2+14	C	
8973.1+z[o] *19*	J2+16	C	
10360.3+z[o] *20*	J2+18	C	
11830.4+z[o] *21*	J2+20	C	
13398.5+z?[o] *23*	J2+22	C	
u[p]	J3≈(27)	C	Additional information 5.
828.7+u[p] *6*	J3+2	C	
1677.1+u[p] *9*	J3+4	C	
2567.3+u[p] *11*	J3+6	C	
3506.8+u[p] *12*	J3+8	C	
4497.9+u[p] *14*	J3+10	C	
5546.6+u[p] *15*	J3+12	C	
6657.3+u[p] *16*	J3+14	C	
7823.6+u[p] *17*	J3+16	C	
9056.4+u[p] *18*	J3+18	C	
10359.4+u[p] *21*	J3+20	C	
11734.4+u[p] *23*	J3+22	C	
13190.5+u?[p] *25*	J3+24	C	

[†] Listed values were calculated from a least-squares fit of the γ-ray energies. Where no uncertainties are available for the Eγ values, a value of 1 keV was assigned for this calculation.

[‡] Listed values for excited states are from 1979Bo29 measured by ^{124}Sn(^{40}Ar,4nγ) reaction in (HI,xnγ) dataset.

[#] The J^{π} assignments for the levels above 1.3 MeV that are populated primarily in the heavy-ion-induced reactions are based on the properties of the deexciting γ rays and considerations of the expected rotational-band structure. For the lower levels of these bands J^{π} assignments are based on γ-ray multipolarities determined by on angular-distribution and/or angular-correlation measurements, with some α(K)exp values also being determined. Tentative parities are assigned to the band structures based on calculated configurations (which for some bands were confirmed by experimental arguments).

[@] Band(A): Yrast band. Configuration=vacuum –>AB –>AB⊗A_pB_p(EF and/or CD).

[&] Band(B): Band 1. Configuration=AF –>AFBC –>AFBC⊗A_pB_p. E1, 771γ to 10^+, 1760 level of g.s. band establishes π=− for this band. ΔJ=1 (E1) γ to 7^+, 1741 of g.s. band firmly assigns 8^- for 2292 level of this band that together with well established ΔJ=2, E2 in-band γ's make J^{π} assignments of this band certain.

[a] Band(C): Band 2. Configuration=AE –>AEBC –>AEBC⊗A_pB_p. ΔJ=1, E1 759γ to 10^+, 1760 yrast level firmly assigns 11^- to 2519 level of this band that together with well established ΔJ=2, E2 in-band γ's make J^{π} assignments of this band certain for almost all its levels.

[b] Band(D): Band 3. Configuration=vacuum –>BCAD –>BCAD⊗A_pB_p and/or EF. The E2, 782.6γ from 3121 band head of band 3 to 12^+ of g.s. band determines 14^+ for the band head and π=+ for band 3.

[c] Band(E): Band 4. Configuration=β –>β⊗AB. The E2, 1033.0γ from 3964 band head of band 4 to 14^+ of g.s. band determines 16^+ for the band head and π=+ for band 4.

[d] Band(F): Band 5: K$^{\pi}$=2^+, γ-vibrational. Configuration=γ–>γ⊗AB –>γ⊗AB⊗A_pB_p The E2, 854.4γ to 0^+ g.s. determines J^{π}=2^+ for the 854 band head of the γ-vibrational band.

[e] Band(f): Band 6: K$^{\pi}$=0^+, tentative β-vibrational.

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Adopted Levels, Gammas (continued)

^{160}Er Levels (continued)

[f] Band(G): Band 7. Configuration=AG –>AGBC –>AGBC⊗A_pB_p The E2, 387.2γ from 2292, 8^- level of band 1 to 1905 level of band 7 determines $J^\pi=6^-$ for the band head of band 7.

[g] Band(H): Band 8. Configuration=AE –>A_pE_p –>AEBC⊗A_pE_p. J=(13) was assigned to the 3249 band head in (HI,xnγ) (2011Ol02) based on the fact that if J>13 this band would become yrast at higher spins, which is contrary to the observed intensities. π=(+) based on assigned configurations.

[h] Band(h): Band 9. Configuration=AE –>A_pF_p –>AEBC⊗A_pF_p. J=(14) was assigned to the 3461 band head in (HI,xnγ) (2011Ol02) based on the fact that if J>14 this band would become yrast at higher spins, which is contrary to the observed intensities. π=(+) based on assigned configurations.

[i] Band(I): Band 10. Configuration=A_pE_p –>AB⊗A_pE_p. ΔJ=1, D γ's from first and second levels to 6^+ g.s. band level determine J=5 for 1756 band head and J=7 for 2151. π=(−) based on assigned configurations.

[j] Band(i): Band 11. Configuration=A_pF_p –>AB⊗A_pF_p. ΔJ=1, D+Q γ to $7^{(-)}$ of band 10. π=(−) based on assigned configurations.

[k] Band(J): Band 12. Configuration=AF –>A_pE_p. π=(+) based on assigned configurations.

[l] Band(j): Band 13. Configuration=AF –>A_pF_p. π=(+) based on assigned configurations.

[m] Band(K): Band 14. Strongly-coupled band.

[n] Band(L): Triaxial SD-1 band. Proposed configuration, relative to ^{146}Gd core: $\pi[(h_{11/2})^6(h_{9/2}f_{7/2})^1(i_{13/2})^1]\otimes \nu[(N=4)^{-2}(h_{11/2})^{-2}(i_{13/2})^5]$. Possible signature partner with Triaxial SD-2 band. Estimated deformation parameters: $\varepsilon \approx 0.37$, $\gamma=\pm 20°$. Percent population ≈ 0.01, relative to the intensity of 4n channel.

[o] Band(M): Triaxial SD-2 band. Proposed configuration, relative to ^{146}Gd core: $\pi[(h_{11/2})^6(h_{9/2}f_{7/2})^1(i_{13/2})^1]\otimes \nu[(N=4)^{-2}(h_{11/2})^{-2}(i_{13/2})^5]$. Percent population ≈ 0.01, relative to the intensity of 4n channel. Estimated deformation parameters: $\varepsilon \approx 0.37$, $\gamma=\pm 20°$. Possible signature partner with Triaxial SD-1 band.

[p] Band(N): Triaxial SD-3 band. Based on the dynamic moment of inertia behavior, this band appears to be based on similar underlying structure as bands 1 and 2 and is interperted as strongly deformed triaxial band. Estimated deformation parameters: $\varepsilon \approx 0.37$, $\gamma \approx 22°$. 2011Ol02 found 1257γ as a possible candidate for the decay of this band to the main (normal deformed) level scheme. The yrast transitions up to the decay of the 20^+ state are observed in the spectrum of this band, confirming its association with ^{160}Er and suggesting a bandhead spin of >20.

Adopted Levels, Gammas (continued)

γ(^{160}Er)

The γ rays whose placement is questioned in the table were not confirmed by 2011Ol02, the most extensive work in the (HI,xnγ) dataset, while they were detected in a previous work.

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†‡]	δ[†a]	α[b]	Comments
125.47	2+	125.43 *6*	100[#]	0.0	0+	E2[@]		1.273	B(E2)(W.u.)=169 *6* α(K)=0.607 *9*; α(L)=0.511 *8*; α(M)=0.1236 *18* α(N)=0.0280 *4*; α(O)=0.00333 *5*; α(P)=2.58×10^{-5} *4*
389.37	4+	263.87 *6*	100[#]	125.47	2+	E2[@]		0.1026	B(E2)(W.u.)=241 *8* α(K)=0.0727 *11*; α(L)=0.0231 *4*; α(M)=0.00543 *8* α(N)=0.001240 *18*; α(O)=0.0001573 *22*; α(P)=3.65×10^{-6} *6*
765.01	6+	375.71 *6*	100[#]	389.37	4+	E2		0.0356	B(E2)(W.u.)=263 *15* α(K)=0.0273 *4*; α(L)=0.00647 *9*; α(M)=0.001498 *21* α(N)=0.000344 *5*; α(O)=4.53×10^{-5} *7*; α(P)=1.459×10^{-6} *21*
854.20	2+	728.5[@] *5*	100[@] *9*	125.47	2+	E0+M1+E2[@]		0.0100 *35*	α(K)=0.0084 *30*; α(L)=0.00127 *36*; α(M)=2.82×10^{-4} *77* α(N)=6.6×10^{-5} *18*; α(O)=9.4×10^{-6} *28*; α(P)=5.0×10^{-7} *19*
		854.21 *15*	63[@] *5*	0.0	0+	E2[@]		0.00468	α(K)=0.00388 *6*; α(L)=0.000620 *9*; α(M)=0.0001385 *20* α(N)=3.21×10^{-5} *5*; α(O)=4.52×10^{-6} *7*; α(P)=2.21×10^{-7} *3*
893.5	0+	767.8[@] *6*	100[@] *10*	125.47	2+	[E2]		0.00591	α(K)=0.00487 *7*; α(L)=0.000804 *12*; α(M)=0.000180 *3* α(N)=4.18×10^{-5} *6*; α(O)=5.84×10^{-6} *9*; α(P)=2.76×10^{-7} *4*
		894		0.0	0+	E0[@]			E_γ: from 9.4 min ^{160}Tm ε decay. X(E0/E2)=0.11 *3* from 9.4 min ^{160}Tm ε decay (2014Bl12).
987.15	(3)+	597.77 *5*	24[#] *6*	389.37	4+				
		861.73 *11*	100[#] *17*	125.47	2+	E2[@]		0.00459	α(K)=0.00381 *6*; α(L)=0.000607 *9*; α(M)=0.0001356 *19* α(N)=3.14×10^{-5} *5*; α(O)=4.43×10^{-6} *7*; α(P)=2.17×10^{-7} *3*
1007.93	2+	617.5[@] *6*	64[@] *12*	389.37	4+				
		882.0[#] *3*	88[@] *12*	125.47	2+	E0+M1+E2[@]		0.070 *17*	α(K)=0.0054 *18*; α(L)=7.9×10^{-4} *22*; α(M)=1.75×10^{-4} *47* α(N)=4.1×10^{-5} *11*; α(O)=5.9×10^{-6} *17*; α(P)=3.2×10^{-7} *11* E_γ: from 74.5 s ^{160}Tm ε decay; α: estimated from α(K)exp and theoretical K/Tot in 74.5 s ^{160}Tm ε decay Iγ from 9.4 min ^{160}Tm ε decay. X(E0/E2)=0.97 *21* from 9.4 min ^{160}Tm ε decay (2014Bl12).
		1008.0 *1*	100[@] *12*	0.0	0+	E2[@]		0.00331	α(N)=2.18×10^{-5} *3*; α(O)=3.10×10^{-6} *5*; α(P)=1.574×10^{-7} *22* α(K)=0.00276 *4*; α(L)=0.000422 *6*; α(M)=9.39×10^{-5} *14*
1128.54	4+	274.1 *5*	11 *3*	854.20	2+				
		739.13 *5*	100 *6*	389.37	4+	M1+E2	−7 *+3−17*	0.0066 *3*	α(N)=4.67×10^{-5} *15*; α(O)=6.53×10^{-6} *23*; α(P)=3.07×10^{-7} *15* α(K)=0.00541 *24*; α(L)=0.00090 *3*; α(M)=0.000202 *7* Mult.,δ: α(K)exp in 74.5 s ^{160}Ho ε decay (2014Bl12) is consistent with M1+E2, δ=−7 *+3−17* measured in (HI,xnγ) (2006Du02).

$^{160}_{68}Er_{92}$-10

Adopted Levels, Gammas (continued)

γ(^{160}Er) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†‡]	δ[†a]	α[b]	Comments
1128.54	4+	1003.09 *9*		125.47	2+				
1229.06	8+	464.08 *6*	100	765.01	6+	E2		0.0200	B(E2)(W.u.)=2.9×10^2 *+9−6* α(K)=0.01576 *22*; α(L)=0.00327 *5*; α(M)=0.000748 *11* α(N)=0.0001723 *25*; α(O)=2.32×10^{-5} *4*; α(P)=8.66×10^{-7} *13*
1229.68	4+	221[c] *1*		1007.93	2+				
		840.31 *17*	72[#] *17*	389.37	4+	E0+M1+E2		0.0071 *23*	α(K)=0.0060 *20*; α(L)=8.9×10^{-4} *25*; α(M)=1.97×10^{-4} *54* α(N)=4.6×10^{-5} *13*; α(O)=6.6×10^{-6} *19*; α(P)=3.5×10^{-7} *13* α: estimated from α(K)exp and theoretical K/Tot in 74.5 s ^{160}Tm ε decay. Mult.: from 74.5 s ^{160}Tm ε decay (2014Bl12). X(E0/E2)=0.330 *82* (2014Bl12).
		1104.30 *24*	100[#] *19*	125.47	2+				
1316.36	5+	187.41 *39*		1128.54	4+				
		329.21 *9*	25 *3*	987.15	(3)+				
		551.50 *15*		765.01	6+				
		926.99 *5*	100 *8*	389.37	4+	M1+E2	−5.5 *+9−12*	0.00405 *8*	α(K)=0.00337 *7*; α(L)=0.000523 *9*; α(M)=0.0001166 *20* α(N)=2.71×10^{-5} *5*; α(O)=3.83×10^{-6} *7*; α(P)=1.93×10^{-7} *4*
1374.6	(4+)	520.2[@] *8*	18[@] *7*	854.20	2+				
		985.5[@] *7*	32[@] *10*	389.37	4+				
		1249.1[@] *6*	100[@] *14*	125.47	2+				
1389.6	2+,3,4+	1000.2[@] *8*	54[@] *23*	389.37	4+				
		1264.1[@] *8*	100[@] *23*	125.47	2+				
1395.2?		1269.7[@] *7*	100[@]	125.47	2+				
1494.1		640.1[@] *7*	19[@] *3*	854.20	2+				
		1368.5[@] *5*	100[@] *8*	125.47	2+				
1499.24	6+	370.66 *6*	31 *6*	1128.54	4+				
		734.26 *5*	100 *9*	765.01	6+	M1+E2	−8.2 *+23−56*	0.00662 *13*	α(K)=0.00545 *11*; α(L)=0.000910 *16*; α(M)=0.000204 *4* α(N)=4.73×10^{-5} *8*; α(O)=6.61×10^{-6} *12*; α(P)=3.09×10^{-7} *7*
1505.2		1115.8[#] *3*	100[#]	389.37	4+				
1535.8	1,2+	548.4[@] *8*	55[@] *27*	987.15	(3)+				
		681.7[@] *7*	64[@] *27*	854.20	2+				
		1409.4[@] *10*	64[@] *27*	125.47	2+				
		1536.6[@] *8*	100[@] *18*	0.0	0+				
1542.12	(6+)	312.48[c] *20*	24 *7*	1229.68	4+				

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Adopted Levels, Gammas (continued)

γ(^{160}Er) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†‡]	δ[†a]	α[b]	Comments
1542.12	(6$^+$)	777.2 *3*	<20	765.01	6$^+$				
		1152.64 *12*	100 *15*	389.37	4$^+$				
1575.5		1186.1[#] *3*	100[#]	389.37	4$^+$				
1586.0	1,2$^+$	1460.6[@] *6*	100[@] *12*	125.47	2$^+$				
		1585.9[@] *7*	23[@] *5*	0.0	0$^+$				
1636.8?	(4$^-$)	1248[c]	100	389.37	4$^+$				
1651.9		665.0[@] *8*	21[@] *8*	987.15	(3)$^+$				
		797.7[@] *6*	71[@] *11*	854.20	2$^+$				
		1526.4[@] *6*	100[@] *11*	125.47	2$^+$				
1740.71	7$^+$	241.6 *10*		1499.24	6$^+$				
		424.36 *4*	100 *7*	1316.36	5$^+$	E2		0.0254	α(K)=0.0198 *3*; α(L)=0.00433 *6*; α(M)=0.000997 *14* α(N)=0.000229 *4*; α(O)=3.05×10^{-5} *5*; α(P)=1.077×10^{-6} *15*
		511.50 *11*		1229.06	8$^+$				
		975.66 *5*	33 *7*	765.01	6$^+$	M1+E2	−2.11 *+26−29*	0.00409 *14*	α(K)=0.00343 *12*; α(L)=0.000515 *16*; α(M)=0.000114 *4* α(N)=2.66×10^{-5} *8*; α(O)=3.79×10^{-6} *12*; α(P)=1.98×10^{-7} *8*
1756.7	5$^{(-)}$	991.2 *6*	100	765.01	6$^+$	(E1)		1.39×10^{-3}	α(K)=0.001186 *17*; α(L)=0.0001601 *23*; α(M)=3.51×10^{-5} *5* α(N)=8.15×10^{-6} *12*; α(O)=1.175×10^{-6} *17*; α(P)=6.50×10^{-8} *10* Mult.: mult=D(+Q) in γ(θ). Placement in level scheme indicates Δπ=yes.
1760.88	10$^+$	531.86 *5*	100	1229.06	8$^+$	E2		0.01405	B(E2)(W.u.)=2.9×10^2 *+9−6* α(K)=0.01126 *16*; α(L)=0.00217 *3*; α(M)=0.000493 *7* α(N)=0.0001138 *16*; α(O)=1.548×10^{-5} *22*; α(P)=6.26×10^{-7} *9*
1894.1	1,2$^+$	1768.5[@] *8*	89[@] *22*	125.47	2$^+$				
		1894.4[@] *11*	100[@] *33*	0.0	0$^+$				
1905.0	6$^-$	1139.7 *6*	100	765.01	6$^+$				
1906.2?	(6$^-$)	270[c]	100	1636.8?	(4$^-$)				
		1142[c]	100	765.01	6$^+$				
1921.39	(8$^+$)	379.20 *11*	53 *2*	1542.12	(6$^+$)				
		692.4 *5*	19 *2*	1229.06	8$^+$				
		1156.47 *13*	100 *5*	765.01	6$^+$				
1950.44	(8$^+$)	209.6 *20*		1740.71	7$^+$				
		408.3 *12*		1542.12	(6$^+$)				
		451.18 *10*	100 *15*	1499.24	6$^+$				
		1185.44 *14*	71 *7*	765.01	6$^+$				
2104.4	9$^-$	874.3 *6*	100	1229.06	8$^+$	(E1)		1.76×10^{-3}	α(K)=0.001503 *22*; α(L)=0.000204 *3*;

$^{160}_{68}Er_{92}$-12

Adopted Levels, Gammas (continued)

γ(^{160}Er) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†‡]	α[b]	Comments
								α(M)=4.47×10^{-5} *7* α(N)=1.039×10^{-5} *15*; α(O)=1.495×10^{-6} *21*; α(P)=8.21×10^{-8} *12* Mult.: ΔJ=1, D γ from ang. correlations and Δπ=yes.
2151.3	7$^{(-)}$	394.1 *6*	40 *3*	1756.7	5$^{(-)}$			
		922.5 *6*	50 *4*	1229.06	8$^+$			
		1386.4 *6*	100 *4*	765.01	6$^+$	(E1)	8.81×10^{-4}	α(K)=0.000651 *10*; α(L)=8.67×10^{-5} *13*; α(M)=1.90×10^{-5} *3* α(N)=4.41×10^{-6} *7*; α(O)=6.39×10^{-7} *9*; α(P)=3.59×10^{-8} *5*; α(IPF)=0.0001190 *18* Mult.: D in γ(θ) in (HI,xnγ). Placement in level scheme indicates Δπ=yes.
2194.3?		1340.5[@] *10*	45[@] *18*	854.20	2$^+$			
		2068.5[@] *8*	100[@] *27*	125.47	2$^+$			
2242.11	(9$^+$)	291.72 *25*		1950.44	(8$^+$)			
		501.35 *5*	100 *4*	1740.71	7$^+$	(E2)	0.01633	α(K)=0.01301 *19*; α(L)=0.00258 *4*; α(M)=0.000589 *9* α(N)=0.0001358 *19*; α(O)=1.84×10^{-5} *3*; α(P)=7.20×10^{-7} *10*
		1013.09 *6*	46 *6*	1229.06	8$^+$	(M1+E2)	0.0046 *14*	α(K)=0.0039 *12*; α(L)=5.7×10^{-4} *15*; α(M)=1.25×10^{-4} *33* α(N)=2.91×10^{-5} *76*; α(O)=4.2×10^{-6} *12*; α(P)=2.29×10^{-7} *73*
2248.9		1394.7[@] *6*	100[@] *11*	854.20	2$^+$			
		2123.4[@] *8*	31[@] *8*	125.47	2$^+$			
2261.6	8$^-$	356.4 *6*	43 *2*	1905.0	6$^-$			
		1032.8 *6*	100 *3*	1229.06	8$^+$			
2292.9	8$^-$	191[c]	37	2104.4	9$^-$			
		387.2 *6*	49 *2*	1906.2?	(6$^-$)	E2	0.0327	α(K)=0.0252 *4*; α(L)=0.00585 *9*; α(M)=0.001352 *21* α(N)=0.000311 *5*; α(O)=4.10×10^{-5} *7*; α(P)=1.352×10^{-6} *20*
		551.8 *6*	100 *3*	1740.71	7$^+$	(E1)	0.00450	α(K)=0.00382 *6*; α(L)=0.000532 *8*; α(M)=0.0001169 *17* α(N)=2.71×10^{-5} *4*; α(O)=3.87×10^{-6} *6*; α(P)=2.06×10^{-7} *3*
		1062.9 *6*	52 *2*	1229.06	8$^+$	(E1)	1.22×10^{-3}	α(K)=0.001043 *15*; α(L)=0.0001403 *20*; α(M)=3.07×10^{-5} *5* α(N)=7.14×10^{-6} *10*; α(O)=1.031×10^{-6} *15*; α(P)=5.72×10^{-8} *8*
2326.2	8$^{(-)}$	174.9 *6*	100	2151.3	7$^{(-)}$	(M1+E2)	0.49 *10*	α(K)=0.36 *13*; α(L)=0.097 *24*; α(M)=0.0225 *64* α(N)=0.0052 *14*; α(O)=0.00067 *13*; α(P)=2.05×10^{-5} *97* Mult.: D+Q in γ(θ) in (HI,xnγ); placement in level scheme indicates Δπ=no.
2340.11	12$^+$	579.22 *3*	100	1760.88	10$^+$	E2	0.01137	B(E2)(W.u.)=2.9×10^2 *+10−6* α(K)=0.00919 *13*; α(L)=0.001697 *24*; α(M)=0.000385 *6* α(N)=8.89×10^{-5} *13*; α(O)=1.218×10^{-5} *17*; α(P)=5.14×10^{-7} *8*
2360.06	(10$^+$)	409.6 *10*		1950.44	(8$^+$)			
		438.69 *14*	75 *20*	1921.39	(8$^+$)			
		599.20 *10*	95 *30*	1760.88	10$^+$			
		1131.01 *10*	100 *15*	1229.06	8$^+$			
2436.73	(10$^+$)	194.5 *19*		2242.11	(9$^+$)			
		486.27 *7*		1950.44	(8$^+$)			

$^{160}_{68}Er_{92}$-13

Adopted Levels, Gammas (continued)

γ(^{160}Er) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†‡]	α[b]	Comments
2436.73	(10$^+$)	515.3 *25*		1921.39	(8$^+$)			
		675.82 *11*		1760.88	10$^+$			
		1207.63 *14*		1229.06	8$^+$			
2468.8	(10$^+$)	518.4 *5*	100	1950.44	(8$^+$)			
2519.9	11$^-$	415.7 *6*	40 *2*	2104.4	9$^-$	E2	0.0269	α(K)=0.0209 *3*; α(L)=0.00463 *7*; α(M)=0.001066 *16* α(N)=0.000245 *4*; α(O)=3.26×10^{-5} *5*; α(P)=1.133×10^{-6} *17*
		759.1 *6*	100 *3*	1760.88	10$^+$	E1	0.00232	α(K)=0.00198 *3*; α(L)=0.000270 *4*; α(M)=5.93×10^{-5} *9* α(N)=1.378×10^{-5} *20*; α(O)=1.98×10^{-6} *3*; α(P)=1.077×10^{-7} *16* Mult.: from α(K)exp in (HI,xnγ).
2529.8	9$^{(-)}$	203.8 *6*	100 *3*	2326.2	8$^{(-)}$	(M1+E2)	0.31 *8*	α(K)=0.237 *84*; α(L)=0.056 *9*; α(M)=0.0129 *24* α(N)=0.0030 *5*; α(O)=0.00039 *4*; α(P)=1.35×10^{-5} *63* Mult.: D+Q in γ(θ) in (HI,xnγ); placement in level scheme indicates Δπ=no.
		378.6 *6*	43 *7*	2151.3	7$^{(-)}$			
2531.0	10$^-$	238.2 *6*	25 *1*	2292.9	8$^-$	E2	0.1421 *23*	α(K)=0.0976 *16*; α(L)=0.0342 *6*; α(M)=0.00809 *14* α(N)=0.00185 *4*; α(O)=0.000232 *4*; α(P)=4.79×10^{-6} *8*
		424.6 *6*	38 *1*	2104.4	9$^-$	(M1+E2)	0.039 *14*	α(K)=0.032 *13*; α(L)=0.0054 *11*; α(M)=0.00122 *23* α(N)=0.00028 *6*; α(O)=4.0×10^{-5} *10*; α(P)=1.90×10^{-6} *83*
		770.7 *6*	100 *3*	1760.88	10$^+$	E1	0.00225	α(K)=0.00192 *3*; α(L)=0.000262 *4*; α(M)=5.75×10^{-5} *9* α(N)=1.336×10^{-5} *19*; α(O)=1.92×10^{-6} *3*; α(P)=1.046×10^{-7} *15* Mult.: based on α(K)exp.
2671.1	10$^-$	409.5 *6*	100 *3*	2261.6	8$^-$	E2	0.0280	α(K)=0.0217 *4*; α(L)=0.00486 *8*; α(M)=0.001121 *17* α(N)=0.000258 *4*; α(O)=3.42×10^{-5} *5*; α(P)=1.176×10^{-6} *17*
		910.2 *6*	22 *2*	1760.88	10$^+$	(E1)	1.63×10^{-3}	α(K)=0.001392 *20*; α(L)=0.000189 *3*; α(M)=4.13×10^{-5} *6* α(N)=9.60×10^{-6} *14*; α(O)=1.383×10^{-6} *20*; α(P)=7.61×10^{-8} *11*
2757.0	10$^{(-)}$	226.4 *6*	100 *5*	2529.8	9$^{(-)}$	(M1+E2)	0.227 *60*	α(K)=0.177 *64*; α(L)=0.039 *4*; α(M)=0.0089 *11* α(N)=0.00205 *22*; α(O)=0.000274 *10*; α(P)=1.01×10^{-5} *47* Mult.: D+Q in γ(θ) in (HI,xnγ); placement in level scheme indicates Δπ=no.
		430.6 *6*	73 *5*	2326.2	8$^{(-)}$			
2800.04	(11$^+$)	459.96 *20*		2340.11	12$^+$			
		557.91 *6*	100	2242.11	(9$^+$)	E2	0.01247	α(K)=0.01004 *14*; α(L)=0.00189 *3*; α(M)=0.000429 *6* α(N)=9.90×10^{-5} *14*; α(O)=1.352×10^{-5} *19*; α(P)=5.61×10^{-7} *8*
		1039.19 *10*		1760.88	10$^+$			
2845.79	(12$^+$)	485.79 *14*	80 *10*	2360.06	(10$^+$)			
		505.7 *5*	28 *10*	2340.11	12$^+$			
		1084.99 *10*	100 *10*	1760.88	10$^+$			
2852.9	(9$^+$)	323.8 *6*	100	2529.8	9$^{(-)}$			
2874.4	12$^-$	343.1 *3*	100 *3*	2531.0	10$^-$	E2	0.0463	α(K)=0.0349 *5*; α(L)=0.00884 *13*; α(M)=0.00205 *3* α(N)=0.000471 *7*; α(O)=6.14×10^{-5} *9*; α(P)=1.84×10^{-6} *3*
		355[c]	18	2519.9	11$^-$			
		536[c]	33	2340.11	12$^+$			

$^{160}_{68}Er_{92}$-14

Adopted Levels, Gammas (continued)

γ(^{160}Er) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†‡]	α[b]	Comments
2931.38	14$^+$	591.21 *6*	100	2340.11	12$^+$	E2	0.01082	B(E2)(W.u.)=2.4×10^2 *+8−5* α(K)=0.00876 *13*; α(L)=0.001602 *23*; α(M)=0.000363 *5* α(N)=8.38×10^{-5} *12*; α(O)=1.151×10^{-5} *17*; α(P)=4.91×10^{-7} *7*
2979.4	13$^-$	459.4 *6*	90 *3*	2519.9	11$^-$	E2	0.0205	α(K)=0.01617 *24*; α(L)=0.00337 *5*; α(M)=0.000772 *12* α(N)=0.000178 *3*; α(O)=2.39×10^{-5} *4*; α(P)=8.87×10^{-7} *13*
		639.9 *6*	100 *3*	2340.11	12$^+$	E1	0.00329	α(K)=0.00280 *4*; α(L)=0.000386 *6*; α(M)=8.47×10^{-5} *12* α(N)=1.97×10^{-5} *3*; α(O)=2.82×10^{-6} *4*; α(P)=1.514×10^{-7} *22* Mult.: from α(K)exp in (HI,xnγ).
2993.0	11$^{(-)}$	234.7 *6*	56 *4*	2757.0	10$^{(-)}$	(M1+E2)	0.204 *56*	α(K)=0.160 *58*; α(L)=0.0343 *22*; α(M)=0.0079 *8* α(N)=0.00181 *15*; α(O)=0.000243 *5*; α(P)=9.2×10^{-6} *42* Mult.: D+Q in γ(θ) in (HI,xnγ); placement in level scheme indicates Δπ=no.
		463.3 *6*	100 *10*	2529.8	9$^{(-)}$			
2998.29	(12$^+$)	561.52 *8*		2436.73	(10$^+$)			
		1237.45 *9*		1760.88	10$^+$			
3024.2	(10$^+$)	266.7 *6*	78 *7*	2757.0	10$^{(-)}$			
		494.4 *6*	100 *16*	2529.8	9$^{(-)}$			
3038.2	(12$^+$)	569.4 *5*	100	2468.8	(10$^+$)			
3093.1	12$^-$	422.0 *6*	100	2671.1	10$^-$	E2	0.0258	α(K)=0.0201 *3*; α(L)=0.00441 *7*; α(M)=0.001015 *15* α(N)=0.000234 *4*; α(O)=3.11×10^{-5} *5*; α(P)=1.092×10^{-6} *16*
3121.6	14$^+$	782.4 *6*	100	2340.11	12$^+$	E2	0.00566	α(K)=0.00468 *7*; α(L)=0.000767 *11*; α(M)=0.0001719 *25* α(N)=3.98×10^{-5} *6*; α(O)=5.58×10^{-6} *8*; α(P)=2.65×10^{-7} *4*
3187.4	(11$^+$)	162.9 *6*	100 *4*	3024.2	(10$^+$)			
		194.5 *6*	73 *8*	2993.0	11$^{(-)}$			
		335.2 *6*	22 *4*	2852.9	(9$^+$)			
		430.0 *6*	61 *4*	2757.0	10$^{(-)}$			
3241.0	(13$^+$)	901[c] *1*	100	2340.11	12$^+$			
3275.5	(12$^-$)	281.4 *6*	78 *12*	2993.0	11$^{(-)}$			
		519.8 *6*	100 *24*	2757.0	10$^{(-)}$			
3313.5	14$^-$	335[c]	24	2979.4	13$^-$	(M1+E2)	0.074 *25*	α(K)=0.060 *24*; α(L)=0.0109 *14*; α(M)=0.00247 *24* α(N)=0.00057 *6*; α(O)=7.9×10^{-5} *13*; α(P)=3.5×10^{-6} *16*
		382[c]	9	2931.38	14$^+$			
		439.0 *3*	100 *3*	2874.4	12$^-$	E2	0.0232	α(K)=0.0182 *3*; α(L)=0.00389 *6*; α(M)=0.000893 *13* α(N)=0.000206 *3*; α(O)=2.75×10^{-5} *4*; α(P)=9.91×10^{-7} *14*
3362.86	(13$^+$)	562.82 *9*	100	2800.04	(11$^+$)	(E2)	0.01220	α(K)=0.00984 *14*; α(L)=0.00184 *3*; α(M)=0.000418 *6* α(N)=9.65×10^{-5} *14*; α(O)=1.319×10^{-5} *19*; α(P)=5.49×10^{-7} *8*
		1022.9 *4*		2340.11	12$^+$			
3371.78	(14$^+$)	439[c] *1*	<47	2931.38	14$^+$			
		526.23 *14*	9 *2*	2845.79	(12$^+$)			
		1031.5 *5*	100 *27*	2340.11	12$^+$			
3396.3	(12$^+$)	209.7 *6*	100 *5*	3187.4	(11$^+$)			
		372.1 *6*	40 *3*	3024.2	(10$^+$)			
		403.4 *6*	74 *5*	2993.0	11$^{(-)}$			

$^{160}_{68}Er_{92}$-15

Adopted Levels, Gammas (continued)

γ(^{160}Er) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†‡]	α[b]	Comments
3461.8	(14$^+$)	220.8 *6*	100	3241.0	(13$^+$)			
3465.43	16$^+$	534.04 *6*	100	2931.38	14$^+$	E2	0.01391	B(E2)(W.u.)=228 *+33−27* α(K)=0.01115 *16*; α(L)=0.00214 *3*; α(M)=0.000487 *7* α(N)=0.0001124 *16*; α(O)=1.530×10^{-5} *22*; α(P)=6.20×10^{-7} *9*
3483.8	15$^-$	504.5 *3*	100 *3*	2979.4	13$^-$	E2	0.01607	α(K)=0.01281 *18*; α(L)=0.00253 *4*; α(M)=0.000578 *9* α(N)=0.0001333 *19*; α(O)=1.80×10^{-5} *3*; α(P)=7.09×10^{-7} *10*
		552[c]	11	2931.38	14$^+$	(E1)	0.00450	α(K)=0.00382 *6*; α(L)=0.000531 *8*; α(M)=0.0001168 *17* α(N)=2.71×10^{-5} *4*; α(O)=3.87×10^{-6} *6*; α(P)=2.05×10^{-7} *3* Mult.: ΔJ=1, D γ from ang. correlations and Δπ=yes.
3525.3	(13$^-$)	250.9 *6*	40 *10*	3275.5	(12$^-$)			
		532.3 *6*	100 *19*	2993.0	11$^{(-)}$			
3566.50	(14$^+$)	568.21 *9*	100	2998.29	(12$^+$)			
3587.8	14$^-$	494.7 *6*	100	3093.1	12$^-$	E2	0.01690	α(K)=0.01344 *20*; α(L)=0.00269 *4*; α(M)=0.000613 *9* α(N)=0.0001414 *21*; α(O)=1.91×10^{-5} *3*; α(P)=7.43×10^{-7} *11*
3632.5	(13$^+$)	236.8 *6*	16 *1*	3396.3	(12$^+$)			
		444.4 *6*	100 *3*	3187.4	(11$^+$)			
3654.1	16$^+$	533.4 *6*	33 *2*	3121.6	14$^+$	E2	0.01395	α(K)=0.01118 *16*; α(L)=0.00215 *3*; α(M)=0.000489 *7* α(N)=0.0001128 *17*; α(O)=1.535×10^{-5} *22*; α(P)=6.22×10^{-7} *9*
		723.2 *6*	100 *6*	2931.38	14$^+$	E2	0.00675	α(K)=0.00555 *8*; α(L)=0.000935 *14*; α(M)=0.000210 *3* α(N)=4.87×10^{-5} *7*; α(O)=6.78×10^{-6} *10*; α(P)=3.14×10^{-7} *5*
3695.5	(15$^+$)	233.8 *6*	100 *5*	3461.8	(14$^+$)			
		454.6 *6*	59 *5*	3241.0	(13$^+$)			
		764[c] *1*	64 *18*	2931.38	14$^+$			
3830.5	16$^-$	347[c]	8	3483.8	15$^-$			
		517.0 *3*	100 *3*	3313.5	14$^-$	E2	0.01510	α(K)=0.01206 *17*; α(L)=0.00236 *4*; α(M)=0.000537 *8* α(N)=0.0001238 *18*; α(O)=1.680×10^{-5} *24*; α(P)=6.69×10^{-7} *10*
3836.6	(15$^+$)	473.8 *6*	100	3362.86	(13$^+$)			
3850.3	(14$^-$)	325.7 *6*	83 *17*	3525.3	(13$^-$)			
		573.7 *6*	100 *17*	3275.5	(12$^-$)			
3884.9?	(14$^+$)	252[c] *1*	40 *20*	3632.5	(13$^+$)			
		489[c] *1*	100 *20*	3396.3	(12$^+$)			
3950.1	(16$^+$)	254.1 *6*	100 *7*	3695.5	(15$^+$)			
		488.3 *6*	46 *2*	3461.8	(14$^+$)			
3964.1	16$^+$	1033.0 *6*	100	2931.38	14$^+$	E2	0.00314	α(K)=0.00263 *4*; α(L)=0.000400 *6*; α(M)=8.89×10^{-5} *13* α(N)=2.06×10^{-5} *3*; α(O)=2.93×10^{-6} *5*; α(P)=1.499×10^{-7} *21*
3965.71	(16$^+$)	594.07 *12*		3371.78	(14$^+$)			
		1033.84 *22*		2931.38	14$^+$			
4020.9	18$^+$	555.5 *3*	100	3465.43	16$^+$	E2	0.01261	α(K)=0.01015 *15*; α(L)=0.00191 *3*; α(M)=0.000434 *7* α(N)=0.0001002 *15*; α(O)=1.368×10^{-5} *20*; α(P)=5.66×10^{-7} *8* B(E2)(W.u.)=3.0×10^2 *+12−7*
4046.3	17$^-$	562.5 *3*	100	3483.8	15$^-$	E2	0.01222	α(K)=0.00985 *14*; α(L)=0.00184 *3*; α(M)=0.000418 *6* α(N)=9.66×10^{-5} *14*; α(O)=1.321×10^{-5} *19*; α(P)=5.50×10^{-7} *8*

$^{160}_{68}Er_{92}$-16

Adopted Levels, Gammas (continued)

γ(^{160}Er) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†‡]	α[b]	Comments
4089.8	(15⁻)	239.4 *6*	10 *3*	3850.3	(14⁻)			
		564.8 *6*	100 *9*	3525.3	(13⁻)			
4157.1	(16⁻)	569.3 *6*	100	3587.8	14⁻			
4168.8	(15⁺)	284[c] *1*	5 *2*	3884.9?	(14⁺)			
		536.2 *6*	100 *3*	3632.5	(13⁺)			
4223.3	(17⁺)	272.8 *6*	100 *7*	3950.1	(16⁺)			
		528.2 *6*	97 *7*	3695.5	(15⁺)			
4286.7	18⁺	633.9 *6*	100 *3*	3654.1	16⁺	E2	0.00916	α(K)=0.00746 *11*; α(L)=0.001323 *19*; α(M)=0.000299 *5* α(N)=6.91×10⁻⁵ *10*; α(O)=9.53×10⁻⁶ *14*; α(P)=4.20×10⁻⁷ *6*
		819.6 *6*	4 *1*	3465.43	16⁺			
4373.1	(17⁺)	536.6 *6*	28 *3*	3836.6	(15⁺)			
		907.4 *6*	100 *3*	3465.43	16⁺			
4403.3	18⁻	572.8 *3*	100	3830.5	16⁻	E2	0.01169	α(K)=0.00944 *14*; α(L)=0.001751 *25*; α(M)=0.000397 *6* α(N)=9.17×10⁻⁵ *13*; α(O)=1.256×10⁻⁵ *18*; α(P)=5.28×10⁻⁷ *8*
4449.9	(16⁻)	359.7 *6*	21 *8*	4089.8	(15⁻)			
		599.5 *6*	100 *25*	3850.3	(14⁻)			
4462.8?	(16⁺)	294[c] *1*	100 *20*	4168.8	(15⁺)			
		578[c] *1*	54 *4*	3884.9?	(14⁺)			
4514.0	(18⁺)	290.6 *6*	100 *4*	4223.3	(17⁺)			
		563.8 *6*	65 *4*	3950.1	(16⁺)			
4567.9	(18⁺)	604.1 *6*	100	3964.1	16⁺			
4660.8	20⁺	640.0 *3*	100	4020.9	18⁺	E2	0.00895	α(K)=0.00730 *11*; α(L)=0.001289 *19*; α(M)=0.000291 *4* α(N)=6.73×10⁻⁵ *10*; α(O)=9.30×10⁻⁶ *13*; α(P)=4.11×10⁻⁷ *6*
4662.2	19⁻	615.9 *3*	100	4046.3	17⁻	E2	0.00981	α(K)=0.00797 *12*; α(L)=0.001431 *21*; α(M)=0.000323 *5* α(N)=7.48×10⁻⁵ *11*; α(O)=1.030×10⁻⁵ *15*; α(P)=4.48×10⁻⁷ *7*
4684.9	(17⁻)	234.8 *6*	50 *2*	4449.9	(16⁻)			
		595.6 *6*	100 *3*	4089.8	(15⁻)			
4767.2	(18⁻)	610.1 *6*	100	4157.1	(16⁻)			
4782.7	(17⁺)	613.9 *6*	100	4168.8	(15⁺)			
4818.7	(19⁺)	304.5 *6*	62 *4*	4514.0	(18⁺)			
		595.7 *6*	100 *6*	4223.3	(17⁺)			
4954.7	(18⁻)	269.7 *6*	45 *9*	4684.9	(17⁻)			
		504.4 *6*	100 *18*	4449.9	(16⁻)			
4968.0	20⁺	681.0 *6*	100	4286.7	18⁺	E2	0.00775	α(K)=0.00634 *9*; α(L)=0.001093 *16*; α(M)=0.000246 *4* α(N)=5.70×10⁻⁵ *8*; α(O)=7.90×10⁻⁶ *12*; α(P)=3.58×10⁻⁷ *5*
4991.3	(19⁺)	618.0 *6*	100 *18*	4373.1	(17⁺)			
		970.1 *6*	74 *5*	4020.9	18⁺			
5017.2	20⁻	613.9 *3*	100 *4*	4403.3	18⁻	E2	0.00988	α(K)=0.00803 *12*; α(L)=0.001443 *21*; α(M)=0.000326 *5* α(N)=7.55×10⁻⁵ *11*; α(O)=1.039×10⁻⁵ *15*; α(P)=4.51×10⁻⁷ *7*
5110.8?	(18⁺)	648[c] *1*	100	4462.8?	(16⁺)			
5136.7	(20⁺)	317.9 *6*	100 *4*	4818.7	(19⁺)			
		622.8 *6*	96 *4*	4514.0	(18⁺)			

$^{160}_{68}Er_{92}$-17

Adopted Levels, Gammas (continued)

γ(^{160}Er) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†‡]	α[b]	Comments
5192.1	(20$^+$)	624.5 *6*	100	4567.9	(18$^+$)	E2	0.00949	α(K)=0.00772 *11*; α(L)=0.001377 *20*; α(M)=0.000311 *5* α(N)=7.20×10^{-5} *11*; α(O)=9.92×10^{-6} *15*; α(P)=4.34×10^{-7} *7*
5247.4	(19$^-$)	292.3 *6*	100 *8*	4954.7	(18$^-$)			
		562.9 *6*	91 *15*	4684.9	(17$^-$)			
5322.5	21$^-$	660.3 *3*	100	4662.2	19$^-$	E2	0.00832	α(K)=0.00680 *10*; α(L)=0.001185 *17*; α(M)=0.000267 *4* α(N)=6.18×10^{-5} *9*; α(O)=8.56×10^{-6} *12*; α(P)=3.83×10^{-7} *6*
5382.7	22$^+$	721.9 *3*	100	4660.8	20$^+$	E2	0.00678	α(K)=0.00557 *8*; α(L)=0.000939 *14*; α(M)=0.000211 *3* α(N)=4.89×10^{-5} *7*; α(O)=6.81×10^{-6} *10*; α(P)=3.15×10^{-7} *5*
5412.4	(20$^-$)	645.2 *6*	100	4767.2	(18$^-$)			
5458.9	(19$^+$)	676.2 *6*	100	4782.7	(17$^+$)			
5472.0	(21$^+$)	335.0 *6*	79 *3*	5136.7	(20$^+$)			
		653.3 *6*	100 *3*	4818.7	(19$^+$)			
5562.5	(20$^-$)	315.6 *6*	100 *8*	5247.4	(19$^-$)			
		607.9 *6*	81 *17*	4954.7	(18$^-$)			
5676.0	22$^-$	658.8 *6*	100	5017.2	20$^-$	E2	0.00837	α(K)=0.00683 *10*; α(L)=0.001193 *17*; α(M)=0.000269 *4* α(N)=6.22×10^{-5} *9*; α(O)=8.61×10^{-6} *13*; α(P)=3.85×10^{-7} *6*
5680.5	(21$^+$)	688.7 *6*	100 *3*	4991.3	(19$^+$)			
		1020.2 *6*	41 *3*	4660.8	20$^+$			
5707.6	22$^+$	739.3 *6*	100	4968.0	20$^+$	E2	0.00643	α(K)=0.00529 *8*; α(L)=0.000884 *13*; α(M)=0.000199 *3* α(N)=4.60×10^{-5} *7*; α(O)=6.42×10^{-6} *9*; α(P)=3.00×10^{-7} *5*
5806.9	(22$^+$)	335.0 *6*	35 *8*	5472.0	(21$^+$)			
		670.4 *6*	100 *4*	5136.7	(20$^+$)			
5848.6	(22$^+$)	656.9 *6*	100	5192.1	(20$^+$)			
5898.6	(21$^-$)	336.4 *6*	25 *4*	5562.5	(20$^-$)			
		650.6 *6*	100 *3*	5247.4	(19$^-$)			
6026.6	23$^-$	704.1 *6*	100	5322.5	21$^-$	E2	0.00718	α(K)=0.00589 *9*; α(L)=0.001002 *15*; α(M)=0.000225 *4* α(N)=5.22×10^{-5} *8*; α(O)=7.26×10^{-6} *11*; α(P)=3.33×10^{-7} *5*
6108.2	(22$^-$)	695.8 *6*	100	5412.4	(20$^-$)			
6156.5	(23$^+$)	349.9 *6*	100 *7*	5806.9	(22$^+$)			
		684.1 *6*	89 *7*	5472.0	(21$^+$)			
6175.1	24$^+$	792.4 *3*	100	5382.7	22$^+$	E2	0.00551	α(K)=0.00455 *7*; α(L)=0.000744 *11*; α(M)=0.0001666 *24* α(N)=3.86×10^{-5} *6*; α(O)=5.41×10^{-6} *8*; α(P)=2.58×10^{-7} *4*
6183.0	(21$^+$)	724.1 *6*	100	5458.9	(19$^+$)			
6257.1	(22$^-$)	358.4 *6*	43 *7*	5898.6	(21$^-$)			
		694.9 *6*	100 *18*	5562.5	(20$^-$)			
6392.7	24$^-$	716.7 *6*	100 *25*	5676.0	22$^-$	E2	0.00689	α(K)=0.00566 *8*; α(L)=0.000957 *14*; α(M)=0.000215 *3* α(N)=4.98×10^{-5} *7*; α(O)=6.94×10^{-6} *10*; α(P)=3.20×10^{-7} *5*
6436.6	(23$^+$)	756.1 *6*	100	5680.5	(21$^+$)			
6508.2	24$^+$	800.3 *6*	100	5707.6	22$^+$	E2	0.00539	α(K)=0.00446 *7*; α(L)=0.000726 *11*; α(M)=0.0001625 *23* α(N)=3.77×10^{-5} *6*; α(O)=5.28×10^{-6} *8*; α(P)=2.53×10^{-7} *4*
6520.0	(24$^+$)	363.3 *6*	88 *6*	6156.5	(23$^+$)			
		713.2 *6*	100 *9*	5806.9	(22$^+$)			

$^{160}_{68}Er_{92}$-18

Adopted Levels, Gammas (continued)

γ(^{160}Er) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†‡]	α[b]	Comments
6570.0	(24$^+$)	721.7 *6*	100	5848.6	(22$^+$)	E2	0.00678	α(K)=0.00558 *8*; α(L)=0.000940 *14*; α(M)=0.000211 *3* α(N)=4.89×10^{-5} *7*; α(O)=6.82×10^{-6} *10*; α(P)=3.15×10^{-7} *5*
6632.5	(23$^-$)	375.6 *6*	14 *2*	6257.1	(22$^-$)			
		733.7 *6*	100 *4*	5898.6	(21$^-$)			
6784.2	25$^-$	757.6 *6*	100	6026.6	23$^-$	E2	0.00608	α(K)=0.00502 *7*; α(L)=0.000831 *12*; α(M)=0.000187 *3* α(N)=4.32×10^{-5} *7*; α(O)=6.04×10^{-6} *9*; α(P)=2.84×10^{-7} *4*
6860.2	(24$^-$)	752.0 *6*	100	6108.2	(22$^-$)			
6893.9	(25$^+$)	373.4 *6*	66 *5*	6520.0	(24$^+$)			
		737.6 *6*	100 *8*	6156.5	(23$^+$)			
6943.5	(23$^+$)	760.5 *6*	100	6183.0	(21$^+$)			
7027.6	26$^+$	852.5 *6*	100	6175.1	24$^+$	E2	0.00470	α(K)=0.00390 *6*; α(L)=0.000623 *9*; α(M)=0.0001392 *20* α(N)=3.23×10^{-5} *5*; α(O)=4.54×10^{-6} *7*; α(P)=2.22×10^{-7} *4*
7027.8	(24$^-$)	770.7 *6*	100	6257.1	(22$^-$)			
7176.7	26$^-$	784.0 *6*	100	6392.7	24$^-$	E2	0.00564	α(K)=0.00466 *7*; α(L)=0.000763 *11*; α(M)=0.0001711 *25* α(N)=3.96×10^{-5} *6*; α(O)=5.55×10^{-6} *8*; α(P)=2.64×10^{-7} *4*
7250.5	(25$^+$)	813.9 *6*	100	6436.6	(23$^+$)			
7284.7	(26$^+$)	390.6 *6*	61 *3*	6893.9	(25$^+$)			
		765.1 *6*	100 *6*	6520.0	(24$^+$)			
7334.6	26$^+$	764.7 *6*	11.9 *4*	6570.0	(24$^+$)			
		826.3 *6*	100 *3*	6508.2	24$^+$	E2	0.00503	α(K)=0.00417 *6*; α(L)=0.000671 *10*; α(M)=0.0001502 *22* α(N)=3.48×10^{-5} *5*; α(O)=4.89×10^{-6} *7*; α(P)=2.37×10^{-7} *4*
7368.1	(26$^+$)	798.3 *6*	70 *6*	6570.0	(24$^+$)	E2	0.00542	α(K)=0.00448 *7*; α(L)=0.000730 *11*; α(M)=0.0001635 *23* α(N)=3.79×10^{-5} *6*; α(O)=5.31×10^{-6} *8*; α(P)=2.54×10^{-7} *4*
		859.7 *6*	100 *3*	6508.2	24$^+$			
7438.2	(25$^-$)	805.7 *6*	100 *3*	6632.5	(23$^-$)			
7603.7	27$^-$	819.5 *6*	100	6784.2	25$^-$	E2	0.00512	α(K)=0.00424 *6*; α(L)=0.000685 *10*; α(M)=0.0001532 *22* α(N)=3.55×10^{-5} *5*; α(O)=4.99×10^{-6} *7*; α(P)=2.41×10^{-7} *4*
7662.3	(26$^-$)	802.1 *6*	100	6860.2	(24$^-$)			
7692.0	(27$^+$)	407.0 *6*	72 *4*	7284.7	(26$^+$)			
		797.9 *6*	100 *8*	6893.9	(25$^+$)			
7747.5?	(25$^+$)	804[c] *1*	100	6943.5	(23$^+$)			
7867.8	(26$^-$)	840.0 *6*	100	7027.8	(24$^-$)			
7929.0	28$^+$	901.4 *6*	100	7027.6	26$^+$	E2	0.00417	α(K)=0.00347 *5*; α(L)=0.000546 *8*; α(M)=0.0001218 *18* α(N)=2.82×10^{-5} *4*; α(O)=3.99×10^{-6} *6*; α(P)=1.98×10^{-7} *3*
8024.4	28$^-$	847.7 *6*	100	7176.7	26$^-$	E2	0.00476	α(K)=0.00395 *6*; α(L)=0.000631 *9*; α(M)=0.0001411 *20* α(N)=3.27×10^{-5} *5*; α(O)=4.60×10^{-6} *7*; α(P)=2.24×10^{-7} *4*
8115.3	(27$^+$)	864.8 *6*	100	7250.5	(25$^+$)			
8115.6	(28$^+$)	423.3 *6*	47 *14*	7692.0	(27$^+$)			
		831.3 *6*	100 *8*	7284.7	(26$^+$)			
8176.4	(28$^+$)	841.8 *6*	100	7334.6	26$^+$	(E2)	0.00483	α(K)=0.00401 *6*; α(L)=0.000642 *9*; α(M)=0.0001435 *21* α(N)=3.33×10^{-5} *5*; α(O)=4.68×10^{-6} *7*; α(P)=2.28×10^{-7} *4*
8237.1	(28$^+$)	869.0 *6*	100	7368.1	(26$^+$)			

$^{160}_{68}Er_{92}$-19

Adopted Levels, Gammas (continued)

γ(^{160}Er) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†‡]	α[b]	Comments
8307.7	(27$^-$)	869.5 *6*	100	7438.2	(25$^-$)			
8478.3	29$^-$	874.6 *6*	100	7603.7	27$^-$	E2	0.00445	α(K)=0.00370 *6*; α(L)=0.000586 *9*; α(M)=0.0001308 *19* α(N)=3.03×10^{-5} *5*; α(O)=4.28×10^{-6} *6*; α(P)=2.10×10^{-7} *3*
8494.6	(28$^-$)	832.3 *6*	100	7662.3	(26$^-$)			
8556.9	(29$^+$)	441.4 *6*	62 *3*	8115.6	(28$^+$)			
		864.7 *6*	100 *7*	7692.0	(27$^+$)			
8586.5?	(27$^+$)	839[c] *1*	100	7747.5?	(25$^+$)			
8766.4	(28$^-$)	898.6 *6*	100	7867.8	(26$^-$)			
8865.6	30$^+$	936.6 *6*	100	7929.0	28$^+$	E2	0.00385	α(K)=0.00321 *5*; α(L)=0.000499 *7*; α(M)=0.0001113 *16* α(N)=2.58×10^{-5} *4*; α(O)=3.65×10^{-6} *6*; α(P)=1.83×10^{-7} *3*
8918.2	30$^-$	893.8 *6*	100	8024.4	28$^-$	E2	0.00425	α(K)=0.00353 *5*; α(L)=0.000557 *8*; α(M)=0.0001242 *18* α(N)=2.88×10^{-5} *4*; α(O)=4.07×10^{-6} *6*; α(P)=2.01×10^{-7} *3*
8994.5	(29$^+$)	879.2 *6*	100	8115.3	(27$^+$)			
9019.0	(30$^+$)	903.4 *6*	100	8115.6	(28$^+$)			
9080.8	(30$^+$)	904.4 *6*	100	8176.4	(28$^+$)	(E2)	0.00414	α(K)=0.00345 *5*; α(L)=0.000542 *8*; α(M)=0.0001208 *17* α(N)=2.80×10^{-5} *4*; α(O)=3.96×10^{-6} *6*; α(P)=1.96×10^{-7} *3*
9147.4	(30$^+$)	910.3 *6*	100	8237.1	(28$^+$)	E2	0.00409	α(K)=0.00340 *5*; α(L)=0.000533 *8*; α(M)=0.0001190 *17* α(N)=2.76×10^{-5} *4*; α(O)=3.90×10^{-6} *6*; α(P)=1.94×10^{-7} *3*
9234.5	(29$^-$)	926.8 *6*	100	8307.7	(27$^-$)			
9289.2	(30$^-$)	794.6 *6*	100	8494.6	(28$^-$)			
9383.8	31$^-$	905.5 *6*	100	8478.3	29$^-$	E2	0.00413	α(K)=0.00344 *5*; α(L)=0.000540 *8*; α(M)=0.0001205 *17* α(N)=2.79×10^{-5} *4*; α(O)=3.95×10^{-6} *6*; α(P)=1.96×10^{-7} *3*
9498.4	(31$^+$)	941.5 *6*	100	8556.9	(29$^+$)			
9720.7	(30$^-$)	954.3 *6*	100	8766.4	(28$^-$)			
9825.6	32$^+$	960.0 *6*	100	8865.6	30$^+$	E2	0.00366	α(K)=0.00305 *5*; α(L)=0.000472 *7*; α(M)=0.0001051 *15* α(N)=2.44×10^{-5} *4*; α(O)=3.45×10^{-6} *5*; α(P)=1.737×10^{-7} *25*
9830.5	32$^-$	912.3 *6*	100	8918.2	30$^-$	E2	0.00407	α(K)=0.00339 *5*; α(L)=0.000531 *8*; α(M)=0.0001183 *17* α(N)=2.75×10^{-5} *4*; α(O)=3.88×10^{-6} *6*; α(P)=1.93×10^{-7} *3*
9839.8	(31$^+$)	845.3 *6*	100	8994.5	(29$^+$)			
9996.7	(32$^+$)	977.7 *6*	100	9019.0	(30$^+$)			
10043.6	(32$^+$)	962.8 *6*	100	9080.8	(30$^+$)	(E2)	0.00363	α(K)=0.00303 *5*; α(L)=0.000469 *7*; α(M)=0.0001043 *15* α(N)=2.42×10^{-5} *4*; α(O)=3.43×10^{-6} *5*; α(P)=1.727×10^{-7} *25*
10123.4?	(32$^+$)	976[c] *1*	100	9147.4	(30$^+$)			
10136.5	(32$^-$)	847.3 *6*	100	9289.2	(30$^-$)			
10213.7	(31$^-$)	979.2 *6*	100	9234.5	(29$^-$)			
10302.7	33$^-$	918.9 *6*	100	9383.8	31$^-$	E2	0.00401	α(K)=0.00334 *5*; α(L)=0.000522 *8*; α(M)=0.0001163 *17* α(N)=2.70×10^{-5} *4*; α(O)=3.81×10^{-6} *6*; α(P)=1.90×10^{-7} *3*
10512.5	(33$^+$)	1014.1 *6*	100	9498.4	(31$^+$)			
10724.1	(32$^-$)	1003.4 *6*	100	9720.7	(30$^-$)			
10729.7	(33$^+$)	889.9 *6*	100	9839.8	(31$^+$)			
10761.9	34$^-$	931.4 *6*	100	9830.5	32$^-$	E2	0.00389	α(K)=0.00325 *5*; α(L)=0.000506 *8*; α(M)=0.0001127 *16* α(N)=2.62×10^{-5} *4*; α(O)=3.70×10^{-6} *6*; α(P)=1.85×10^{-7} *3*

$^{160}_{68}Er_{92}$-20

Adopted Levels, Gammas (continued)

γ(^{160}Er) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†‡]	α[b]	Comments
10808.8	34$^+$	983.2 *6*	100	9825.6	32$^+$	E2	0.00348	α(K)=0.00291 *4*; α(L)=0.000447 *7*; α(M)=9.94×10^{-5} *14* α(N)=2.31×10^{-5} *4*; α(O)=3.27×10^{-6} *5*; α(P)=1.655×10^{-7} *24*
11042.8	(34$^+$)	999.2 *6*	100	10043.6	(32$^+$)	(E2)	0.00337	α(K)=0.00281 *4*; α(L)=0.000431 *6*; α(M)=9.58×10^{-5} *14* α(N)=2.22×10^{-5} *4*; α(O)=3.16×10^{-6} *5*; α(P)=1.602×10^{-7} *23*
11047.1	(34$^+$)	1050.4 *6*	100	9996.7	(32$^+$)			
11064.6	(34$^-$)	928.1 *6*	100	10136.5	(32$^-$)			
11168.4?	(34$^+$)	1045[c] *1*	100	10123.4?	(32$^+$)			
11248.8	(33$^-$)	1035.1 *6*	100	10213.7	(31$^-$)			
11251.0	35$^-$	948.3 *6*	100	10302.7	33$^-$	E2	0.00375	α(K)=0.00313 *5*; α(L)=0.000485 *7*; α(M)=0.0001081 *16* α(N)=2.51×10^{-5} *4*; α(O)=3.55×10^{-6} *5*; α(P)=1.78×10^{-7} *3*
11597.6	(35$^+$)	1085.1 *6*	100	10512.5	(33$^+$)			
11684.4	(35$^+$)	954.7 *6*	100	10729.7	(33$^+$)			
11735.5	36$^-$	973.6 *6*	100	10761.9	34$^-$	E2	0.00355	α(K)=0.00297 *5*; α(L)=0.000457 *7*; α(M)=0.0001017 *15* α(N)=2.36×10^{-5} *4*; α(O)=3.35×10^{-6} *5*; α(P)=1.688×10^{-7} *24*
11779.0	(34$^-$)	1054.9 *6*	100	10724.1	(32$^-$)			
11820.0	36$^+$	1011.2 *6*	100	10808.8	34$^+$	E2	0.00328	α(K)=0.00275 *4*; α(L)=0.000419 *6*; α(M)=9.33×10^{-5} *14* α(N)=2.17×10^{-5} *3*; α(O)=3.07×10^{-6} *5*; α(P)=1.564×10^{-7} *22*
12087.8	(36$^+$)	1045.0 *6*	100	11042.8	(34$^+$)	(E2)	0.00307	α(K)=0.00257 *4*; α(L)=0.000390 *6*; α(M)=8.66×10^{-5} *13* α(N)=2.01×10^{-5} *3*; α(O)=2.86×10^{-6} *4*; α(P)=1.465×10^{-7} *21*
12089.6	(36$^-$)	1025.0 *6*	100	11064.6	(34$^-$)			
12162.7	(36$^+$)	1115.6 *6*	100	11047.1	(34$^+$)			
12247.6	37$^-$	996.6 *6*	100	11251.0	35$^-$	E2	0.00338	α(K)=0.00283 *4*; α(L)=0.000433 *6*; α(M)=9.64×10^{-5} *14* α(N)=2.24×10^{-5} *4*; α(O)=3.17×10^{-6} *5*; α(P)=1.611×10^{-7} *23*
12325.4	(35$^-$)	1076.6 *6*	100	11248.8	(33$^-$)			
12702.0	(37$^+$)	1017.6 *6*	100	11684.4	(35$^+$)			
12761.9	38$^-$	1026.4 *6*	100	11735.5	36$^-$	E2	0.00319	α(K)=0.00267 *4*; α(L)=0.000406 *6*; α(M)=9.02×10^{-5} *13* α(N)=2.09×10^{-5} *3*; α(O)=2.97×10^{-6} *5*; α(P)=1.518×10^{-7} *22*
12865.4	38$^+$	1045.4 *6*	100	11820.0	36$^+$	E2	0.00307	α(K)=0.00257 *4*; α(L)=0.000389 *6*; α(M)=8.65×10^{-5} *13* α(N)=2.01×10^{-5} *3*; α(O)=2.86×10^{-6} *4*; α(P)=1.464×10^{-7} *21*
13166.5	(38$^+$)	1078.6 *6*	100	12087.8	(36$^+$)	(E2)	0.00288	α(K)=0.00241 *4*; α(L)=0.000363 *6*; α(M)=8.07×10^{-5} *12* α(N)=1.87×10^{-5} *3*; α(O)=2.67×10^{-6} *4*; α(P)=1.376×10^{-7} *20*
13302.2	39$^-$	1054.6 *6*	100	12247.6	37$^-$	E2	0.00301	α(K)=0.00253 *4*; α(L)=0.000382 *6*; α(M)=8.48×10^{-5} *12* α(N)=1.97×10^{-5} *3*; α(O)=2.80×10^{-6} *4*; α(P)=1.438×10^{-7} *21*
13333.1	(38$^+$)	1170.4 *6*	100	12162.7	(36$^+$)			
13777.9	(39$^+$)	1075.9 *6*	100	12702.0	(37$^+$)			
13845.2	40$^-$	1083.3 *6*	100	12761.9	38$^-$	E2	0.00286	α(K)=0.00239 *4*; α(L)=0.000360 *5*; α(M)=7.99×10^{-5} *12* α(N)=1.86×10^{-5} *3*; α(O)=2.64×10^{-6} *4*; α(P)=1.364×10^{-7} *20*
13952.4	40$^+$	1087.0 *6*	100	12865.4	38$^+$	E2	0.00284	α(K)=0.00238 *4*; α(L)=0.000357 *5*; α(M)=7.93×10^{-5} *12* α(N)=1.84×10^{-5} *3*; α(O)=2.62×10^{-6} *4*; α(P)=1.355×10^{-7} *19*
14248.0	(40$^+$)	1081.5 *6*	100	13166.5	(38$^+$)			
14421.2	41$^-$	1119.0 *6*	100	13302.2	39$^-$	E2	0.00268	α(K)=0.00225 *4*; α(L)=0.000335 *5*; α(M)=7.44×10^{-5} *11* α(N)=1.728×10^{-5} *25*; α(O)=2.46×10^{-6} *4*; α(P)=1.279×10^{-7} *18*; α(IPF)=5.32×10^{-7} *14*

$^{160}_{68}Er_{92}$-21

Adopted Levels, Gammas (continued)

γ(^{160}Er) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†‡]	α[b]	Comments
14904.1	(41$^+$)	1126.2 *6*	100	13777.9	(39$^+$)			
14986.6	42$^-$	1141.4 *6*	100	13845.2	40$^-$	E2	0.00257	α(K)=0.00216 *3*; α(L)=0.000321 *5*; α(M)=7.12×10^{-5} *10* α(N)=1.655×10^{-5} *24*; α(O)=2.36×10^{-6} *4*; α(P)=1.231×10^{-7} *18*; α(IPF)=1.15×10^{-6} *3*
15086.7	42$^+$	1134.3 *6*	100	13952.4	40$^+$	E2	0.00260	α(K)=0.00219 *3*; α(L)=0.000326 *5*; α(M)=7.22×10^{-5} *11* α(N)=1.677×10^{-5} *24*; α(O)=2.39×10^{-6} *4*; α(P)=1.246×10^{-7} *18*; α(IPF)=9.10×10^{-7} *23*
15337.0	(42$^+$)	1089.0 *6*	100	14248.0	(40$^+$)			
15610.6	43$^-$	1189.4 *6*	100	14421.2	41$^-$	E2	0.00237	α(K)=0.00199 *3*; α(L)=0.000294 *5*; α(M)=6.51×10^{-5} *10* α(N)=1.514×10^{-5} *22*; α(O)=2.16×10^{-6} *3*; α(P)=1.135×10^{-7} *16*; α(IPF)=4.12×10^{-6} *8*
16052.1	(43$^+$)	1148.0 *6*	100	14904.1	(41$^+$)			
16189.7	44$^-$	1203.1 *6*	100	14986.6	42$^-$	E2	0.00232	α(K)=0.00195 *3*; α(L)=0.000287 *4*; α(M)=6.35×10^{-5} *9* α(N)=1.477×10^{-5} *21*; α(O)=2.11×10^{-6} *3*; α(P)=1.110×10^{-7} *16*; α(IPF)=5.45×10^{-6} *10*
16273.0	44$^+$	1186.3 *6*	100	15086.7	42$^+$	E2	0.00239	α(K)=0.00200 *3*; α(L)=0.000296 *5*; α(M)=6.55×10^{-5} *10* α(N)=1.522×10^{-5} *22*; α(O)=2.17×10^{-6} *3*; α(P)=1.141×10^{-7} *16*; α(IPF)=3.85×10^{-6} *8*
16474.8	(44$^+$)	1137.8 *6*	100	15337.0	(42$^+$)			
16865.2	(45$^-$)	1254.5 *6*	100 *1*	15610.6	43$^-$	(E2)	0.00214	α(K)=0.00180 *3*; α(L)=0.000263 *4*; α(M)=5.81×10^{-5} *9* α(N)=1.351×10^{-5} *19*; α(O)=1.93×10^{-6} *3*; α(P)=1.024×10^{-7} *15*; α(IPF)=1.186×10^{-5} *19*
17453.4	46$^-$	1263.7 *6*	100	16189.7	44$^-$	E2	0.00212	α(K)=0.001772 *25*; α(L)=0.000259 *4*; α(M)=5.72×10^{-5} *8* α(N)=1.330×10^{-5} *19*; α(O)=1.90×10^{-6} *3*; α(P)=1.010×10^{-7} *15*; α(IPF)=1.319×10^{-5} *21*
17512.8	46$^+$	1239.8 *6*	100	16273.0	44$^+$	E2	0.00219	α(K)=0.00184 *3*; α(L)=0.000269 *4*; α(M)=5.96×10^{-5} *9* α(N)=1.385×10^{-5} *20*; α(O)=1.98×10^{-6} *3*; α(P)=1.048×10^{-7} *15*; α(IPF)=9.84×10^{-6} *16*
17652.8?	(46$^+$)	1178[c] *1*	100	16474.8	(44$^+$)			
18171.6	(47$^-$)	1306.4 *6*	100	16865.2	(45$^-$)	(E2)	0.00199	α(K)=0.001662 *24*; α(L)=0.000241 *4*; α(M)=5.34×10^{-5} *8* α(N)=1.240×10^{-5} *18*; α(O)=1.778×10^{-6} *25*; α(P)=9.47×10^{-8} *14*; α(IPF)=2.02×10^{-5} *3*
18773.4	(48$^-$)	1320.0 *6*	100	17453.4	46$^-$	(E2)	0.00195	α(K)=0.001629 *23*; α(L)=0.000236 *4*; α(M)=5.22×10^{-5} *8* α(N)=1.214×10^{-5} *17*; α(O)=1.740×10^{-6} *25*; α(P)=9.28×10^{-8} *13*; α(IPF)=2.28×10^{-5} *4*
18797.1	(48$^+$)	1284.3 *6*	100	17512.8	46$^+$			
19530.4	(49$^-$)	1358.8 *6*	100	18171.6	(47$^-$)	(E2)	0.00186	α(K)=0.001542 *22*; α(L)=0.000222 *4*; α(M)=4.91×10^{-5} *7* α(N)=1.143×10^{-5} *16*; α(O)=1.640×10^{-6} *23*; α(P)=8.78×10^{-8} *13*; α(IPF)=3.12×10^{-5} *5*
20131.6	(50$^-$)	1358.1 *6*	100	18773.4	(48$^-$)	(E2)	0.00186	α(K)=0.001543 *22*; α(L)=0.000223 *4*; α(M)=4.92×10^{-5} *7* α(N)=1.144×10^{-5} *16*; α(O)=1.642×10^{-6} *23*; α(P)=8.79×10^{-8} *13*; α(IPF)=3.11×10^{-5} *5*
20141.9	(50$^+$)	1344.8 *6*	100	18797.1	(48$^+$)			
21597?	(52$^-$)	1465[c] *1*	100	20131.6	(50$^-$)			

$^{160}_{68}Er_{92}$-22

Adopted Levels, Gammas (continued)

γ(^{160}Er) (continued)

E_i(level)	J_i^π	E_γ †	E_f	J_f^π
176.2+x		176&	0+x	
371.8+x		195&	176.2+x	
		372&	0+x	
586.0+x		214&	371.8+x	
		410&	176.2+x	
816.8+x		231&	586.0+x	
		445&	371.8+x	
1063.1+x		246&	816.8+x	
		477&	586.0+x	
1323.4+x		260&	1063.1+x	
		507&	816.8+x	
1594.2+x		271&	1323.4+x	
		531&	1063.1+x	
1874.4+x		280&	1594.2+x	
		551&	1323.4+x	
2162.0+x		288&	1874.4+x	
		568&	1594.2+x	
2455.0+x		293&	2162.0+x	
		580&	1874.4+x	
2758.5+x		304&	2455.0+x	
		597&	2162.0+x	
3070.9+x		314&	2758.5+x	
		615&	2455.0+x	
3390.2+x		320&	3070.9+x	
		631&	2758.5+x	
3722.1+x		332&	3390.2+x	
		651&	3070.9+x	
4067.1+x		345&	3722.1+x	
		677&	3390.2+x	
1017.3+y	J1+2	1017.3& *6*	y	J1≈(33)
2079.0+y	J1+4	1061.7& *6*	1017.3+y	J1+2
3179.0+y	J1+6	1100.0& *6*	2079.0+y	J1+4
4319.4+y	J1+8	1140.4& *6*	3179.0+y	J1+6
5505.0+y	J1+10	1185.6& *6*	4319.4+y	J1+8
6738.4+y	J1+12	1233.4& *6*	5505.0+y	J1+10
8024.6+y	J1+14	1286.2& *6*	6738.4+y	J1+12
9370.8+y	J1+16	1346.2& *6*	8024.6+y	J1+14
10777.7+y	J1+18	1406.9& *6*	9370.8+y	J1+16
12251.8+y	J1+20	1474.1& *6*	10777.7+y	J1+18
13784.2+y	J1+22	1532.3& *6*	12251.8+y	J1+20
15377.2+y?	J1+24	1593&c *1*	13784.2+y	J1+22
17043.2+y?	J1+26	1666&c *1*	15377.2+y?	J1+24
947.0+z?	J2+2	947&c *1*	z	J2≈(33)
1948.9+z	J2+4	1001.9& *6*	947.0+z?	J2+2
3003.3+z	J2+6	1054.4& *6*	1948.9+z	J2+4
4101.6+z	J2+8	1098.3& *6*	3003.3+z	J2+6
5239.6+z	J2+10	1138.0& *6*	4101.6+z	J2+8
6425.2+z	J2+12	1185.6& *6*	5239.6+z	J2+10
7668.0+z	J2+14	1242.8& *6*	6425.2+z	J2+12
8973.1+z	J2+16	1305.1& *6*	7668.0+z	J2+14
10360.3+z	J2+18	1387.2& *6*	8973.1+z	J2+16
11830.4+z	J2+20	1470.1& *6*	10360.3+z	J2+18
13398.5+z?	J2+22	1568&c *1*	11830.4+z	J2+20
828.7+u	J3+2	828.7& *6*	u	J3≈(27)
1677.1+u	J3+4	848.4& *6*	828.7+u	J3+2
2567.3+u	J3+6	890.2& *6*	1677.1+u	J3+4
3506.8+u	J3+8	939.5& *6*	2567.3+u	J3+6
4497.9+u	J3+10	991.1& *6*	3506.8+u	J3+8
5546.6+u	J3+12	1048.7& *6*	4497.9+u	J3+10
6657.3+u	J3+14	1110.7& *6*	5546.6+u	J3+12
7823.6+u	J3+16	1166.3& *6*	6657.3+u	J3+14
9056.4+u	J3+18	1232.8& *6*	7823.6+u	J3+16
10359.4+u	J3+20	1303&c *1*	9056.4+u	J3+18
11734.4+u	J3+22	1375&c *1*	10359.4+u	J3+20
13190.5+u?	J3+24	1456&c *1*	11734.4+u	J3+22

$^{160}_{68}Er_{92}$-23

Adopted Levels, Gammas (continued)

$\gamma(^{160}Er)$ (continued)

† From (HI,xnγ), except where noted otherwise.
‡ Unless noted otherwise, values are those determined in (HI,xnγ) dataset from measured α(K)exp values and angular distributions (A_2,A_4 coefficients and R ratios). The angular distributions measurements determined only the quadrupole or dipole character (Q or D, respectively). These values were futher adopted here as electric or magnetic based on band structure and calculations: E2 for Q as fast in-band transitions (these assignments are generally certain); E1, or M1(+E2) for D (combined with interband-determined parity shift $\Delta\pi$=yes, or no; these assignments are tentative).
# From 74.5 s ^{160}Tm ε decay (1983Si20).
@ From 9.4 min ^{160}Tm ε decay.
& From ^{116}Cd(^{48}Ca,4nγ):tsd dataset.
a Additional information 6.
b Additional information 7.
c Placement of transition in the level scheme is uncertain.

$^{160}_{68}Er_{92}$-24

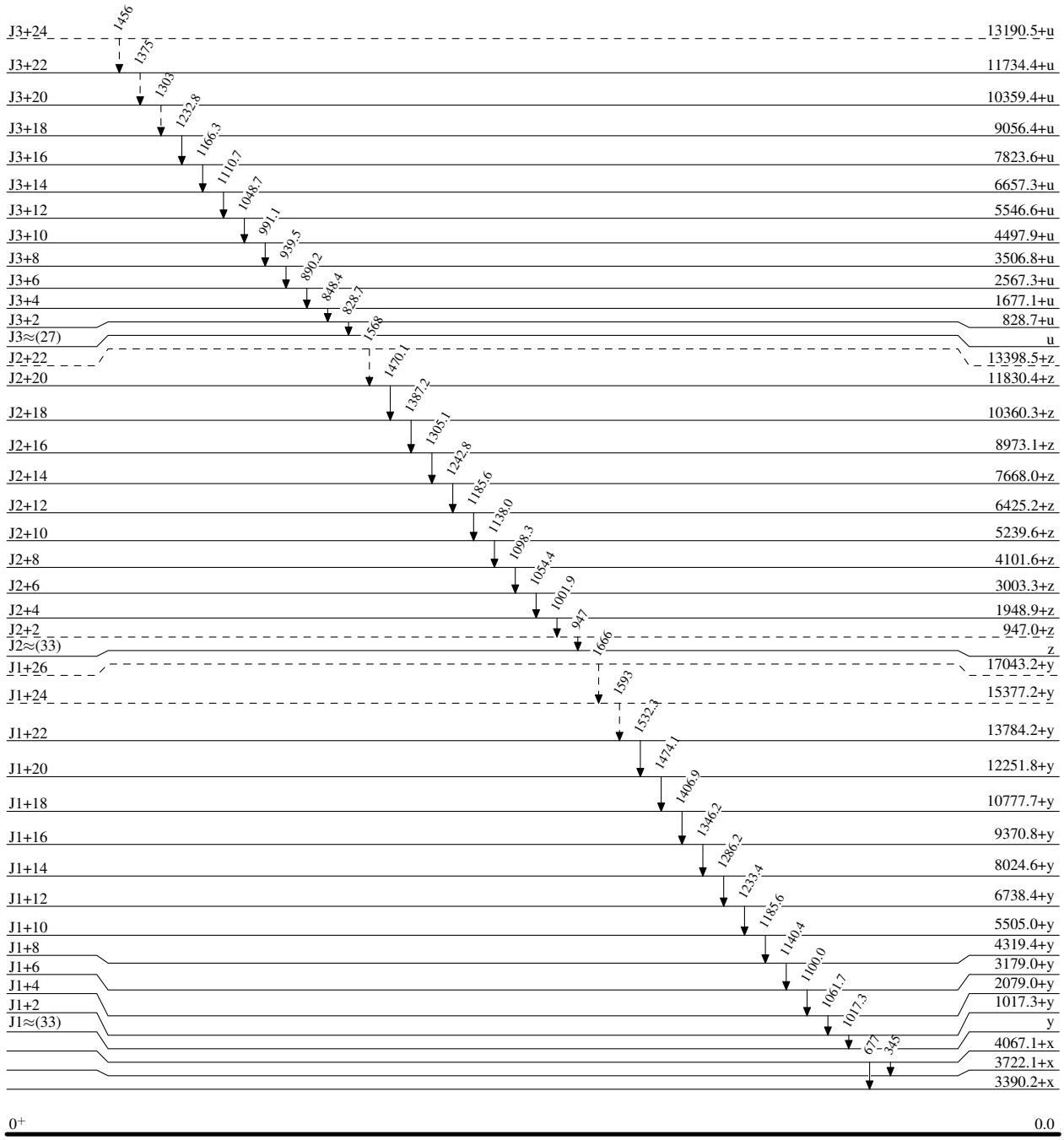
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)



$^{160}_{68}Er_{92}$

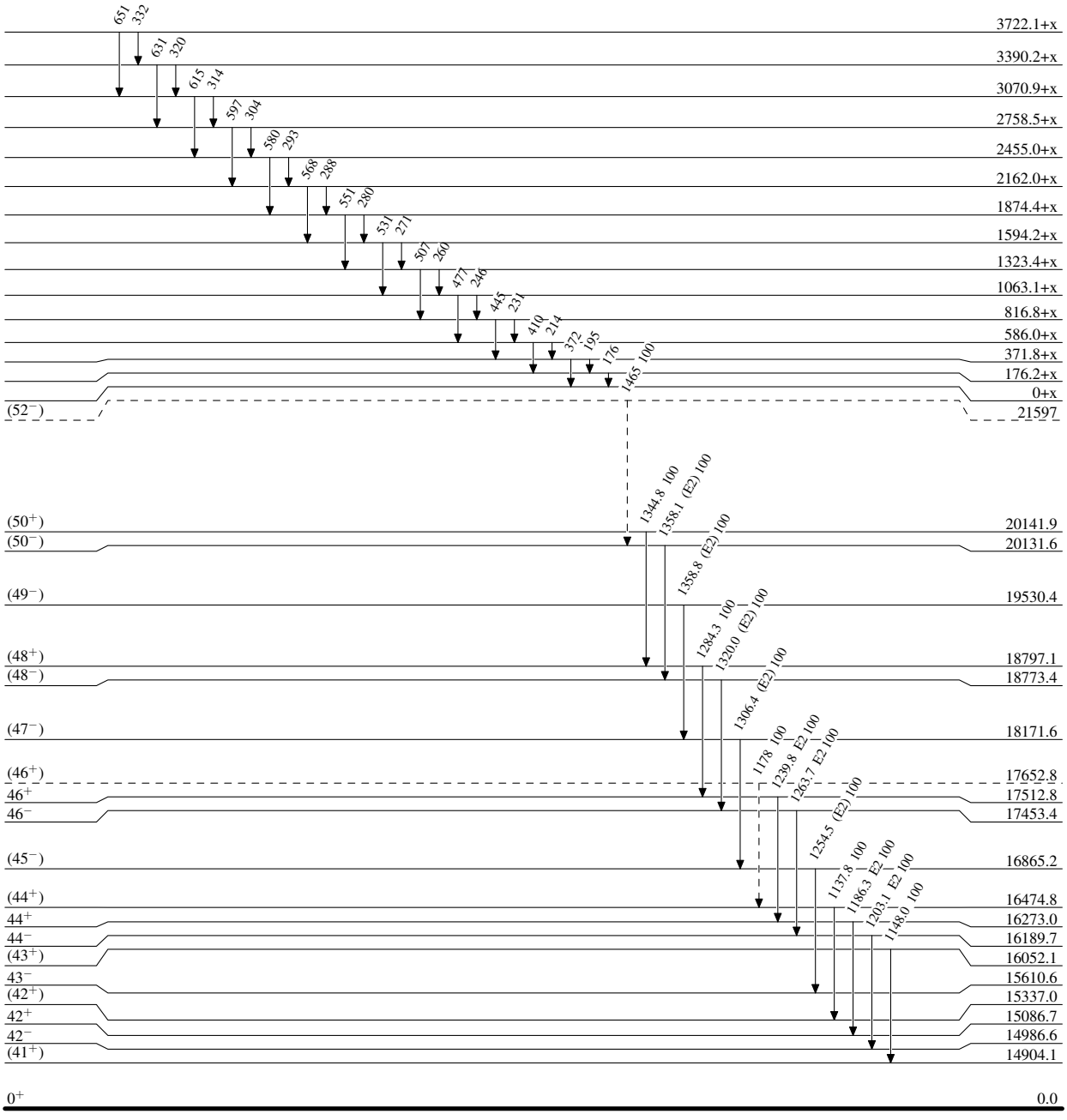
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

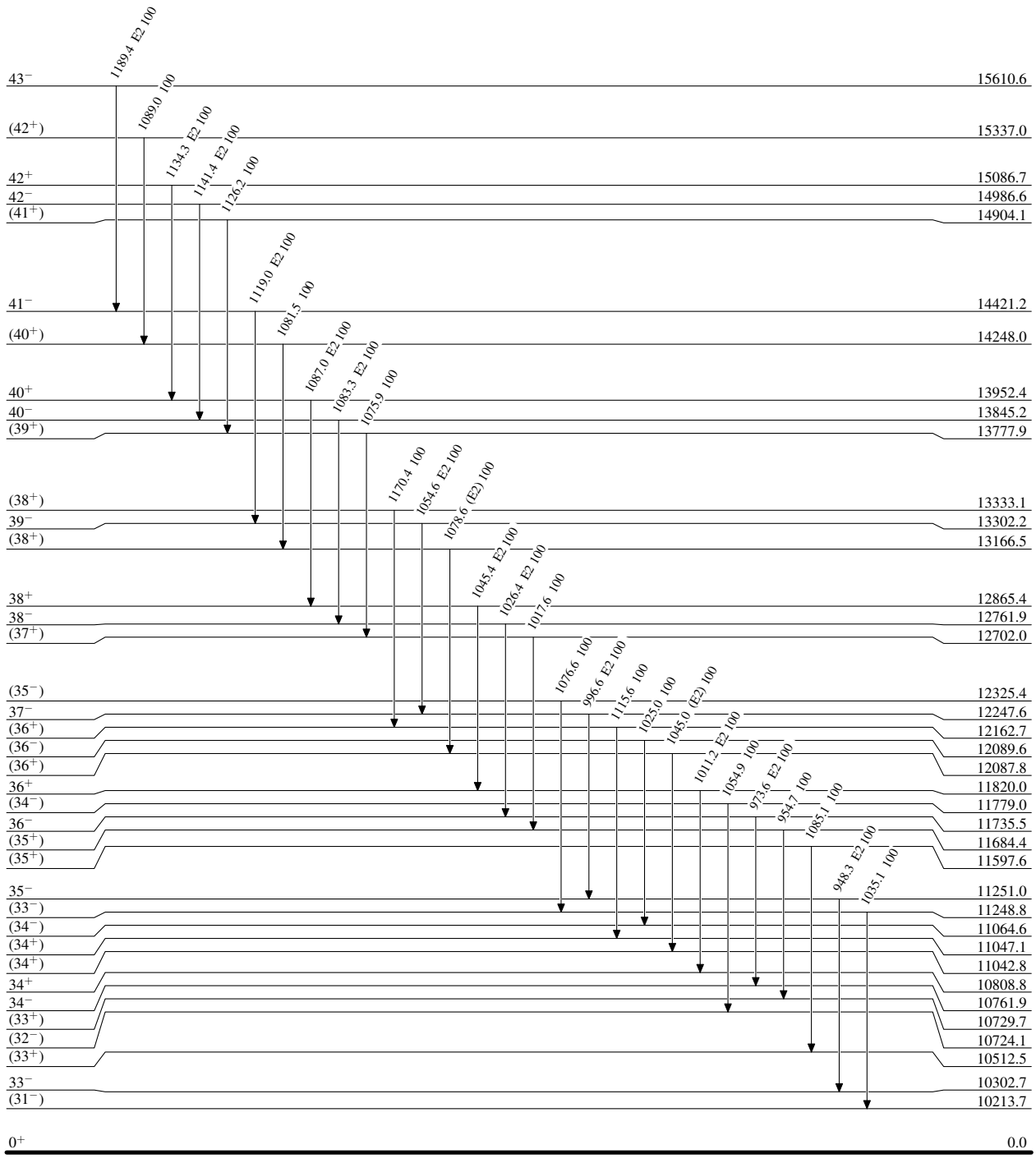


$^{160}_{68}Er_{92}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{160}_{68}Er_{92}$

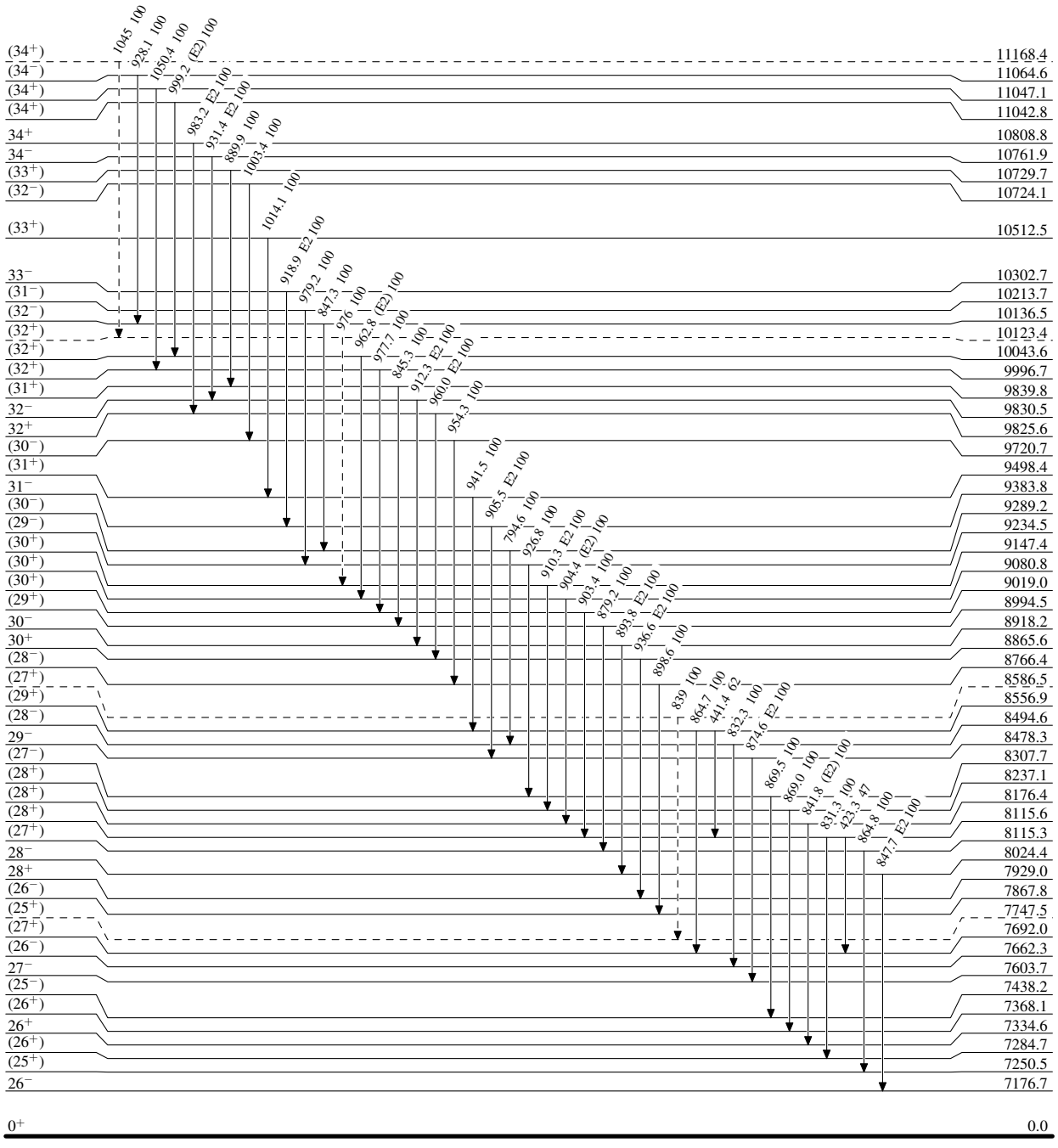
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{160}_{68}Er_{92}$

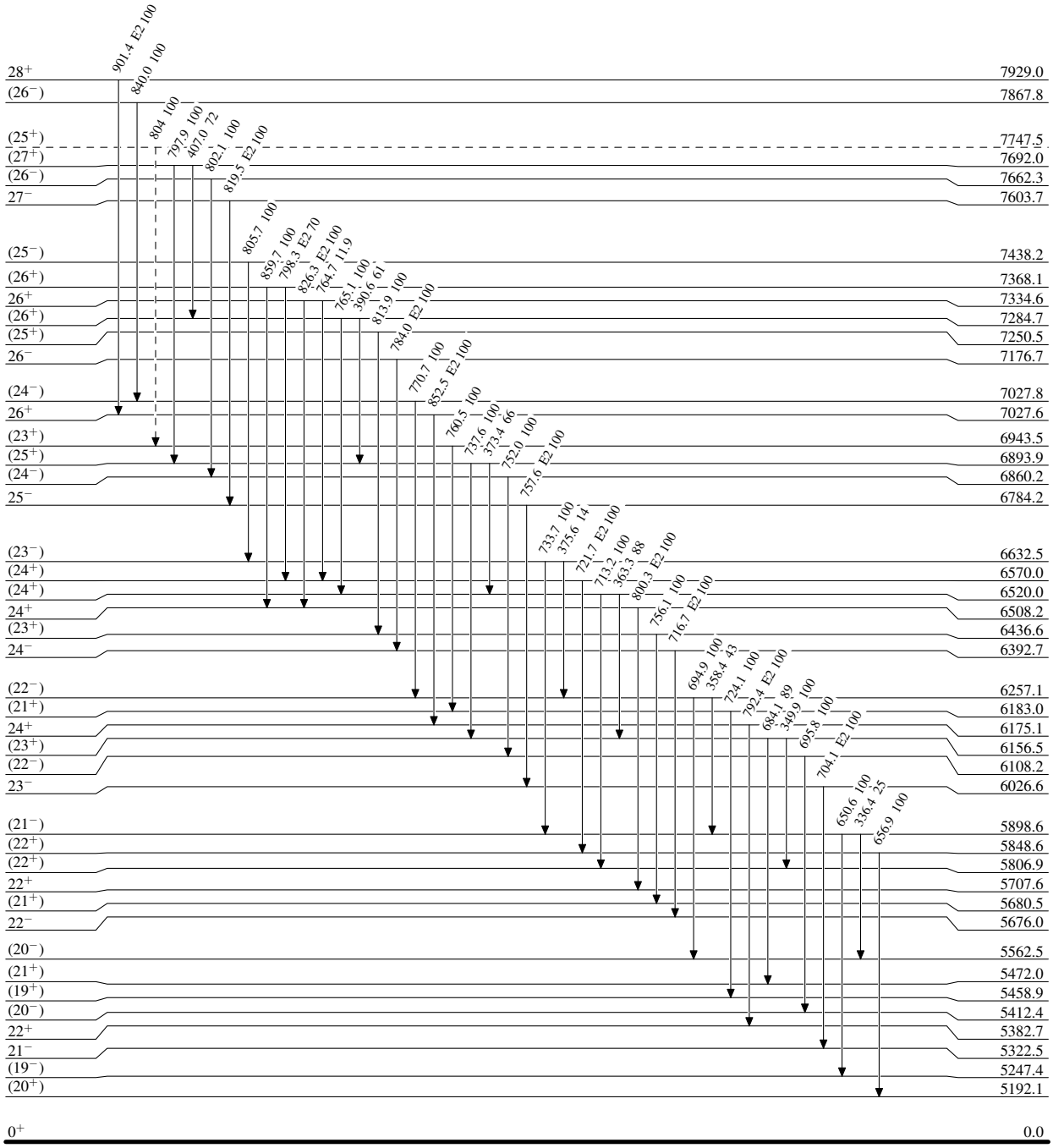
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{160}_{68}Er_{92}$

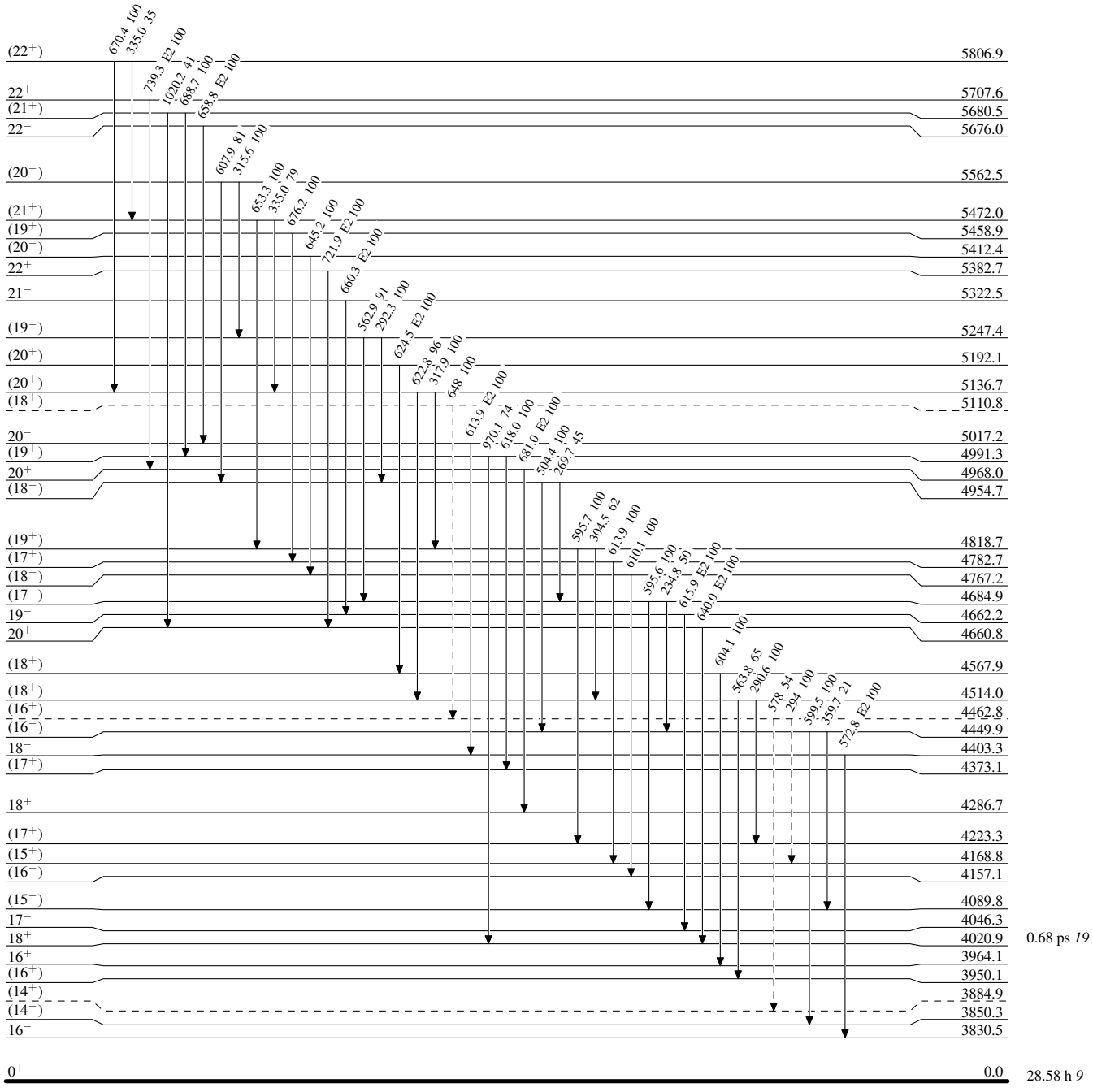
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{160}_{68}Er_{92}$

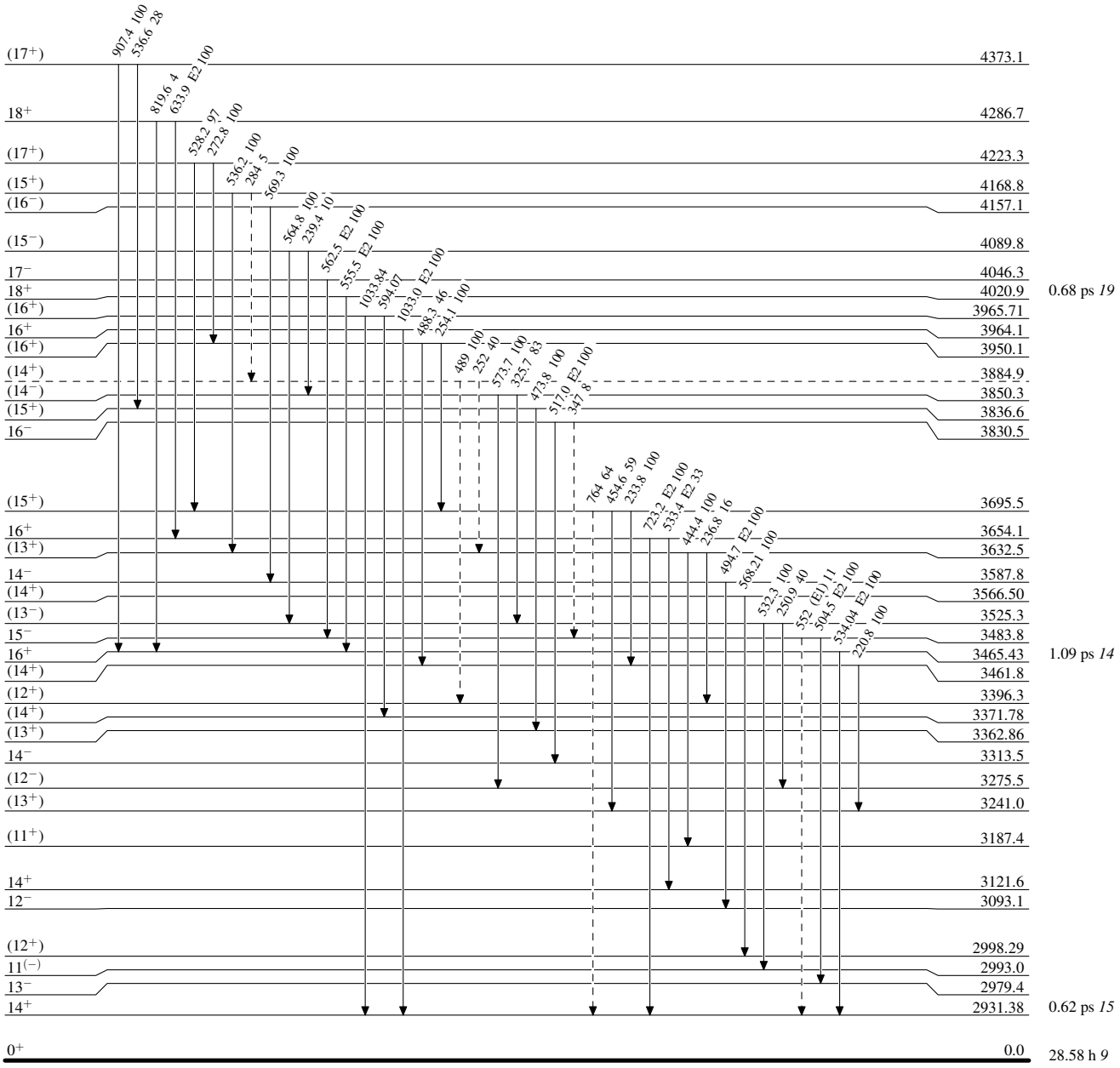
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{160}_{68}Er_{92}$

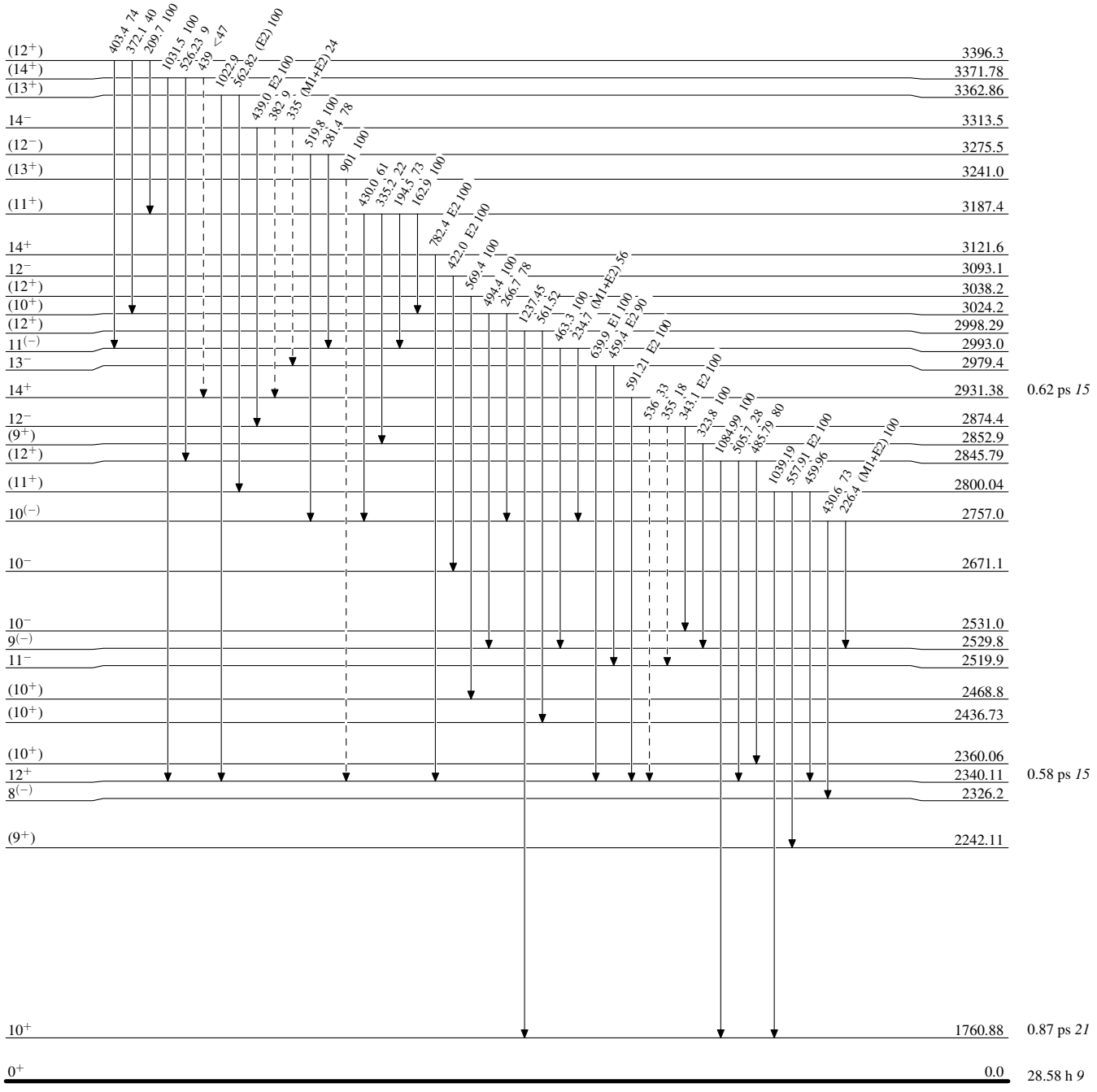
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

– – – – – – ► γ Decay (Uncertain)



$^{160}_{68}Er_{92}$

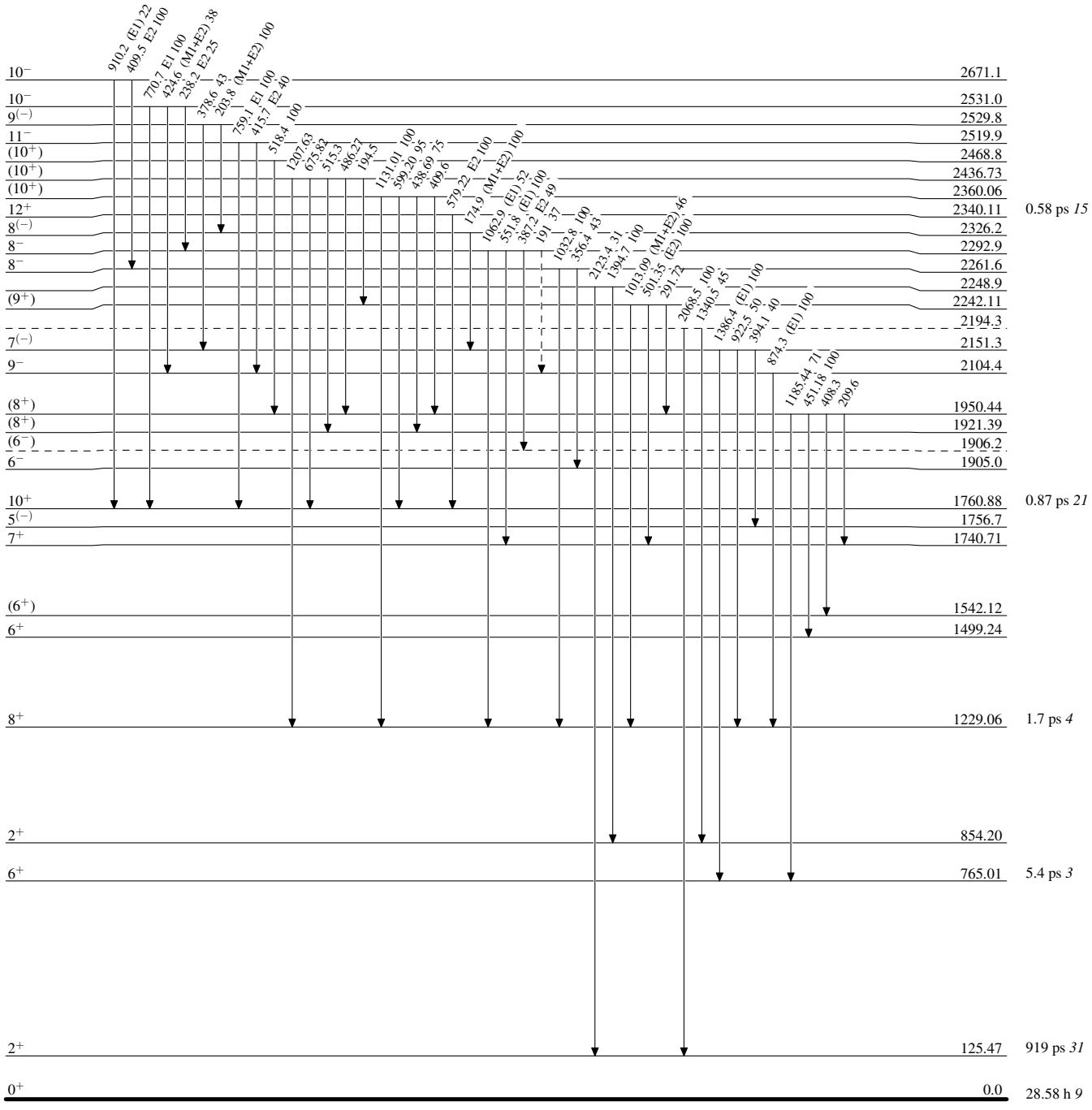
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{160}_{68}Er_{92}$

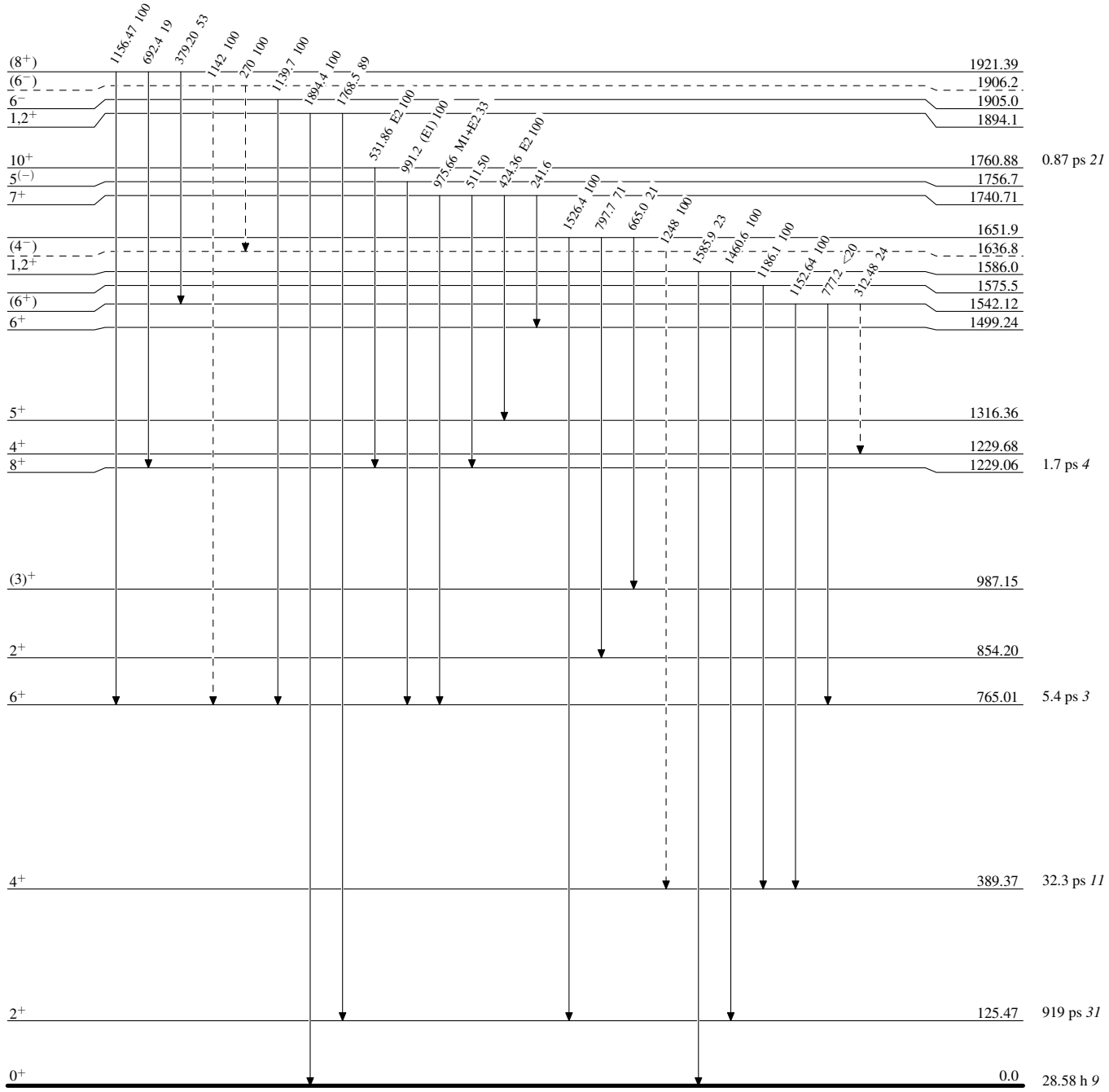
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{160}_{68}Er_{92}$

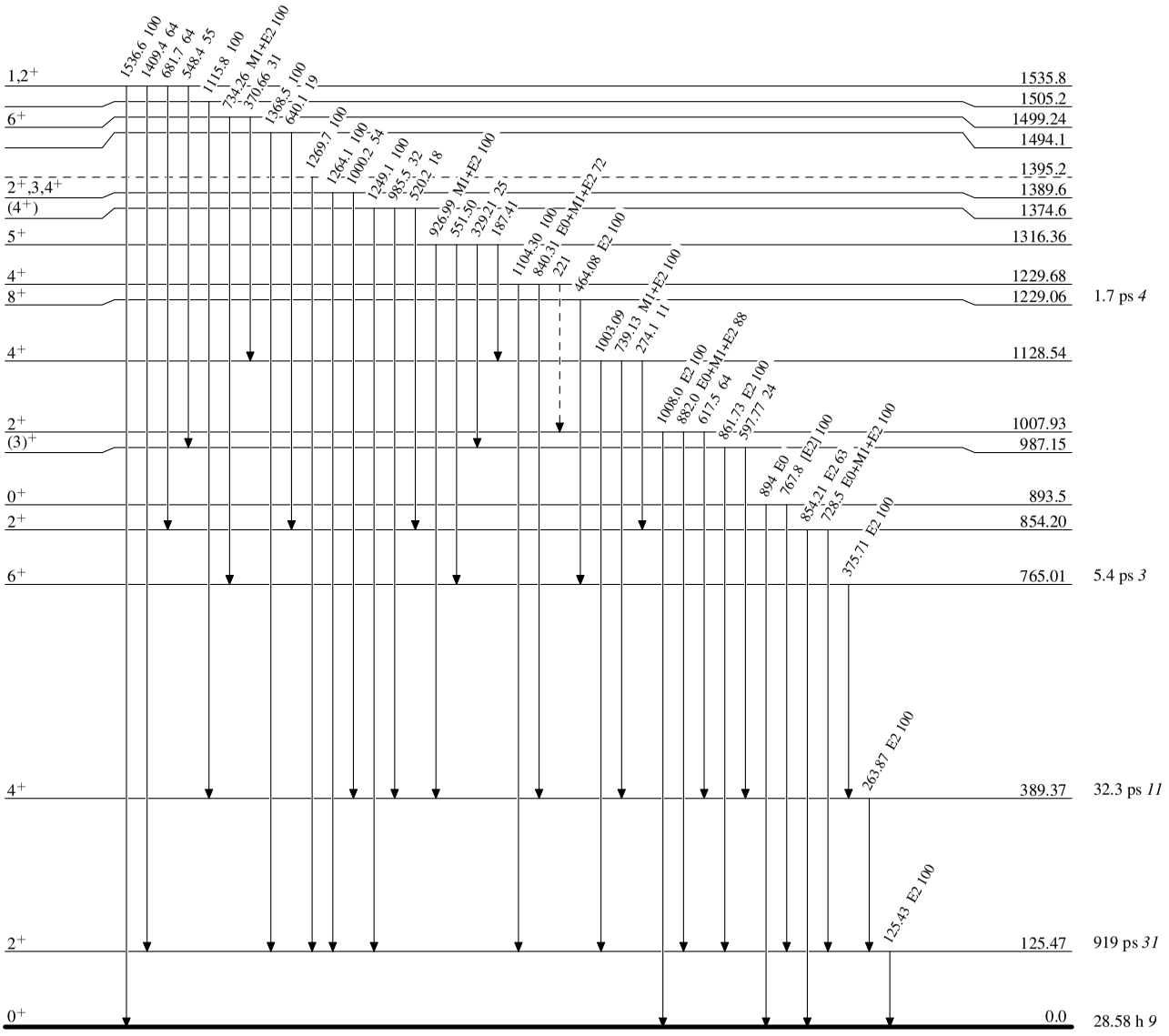
Adopted Levels, Gammas

Legend

Level Scheme (continued)

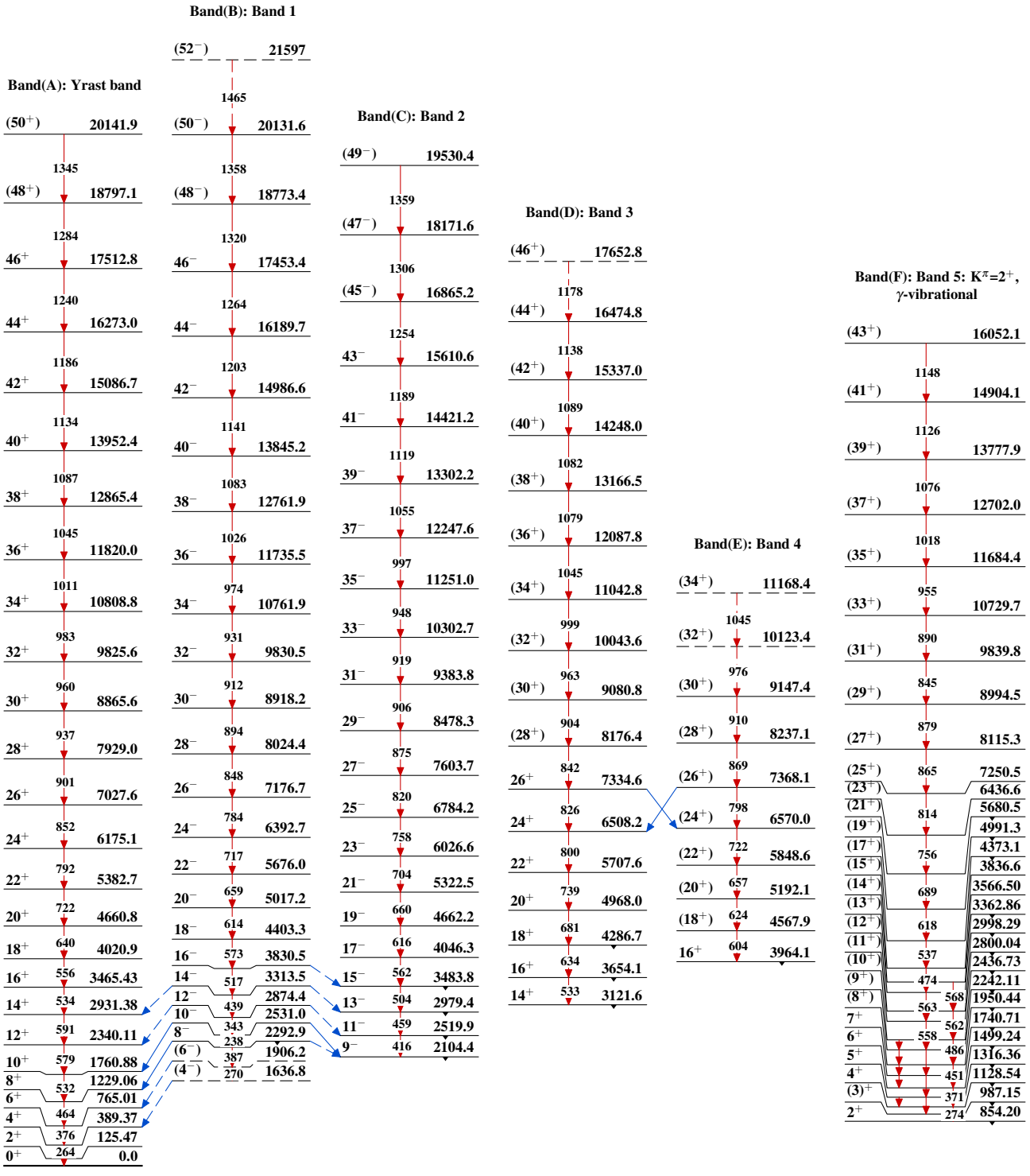
Intensities: Relative photon branching from each level

γ Decay (Uncertain)



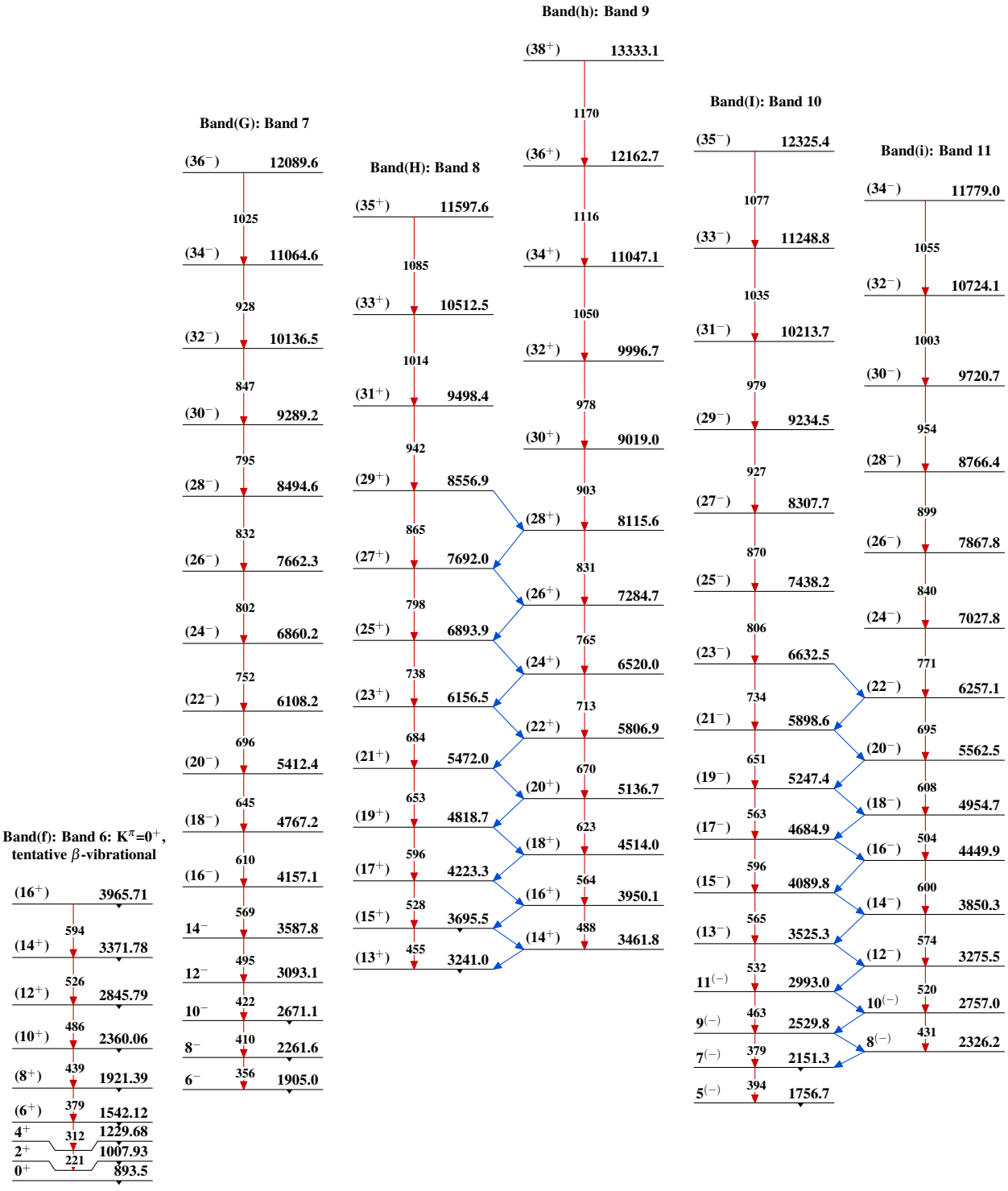
$^{160}_{68}Er_{92}$

Adopted Levels, Gammas

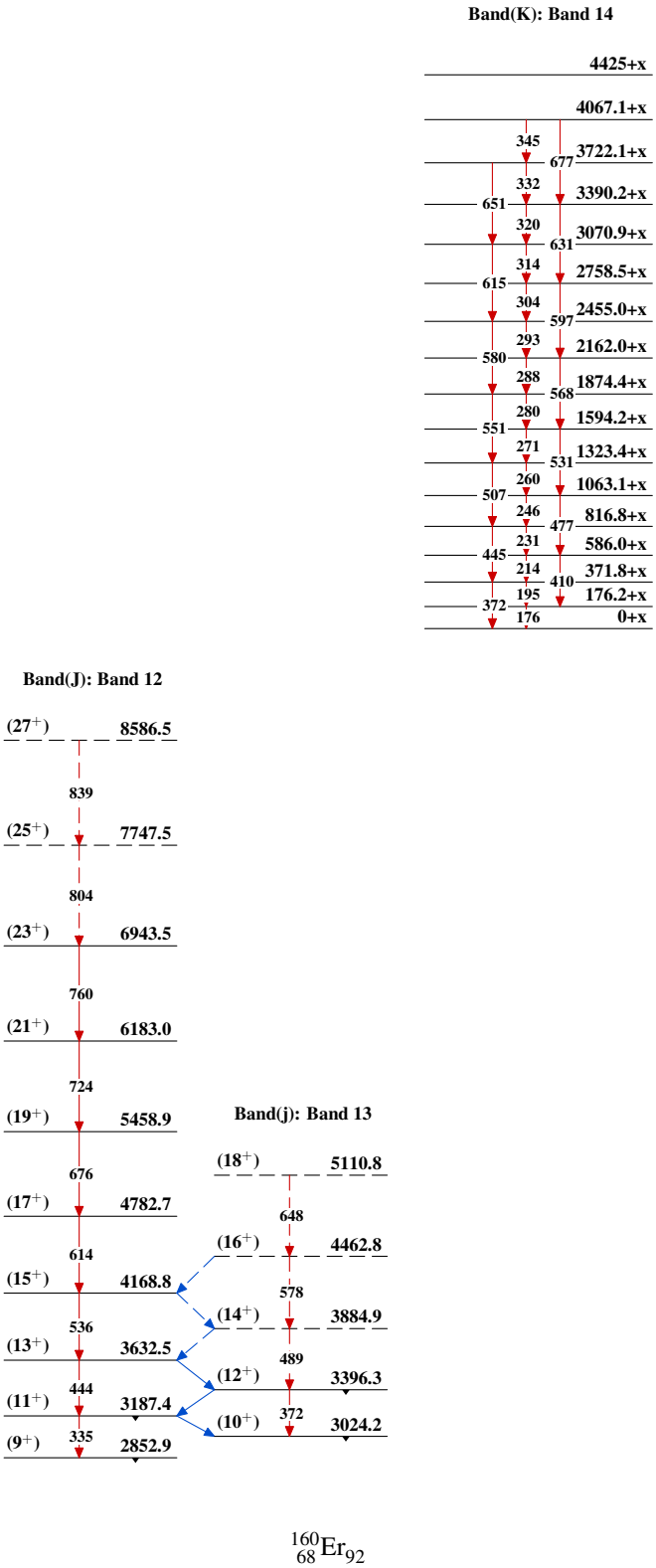


$^{160}_{68}Er_{92}$

Adopted Levels, Gammas (continued)



Adopted Levels, Gammas (continued)



$^{160}_{68}Er_{92}$

Adopted Levels, Gammas (continued)