^{168}Ho β^- decay 1973Ti02

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

Parent: ^{168}Ho: E=0.0; $J^\pi=3^+$; $T_{1/2}$=2.99 min *7*; Q(β^-)=2930 *30*; %β^- decay=100.0

Others: 1961Ta08, 1971Ha42, 1973Ka07, 1982Ge04.

The decay scheme is primarily from 1973Ti02, but some data have been added from 1973Ka07 and others added or moved by evaluator to achieve consistency with Adopted Levels, Gammas.

1973Ti02: sources from ^{168}Er(n,p) (E(n)=14 MeV; Er oxide target enriched to 95.47% in ^{168}Er); measured Eγ, Iγ (Ge(Li)).

1973Ka07: measured Eγ, Iγ, $\gamma\gamma$ coin, $\beta\gamma$ coin.

^{168}Er Levels

E(level)[†]	J^π[‡]	$T_{1/2}$	Comments
0.0	0^+	stable	
79.820 *22*	2^+		
264.081 *24*	4^+		
548.36 *6*	6^+		
821.113 *22*	2^+		
895.73 *3*	3^+		
994.67 *3*	4^+		
1093.93 *3*	4^-		
1117.71 *6*	5^+		
1193.02 *8*	5^-		
1276.29 *14*	2^+		
1311.37 *11*	6^-		
1541.35 *3*	3^-		
1569.30 *4*	$(2)^-$		
1615.31 *7*	4^-		
1653.1 *3*	3^+		level introduced by evaluator to accommodate a previously unplaced γ known from Adopted Levels, Gammas.
1848.21 *5*	2^+		
1915.44 *20*	$(3)^+$		
1930.24 *7*	2^+		
1972.39 *11*	$(2)^-$		level introduced by evaluator to accommodate unplaced 1268γ As In Adopted Levels, Gammas.
1994.56 *14*	$(3)^+$		
1998.99 *4*	$(3)^-$		level introduced by evaluator to accommodate 3 unplaced gammas whose placements are known from Adopted Levels, Gammas.
2192.98 *4*	2^+		
2254.72 *5*	(2^+)		second 2255 level introduced by evaluator to accommodate 1359γ As In Adopted Levels, Gammas.
2254.81 *5*	$(3)^+$		
2262.61 *12*	$(3)^-$		level introduced by evaluator to accommodate 1268γ As In Adopted Levels, Gammas.
2267.43 *5*	$(3,4,5)^+$		level introduced by evaluator to accommodate 1173γ As In Adopted Levels, Gammas.
2270.40 *17*			level introduced by evaluator to accommodate unplaced 1176γ As In Adopted Levels, Gammas.
2424.86 *8*	$(2)^+$		
2484.57 *15*	(3^+)		

[†] From least-squares fit to Eγ, excluding Eγ data imported from Adopted Gammas and Eγ data for uncertain or doubly-placed lines.

[‡] From Adopted Levels.

^{168}Ho β^- decay 1973Ti02 (continued)

β^- radiations

β^- feedings are from intensity imbalance at each level (g.s. feeding not expected (ΔJ=3)).

E(decay)	E(level)	Iβ^-[†]	Log *ft*	Comments
(4.5×10^2 *3*)	2484.57	0.072 *12*	5.98 *13*	av Eβ=132 *11*
(5.1×10^2 *3*)	2424.86	0.45 *6*	5.37 *11*	av Eβ=152 *11*
(6.6×10^2 *3*)	2270.40	0.027 *5*	6.99 *11*	av Eβ=207 *11*
(6.6×10^2[‡] *3*)	2267.43	0.08 *5*	6.5 *3*	av Eβ=208 *11*
(6.7×10^2 *3*)	2262.61	0.053 *8*	6.71 *10*	av Eβ=210 *11*
(6.8×10^2 *3*)	2254.81	0.19 *3*	6.17 *10*	av Eβ=213 *11*
(6.8×10^2 *3*)	2254.72	0.20 *3*	6.15 *10*	av Eβ=213 *11*
(7.4×10^2 *3*)	2192.98	1.84 *23*	5.32 *9*	av Eβ=236 *12*
(9.3×10^2 *3*)	1998.99	0.50 *6*	6.24 *8*	av Eβ=310 *12*
(9.3×10^2 *3*)				
(9.4×10^2 *3*)	1994.56	0.045 *7*	7.30 *9*	av Eβ=311 *12*
(9.6×10^2 *3*)	1972.39	0.031 *5*	7.50 *9*	av Eβ=320 *12*
(1.00×10^3 *3*)	1930.24	0.33 *5*	6.54 *9*	av Eβ=337 *12*
(1.01×10^3 *3*)	1915.44	0.124 *16*	6.98 *8*	av Eβ=343 *12*
(1.08×10^3 *3*)	1848.21	0.57 *7*	6.42 *7*	av Eβ=369 *12*
(1.28×10^3 *3*)	1653.1	0.022 *9*	8.10 *19*	av Eβ=449 *13*
(1.31×10^3 *3*)	1615.31	0.40 *6*	6.89 *8*	av Eβ=464 *13*
(1.36×10^3 *3*)	1569.30	0.039 *12*	7.96 *14*	av Eβ=484 *13*
(1.39×10^3 *3*)	1541.35	2.2 *3*	6.24 *7*	av Eβ=495 *13*
(1.65×10^3 *3*)	1276.29	0.044 *8*	8.22 *9*	av Eβ=607 *13*
(1.84×10^3 *3*)	1093.93	1.5 *5*	6.87 *15*	av Eβ=686 *13*
(1.94×10^3 *3*)	994.67	1.74 *23*	6.89 *7*	av Eβ=729 *13*
(2.03×10^3 *3*)	895.73	17.8 *22*	5.97 *6*	av Eβ=772 *14*
1.90×10^3 *10*	821.113	68 *8*	5.45 *6*	av Eβ=805 *14* E(decay): average from $\beta\gamma$ coin (1973Ka07). Other: 1963Ka10.
(2.67×10^3[‡] *3*)	264.081	1.5 *11*	7.5 *4*	av Eβ=1052 *14*

[†] Absolute intensity per 100 decays.
[‡] Existence of this branch is questionable.

$\gamma(^{168}Er)$

Iγ normalization: from Σ (I(γ+ce) to g.s.)=100%. negligible feeding to g.s. is expected (ΔJ=3).
Photon branching, as measured in ^{168}Ho β^- decay, often agrees poorly with that from other data sets.

E_γ[‡]	I_γ[‡c]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[#]	α[†]	Comments
(73.784[@] 3)	0.022 5	1615.31	4−	1541.35	3−	M1+E2	0.11 +3−2	6.87	α(K)=5.68 9; α(L)=0.93 4; α(M)=0.207 10; α(N+..)=0.0553 24 α(N)=0.0481 22; α(O)=0.00684 25; α(P)=0.000352 6 Iγ: from I(423γ) and adopted I(74γ)/I(422γ)=0.036 8.
(74.626[@] 3)	0.022 6	895.73	3+	821.113	2+	M1+E2	+1.42 +4−5	8.35 13	α(K)=3.09 8; α(L)=4.04 10; α(M)=0.978 24; α(N+..)=0.248 6 α(N)=0.222 6; α(O)=0.0261 6; α(P)=0.000171 5 Iγ: from I(816γ) and adopted I(75γ)/I(806γ)=0.00040 10.
79.83 3	24[&] 4	79.820	2+	0.0	0+	E2		7.04	α(K)=1.697 24; α(L)=4.09 6; α(M)=0.997 14; α(N+..)=0.252 4 α(N)=0.225 4; α(O)=0.0262 4; α(P)=7.44×10^{-5} 11 %Iγ=8.1 5 assuming recommended decay scheme normalization.
99.22[d] 3	0.59[d] 8	1093.93	4−	994.67	4+	E1+M2	−0.06 5	0.43 23	α(K)=0.35 17; α(L)=0.06 5; α(M)=0.015 12; α(N+..)=0.004 3 α(N)=0.003 3; α(O)=0.0005 4; α(P)=2.0×10^{-5} 18 Iγ: from adopted branching and I(99γ doublet)=0.85 15 and I(198γ) here, I(99γ from 1094 level)=0.59 8 leaving Iγ=0.26 17 to deexcite the 1193 level.
99.22[d] 3	0.26[d] 17	1193.02	5−	1093.93	4−	E2		3.03	α(K)=1.095 16; α(L)=1.482 21; α(M)=0.360 5; α(N+..)=0.0912 13 α(N)=0.0815 12; α(O)=0.00957 14; α(P)=4.55×10^{-5} 7 Iγ: see comment on 99γ from 1094 level.
[x]162.44 8	0.11 3								
184.275 20	16.2[&] 22	264.081	4+	79.820	2+	E2		0.331	α(K)=0.206 3; α(L)=0.0967 14; α(M)=0.0231 4; α(N+..)=0.00591 9 α(N)=0.00526 8; α(O)=0.000644 9; α(P)=9.50×10^{-6} 14
198.221 20	7.6[&] 11	1093.93	4−	895.73	3+	E1+M2	−0.12 3	0.084 18	α(K)=0.069 14; α(L)=0.012 3; α(M)=0.0027 7; α(N+..)=0.00072 19 α(N)=0.00062 16; α(O)=8.7×10^{-5} 23; α(P)=4.2×10^{-6} 12
[x]209.20 19	0.09 3								
217.44 10	0.062 16	1311.37	6−	1093.93	4−	E2		0.191	α(K)=0.1272 18; α(L)=0.0492 7; α(M)=0.01167 17; α(N+..)=0.00300 5 α(N)=0.00266 4; α(O)=0.000331 5; α(P)=6.11×10^{-6} 9
284.47 7	0.125 20	548.36	6+	264.081	4+	E2		0.0812	α(K)=0.0587 9; α(L)=0.01738 25; α(M)=0.00408 6; α(N+..)=0.001055 15 α(N)=0.000932 13; α(O)=0.0001192 17; α(P)=2.99×10^{-6} 5
[x]297.77 25	0.040 14								
[x]365.71[b] 7	0.121 14								
[x]381.67 19	0.057 12								
383.62[b] 8	0.148 12	1998.99	(3)−	1615.31	4−	M1		0.0694	α(K)=0.0585 9; α(L)=0.00853 12; α(M)=0.00189 3;

^{168}Ho β^- decay 1973Ti02 (continued)

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

E_γ[‡]	I_γ[‡c]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[#]	α[†]	Comments
									α(N+..)=0.000508 *8* α(N)=0.000440 *7*; α(O)=6.38×10^{-5} *9*; α(P)=3.55×10^{-6} *5*
422.28 *3*	0.62[&] *5*	1615.31	4$^-$	1193.02	5$^-$	M1		0.0540	α(K)=0.0455 *7*; α(L)=0.00662 *10*; α(M)=0.001464 *21*; α(N+..)=0.000394 *6* α(N)=0.000341 *5*; α(O)=4.95×10^{-5} *7*; α(P)=2.76×10^{-6} *4*
429.79[b] *4*	0.386 *18*	1998.99	(3)$^-$	1569.30	(2)$^-$	M1		0.0516	α(K)=0.0435 *6*; α(L)=0.00632 *9*; α(M)=0.001398 *20*; α(N+..)=0.000376 *6* α(N)=0.000326 *5*; α(O)=4.73×10^{-5} *7*; α(P)=2.64×10^{-6} *4*
447.461 *24*	3.76[&] *15*	1541.35	3$^-$	1093.93	4$^-$	M1+E2	−0.09 *1*	0.0463	α(K)=0.0390 *6*; α(L)=0.00567 *8*; α(M)=0.001254 *18*; α(N+..)=0.000337 *5* α(N)=0.000292 *4*; α(O)=4.24×10^{-5} *6*; α(P)=2.36×10^{-6} *4*
457.59[b] *3*	0.88 *3*	1998.99	(3)$^-$	1541.35	3$^-$	M1		0.0438	α(K)=0.0370 *6*; α(L)=0.00536 *8*; α(M)=0.001186 *17*; α(N+..)=0.000319 *5* α(N)=0.000276 *4*; α(O)=4.01×10^{-5} *6*; α(P)=2.24×10^{-6} *4*
546.73 *6*	0.46 *5*	1541.35	3$^-$	994.67	4$^+$	E1+M2	+0.007 *23*	0.00460 *10*	α=0.00460 *10*; α(K)=0.00390 *8*; α(L)=0.000543 *12*; α(M)=0.000119 *3*; α(N+..)=3.19×10^{-5} *8* α(N)=2.77×10^{-5} *7*; α(O)=3.95×10^{-6} *9*; α(P)=2.10×10^{-7} *5*
557.012 *27*	1.89[&] *10*	821.113	2$^+$	264.081	4$^+$	E2		0.01252	α(K)=0.01008 *15*; α(L)=0.00190 *3*; α(M)=0.000431 *6*; α(N+..)=0.0001136 *16* α(N)=9.94×10^{-5} *14*; α(O)=1.358×10^{-5} *19*; α(P)=5.63×10^{-7} *8*
559.2[b] *3*	0.066 *24*	1653.1	3$^+$	1093.93	4$^-$				
569.50 *6*	0.231 *17*	1117.71	5$^+$	548.36	6$^+$	E2		0.01186	α(K)=0.00957 *14*; α(L)=0.001780 *25*; α(M)=0.000404 *6*; α(N+..)=0.0001066 *15* α(N)=9.33×10^{-5} *13*; α(O)=1.276×10^{-5} *18*; α(P)=5.35×10^{-7} *8*
[x]579.92 *10*	0.148 *17*								
[x]596.02 *9*	0.183 *19*								
631.670 *27*	9.3[&] *3*	895.73	3$^+$	264.081	4$^+$	M1+E2	−4.8 *2*	0.00965 *14*	α=0.00965 *14*; α(K)=0.00788 *12*; α(L)=0.001377 *20*; α(M)=0.000311 *5*; α(N+..)=8.22×10^{-5} *12* α(N)=7.18×10^{-5} *11*; α(O)=9.95×10^{-6} *15*; α(P)=4.46×10^{-7} *7*
645.56 *4*	0.31 *4*	1541.35	3$^-$	895.73	3$^+$	E1		0.00323 *5*	α=0.00323 *5*; α(K)=0.00275 *4*; α(L)=0.000379 *6*; α(M)=8.31×10^{-5} *12*; α(N+..)=2.22×10^{-5} *4* α(N)=1.93×10^{-5} *3*; α(O)=2.76×10^{-6} *4*; α(P)=1.487×10^{-7} *21*
(673.666[@] *4*)	0.144 *12*	1569.30	(2)$^-$	895.73	3$^+$	E1		0.00296 *5*	α=0.00296 *5*; α(K)=0.00252 *4*; α(L)=0.000346 *5*; α(M)=7.60×10^{-5} *11*; α(N+..)=2.03×10^{-5} *3* α(N)=1.764×10^{-5} *25*; α(O)=2.53×10^{-6} *4*; α(P)=1.364×10^{-7} *19* Eγ=673.48 *13*, Iγ=0.106 *14* reported by 1973Ti02 but half-life was unexpectedly long. I_γ: from I(748γ) and adopted I(674)/I(748γ)=0.380 *21*.
[x]679.08 *15*	0.088 *14*								
(719.550[@] *5*)	0.45 *6*	1615.31	4$^-$	895.73	3$^+$	E1+M2	−0.007 *4*	0.00259 *4*	α=0.00259 *4*; α(K)=0.00220 *3*; α(L)=0.000302 *5*;

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^{168}Ho β^- decay 1973Ti02 (continued)

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

E_γ[‡]	I_γ[‡c]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[#]	α[†]	Comments
									α(M)=6.63×10^{-5} *10*; α(N+..)=1.772×10^{-5} *25* α(N)=1.539×10^{-5} *22*; α(O)=2.21×10^{-6} *4*; α(P)=1.197×10^{-7} *17*
									I_γ: from I(423γ) and adopted I(720γ)/I(422γ)=0.72 *8*. γ possibly unresolved from stronger 720γ.
720.17 *3*	2.23[&] *9*	1541.35	3$^-$	821.113	2$^+$	E1+M2	−0.012 *10*	0.00259 *4*	α=0.00259 *4*; α(K)=0.00220 *4*; α(L)=0.000302 *5*; α(M)=6.62×10^{-5} *10*; α(N+..)=1.77×10^{-5} *3* α(N)=1.538×10^{-5} *24*; α(O)=2.21×10^{-6} *4*; α(P)=1.197×10^{-7} *18*
									E_γ,I_γ: probably for 720γ+719γ doublet.
730.58 *3*	4.19[&] *17*	994.67	4$^+$	264.081	4$^+$	M1+E2	+13 *+16−3*	0.00664 *10*	α=0.00664 *10*; α(K)=0.00546 *9*; α(L)=0.000915 *14*; α(M)=0.000206 *3*; α(N+..)=5.46×10^{-5} *8* α(N)=4.76×10^{-5} *7*; α(O)=6.64×10^{-6} *10*; α(P)=3.09×10^{-7} *5*
741.30 *3*	105.8[&] *23*	821.113	2$^+$	79.820	2$^+$	M1+E2	>25	0.00639 *9*	α=0.00639 *9*; α(K)=0.00526 *8*; α(L)=0.000879 *13*; α(M)=0.000197 *3*; α(N+..)=5.24×10^{-5} *8* α(N)=4.57×10^{-5} *7*; α(O)=6.38×10^{-6} *9*; α(P)=2.98×10^{-7} *5*
748.29 *4*	0.378 *24*	1569.30	(2)$^-$	821.113	2$^+$	E1		0.00239 *4*	α=0.00239 *4*; α(K)=0.00204 *3*; α(L)=0.000278 *4*; α(M)=6.11×10^{-5} *9*; α(N+..)=1.634×10^{-5} *23* α(N)=1.419×10^{-5} *20*; α(O)=2.04×10^{-6} *3*; α(P)=1.108×10^{-7} *16*
815.90 *3*	53.9[&] *14*	895.73	3$^+$	79.820	2$^+$	M1+E2	+17.7 *23*	0.00518 *8*	α=0.00518 *8*; α(K)=0.00429 *6*; α(L)=0.000694 *10*; α(M)=0.0001553 *22*; α(N+..)=4.13×10^{-5} *6* α(N)=3.60×10^{-5} *5*; α(O)=5.05×10^{-6} *7*; α(P)=2.44×10^{-7} *4*
821.09 *3*	100.0[&] *23*	821.113	2$^+$	0.0	0$^+$	E2		0.00510 *8*	α=0.00510 *8*; α(K)=0.00422 *6*; α(L)=0.000682 *10*; α(M)=0.0001525 *22*; α(N+..)=4.06×10^{-5} *6* α(N)=3.54×10^{-5} *5*; α(O)=4.97×10^{-6} *7*; α(P)=2.40×10^{-7} *4*
829.89 *4*	0.63[&] *6*	1093.93	4$^-$	264.081	4$^+$	E1+M2	−0.05 *3*	0.00201 *10*	α=0.00201 *10*; α(K)=0.00171 *8*; α(L)=0.000234 *13*; α(M)=5.1×10^{-5} *3*; α(N+..)=1.37×10^{-5} *8* α(N)=1.19×10^{-5} *7*; α(O)=1.71×10^{-6} *10*; α(P)=9.4×10^{-8} *6*
853.49 *6*	0.185 *18*	1117.71	5$^+$	264.081	4$^+$	M1+E2	3.6 *+24−8*	0.00500 *21*	α=0.00500 *21*; α(K)=0.00416 *18*; α(L)=0.000655 *23*; α(M)=0.000146 *5*; α(N+..)=3.89×10^{-5} *14* α(N)=3.39×10^{-5} *12*; α(O)=4.79×10^{-6} *18*; α(P)=2.38×10^{-7} *12*
[x]904.95 *18*	0.045 *8*								
914.86 *3*	2.65[&] *11*	994.67	4$^+$	79.820	2$^+$	E2		0.00404 *6*	α=0.00404 *6*; α(K)=0.00337 *5*; α(L)=0.000527 *8*; α(M)=0.0001176 *17*; α(N+..)=3.13×10^{-5} *5* α(N)=2.73×10^{-5} *4*; α(O)=3.85×10^{-6} *6*; α(P)=1.92×10^{-7} *3*
928.84 *11*	0.105 *14*	1193.02	5$^-$	264.081	4$^+$	E1		0.001571 *22*	α=0.001571 *22*; α(K)=0.001340 *19*; α(L)=0.000181 *3*; α(M)=3.97×10^{-5} *6*; α(N+..)=1.063×10^{-5} *1* α(N)=9.23×10^{-6} *13*; α(O)=1.330×10^{-6} *19*; α(P)=7.33×10^{-8} *11*

$^{168}_{68}Er_{100}$-5

^{168}Ho β^- decay 1973Ti02 (continued)

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

E_γ[‡]	I_γ[‡c]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	δ[#]	α[†]	Comments
952.49 *6*	0.158 *12*	1848.21	2^+	895.73	3^+	M1+E2	0.8 *+9−6*	0.0057 *12*	α=0.0057 *12*; α(K)=0.0048 *10*; α(L)=0.00069 *13*; α(M)=0.00015 *3*; α(N+..)=4.1×10^{-5} *8* α(N)=3.6×10^{-5} *7*; α(O)=5.2×10^{-6} *10*; α(P)=2.8×10^{-7} *7*
[x]994.93 *11*	0.085 *8*								
1012.05 *15*	0.094 *12*	1276.29	2^+	264.081	4^+	E2		0.00328 *5*	α=0.00328 *5*; α(K)=0.00274 *4*; α(L)=0.000419 *6*; α(M)=9.31×10^{-5} *13*; α(N+..)=2.48×10^{-5} *4* α(N)=2.16×10^{-5} *3*; α(O)=3.07×10^{-6} *5*; α(P)=1.562×10^{-7} *22*
1026.96 *17*	0.067 *13*	1848.21	2^+	821.113	2^+				
1034.48 *16*	0.064 *11*	1930.24	2^+	895.73	3^+	E2		0.00314 *5*	α=0.00314 *5*; α(K)=0.00262 *4*; α(L)=0.000399 *6*; α(M)=8.86×10^{-5} *13*; α(N+..)=2.36×10^{-5} *4* α(N)=2.06×10^{-5} *3*; α(O)=2.92×10^{-6} *4*; α(P)=1.495×10^{-7} *21*
1076.66[b] *10*	0.090 *7*	1972.39	$(2)^-$	895.73	3^+				
[x]1104.55 *22*	0.055 *9*								
1108.9 *3*	0.043 *11*	1930.24	2^+	821.113	2^+				
1137.2 *3*	0.066[&] *22*	2254.81	$(3)^+$	1117.71	5^+				
[x]1139.0 *5*	0.040 *18*								
[x]1144.16 *14*	0.075 *9*								
1173.49 *4*	<0.48	2267.43	$(3,4,5)^+$	1093.93	4^-				I_γ: 0.40 *8* for γ contaminated with a ^{56}Co line. other Iγ: 0.88 *8* (1973Ka07). placed by evaluator consistent with Adopted Levels, Gammas. 1973Ti02 and 1973Ka07 placed γ from 1995 level instead.
1176.46[b] *16*	0.078 *9*	2270.40		1093.93	4^-				
1197.1 *3*	0.036 *9*	1276.29	2^+	79.820	2^+	M1+E2(+E0)	−5.0 *+19−26*	0.00241 *10*	α=0.00241 *10*; α(K)=0.00202 *9*; α(L)=0.000297 *12*; α(M)=6.58×10^{-5} *25*; α(N+..)=2.25×10^{-5} *8* α(N)=1.53×10^{-5} *6*; α(O)=2.19×10^{-6} *9*; α(P)=1.16×10^{-7} *6*; α(IPF)=4.88×10^{-6} *10*
1260.15 *6*	0.262[&] *19*	2254.81	$(3)^+$	994.67	4^+				
[x]1264.0 *4*	0.031 *8*								
1267.94[b] *11*	0.156 *12*	2262.61	$(3)^-$	994.67	4^+				
[x]1273.59 *4*	0.57 *5*								Eγ matches that for a γ known to deexcite a $(5)^+$ 2169 level, but β^- decay is not expected to directly feed a level with that J^π.
1277.33 *6*	0.290 *18*	1541.35	3^-	264.081	4^+	E1+M2	−0.040 *18*	0.000947 *19*	α=0.000947 *19*; α(K)=0.000761 *15*; α(L)=0.0001017 *22*; α(M)=2.23×10^{-5} *5*; α(N+..)=6.22×10^{-5}

^{168}Ho β^- decay 1973Ti02 (continued)

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

E_γ[‡]	I_γ[‡c]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[†]	Comments
								α(N)=5.18×10^{-6} *11*; α(O)=7.49×10^{-7} *16*; α(P)=4.19×10^{-8} *9*; α(IPF)=5.63×10^{-5} *8* other Iγ: 0.45 *9* (1973Ka07).
1297.27 *4*	1.01[&] *4*	2192.98	2$^+$	895.73	3$^+$			
[x]1341.6 *3*	0.059 *10*							
1350.9 *4*	≈0.044[&]	1615.31	4$^-$	264.081	4$^+$			I$_\gamma$: 0.027 *20* for γ contaminated by sum peak (1973Ti02). Other Iγ: 0.15 *5* (1973Ka07).
1358.99[b] *4*	0.58 *5*	2254.72	(2$^+$)	895.73	3$^+$			other Iγ: 0.74 *8* (1973Ka07).
1371.85 *3*	4.40[&] *19*	2192.98	2$^+$	821.113	2$^+$	M1	0.00292 *4*	α=0.00292 *4*; α(K)=0.00244 *4*; α(L)=0.000342 *5*; α(M)=7.52×10^{-5} *11*; α(N+..)=6.19×10^{-5} *9* α(N)=1.753×10^{-5} *25*; α(O)=2.55×10^{-6} *4*; α(P)=1.450×10^{-7} *21*; α(IPF)=4.17×10^{-5} *6*
1433.67 *7*	0.22[&] *5*	2254.81	(3)$^+$	821.113	2$^+$			
1461.20 *8*	0.243 *11*	1541.35	3$^-$	79.820	2$^+$			
[x]1488.5 *4*	0.029 *9*							
1529.12[a] *13*	0.115 *12*	2424.86	(2)$^+$	895.73	3$^+$			
1541.38 *23*	0.025 *20*	1541.35	3$^-$	0.0	0$^+$	[E3]	0.00282 *4*	α=0.00282 *4*; α(K)=0.00231 *4*; α(L)=0.000364 *6*; α(M)=8.13×10^{-5} *12*; α(N+..)=5.99×10^{-5} *9* α(N)=1.89×10^{-5} *3*; α(O)=2.69×10^{-6} *4*; α(P)=1.380×10^{-7} *20*; α(IPF)=3.82×10^{-5} *6* I$_\gamma$: includes possible component from summing.
1603.72 *8*	0.337 *20*	2424.86	(2)$^+$	821.113	2$^+$			other Iγ: 0.48 *8* (1973Ka07).
1651.37 *21*	0.047 *7*	1915.44	(3)$^+$	264.081	4$^+$	M1	0.00202 *3*	α=0.00202 *3*; α(K)=0.001580 *23*; α(L)=0.000220 *3*; α(M)=4.83×10^{-5} *7*; α(N+..)=0.0001689 *24* α(N)=1.126×10^{-5} *16*; α(O)=1.640×10^{-6} *23*; α(P)=9.35×10^{-8} *13*; α(IPF)=0.0001559 *22*
[x]1711.86 *21*	0.043 *6*							
1768.36 *9*	0.75 *3*	1848.21	2$^+$	79.820	2$^+$	E2	0.001288 *18*	α=0.001288 *18*; α(K)=0.000943 *14*; α(L)=0.0001316 *19*; α(M)=2.90×10^{-5} *4*; α(N+..)=0.000185 α(N)=6.74×10^{-6} *10*; α(O)=9.73×10^{-7} *14*; α(P)=5.37×10^{-8} *8*; α(IPF)=0.0001770 *25* other Iγ: 0.94 *7* (1973Ka07).
1835.5 *5*	0.319[&] *13*	1915.44	(3)$^+$	79.820	2$^+$	E2	0.001244 *18*	α=0.001244 *18*; α(K)=0.000880 *13*; α(L)=0.0001224 *18*; α(M)=2.69×10^{-5} *4*; α(N+..)=0.000214 α(N)=6.27×10^{-6} *9*; α(O)=9.06×10^{-7} *13*; α(P)=5.01×10^{-8} *7*; α(IPF)=0.000207 *3*
1848.24 *9*	0.71 *4*	1848.21	2$^+$	0.0	0$^+$	E2	0.001236 *18*	α=0.001236 *18*; α(K)=0.000869 *13*; α(L)=0.0001208 *17*; α(M)=2.66×10^{-5} *4*; α(N+..)=0.000220 α(N)=6.18×10^{-6} *9*; α(O)=8.94×10^{-7} *13*; α(P)=4.95×10^{-8} *7*; α(IPF)=0.000213 *3*
1850.42 *10*	0.51 *3*	1930.24	2$^+$	79.820	2$^+$	E2	0.001235 *18*	α=0.001235 *18*; α(K)=0.000867 *13*; α(L)=0.0001205 *17*; α(M)=2.65×10^{-5} *4*; α(N+..)=0.000221

$^{168}_{68}Er_{100}$-7

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

E_γ[‡]	I_γ[‡c]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[†]	Comments
								α(N)=6.17×10^{-6} *9*; α(O)=8.92×10^{-7} *13*; α(P)=4.94×10^{-8} *7*; α(IPF)=0.000214 *3* other Iγ: 1.38 *8* (1973Ka07).
1914.73 *13*	0.132[&] *9*	1994.56	(3)$^+$	79.820	2$^+$	E2	0.001202 *17*	α=0.001202 *17*; α(K)=0.000815 *12*; α(L)=0.0001129 *16*; α(M)=2.48×10^{-5} *4*; α(N+..)=0.000250 α(N)=5.78×10^{-6} *8*; α(O)=8.35×10^{-7} *12*; α(P)=4.64×10^{-8} *7*; α(IPF)=0.000243 *4*
1930.25 *10*	0.363 *22*	1930.24	2$^+$	0.0	0$^+$	E2	0.001195 *17*	α=0.001195 *17*; α(K)=0.000803 *12*; α(L)=0.0001111 *16*; α(M)=2.44×10^{-5} *4*; α(N+..)=0.000257 α(N)=5.69×10^{-6} *8*; α(O)=8.23×10^{-7} *12*; α(P)=4.57×10^{-8} *7*; α(IPF)=0.000250 *4* Iγ: weighted average of 0.358 *15* (1973Ti02), 0.45 *6* (1973Ka07).
[x]2094.8 *3*	0.044 *7*							
[x]2112.46 *13*	0.176 *10*							Includes unresolved ^{56}Mn contaminant.
[x]2175.0 *3*	0.012 *12*							Possible sum peak.
[x]2192.42 *14*	0.010 *10*							Possible sum peak.
2220.7 *4*	0.090 *21*	2484.57	(3$^+$)	264.081	4$^+$			
2345.08[a] *12*	0.602 *20*	2424.86	(2)$^+$	79.820	2$^+$			other Iγ: 0.78 *8* (1973Ka07).
[x]2379.8 *6*	0.014 *5*							
[x]2390.2 *4*	0.028 *5*							
2404.70 *16*	0.121 *7*	2484.57	(3$^+$)	79.820	2$^+$			
2424.92 *14*	0.266[&] *12*	2424.86	(2)$^+$	0.0	0$^+$			
[x]2591.6 *3*	0.040 *7*							

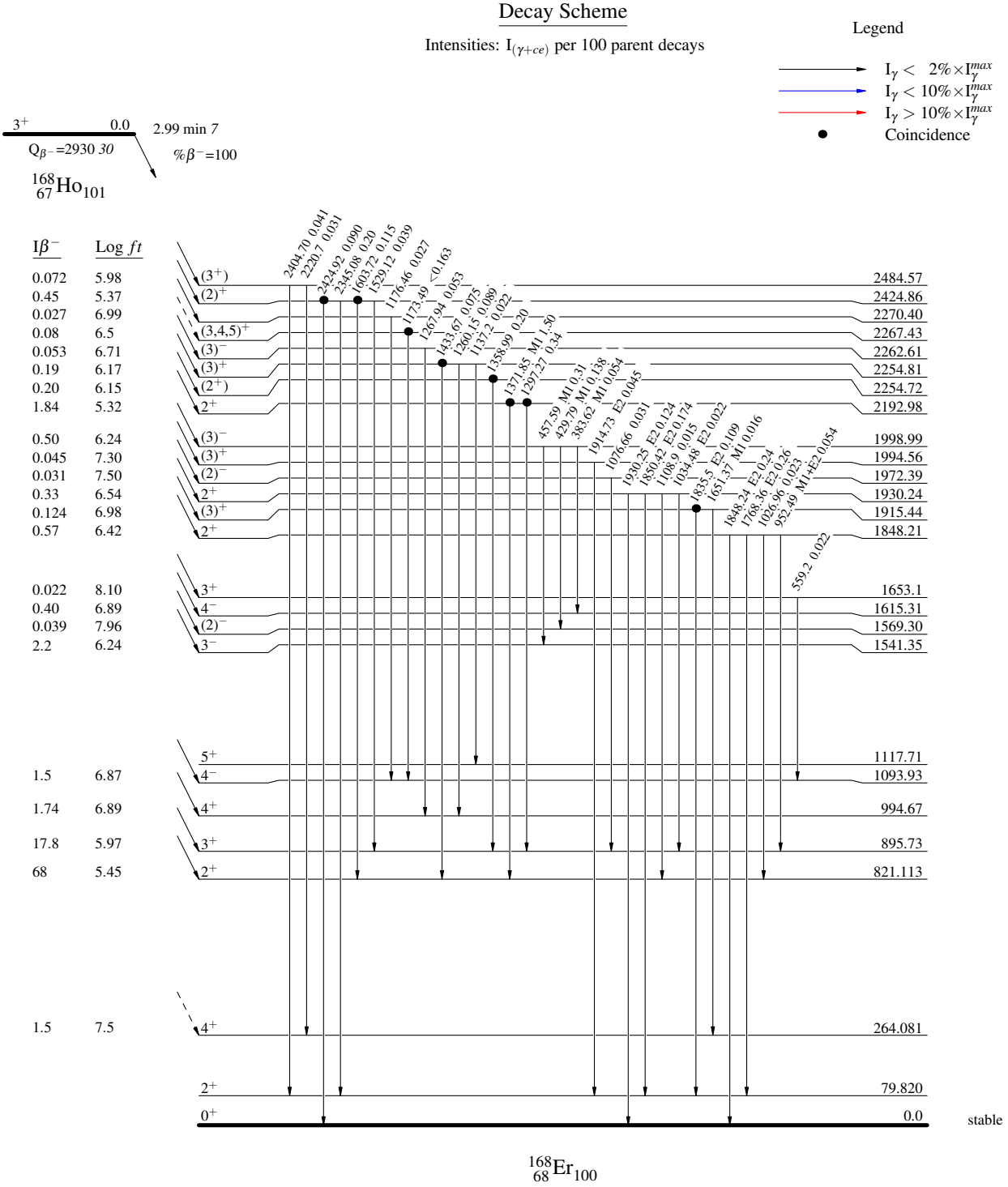
[†] Additional information 1.
[‡] From 1973Ti02, except where noted.
[#] From Adopted Gammas, except where noted.
[@] From Adopted Gammas.
[&] Weighted average of data from 1973Ka07 and 1973Ti02.
[a] Eγ for the 1529γ and 2345γ fit placements from the 2425 level proposed by 1973Ti02 very well. however, γγ coin data from 1996Gi09 In (n,γ) E=thermal do not support these placements. Note that 2425-level branching from β^- decay, (n,γ) E=thermal and (n,n′γ) agree well for these gammas and the 1604γ (whose placement has not been questioned), so the 1529γ and 2345γ placements are retained here.
[b] Placed by evaluator In accord with Adopted Levels, Gammas.
[c] For absolute intensity per 100 decays, multiply by 0.34 *4*.
[d] Multiply placed with intensity suitably divided.
[x] γ ray not placed in level scheme.

$^{168}_{68}Er_{100}$-8

^{168}Ho β^- decay 1973Ti02

Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays



^{168}Ho β^- decay 1973Ti02

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
@ Multiply placed: intensity suitably divided