^{162}Tm ε+β^+ decay (21.70 min) 1974De47,1982By03

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 195,1 (2024)	19-Sep-2023

Parent: ^{162}Tm: E=0.0; J$^\pi$=1$^-$; T$_{1/2}$=21.70 min *19*; Q(ε)=4857 *26*; %ε+%β^+ decay=100
^{162}Tm-J$^\pi$: Additional information 1.
^{162}Tm-T$_{1/2}$: Additional information 2.
^{162}Tm-Q(ε): Additional information 3.
^{162}Tm-Q(ε): From 2021Wa16.
Additional information 4.
2013Bl07 compiled for XUNDL database by E.A. McCutchan (NNDC,BNL).
1960Wi17: Produced by ^{162}Er(p,n) reaction on enriched (14.1%) target with E(p) = 6 MeV. γ's measured on NaI spectrometer. Report two γ's, but wrong (77 min) half-life.
1963Ab02: Produced by spallation of Ta target with 660-MeV protons. Ce measured in magnetic spectrograph. Report one γ and T$_{1/2}$.
1965Ab05: Produced by spallation with 660-MeV protons. Ce reported for two γ's.
1969Pa16: Report T$_{1/2}$.
1971Ch30: Produced by ^{165}Ho(^{3}He,6n) reaction with E=59 MeV with and without isotope separation. γ's measured with Ge detectors. Report half-life and data for eight γ's, 511γ, and K x ray.
1974AbZW: Produced by spallation of Ta target with chemical separation with and without isotope separation. γ singles and $\gamma\gamma$ coincidences measured with Ge detector. Ce measured in magnetic spectrographs. $\gamma\beta^+$ coincidences measured with NaI and Si(Li) detectors. Parts of microfisch not readable.
1974De47: Produced by ^{165}Ho(^{3}He,6n) with E=60 MeV, ^{166}Er(p,5n) on enriched (94.9%) target with E=52 MeV, and ^{164}(p,3n) on enriched (73.6%) target with E=35 MeV. γ singles and $\gamma\gamma$ coincidences measured with Ge detectors. Ce spectra measured with Si(Li) detector in magnetic solenoid. Measured $\gamma\beta^+$ coincidences. Report 315 γ's.
1974DeZF: Report T$_{1/2}$.
1974StYQ: Lab report, see 1975St12 for published version.
1975St12: Produced by spallation of Ta target with 660-MeV protons with chemical separation with and without isotope separation. γ singles and $\gamma\gamma$ coincidences measured with Ge detectors. Ce spectra were measured with magnetic spectrographs and β^+ spectra with Si(Li) detectors. Report data for $\approx$ 142 γ's, 511γ, and K x ray.
1982By03: Produced by spallation of Ta target with protons. Used total absorption γ spectrometer made of three NaI(Tl) detectors with Si(Li) used to get β^+ coincidence requirement. Deduced I(ec+β^+) vs level energy.
1987BaZB: ce spectra measured for one γ.
2002Ca35: Studied the decay of ^{162}Tm γ's from the decay of ^{162}Yb produced in radioactive beam facility. Measured on-line Eγ, Iγ, $\gamma\gamma$ using two large-volume coaxial Ge detectors.
2013Bl07: Produced by ^{147}Sm(^{19}F,2p2n) reaction with E=95 MeV beam. Used self target with thickness of 1.1 mg/cm^2. Measured Eγ, Iγ with Compton-suppressed coaxial HPGe detector (FWHM=2 keV at 1332 keV) and Ece, Ice using a miniorange spectrometer (FWHM$\approx$6.5 keV at 900 keV). Data taken with 1 min/1min and 20 min/20 min on/off beam cycles. Deduced α(K)exp and X(E0/E2) ratio.
Data are from 1974De47, unless otherwise noted. Others: 1975St12 has an extensive list of Eγ, Iγ values; 1960Wi17, 1963Ab02, 1965Ab05, 1971Ch30, and 1987BaZB have small sets of data; also 1974AbZW and 1974StYQ. The ε+β^+ feeding distribution has been determined by 1982By03 from the total absorption γ-ray spectrum. 2002Ca35 measure Eγ and Iγ values for γ's deexciting the 1171 and 1420 levels and report revised γ branching from them and a different J^π value for the latter level.

^{162}Er Levels

E(level)†	J$^\pi$‡	T$_{1/2}$	Comments
0.0#	0$^+$		
102.04# *3*	2$^+$	1389 ps *21*	T$_{1/2}$: adopted value. Measured in this dataset: 1.17 ns *10*, ceγ(t) coin (1970Mo39); and 1.5 ns *3*, $\beta\gamma$ coin (2003Ca03). For a summary of the T$_{1/2}$ measurements, see the Adopted Levels data set.
329.61# *4*	4$^+$		

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^{162}Tm $\varepsilon+\beta^+$ decay (21.70 min) 1974De47,1982By03 (continued)

^{162}Er Levels (continued)

E(level)[†]	Jπ[‡]	Comments
667.12[#] *19*	6+	
900.74[@] *5*	2+	
1002.12[@] *7*	3+	
1087.16[&] *7*	0+	
1128.02[@] *12*	4+	Additional information 5.
1171.02[&] *5*	2+	
1352.18[a] *5*	1−	
1356.77[a] *7*	3−	
1412.58 *14*	1,2+	
1420.45 *8*	(2−)	
1429.78 *7*	2+	
1500.58 *19*	2+	
1506.36[b] *5*	1−	
1572.90[b] *7*	2−	
1623.23[b] *10*	3−	
1729.64 *18*	(5−)	
1805.21 *9*		
1856.69 *13*		
1864.88 *21*	2+	
1931.33 *13*		
1974.74 *10*		
2026.02 *13*		
2061.35 *16*	(1,2+)	
2114.11 *15*	(0+)	
2121.62 *11*		
2192.09 *18*	2+	
2205.94 *25*		
2242.21 *10*		
2260.24 *14*		
2318.67 *11*		
2449.77 *16*		
2598.14 *14*		
2603.8 *3*		
2664.46 *23*		
3039.8 *4*		
3116.85 *17*	2+	
3132.54 *8*		
3180.3 *4*		
3267.60 *12*		
3293.2 *3*		
3367.95 *13*		
3389.17 *20*		
3400.08 *17*		
3414.67 *20*		
3435.8 *4*		
3517.98 *22*	(2+)	
3676.45 *14*	2+,3−	
3689.7 *3*		

† Computed from a least-squares fit to the listed Eγ values.
‡ J^π and band assignments are from the adopted values.
# Band(A): $K^\pi=0^+$ ground-state band.

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^{162}Tm $\varepsilon+\beta^+$ decay (21.70 min) 1974De47,1982By03 (continued)

^{162}Er Levels (continued)

@ Band(B): $K^\pi=2^+$ γ-vibrational band.
& Band(C): First excited $K^\pi=0^+$ band. Possible β-vibrational band, as suggested by 2002Ca35.
[a] Band(D): $K^\pi=0^-$ octupole-vibrational band.
[b] Band(E): $K^\pi=1^-$ octupole-vibrational band.

ε,β^+ radiations

1974De47 list (in Table 8) experimentally deduced positron feedings %Iβ^+ for g.s. and eight excited levels which totals only about 20%, reason for which they were not adopted in the table. Instead, these %Iβ^+ values, together with the %I(ε+β^+) values (deduced from the former ones and the theoretical β^+/capture ratios), and the Iε values (calculated as %I(ε+β^+)-%Iβ^+) are given in comments for the respective levels.

As noted by 1974De47, the I(ε+β^+) values computed from γ-intensity balances are inaccurate. This is due to the fact that the unplaced γ's have a total intensity of 13% and that there may be many unobserved γ's underlying the observed peaks and Compton distribution. This argument is supported by the total-absorption γ measurements of 1982By03, as indicated in the next comment. The data of 1974De47 and 1982By03, together with the γ-intensity balances, are compared in the following comment and comments associated with some individual levels.

The total-absorption γ measurements of 1982By03 give the following results (the energies of the associated levels are the evaluator's interpretation): 4% feeding of ground state and 102 level (compared to 4 to 6.5% in this scheme and 31% from γ-intensity balances); 10% feeding for levels between 0.9 and 2 MeV (compared to ≈11.5% given in this scheme and 45% from from γ-intensity balances); 32% feeding for levels from 2 to 3 MeV (compared to 0% shown in this scheme and 10% from γ-intensity balances); 50% feeding from 3 to 4 MeV (compared to 0% shown in this scheme and 12% from γ-intensity balances); and 4% feeding above 4 MeV (compared to 0% since there are no levels in this scheme in this region).

E(decay)†	E(level)	Comments
(1167 *26*)	3689.7	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.4% *1*.
(1181 *26*)	3676.45	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.8% *1*.
(1339 *26*)	3517.98	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.8% *1*.
(1421 *26*)	3435.8	εK=0.8274; εL=0.13223 *17*; εM+=0.03950 *6* %Iε=0.18 *2*, %I(ε+β^+)=0.18 *2* (1974De47, Table 8). I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.18% *2*.
(1442 *26*)	3414.67	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.6% *1*.
(1457 *26*)	3400.08	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=1.2% *1*.
(1468 *26*)	3389.17	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.9% *1*.
(1489 *26*)	3367.95	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=1.3% *1*.
(1564 *26*)	3293.2	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.7% *1*.
(1589 *26*)	3267.60	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=2.0% *2*.
(1677 *26*)	3180.3	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.3% *1*.
(1725 *26*)	3132.54	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=2.2% *2*.
(1740 *26*)	3116.85	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=1.1% *1*.
(1817 *26*)	3039.8	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.5% *1*.
(2193 *26*)	2664.46	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.6% *1*.
(2253 *26*)	2603.8	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.36% *5*.
(2259 *26*)	2598.14	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=1.1% *1*.
(2407 *26*)	2449.77	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=1.1% *1*.
(2538 *26*)	2318.67	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.4% *1*.
(2597 *26*)	2260.24	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.4% *1*.
(2615 *26*)	2242.21	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=1.5% *1*.
(2651 *26*)	2205.94	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.4% *1*.
(2665 *26*)	2192.09	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.8% *1*.
(2735 *26*)	2121.62	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=1.4 % *2*.
(2743 *26*)	2114.11	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.7% *1*.
(2796 *26*)	2061.35	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.9% *1*.
(2831 *26*)	2026.02	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.8% *1*.

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^{162}Tm $\varepsilon+\beta^+$ decay (21.70 min) 1974De47,1982By03 (continued)

ϵ,β^+ radiations (continued)

E(decay)†	E(level)	Comments
(2882 *26*)	1974.74	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=1.34% *13*.
(2926 *26*)	1931.33	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=1.36% *14*.
(2992 *26*)	1864.88	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.88% *10*.
(3000 *26*)	1856.69	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.6% *1*.
(3052 *26*)	1805.21	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.67% *7*.
(3234 *26*)	1623.23	I($\varepsilon+\beta^+$): γ-intensity balance gives 0.90% *12*, but transition is 2nd forbidden so $\varepsilon+\beta^+$ feeding will be very small.
(3284 *26*)	1572.90	%Iβ^+=2.5 *3*, %Iε=6.1 *6*, %I($\varepsilon+\beta^+$)=8.6 *9* (1974De47, Table 8). I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=8.3% *7* which agrees.
(3351 *26*)	1506.36	%Iβ^+=0.2 *1*, %Iε=0.4 *3*, %I($\varepsilon+\beta^+$)=0.6 *4* (1974De47, Table 8). I($\varepsilon+\beta^+$): γ intensity balance gives I($\varepsilon+\beta^+$)=3.9% *4* or Iβ^+=1.2%.
(3356 *26*)	1500.58	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.07% *22*.
(3427 *26*)	1429.78	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=2.1% *2*.
(3437 *26*)	1420.45	%Iβ^+=0.76 *13*, %Iε=1.5 *3*, %I($\varepsilon+\beta^+$)=2.3 *4* (1974De47, Table 8). I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=4.4% *4* or Iβ^+=1.4%.
(3444 *26*)	1412.58	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=0.38% *8*.
(3500 *26*)	1356.77	I($\varepsilon+\beta^+$): γ-intensity balance gives 2.0% *2*, but transition is 2nd forbidden so $\varepsilon+\beta^+$ feeding will be very small.
(3505 *26*)	1352.18	%Iβ^+=0.09 *8*, %Iε=0.18 *16*, %I($\varepsilon+\beta^+$)=0.27 *24* (1974De47, Table 8). I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=5.4% *5* or Iβ^+=1.8%.
(3686 *26*)	1171.02	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=1.9% *2*.
(3770 *26*)	1087.16	I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=1.09% *12*.
(3855 *26*)	1002.12	%Iβ^+=0.2 *2*, %Iε=0.7 *8*, %I($\varepsilon+\beta^+$)=0.9 *10* (1974De47, Table 8). I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=3.8% *5* or Iβ^+=1.8%.
(3956 *26*)	900.74	%Iβ^+<0.2, %Iε<0.2, %I($\varepsilon+\beta^+$)<0.4 (1974De47, Table 8). I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=5.8% *7* or Iβ^+=2.6%.
(4755 *26*)	102.04	%Iβ^+=2.6 *6*, %Iε=1.5 *4*, %I($\varepsilon+\beta^+$)=4.1 *10* (1974De47, Table 8). I($\varepsilon+\beta^+$): γ-intensity balance gives I($\varepsilon+\beta^+$)=14% *3* or Iβ^+=9%. The evaluator interprets the β-feeding data of 1982By03 as indicating ≈4% feeding to the ground state and 102 level in agreement with the Iβ^+ data of 1974De47.
(4857 *26*)	0.0	%Iβ^+=0.9 *10*, %Iε=0.5 *5*, %I($\varepsilon+\beta^+$)=1.4 *15* (1974De47, Table 8). I($\varepsilon+\beta^+$): for this decay scheme and γ-intensity normalization, the γ-intensity balance gives I($\varepsilon+\beta^+$)=17% *7* or Iβ^+=11%.

† The measured β^+ energies are from 1963Ab02, 1974De47, and 1975St12. From 1963Ab02, E(β^+)=3820 *50* for the singles endpoint, which is probably influenced by the branches to the levels at 0 and 102 keV and corresponds to Q(ε)≈4890. From 1974De47, E(β^+)=2075 *150* and 2115 *80* for the branch to 1573 level. (These two gating γ peaks are doublets, but the corrections should be small.) This corresponds to Q(ε)=4705 *70*. From 1975St12, E(β^+)=3500 *300* for the branch to the 102 level, which corresponds to Q(ε)=4600 *300*.

$\gamma(^{162}$Er)

Iγ normalization: From 1974De47 based on assumption that the 511 annihilation intensity and the K x-ray intensities can be used to compute the total $\varepsilon+\beta^+$ intensity.

Data are from 1974De47, unless otherwise noted. Others: 1975St12 have an extensive list of Eγ, Iγ values; 1960Wi17, 1963Ab02, 1965Ab05, 1971Ch30, and 1987BaZB have small sets of data (also 1974AbZW and 1974StYQ). 2013Bl07 give three different results for Iγ and α(K)exp measurments, the weighted average of which are listed in comments. Deduced α(K)exp-based γ-ray multiplicities.

I(Kα_1 x ray)=674 *104* (1974De47). Others: I(Kα_1 x ray)=690 *48* (1971Ch30) and I(K x ray)=1460 (1975St12) which corresponds to I(Kα_1 x ray)=744. Also 1960Wi17.

Annihilation radiation: Iγ(511)=206 *20* (1974De47). Others: Iγ(511)=178 *17* (1971Ch30) and 203 *29* (1975St12).

E$_\gamma$	I$_\gamma$[‡&]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.[#]	α[@]	Comments
102.00 *3*	246 *10*	102.04	2$^+$	0.0	0$^+$	E2	2.73	α(K)=1.026 *15*; α(L)=1.305 *19*; α(M)=0.317 *5* α(N)=0.0718 *10*; α(O)=0.00844 *12*; α(P)=4.27×10^{-5} *6* %Iγ=17.5 *16*
[x]178.6 *3*	0.4 *1*							%Iγ=0.028 *8*
227.52 *3*	100	329.61	4$^+$	102.04	2$^+$	E2	0.1647	α(K)=0.1115 *16*; α(L)=0.0410 *6*; α(M)=0.00972 *14* α(N)=0.00222 *4*; α(O)=0.000277 *4*; α(P)=5.41×10^{-6} *8* %Iγ=7.1 *6*
337.51 *18*	1.2 *2*	667.12	6$^+$	329.61	4$^+$	(E2)	0.0486	α(K)=0.0365 *6*; α(L)=0.00937 *14*; α(M)=0.00218 *3* α(N)=0.000500 *7*; α(O)=6.50×10^{-5} *10*; α(P)=1.92×10^{-6} *3* %Iγ=0.085 *16*
[x]380.2 *5*	1.0 *2*							%Iγ=0.071 *16*
418.1[†] *2*	0.66[†] *9*	1420.45	(2$^-$)	1002.12	3$^+$			%Iγ=0.047 *8* E$_\gamma$: this is probably the same as the 418.6 *4* γ, with Iγ=0.40 *16*, reported by 1974De47 but not placed by them.
424.6 *5*	0.3 *2*	1931.33		1506.36	1$^-$			%Iγ=0.021 *14*
[x]432.5 *4*	0.7 *3*							%Iγ=0.050 *22*
452		1352.18	1$^-$	900.74	2$^+$			
453.02 *8*	5.2 *6*	1805.21		1352.18	1$^-$			%Iγ=0.37 *5*
[x]465.11 *10*	3.5 *3*							%Iγ=0.249 *30*
488.8 *10*	0.7 *2*	2061.35	(1,2$^+$)	1572.90	2$^-$			%Iγ=0.050 *15*
499.2[a] *6*	2.0[a] *2*	1500.58	2$^+$	1002.12	3$^+$	[M1,E2]	0.0258 *93*	α(K)=0.0214 *83*; α(L)=0.0034 *9*; α(M)=0.00077 *18* α(N)=0.00018 *5*; α(O)=2.53×10^{-5} *67*; α(P)=1.26×10^{-6} *53* %Iγ=0.142 *19*
499.2[a] *6*	2.0[a] *2*	1856.69		1356.77	3$^-$			%Iγ=0.142 *19*
519.54[†] *13*	8.3[†] *3*	1420.45	(2$^-$)	900.74	2$^+$			%Iγ=0.59 *6* I$_\gamma$: the Iγ values reported by 2002Ca35 for the γ's deexciting this level were normalized to Iγ(519γ) as reported by 1974De47.
[x]524.02 *20*	1.1 *4*							%Iγ=0.078 *29*

γ(^{162}Er) (continued)

E_γ	I_γ[‡&]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	α[@]	Comments
[x]533.7 *4*	0.7 *2*							%Iγ=0.050 *15*
570.74 *5*	27.4 *22*	1572.90	2$^-$	1002.12	3$^+$	E1	0.00419	α(K)=0.00356 *5*; α(L)=0.000494 *7*; α(M)=0.0001085 *16* α(N)=2.52×10^{-5} *4*; α(O)=3.60×10^{-6} *5*; α(P)=1.92×10^{-7} *3* %Iγ=1.95 *23* Iγ: 33.4 *20* for 570γ doublet (2013Bl07).
571.2 *4*	2.7 *19*	900.74	2$^+$	329.61	4$^+$	[E2]	0.01177	α(K)=0.00950 *14*; α(L)=0.001765 *25*; α(M)=0.000400 *6* α(N)=9.25×10^{-5} *13*; α(O)=1.266×10^{-5} *18*; α(P)=5.31×10^{-7} *8* %Iγ=0.19 *14*
634.5 *5*	2.4 *1*	1805.21		1171.02	2$^+$			%Iγ=0.170 *16*
640.0 *4*	1.4 *3*	2061.35	(1,2$^+$)	1420.45	(2$^-$)			%Iγ=0.099 *23*
[x]645.71 *16*	1.9 *2*							%Iγ=0.135 *18*
672.33 *10*	78 *4*	1572.90	2$^-$	900.74	2$^+$	E1	0.00297	α(K)=0.00253 *4*; α(L)=0.000348 *5*; α(M)=7.63×10^{-5} *11* α(N)=1.771×10^{-5} *25*; α(O)=2.54×10^{-6} *4*; α(P)=1.370×10^{-7} *20* %Iγ=5.5 *6* Iγ: 94 *5* for 672γ doublet (2013Bl07).
672.40 *10*	25.9 *18*	1002.12	3$^+$	329.61	4$^+$	(M1,E2)	0.0122 *43*	α(K)=0.0102 *37*; α(L)=0.00156 *43*; α(M)=3.47×10^{-4} *93* α(N)=8.1×10^{-5} *22*; α(O)=1.15×10^{-5} *34*; α(P)=6.0×10^{-7} *24* %Iγ=1.84 *20*
695.2 *3*	1.3 *2*	2318.67		1623.23	3$^-$			%Iγ=0.092 *16*
[x]711.0 *7*	0.9 *3*							%Iγ=0.064 *22*
[x]716.5 *4*	1.3 *5*							%Iγ=0.09 *4*
720.1 *3*	2.1 *4*	2449.77		1729.64	(5$^-$)			%Iγ=0.149 *31*
733.4[a] *5*	0.4[a] *2*	2598.14		1864.88	2$^+$			%Iγ=0.028 *15*
733.4[a] *5*	0.4[a] *2*	2664.46		1931.33				%Iγ=0.028 *15*
736.6 *4*	0.8 *2*	1864.88	2$^+$	1128.02	4$^+$	[E2]	0.00648	α(K)=0.00533 *8*; α(L)=0.000892 *13*; α(M)=0.000200 *3* α(N)=4.64×10^{-5} *7*; α(O)=6.48×10^{-6} *10*; α(P)=3.02×10^{-7} *5* %Iγ=0.057 *15*
[x]743.6 *5*	0.8 *2*							%Iγ=0.057 *15*
759.6[a] *4*	1.4[a] *3*	1931.33		1171.02	2$^+$			%Iγ=0.099 *23*
759.6[a] *4*	1.4[a] *3*	2260.24		1500.58	2$^+$			%Iγ=0.099 *23*
764.4 *5*	3.3 *8*	2121.62		1356.77	3$^-$			%Iγ=0.23 *6*
798 *1*	10.8 *15*	1128.02	4$^+$	329.61	4$^+$	[E2]	0.00542	α(K)=0.00449 *7*; α(L)=0.000731 *11*; α(M)=0.0001637 *24* α(N)=3.79×10^{-5} *6*; α(O)=5.32×10^{-6} *8*; α(P)=2.55×10^{-7} *4* %Iγ=0.77 *13*
798.68 *5*	118 *4*	900.74	2$^+$	102.04	2$^+$	E2	0.00541	α(K)=0.00448 *7*; α(L)=0.000729 *11*; α(M)=0.0001633 *23* α(N)=3.79×10^{-5} *6*; α(O)=5.31×10^{-6} *8*; α(P)=2.54×10^{-7} *4* %Iγ=8.4 *8* Iγ: 124.5 *61* for 798γ doublet (2013Bl07). α(K)exp: 0.0045 *3* for 798γ doublet (2013Bl07).
[x]811.6 *6*	1.9 *4*							%Iγ=0.135 *31*

γ(^{162}Er) (continued)

E_γ	I_γ[‡&]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[@]	Comments
821.50 *20*	4.44 *24*	2242.21		1420.45	(2$^-$)			%Iγ=0.315 *32* I$_\gamma$: weighted average of 4.5 *4* (1974De47) and 4.4 *3* (2013Bl07).
830.47 *20*	2.8 *5*	2260.24		1429.78	2$^+$			%Iγ=0.20 *4*
841.37 *18*	9.7 *7*	1171.02	2$^+$	329.61	4$^+$	[E2]	0.00483	α(K)=0.00401 *6*; α(L)=0.000643 *9*; α(M)=0.0001437 *21* α(N)=3.33$\times10^{-5}$ *5*; α(O)=4.69$\times10^{-6}$ *7*; α(P)=2.28$\times10^{-7}$ *4* %Iγ=0.69 *8* I$_\gamma$: weighted average of 9.2 *5* (2002Ca35) and 10.7 *7* (2013Bl07).
872.7 *6*	1.4 *3*	3132.54		2260.24				%Iγ=0.099 *23*
890.7[a] *5*	1.1[a] *2*	2061.35	(1,2$^+$)	1171.02	2$^+$			%Iγ=0.078 *16*
890.7[a] *5*	1.1[a] *2*	2242.21		1352.18	1$^-$			%Iγ=0.078 *16*
890.7[a] *5*	1.1[a] *2*	3132.54		2242.21				%Iγ=0.078 *16*
899.9 *4*	79 *5*	1002.12	3$^+$	102.04	2$^+$	E2	0.00419	α(K)=0.00348 *5*; α(L)=0.000548 *8*; α(M)=0.0001222 *18* α(N)=2.84$\times10^{-5}$ *4*; α(O)=4.00$\times10^{-6}$ *6*; α(P)=1.98$\times10^{-7}$ *3* %Iγ=5.6 *6*
900.7 *4*	91 *4*	900.74	2$^+$	0.0	0$^+$	[E2]	0.00418	α(K)=0.00348 *5*; α(L)=0.000547 *8*; α(M)=0.0001220 *18* α(N)=2.83$\times10^{-5}$ *4*; α(O)=3.99$\times10^{-6}$ *6*; α(P)=1.98$\times10^{-7}$ *3* %Iγ=6.5 *6* I$_\gamma$: 170 *8* for 900γ doublet (2013Bl07). α(K)exp: 0.0035 *3* for 900γ doublet (2013Bl07).
^{x}909.40 *20*	4.9 *5*							%Iγ=0.35 *5*
929.25 *20*	2.5 *5*	1931.33		1002.12	3$^+$			%Iγ=0.18 *4*
^{x}957.4 *4*	1.7 *4*							%Iγ=0.121 *30*
^{x}960.4 *3*	1.7 *8*							%Iγ=0.12 *6*
966.24 *20*	2.4 *5*	2318.67		1352.18	1$^-$			%Iγ=0.17 *4*
985.12 *6*	17.0 *12*	1087.16	0$^+$	102.04	2$^+$	[E2]	0.00347	α(K)exp=0.0028 *3* (2013Bl07) α(K)=0.00290 *4*; α(L)=0.000445 *7*; α(M)=9.90$\times10^{-5}$ *14* α(N)=2.30$\times10^{-5}$ *4*; α(O)=3.26$\times10^{-6}$ *5*; α(P)=1.649$\times10^{-7}$ *23* %Iγ=1.21 *13* I$_\gamma$: weighted average of 16.2 *7* (1974De47) and 18.7 *10* (2013Bl07). Mult.: from α(K)exp (2013Bl07).
993.64 *8*	6.7 *7*	2121.62		1128.02	4$^+$			%Iγ=0.48 *7*
^{x}1001.80 *15*	2.5 *5*							%Iγ=0.18 *4*
1007.6 *4*	2.6 *6*	3267.60		2260.24				%Iγ=0.19 *5*
1010.56 *24*	4.1 *9*	3132.54		2121.62				%Iγ=0.29 *7*
1018.9 *3*	0.4 *3*	3132.54		2114.11	(0$^+$)			%Iγ=0.028 *22*
1027 *1*	0.2 *13*	1128.02	4$^+$	102.04	2$^+$	[E2]	0.00318	α(K)=0.00266 *4*; α(L)=0.000405 *6*; α(M)=9.00$\times10^{-5}$ *13* α(N)=2.09$\times10^{-5}$ *3*; α(O)=2.97$\times10^{-6}$ *5*; α(P)=1.517$\times10^{-7}$ *22* %Iγ=0.01 *9*
1027.08 *15*	12.8 *10*	1356.77	3$^-$	329.61	4$^+$	[E1]	1.30$\times10^{-3}$	α(K)=0.001111 *16*; α(L)=0.0001496 *21*; α(M)=3.28$\times10^{-5}$ *5* α(N)=7.62$\times10^{-6}$ *11*; α(O)=1.099$\times10^{-6}$ *16*; α(P)=6.09$\times10^{-8}$ *9* %Iγ=0.91 *11*

γ(^{162}Er) (continued)

E_γ	I_γ[‡&]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	α[@]	$I_{(\gamma+ce)}$[&]	Comments
1036.6 *5*	2.4 *3*	2449.77		1412.58	1,2$^+$				%Iγ=0.170 *26*
^{x}1057.75 *20*	2.7 *5*								%Iγ=0.19 *4*
1069.05 *15*	15.3 *6*	1171.02	2$^+$	102.04	2$^+$	E0+M1+E2			α(K)exp=0.0265 *21* %Iγ=1.09 *10* α(K)exp: weighted average of 0.028 *3* (1974De47) and 0.025 *3* (2013Bl07). I_γ: weighted average of 15.5 *8* (2002Ca35) and 15.0 *8* (2013Bl07). q^2_K(E0/E2)=11.3 *16* and ρ^2(E0)=0.068 *14* (2022Ki03).
^{x}1079.4 *3*	0.8 *3*								%Iγ=0.057 *22*
1087.16		1087.16	0$^+$	0.0	0$^+$	E0		0.22 *5*	X(E0/E2)=0.31 *11*, q^2_K(E0/E2)=4.4 *15* (1974De47 and 2005Ki02 evaluation). X(E0/E2)=0.24 *6* (2013Bl07, weighted average of 0.23 *9*, 0.25 *10*, 0.24 *9*), q^2_K(E0/E2)=3.41 *85* (deduced by the evaluator from X(E0/E2) value of 2013Bl07). $I_{(\gamma+ce)}$: weighted average of 0.237 *81* and 0.211 *54*, deduced by the evaluator from the respective q^2_K(E0/E2)=I_K(E0)/I_K(E2) and I(985.1γ) values from 1974De47 and 2013Bl07, and α(K)(985.1γ) and K/Tot($\Delta\Omega$(E0))(1087.16γ) (from BrIcc code). Additional information 6.
1092.5 *6*	2.0 *5*	2449.77		1356.77	3$^-$				%Iγ=0.14 *4*
1096.02 *22*	6.2 *6*	3414.67		2318.67					%Iγ=0.44 *6*
1100.00 *8*	20.3 *11*	1429.78	2$^+$	329.61	4$^+$	E2	0.00277		α(K)exp=0.0024 *3* (2013Bl07) α(K)=0.00232 *4*; α(L)=0.000348 *5*; α(M)=7.72$\times10^{-5}$ *11* α(N)=1.79$\times10^{-5}$ *3*; α(O)=2.56$\times10^{-6}$ *4*; α(P)=1.323$\times10^{-7}$ *19* %Iγ=1.44 *15* I_γ: weighted average of 19.3 *10* (1974De47) and 21.5 *11* (2013Bl07). Mult.: from α(K)exp (2013Bl07).
1107.0 *3*	1.4 *3*	3132.54		2026.02					%Iγ=0.099 *23*
^{x}1115.96 *25*	3.3 *5*								%Iγ=0.23 *4*
1119.6 *3*	2.0 *4*	2121.62		1002.12	3$^+$				%Iγ=0.142 *31*
1125.5 *3*	3.1 *5*	2026.02		900.74	2$^+$				%Iγ=0.22 *4*
1171.05[†] *15*	15.5[†] *8*	1171.02	2$^+$	0.0	0$^+$	[E2]	0.00245		α(K)=0.00205 *3*; α(L)=0.000304 *5*; α(M)=6.74$\times10^{-5}$ *10* α(N)=1.565$\times10^{-5}$ *22*; α(O)=2.24$\times10^{-6}$ *4*; α(P)=1.170$\times10^{-7}$ *17*; α(IPF)=2.67$\times10^{-6}$ *4* %Iγ=1.10 *11* I_γ: value normalized to Iγ(1171γ)/Iγ(1069γ) from 2002Ca35 and Iγ(1069γ) from 1974De47. This value is considerably different from that reported by 1974De47, who place most of the intensity

$\gamma(^{162}Er)$ (continued)

E_γ	I_γ [‡&]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[@]	Comments
								of this γ elsewhere in the level scheme (from the 1500.49, 2^+ level). 2002Ca35 show that this latter placement is incorrect and indicate that essentially all the intensity of this γ is associated with the decay of the 1171 level.
1199.8 *5*	1.5 *8*	3517.98	(2^+)	2318.67				%Iγ=0.11 *6*
1213.3 *3*	3.9 *7*	2114.11	(0^+)	900.74	2^+	[E2]	0.00228	α(K)=0.00192 *3*; α(L)=0.000282 *4*; α(M)=6.24×10^{-5} *9* α(N)=1.450×10^{-5} *21*; α(O)=2.07×10^{-6} *3*; α(P)=1.092×10^{-7} *16*; α(IPF)=6.56×10^{-6} *10* %Iγ=0.28 *6*
1220.63 *14*	9.6 *12*	2121.62		900.74	2^+			%Iγ=0.68 *10*
1243 *1*	1.5 *5*	1572.90	2^-	329.61	4^+	[M2,E3]	0.0066 *22*	α(K)=0.0055 *19*; α(L)=8.5×10^{-4} *24*; α(M)=1.90×10^{-4} *52* α(N)=4.4×10^{-5} *13*; α(O)=6.4×10^{-6} *19*; α(P)=3.4×10^{-7} *12*; α(IPF)=3.05×10^{-6} *7* %Iγ=0.11 *4* Mult.: mixture suggested by 1974De47.
1250.01 *6*	67.8 *20*	1352.18	1^-	102.04	2^+	E1	9.57×10^{-4}	α(K)=0.000780 *11*; α(L)=0.0001042 *15*; α(M)=2.28×10^{-5} *4* α(N)=5.30×10^{-6} *8*; α(O)=7.67×10^{-7} *11*; α(P)=4.29×10^{-8} *6*; α(IPF)=4.37×10^{-5} *7* %Iγ=4.8 *4* α(K)exp: 0.00135 *25* (2013Bl07, for combined 1250γ and 1254.7γ). I_γ: weighted average of 67.8 *25* (1974De47) and 67.9 *33* (2013Bl07).
1254.72 *7*	22.5 *21*	1356.77	3^-	102.04	2^+	[E1]	9.53×10^{-4}	α(K)=0.000775 *11*; α(L)=0.0001035 *15*; α(M)=2.27×10^{-5} *4* α(N)=5.27×10^{-6} *8*; α(O)=7.62×10^{-7} *11*; α(P)=4.26×10^{-8} *6*; α(IPF)=4.59×10^{-5} *7* %Iγ=1.60 *20* I_γ: weighted average of 20.5 *15* (1974De47) and 24.8 *16* (2013Bl07).
^{x}1269.6 *5*	2.5 *8*							%Iγ=0.18 *6*
^{x}1289.4 *5*	2.2 *8*							%Iγ=0.16 *6*
1293.42 *15*	7.4 *8*	1623.23	3^-	329.61	4^+	[E1]	9.24×10^{-4}	α(K)=0.000735 *11*; α(L)=9.80×10^{-5} *14*; α(M)=2.14×10^{-5} *3* α(N)=4.99×10^{-6} *7*; α(O)=7.22×10^{-7} *11*; α(P)=4.04×10^{-8} *6*; α(IPF)=6.41×10^{-5} *9* %Iγ=0.53 *7*
1310.80 *20*	5.4 *7*	1412.58	$1,2^+$	102.04	2^+			%Iγ=0.38 *6*
1318.42 *11*	75 *3*	1420.45	(2^-)	102.04	2^+	(E1)	9.09×10^{-4}	α(K)=0.000711 *10*; α(L)=9.48×10^{-5} *14*; α(M)=2.07×10^{-5} *3* α(N)=4.82×10^{-6} *7*; α(O)=6.98×10^{-7} *10*; α(P)=3.91×10^{-8} *6*; α(IPF)=7.72×10^{-5} *11* %Iγ=5.3 *5* I_γ: weighted average of 70 *3* (2002Ca35), 78 *3* (1974De47) and 78 *4* (2013Bl07). α(K)exp: 0.00113 *17* (2013Bl07).
1328.14 *15*	12.5 *7*	1429.78	2^+	102.04	2^+	E0+M1+E2	0.0025 *6*	α(K)exp=0.0082 *7*

γ(^{162}Er) (continued)

E_γ	I_γ[‡&]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	α[@]	Comments
								α(K)=0.0021 *6*; α(L)=0.00030 *7*; α(M)=6.6×10^{-5} *15* α(N)=1.5×10^{-5} *4*; α(O)=2.2×10^{-6} *6*; α(P)=1.24×10^{-7} *33*; α(IPF)=2.7×10^{-5} *3* %Iγ=0.89 *9* I_γ: weighted average of 12.3 *10* (1974De47) and 12.6 *10* (2013Bl07). α(K)exp: weighted average of 0.008 *5* (1974De47) and 0.0082 *7* (2013Bl07).
1342.7[a] *8*	1.2[a] *3*	2242.21		900.74	2$^+$			%Iγ=0.085 *23*
1342.7[a] *8*	1.2[a] *3*	3367.95		2026.02				%Iγ=0.085 *23*
1352.20 *6*	48.2 *20*	1352.18	1$^-$	0.0	0$^+$	(E1)	8.93×10^{-4}	α(K)=0.000680 *10*; α(L)=9.06×10^{-5} *13*; α(M)=1.98×10^{-5} *3* α(N)=4.61×10^{-6} *7*; α(O)=6.67×10^{-7} *10*; α(P)=3.74×10^{-8} *6*; α(IPF)=9.71×10^{-5} *14* %Iγ=3.42 *32*
[x]1380.7 *5*	1.2 *4*							%Iγ=0.085 *29*
[x]1393.9 *4*	3.7 *7*							%Iγ=0.26 *6*
1398.2 *4*	5.4 *28*	1500.58	2$^+$	102.04	2$^+$			%Iγ=0.38 *20*
1404.23 *7*	40.0 *16*	1506.36	1$^-$	102.04	2$^+$	[E1]	8.77×10^{-4}	α(K)=0.000637 *9*; α(L)=8.48×10^{-5} *12*; α(M)=1.85×10^{-5} *3* α(N)=4.31×10^{-6} *6*; α(O)=6.25×10^{-7} *9*; α(P)=3.51×10^{-8} *5*; α(IPF)=0.0001309 *19* %Iγ=2.84 *27*
1410.89 *20*	3.9 *7*	3267.60		1856.69				%Iγ=0.28 *6*
1412.24 *20*	3.9 *7*	1412.58	1,2$^+$	0.0	0$^+$			%Iγ=0.28 *6*
1415.9 *10*	1.9 *3*	3039.8		1623.23	3$^-$			%Iγ=0.135 *24*
[x]1420.39						(E0)		Transition placed from the 1420 level by 1974De47, who assign J^π=0$^+$ to that level. However, the J^π value is no longer assigned as 0$^+$.
1430.45 *25*	6.2 *7*	1429.78	2$^+$	0.0	0$^+$	[E2]	1.71×10^{-3}	α(K)=0.001399 *20*; α(L)=0.000200 *3*; α(M)=4.42×10^{-5} *7* α(N)=1.028×10^{-5} *15*; α(O)=1.478×10^{-6} *21*; α(P)=7.97×10^{-8} *12*; α(IPF)=5.04×10^{-5} *7* %Iγ=0.44 *6*
1447.7[a] *5*	2.4[a] *2*	2449.77		1002.12	3$^+$			%Iγ=0.170 *20*
1447.7[a] *5*	2.4[a] *2*	3689.7		2242.21				%Iγ=0.170 *20*
[x]1451.3 *4*	2.9 *5*							%Iγ=0.21 *4*
1470.8 *2*	8.5 *20*	1572.90	2$^-$	102.04	2$^+$	[E1,M2,E3]	0.00091 *5*	α(K)=0.00063 *5*; α(L)=8.4×10^{-5} *7*; α(M)=1.85×10^{-5} *14* α(N)=4.3×10^{-6} *4*; α(O)=6.2×10^{-7} *5*; α(P)=3.5×10^{-8} *3*; α(IPF)=0.000175 *3* %Iγ=0.60 *15* Mult.: mixture suggested by 1974De47.
1476.0 *5*	1.9 *3*	1805.21		329.61	4$^+$			%Iγ=0.135 *24*
[x]1478.8 *5*	0.6 *2*							%Iγ=0.043 *15*
1493.5[a] *4*	2.2[a] *5*	2664.46		1171.02	2$^+$			%Iγ=0.16 *4*

γ(^{162}Er) (continued)

E_γ	I_γ[‡&]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	α[@]	Comments
1493.5[a] 4	2.2[a] 5	3116.85	2+	1623.23	3−	[E1]	8.63×10^{-4}	α(K)=0.000574 8; α(L)=7.62×10^{-5} 11; α(M)=1.665×10^{-5} 24 α(N)=3.87×10^{-6} 6; α(O)=5.61×10^{-7} 8; α(P)=3.16×10^{-8} 5; α(IPF)=0.000192 3 %Iγ=0.16 4
1500 1	1.7 5	1500.58	2+	0.0	0+	[E2]	1.58×10^{-3}	α(K)=0.001279 18; α(L)=0.000182 3; α(M)=4.02×10^{-5} 6 α(N)=9.34×10^{-6} 14; α(O)=1.344×10^{-6} 19; α(P)=7.29×10^{-8} 11; α(IPF)=7.20×10^{-5} 11 %Iγ=0.12 4
1506.40 6	19.5 10	1506.36	1−	0.0	0+	[E1]	8.63×10^{-4}	α(K)=0.000566 8; α(L)=7.51×10^{-5} 11; α(M)=1.641×10^{-5} 23 α(N)=3.82×10^{-6} 6; α(O)=5.53×10^{-7} 8; α(P)=3.12×10^{-8} 5; α(IPF)=0.000201 3 %Iγ=1.39 14
1521.32 15	9.2 7	1623.23	3−	102.04	2+	[E1]	8.63×10^{-4}	α(K)=0.000556 8; α(L)=7.38×10^{-5} 11; α(M)=1.613×10^{-5} 23 α(N)=3.75×10^{-6} 6; α(O)=5.44×10^{-7} 8; α(P)=3.07×10^{-8} 5; α(IPF)=0.000212 3 %Iγ=0.65 8
1533.3 5	4.4 8	3039.8		1506.36	1−			%Iγ=0.31 6
1536.1 5	5.5 8	1864.88	2+	329.61	4+	[E2]	1.53×10^{-3}	α(K)=0.001224 18; α(L)=0.0001736 25; α(M)=3.83×10^{-5} 6 α(N)=8.90×10^{-6} 13; α(O)=1.282×10^{-6} 18; α(P)=6.97×10^{-8} 10; α(IPF)=8.42×10^{-5} 12 %Iγ=0.39 7
1545.3 5	1.1 3	3116.85	2+	1572.90	2−	[E1]	8.63×10^{-4}	α(K)=0.000542 8; α(L)=7.19×10^{-5} 10; α(M)=1.571×10^{-5} 22 α(N)=3.65×10^{-6} 6; α(O)=5.30×10^{-7} 8; α(P)=2.99×10^{-8} 5; α(IPF)=0.000230 4 %Iγ=0.078 22
1549.2 3	4.0 7	2449.77		900.74	2+			%Iγ=0.28 6
[x]1556.8 6	1.4 3							%Iγ=0.099 23
1573.0 10	2.6 6	1572.90	2−	0.0	0+	[M2]	0.00485	α(K)=0.00405 6; α(L)=0.000590 9; α(M)=0.0001307 19 α(N)=3.05×10^{-5} 5; α(O)=4.43×10^{-6} 7; α(P)=2.49×10^{-7} 4; α(IPF)=4.62×10^{-5} 7 %Iγ=0.19 5
[x]1575.8 5	2.0 5							%Iγ=0.14 4
[x]1580.9 4	1.9 3							%Iγ=0.135 24
1595.80 15	6.0 6	2598.14		1002.12	3+			%Iγ=0.43 6
1616.3 3	3.1 5	3116.85	2+	1500.58	2+	[M1,E2]	0.0018 4	α(K)=0.0014 3; α(L)=0.00019 4; α(M)=4.3×10^{-5} 9 α(N)=9.9×10^{-6} 19; α(O)=1.4×10^{-6} 3; α(P)=8.1×10^{-8} 18; α(IPF)=0.000126 13 %Iγ=0.22 4
1622.1 10	1.4 5	1623.23	3−	0.0	0+	[E3]	0.00255	α(K)=0.00208 3; α(L)=0.000323 5; α(M)=7.21×10^{-5} 11 α(N)=1.677×10^{-5} 24; α(O)=2.39×10^{-6} 4; α(P)=1.239×10^{-7} 18;

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γ(^{162}Er) (continued)

E_γ	I_γ[‡&]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	α[@]	Comments
								α(IPF)=5.50×10^{-5} *8* %Iγ=0.10 *4*
1627.60 *20*	6.1 *6*	1729.64	(5⁻)	102.04	2⁺	[E3]	0.00254	α(K)=0.00207 *3*; α(L)=0.000321 *5*; α(M)=7.15×10^{-5} *10* α(N)=1.664×10^{-5} *24*; α(O)=2.37×10^{-6} *4*; α(P)=1.231×10^{-7} *18*; α(IPF)=5.62×10^{-5} *8* %Iγ=0.43 *6*
[x]1633.7 *5*	1.6 *4*							%Iγ=0.114 *30*
[x]1640.4 *5*	1.2 *3*							%Iγ=0.085 *23*
[x]1667.9 *4*	2.1 *4*							%Iγ=0.149 *31*
1696.0 *4*	7.1 *10*	3116.85	2⁺	1420.45	(2⁻)	[E1]	8.84×10^{-4}	α(K)=0.000464 *7*; α(L)=6.13×10^{-5} *9*; α(M)=1.340×10^{-5} *19* α(N)=3.12×10^{-6} *5*; α(O)=4.52×10^{-7} *7*; α(P)=2.56×10^{-8} *4*; α(IPF)=0.000342 *5* %Iγ=0.50 *8*
1698.1 *4*	7.1 *10*	2598.14		900.74	2⁺			%Iγ=0.50 *8*
1704.4 *5*	1.5 *2*	3116.85	2⁺	1412.58	1,2⁺	[M1,E2]	0.0016 *3*	α(K)=0.00124 *23*; α(L)=0.00017 *4*; α(M)=3.8×10^{-5} *7* α(N)=8.8×10^{-6} *16*; α(O)=1.28×10^{-6} *24*; α(P)=7.2×10^{-8} *15*; α(IPF)=0.000166 *17* %Iγ=0.107 *17*
[x]1716.0 *5*	1.7 *4*							%Iγ=0.121 *30*
1754.68 *15*	10.4 *10*	1856.69		102.04	2⁺			%Iγ=0.74 *10*
1763.4[a] *5*	2.1[a] *4*	1864.88	2⁺	102.04	2⁺	[M1,E2]	0.0016 *3*	α(K)=0.00115 *21*; α(L)=0.00016 *3*; α(M)=3.5×10^{-5} *7* α(N)=8.2×10^{-6} *15*; α(O)=1.19×10^{-6} *22*; α(P)=6.7×10^{-8} *13*; α(IPF)=0.000194 *20* %Iγ=0.149 *31*
1763.4[a] *5*	2.1[a] *4*	2664.46		900.74	2⁺			%Iγ=0.149 *31*
[x]1773.0 *5*	0.5 *2*							%Iγ=0.036 *15*
1776.3 *5*	0.4 *2*	3132.54		1356.77	3⁻			%Iγ=0.028 *15*
1780.5 *5*	0.8 *3*	3132.54		1352.18	1⁻			%Iγ=0.057 *22*
1792.3[a] *8*	2.6[a] *8*	2121.62		329.61	4⁺			%Iγ=0.19 *6*
1792.3[a] *8*	2.6[a] *8*	3293.2		1500.58	2⁺			%Iγ=0.19 *6*
[x]1814.4 *3*	3.0 *4*							%Iγ=0.213 *34*
1829.2 *5*	7.0 *7*	1931.33		102.04	2⁺			%Iγ=0.50 *7*
1838.1 *3*	3.8 *5*	3267.60		1429.78	2⁺			%Iγ=0.27 *4*
1846.9 *3*	2.1 *4*	3267.60		1420.45	(2⁻)			%Iγ=0.149 *31*
1862.0 *4*	4.0 *5*	2192.09	2⁺	329.61	4⁺	[E2]	1.23×10^{-3}	α(K)=0.000858 *12*; α(L)=0.0001191 *17*; α(M)=2.62×10^{-5} *4* α(N)=6.09×10^{-6} *9*; α(O)=8.81×10^{-7} *13*; α(P)=4.88×10^{-8} *7*; α(IPF)=0.000219 *3* %Iγ=0.28 *4*
1864.3 *4*	4.4 *6*	1864.88	2⁺	0.0	0⁺	[E2]	1.23×10^{-3}	α(K)=0.000856 *12*; α(L)=0.0001188 *17*; α(M)=2.61×10^{-5} *4* α(N)=6.08×10^{-6} *9*; α(O)=8.79×10^{-7} *13*; α(P)=4.87×10^{-8} *7*;

γ(^{162}Er) (continued)

E_γ	I_γ[‡&]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	α[@]	Comments
								α(IPF)=0.000220 *3* %Iγ=0.31 *5*
1872.9 *6*	1.7 *4*	1974.74		102.04	2^+			%Iγ=0.121 *30*
[x]1874.7 *4*	3.3 *5*							%Iγ=0.23 *4*
[x]1902.0 *10*	1.4 *3*							%Iγ=0.099 *23*
1914.71 *25*	8.5 *5*	3267.60		1352.18	1^-			%Iγ=0.60 *6*
1924.05 *15*	10.2 *8*	2026.02		102.04	2^+			%Iγ=0.72 *8*
1931.54 *20*	8.3 *10*	1931.33		0.0	0^+			%Iγ=0.59 *9*
1947.5[a] *10*	0.4[a] *3*	3367.95		1420.45	(2^-)			%Iγ=0.028 *22*
1947.5[a] *10*	0.4[a] *3*	3676.45	$2^+,3^-$	1729.64	(5^-)			%Iγ=0.028 *22*
1959.25 *20*	7.7 *6*	2061.35	$(1,2^+)$	102.04	2^+			%Iγ=0.55 *6*
1961.5 *5*	2.7 *3*	3132.54		1171.02	2^+			%Iγ=0.192 *27*
1969.3[a] *8*	2.8[a] *6*	3389.17		1420.45	(2^-)			%Iγ=0.20 *5*
1969.3[a] *8*	2.8[a] *6*	3400.08		1429.78	2^+			%Iγ=0.20 *5*
1974.72 *10*	17.2 *12*	1974.74		0.0	0^+			%Iγ=1.22 *13*
[x]1983.4 *7*	2.0 *5*							%Iγ=0.14 *4*
1994.7 *5*	0.8 *2*	3414.67		1420.45	(2^-)			%Iγ=0.057 *15*
[x]2000.4 *3*	3.3 *4*							%Iγ=0.234 *35*
[x]2005.2 *6*	1.5 *5*							%Iγ=0.11 *4*
2012.30 *20*	6.1 *6*	2114.11	(0^+)	102.04	2^+	[E2]	1.16×10^{-3}	α(K)=0.000744 *11*; α(L)=0.0001027 *15*; α(M)=2.26×10^{-5} *4* α(N)=5.25×10^{-6} *8*; α(O)=7.60×10^{-7} *11*; α(P)=4.23×10^{-8} *6*; α(IPF)=0.000288 *4* %Iγ=0.43 *6*
2015.75 *12*	15.8 *10*	3367.95		1352.18	1^-			%Iγ=1.12 *12*
[x]2022.4 *5*	1.3 *2*							%Iγ=0.092 *16*
[x]2030.8 *5*	1.3 *4*							%Iγ=0.092 *30*
2036.6 *4*	1.6 *4*	3389.17		1352.18	1^-			%Iγ=0.114 *30*
2049.2 *10*	2.1 *5*	3400.08		1352.18	1^-			%Iγ=0.15 *4*
2062.1[a] *4*	1.7[a] *4*	2061.35	$(1,2^+)$	0.0	0^+			%Iγ=0.121 *30*
2062.1[a] *4*	1.7[a] *4*	3414.67		1352.18	1^-			%Iγ=0.121 *30*
[x]2073.2 *5*	1.0 *2*							%Iγ=0.071 *16*
[x]2083.4 *5*	2.8 *4*							%Iγ=0.199 *33*
2089.9 *3*	3.5 *7*	2192.09	2^+	102.04	2^+	[M1,E2]	0.00131 *17*	α(K)=0.00080 *11*; α(L)=0.000111 *16*; α(M)=2.4×10^{-5} *4* α(N)=5.7×10^{-6} *8*; α(O)=8.3×10^{-7} *12*; α(P)=4.7×10^{-8} *8*; α(IPF)=0.00036 *4* %Iγ=0.25 *6*
2097.4[a] *4*	2.2[a] *5*	3267.60		1171.02	2^+			%Iγ=0.16 *4*
2097.4[a] *4*	2.2[a] *5*	3517.98	(2^+)	1420.45	(2^-)	[E1]	1.02×10^{-3}	α(K)=0.000329 *5*; α(L)=4.32×10^{-5} *6*; α(M)=9.43×10^{-6} *14* α(N)=2.19×10^{-6} *3*; α(O)=3.19×10^{-7} *5*; α(P)=1.82×10^{-8} *3*; α(IPF)=0.000633 *9* %Iγ=0.16 *4*

From ENSDF

$^{162}_{68}$Er$_{94}$-13

γ(^{162}Er) (continued)

E_γ	I_γ[‡&]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[@]	Comments
2103.84 *25*	4.9 *6*	2205.94		102.04	2^+			%Iγ=0.35 *5*
^{x}2109.9 *5*	1.7 *3*							%Iγ=0.121 *24*
^{x}2118.4 *10*	0.6 *2*							%Iγ=0.043 *15*
2130.5 *2*	6.5 *7*	3132.54		1002.12	3^+			%Iγ=0.46 *6*
2140.20 *11*	17.7 *8*	2242.21		102.04	2^+			%Iγ=1.26 *12*
2158.17 *23*	4.2 *5*	2260.24		102.04	2^+			%Iγ=0.30 *4*
2175.8 *5*	1.1 *4*	3676.45	$2^+,3^-$	1500.58	2^+	[M1,E2]	0.00128 *16*	α(K)=0.00074 *10*; α(L)=0.000102 *14*; α(M)=2.2×10^{-5} *3* α(N)=5.2×10^{-6} *7*; α(O)=7.6×10^{-7} *11*; α(P)=4.3×10^{-8} *7*; α(IPF)=0.00041 *5* %Iγ=0.078 *29*
^{x}2185.6 *3*	0.9 *4*							%Iγ=0.064 *29*
2192.35 *25*	4.1 *5*	2192.09	2^+	0.0	0^+	[E2]	1.12×10^{-3}	α(K)=0.000638 *9*; α(L)=8.73×10^{-5} *13*; α(M)=1.92×10^{-5} *3* α(N)=4.46×10^{-6} *7*; α(O)=6.47×10^{-7} *9*; α(P)=3.63×10^{-8} *5*; α(IPF)=0.000373 *6* %Iγ=0.29 *4*
^{x}2202.6 *10*	0.5 *2*							%Iγ=0.036 *15*
2206.5[a] *9*	1.1[a] *3*	2205.94		0.0	0^+			%Iγ=0.078 *22*
2206.5[a] *9*	1.1[a] *3*	3293.2		1087.16	0^+			%Iγ=0.078 *22*
^{x}2212.8 *8*	0.9 *3*							%Iγ=0.064 *22*
2216.80 *15*	7.8 *6*	2318.67		102.04	2^+			%Iγ=0.55 *6*
^{x}2227.6 *10*	1.4 *4*							%Iγ=0.099 *30*
2231.70 *8*	11.8 *8*	3132.54		900.74	2^+			%Iγ=0.84 *9*
^{x}2250.3 *5*	1.8 *4*							%Iγ=0.128 *30*
^{x}2257.4 *6*	1.6 *3*							%Iγ=0.114 *23*
2260.9 *5*	1.6 *4*	2260.24		0.0	0^+			%Iγ=0.114 *30*
2265.5 *5*	1.0 *3*	3267.60		1002.12	3^+			%Iγ=0.071 *22*
2269.3[a] *5*	1.1[a] *3*	2598.14		329.61	4^+			%Iγ=0.078 *22*
2269.3[a] *5*	1.1[a] *3*	3689.7		1420.45	(2^-)			%Iγ=0.078 *22*
2302.5 *5*	0.8 *2*	3389.17		1087.16	0^+			%Iγ=0.057 *15*
^{x}2305.4 *11*	0.7 *3*							%Iγ=0.050 *22*
^{x}2311.7 *3*	1.0 *2*							%Iγ=0.071 *16*
2319.1 *4*	1.9 *4*	2318.67		0.0	0^+			%Iγ=0.135 *31*
2323.7 *5*	1.0 *2*	3676.45	$2^+,3^-$	1352.18	1^-	[E1]	1.11×10^{-3}	α(K)=0.000280 *4*; α(L)=3.67×10^{-5} *6*; α(M)=8.00×10^{-6} *12* α(N)=1.86×10^{-6} *3*; α(O)=2.71×10^{-7} *4*; α(P)=1.545×10^{-8} *22*; α(IPF)=0.000785 *11* %Iγ=0.071 *16*
^{x}2329.2 *9*	1.1 *3*							%Iγ=0.078 *22*
2335.3 *9*	1.6 *4*	2664.46		329.61	4^+			%Iγ=0.114 *30*
^{x}2338.6 *5*	1.1 *2*							%Iγ=0.078 *16*
2347.7[a] *10*	0.5[a] *2*	2449.77		102.04	2^+			%Iγ=0.036 *15*

γ(^{162}Er) (continued)

Eγ	Iγ[‡&]	Ei(level)	J^π_i	Ef	J^π_f	Mult.[#]	α[@]	Comments
2347.7[a] *10*	0.5[a] *2*	3517.98	(2$^+$)	1171.02	2$^+$	[M1,E2]	0.00124 *14*	α(K)=0.00063 *7*; α(L)=8.7×10^{-5} *10*; α(M)=1.90×10^{-5} *22* α(N)=4.4×10^{-6} *6*; α(O)=6.4×10^{-7} *8*; α(P)=3.7×10^{-8} *5*; α(IPF)=0.00050 *5* %Iγ=0.036 *15*
^{x}2358.5 *3*	1.6 *3*							%Iγ=0.114 *23*
2368.1 *5*	0.5 *2*	3267.60		900.74	2$^+$			%Iγ=0.036 *15*
^{x}2376.3 *10*	1.6 *3*							%Iγ=0.114 *23*
^{x}2379.1 *5*	1.2 *3*							%Iγ=0.085 *23*
^{x}2384.4 *12*	0.6 *3*							%Iγ=0.043 *22*
2389.8 *5*	1.7 *4*	3517.98	(2$^+$)	1128.02	4$^+$	[E2]	1.11×10^{-3}	α(K)=0.000546 *8*; α(L)=7.43×10^{-5} *11*; α(M)=1.631×10^{-5} *23* α(N)=3.80×10^{-6} *6*; α(O)=5.51×10^{-7} *8*; α(P)=3.10×10^{-8} *5*; α(IPF)=0.000467 *7* %Iγ=0.121 *30*
^{x}2395.1 *7*	3.5 *5*							%Iγ=0.25 *4*
^{x}2403.7 *6*	1.0 *3*							%Iγ=0.071 *22*
^{x}2420.1 *10*	0.6 *2*							%Iγ=0.043 *15*
^{x}2439.3 *5*	0.5 *2*							%Iγ=0.036 *15*
2449.9 *3*	2.4 *4*	2449.77		0.0	0$^+$			%Iγ=0.170 *32*
^{x}2461.4 *10*	0.8 *2*							%Iγ=0.057 *15*
^{x}2465.1 *5*	2.0 *4*							%Iγ=0.142 *31*
^{x}2474.4 *5*	0.6 *2*							%Iγ=0.043 *15*
^{x}2480.0 *3*	2.7 *3*							%Iγ=0.192 *27*
2496.6 *10*	1.0 *3*	2598.14		102.04	2$^+$			%Iγ=0.071 *22*
2502.1 *5*	2.0 *4*	2603.8		102.04	2$^+$			%Iγ=0.142 *31*
2505.3 *5*	1.8 *4*	3676.45	2$^+$,3$^-$	1171.02	2$^+$	[M1,E2]	0.00123 *12*	α(K)=0.00055 *6*; α(L)=7.6×10^{-5} *8*; α(M)=1.66×10^{-5} *17* α(N)=3.9×10^{-6} *4*; α(O)=5.6×10^{-7} *6*; α(P)=3.2×10^{-8} *4*; α(IPF)=0.00058 *6* %Iγ=0.128 *30*
^{x}2513.2 *5*	1.1 *2*							%Iγ=0.078 *16*
^{x}2516.86 *20*	1.5 *4*							%Iγ=0.107 *30*
^{x}2521.5 *6*	0.5 *2*							%Iγ=0.036 *15*
^{x}2526.1 *5*	1.0 *3*							%Iγ=0.071 *22*
^{x}2543.1 *5*	1.8 *3*							%Iγ=0.128 *24*
2548.27 *20*	1.0 *3*	3676.45	2$^+$,3$^-$	1128.02	4$^+$	[E2]	1.11×10^{-3}	α(K)=0.000487 *7*; α(L)=6.60×10^{-5} *10*; α(M)=1.448×10^{-5} *21* α(N)=3.37×10^{-6} *5*; α(O)=4.90×10^{-7} *7*; α(P)=2.77×10^{-8} *4*; α(IPF)=0.000541 *8* %Iγ=0.071 *22*
^{x}2552.9 *13*	0.7 *3*							%Iγ=0.050 *22*
^{x}2557.5 *5*	1.3 *3*							%Iγ=0.092 *23*
2562.2 *5*	1.4 *3*	2664.46		102.04	2$^+$			%Iγ=0.099 *23*
^{x}2572.2 *5*	0.4 *1*							%Iγ=0.028 *8*

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γ(^{162}Er) (continued)

E_γ	I_γ [‡&]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	α [@]	Comments
^{x}2578.4 *10*	1.4 *3*							%Iγ=0.099 *23*
^{x}2588.0 *5*	0.5 *2*							%Iγ=0.036 *15*
^{x}2595.4 *5*	0.3 *1*							%Iγ=0.021 *7*
2603.6 *3*	3.0 *3*	2603.8		0.0	0^+			%Iγ=0.213 *28*
^{x}2612.0 *5*	0.4 *1*							%Iγ=0.028 *8*
^{x}2621.37 *20*	0.4 *1*							%Iγ=0.028 *8*
^{x}2652.7 *6*	0.8 *2*							%Iγ=0.057 *15*
^{x}2672.3 *5*	0.7 *2*							%Iγ=0.050 *15*
^{x}2678.6 *10*	0.1 *1*							%Iγ=0.007 *7*
2688.3 *10*	0.7 *2*	3689.7		1002.12	3^+			%Iγ=0.050 *15*
^{x}2698.8 *5*	1.5 *3*							%Iγ=0.107 *23*
^{x}2708.9 *3*	1.0 *3*							%Iγ=0.071 *22*
^{x}2712.7 *4*	2.0 *4*							%Iγ=0.142 *31*
^{x}2726.9 *5*	0.3 *1*							%Iγ=0.021 *7*
^{x}2735.2 *5*	0.3 *1*							%Iγ=0.021 *7*
^{x}2738.9 *5*	0.4 *2*							%Iγ=0.028 *15*
^{x}2756.5 *10*	0.6 *2*							%Iγ=0.043 *15*
^{x}2761.1 *5*	0.4 *2*							%Iγ=0.028 *15*
2775.8 *5*	0.6 *2*	3676.45	$2^+,3^-$	900.74	2^+	[M1,E2]	0.00124 *11*	α(K)=0.00045 *4*; α(L)=6.1×10^{-5} *5*; α(M)=1.34×10^{-5} *11* α(N)=3.12×10^{-6} *25*; α(O)=4.5×10^{-7} *4*; α(P)=2.60×10^{-8} *23*; α(IPF)=0.00072 *8* %Iγ=0.043 *15*
2786.9 *3*	0.4 *1*	3116.85	2^+	329.61	4^+	[E2]	1.14×10^{-3}	α(K)=0.000416 *6*; α(L)=5.61×10^{-5} *8*; α(M)=1.228×10^{-5} *18* α(N)=2.86×10^{-6} *4*; α(O)=4.16×10^{-7} *6*; α(P)=2.36×10^{-8} *4*; α(IPF)=0.000649 *9* %Iγ=0.028 *8*
^{x}2795.4 *5*	0.6 *2*							%Iγ=0.043 *15*
^{x}2800.8 *6*	1.3 *3*							%Iγ=0.092 *23*
^{x}2806.50 *20*	1.1 *3*							%Iγ=0.078 *22*
^{x}2810.2 *3*	0.5 *2*							%Iγ=0.036 *15*
^{x}2813.5 *5*	1.5 *3*							%Iγ=0.107 *23*
^{x}2822.2 *3*	0.6 *2*							%Iγ=0.043 *15*
^{x}2827.2 *8*	0.7 *2*							%Iγ=0.050 *15*
^{x}2881.4 *10*	0.3 *1*							%Iγ=0.021 *7*
^{x}2885.1 *10*	0.4 *2*							%Iγ=0.028 *15*
^{x}2888.3 *8*	0.7 *2*							%Iγ=0.050 *15*
^{x}2900.9 *10*	0.3 *1*							%Iγ=0.021 *7*
^{x}2909.5 *5*	1.6 *3*							%Iγ=0.114 *23*
^{x}2919.4 *10*	0.6 *2*							%Iγ=0.043 *15*
^{x}2942.5 *10*	0.4 *2*							%Iγ=0.028 *15*
^{x}2949.5 *5*	1.6 *3*							%Iγ=0.114 *23*

γ(^{162}Er) (continued)

E_γ	I_γ ‡&	E_i(level)	J_i^π	E_f	J_f^π	Mult.#	α@	Comments
^{x}2960.8 5	2.2 4							%Iγ=0.156 31
^{x}2970.3 5	1.1 2							%Iγ=0.078 16
^{x}2974.0 5	0.5 2							%Iγ=0.036 15
^{x}3003.6 6	1.1 2							%Iγ=0.078 16
^{x}3011.1 5	0.5 2							%Iγ=0.036 15
^{x}3018.5 6	0.5 2							%Iγ=0.036 15
^{x}3027.7 10	0.3 1							%Iγ=0.021 7
3040.7 10	0.5 2	3039.8		0.0	0^+			%Iγ=0.036 15
^{x}3055.5 10	0.6 2							%Iγ=0.043 15
^{x}3061.7 10	0.9 2							%Iγ=0.064 15
^{x}3073.6 10	0.5 2							%Iγ=0.036 15
3077.8 4	1.7 3	3180.3		102.04	2^+			%Iγ=0.121 24
^{x}3092.5 6	0.4 2							%Iγ=0.028 15
^{x}3103.5 10	0.7 2							%Iγ=0.050 15
^{x}3120.2 7	0.4 2							%Iγ=0.028 15
^{x}3127.6 6	0.4 2							%Iγ=0.028 15
^{x}3136.0 10	0.4 2							%Iγ=0.028 15
3165.5 4	3.2 5	3267.60		102.04	2^+			%Iγ=0.23 4
3181.2 6	2.5 5	3180.3		0.0	0^+			%Iγ=0.18 4
^{x}3185.8 10	1.1 3							%Iγ=0.078 22
3191.2 3	3.5 4	3293.2		102.04	2^+			%Iγ=0.25 4
^{x}3196.9 6	0.6 2							%Iγ=0.043 15
3267.1 8	0.6 2	3267.60		0.0	0^+			%Iγ=0.043 15
^{x}3280.1 10	1.1 2							%Iγ=0.078 16
3286.9 3	3.4 5	3389.17		102.04	2^+			%Iγ=0.24 4
3292.1 10	2.1 5	3293.2		0.0	0^+			%Iγ=0.15 4
3297.9 2	9.1 6	3400.08		102.04	2^+			%Iγ=0.65 7
^{x}3317.1 7	0.3 1							%Iγ=0.021 7
3333.7 8	1.0 2	3435.8		102.04	2^+			%Iγ=0.071 16
^{x}3358.4 5	0.3 1							%Iγ=0.021 7
^{x}3362.1 10	0.4 2							%Iγ=0.028 15
3367.6 7	0.5 2	3367.95		0.0	0^+			%Iγ=0.036 15
3389.5 5	4.5 6	3389.17		0.0	0^+			%Iγ=0.32 5
^{x}3393.6 10	1.5 2							%Iγ=0.107 17
3400.3 3	3.4 5	3400.08		0.0	0^+			%Iγ=0.24 4
3415.7 4	3.6 5	3517.98	(2^+)	102.04	2^+	[M1,E2]	0.00136 11	α(K)=0.000298 8; α(L)=4.01×10^{-5} 14; α(M)=8.8×10^{-6} 3 α(N)=2.05×10^{-6} 8; α(O)=2.99×10^{-7} 11; α(P)=1.71×10^{-8} 7; α(IPF)=0.00101 10 %Iγ=0.26 4
^{x}3420.5 5	0.9 2							%Iγ=0.064 15
^{x}3426.0 10	0.2 1							%Iγ=0.014 7
3435.8 4	1.6 2	3435.8		0.0	0^+			%Iγ=0.114 17

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$\gamma(^{162}Er)$ (continued)

E_γ	I_γ[‡&]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[@]	Comments
^{x}3463.1 *10*	0.3 *1*							%Iγ=0.021 *7*
^{x}3470.6 *8*	0.5 *2*							%Iγ=0.036 *15*
^{x}3476.3 *7*	0.9 *2*							%Iγ=0.064 *15*
^{x}3485.1 *10*	0.7 *2*							%Iγ=0.050 *15*
^{x}3494.4 *4*	2.3 *4*							%Iγ=0.163 *32*
^{x}3503.7 *7*	1.1 *2*							%Iγ=0.078 *16*
^{x}3515.0 *10*	0.5 *2*							%Iγ=0.036 *15*
3517.8 *10*	1.1 *2*	3517.98	(2^+)	0.0	0^+	[E2]	1.28×10^{-3}	α(K)=0.000277 *4*; α(L)=3.69×10^{-5} *6*; α(M)=8.08×10^{-6} *12* α(N)=1.88×10^{-6} *3*; α(O)=2.74×10^{-7} *4*; α(P)=1.568×10^{-8} *22*; α(IPF)=0.000956 *14* %Iγ=0.078 *16*
^{x}3533.5 *8*	1.6 *3*							%Iγ=0.114 *23*
^{x}3536.3 *10*	1.4 *3*							%Iγ=0.099 *23*
^{x}3549.3 *8*	0.4 *2*							%Iγ=0.028 *15*
^{x}3567.8 *10*	0.5 *2*							%Iγ=0.036 *15*
3574.58 *20*	5.9 *5*	3676.45	$2^+,3^-$	102.04	2^+	[M1,E2]	0.00140 *11*	α(K)=0.000272 *5*; α(L)=3.67×10^{-5} *10*; α(M)=8.03×10^{-6} *22* α(N)=1.87×10^{-6} *5*; α(O)=2.73×10^{-7} *8*; α(P)=1.57×10^{-8} *5*; α(IPF)=0.00108 *11* %Iγ=0.42 *5*
3587.2 *4*	2.1 *3*	3689.7		102.04	2^+			%Iγ=0.149 *25*
^{x}3597.5 *10*	0.20 *10*							%Iγ=0.014 *7*
^{x}3618.8 *10*	0.4 *2*							%Iγ=0.028 *15*
^{x}3619.8 *10*	0.4 *2*							%Iγ=0.028 *15*
^{x}3670.8 *10*	0.10 *5*							%Iγ=0.007 *4*
^{x}3699.5 *10*	0.2 *1*							%Iγ=0.014 *7*
^{x}3723.6 *10*	0.3 *1*							%Iγ=0.021 *7*
^{x}3736.6 *10*	0.2 *1*							%Iγ=0.014 *7*
^{x}3745.0 *3*	1.6 *2*							%Iγ=0.114 *17*
^{x}3765.3 *8*	0.10 *5*							%Iγ=0.007 *4*
^{x}3783.9 *10*	0.15 *5*							%Iγ=0.011 *4*
^{x}3796.9 *10*	0.3 *1*							%Iγ=0.021 *7*
^{x}3801.7 *7*	0.4 *1*							%Iγ=0.028 *8*
^{x}3861.0 *10*	0.3 *1*							%Iγ=0.021 *7*
^{x}3877.6 *10*	0.2 *1*							%Iγ=0.014 *7*

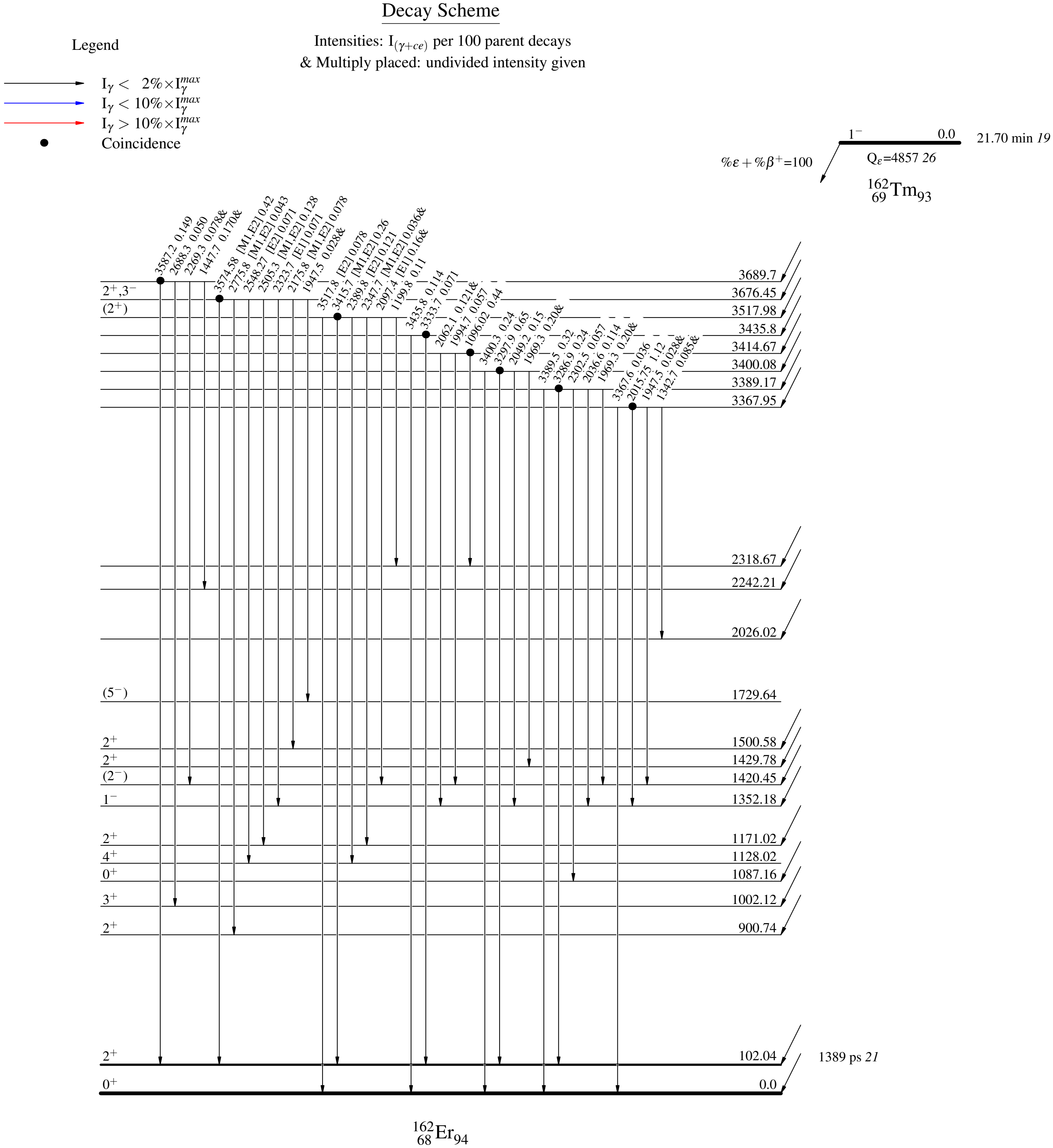
[†] Values from 2002Ca35.

[‡] Pairs of γ′s at 570 (Iγ=29.5), 672 (Iγ=97.4 *29*), 798 (Iγ=129 *4*), 900 (Iγ=165 *5*), 1027 (Iγ=13.0 *8*), and 1170 (Iγ=12.8 *13*) are unresolved in the γ singles, but their individual intensities are deduced (1974De47) from coincidence data. 2002Ca35, however, conclude that this latter peak is a single transition, which leads to significant revisions in the level scheme and its interpretation.

γ(^{162}Er) (continued)

[#] From ^{162}Er Adopted γ radiations and based on data of 1963Ab02, 1965Ab05, 1974De47, 1975St12, 1987BaZB, and 2013Bl07; or they are deduced from the assigned J^π and are shown in square brackets.
[@] Additional information 7.
[&] For absolute intensity per 100 decays, multiply by 0.071 *6*.
[a] Multiply placed with undivided intensity.
[x] γ ray not placed in level scheme.

^{162}Tm ε decay (21.70 min) 1974De47,1982By03

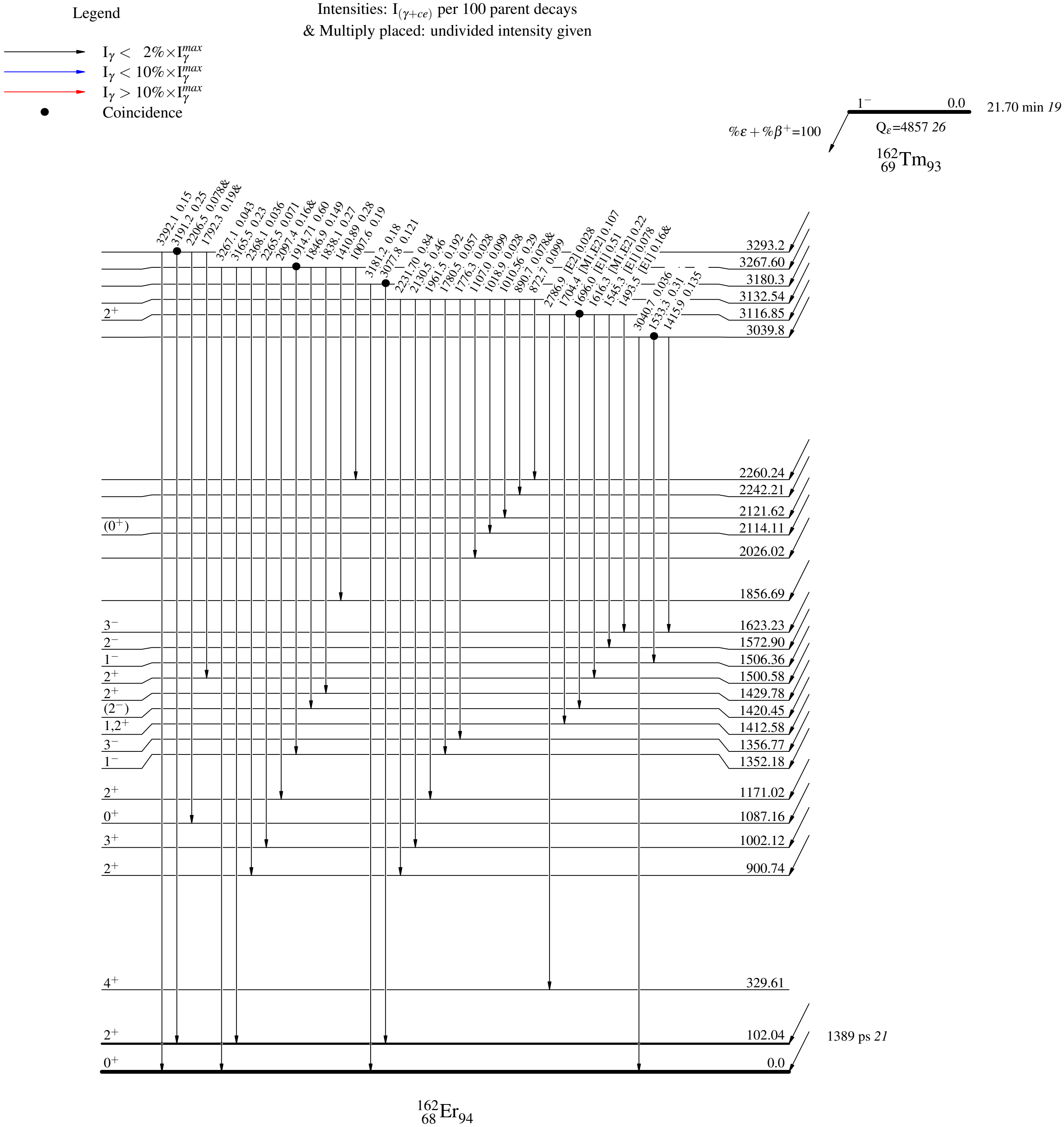


^{162}Tm ε decay (21.70 min) 1974De47,1982By03

Decay Scheme (continued)

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

& Multiply placed: undivided intensity given

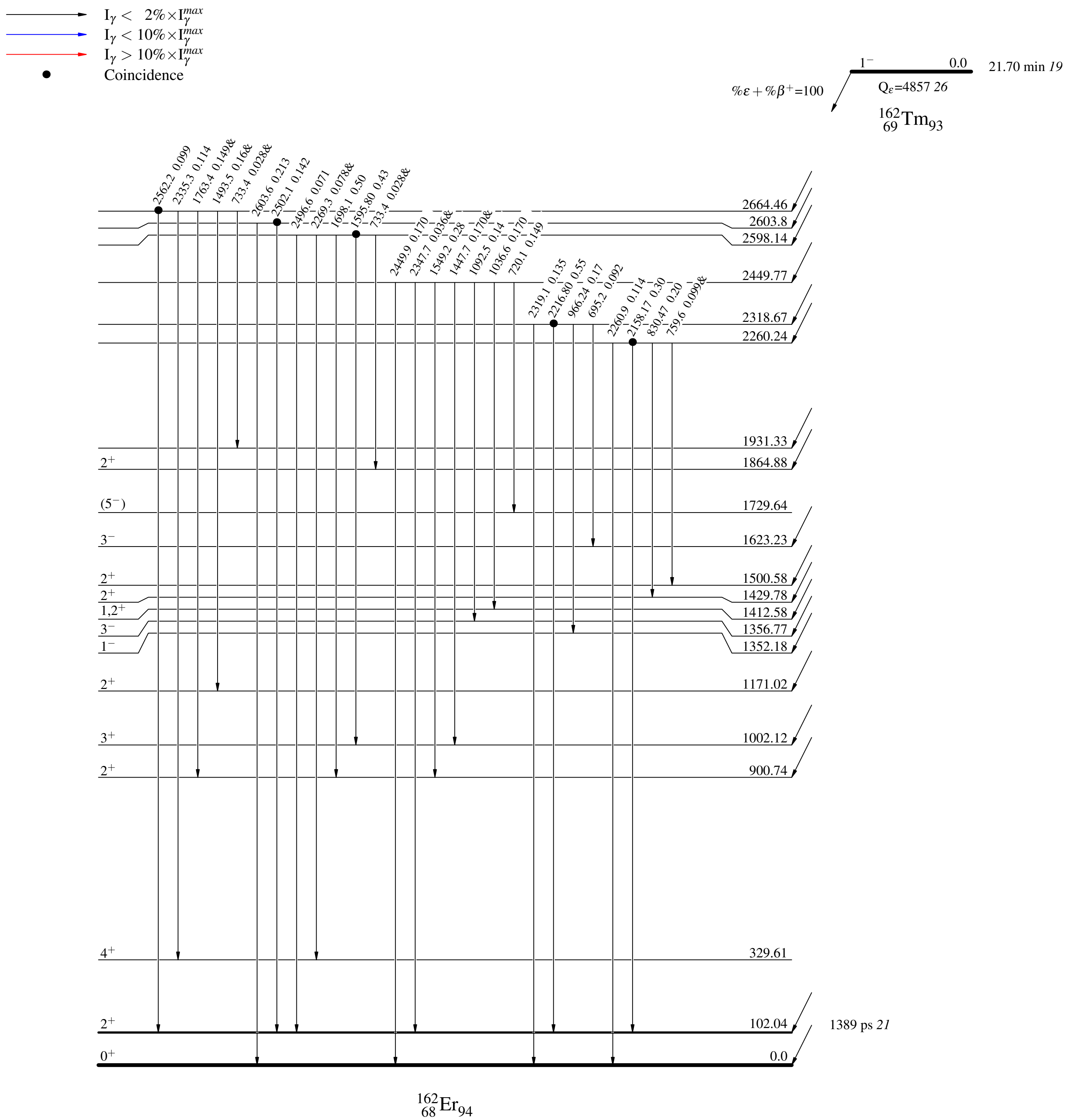


^{162}Tm ε decay (21.70 min) 1974De47,1982By03

Decay Scheme (continued)

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

Legend

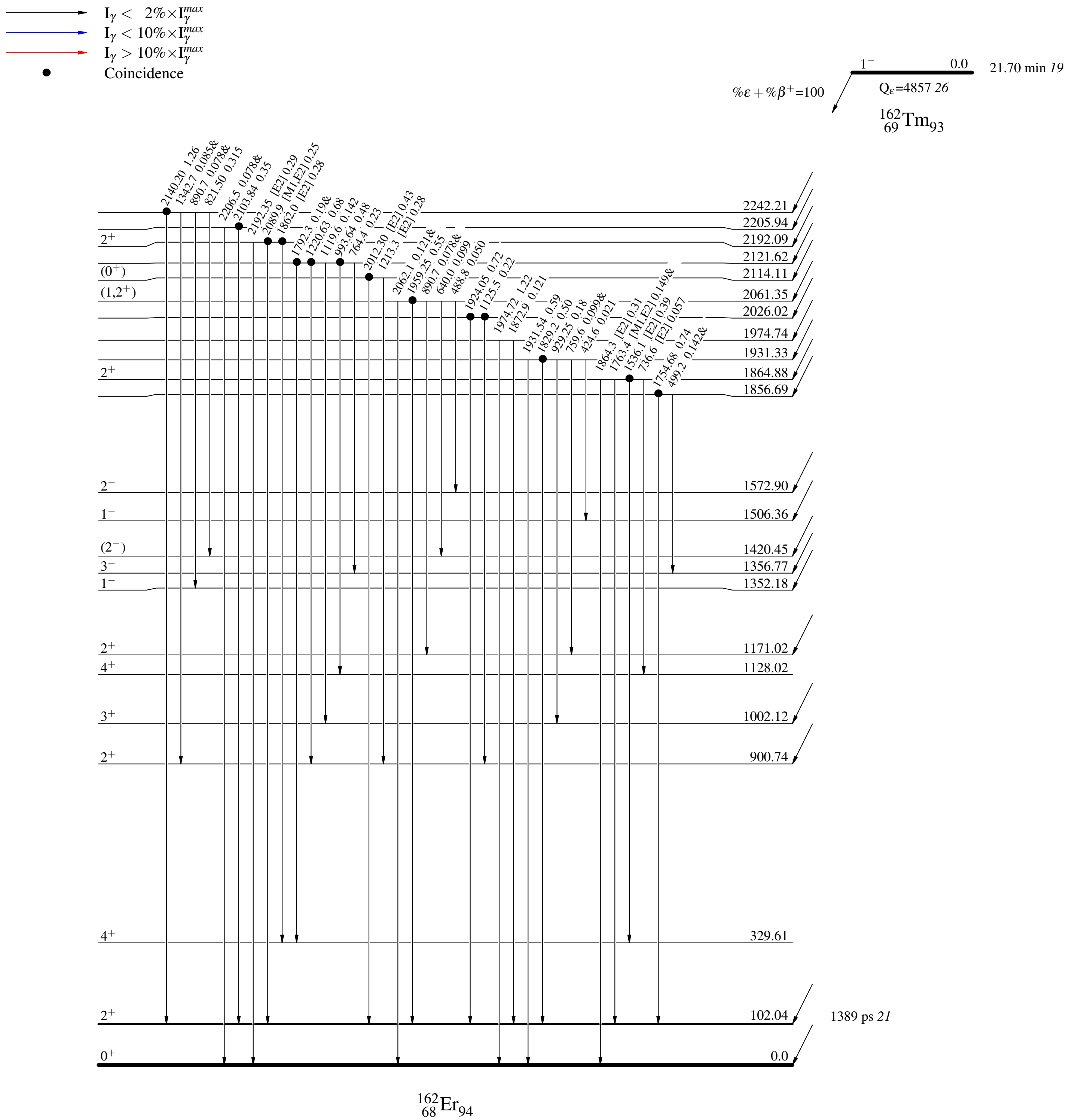


^{162}Tm ε decay (21.70 min) 1974De47,1982By03

Decay Scheme (continued)

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

& Multiply placed: undivided intensity given

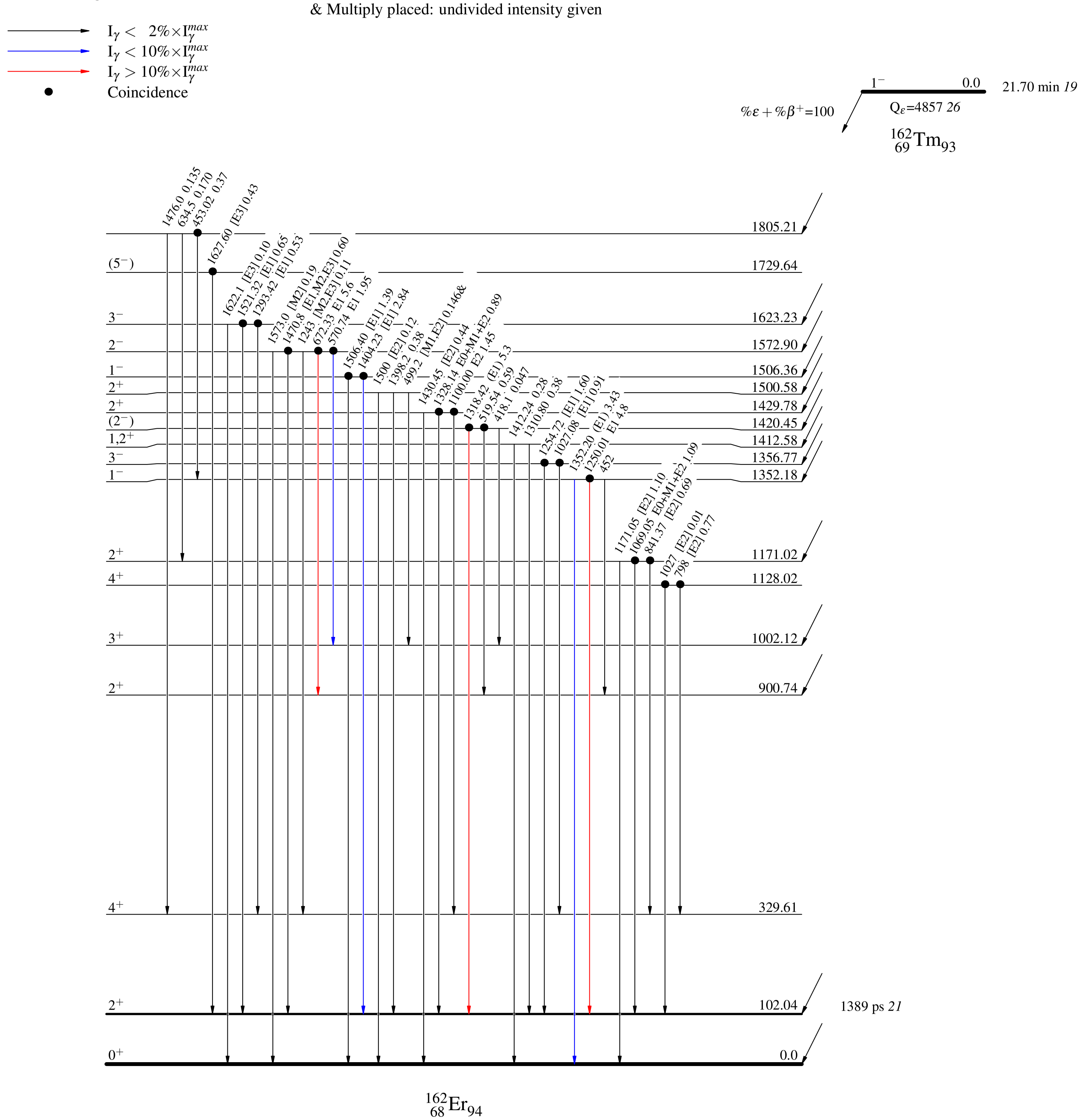


^{162}Tm ε decay (21.70 min) 1974De47,1982By03

Decay Scheme (continued)

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

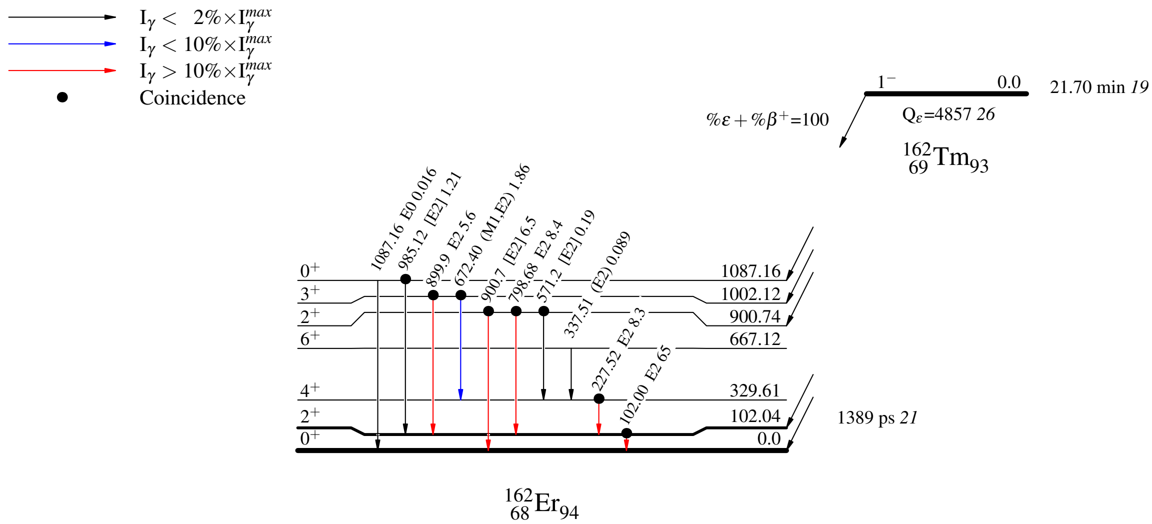
Legend



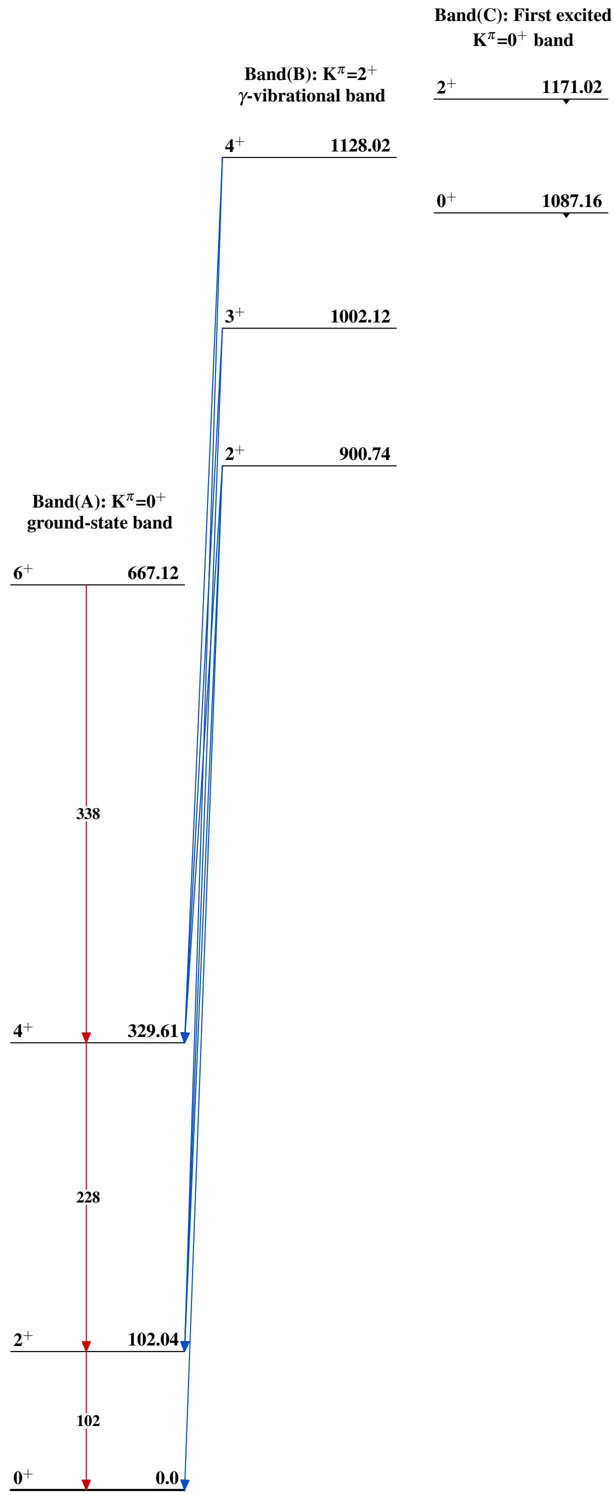
^{162}Tm ε decay (21.70 min) 1974De47,1982By03

Decay Scheme (continued)

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

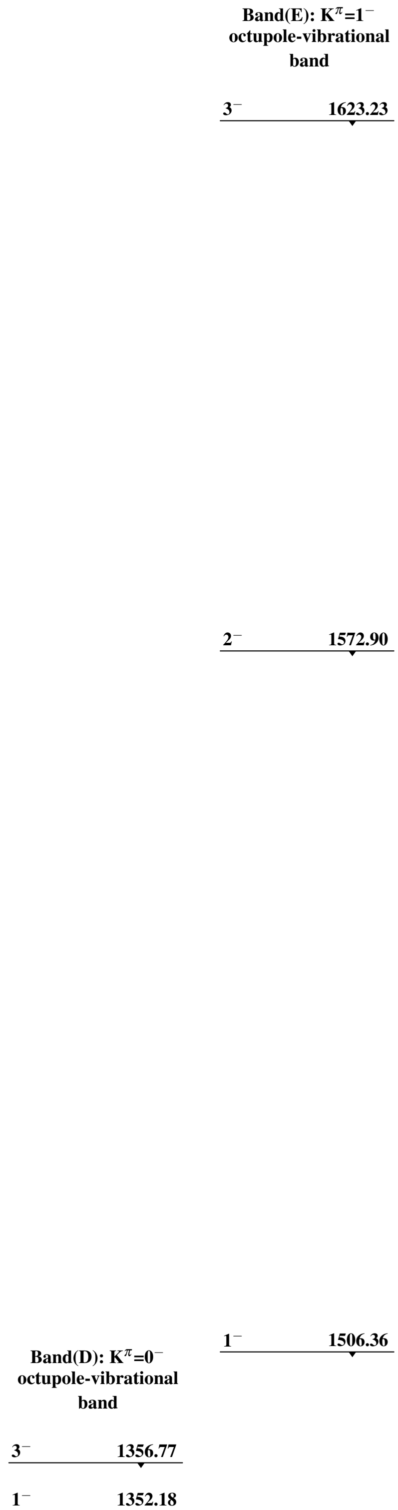


^{162}Tm ε decay (21.70 min) 1974De47,1982By03



$^{162}_{68}Er_{94}$

^{162}Tm ε decay (21.70 min) 1974De47,1982By03 (continued)



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