^{158}Tm ε decay 1975Ag01

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 141, 1 (2017)	1-Feb-2017

Parent: ^{158}Tm: E=0.0; J$^{\pi}$=2$^-$; $T_{1/2}$=3.98 min *6*; Q(ε)=6600 *30*; %ε+%β^+ decay=100.0

Source produced by ^{162}Er(p,5n) at 157 MeV and mass separation, measured E_γ, I_γ, $\gamma\gamma$-coin, ce, $T_{1/2}$ (1975Ag01); other: 1970De13, 1993Al03.

^{158}Er Levels

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$	Comments
0.0[#]	0$^+$	2.29 h *6*	$T_{1/2}$: from Adopted Levels.
192.19[#] *4*	2$^+$	257 ps *18*	$T_{1/2}$: from Adopted Levels.
527.22[#] *5*	4$^+$	13.5 ps *4*	$T_{1/2}$: from Adopted Levels.
806.42[@] *6*	0$^+$		
820.14[&] *5*	2$^+$		
970.35[#] *8*	6$^+$	2.59 ps *8*	$T_{1/2}$: from Adopted Levels.
989.09[@] *6*	2$^+$		
1043.41[&] *6*	3$^+$		
1183.79[&] *6*	4$^+$		
1210.58 *9*	$^+$		
1257.31[@] *7*	4$^+$		
1304.96 *17*	2$^+$,3,4$^+$		
1341.96 *7*	3$^-$		
1386.9?[a] *5*	0$^+$		
1417.57 *6*	2$^+$		
1418.28 *7*	(1$^-$)		
1426.82 *25*	2$^+$,3,4$^+$		
1438.18 *10*	5$^+$		
1489.47 *7*	2$^+$,3$^+$		
1526.29 *6*	(2,3)$^-$		
1570.22[a] *8*	(2$^+$)		
1614.48[#] *10*	(2$^-$)		
1630.22? *20*	(1,2$^+$)		
1640.87 *12*	(2$^+$)		
1674.03 *8*	(2$^+$,3)		
1687.02 *14*	(1,2$^+$)		
1697.97 *12*	(1$^-$,2,3)		
1700.12 *11*			
1742.63 *9*	(2,3,4)		
1769.63 *13*			
1809.09 *20*	(2$^+$,3,4$^+$)		
1834.65 *13*			
1977.46? *19*	(1,2$^+$)		
2029.25 *11*			
2059.71 *12*	(1,2$^+$)		
2143.59? *17*	(1,2$^+$)		
2228.77 *11*	(2$^+$,3$^+$)		
2305.18? *15*	(2$^+$,3,4$^+$)		
2368.35? *20*	(1,2$^+$)		
2389.6? *3*	(1,2$^+$)		
2673.69? *16*	(1,2$^+$)		
3017.72? *16*	(1,2$^+$)		

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^{158}Tm ε decay 1975Ag01 (continued)

^{158}Er Levels (continued)

† From least-squares fit to γ energies.
‡ From ^{158}Er Adopted Levels.
# Band(A): K^{π} 0^+ ground-state band.
@ Band(B): $K^{\pi}=0^+$ β-vibrational band.
& Band(C): $K^{\pi}=2^+$ γ-vibrational band.
a Band(D): $K^{\pi}=0^+$ band.

ε,β^+ radiations

This scheme is quite incomplete since there are 78 unplaced γ′s and the $I_{(\varepsilon+\beta+)}$ measurements of 1982By03 indicate that 57% of the decays go to levels above those of the current scheme. However as the total unplaced γ-ray intensity is only about 2.3% of the Q value obtained by 2012Wa38 from the atomic mass difference, it results that the main components of the decay are already present in the level scheme. Because of these rather contradictory statements, while the complete figures of intensities and log *ft* (including uncertainties) are listed in the ε+β+ table, the evaluator recommends to use them rather as limits (see also comments on Iβ,Iε).

E(decay)	E(level)	Iβ$^+$ †‡#	Iε†‡#	Log *ft*	I(ε+β$^+$)#	Comments
(3.58×10^3 *3*)	3017.72?	0.17 *3*	0.29 *5*	7.10 *8*	0.46 *8*	av Eβ=1157 *14*; εK=0.526 *7*; εL=0.0806 *11*; εM+=0.0239 *4*
(3.93×10^3 *3*)	2673.69?	0.25 *5*	0.30 *5*	7.17 *8*	0.55 *10*	av Eβ=1314 *14*; εK=0.450 *7*; εL=0.0687 *10*; εM+=0.0204 *3*
(4.21×10^3 *3*)	2389.6?	0.11 *3*	0.094 *24*	7.73 *11*	0.20 *5*	av Eβ=1444 *14*; εK=0.392 *6*; εL=0.0598 *9*; εM+=0.0177 *3*
(4.23×10^3 *3*)	2368.35?	0.25 *4*	0.22 *4*	7.37 *8*	0.47 *8*	av Eβ=1454 *14*; εK=0.388 *6*; εL=0.0592 *9*; εM+=0.0176 *3*
(4.29×10^3 *3*)	2305.18?	0.27 *4*	0.23 *3*	7.37 *7*	0.50 *7*	av Eβ=1483 *14*; εK=0.376 *6*; εL=0.0573 *9*; εM+=0.0170 *3*
(4.37×10^3 *3*)	2228.77	0.50 *8*	0.38 *6*	7.15 *7*	0.88 *14*	av Eβ=1518 *14*; εK=0.362 *6*; εL=0.0552 *9*; εM+=0.01637 *25*
(4.46×10^3 *3*)	2143.59?	0.24 *4*	0.17 *3*	7.52 *8*	0.41 *7*	av Eβ=1557 *14*; εK=0.347 *6*; εL=0.0529 *8*; εM+=0.01568 *24*
(4.54×10^3 *3*)	2059.71	0.37 *6*	0.24 *4*	7.38 *8*	0.61 *10*	av Eβ=1596 *14*; εK=0.332 *5*; εL=0.0507 *8*; εM+=0.01502 *23*
(4.57×10^3 *3*)	2029.25	0.49 *7*	0.32 *5*	7.27 *7*	0.81 *12*	av Eβ=1610 *14*; εK=0.327 *5*; εL=0.0499 *8*; εM+=0.01479 *23*
(4.62×10^3 *3*)	1977.46?	0.15 *3*	0.096 *19*	7.81 *9*	0.25 *5*	av Eβ=1634 *14*; εK=0.319 *5*; εL=0.0486 *8*; εM+=0.01441 *23*
(4.77×10^3 *3*)	1834.65	0.29 *5*	0.16 *3*	7.61 *8*	0.45 *8*	av Eβ=1700 *14*; εK=0.297 *5*; εL=0.0452 *7*; εM+=0.01340 *21*
(4.79×10^3 *3*)	1809.09	0.19 *5*	0.11 *2*	7.79 *11*	0.30 *7*	av Eβ=1712 *14*; εK=0.293 *5*; εL=0.0446 *7*; εM+=0.01323 *21*
(4.83×10^3 *3*)	1769.63	0.87 *16*	0.46 *8*	7.16 *8*	1.33 *24*	av Eβ=1730 *14*; εK=0.287 *5*; εL=0.0437 *7*; εM+=0.01297 *20*
(4.86×10^3 *3*)	1742.63	1.7 *3*	0.85 *14*	6.90 *7*	2.5 *4*	av Eβ=1743 *14*; εK=0.283 *5*; εL=0.0431 *7*; εM+=0.01279 *20*
(4.90×10^3 *3*)	1700.12	0.47 *7*	0.24 *4*	7.46 *7*	0.71 *11*	av Eβ=1763 *14*; εK=0.277 *5*; εL=0.0422 *7*; εM+=0.01252 *20*
(4.90×10^3 *3*)	1697.97	0.59 *8*	0.30 *4*	7.37 *6*	0.89 *12*	av Eβ=1764 *14*; εK=0.277 *5*; εL=0.0422 *7*; εM+=0.01250 *20*
(4.91×10^3 *3*)	1687.02	0.52 *7*	0.26 *4*	7.43 *7*	0.78 *11*	av Eβ=1769 *14*; εK=0.276 *5*; εL=0.0419 *7*; εM+=0.01243 *19*
(4.93×10^3 *3*)	1674.03	0.51 *7*	0.25 *4*	7.44 *7*	0.76 *11*	av Eβ=1775 *14*; εK=0.274 *5*; εL=0.0417 *7*;

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^{158}Tm ε decay 1975Ag01 (continued)

ϵ,β^+ radiations (continued)

E(decay)	E(level)	Iβ^+ †‡#	Iε †‡#	Log *ft*	I($\varepsilon+\beta^+$)#	Comments
						εM+=0.01235 *19*
(4.96×10^3 *3*)	1640.87	0.47 *7*	0.22 *4*	7.50 *7*	0.69 *11*	av Eβ=1790 *14*; εK=0.269 *4*; εL=0.0410 *7*; εM+=0.01215 *19*
(4.97×10^3 *3*)	1630.22?	0.19 *5*	0.090 *23*	7.90 *11*	0.28 *7*	av Eβ=1795 *14*; εK=0.268 *4*; εL=0.0408 *7*; εM+=0.01208 *19*
(4.99×10^3 *3*)	1614.48	0.41 *6*	0.19 *3*	7.57 *7*	0.60 *9*	av Eβ=1802 *14*; εK=0.266 *4*; εL=0.0404 *7*; εM+=0.01199 *19*
(5.03×10^3 *3*)	1570.22	1.03 *14*	0.47 *6*	7.19 *6*	1.50 *20*	av Eβ=1823 *14*; εK=0.260 *4*; εL=0.0395 *6*; εM+=0.01172 *18*
(5.07×10^3 *3*)	1526.29	2.9 *4*	1.2 *2*	6.77 *7*	4.1 *6*	av Eβ=1843 *14*; εK=0.254 *4*; εL=0.0387 *6*; εM+=0.01146 *18*
(5.11×10^3 *3*)	1489.47	0.77 *10*	0.33 *4*	7.36 *6*	1.10 *14*	av Eβ=1861 *14*; εK=0.250 *4*; εL=0.0380 *6*; εM+=0.01125 *18*
(5.17×10^3 *3*)	1426.82	0.12 *3*	0.049 *12*	8.19 *11*	0.17 *4*	av Eβ=1890 *14*; εK=0.242 *4*; εL=0.0368 *6*; εM+=0.01091 *17*
(5.18×10^3 *3*)	1418.28	1.9 *3*	0.78 *12*	6.99 *7*	2.7 *4*	av Eβ=1894 *14*; εK=0.241 *4*; εL=0.0366 *6*; εM+=0.01086 *17*
(5.18×10^3 *3*)	1417.57	0.85 *14*	0.35 *6*	7.35 *8*	1.2 *2*	av Eβ=1894 *14*; εK=0.241 *4*; εL=0.0366 *6*; εM+=0.01086 *17*
(5.21×10^3 *3*)	1386.9?	0.008 *4*	0.008 *4*	11.00^{1u} *22*	0.016 *8*	av Eβ=1878 *14*; εK=0.412 *5*; εL=0.0638 *8*; εM+=0.01897 *23*
(5.26×10^3 *3*)	1341.96	6.3 *9*	2.4 *3*	6.52 *7*	8.7 *12*	av Eβ=1929 *14*; εK=0.232 *4*; εL=0.0353 *6*; εM+=0.01045 *16*
(5.30×10^3 *3*)	1304.96	0.15 *3*	0.057 *11*	8.15 *9*	0.21 *4*	av Eβ=1947 *14*; εK=0.228 *4*; εL=0.0346 *6*; εM+=0.01026 *16*
(5.34×10^3 *3*)	1257.31	0.87 *12*	0.77 *11*	9.06^{1u} *7*	1.64 *23*	av Eβ=1936 *14*; εK=0.392 *5*; εL=0.0606 *8*; εM+=0.01803 *22*
(5.39×10^3 *3*)	1210.58	0.54 *8*	0.19 *3*	7.64 *7*	0.73 *11*	av Eβ=1991 *14*; εK=0.218 *4*; εL=0.0330 *5*; εM+=0.00979 *15*
(5.42×10^3 *3*)	1183.79	1.0 *2*	0.87 *14*	9.03^{1u} *7*	1.9 *3*	av Eβ=1970 *14*; εK=0.381 *5*; εL=0.0589 *7*; εM+=0.01751 *21*
(5.56×10^3 *3*)	1043.41	3.6 *6*	1.1 *2*	6.89 *8*	4.7 *8*	av Eβ=2069 *14*; εK=0.201 *3*; εL=0.0304 *5*; εM+=0.00902 *14*
(5.61×10^3 *3*)	989.09	3.2 *5*	0.98 *14*	6.96 *7*	4.2 *6*	av Eβ=2094 *14*; εK=0.195 *3*; εL=0.0296 *5*; εM+=0.00879 *13*
(5.78×10^3 *3*)	820.14	5.6 *9*	1.5 *2*	6.80 *7*	7.1 *11*	av Eβ=2174 *14*; εK=0.180 *3*; εL=0.0273 *4*; εM+=0.00810 *12*
(5.79×10^3 *3*)	806.42	0.62 *13*	0.41 *9*	9.48^{1u} *10*	1.03 *22*	av Eβ=2141 *14*; εK=0.328 *4*; εL=0.0507 *7*; εM+=0.01506 *19*
(6.07×10^3 *3*)	527.22	5.1 *12*	2.8 *7*	8.72^{1u} *11*	7.9 *19*	av Eβ=2268 *14*; εK=0.294 *4*; εL=0.0453 *6*; εM+=0.01346 *17*
(6.41×10^3 *3*)	192.19	23 *3*	4.5 *6*	6.42 *7*	28 *4*	av Eβ=2470 *15*; εK=0.1348 *19*; εL=0.0204 *3*; εM+=0.00605 *9*
(6.60×10^3 *3*)	0.0	7 *7*	3 *3*	8.9^{1u} *5*	10 *10*	av Eβ=2510 *14*; εK=0.239 *3*; εL=0.0367 *5*; εM+=0.01089 *14*

† $I_{(\varepsilon+\beta+)}$ values are from γ intensity balances and these are divided into I(β+) and I(ε) components based on the theoretical β+/capture ratios. The associated uncertainties are given, but they do not include any contribution from the incompleteness of the decay scheme (as illustrated by the presence of 78 unplaced γ's). Although they are not populated by ε decay, the calculated I(ε+β+) for the levels at 970 and 1438 keV are each ≈ 0.4%, again indicating the limited quality of these values.

‡ From total absorption γ spectra, 1982By03 deduce that ≈ 57% of the ε+β+ decays go to levels above ≈ 2.8 MeV which are not in the known scheme. This suggests that in general the I(ε+β+) in this scheme should be reduced by a factor of 2 (and the log *ft*

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^{158}Tm ε decay 1975Ag01 (continued)

ε,β^+ radiations (continued)

values increased by 0.3 units). Also, it suggests that the small I(ε+β+) values are not meaningful since these levels may be fed by γ's from the unreported levels.

Absolute intensity per 100 decays.

$\gamma(^{158}$Er)

Iγ normalization: calculated to give 100% feeding of the ground state and assuming the ground-state ε+β+ branching=10% *10*, based on log $f^{1u}t$ > 8.5 for ground state which gives I$_\varepsilon$(0) <20%.

E$_\gamma$	I$_\gamma$[&]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.[†]	α[#]	Comments
[x]104.6 *3*	0.12 *3*							%Iγ=0.074 *21*.
172.0 *3*	0.12 *3*	1697.97	(1$^-$,2,3)	1526.29	(2,3)$^-$	[D,E2]	0.419 *7*	α value given for E2; 0.0772 *12* if E1, 0.612 *9* if M1. %Iγ=0.074 *21*.
[x]175.0 *3*	0.09 *3*							%Iγ=0.056 *20*.
[x]177.9 *4*	0.10 *3*							%Iγ=0.062 *20*.
182.3 *3*	0.16 *7*	989.09	2$^+$	806.42	0$^+$	[E2]	0.344	α(K)=0.212 *4*; α(L)=0.1012 *16*; α(M)=0.0242 *4* α(N)=0.00550 *9*; α(O)=0.000673 *11*; α(P)=9.77×10^{-6} *15* %Iγ=0.10 *5*.
192.14 *6*	100	192.19	2$^+$	0.0	0$^+$	E2	0.288	α(K)=0.182 *3*; α(L)=0.0813 *12*; α(M)=0.0194 *3* α(N)=0.00442 *7*; α(O)=0.000543 *8*; α(P)=8.50×10^{-6} *12* %Iγ=62 *7*.
223.33 *6*	0.20 *2*	1043.41	3$^+$	820.14	2$^+$	[M1,E2]	0.24 *7*	α(K)=0.18 *7*; α(L)=0.041 *4*; α(M)=0.0093 *12* α(N)=0.00215 *25*; α(O)=0.000287 *12*; α(P)=1.0×10^{-5} *5* %Iγ=0.124 *19*.
[x]240.00 *20*	0.40 *8*							%Iγ=0.25 *6*.
[x]248.08 *10*	0.37 *6*							%Iγ=0.23 *5*.
256.50 *10*	0.06 *1*	1674.03	(2$^+$,3)	1417.57	2$^+$			%Iγ=0.037 *8*.
268.31 *9*	0.32 *3*	1257.31	4$^+$	989.09	2$^+$	(E2)	0.0974	α(K)=0.0694 *10*; α(L)=0.0216 *3*; α(M)=0.00509 *8* α(N)=0.001164 *17*; α(O)=0.0001478 *21*; α(P)=3.49×10^{-6} *5* %Iγ=0.20 *3*. α(K)exp<0.078 (1975Ag01). Mult.: Assignment from α_K(exp) is E1,E2, but J^{π}'s require E2.
278.95[‡] *15*	0.07 *1*	1489.47	2$^+$,3$^+$	1210.58	$^+$			%Iγ=0.043 *8*.
287.00 *20*	0.04 *1*	1257.31	4$^+$	970.35	6$^+$	[E2]	0.0791	α(K)=0.0573 *8*; α(L)=0.01682 *24*; α(M)=0.00394 *6* α(N)=0.000902 *13*; α(O)=0.0001154 *17*; α(P)=2.92×10^{-6} *5* %Iγ=0.025 *7*.
305.82 *8*	0.11 *2*	1489.47	2$^+$,3$^+$	1183.79	4$^+$			%Iγ=0.068 *15*.
335.08 *6*	27.1 *24*	527.22	4$^+$	192.19	2$^+$	E2	0.0496	α(K)=0.0372 *6*; α(L)=0.00961 *14*; α(M)=0.00223 *4* α(N)=0.000512 *8*; α(O)=6.66×10^{-5} *10*; α(P)=1.95×10^{-6} *3* %Iγ=16.8 *24*.
352.30[a] *20*	0.07[a] *3*	1341.96	3$^-$	989.09	2$^+$	[E1]	0.01253	α(K)=0.01059 *15*; α(L)=0.001514 *22*; α(M)=0.000334 *5* α(N)=7.72×10^{-5} *11*; α(O)=1.090×10^{-5} *16*; α(P)=5.55×10^{-7} *8* %Iγ=0.043 *20*.
352.30[a] *20*	0.07[a] *3*	1769.63		1417.57	2$^+$			%Iγ=0.043 *20*.
356.10 *20*	0.11 *3*	1697.97	(1$^-$,2,3)	1341.96	3$^-$			%Iγ=0.068 *20*.
[x]359.10 *20*	0.10 *4*							%Iγ=0.06 *3*.
363.75 *7*	0.43 *4*	1183.79	4$^+$	820.14	2$^+$	E2	0.0391	α(K)=0.0298 *5*; α(L)=0.00723 *11*; α(M)=0.001674 *24*

$\gamma(^{158}$Er) (continued)

E_γ	I_γ[&]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[†]	δ[@]	α[#]	Comments
									α(N)=0.000384 *6*; α(O)=5.04×10^{-5} *7*; α(P)=1.584×10^{-6} *23* %Iγ=0.27 *4*. α(K)exp=0.031 *5* (1975Ag01). Mult.: Assignment from α_K(exp) is E2(+M1), but J^π's require E2.
374.15 *7*	0.46 *4*	1417.57	2$^+$	1043.41	3$^+$	E2(+M1)	>2.	0.040 *4*	α(K)=0.031 *4*; α(L)=0.0068 *3*; α(M)=0.00157 *6* α(N)=0.000361 *14*; α(O)=4.81×10^{-5} *24*; α(P)=1.71×10^{-6} *24* %Iγ=0.28 *4*. α(K)exp=0.030 *5* (1975Ag01).
390.65 *20*	0.14 *2*	1210.58	+	820.14	2$^+$				%Iγ=0.087 *16*.
395.12 *20*	0.11 *2*	1438.18	5$^+$	1043.41	3$^+$	(E2)		0.0309	%Iγ=0.070 *15*.
[x]406.00 *20*	0.07 *2*								%Iγ=0.043 *14*.
[x]415.0 *3*	0.09 *2*								%Iγ=0.056 *14*.
416.88[a] *20*	0.12[a] *2*	1674.03	(2$^+$,3)	1257.31	4$^+$				%Iγ=0.074 *15*.
416.88[a] *20*	0.12[a] *2*	1834.65		1417.57	2$^+$				%Iγ=0.074 *15*.
428.53 *10*	0.60 *6*	1417.57	2$^+$	989.09	2$^+$	E2(+M1)	>1.5	0.029 *5*	α(K)=0.023 *4*; α(L)=0.0045 *4*; α(M)=0.00103 *7* α(N)=0.000239 *17*; α(O)=3.2×10^{-5} *3*; α(P)=1.30×10^{-6} *25* %Iγ=0.37 *6*. α(K)exp=0.023 *4* (1975Ag01).
430.7 *3*	0.08 *3*	1614.48	(2$^-$)	1183.79	4$^+$				%Iγ=0.050 *20*.
443.13 *7*	0.59 *6*	970.35	6$^+$	527.22	4$^+$	E2		0.0226	α(K)=0.01772 *25*; α(L)=0.00377 *6*; α(M)=0.000866 *13* α(N)=0.000199 *3*; α(O)=2.67×10^{-5} *4*; α(P)=9.68×10^{-7} *14* %Iγ=0.37 *6*. α(K)exp=0.020 *4* (1975Ag01). Mult.: Assignment from α_K(exp) is E2(+M1), but J^π's require E2.
445.90 *20*	0.23 *2*	1489.47	2$^+$,3$^+$	1043.41	3$^+$	(E2)		0.0222	α(K)=0.01744 *25*; α(L)=0.00370 *6*; α(M)=0.000849 *12* α(N)=0.000196 *3*; α(O)=2.62×10^{-5} *4*; α(P)=9.54×10^{-7} *14* %Iγ=0.142 *21*. α(K)exp<0.018 (1975Ag01). Mult.: α_K(exp) indicates E1,E2, but placement requires E2.
461.93 *7*	1.37 *13*	989.09	2$^+$	527.22	4$^+$	E2		0.0202	α(K)=0.01595 *23*; α(L)=0.00331 *5*; α(M)=0.000759 *11* α(N)=0.0001749 *25*; α(O)=2.35×10^{-5} *4*; α(P)=8.76×10^{-7} *13* %Iγ=0.85 *13*. α(K)exp=0.016 *3* (1975Ag01). Mult.: Assignment from α_K(exp) is E2(+M1), but J^π's require E2.
482.85 *25*	0.14 *2*	1526.29	(2,3)$^-$	1043.41	3$^+$				%Iγ=0.087 *16*.
484.85 *25*	0.12 *2*	1304.96	2$^+$,3,4$^+$	820.14	2$^+$				%Iγ=0.074 *15*.
500.40 *10*	0.69 *7*	1489.47	2$^+$,3$^+$	989.09	2$^+$	M1(+E2)	<0.5	0.0330 *19*	α(K)=0.0277 *17*; α(L)=0.00408 *18*; α(M)=0.00090 *4* α(N)=0.000211 *9*; α(O)=3.04×10^{-5} *14*; α(P)=1.67×10^{-6} *11* %Iγ=0.43 *7*. α(K)exp=0.033 *6* (1975Ag01).
[x]504.70 *20*	0.72 *18*								%Iγ=0.45 *13*. α(K)exp=0.009 *3* (1975Ag01).
516.28 *20*	1.1 *3*	1043.41	3$^+$	527.22	4$^+$	E2,M1		0.024 *9*	α(K)=0.020 *8*; α(L)=0.0031 *8*; α(M)=0.00070 *17*

$^{158}_{68}$Er$_{90}$-6

γ(^{158}Er) (continued)

E_γ	I_γ[&]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	δ[@]	α[#]	Comments
									α(N)=0.00016 *4*; α(O)=2.3×10^{-5} *7*; α(P)=1.2×10^{-6} *5* %Iγ=0.68 *20*. α(K)exp=0.019 *9* (1975Ag01).
571.20 *10*	0.35 *4*	1614.48	(2$^-$)	1043.41	3$^+$	(E1)		0.00418	α(K)=0.00355 *5*; α(L)=0.000493 *7*; α(M)=0.0001083 *16* α(N)=2.51×10^{-5} *4*; α(O)=3.59×10^{-6} *5*; α(P)=1.91×10^{-7} *3* %Iγ=0.22 *4*. α(K)exp<0.0085 (1975Ag01).
580.5[b] *5*	<0.05	1386.9?	0$^+$	806.42	0$^+$	E0			%Iγ=0.015 *16*. $I_{(\gamma+ce)}$: From I_{ce}(K)=0.023 *4*, I(γ+ce)=0.026 *5* if transition is pure E0. α(K)exp>0.5 (1975Ag01).
597.12 *20*	0.15 *3*	1417.57	2$^+$	820.14	2$^+$	E0+M1,E2		0.20 *8*	α(K)=0.16 *6*; α(L)=0.03 %Iγ=0.11 *3*. α(K)exp=0.165 *65* (1975Ag01). α: Calculated from α_K(exp).
^{x}599.80 *10*	0.30 *3*					M1(+E2)	≤1.0	0.019 *3*	α(K)=0.016 *3*; α(L)=0.0024 *3*; α(M)=0.00053 *6* α(N)=0.000123 *15*; α(O)=1.77×10^{-5} *23*; α(P)=9.6×10^{-7} *16* %Iγ=0.19 *3*. α(K)exp=0.021 *8* (1975Ag01).
611.19 *8*	0.42 *5*	1417.57	2$^+$	806.42	0$^+$	(E2)		0.00999	α(K)=0.00811 *12*; α(L)=0.001461 *21*; α(M)=0.000330 *5* α(N)=7.64×10^{-5} *11*; α(O)=1.051×10^{-5} *15*; α(P)=4.55×10^{-7} *7* %Iγ=0.26 *5*. α(K)exp<0.010 (1975Ag01). Mult.: Assigned E1,E2 from α_K(exp), but J^π's require E2.
614.26 *6*	2.74 *25*	806.42	0$^+$	192.19	2$^+$	E2		0.00987	α(K)=0.00802 *12*; α(L)=0.001441 *21*; α(M)=0.000326 *5* α(N)=7.53×10^{-5} *11*; α(O)=1.037×10^{-5} *15*; α(P)=4.50×10^{-7} *7* %Iγ=1.70 *25*. α(K)exp=0.0079 *20* (1975Ag01). Mult.: Assignment from α_K(exp) is E2(+M1), but J^π's require E2.
628.03 *6*	10.8 *10*	820.14	2$^+$	192.19	2$^+$	E2(+M1)	>1.7	0.0107 *14*	α(K)=0.0088 *12*; α(L)=0.00149 *14*; α(M)=0.00033 *3* α(N)=7.7×10^{-5} *7*; α(O)=1.08×10^{-5} *11*; α(P)=5.0×10^{-7} *8* %Iγ=6.7 *10*. α(K)exp=0.0083 *15* (1975Ag01).
^{x}635.5 *3*	0.05 *3*								%Iγ=0.031 *19*.
656.57 *7*	2.76 *25*	1183.79	4$^+$	527.22	4$^+$	E2(+M1)	≥1.0	0.0107 *23*	α(K)=0.0089 *20*; α(L)=0.00143 *23*; α(M)=0.00032 *5* α(N)=7.4×10^{-5} *12*; α(O)=1.05×10^{-5} *18*; α(P)=5.1×10^{-7} *13* %Iγ=1.71 *25*. α(K)exp=0.0092 *20* (1975Ag01).
^{x}667.40 *15*	0.19 *3*								%Iγ=0.118 *23*.
669.37 *15*	0.38 *4*	1489.47	2$^+$,3$^+$	820.14	2$^+$				%Iγ=0.24 *4*.
^{x}676.80[‡] *10*	0.17 *5*								%Iγ=0.11 *4*.
684.85 *10*	0.54 *5*	1674.03	(2$^+$,3)	989.09	2$^+$				%Iγ=0.33 *5*.

From ENSDF

γ(^{158}Er) (continued)

E_γ	I_γ[&]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[†]	α[#]	$I_{(\gamma+ce)}$[&]	Comments
									α(K)exp<0.0064 (1975Ag01). Mult.: α_K(exp) is consistent with E1 or E2.
^{x}697.3 8	<0.05					E0			%Iγ=0.015 16. α(K)exp>0.195 (1975Ag01). $I_{(\gamma+ce)}$: From I_{ce}(K), I(γ+ce)=0.0092 17 if γ is pure E0.
698.9 3	0.10 3	1742.63	(2,3,4)	1043.41	3^+				%Iγ=0.062 20.
702.40 15	0.50 10	2228.77	$(2^+,3^+)$	1526.29	$(2,3)^-$	(E1)	0.00272		α(K)=0.00231 4; α(L)=0.000317 5; α(M)=6.96×10^{-5} 10 α(N)=1.616×10^{-5} 23; α(O)=2.32×10^{-6} 4; α(P)=1.255×10^{-7} 18 %Iγ=0.31 7.
^{x}703.9 3	0.38 10								%Iγ=0.24 7.
706.05 10	1.20 11	1526.29	$(2,3)^-$	820.14	2^+	E1	0.00269		α(K)=0.00229 4; α(L)=0.000314 5; α(M)=6.89×10^{-5} 10 α(N)=1.599×10^{-5} 23; α(O)=2.29×10^{-6} 4; α(P)=1.242×10^{-7} 18 %Iγ=0.74 11. α(K)exp<0.0031 (1975Ag01).
729.8 5		1257.31	4^+	527.22	4^+	E0(+M1+E2)			I_γ: Measured value is < 0.10; intensity balance at 527 level requires < 0.03. α(K)exp>0.705 (1975Ag01). $I_{(\gamma+ce)}$: Equals I(ce)=0.080 9 if γ is pure E0.
763.90 15	0.13 2	1570.22	(2^+)	806.42	0^+				%Iγ=0.081 16.
777.45 25	0.10 3	1304.96	$2^+,3,4^+$	527.22	4^+				%Iγ=0.062 20.
780.7 3	0.12 3	1769.63		989.09	2^+				%Iγ=0.074 21.
788.5[b] 3	0.15 3	3017.72?	$(1,2^+)$	2228.77	$(2^+,3^+)$				%Iγ=0.093 22.
794.00 15	0.45 5	1614.48	(2^-)	820.14	2^+				%Iγ=0.28 5.
796.85 15	1.83 15	989.09	2^+	192.19	2^+	E0+E2+M1	0.113 17		α(K)=0.093 15; α(L)=0.015 %Iγ=1.26 18. α(K)exp=0.100 15 (1975Ag01). α: Calculated from α_K(exp).
806.2 5	<0.02	806.42	0^+	0.0	0^+	E0		0.038 6	%Iγ=0.006 7. α(K)exp>1.2 (1975Ag01).
814.75 8	1.86 15	1341.96	3^-	527.22	4^+	E1	0.00202		α(K)=0.001722 25; α(L)=0.000234 4; α(M)=5.14×10^{-5} 8 α(N)=1.195×10^{-5} 17; α(O)=1.718×10^{-6} 24; α(P)=9.39×10^{-8} 14 %Iγ=1.15 16. α(K)exp<0.0023 (1975Ag01).
820.09 7	5.3 4	820.14	2^+	0.0	0^+	E2	0.00511		α(K)=0.00423 6; α(L)=0.000684 10; α(M)=0.0001530 22 α(N)=3.55×10^{-5} 5; α(O)=4.98×10^{-6} 7; α(P)=2.40×10^{-7} 4 %Iγ=3.3 5. α(K)exp=0.0036 9 (1975Ag01).
^{x}831.02 20	0.13 3								%Iγ=0.081 21.
834.40 20	0.18 4	1640.87	(2^+)	806.42	0^+				%Iγ=0.11 3.

γ(^{158}Er) (continued)

E_γ	I_γ[&]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	δ[@]	α[#]	Comments
851.19 9	7.6 7	1043.41	3^+	192.19	2^+	E2(+M1)	≥1.2	0.0056 10	α(K)=0.0047 8; α(L)=0.00072 10; α(M)=0.000161 22 α(N)=3.7×10^{-5} 5; α(O)=5.3×10^{-6} 8; α(P)=2.7×10^{-7} 5 %Iγ=4.7 7. α(K)exp=0.0045 9 (1975Ag01).
853.90 20	0.50 8	1674.03	$(2^+,3)$	820.14	2^+				%Iγ=0.31 6.
^{x}889.6 4	0.20 7								%Iγ=0.12 5.
890.65 25	0.43 11	1417.57	2^+	527.22	4^+	(E2)		0.00428	α(K)=0.00356 5; α(L)=0.000561 8; α(M)=0.0001253 18 α(N)=2.91×10^{-5} 4; α(O)=4.10×10^{-6} 6; α(P)=2.02×10^{-7} 3 %Iγ=0.27 8. α(K)exp<0.007 (1975Ag01). Mult.: Assigned E1,E2 from α_K(exp), but J^{π}′s require E2.
900.0 4	0.10 2	1426.82	$2^+,3,4^+$	527.22	4^+				%Iγ=0.062 15.
910.87 10	0.64 7	1438.18	5^+	527.22	4^+				%Iγ=0.40 7.
922.50 20	0.30 4	1742.63	(2,3,4)	820.14	2^+				%Iγ=0.19 4.
948.9 5	0.55 20	1769.63		820.14	2^+				%Iγ=0.34 13.
961.68 15	0.26 3	1489.47	$2^+,3^+$	527.22	4^+				%Iγ=0.16 3.
^{x}968.3 4	0.07 2								%Iγ=0.043 14.
971.6 3	0.13 4	2228.77	$(2^+,3^+)$	1257.31	4^+				%Iγ=0.08 3.
^{x}978.45 15	0.14 2								%Iγ=0.087 16.
989.06 10	5.9 5	989.09	2^+	0.0	0^+	E2		0.00344	α(K)=0.00287 4; α(L)=0.000441 7; α(M)=9.81×10^{-5} 14 α(N)=2.28×10^{-5} 4; α(O)=3.23×10^{-6} 5; α(P)=1.635×10^{-7} 23 %Iγ=3.7 5. α(K)exp=0.0027 7 (1975Ag01).
999.32 10	0.59 9	1526.29	$(2,3)^-$	527.22	4^+				%Iγ=0.37 7.
^{x}1008.6 4	0.20 3								%Iγ=0.124 24.
^{x}1011.5 3	0.22 6								%Iγ=0.14 4.
1018.36 10	1.11 10	1210.58	$^+$	192.19	2^+	E2,M1		0.0046 14	α(K)=0.0039 12; α(L)=0.00056 15; α(M)=0.00012 4 α(N)=2.9×10^{-5} 8; α(O)=4.1×10^{-6} 12; α(P)=2.3×10^{-7} 8 %Iγ=0.69 10.
1043.05 10	1.30 13	1570.22	(2^+)	527.22	4^+	(E2)		0.00308	α(K)=0.00258 4; α(L)=0.000391 6; α(M)=8.69×10^{-5} 13 α(N)=2.02×10^{-5} 3; α(O)=2.87×10^{-6} 4; α(P)=1.470×10^{-7} 21 %Iγ=0.81 12. α(K)exp<0.003 (1975Ag01). Mult.: Assigned E1,E2 from α_K(exp), but J^{π}′s require E2.
^{x}1048.75 25	0.18 3								%Iγ=0.111 23.
^{x}1052.45 25	0.15 6								%Iγ=0.09 4.
1065.07 8	2.50 20	1257.31	4^+	192.19	2^+	E2		0.00295	α(K)=0.00248 4; α(L)=0.000374 6; α(M)=8.30×10^{-5} 12 α(N)=1.93×10^{-5} 3; α(O)=2.74×10^{-6} 4; α(P)=1.411×10^{-7} 20 %Iγ=1.55 22. α(K)exp=0.0029 8 (1975Ag01). Mult.: Assignment from α_K(exp) is E2(+M1), but J^{π}′s require E2.
^{x}1109.8 3	0.16 3								%Iγ=0.099 22.
1113.4[a] 4	0.12[a] 3	1304.96	$2^+,3,4^+$	192.19	2^+				%Iγ=0.074 21.

From ENSDF

γ(^{158}Er) (continued)

E_γ	I_γ[&]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[†]	α[#]	Comments
1113.4[a] *4*	0.12[a] *3*	1640.87	(2$^+$)	527.22	4$^+$			%Iγ=0.074 *21*.
[x]1132.90 *10*	0.25 *3*							%Iγ=0.15 *3*.
1149.83 *7*	12.2 *10*	1341.96	3$^-$	192.19	2$^+$	E1	1.07×10^{-3}	α(K)=0.000905 *13*; α(L)=0.0001213 *17*; α(M)=2.66×10^{-5} *4* α(N)=6.17×10^{-6} *9*; α(O)=8.92×10^{-7} *13*; α(P)=4.97×10^{-8} *7*; α(IPF)=7.52×10^{-6} *11* %Iγ=7.6 *11*. α(K)exp=0.00083 *20* (1975Ag01).
1172.90 *10*	1.15 *10*	1700.12		527.22	4$^+$			%Iγ=0.71 *10*.
[x]1206.9 *3*	0.14 *4*							%Iγ=0.09 *3*.
1215.32 *15*	1.04 *11*	1742.63	(2,3,4)	527.22	4$^+$			%Iγ=0.64 *10*.
[x]1217.2 *5*	0.19 *8*							%Iγ=0.12 *6*.
1225.90[ab] *8*	2.20[a] *18*	1417.57	2$^+$	192.19	2$^+$			%Iγ=1.36 *19*. α(K)exp<0.0018 (1975Ag01).
1225.90[a] *8*	2.20[a] *18*	1418.28	(1$^-$)	192.19	2$^+$			%Iγ=1.36 *19*.
1234.4 *3*	0.17 *4*	1426.82	2$^+$,3,4$^+$	192.19	2$^+$			%Iγ=0.11 *3*.
1239.80[a] *20*	0.32[a] *5*	2059.71	(1,2$^+$)	820.14	2$^+$			%Iγ=0.20 *4*.
1239.80[a] *20*	0.32[a] *5*	2228.77	(2$^+$,3$^+$)	989.09	2$^+$			%Iγ=0.20 *4*.
1253.65 *25*	0.19 *8*	2059.71	(1,2$^+$)	806.42	0$^+$			%Iγ=0.12 *6*.
[x]1262.4 *4*	0.14 *5*							%Iγ=0.09 *4*.
1275.38[b] *20*	0.18 *4*	3017.72?	(1,2$^+$)	1742.63	(2,3,4)			%Iγ=0.11 *3*.
1282.00 *25*	0.16 *3*	1809.09	(2$^+$,3,4$^+$)	527.22	4$^+$			%Iγ=0.099 *22*.
[x]1295.0 *5*	0.20 *4*							%Iγ=0.12 *3*.
[x]1303.30 *15*	0.60 *9*							%Iγ=0.37 *7*.
1307.53 *15*	0.60 *9*	1834.65		527.22	4$^+$			%Iγ=0.37 *7*.
[x]1311.85 *15*	0.28 *4*							%Iγ=0.17 *4*.
[x]1319.45 *25*	0.27 *5*							%Iγ=0.17 *4*.
1334.03 *10*	5.3 *5*	1526.29	(2,3)$^-$	192.19	2$^+$	(E1)	9.01×10^{-4}	α(K)=0.000696 *10*; α(L)=9.28×10^{-5} *13*; α(M)=2.03×10^{-5} *3* α(N)=4.72×10^{-6} *7*; α(O)=6.83×10^{-7} *10*; α(P)=3.83×10^{-8} *6*; α(IPF)=8.61×10^{-5} *12* %Iγ=3.3 *5*. α(K)exp<0.016 (1975Ag01).
[x]1360.4 *4*	0.28 *3*							%Iγ=0.17 *3*.
1377.58 *15*	0.42 *5*	1570.22	(2$^+$)	192.19	2$^+$			%Iγ=0.26 *5*.
[x]1407.8 *3*	0.28 *4*							%Iγ=0.17 *4*.
1418.55 *10*	2.23 *20*	1418.28	(1$^-$)	0.0	0$^+$	[E1]	8.73×10^{-4}	α(K)=0.000626 *9*; α(L)=8.33×10^{-5} *12*; α(M)=1.82×10^{-5} *3* α(N)=4.24×10^{-6} *6*; α(O)=6.14×10^{-7} *9*; α(P)=3.45×10^{-8} *5*; α(IPF)=0.0001406 *20* %Iγ=1.38 *20*.
[x]1428.5 *5*	0.13 *5*							%Iγ=0.08 *4*.
1438.0[b] *3*	0.30 *9*	1630.22?	(1,2$^+$)	192.19	2$^+$			%Iγ=0.19 *6*.
1448.80 *15*	0.48 *8*	1640.87	(2$^+$)	192.19	2$^+$			%Iγ=0.30 *6*.
[x]1453.7 *3*	0.20 *10*							%Iγ=0.12 *7*.

$^{158}_{68}Er_{90}$-10

γ(^{158}Er) (continued)

E_γ	I_γ[&]	E_i(level)	J^π_i	E_f	J^π_f	Comments
[x]1459.0 *5*	0.25 *8*					%Iγ=0.15 *6*.
[x]1473.0 *4*	0.15 *4*					%Iγ=0.09 *3*.
[x]1482.6 *4*	0.30 *5*					%Iγ=0.19 *4*.
[x]1489.75 *25*	0.30 *5*					%Iγ=0.19 *4*.
1494.80 *15*	1.00 *10*	1687.02	(1,2$^+$)	192.19	2$^+$	%Iγ=0.62 *10*.
1502.02 *10*	1.30 *12*	2029.25		527.22	4$^+$	%Iγ=0.81 *12*.
1505.65 *15*	0.90 *9*	1697.97	(1$^-$,2,3)	192.19	2$^+$	%Iγ=0.56 *9*.
1526.05 *15*	0.36 *5*	1526.29	(2,3)$^-$	0.0	0$^+$	%Iγ=0.22 *4*.
[x]1533.5 *7*	0.16 *4*					%Iγ=0.10 *3*.
1550.50 *10*	2.58 *23*	1742.63	(2,3,4)	192.19	2$^+$	%Iγ=1.60 *23*.
[x]1567.4 *3*	0.20 *4*					%Iγ=0.12 *3*.
1570.45 *15*	0.57 *9*	1570.22	(2$^+$)	0.0	0$^+$	%Iγ=0.35 *7*.
1577.20 *20*	1.40 *20*	1769.63		192.19	2$^+$	%Iγ=0.87 *16*.
1615.1 *7*	0.09 *5*	1614.48	(2$^-$)	0.0	0$^+$	%Iγ=0.06 *4*.
1616.7 *3*	0.32 *8*	1809.09	(2$^+$,3,4$^+$)	192.19	2$^+$	%Iγ=0.20 *6*.
1630.25[b] *25*	0.15 *4*	1630.22?	(1,2$^+$)	0.0	0$^+$	%Iγ=0.09 *3*.
1640.6 *3*	0.34 *5*	1640.87	(2$^+$)	0.0	0$^+$	%Iγ=0.21 *4*.
1687.1 *3*	0.26 *4*	1687.02	(1,2$^+$)	0.0	0$^+$	%Iγ=0.16 *3*.
[x]1693.90 *20*	0.36 *5*					%Iγ=0.22 *4*.
1701.1 *4*	0.12 *4*	2228.77	(2$^+$,3$^+$)	527.22	4$^+$	%Iγ=0.07 *3*.
[x]1751.40 *20*	0.21 *3*					%Iγ=0.130 *24*.
[x]1761.40 *20*	0.21 *3*					%Iγ=0.130 *24*.
[x]1771.3 *3*	0.16 *3*					%Iγ=0.099 *22*.
1777.87[b] *15*	0.46 *5*	2305.18?	(2$^+$,3,4$^+$)	527.22	4$^+$	%Iγ=0.28 *5*.
1785.30[b] *20*	0.23 *5*	1977.46?	(1,2$^+$)	192.19	2$^+$	%Iγ=0.14 *4*.
[x]1811.80 *15*	0.31 *4*					%Iγ=0.19 *4*.
[x]1832.4 *4*	0.10 *3*					%Iγ=0.062 *20*.
[x]1840.20 *20*	0.26 *5*					%Iγ=0.16 *4*.
1867.25[a] *15*	0.48[a] *5*	2059.71	(1,2$^+$)	192.19	2$^+$	%Iγ=0.30 *5*.
1867.25[ab] *15*	0.48[a] *5*	2673.69?	(1,2$^+$)	806.42	0$^+$	%Iγ=0.30 *5*.
[x]1879.1 *4*	0.20 *3*					%Iγ=0.124 *24*.
[x]1889.25 *25*	0.19 *3*					%Iγ=0.118 *23*.
[x]1904.17 *20*	0.34 *5*					%Iγ=0.21 *4*.
[x]1909.9 *3*	0.23 *4*					%Iγ=0.14 *3*.
[x]1925.0 *5*	0.13 *5*					%Iγ=0.08 *4*.
[x]1931.1 *5*	0.11 *5*					%Iγ=0.07 *4*.
1951.7[b] *3*	0.26 *5*	2143.59?	(1,2$^+$)	192.19	2$^+$	%Iγ=0.16 *4*.
1977.4[b] *4*	0.18 *4*	1977.46?	(1,2$^+$)	0.0	0$^+$	%Iγ=0.11 *3*.
2036.7 *3*	0.34 *6*	2228.77	(2$^+$,3$^+$)	192.19	2$^+$	%Iγ=0.21 *5*.
[x]2090.8 *3*	0.15 *3*					%Iγ=0.093 *22*.
2113.3[b] *3*	0.34 *5*	2305.18?	(2$^+$,3,4$^+$)	192.19	2$^+$	%Iγ=0.21 *4*.
[x]2118.8 *3*	0.20 *5*					%Iγ=0.12 *4*.

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γ(^{158}Er) (continued)

Eγ	Iγ[&]	Ei(level)	J^π_i	Ef	J^π_f	Comments
2143.45[b] 20	0.40 5	2143.59?	(1,2+)	0.0	0+	%Iγ=0.25 5.
[x]2162.9 3	0.23 4					%Iγ=0.14 3.
2176.25[b] 25	0.45 6	2368.35?	(1,2+)	192.19	2+	%Iγ=0.28 5.
[x]2186.8 3	0.32 6					%Iγ=0.20 5.
2197.4[ab] 3	0.23[a] 4	2389.6?	(1,2+)	192.19	2+	%Iγ=0.14 3.
2197.4[ab] 3	0.23[a] 4	3017.72?	(1,2+)	820.14	2+	%Iγ=0.14 3.
[x]2208.8 5	0.12 4					%Iγ=0.07 3.
[x]2221.3 5	0.18 7					%Iγ=0.11 5.
[x]2241.2 4	0.22 4					%Iγ=0.14 3.
[x]2274.1 3	0.26 5					%Iγ=0.16 4.
2368.2[b] 3	0.30 5	2368.35?	(1,2+)	0.0	0+	%Iγ=0.19 4.
2389.6[b] 5	0.10 4	2389.6?	(1,2+)	0.0	0+	%Iγ=0.06 3.
[x]2422.15 20	0.42 6					%Iγ=0.26 5.
[x]2453.8 15	0.25 10					%Iγ=0.15 7.
[x]2457.0 15	0.19 10					%Iγ=0.12 7.
[x]2470.5 15	0.25 7					%Iγ=0.15 5.
2480.5[b] 15	0.23 8	2673.69?	(1,2+)	192.19	2+	%Iγ=0.14 6.
[x]2487.5 15	0.19 10					%Iγ=0.12 7.
[x]2548.5 15	0.29 10					%Iγ=0.18 7.
[x]2643 3	0.10 5					%Iγ=0.06 4.
[x]2656[‡] 4	0.08 4					%Iγ=0.05 3.
2673[b] 2	0.18 6	2673.69?	(1,2+)	0.0	0+	%Iγ=0.11 4.
[x]2686[‡] 4	0.07 4					%Iγ=0.04 3.
[x]2816.5 20	0.33 8					%Iγ=0.20 6.
2826[b] 4	0.09 5	3017.72?	(1,2+)	192.19	2+	%Iγ=0.06 4.
[x]2838[‡] 4	0.06 3					%Iγ=0.037 19.
[x]2888 3	0.12 4					%Iγ=0.07 3.
[x]3000 4	0.09 3					%Iγ=0.056 20.
3017[b] 4	0.09 3	3017.72?	(1,2+)	0.0	0+	%Iγ=0.056 20.
[x]3036 4	0.11 3					%Iγ=0.068 20.
[x]3053 4	0.14 4					%Iγ=0.09 3.

† From ^{158}Er Adopted Gammas, but based primarily on α_K(exp) data of 1975Ag01 where the conversion electron intensities were normalized to the γ intensities by α_K(192γ,E2)=0.185 and α_K(335γ,E2)=0.037. These two γ′s are E2 since they are the 2^+ to 0^+ and 4^+ to 2^+ γ′s in the ground-state band.

‡ γ not firmly assigned to ^{158}Tm decay (1975Ag01).

\# Additional information 1.

@ If no value given it was assumed δ=1.00 for E2/M1, δ=1.00 for E3/M2 and δ=0.10 for the other multipolarities.

γ(^{158}Er) (continued)

& For absolute intensity per 100 decays, multiply by 0.62 *7*.
[a] Multiply placed with undivided intensity.
[b] Placement of transition in the level scheme is uncertain.
[x] γ ray not placed in level scheme.

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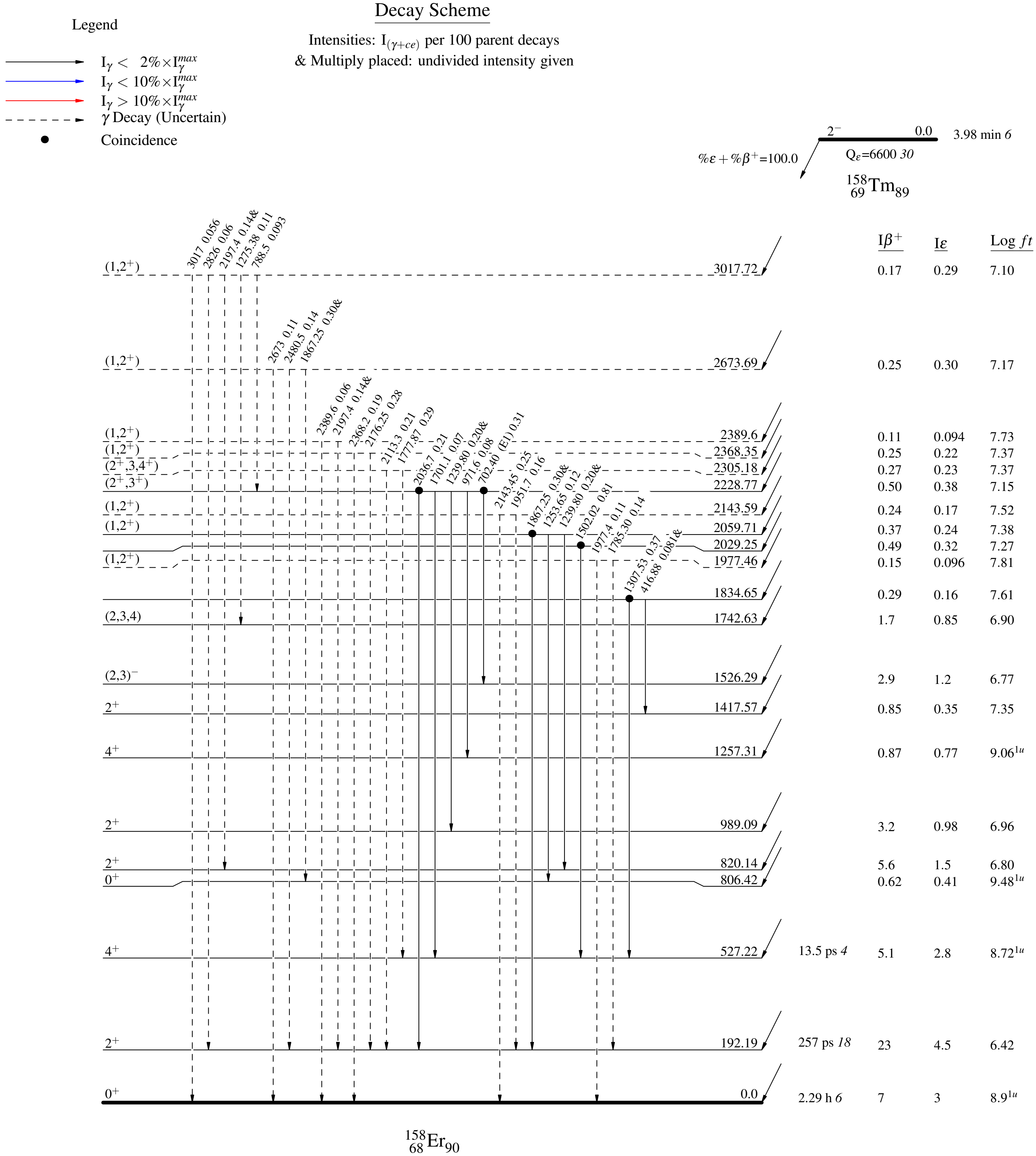
^{158}Tm ε decay 1975Ag01

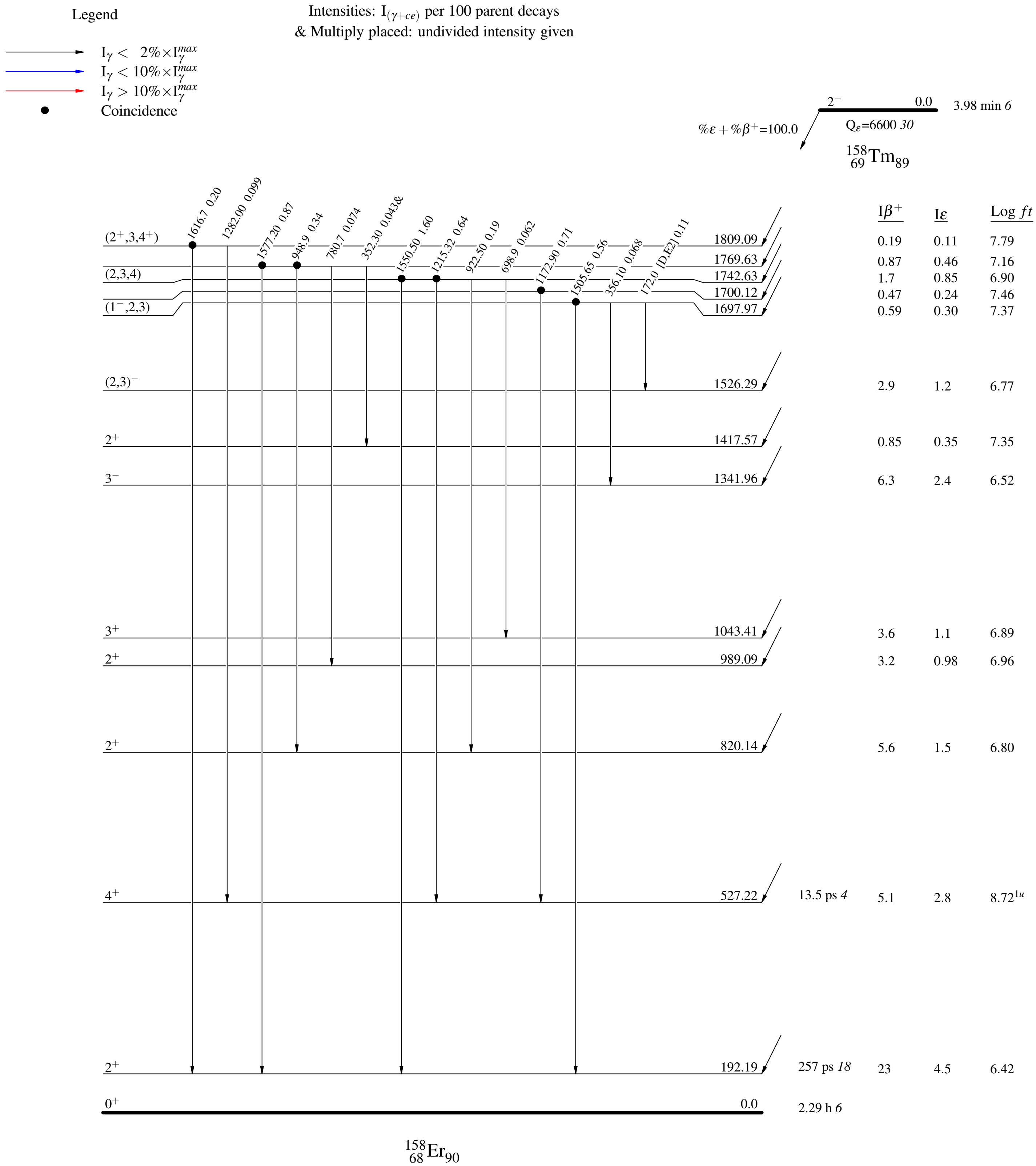
Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
& Multiply placed: undivided intensity given



^{158}Tm ε decay 1975Ag01

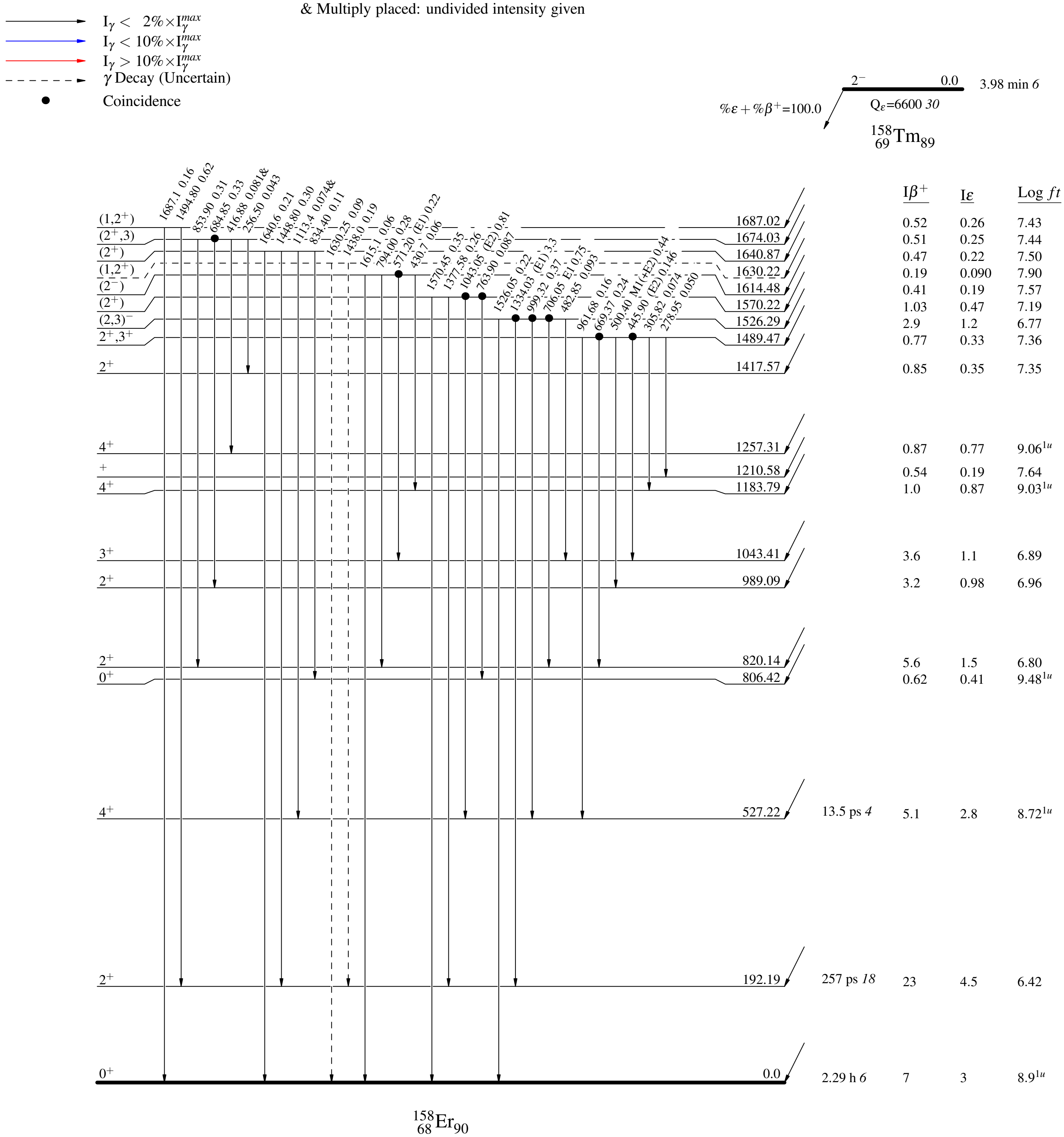
Decay Scheme (continued)



^{158}Tm ε decay 1975Ag01

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
& Multiply placed: undivided intensity given



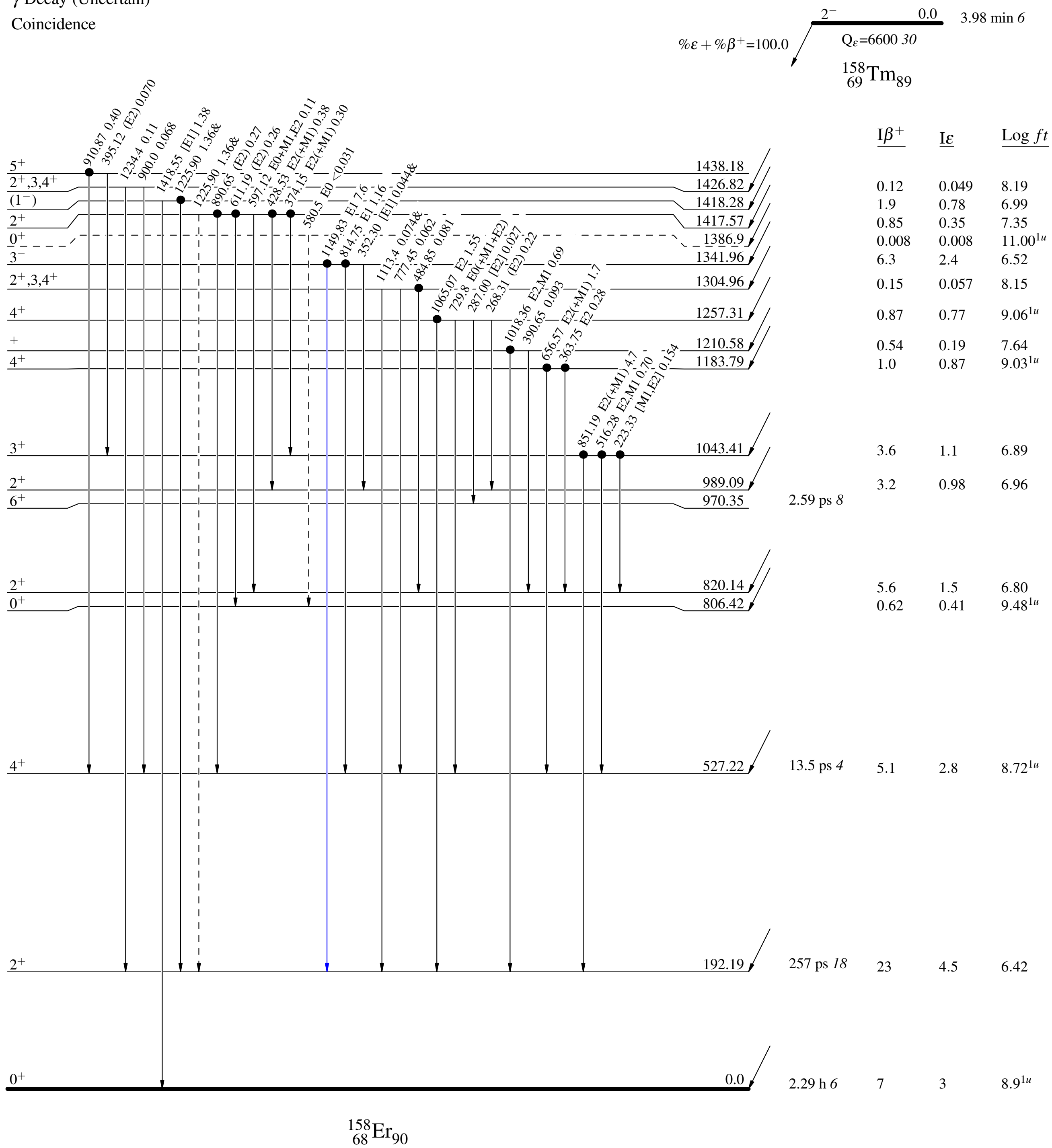
^{158}Tm ε decay 1975Ag01

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
& Multiply placed: undivided intensity given

Legend

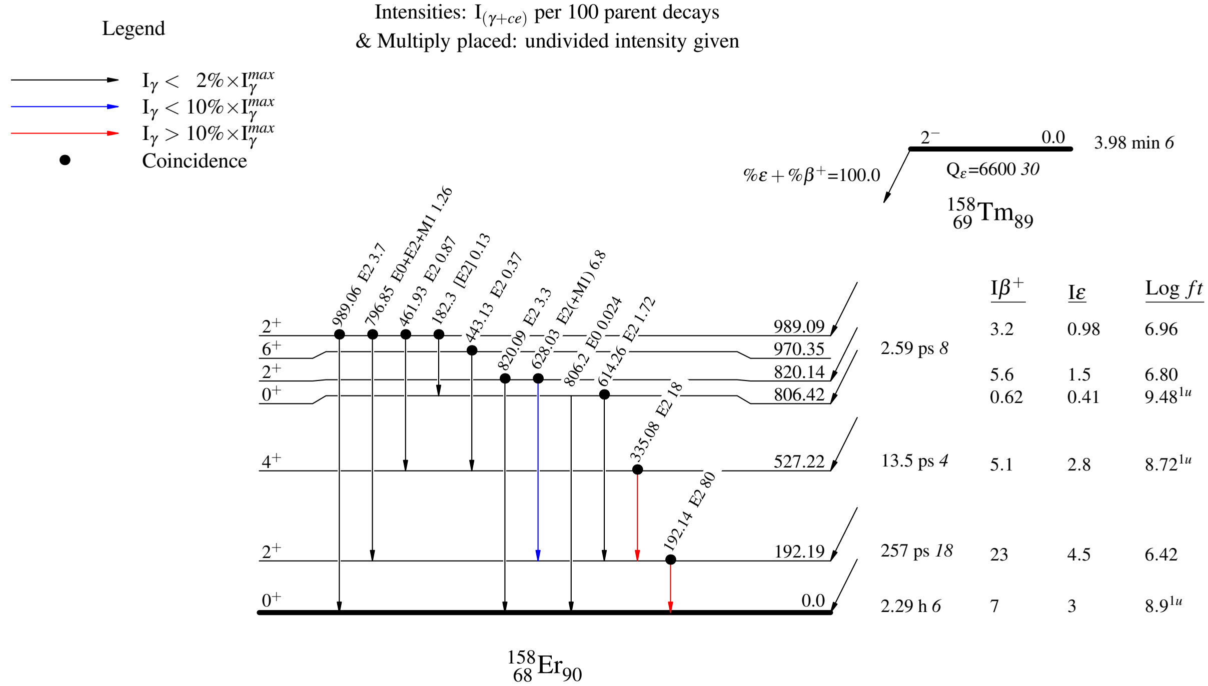
- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- γ Decay (Uncertain)
- Coincidence



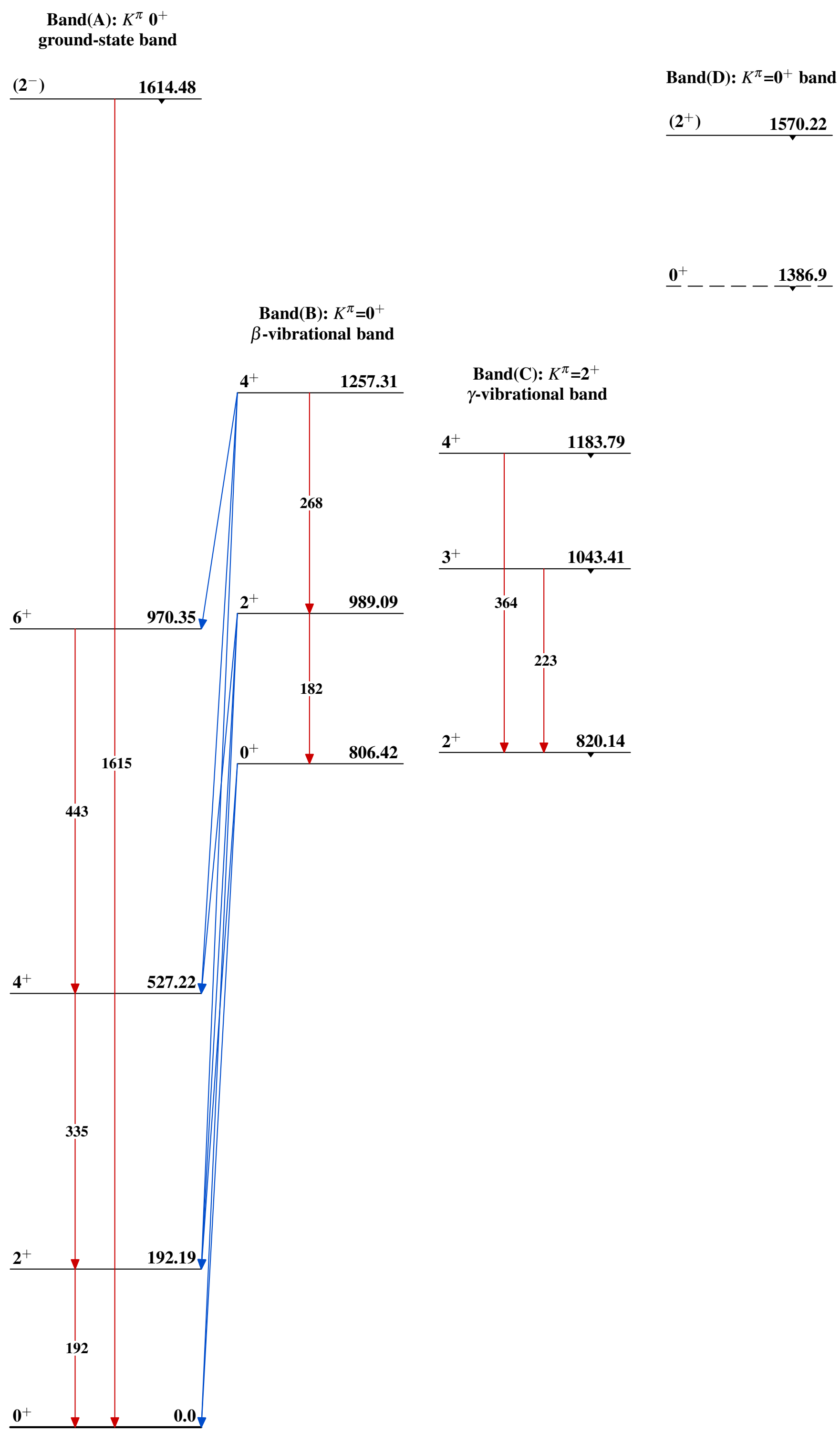
^{158}Tm ε decay 1975Ag01

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
& Multiply placed: undivided intensity given



^{158}Tm ε decay 1975Ag01



$^{158}_{68}Er_{90}$