^{155}Dy ε decay 1980Ab17

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 160, 1 (2019)	21-Oct-2019

Parent: ^{155}Dy: E=0.0; J$^\pi$=3/2$^-$; T$_{1/2}$=9.9 h *2*; Q(ε)=2094.5 *19*; %ε+%β^+ decay=100.0

Additional information 1.

The decay scheme presented here is based largely on the data of 1980Ab17. This same information is also given in 1980AbZZ. Other references: 1977Al30, 1973Ba06, 1972Ha41, 1969Ju02, 1967Bl12, 1963Pe13.

1980Ab17: ^{155}Dy source material obtained through chemical and isotopic separation of reaction products from 660-MeV proton spallation on a Ta target. Measured Eγ, Iγ using a Ge(Li) detector. Measured E(ce), Ice using constant uniform-field β spectrographs, with the electrons being recorded in photographic plates. A Si(Li) detector was also used to detect conversion electrons.

1980Bu04: measure β^+ spectra of chemically and isotopically purified ^{155}Dy sources, using an iron-free β-ray spectrometer having a toroidal magnetic field. Maximum transmission was ≈20%, and the resolution was ≈1.1%.

1996AdZW measure the γ spectra from the ^{155}Dy decay using a variety of Ge detectors. Source material was produced via 660-MeV proton bombardment of a target, followed by chemical and isotope separation. A number of previously unreported weak γ's were observed, but not placed in the decay scheme.

1984ShZN and 1996KrZY use low-temperature nuclear orientation of chemically and isotopically separated ^{155}Dy samples embedded in a Gd matrix to deduce mixing ratios for a number of the ^{155}Tb γ rays.

1998AdZX measure $\gamma\gamma$ coincidences using HPGe detectors. These authors report the following new levels (with J^π values in parentheses): 614 (3/2$^+$,5/2,7/2$^-$); 726 (5/2$^+$,7/2,9/2$^-$); 937; 940 (5/2$^+$,7/2,9/2$^-$); 1086; 1316; 1709; 1722; and 1773. They list several γ's connecting these levels as well as previously reported levels. These levels and γ's are given to only the nearest keV; and no multipolarities are given. Association of some of these γ's and some of the listed levels with previously established levels is problematic. Other than this comment, the evaluator has not included this information in this data set.

^{155}Tb Levels

E(level)[†]	J$^\pi$[‡]	T$_{1/2}$	Comments
0.0[#]	3/2$^+$	5.32 d *6*	
65.4609[#] *24*	5/2$^+$	0.25 ns *3*	T$_{1/2}$: from 1977Al30, γce(t) and ce-ce(t).
155.783[#] *3*	7/2$^+$	≤0.2 ns	T$_{1/2}$: from 1977Al30, γce(t). These authors show that the value T$_{1/2}$=1.16 ns *7* reported for this level by 1970Va40 is in fact associated with the 105.3 level in ^{155}Gd.
226.916[@] *3*	5/2$^-$	0.35 ns *3*	T$_{1/2}$: weighted average of: 0.29 ns *3* (1977Al30), γce(t); 0.306 ns *22* (1970Va40), γce(t); 0.44 ns *3* (1967Ma33) $\gamma\gamma$(t); 0.45 ns *4* (1967Ko17), Xγ(t); 0.32 ns *5* (1967Ha12), Xγ(t) and $\gamma\gamma$(t); 0.32 ns *5* (1966Be45) $\gamma\gamma$(t).
250.028[@] *4*	7/2$^-$	0.56 ns *5*	T$_{1/2}$: from 1977Al30, γce(t).
271.042[&] *4*	5/2$^+$		
274.073[#] *8*	9/2$^+$		
317.045[@] *10*	9/2$^-$		
334.824[&] *9*	7/2$^+$		
466.782[b] *13*	7/2$^+$		
498.639[a] *9*	5/2$^+$		
508.394 *19*	1/2$^+$,3/2$^+$,5/2$^+$		
517.541[a] *15*	3/2$^+$,5/2$^+$,7/2$^+$		
544.889 *15*	7/2$^-$		1980Bu04 report Iβ^+=0.20 *3* for a β^+ branch with E(ε)=1556. The implied I(ε+β^+) value is too large to be consistent with the decay scheme.
549.603 *10*	3/2$^+$		
652.031 *13*	5/2$^+$		
743.92 *3*	7/2$^+$		
760.626 *21*	3/2$^+$		
809.524 *17*	5/2$^+$		

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^{155}Dy ε decay 1980Ab17 (continued)

^{155}Tb Levels (continued)

E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡
861.87 7	3/2+,5/2+	1155.482 12	5/2−	1656.39 6	5/2−	1868.95 5	3/2+,5/2+
891.137 10	3/2−	1255.85 3	7/2−	1664.913 13	5/2−	1911.19 4	(5/2)−
906.42 5	(5/2−)	1294.960 25	5/2−	1750.098 17	5/2−	1913.60 4	5/2−
950.38 8	3/2−	1452.00 3	3/2−,5/2−	1793.643 24	5/2+	1954.72 4	(3/2,5/2)−
1062.074 18	5/2−	1470.98 4	3/2+,5/2+	1835.82 6	3/2,5/2	1991.78 6	3/2−
1068.368 16	3/2−	1492.635 17	5/2−	1860.95 7	1/2+,3/2,5/2		
1120.001 23	7/2+	1638.848 16	5/2−	1865.82 3	5/2−		

† Computed from a least-squares fit to the listed Eγ values. χ^2 norm = 9.3 greater than χ^2 critical = 1.3.
‡ From adopted values.
\# Band(A): Member of the 3/2[411] band.
@ Band(B): Member of the 5/2(532) band. This band is strongly Coriolis mixed with other h11/2-related Nilsson orbitals.
& Band(C): Member of the 5/2[413] band.
a Band(D): Bandhead of 5/2[402].
b Band(E): Probable 7/2[404] bandhead.

ε,β^+ radiations

E(decay)	E(level)	Iβ+ †	Iε†	Log ft	I(ε+β+)†	Comments
(102.7 19)	1991.78		0.047 6	6.42 7	0.047 6	εK=0.601 9; εL=0.299 7; εM+=0.0999 24
(139.8 19)	1954.72		0.096 11	6.52 6	0.096 11	εK=0.701 4; εL=0.2264 23; εM+=0.0728 9
(180.9 19)	1913.60		0.105 6	6.79 3	0.105 6	εK=0.7464 15; εL=0.1930 11; εM+=0.0606 4
(183.3 19)	1911.19		0.124 11	6.73 5	0.124 11	εK=0.7482 14; εL=0.1917 11; εM+=0.0601 4
(225.6 19)	1868.95		0.100 8	7.05 4	0.100 8	εK=0.7715 8; εL=0.1745 6; εM+=0.05395 22
(228.7 19)	1865.82		0.389 21	6.48 3	0.389 21	εK=0.7728 8; εL=0.1736 6; εM+=0.05362 21
(233.6 19)	1860.95		0.043 3	7.46 4	0.043 3	εK=0.7747 8; εL=0.1722 6; εM+=0.05311 20
(258.7 19)	1835.82		0.097 11	7.21 5	0.097 11	εK=0.7831 6; εL=0.1660 5; εM+=0.05091 15
(300.9 19)	1793.643		0.484 15	6.671 18	0.484 15	εK=0.7933 4; εL=0.1584 3; εM+=0.04822 10
(344.4 19)	1750.098		2.19 7	6.151 18	2.19 7	εK=0.8008 3; εL=0.15294 21; εM+=0.04628 8
(429.6 19)	1664.913		4.70 14	6.037 17	4.70 14	εK=0.8103 2; εL=0.1459 2; εM+=0.04379 5
(438.1 19)	1656.39		0.268 22	7.30 4	0.268 22	εK=0.8110 2; εL=0.1454 2; εM+=0.04361 5
(455.7 19)	1638.848		2.9 7	6.30 11	2.9 7	εK=0.8124 2; εL=0.1443 1; εM+=0.04325 4
(601.9 19)	1492.635		1.61 4	6.823 15	1.61 4	εK=0.8205; εL=0.13835 6; εM+=0.04115 2
(623.5 19)	1470.98		0.093 9	8.09 5	0.093 9	εK=0.8213; εL=0.13772 6; εM+=0.04093 2
(642.5 19)	1452.00		0.40 11	7.49 12	0.40 11	εK=0.8220; εL=0.13722 5; εM+=0.04076 2
(799.5 19)	1294.960		0.79 8	7.40 5	0.79 8	εK=0.8264; εL=0.13401 3; εM+=0.03964 1
(838.7‡ 19)	1255.85					εK=0.8272; εL=0.13341 3; εM+=0.03943 1 Iε: 0.26 6 from intensity balance is incompatible with second-forbidden ΔJ=2, Δπ=no transition, possibly due to missing γ-ray intensity at this level.
(939.0 19)	1155.482		9.4 8	6.47 4	9.4 8	εK=0.8289; εL=0.13212 3; εM+=0.038980 8
(974.5 19)	1120.001		0.289 17	8.54^{1u} 3	0.289 17	εK=0.8122; εL=0.14444 6; εM+=0.04337 2
(1026.1 19)	1068.368		0.57 4	7.77 4	0.57 4	εK=0.8301; εL=0.13121 2; εM+=0.038666 7
(1032.4 19)	1062.074		1.28 4	7.420 17	1.28 4	εK=0.8302; εL=0.13115 2; εM+=0.038645 7
(1144.1 19)	950.38		0.101 7	8.62 4	0.101 7	εK=0.8315; εL=0.13022 2; εM+=0.038320 5
(1188.1 19)	906.42		0.015 9	9.5 3	0.015 9	εK=0.8319; εL=0.12990 2; εM+=0.038209 5
(1203.4 19)	891.137		4.10 9	7.053 13	4.10 9	εK=0.8320; εL=0.12979 2; εM+=0.038173 5
(1232.6 19)	861.87		0.122 14	8.60 5	0.122 14	εK=0.8322; εL=0.1296; εM+=0.038105 5
(1333.9 19)	760.626		0.234 21	8.39 4	0.234 21	εK=0.8328; εL=0.1290; εM+=0.037885 4
(1350.6 19)	743.92		0.05 4	9.9^{1u} 4	0.05 4	εK=0.8218; εL=0.13729 3; εM+=0.040827 9
(1577.0 19)	517.541	0.00044 7	0.109 18	8.87 8	0.109 18	av Eβ=262.89 84; εK=0.8312; εL=0.12738 2;

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^{155}Dy ε decay 1980Ab17 (continued)

ε,β+ radiations (continued)

E(decay)	E(level)	Iβ+ †	Iε†	Log *ft*	I(ε+β+)†	Comments
						εM+=0.037364 *5* Log *ft*: if $J^{\pi}=7/2^+$, this transition is 1u. In that case, log $f^{1u}t$=9.83 *8*.
(1586.1 *19*)	508.394	0.0044 *3*	1.03 *6*	7.90 *3*	1.03 *6*	av Eβ=266.92 *84*; εK=0.8311; εL=0.12731 *2*; εM+=0.037342 *5*
(1627.7 *19*)	466.782		0.16 *4*	9.72^{1u} *11*	0.16 *4*	εK=0.8250; εL=0.13426 *2*; εM+=0.039761 *7*
(1777.5‡ *19*)	317.045					av Eβ=350.97 *84*; εK=0.82480 *9*; εL=0.12558 *2*; εM+=0.036801 *7* I(ε+β+): 0.33 *4* from intensity balance is incompatible with second-forbidden unique ΔJ=3, Δπ=no transition, possibly due to missing γ-ray intensity at this level.
(1867.6 *19*)	226.916	1.28 *4*	65.3 *17*	6.244 *15*	66.6 *17*	av Eβ=390.50 *84*; εK=0.8198 *2*; εL=0.12452 *3*; εM+=0.036475 *8* E(decay): 1980Bu04 report Eβ+=845 *2*. 1963Pe13 report Eβ+=850 *6*. Iβ+: Iβ+/I(γ+ce)(226γ)=0.018 *1* (1963Pe13). 1980Bu04 report Iβ+/Ice(K)(226γ)=0.95 *7* and Iβ+=1.95% *25*. Their reported ε to β+ intensity ratio differs considerably from the theoretical prediction.
(2029.0 *19*)	65.4609	0.039 *7*	1.1 *2*	8.11 *8*	1.1 *2*	av Eβ=461.39 *84*; εK=0.8070 *2*; εL=0.12211 *4*; εM+=0.03575 *1* E(decay): 1980Bu04 report Eβ+=1030 *5*. Iβ+: from Iβ+/Ice(K)(226.9γ)=0.019 *3* (1980Bu04). The I(γ+ce) balance at this level suggests no ε+β+ feeding. However, one of the γ transitions (the 1090.0γ) feeding this level is part of a doublet having Iγ=4.01 *10*. If a significant fraction of this Iγ value is associated with the other placement, then the resulting I(γ+ce) balance at this level would allow some ε+β+ feeding.
(2094.5 *19*)	0.0	0.065 *17*	1.4 *4*	8.00 *12*	1.5 *4*	av Eβ=490.21 *84*; εK=0.8004 *2*; εL=0.12094 *4*; εM+=0.03540 *1* E(decay): 1980Bu04 report Eβ+=1090 *15*. 1963Pe13 report Eβ+=1075 *8*.

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

γ(^{155}Tb)

Iγ normalization: Computed by requiring that the total intensity of all radiations feeding the g.s. be 100%. The ε+β^+ intensity to the g.s. was obtained using Iβ^+(g.s.)/I(γ+ce)(226.9γ)=0.00091 *25*. This value is a weighted average of the values Iβ^+(g.s.)/I(γ+ce)(226.9γ)=0.0013 *3* (1963Pe13) and Iβ^+(g.s.)/I(γ+ce)(226.9γ)=0.00075 *19* resulting from Iβ^+(g.s.)/Ice(K)(226.9γ)=0.027 *7* (1980Bu04). Note that, with many (albeit weak) unplaced γ transitions, the g.s. feeding used in the Iγ normalization calculation may be too small.

The Ice values of 1980Ab17 are reported to have uncertainties ≤20%. These uncertainties are generally not listed explicitly in this evaluation but they have been taken into account in the calculation of the Iγ, δ and α values that are based on these ce data.

E_γ[†]	I_γ[‡@f]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[&]	δ[bc]	α[e]	Comments
21.005 *5*	0.021 *8*	271.042	5/2$^+$	250.028	7/2$^-$	[E1]		3.85	%Iγ=0.014 *6* α(L)=3.01 *5*; α(M)=0.671 *10* α(N)=0.1468 *21*; α(O)=0.0179 *3*; α(P)=0.000547 *8*
23.13 *3*	0.038 *10*	250.028	7/2$^-$	226.916	5/2$^-$	M1+E2	0.118 *5*	49.3 *22*	%Iγ=0.026 *7* α(L)=38.3 *17*; α(M)=8.7 *4* α(N)=1.97 *9*; α(O)=0.275 *12*; α(P)=0.00997 *15*
^{x}23.96 *5*									I$_\gamma$: photons not observed. Ice(L1)=0.070, relative to Ice(K)=2.870 for the strong 226.9 E1 transition.
42.964 *18*	0.12 *2*	317.045	9/2$^-$	274.073	9/2$^+$	[E1]		0.525	%Iγ=0.082 *14* α(L)=0.412 *6*; α(M)=0.0903 *13* α(N)=0.0202 *3*; α(O)=0.00273 *4*; α(P)=0.0001096 *16* I$_\gamma$: photons not observed. Listed value was calculated from Ice(L1)=0.024, assuming mult=E1.
63.781 *15*	0.026 *5*	334.824	7/2$^+$	271.042	5/2$^+$	M1+E2	0.19 *3*	8.27 *14*	%Iγ=0.0179 *34* α(K)=6.62 *11*; α(L)=1.29 *10*; α(M)=0.288 *23* α(N)=0.066 *6*; α(O)=0.0097 *7*; α(P)=0.000495 *8* I$_\gamma$: calculated from measured Ice(K) using δ=0.19 *3*. Ice(K)=0.178, Ice(L1)=0.024, Ice(L2)=0.006, relative to Ice(K)=2.870 for the 226.9 E1 transition.
65.459 *3*	2.68 *5*	65.4609	5/2$^+$	0.0	3/2$^+$	M1+E2	0.144 *5*	7.58	%Iγ=1.84 *4* α(K)=6.20 *9*; α(L)=1.072 *19*; α(M)=0.238 *5* α(N)=0.0546 *10*; α(O)=0.00816 *14*; α(P)=0.000464 *7* δ: weighted average of 0.128 *13* (1987BaZB,1987BaYQ) and 0.147 *5* (1971AkZT,1971AkZU). Other: 0.087 *2* (1980Ab17). (All of these values are those as computed by the evaluator from the measured L-subshell ratios.).
67.029 *10*	0.058 *4*	317.045	9/2$^-$	250.028	7/2$^-$	M1+E2	0.13 *3*	7.05 *11*	%Iγ=0.0398 *28* α(K)=5.81 *9*; α(L)=0.97 *6*; α(M)=0.214 *14* α(N)=0.049 *3*; α(O)=0.0074 *4*; α(P)=0.000434 *7*
^{x}68.855 *23*	0.018 *8*								%Iγ=0.012 *5*
71.157 *10*	0.064 *4*	226.916	5/2$^-$	155.783	7/2$^+$	E1		0.743	%Iγ=0.0440 *28* α(K)=0.615 *9*; α(L)=0.0999 *14*; α(M)=0.0218 *3* α(N)=0.00493 *7*; α(O)=0.000697 *10*; α(P)=3.26×10^{-5} *5*

γ(^{155}Tb) (continued)

E_γ[†]	I_γ[‡@f]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[&]	δ[bc]	α[e]	Comments
84.83 *4*	0.032 *8*	334.824	7/2+	250.028	7/2−	[E1]		0.466	%Iγ=0.022 *6* α(K)=0.389 *6*; α(L)=0.0610 *9*; α(M)=0.01330 *19* α(N)=0.00301 *5*; α(O)=0.000432 *6*; α(P)=2.11×10^{-5} *3* Mult.: from α(K)exp=1.2 *4* for this γ. Since it is a Δπ=yes transition, this leads to mult=E1+M2, with δ=0.17 *+4−5*. Such a large δ value seems unlikely for this (low-energy) transition.
90.326 *2*	1.56 *3*	155.783	7/2+	65.4609	5/2+	M1+E2	0.140 *4*	2.96	%Iγ=1.072 *26* α(K)=2.46 *4*; α(L)=0.390 *6*; α(M)=0.0859 *13* α(N)=0.0198 *3*; α(O)=0.00300 *5*; α(P)=0.000183 *3* δ: average of 0.135 *5* (1980Ab17) and 0.144 *10* (1987BaZB,1987BaYQ), both values being those calculated by the evaluator from the respective L-subshell ratios.
107.925 *15*	0.070 *5*	334.824	7/2+	226.916	5/2−	E1		0.245	%Iγ=0.0481 *35* α(K)=0.205 *3*; α(L)=0.0311 *5*; α(M)=0.00677 *10* α(N)=0.001539 *22*; α(O)=0.000223 *4*; α(P)=1.150×10^{-5} *17*
115.268 *7*	0.142 *8*	271.042	5/2+	155.783	7/2+	M1+E2	0.19 *1*	1.466	%Iγ=0.098 *6* α(K)=1.218 *18*; α(L)=0.194 *4*; α(M)=0.0428 *7* α(N)=0.00985 *16*; α(O)=0.001491 *23*; α(P)=9.00×10^{-5} *13*
118.304 *10*	0.141 *8*	274.073	9/2+	155.783	7/2+	M1		1.359	%Iγ=0.097 *6* α(K)=1.146 *16*; α(L)=0.1666 *24*; α(M)=0.0364 *5* α(N)=0.00842 *12*; α(O)=0.001296 *19*; α(P)=8.53×10^{-5} *12*
x121.083 *12*									%Iγ=0.012 *5* I_γ: photons not observed. Ice(K)=0.010, relative to Ice(K)=2.870 for the strong 226.9 E1 transition.
131.946 *11*	0.030 *9*	466.782	7/2+	334.824	7/2+	[M1,E2]		0.977 *24*	%Iγ=0.021 *6* α(K)=0.69 *16*; α(L)=0.22 *11*; α(M)=0.052 *25* α(N)=0.0117 *56*; α(O)=0.00161 *66*; α(P)=4.5×10^{-5} *18* I_γ: photons not observed. Value computed using Ice(K)=0.020 and the α(K) values for mult=M1,E2 (from the level scheme).
134.552 *14*	0.019 *6*	652.031	5/2+	517.541	3/2+,5/2+,7/2+	[M1,E2]		0.92 *3*	%Iγ=0.013 *4* α(K)=0.65 *15*; α(L)=0.207 *92*; α(M)=0.048 *23* α(N)=0.0108 *50*; α(O)=0.00149 *60*; α(P)=4.3×10^{-5} *17* I_γ: photons not observed. Value computed using Ice(K)=0.012 and the α(K) values for mult=M1,E2 (from the level scheme).
x135.454 *13*									%Iγ=0.012 *5* I_γ: photons not observed. Ice(K)=0.010, relative to Ice(K)=2.870 for the 226.9 E1 transition.

$^{155}_{65}Tb_{90}$-5

γ(^{155}Tb) (continued)

E_γ [†]	I_γ [‡@f]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [&]	δ [bc]	α [e]	Comments
153.37 *3*	0.067 *10*	652.031	5/2$^+$	498.639	5/2$^+$	E2		0.565	%Iγ=0.046 *7* α(K)=0.346 *5*; α(L)=0.1694 *24*; α(M)=0.0398 *6* α(N)=0.00896 *13*; α(O)=0.001189 *17*; α(P)=1.86×10^{-5} *3*
155.765 *9*	0.303 *12*	155.783	7/2$^+$	0.0	3/2$^+$	E2		0.536	%Iγ=0.208 *9* α(K)=0.331 *5*; α(L)=0.1585 *23*; α(M)=0.0372 *6* α(N)=0.00838 *12*; α(O)=0.001113 *16*; α(P)=1.780×10^{-5} *25*
161.3	0.107 *7*	317.045	9/2$^-$	155.783	7/2$^+$	(E1)		0.0832	%Iγ=0.074 *5* α(K)=0.0702 *10*; α(L)=0.01021 *15*; α(M)=0.00222 *4* α(N)=0.000507 *8*; α(O)=7.50×10^{-5} *11*; α(P)=4.16×10^{-6} *6* E_γ: from 1971Wi24. This transition was not reported by 1980Ab17, probably being obscured by the strong 161.443 γ in their spectrum. I_γ: computed by the evaluator from Iγ(161.3γ)/Iγ(66.9γ)=1.85, as reported by 1971Wi24 in (α,2nγ), and Iγ(67.029γ).
161.443 *4*	1.68 *3*	226.916	5/2$^-$	65.4609	5/2$^+$	E1		0.0830	%Iγ=1.154 *27* α(K)=0.0700 *10*; α(L)=0.01019 *15*; α(M)=0.00222 *4* α(N)=0.000506 *7*; α(O)=7.48×10^{-5} *11*; α(P)=4.15×10^{-6} *6*
178.93 *5*	0.028 *9*	334.824	7/2$^+$	155.783	7/2$^+$	[M1,E2]		0.38 *5*	%Iγ=0.019 *6* α(K)=0.29 *7*; α(L)=0.070 *19*; α(M)=0.0160 *47* α(N)=0.0036 *11*; α(O)=0.00051 *12*; α(P)=1.94×10^{-5} *72* I_γ: photons not observed. Value computed from Ice(K)=0.008 and the α(K) values for mult=M1,E2 (from the level scheme).
184.564 *4*	4.93 *9*	250.028	7/2$^-$	65.4609	5/2$^+$	E1		0.0581	%Iγ=3.39 *8* α(K)=0.0491 *7*; α(L)=0.00708 *10*; α(M)=0.001538 *22* α(N)=0.000352 *5*; α(O)=5.22×10^{-5} *8*; α(P)=2.96×10^{-6} *5*
195.68 *4*	0.031 *8*	466.782	7/2$^+$	271.042	5/2$^+$	M1		0.331	%Iγ=0.021 *6* α(K)=0.280 *4*; α(L)=0.0403 *6*; α(M)=0.00881 *13* α(N)=0.00204 *3*; α(O)=0.000314 *5*; α(P)=2.07×10^{-5} *3*
205.583 *9*	0.521 *20*	271.042	5/2$^+$	65.4609	5/2$^+$	M1+E2	0.59 *5*	0.268 *5*	%Iγ=0.358 *15* α(K)=0.218 *5*; α(L)=0.0390 *8*; α(M)=0.00870 *18* α(N)=0.00200 *4*; α(O)=0.000295 *5*; α(P)=1.56×10^{-5} *4*
208.583 *14*	0.036 *3*	274.073	9/2$^+$	65.4609	5/2$^+$	E2		0.199	%Iγ=0.0247 *21* α(K)=0.1382 *20*; α(L)=0.0473 *7*; α(M)=0.01097 *16* α(N)=0.00248 *4*; α(O)=0.000337 *5*; α(P)=7.98×10^{-6} *12*
216.85 *4*	0.19 *4*	466.782	7/2$^+$	250.028	7/2$^-$	E1		0.0380	%Iγ=0.131 *28* α(K)=0.0322 *5*; α(L)=0.00459 *7*; α(M)=0.000997 *14* α(N)=0.000228 *4*; α(O)=3.41×10^{-5} *5*; α(P)=1.97×10^{-6} *3* E_γ: γ not placed in the level scheme by 1980Ab17. Mult.: given as (E1) by 1980Ab17, but small value of α(K)exp eliminates other mult assignments. Placement in level scheme also indicates mult=E1. α: α(K)exp=0.021.
226.918 *4*	100.0 *18*	226.916	5/2$^-$	0.0	3/2$^+$	E1		0.0338	%Iγ=68.7 *16*

γ(^{155}Tb) (continued)

E_γ[†]	I_γ[‡@f]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[&]	δ[bc]	α[e]	Comments
									α(K)=0.0286 *4*; α(L)=0.00406 *6*; α(M)=0.000883 *13* α(N)=0.000202 *3*; α(O)=3.02×10^{-5} *5*; α(P)=1.762×10^{-6} *25* δ: 1996KrZY report δ(M2/E1)=0.01 *6*.
^{x}248.645 *22*	0.157 *7*					E1		0.0267	%Iγ=0.108 *5* α(K)=0.0226 *4*; α(L)=0.00319 *5*; α(M)=0.000694 *10* α(N)=0.0001590 *23*; α(O)=2.38×10^{-5} *4*; α(P)=1.405×10^{-6} *20*
^{x}254.23[#] *14*	0.0122 *28*								%Iγ=0.0084 *19*
264.621 *18*	0.21 *4*	809.524	5/2$^+$	544.889	7/2$^-$	[E1]		0.0227	%Iγ=0.144 *28* α(K)=0.0193 *3*; α(L)=0.00271 *4*; α(M)=0.000590 *9* α(N)=0.0001352 *19*; α(O)=2.03×10^{-5} *3*; α(P)=1.206×10^{-6} *17* I_γ: calculated from measured Ice(K)=0.004, assuming E1 mult. 1980Ab17 do not report photons corresponding to this transition, yet they report Iγ values for the near-lying 248.6 and 269.3 gammas that are comparable to that deduced for this one. This may indicate that there is an admixture of M2 in this transition.
269.358 *24*	0.252 *10*	334.824	7/2$^+$	65.4609	5/2$^+$	M1+E2		0.11 *3*	%Iγ=0.173 *7* α(K)=0.091 *27*; α(L)=0.0171 *5*; α(M)=0.00384 *19* α(N)=0.00088 *4*; α(O)=0.000129 *3*; α(P)=6.3×10^{-6} *24* I_γ: value obtained from analysis of a complex line (1980Ab17).
271.056 *9*	1.77 *10*	271.042	5/2$^+$	0.0	3/2$^+$	M1+E2	+0.55 *3*	0.1245 *20*	%Iγ=1.22 *7* α(K)=0.1032 *18*; α(L)=0.01663 *24*; α(M)=0.00367 *6* α(N)=0.000845 *12*; α(O)=0.0001272 *18*; α(P)=7.44×10^{-6} *14* δ: weighted average of +0.46 *10* (1996KrZY) and 0.56 *3* (1980Ab17).
^{x}276.81 *5*	0.056 *20*								%Iγ=0.038 *14*
289.81 *4*	0.032 *12*	1954.72	(3/2,5/2)$^-$	1664.913	5/2$^-$	[M1,E2]		0.092 *23*	%Iγ=0.022 *8* α(K)=0.074 *23*; α(L)=0.0136 *3*; α(M)=0.00303 *5* α(N)=0.000693 *10*; α(O)=0.000102 *6*; α(P)=5.2×10^{-6} *20* I_γ: photons not observed. Value computed using Ice(K)=0.0024 and the α(K) values for mult=M1,E2 (from the decay scheme).
294.89 *5*	0.070 *5*	544.889	7/2$^-$	250.028	7/2$^-$	M1+E2		0.087 *22*	%Iγ=0.0481 *35* α(K)=0.071 *22*; α(L)=0.0128 *4*; α(M)=0.00286 *4* α(N)=0.000656 *11*; α(O)=9.7×10^{-5} *6*; α(P)=4.9×10^{-6} *19*
^{x}296.37[#] *10*	0.0122 *18*								%Iγ=0.0084 *12*
^{x}299.09[#] *15*	0.0061 *18*								%Iγ=0.0042 *12*

$^{155}_{65}$Tb$_{90}$-7

γ(^{155}Tb) (continued)

E_γ[†]	I_γ[‡@f]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[&]	α[e]	Comments
^{x}301.49[#] *9*	0.0097 *16*							%Iγ=0.0067 *11*
^{x}308.95[#] *16*	0.0052 *16*							%Iγ=0.0036 *11*
311.18 *16*	0.048 *5*	466.782	7/2$^+$	155.783	7/2$^+$	E2	0.0558	%Iγ=0.0330 *35* α(K)=0.0425 *6*; α(L)=0.01031 *15*; α(M)=0.00235 *4* α(N)=0.000534 *8*; α(O)=7.52×10^{-5} *11*; α(P)=2.67×10^{-6} *4*
317.947 *18*	0.304 *11*	544.889	7/2$^-$	226.916	5/2$^-$	M1	0.0890	%Iγ=0.209 *8* α(K)=0.0753 *11*; α(L)=0.01072 *15*; α(M)=0.00234 *4* α(N)=0.000541 *8*; α(O)=8.34×10^{-5} *12*; α(P)=5.55×10^{-6} *8*
322.27 *4*	0.040 *4*	549.603	3/2$^+$	226.916	5/2$^-$	[E1]	0.01386	%Iγ=0.0275 *28* α(K)=0.01177 *17*; α(L)=0.001640 *23*; α(M)=0.000356 *5* α(N)=8.17×10^{-5} *12*; α(O)=1.233×10^{-5} *18*; α(P)=7.49×10^{-7} *11*
334.963[dg] *19*	0.179 *6*	334.824	7/2$^+$	0.0	3/2$^+$			%Iγ=0.123 *4*
342.67 *6*	0.070 *6*	498.639	5/2$^+$	155.783	7/2$^+$	E2	0.0418	%Iγ=0.048 *4* α(K)=0.0323 *5*; α(L)=0.00734 *11*; α(M)=0.001666 *24* α(N)=0.000379 *6*; α(O)=5.38×10^{-5} *8*; α(P)=2.06×10^{-6} *3*
352.47 *11*	0.020 *4*	508.394	1/2$^+$,3/2$^+$,5/2$^+$	155.783	7/2$^+$			%Iγ=0.0137 *28*
356.87 *10*	0.021 *4*	906.42	(5/2$^-$)	549.603	3/2$^+$			%Iγ=0.0144 *28*
^{x}377.72 *5*	0.072 *4*							%Iγ=0.0495 *28*
^{x}379.3								%Iγ=0.0495 *28*
382.772 *20*	0.264 *9*	891.137	3/2$^-$	508.394	1/2$^+$,3/2$^+$,5/2$^+$	E1(+M2)[a]	0.0110 *19*	%Iγ=0.181 *7* α(K)=0.0093 *16*; α(L)=0.0013 *3*; α(M)=0.00029 *6* α(N)=6.7×10^{-5} *14*; α(O)=1.02×10^{-5} *22*; α(P)=6.3×10^{-7} *14* Mult.: from α(K)exp=0.010 *2*, one computes δ=0.11 *+5−11*. α: value for a pure E1 transition.
394.54 *8*	0.041 *14*	1155.482	5/2$^-$	760.626	3/2$^+$			%Iγ=0.028 *10*
401.96 *11*	0.051 *6*	652.031	5/2$^+$	250.028	7/2$^-$	(E1+M2)[a]	0.0097 *17*	%Iγ=0.035 *4* α(K)=0.0082 *14*; α(L)=0.00118 *23*; α(M)=0.00026 *5* α(N)=5.9×10^{-5} *12*; α(O)=9.0×10^{-6} *18*; α(P)=5.6×10^{-7} *12* δ: δ=0.69 *15*, computed from α(K)exp=0.051 *12* and the listed mult. This value seems quite large. From RUL, and the γ branching, one calculates $T_{1/2}$>1.7 ns for this level.
403.57 *4*	0.304 *15*	1294.960	5/2$^-$	891.137	3/2$^-$	M1	0.0476	%Iγ=0.209 *11*

γ(^{155}Tb) (continued)

E_γ[†]	I_γ[‡@f]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[&]	α[e]	Comments
								α(K)=0.0403 *6*; α(L)=0.00570 *8*; α(M)=0.001241 *18* α(N)=0.000287 *4*; α(O)=4.43×10^{-5} *7*; α(P)=2.96×10^{-6} *5*
408.80 *10*	0.014 *3*	1470.98	3/2$^+$,5/2$^+$	1062.074	5/2$^-$	(M2)[a]	0.1621	%Iγ=0.0096 *21* α(K)=0.1333 *19*; α(L)=0.0225 *4*; α(M)=0.00502 *7* α(N)=0.001162 *17*; α(O)=0.0001777 *25*; α(P)=1.123×10^{-5} *16* Mult.: deduced from α(K)exp=0.14 *4*. From RUL and the γ branching, one infers that $T_{1/2}$>9 ns for the 1470.99 level.
^{x}411.45[#] *3*	0.0326 *19*							%Iγ=0.0224 *13* I_γ: photons not observed. Ice(K)=0.0014, relative to Ice(K)=2.870 for the 226.9 E1 transition.
^{x}421.85 *5*	0.063 *5*					M1	0.0424	%Iγ=0.0433 *35* α(K)=0.0360 *5*; α(L)=0.00507 *8*; α(M)=0.001105 *16* α(N)=0.000255 *4*; α(O)=3.95×10^{-5} *6*; α(P)=2.64×10^{-6} *4* Ice(K)=0.0018, relative to Ice(K)=2.870 for the 226.9 E1 transition.
425.03 *3*	0.089 *5*	652.031	5/2$^+$	226.916	5/2$^-$	(E1+M2)[a]	0.0085 *14*	%Iγ=0.0611 *35* α(K)=0.0072 *12*; α(L)=0.00102 *19*; α(M)=0.00022 *5* α(N)=5.1×10^{-5} *10*; α(O)=7.8×10^{-6} *15*; α(P)=4.9×10^{-7} *10* δ: δ=0.34 *+6−7*, computed from α(K)exp=0.018 *4* and the listed mult. This value seems quite large.
433.150 *13*	1.04 *3*	498.639	5/2$^+$	65.4609	5/2$^+$	M1	0.0396	%Iγ=0.714 *23* α(K)=0.0336 *5*; α(L)=0.00473 *7*; α(M)=0.001031 *15* α(N)=0.000238 *4*; α(O)=3.68×10^{-5} *6*; α(P)=2.46×10^{-6} *4* δ: 1996KrZY report δ=0.04 *+22−16* or 1.5 *5*.
439.56 *6*	0.067 *5*	906.42	(5/2$^-$)	466.782	7/2$^+$			%Iγ=0.0460 *35*
^{x}441.44 *7*	0.058 *5*							%Iγ=0.0398 *35*
445.84 *8*	0.032 *5*	1255.85	7/2$^-$	809.524	5/2$^+$	(E1+M2)[a]	0.0075 *12*	%Iγ=0.0220 *34* α(K)=0.0064 *10*; α(L)=0.00091 *17*; α(M)=0.00020 *4* α(N)=4.5×10^{-5} *9*; α(O)=6.9×10^{-6} *13*; α(P)=4.3×10^{-7} *8* δ: δ=0.70 *15*, computed from α(K)exp=0.038 *10* and the listed mult. This value seems quite large.
452.248 *24*	0.234 *9*	517.541	3/2$^+$,5/2$^+$,7/2$^+$	65.4609	5/2$^+$	M1+E2	0.0272 *83*	%Iγ=0.161 *7* α(K)=0.0226 *75*; α(L)=0.0036 *7*; α(M)=0.00079 *14* α(N)=0.00018 *4*; α(O)=2.7×10^{-5} *6*; α(P)=1.60×10^{-6} *60*
459.05 *3*	0.159 *14*	1911.19	(5/2)$^-$	1452.00	3/2$^-$,5/2$^-$	M1+E2	0.0262 *80*	%Iγ=0.109 *10* α(K)=0.0218 *72*; α(L)=0.0034 *7*; α(M)=0.00076 *13* α(N)=0.00017 *3*; α(O)=2.6×10^{-5} *6*; α(P)=1.54×10^{-6} *58*
462.06 *8*	0.052 *7*	1954.72	(3/2,5/2)$^-$	1492.635	5/2$^-$	M1+E2	0.0257 *79*	%Iγ=0.036 *5* α(K)=0.0214 *71*; α(L)=0.0034 *7*; α(M)=0.00074 *13* α(N)=0.00017 *3*; α(O)=2.6×10^{-5} *6*; α(P)=1.52×10^{-6} *57*
^{x}463.0								%Iγ=0.0398 *35*

γ(^{155}Tb) (continued)

E_γ[†]	I_γ[‡@f]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[&]	δ[bc]	α[e]	Comments
									I_γ: photons not observed. Ice(K)=0.0011 *2*, relative to Ice(K)=2.870 for the 226.9 E1 transition.
466.95 *6*	0.028 *9*	466.782	7/2+	0.0	3/2+				%Iγ=0.019 *6*
x471.44[#] *12*	0.0097 *15*								%Iγ=0.0067 *10*
x473.03[#] *7*	0.0150 *15*								%Iγ=0.0103 *10*
x477.86[#] *10*	0.0117 *17*								%Iγ=0.0080 *12*
x479.58[#] *12*	0.0140 *25*								%Iγ=0.0096 *17*
484.158 *13*	1.56 *4*	549.603	3/2+	65.4609	5/2+	M1		0.0298	%Iγ=1.072 *32* α(K)=0.0252 *4*; α(L)=0.00354 *5*; α(M)=0.000771 *11* α(N)=0.0001784 *25*; α(O)=2.76×10^{-5} *4*; α(P)=1.85×10^{-6} *3*
496.22 *4*	0.210 *9*	652.031	5/2+	155.783	7/2+	M1		0.0280	%Iγ=0.144 *7* α(K)=0.0237 *4*; α(L)=0.00333 *5*; α(M)=0.000724 *11* α(N)=0.0001674 *24*; α(O)=2.59×10^{-5} *4*; α(P)=1.732×10^{-6} *25*
498.617 *15*	2.56 *6*	498.639	5/2+	0.0	3/2+	M1+E2	+0.21 *5*	0.0271 *5*	%Iγ=1.76 *5* α(K)=0.0229 *4*; α(L)=0.00324 *5*; α(M)=0.000705 *11* α(N)=0.000163 *3*; α(O)=2.52×10^{-5} *4*; α(P)=1.67×10^{-6} *3* δ: from 1996KrZY.
508.44 *4*	1.74 *7*	508.394	1/2+,3/2+,5/2+	0.0	3/2+	M1+E2		0.0201 *62*	%Iγ=1.20 *5* α(K)=0.0168 *55*; α(L)=0.0026 *6*; α(M)=0.00057 *11* α(N)=0.00013 *3*; α(O)=2.0×10^{-5} *5*; α(P)=1.19×10^{-6} *44*
517.62 *5*	0.111 *17*	517.541	3/2+,5/2+,7/2+	0.0	3/2+	E2		0.01329	%Iγ=0.076 *12* α(K)=0.01079 *16*; α(L)=0.00195 *3*; α(M)=0.000436 *6* α(N)=9.97×10^{-5} *14*; α(O)=1.462×10^{-5} *21*; α(P)=7.24×10^{-7} *11*
x522.14[#] *18*	0.0079 *19*								%Iγ=0.0054 *13*
x533.12 *14*	0.031 *5*					(E1+M2)[a]		0.0049 *7*	%Iγ=0.0213 *34* α(K)=0.0042 *6*; α(L)=0.00058 *9*; α(M)=0.000127 *21* α(N)=2.9×10^{-5} *5*; α(O)=4.5×10^{-6} *8*; α(P)=2.8×10^{-7} *5* α: α(K)exp=0.045.
x534.0 *3*	0.030 *15*								%Iγ=0.021 *10*
x535.55[#] *13*	0.0107 *14*								%Iγ=0.0074 *10*

γ(^{155}Tb) (continued)

E_{γ}[†]	I_{γ}[‡@f]	E_i(level)	J_i^{π}	E_f	J_f^{π}	Mult.[&]	δ[bc]	α[e]	Comments
537.1 *3*	0.012 *5*	1793.643	5/2$^+$	1255.85	7/2$^-$				%Iγ=0.0082 *34*
^{x}540.39[#] *13*	0.0084 *13*								%Iγ=0.0058 *9*
^{x}542.24 *3*	0.086 *9*								%Iγ=0.059 *6*
549.643 *14*	1.40 *3*	549.603	3/2$^+$	0.0	3/2$^+$	M1		0.0216	%Iγ=0.962 *25* α(K)=0.0183 *3*; α(L)=0.00256 *4*; α(M)=0.000556 *8* α(N)=0.0001286 *18*; α(O)=1.99×10^{-5} *3*; α(P)=1.334×10^{-6} *19* δ: 1996KrZY report δ=−0.13 *7* if J^{π}=3/2$^+$ or δ=0.29 *6* if J^{π}=5/2$^+$.
^{x}559.44 *8*	0.047 *7*					[a]			%Iγ=0.032 *5* Mult.: from α(K)exp=0.0524, 1980Ab17 give mult=M2.
^{x}564.4[#] *3*	0.006 *3*								%Iγ=0.0041 *21*
570.449 *20*	0.279 *9*	1638.848	5/2$^-$	1068.368	3/2$^-$	M1+E2	+0.37 *+22−17*	0.0185 *13*	%Iγ=0.192 *7* α(K)=0.0157 *12*; α(L)=0.00222 *13*; α(M)=0.00048 *3* α(N)=0.000112 *6*; α(O)=1.72×10^{-5} *10*; α(P)=1.14×10^{-6} *9* δ: from 1996KrZY.
576.82 *11*		1638.848	5/2$^-$	1062.074	5/2$^-$				%Iγ=0.192 *7* I_{γ}: photons not observed. Ice(K)=0.0014, relative to Ice(K)=2.870 for the 226.9 E1 transition. Mult.: since this transition has ΔJ=0,Δπ=no, its mult can have components of M1, E2, E0. If it were predominantly E2, the inferred Iγ value, based on Ice(K), is sufficiently large relative to the near-lying gammas that it should have been seen. This suggests that mult is mainly M1, or even E0.
586.44 *3*	0.239 *9*	652.031	5/2$^+$	65.4609	5/2$^+$	M1		0.0183	%Iγ=0.164 *7* α(K)=0.01554 *22*; α(L)=0.00217 *3*; α(M)=0.000471 *7* α(N)=0.0001090 *16*; α(O)=1.685×10^{-5} *24*; α(P)=1.132×10^{-6} *16*
588.16 *8*	0.076 *5*	743.92	7/2$^+$	155.783	7/2$^+$	(M1+E2+E0)[a]		0.0139 *43*	%Iγ=0.0522 *35* α(K)=0.0117 *38*; α(L)=0.0018 *4*; α(M)=0.00038 *9* α(N)=8.9×10^{-5} *20*; α(O)=1.3×10^{-5} *4*; α(P)=8.3×10^{-7} *30* α: since Δπ=no for this transition, the large α(K)exp value, 0.030 *6*, is evidence for the presence of an E0 component. This conclusion,

γ(^{155}Tb) (continued)

E_γ[†]	I_γ[‡@f]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[&]	δ[bc]	α[e]	Comments
									however, is based on $\Delta\pi$=no, and not solely on α(K)exp, since for $\Delta\pi$=yes, mult=E1+M2, with a large δ value (as has been reported for several transitions in this nuclide) would have been proposed.
^{x}590.60[#] *18*	0.0131 *21*								%Iγ=0.0090 *14*
596.22 *12*	0.062 *9*	1664.913	5/2$^-$	1068.368	3/2$^-$	M1+E2		0.0134 *42*	%Iγ=0.043 *6* α(K)=0.0113 *37*; α(L)=0.0017 *4*; α(M)=0.00037 *9* α(N)=8.5×10^{-5} *20*; α(O)=1.3×10^{-5} *4*; α(P)=8.0×10^{-7} *29*
^{x}599.14 *22*	0.034 *8*					[a]			%Iγ=0.023 *6* Mult.: from α(K)exp=0.0265, 1980Ab17 quote mult=M2+E1.
602.95 *10*	0.035 *6*	1664.913	5/2$^-$	1062.074	5/2$^-$	M1+E2		0.0131 *41*	%Iγ=0.024 *4* α(K)=0.0110 *36*; α(L)=0.0016 *4*; α(M)=0.00036 *8* α(N)=8.3×10^{-5} *19*; α(O)=1.3×10^{-5} *3*; α(P)=7.8×10^{-7} *28*
^{x}605.42[#] *8*	0.0260 *20*								%Iγ=0.0179 *14*
609.94 *4*	0.116 *6*	1865.82	5/2$^-$	1255.85	7/2$^-$	M1(+E2)	<2.4	0.0133 *34*	%Iγ=0.080 *4* α(K)=0.0112 *30*; α(L)=0.0016 *4*; α(M)=0.00036 *7* α(N)=8.3×10^{-5} *16*; α(O)=1.3×10^{-5} *3*; α(P)=8.0×10^{-7} *23* Mult.: deduced from α(K)exp=0.012 *4*. 1980Ab17 do not report a mult value for this transition.
610.62 *12*		1155.482	5/2$^-$	544.889	7/2$^-$				%Iγ=0.028 *10* Iγ: photons not observed. Ice(K)=0.0007, relative to Ice(K)=2.870 for the 226.9 E1 transition.
^{x}614.83 *13*	0.043 *6*								%Iγ=0.030 *4*
618.59 *4*	0.146 *8*	1913.60	5/2$^-$	1294.960	5/2$^-$	M1		0.01601	%Iγ=0.100 *6* α(K)=0.01360 *19*; α(L)=0.00189 *3*; α(M)=0.000412 *6* α(N)=9.52×10^{-5} *14*; α(O)=1.472×10^{-5} *21*; α(P)=9.89×10^{-7} *14*
^{x}620.27[#] *10*	0.0432 *25*								%Iγ=0.0297 *18*
^{x}623.57[#] *6*	0.0260 *23*								%Iγ=0.0179 *16*
^{x}628.55[#] *13*	0.0083 *17*								%Iγ=0.0057 *12*
632.4 *10*	0.020 *4*	906.42	(5/2$^-$)	274.073	9/2$^+$	(M2)[a]		0.0438	%Iγ=0.0137 *28* α(K)=0.0365 *6*; α(L)=0.00571 *9*; α(M)=0.001260 *19* α(N)=0.000292 *5*; α(O)=4.48×10^{-5} *7*; α(P)=2.91×10^{-6} *5* Mult.: α(K)exp=0.048 *11* is consistent with mult=M2. However, the large α(K)exp value could be evidence for an E0 component if $\Delta\pi$=no were assumed. Thus, the assignment mult=M2 depends to some extent on the assumption that $\Delta\pi$=yes, rather than $\Delta\pi$=yes being uniquely established by the value of mult.
641.072 *15*	1.83 *4*	891.137	3/2$^-$	250.028	7/2$^-$	E2		0.00780	%Iγ=1.257 *33* α(K)=0.00643 *9*; α(L)=0.001068 *15*; α(M)=0.000236 *4* α(N)=5.43×10^{-5} *8*; α(O)=8.07×10^{-6} *12*; α(P)=4.38×10^{-7} *7*
^{x}642.89[#] *10*	0.048 *5*								%Iγ=0.0330 *35*
653.92 *6*	0.176 *12*	809.524	5/2$^+$	155.783	7/2$^+$	M1+E2		0.0107 *33*	%Iγ=0.121 *8*

γ(^{155}Tb) (continued)

Eγ†	Iγ‡@f	Ei(level)	J_i^π	E_f	J_f^π	Mult.&	δbc	αe	Comments
									α(K)=0.0090 *29*; α(L)=0.0013 *4*; α(M)=0.00029 *7* α(N)=6.7×10^{-5} *16*; α(O)=1.02×10^{-5} *26*; α(P)=6.4×10^{-7} *22*
x656.69 *6*	0.191 *14*					E1		0.00273	%Iγ=0.131 *10* α(K)=0.00233 *4*; α(L)=0.000313 *5*; α(M)=6.77×10^{-5} *10* α(N)=1.559×10^{-5} *22*; α(O)=2.38×10^{-6} *4*; α(P)=1.543×10^{-7} *22*
x661.62 *22*	0.080 *17*								%Iγ=0.055 *12*
664.173 *18*	3.28 *8*	891.137	3/2$^-$	226.916	5/2$^-$	M1+E2	+0.31 *4*	0.01286 *23*	%Iγ=2.25 *6* α(K)=0.01091 *20*; α(L)=0.00153 *3*; α(M)=0.000333 *6* α(N)=7.69×10^{-5} *13*; α(O)=1.186×10^{-5} *20*; α(P)=7.90×10^{-7} *15* δ: weighted average of +0.36 *5* (1977Al30), γγ(θ); and +0.30 *15* (1984ShZN) and +0.14 *10* (1996KrZY).
x666.4 *4*	0.080 *25*								%Iγ=0.055 *17*
x669.02 *20*	0.095 *28*								%Iγ=0.065 *19*
x676.39 *12*	0.058 *6*								%Iγ=0.040 *4*
678.38 *5*	0.291 *16*	743.92	7/2$^+$	65.4609	5/2$^+$	M1		0.01272	%Iγ=0.200 *11* α(K)=0.01081 *16*; α(L)=0.001499 *21*; α(M)=0.000326 *5* α(N)=7.54×10^{-5} *11*; α(O)=1.166×10^{-5} *17*; α(P)=7.85×10^{-7} *11*
x682.76# *11*	0.0114 *17*								%Iγ=0.0078 *12*
688.4 *7*	0.012 *9*	1750.098	5/2$^-$	1062.074	5/2$^-$	M1(+E2+E0)		0.0094 *29*	%Iγ=0.008 *6* α(K)=0.0079 *25*; α(L)=0.0012 *3*; α(M)=0.00025 *6* α(N)=5.9×10^{-5} *14*; α(O)=9.0×10^{-6} *23*; α(P)=5.6×10^{-7} *20* α: α(K)exp=0.0167.
x692.28# *22*	0.012 *3*								%Iγ=0.0082 *21*
695.138 *22*	0.309 *19*	760.626	3/2$^+$	65.4609	5/2$^+$	M1+E2		0.0092 *28*	%Iγ=0.212 *13* α(K)=0.0078 *25*; α(L)=0.0011 *3*; α(M)=0.00025 *6* α(N)=5.7×10^{-5} *14*; α(O)=8.7×10^{-6} *23*; α(P)=5.5×10^{-7} *19*
x698.76# *5*	0.040 *4*								%Iγ=0.0275 *28*
x701.15 *9*	0.083 *9*								%Iγ=0.057 *6*
705.87 *22*	0.031 *8*	861.87	3/2$^+$,5/2$^+$	155.783	7/2$^+$				%Iγ=0.021 *6*
x712.49 *7*	0.067 *6*								%Iγ=0.046 *4*
x721.19 *4*	0.415 *13*					M1+E2		0.0084 *26*	%Iγ=0.285 *10*

$^{155}_{65}$Tb$_{90}$-13

γ(^{155}Tb) (continued)

E_γ[†]	I_γ[‡@f]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[&]	α[e]	Comments
								α(K)=0.0071 22; α(L)=0.0010 3; α(M)=0.00023 6 α(N)=5.2×10^{-5} 13; α(O)=8.0×10^{-6} 21; α(P)=5.1×10^{-7} 17 α: α(K)exp=0.0058.
723.46 8	0.146 9	950.38	3/2$^-$	226.916	5/2$^-$	M1+E2	0.0084 25	%Iγ=0.100 6 α(K)=0.0070 22; α(L)=0.00103 25; α(M)=0.00022 6 α(N)=5.2×10^{-5} 13; α(O)=7.9×10^{-6} 21; α(P)=5.0×10^{-7} 17 δ: from γγ(θ), 1977Al30 find δ=−7 3 or δ=−0.43 13. α: α(K)exp=0.0068. This value lies midway between the α(K) values computed from these two δ′s.
725.24 4	0.283 10	1793.643	5/2$^+$	1068.368	3/2$^-$	E1(+M2)	0.0025 3	%Iγ=0.194 7 α(K)=0.00213 23; α(L)=0.00029 4; α(M)=6.3×10^{-5} 8 α(N)=1.44×10^{-5} 18; α(O)=2.2×10^{-6} 3; α(P)=1.44×10^{-7} 19
^{x}729.44[#] 17	0.017 3							%Iγ=0.0117 21
^{x}731.80[#] 21	0.013 3							%Iγ=0.0089 21
^{x}739.12 12	0.014 4							%Iγ=0.0096 28
743.64 5	≈0	809.524	5/2$^+$	65.4609	5/2$^+$	E0+M1+E2	0.0078 24	%Iγ ≈ 0.121 α(K)=0.0066 21; α(L)=0.00096 24; α(M)=0.00021 5 α(N)=4.8×10^{-5} 12; α(O)=7.4×10^{-6} 19; α(P)=4.7×10^{-7} 16 I_γ: 1980Ab17 report Iγ(743.64γ+743.9γ+745.2γ)=0.497 18. From the values deduced for the other two members of this triplet, one finds that they can account for essentially all of its observed intensity. Thus, Iγ(743.64) is quite small, possibly even zero. α: α(K)exp>0.018, from Ice(K) and assuming that all the γ intensity in this triplet is associated with this one γ. Thus, the limit on this α(K)exp value is a very conservative one.
743.9	0.20 4	743.92	7/2$^+$	0.0	3/2$^+$	[E2]	0.00551	%Iγ=0.137 28 α(K)=0.00458 7; α(L)=0.000724 11; α(M)=0.0001596 23 α(N)=3.67×10^{-5} 6; α(O)=5.50×10^{-6} 8; α(P)=3.14×10^{-7} 5 I_γ: computed from Ice(K)=0.0009 and α(K) for mult=E2. 1980Ab17 report Iγ(743.64γ+743.9γ+745.2γ)=0.497 18 for the triplet only.
745.2	0.50 10	1294.960	5/2$^-$	549.603	3/2$^+$	[E1]	0.00211	%Iγ=0.34 7 α(K)=0.00180 3; α(L)=0.000240 4; α(M)=5.19×10^{-5} 8 α(N)=1.196×10^{-5} 17; α(O)=1.83×10^{-6} 3; α(P)=1.197×10^{-7} 17 I_γ: computed from Ice(K)=0.0009 and α(K) for mult=E1. 1980Ab17 report Iγ(743.65γ+743.9γ+745.2γ)=0.497 18 for the triplet only.
750.07 7	0.124 9	1294.960	5/2$^-$	544.889	7/2$^-$	E2	0.00541	%Iγ=0.085 6 α(K)=0.00450 7; α(L)=0.000709 10; α(M)=0.0001563 22 α(N)=3.59×10^{-5} 5; α(O)=5.39×10^{-6} 8; α(P)=3.09×10^{-7} 5
^{x}751.28[#] 12	0.072 8							%Iγ=0.049 6
^{x}755.45[#] 12	0.016 3							%Iγ=0.0110 21
^{x}758.99 20	0.069 11							%Iγ=0.047 8
760.70 12	0.128 16	760.626	3/2$^+$	0.0	3/2$^+$	M1+E2+E0	0.0074 22	%Iγ=0.088 11

γ(^{155}Tb) (continued)

E_γ [†]	I_γ [‡@f]	E_i(level)	J^π_i	E_f	J^π_f	Mult. [&]	δ [bc]	α [e]	Comments
									α(K)=0.0063 *19*; α(L)=0.00091 *22*; α(M)=0.00020 *5* α(N)=4.6×10^{-5} *11*; α(O)=7.0×10^{-6} *18*; α(P)=4.4×10^{-7} *15* α: α(K)exp=0.035 *5*.
^{x}765.4	≤0.054								%Iγ=0.0371 *5* I_γ: Iγ(765.4γ+767.6γ)=0.047 *7* (1980Ab17).
^{x}766.613[#] *23*	0.060 *4*								%Iγ=0.0412 *28*
767.6 *1*	≤0.054	1835.82	3/2,5/2	1068.368	3/2$^-$				%Iγ=0.0371 *5* I_γ: Iγ(765.4γ+767.6γ)=0.047 *7* (1980Ab17).
^{x}771.52[#] *11*	0.0294 *21*								%Iγ=0.0202 *15*
773.57 *5*	0.148 *11*	1664.913	5/2$^-$	891.137	3/2$^-$	E2		0.00504	%Iγ=0.102 *8* α(K)=0.00420 *6*; α(L)=0.000657 *10*; α(M)=0.0001446 *21* α(N)=3.32×10^{-5} *5*; α(O)=4.99×10^{-6} *7*; α(P)=2.89×10^{-7} *4*
^{x}778.23[#] *12*	0.018 *3*								%Iγ=0.0124 *21*
^{x}782.19 *4*	0.152 *10*					M1+E2		0.0069 *21*	%Iγ=0.104 *7* α(K)=0.0059 *18*; α(L)=0.00084 *21*; α(M)=0.00018 *5* α(N)=4.3×10^{-5} *11*; α(O)=6.5×10^{-6} *17*; α(P)=4.2×10^{-7} *14*
^{x}784.61 *6*	0.123 *7*					M1+E2		0.0069 *20*	%Iγ=0.085 *5* α(K)=0.0058 *18*; α(L)=0.00084 *21*; α(M)=0.00018 *5* α(N)=4.2×10^{-5} *11*; α(O)=6.5×10^{-6} *17*; α(P)=4.1×10^{-7} *14*
^{x}789.89[#] *14*	0.012 *5*								%Iγ=0.0082 *34*
796.44 *7*	0.084 *9*	861.87	3/2$^+$,5/2$^+$	65.4609	5/2$^+$	M1+E2		0.0066 *20*	%Iγ=0.058 *6* α(K)=0.0056 *17*; α(L)=0.00081 *20*; α(M)=0.00018 *5* α(N)=4.1×10^{-5} *10*; α(O)=6.2×10^{-6} *16*; α(P)=4.0×10^{-7} *13*
802.87 *6*	0.025 *3*	1120.001	7/2$^+$	317.045	9/2$^-$				%Iγ=0.0172 *21*
^{x}808.28 *12*	0.137 *17*								%Iγ=0.094 *12*
^{x}809.79[#] *5*	0.0694 *16*								%Iγ=0.0477 *13*
811.98 *4*	0.59 *3*	1062.074	5/2$^-$	250.028	7/2$^-$	M1+E2		0.0063 *19*	%Iγ=0.405 *21* α(K)=0.0054 *16*; α(L)=0.00077 *19*; α(M)=0.00017 *4* α(N)=3.9×10^{-5} *10*; α(O)=5.9×10^{-6} *15*; α(P)=3.8×10^{-7} *13*
^{x}816.41[#] *21*	0.020 *3*								%Iγ=0.0137 *21*
^{x}819.44[#] *15*	0.0154 *23*								%Iγ=0.0106 *16*
820.40 *12*	0.047 *7*	1155.482	5/2$^-$	334.824	7/2$^+$				%Iγ=0.032 *5*
825.60 *4*	0.190 *11*	891.137	3/2$^-$	65.4609	5/2$^+$				%Iγ=0.131 *8*

^{155}Dy ε decay 1980Ab17 (continued)

γ(^{155}Tb) (continued)

E_γ[†]	I_γ[‡@f]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[&]	δ[bc]	α[e]	Comments
835.16 *3*	0.370 *13*	1062.074	5/2−	226.916	5/2−	M1(+E2+E0)	−0.62 *38*	0.0067 *8*	%Iγ=0.254 *10* α(K)=0.0057 *7*; α(L)=0.00080 *8*; α(M)=0.000173 *17* α(N)=4.0×10^{-5} *4*; α(O)=6.2×10^{-6} *7*; α(P)=4.1×10^{-7} *5* δ: from 1977Al30, γγ(θ). α: α(K)exp=0.0081 *9*.
838.48 *5*	0.188 *10*	1155.482	5/2−	317.045	9/2−	E2		0.00422	%Iγ=0.129 *7* α(K)=0.00353 *5*; α(L)=0.000539 *8*; α(M)=0.0001184 *17* α(N)=2.72×10^{-5} *4*; α(O)=4.11×10^{-6} *6*; α(P)=2.43×10^{-7} *4*
841.53 *3*	0.408 *15*	1068.368	3/2−	226.916	5/2−	M1+E2	−0.25 *8*	0.00729 *17*	%Iγ=0.280 *11* α(K)=0.00620 *15*; α(L)=0.000857 *18*; α(M)=0.000186 *4* α(N)=4.30×10^{-5} *9*; α(O)=6.65×10^{-6} *15*; α(P)=4.48×10^{-7} *11* δ: from γγ(θ). 1977Al30 also report δ≥10. This value has not been adopted by the evaluator since it is not consistent with α(K)exp, whereas the smaller δ value gives an α(K)exp in good agreement with the measured one. α: α(K)exp=0.0061 *8*.
^{x}843.39[#] *10*	0.0391 *22*								%Iγ=0.0269 *16*
845.78 *7*	0.070 *7*	1120.001	7/2+	274.073	9/2+	M1+E2		0.0058 *17*	%Iγ=0.048 *5* α(K)=0.0049 *15*; α(L)=0.00070 *17*; α(M)=0.00015 *4* α(N)=3.5×10^{-5} *9*; α(O)=5.4×10^{-6} *14*; α(P)=3.5×10^{-7} *11*
848.98 *3*	0.260 *15*	1120.001	7/2+	271.042	5/2+	M1+E2	−3.3 *+15−59*	0.0044 *5*	%Iγ=0.179 *11* α(K)=0.0037 *5*; α(L)=0.00055 *6*; α(M)=0.000121 *11* α(N)=2.8×10^{-5} *3*; α(O)=4.2×10^{-6} *5*; α(P)=2.5×10^{-7} *4* Mult.: from 1996KrZY. From α(K)exp=0.0060, 1980Ab17 report mult=M1.
^{x}854.78 *8*	0.074 *6*								%Iγ=0.051 *4*
861.74 *23*	0.061 *15*	861.87	3/2+,5/2+	0.0	3/2+	M1		0.00706	%Iγ=0.042 *10* α(K)=0.00601 *9*; α(L)=0.000827 *12*; α(M)=0.000180 *3* α(N)=4.15×10^{-5} *6*; α(O)=6.43×10^{-6} *9*; α(P)=4.34×10^{-7} *6*

γ(^{155}Tb) (continued)

E_γ[†]	I_γ[‡@f]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[&]	δ[bc]	α[e]	Comments
^{x}864.73[#] *10*	0.0196 *25*								%Iγ=0.0135 *17*
^{x}868.01[#] *10*	0.0196 *25*								%Iγ=0.0135 *17*
871.90 *8*	0.044 *6*	1991.78	3/2$^-$	1120.001	7/2$^+$	M2		0.01782	%Iγ=0.030 *4* α(K)=0.01496 *21*; α(L)=0.00224 *4*; α(M)=0.000491 *7* α(N)=0.0001137 *16*; α(O)=1.752×10^{-5} *25*; α(P)=1.153×10^{-6} *17*
^{x}875.30 *12*	0.037 *5*								%Iγ=0.0254 *35*
878.23 *8*	0.059 *5*	1638.848	5/2$^-$	760.626	3/2$^+$				%Iγ=0.0405 *35*
884.42 *5*	0.088 *7*	1155.482	5/2$^-$	271.042	5/2$^+$				%Iγ=0.060 *5*
891.13 *3*	0.86 *3*	891.137	3/2$^-$	0.0	3/2$^+$	E1		1.48×10^{-3}	%Iγ=0.591 *22* α(K)=0.001268 *18*; α(L)=0.0001677 *24*; α(M)=3.62×10^{-5} *5* α(N)=8.35×10^{-6} *12*; α(O)=1.283×10^{-6} *18*; α(P)=8.46×10^{-8} *12*
^{x}894.88[#] *4*	0.0339 *15*								%Iγ=0.0233 *11*
905.515 *21*	3.58 *8*	1155.482	5/2$^-$	250.028	7/2$^-$	M1+E2	−0.15 *4*	0.00620 *10*	%Iγ=2.46 *7* α(K)=0.00528 *8*; α(L)=0.000726 *11*; α(M)=0.0001576 *24* α(N)=3.64×10^{-5} *6*; α(O)=5.64×10^{-6} *9*; α(P)=3.81×10^{-7} *6* δ: weighted average of: −0.27 *13* (1977Al30, γγ(θ)); and −0.12 *5* (1984ShZN) and −0.17 *6* (1996KrZY).
912.47 *6*	0.32 *3*	1656.39	5/2$^-$	743.92	7/2$^+$	E1		1.42×10^{-3}	%Iγ=0.220 *21* α(K)=0.001212 *17*; α(L)=0.0001601 *23*; α(M)=3.46×10^{-5} *5* α(N)=7.97×10^{-6} *12*; α(O)=1.225×10^{-6} *18*; α(P)=8.09×10^{-8} *12* Mult.: the value of α(K)exp is sufficiently small that mult=M1 and higher multipole orders can realistically be excluded for this γ. α: α(K)exp=0.00047 *11*.
^{x}915.76[#] *15*	0.039 *6*								%Iγ=0.027 *4*
920.94 *4*	0.158 *8*	1664.913	5/2$^-$	743.92	7/2$^+$	E1		1.39×10^{-3}	%Iγ=0.109 *6* α(K)=0.001191 *17*; α(L)=0.0001573 *22*; α(M)=3.40×10^{-5} *5* α(N)=7.83×10^{-6} *11*; α(O)=1.203×10^{-6} *17*; α(P)=7.95×10^{-8} *12*
^{x}925.4 *4*	0.020 *7*								%Iγ=0.014 *5*
928.535 *21*	1.05 *3*	1155.482	5/2$^-$	226.916	5/2$^-$	M1+E2	−0.24 *9*	0.00576 *14*	%Iγ=0.721 *23* α(K)=0.00490 *12*; α(L)=0.000674 *15*; α(M)=0.000146 *4* α(N)=3.38×10^{-5} *8*; α(O)=5.24×10^{-6} *12*;

$^{155}_{65}Tb_{90}$-17

γ(^{155}Tb) (continued)

E_γ [†]	I_γ [‡@f]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [&]	δ [bc]	α [e]	Comments
									α(P)=3.53×10^{-7} *9* δ: weighted average of −0.31 *15* (1984ShZN) and −0.20 *12* (1996KrZY). From γγ(θ), 1977Al30 report −0.93≤δ≤−0.28.
^{x}938.19 *4*	0.173 *6*					E1		1.34×10^{-3}	%Iγ=0.119 *4* α(K)=0.001150 *16*; α(L)=0.0001517 *22*; α(M)=3.28×10^{-5} *5* α(N)=7.55×10^{-6} *11*; α(O)=1.161×10^{-6} *17*; α(P)=7.68×10^{-8} *11*
940.516 *25*	0.445 *13*	1750.098	5/2$^-$	809.524	5/2$^+$	E1		1.34×10^{-3}	%Iγ=0.306 *10* α(K)=0.001144 *16*; α(L)=0.0001510 *22*; α(M)=3.26×10^{-5} *5* α(N)=7.52×10^{-6} *11*; α(O)=1.155×10^{-6} *17*; α(P)=7.64×10^{-8} *11*
944.24 *11*	0.050 *6*	1835.82	3/2,5/2	891.137	3/2$^-$				%Iγ=0.034 *4*
^{x}947.53[#] *16*	0.017 *3*								%Iγ=0.0117 *21*
^{x}949.99 *8*	0.080 *9*								%Iγ=0.055 *6*
962.44 *7*	0.087 *10*	1868.95	3/2$^+$,5/2$^+$	906.42	(5/2$^-$)	E1+M2	0.24 +*6*−*7*	0.0020 *4*	%Iγ=0.060 *7* α(K)=0.0017 *3*; α(L)=0.00023 *5*; α(M)=5.0×10^{-5} *10* α(N)=1.15×10^{-5} *23*; α(O)=1.8×10^{-6} *4*; α(P)=1.17×10^{-7} *23* δ: computed by the evaluator from α(K)exp=0.0017 *3*.
972.36 *4*	0.119 *12*	1470.98	3/2$^+$,5/2$^+$	498.639	5/2$^+$	M1		0.00527	%Iγ=0.082 *8* α(K)=0.00449 *7*; α(L)=0.000615 *9*; α(M)=0.0001335 *19* α(N)=3.09×10^{-5} *5*; α(O)=4.78×10^{-6} *7*; α(P)=3.24×10^{-7} *5*
^{x}977.02[#] *13*	0.0209 *22*								%Iγ=0.0144 *15*
978.87 *10*	0.059 *5*	1294.960	5/2$^-$	317.045	9/2$^-$	E2		0.00303	%Iγ=0.0405 *35* α(K)=0.00255 *4*; α(L)=0.000375 *6*; α(M)=8.21×10^{-5} *12* α(N)=1.89×10^{-5} *3*; α(O)=2.87×10^{-6} *4*; α(P)=1.758×10^{-7} *25*
^{x}978.93[#] *3*	0.059 *5*								%Iγ=0.0405 *35*
981.82 *3*	0.307 *10*	1255.85	7/2$^-$	274.073	9/2$^+$	E1		1.23×10^{-3}	%Iγ=0.211 *8* α(K)=0.001055 *15*; α(L)=0.0001390 *20*; α(M)=3.00×10^{-5} *5* α(N)=6.92×10^{-6} *10*; α(O)=1.064×10^{-6} *15*; α(P)=7.06×10^{-8} *10*
^{x}984.79[#] *9*	0.020 *3*								%Iγ=0.0137 *21*

From ENSDF

γ(^{155}Tb) (continued)

E_γ[†]	I_γ[‡@f]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[&]	δ[bc]	α[e]	Comments
[x]986.54[#] *22*	0.0122 *25*								%Iγ=0.0084 *17*
[x]989.68[#] *6*	0.0277 *25*								%Iγ=0.0190 *17*
[x]994.18 *14*	0.083 *11*								%Iγ=0.057 *8*
996.70 *7*	0.396 *23*	1062.074	5/2$^-$	65.4609	5/2$^+$	E1		1.20×10^{-3}	%Iγ=0.272 *16* α(K)=0.001026 *15*; α(L)=0.0001351 *19*; α(M)=2.92×10^{-5} *4* α(N)=6.72×10^{-6} *10*; α(O)=1.034×10^{-6} *15*; α(P)=6.86×10^{-8} *10*
999.68 *3*	3.56 *10*	1155.482	5/2$^-$	155.783	7/2$^+$	E1		1.19×10^{-3}	%Iγ=2.45 *8* α(K)=0.001021 *15*; α(L)=0.0001343 *19*; α(M)=2.90×10^{-5} *4* α(N)=6.68×10^{-6} *10*; α(O)=1.028×10^{-6} *15*; α(P)=6.83×10^{-8} *10* δ: 1996KrZY report δ(M2/E1)=0.01 *6*.
1003.03 *10*	0.239 *21*	1068.368	3/2$^-$	65.4609	5/2$^+$	E1		1.18×10^{-3}	%Iγ=0.164 *15* α(K)=0.001014 *15*; α(L)=0.0001335 *19*; α(M)=2.88×10^{-5} *4* α(N)=6.64×10^{-6} *10*; α(O)=1.022×10^{-6} *15*; α(P)=6.78×10^{-8} *10*
[x]1009.96 *10*	0.043 *4*								%Iγ=0.0295 *28*
1012.89 *4*	0.435 *20*	1664.913	5/2$^-$	652.031	5/2$^+$	E1		1.16×10^{-3}	%Iγ=0.299 *14* α(K)=0.000996 *14*; α(L)=0.0001310 *19*; α(M)=2.83×10^{-5} *4* α(N)=6.52×10^{-6} *10*; α(O)=1.003×10^{-6} *14*; α(P)=6.66×10^{-8} *10*
[x]1021.5[#] *3*	0.0055 *16*								%Iγ=0.0038 *11*
1024.00 *18*	0.039 *8*	1294.960	5/2$^-$	271.042	5/2$^+$				%Iγ=0.027 *6*
[x]1025.77[#] *20*	0.0087 *13*								%Iγ=0.0060 *9*
[x]1030.14[#] *9*	0.0113 *10*								%Iγ=0.0078 *7*
[x]1032.23[#] *6*	0.0157 *11*								%Iγ=0.0108 *8*
[x]1035.79[#] *7*	0.0155 *10*								%Iγ=0.0106 *7*
[x]1044.97[#] *15*	0.0073 *22*								%Iγ=0.0050 *15*
1050.0 *3*	0.025 *10*	1793.643	5/2$^+$	743.92	7/2$^+$				%Iγ=0.017 *7*
[x]1055.3[#] *4*	0.0031 *16*								%Iγ=0.0021 *11*
1062.09 *3*	0.565 *18*	1062.074	5/2$^-$	0.0	3/2$^+$	E1		1.07×10^{-3}	%Iγ=0.388 *14* α(K)=0.000912 *13*; α(L)=0.0001198 *17*; α(M)=2.58×10^{-5} *4* α(N)=5.96×10^{-6} *9*; α(O)=9.18×10^{-7} *13*; α(P)=6.11×10^{-8} *9*
[x]1066.32[#] *8*	0.082 *5*								%Iγ=0.0563 *35*

γ(^{155}Tb) (continued)

Eγ†	Iγ‡@f	Ei(level)	$J^π_i$	E_f	$J^π_f$	Mult.&	δbc	αe	Comments
1068.18 *3*	0.84 *3*	1068.368	3/2⁻	0.0	3/2⁺	E1+M2	0.15 *+4−6*	0.00126 *14*	%Iγ=0.577 *22* α(K)=0.00108 *11*; α(L)=0.000144 *17*; α(M)=3.1×10⁻⁵ *4* α(N)=7.2×10⁻⁶ *9*; α(O)=1.11×10⁻⁶ *13*; α(P)=7.4×10⁻⁸ *9* δ: computed by the evaluator from α(K)exp=0.00107 *10*.
ˣ1074.39# *19*	0.0040 *15*								%Iγ=0.0027 *10*
ˣ1078.75# *26*	0.0028 *10*								%Iγ=0.0019 *7*
1089.8	≤4.11	1638.848	5/2⁻	549.603	3/2⁺				%Iγ=2.82 *4* Iγ: Iγ(1089.8γ+1090.0γ)=4.01 *10* (1980Ab17).
1090.0	≤4.11	1155.482	5/2⁻	65.4609	5/2⁺				%Iγ=2.82 *4* Iγ: Iγ(1089.8γ+1090.0γ)=4.01 *10*.
1093.70 *10*	0.053 *5*	1638.848	5/2⁻	544.889	7/2⁻				%Iγ=0.0364 *35*
1098.2	≤0.326	1750.098	5/2⁻	652.031	5/2⁺				%Iγ=0.2240 *33* Iγ: Iγ(1098.2γ+1100.1γ)=0.305 *21* (1980Ab17).
1100.1	≤0.326	1255.85	7/2⁻	155.783	7/2⁺				%Iγ=0.2240 *33* Iγ: Iγ(1098.2γ+1100.1γ)=0.305 *21* (1980Ab17).
ˣ1105.73# *16*	0.0158 *23*								%Iγ=0.0109 *16*
ˣ1107.99# *10*	0.0350 *23*								%Iγ=0.0240 *16*
ˣ1110.5# *3*	0.0069 *21*								%Iγ=0.0047 *14*
1115.2	≤0.596	1664.913	5/2⁻	549.603	3/2⁺				%Iγ=0.409 *6* Iγ: Iγ(1115.2γ+1117.0γ)=0.578 *18*.
1117.0	≤0.596	1452.00	3/2⁻,5/2⁻	334.824	7/2⁺				%Iγ=0.409 *6* Iγ: Iγ(1115.2γ+1117.0γ)=0.578 *18* (1980Ab17).
1120.11 *5*	0.109 *15*	1120.001	7/2⁺	0.0	3/2⁺	E2		0.00229	%Iγ=0.075 *10* α(K)=0.00194 *3*; α(L)=0.000278 *4*; α(M)=6.07×10⁻⁵ *9* α(N)=1.399×10⁻⁵ *20*; α(O)=2.13×10⁻⁶ *3*; α(P)=1.340×10⁻⁷ *19*; α(IPF)=6.10×10⁻⁷ *9*
ˣ1133.00# *8*	0.017 *3*								%Iγ=0.0117 *21*
ˣ1136.78# *5*	0.0300 *16*								%Iγ=0.0206 *11*
ˣ1143.44 *8*	0.079 *7*								%Iγ=0.054 *5* Mult.: from α(K)exp=0.00109 *19*, 1980Ab17 report mult=E1+M2.
ˣ1150.40# *19*	0.0128 *25*								%Iγ=0.0088 *17*
1155.47 *3*	3.05 *7*	1155.482	5/2⁻	0.0	3/2⁺	E1		9.23×10⁻⁴	%Iγ=2.10 *6* α(K)=0.000783 *11*; α(L)=0.0001025 *15*;

From ENSDF

γ(^{155}Tb) (continued)

E_γ†	I_γ‡@f	E_i(level)	J^π_i	E_f	J^π_f	Mult.&	α e	Comments
								α(M)=2.21×10⁻⁵ 3 α(N)=5.10×10⁻⁶ 8; α(O)=7.85×10⁻⁷ 11; α(P)=5.25×10⁻⁸ 8; α(IPF)=9.62×10⁻⁶ 14
1166.22 3	2.473 23	1664.913	5/2⁻	498.639	5/2⁺	E1	9.11×10⁻⁴	%Iγ=1.699 29 α(K)=0.000770 11; α(L)=0.0001007 15; α(M)=2.17×10⁻⁵ 3 α(N)=5.01×10⁻⁶ 7; α(O)=7.72×10⁻⁷ 11; α(P)=5.16×10⁻⁸ 8; α(IPF)=1.243×10⁻⁵ 18 δ: 1984ShZN report δ(M2/E1)=0.06 12.
x1172.48# 3	0.082 4							%Iγ=0.0563 29
x1172.59 12	0.072 12							%Iγ=0.049 8
1184.05 10	0.035 5	1835.82	3/2,5/2	652.031	5/2⁺			%Iγ=0.0240 35
x1187.42# 8	0.0140 12							%Iγ=0.0096 8
x1190.98# 7	0.0157 22							%Iγ=0.0108 15
1198.14 9	0.043 4	1664.913	5/2⁻	466.782	7/2⁺			%Iγ=0.0295 28
1201.87 8	0.052 5	1452.00	3/2⁻,5/2⁻	250.028	7/2⁻			%Iγ=0.0357 35
x1205.29# 5	0.0283 16							%Iγ=0.0194 11
x1209.26# 5	0.031 3							%Iγ=0.0213 21
1213.1 5	0.048 24	1865.82	5/2⁻	652.031	5/2⁺			%Iγ=0.033 16
x1214.32# 8	0.029 3							%Iγ=0.0199 21
x1216.88# 17	0.0118 21							%Iγ=0.0081 14
1221.52 6	0.088 20	1492.635	5/2⁻	271.042	5/2⁺	E1	8.60×10⁻⁴	%Iγ=0.060 14 α(K)=0.000709 10; α(L)=9.26×10⁻⁵ 13; α(M)=2.00×10⁻⁵ 3 α(N)=4.61×10⁻⁶ 7; α(O)=7.10×10⁻⁷ 10; α(P)=4.76×10⁻⁸ 7; α(IPF)=3.33×10⁻⁵ 5
x1224.84# 7	0.0095 7							%Iγ=0.0065 5
x1229.03# 4	0.0172 10							%Iγ=0.0118 7
1232.34 12	0.066 8	1750.098	5/2⁻	517.541	3/2⁺,5/2⁺,7/2⁺			%Iγ=0.045 6
1242.63 4	0.1290 17	1492.635	5/2⁻	250.028	7/2⁻	M1	0.00295	%Iγ=0.0886 17 α(K)=0.00250 4; α(L)=0.000340 5; α(M)=7.38×10⁻⁵ 11 α(N)=1.707×10⁻⁵ 24; α(O)=2.64×10⁻⁶ 4; α(P)=1.80×10⁻⁷ 3; α(IPF)=1.209×10⁻⁵ 17
1251.24 3	1.382 6	1750.098	5/2⁻	498.639	5/2⁺	E1	8.40×10⁻⁴	%Iγ=0.949 14 α(K)=0.000680 10; α(L)=8.87×10⁻⁵ 13; α(M)=1.91×10⁻⁵ 3 α(N)=4.41×10⁻⁶ 7; α(O)=6.80×10⁻⁷ 10; α(P)=4.56×10⁻⁸ 7; α(IPF)=4.70×10⁻⁵ 7 Iγ: the listed uncertainty (from 1980Ab17) seems

$^{155}_{65}$Tb$_{90}$-21

γ(^{155}Tb) (continued)

E_γ [†]	I_γ [‡@f]	E_i(level)	J^π_i	E_f	J^π_f	Mult. [&]	δ [bc]	α [e]	Comments
									unrealistically small. δ: 1984ShZN report δ(M2/E1)=0.14 *30*. 1996KrZY report −0.16 *10*.
[x]1256.99[#] *12*	0.0168 *19*								%Iγ=0.0115 *13*
1265.69 *16*	0.022 *6*	1492.635	5/2$^-$	226.916	5/2$^-$				%Iγ=0.015 *4*
[x]1274.07[#] *6*	0.0117 *7*								%Iγ=0.0080 *5*
[x]1278.19[#] *12*	0.0049 *7*								%Iγ=0.0034 *5*
1283.32 *14*	0.0332 *13*	1750.098	5/2$^-$	466.782	7/2$^+$				%Iγ=0.0228 *10* E_γ: incorrectly given as 1223.32 in 1980Ab17.
[x]1285.79[#] *12*	0.0115 *10*								%Iγ=0.0079 *7*
[x]1289.08 *25*	0.014 *9*								%Iγ=0.010 *6*
1295.00 *4*	0.262 *4*	1294.960	5/2$^-$	0.0	3/2$^+$	E1+M2	0.23 *+6−7*	0.00109 *15*	%Iγ=0.180 *4* α(K)=0.00087 *13*; α(L)=0.000117 *19*; α(M)=2.5×10^{-5} *4* α(N)=5.9×10^{-6} *10*; α(O)=9.1×10^{-7} *15*; α(P)=6.1×10^{-8} *10*; α(IPF)=6.52×10^{-5} *20* δ: computed by the evaluator from α(K)exp=0.00088 *12*.
1304.05 *4*	0.254 *7*	1638.848	5/2$^-$	334.824	7/2$^+$	E1(+M2)	0.16 *+7−16*	0.00094 *14*	%Iγ=0.174 *5* α(K)=0.00075 *12*; α(L)=9.9×10^{-5} *17*; α(M)=2.1×10^{-5} *4* α(N)=4.9×10^{-6} *9*; α(O)=7.6×10^{-7} *14*; α(P)=5.1×10^{-8} *9*; α(IPF)=7.15×10^{-5} *20* δ: computed by the evaluator from α(K)exp=0.00075 *12*.
[x]1305.4[#] *4*	0.016 *8*								%Iγ=0.011 *5*
1316.28 *4*	0.229 *7*	1865.82	5/2$^-$	549.603	3/2$^+$	E1		8.05×10^{-4}	%Iγ=0.157 *5* α(K)=0.000622 *9*; α(L)=8.10×10^{-5} *12*; α(M)=1.746×10^{-5} *25* α(N)=4.03×10^{-6} *6*; α(O)=6.21×10^{-7} *9*; α(P)=4.17×10^{-8} *6*; α(IPF)=7.98×10^{-5} *12*
1329.85 *11*	0.029 *5*	1664.913	5/2$^-$	334.824	7/2$^+$				%Iγ=0.0199 *34*
1336.83 *3*	0.716 *22*	1492.635	5/2$^-$	155.783	7/2$^+$	E1		7.97×10^{-4}	%Iγ=0.492 *17* α(K)=0.000605 *9*; α(L)=7.88×10^{-5} *11*; α(M)=1.698×10^{-5} *24* α(N)=3.92×10^{-6} *6*; α(O)=6.04×10^{-7} *9*; α(P)=4.06×10^{-8} *6*; α(IPF)=9.17×10^{-5} *13*

γ(^{155}Tb) (continued)

Eγ[†]	Iγ[‡@f]	Ei(level)	Jπi	Ef	Jπf	Mult.[&]	δ[bc]	α[e]	Comments
1348.39 *7*	0.091 *7*	1865.82	5/2−	517.541	3/2+,5/2+,7/2+	E1+M2	0.91 *16*	0.0030 *5*	%Iγ=0.063 *5* α(K)=0.0025 *4*; α(L)=0.00035 *6*; α(M)=7.7×10^{-5} *13* α(N)=1.8×10^{-5} *3*; α(O)=2.8×10^{-6} *5*; α(P)=1.8×10^{-7} *3*; α(IPF)=5.9×10^{-5} *9* δ: computed by the evaluator from α(K)exp=0.0025 *4*.
1356.85 *10*	0.036 *9*	1865.82	5/2−	508.394	1/2+,3/2+,5/2+				%Iγ=0.025 *6*
1367.77 *3*	1.171 *20*	1638.848	5/2−	271.042	5/2+	E1+M2	0.16 *+6−10*	0.00091 *11*	%Iγ=0.804 *18* α(K)=0.00068 *9*; α(L)=9.0×10^{-5} *13*; α(M)=1.9×10^{-5} *3* α(N)=4.5×10^{-6} *7*; α(O)=6.9×10^{-7} *10*; α(P)=4.7×10^{-8} *7*; α(IPF)=0.000109 *3* δ: computed by the evaluator from α(K)exp=0.00069 *9*. From nuclear-orientation studies, 1984ShZN report 0.14≤δ(M2/E1)≤1.23.
ˣ1370.40[#] *6*	0.030 *3*								%Iγ=0.0206 *21*
ˣ1381.3[#] *3*	0.0040 *13*								%Iγ=0.0027 *9*
1386.37 *6*	0.1546 *24*	1452.00	3/2−,5/2−	65.4609	5/2+	E1		7.86×10^{-4}	%Iγ=0.1062 *23* α(K)=0.000568 *8*; α(L)=7.39×10^{-5} *11*; α(M)=1.592×10^{-5} *23* α(N)=3.67×10^{-6} *6*; α(O)=5.67×10^{-7} *8*; α(P)=3.82×10^{-8} *6*; α(IPF)=0.0001233 *18*
1388.82 *6*	0.148 *3*	1638.848	5/2−	250.028	7/2−	M1		0.00231	%Iγ=0.1017 *25* α(K)=0.00193 *3*; α(L)=0.000261 *4*; α(M)=5.66×10^{-5} *8* α(N)=1.310×10^{-5} *19*; α(O)=2.03×10^{-6} *3*; α(P)=1.383×10^{-7} *20*; α(IPF)=4.56×10^{-5} *7*
1393.83 *4*	0.384 *3*	1664.913	5/2−	271.042	5/2+	E1+M2	0.23 *+6−8*	0.00101 *13*	%Iγ=0.264 *4* α(K)=0.00076 *11*; α(L)=0.000101 *16*; α(M)=2.2×10^{-5} *4* α(N)=5.1×10^{-6} *8*; α(O)=7.8×10^{-7} *13*; α(P)=5.2×10^{-8} *9*; α(IPF)=0.000123 *4*

$^{155}_{65}$Tb$_{90}$-23

$\gamma(^{155}Tb)$ (continued)

E_γ [†]	I_γ [‡@f]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [&]	α [e]	Comments
								α(K)=0.00076 *11*; α(L)=0.000101 *16*; α(M)=2.2×10^{-5} *4* α(N)=5.1×10^{-6} *8*; α(O)=7.8×10^{-7} *13*; α(P)=5.2×10^{-8} *9*; α(IPF)=0.000123 *4* δ: computed by the evaluator from α(K)exp=0.00076 *11*.
^{x}1399.94[#] *19*	0.0064 *11*							%Iγ=0.0044 *8*
^{x}1402.0 *4*	0.016 *4*							%Iγ=0.0110 *28*
^{x}1404.5 *3*	0.020 *4*							%Iγ=0.0137 *28*
1412.08 *7*	0.104 *4*	1638.848	5/2$^-$	226.916	5/2$^-$	M1	0.00223	%Iγ=0.0714 *29* α(K)=0.00186 *3*; α(L)=0.000251 *4*; α(M)=5.45×10^{-5} *8* α(N)=1.259×10^{-5} *18*; α(O)=1.95×10^{-6} *3*; α(P)=1.330×10^{-7} *19*; α(IPF)=5.30×10^{-5} *8*
1414.93 *4*	0.362 *12*	1664.913	5/2$^-$	250.028	7/2$^-$	M1	0.00222	%Iγ=0.249 *9* α(K)=0.00185 *3*; α(L)=0.000250 *4*; α(M)=5.42×10^{-5} *8* α(N)=1.253×10^{-5} *18*; α(O)=1.94×10^{-6} *3*; α(P)=1.324×10^{-7} *19*; α(IPF)=5.39×10^{-5} *8* δ: 1996KrZY report δ=−0.4 *+2−5* or −1.9 +1.0-1.7.
^{x}1417.85[#] *13*	0.0077 *8*							%Iγ=0.0053 *6*
1427.19 *3*	0.604 *8*	1492.635	5/2$^-$	65.4609	5/2$^+$	E1	7.81×10^{-4}	%Iγ=0.415 *8* α(K)=0.000541 *8*; α(L)=7.02×10^{-5} *10*; α(M)=1.513×10^{-5} *22* α(N)=3.49×10^{-6} *5*; α(O)=5.39×10^{-7} *8*; α(P)=3.63×10^{-8} *5*; α(IPF)=0.0001511 *22*
1429.50 *10*	0.032 *4*	1656.39	5/2$^-$	226.916	5/2$^-$			%Iγ=0.0220 *28*
1437.97 *4*	0.417 *4*	1664.913	5/2$^-$	226.916	5/2$^-$	M1	0.00215	%Iγ=0.286 *5* α(K)=0.001778 *25*; α(L)=0.000241 *4*; α(M)=5.22×10^{-5} *8* α(N)=1.207×10^{-5} *17*; α(O)=1.87×10^{-6} *3*; α(P)=1.275×10^{-7} *18*; α(IPF)=6.17×10^{-5} *9*
^{x}1441.96[#] *10*	0.0135 *19*							%Iγ=0.0093 *13*
^{x}1446.84[#] *7*	0.0120 *9*							%Iγ=0.0082 *6*
1451.83 *4*	0.240 *5*	1452.00	3/2$^-$,5/2$^-$	0.0	3/2$^+$	E1	7.80×10^{-4}	%Iγ=0.165 *4* α(K)=0.000525 *8*; α(L)=6.82×10^{-5} *10*; α(M)=1.469×10^{-5} *21* α(N)=3.39×10^{-6} *5*; α(O)=5.23×10^{-7} *8*; α(P)=3.53×10^{-8} *5*; α(IPF)=0.0001683 *24*
1459.00 *23*	0.045 *7*	1793.643	5/2$^+$	334.824	7/2$^+$	M1	0.00209	%Iγ=0.031 *5* α(K)=0.001720 *24*; α(L)=0.000233 *4*; α(M)=5.04×10^{-5} *7* α(N)=1.166×10^{-5} *17*; α(O)=1.81×10^{-6} *3*; α(P)=1.232×10^{-7} *18*; α(IPF)=6.92×10^{-5} *10*
^{x}1462.40[#] *6*	0.0146 *7*							%Iγ=0.0100 *5*
^{x}1472.9[#] *3*	0.012 *4*							%Iγ=0.0082 *28*
^{x}1474.3[#] *6*	0.007 *4*							%Iγ=0.0048 *27*
1479.22 *4*	0.793 *3*	1750.098	5/2$^-$	271.042	5/2$^+$	E1	7.81×10^{-4}	%Iγ=0.545 *8*

$^{155}_{65}Tb_{90}$-24

γ(^{155}Tb) (continued)

E_γ[†]	I_γ[‡@f]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[&]	δ[bc]	α[e]	Comments
									α(K)=0.000509 *8*; α(L)=6.60×10^{-5} *10*; α(M)=1.422×10^{-5} *20* α(N)=3.28×10^{-6} *5*; α(O)=5.07×10^{-7} *7*; α(P)=3.42×10^{-8} *5*; α(IPF)=0.000188 *3* I_γ: the listed uncertainty (from 1980Ab17) seems unrealistically small.
[x]1483.07[#] *5*	0.0272 *21*								%Iγ=0.0187 *15*
[x]1485.92[#] *12*	0.0082 *13*								%Iγ=0.0056 *9*
1492.61 *4*	0.836 *3*	1492.635	5/2$^-$	0.0	3/2$^+$	E1		7.81×10^{-4}	%Iγ=0.574 *9* α(K)=0.000501 *7*; α(L)=6.50×10^{-5} *9*; α(M)=1.400×10^{-5} *20* α(N)=3.23×10^{-6} *5*; α(O)=4.99×10^{-7} *7*; α(P)=3.37×10^{-8} *5*; α(IPF)=0.000197 *3* I_γ: the listed uncertainty (from 1980Ab17) seems unrealistically small.
[x]1498.95[#] *5*	0.0269 *23*								%Iγ=0.0185 *16*
1509.27 *4*	0.365 *12*	1664.913	5/2$^-$	155.783	7/2$^+$	E1(+M2)	−0.13 *7*	0.00084 *8*	%Iγ=0.251 *9* α(K)=0.00054 *7*; α(L)=7.1×10^{-5} *10*; α(M)=1.54×10^{-5} *22* α(N)=3.5×10^{-6} *5*; α(O)=5.5×10^{-7} *8*; α(P)=3.7×10^{-8} *6*; α(IPF)=0.000206 *5* δ: from 1996KrZY.
[x]1518.37[#] *8*	0.0065 *5*								%Iγ=0.00447 *35*
1522.51 *9*	0.045 *4*	1793.643	5/2$^+$	271.042	5/2$^+$				%Iγ=0.0309 *28*
[x]1524.1[#] *11*	0.0037 *25*								%Iγ=0.0025 *17*
[x]1531.39[#] *11*	0.0044 *4*								%Iγ=0.00302 *28*
1543.78 *9*	0.0153 *17*	1793.643	5/2$^+$	250.028	7/2$^-$				%Iγ=0.0105 *12*
1548.73 *16*	0.0079 *15*	1865.82	5/2$^-$	317.045	9/2$^-$				%Iγ=0.0054 *10*
[x]1557.8 *4*	0.009 *3*								%Iγ=0.0062 *21*
[x]1562.91 *6*	0.121 *6*								%Iγ=0.083 *4*
1567.04 *10*	0.029 *4*	1793.643	5/2$^+$	226.916	5/2$^-$				%Iγ=0.0199 *28*
1573.56 *5*	0.144 *6*	1638.848	5/2$^-$	65.4609	5/2$^+$				%Iγ=0.099 *4*
1577.90 *10*	0.0110 *20*	1911.19	(5/2)$^-$	334.824	7/2$^+$				%Iγ=0.0076 *14*
[x]1577.99[#] *12*	0.0057 *6*								%Iγ=0.0039 *4*
1590.04 *9*	0.041 *3*	1860.95	1/2$^+$,3/2,5/2	271.042	5/2$^+$				%Iγ=0.0282 *21*
1594.52 *6*	0.080 *4*	1750.098	5/2$^-$	155.783	7/2$^+$				%Iγ=0.0550 *29*
1599.57 *4*	0.388 *10*	1664.913	5/2$^-$	65.4609	5/2$^+$	E1		7.96×10^{-4}	%Iγ=0.267 *8* α(K)=0.000446 *7*; α(L)=5.77×10^{-5} *8*; α(M)=1.244×10^{-5} *18* α(N)=2.87×10^{-6} *4*; α(O)=4.43×10^{-7} *7*; α(P)=3.00×10^{-8} *5*; α(IPF)=0.000276 *4*

γ(^{155}Tb) (continued)

E_γ[†]	I_γ[‡@f]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[&]	α[e]	Comments
^{x}1606.4 3	0.911 2							%Iγ=0.626 9
1609.14 14	0.026 3	1835.82	3/2,5/2	226.916	5/2$^-$			%Iγ=0.0179 21
^{x}1610.52 22	0.0054 17							%Iγ=0.0037 12
^{x}1615.11[#] 11	0.0041 4							%Iγ=0.00282 28
^{x}1619.14[#] 5	0.0037 6							%Iγ=0.0025 4
^{x}1626.22[#] 11	0.0040 4							%Iγ=0.00275 28
^{x}1630.17[#] 18	0.0023 4							%Iγ=0.00158 28
1637.87 5	0.120 4	1793.643	5/2$^+$	155.783	7/2$^+$			%Iγ=0.0824 30
1641.9 3	0.0105 17	1868.95	3/2$^+$,5/2$^+$	226.916	5/2$^-$			%Iγ=0.0072 12
^{x}1647.82 17	0.0151 22							%Iγ=0.0104 15
1656.05 24	0.038 7	1656.39	5/2$^-$	0.0	3/2$^+$			%Iγ=0.026 5
^{x}1657.65[#] 8	0.0187							%Iγ=0.01285 19 I_γ: uncertainty is illegible in the reference.
1664.98 6	1.27 5	1664.913	5/2$^-$	0.0	3/2$^+$	E1	8.11×10^{-4}	%Iγ=0.87 4 α(K)=0.000418 6; α(L)=5.40×10^{-5} 8; α(M)=1.162×10^{-5} 17 α(N)=2.68×10^{-6} 4; α(O)=4.14×10^{-7} 6; α(P)=2.81×10^{-8} 4; α(IPF)=0.000325 5 δ: 1984ShZN report δ(M2/E1)=0.09 6. 1996KrZY report δ(M2/E1)=−0.03 9.
^{x}1678.1 5	0.010 4							%Iγ=0.0069 27
1684.80 5	0.163 6	1750.098	5/2$^-$	65.4609	5/2$^+$	E1	8.17×10^{-4}	%Iγ=0.112 4 α(K)=0.000409 6; α(L)=5.29×10^{-5} 8; α(M)=1.139×10^{-5} 16 α(N)=2.63×10^{-6} 4; α(O)=4.06×10^{-7} 6; α(P)=2.75×10^{-8} 4; α(IPF)=0.000340 5
^{x}1691.6 4	0.014 11							%Iγ=0.010 8
1710.08 11	0.0188 14	1865.82	5/2$^-$	155.783	7/2$^+$			%Iγ=0.0129 10
1713.09 9	0.0259 17	1868.95	3/2$^+$,5/2$^+$	155.783	7/2$^+$			%Iγ=0.0178 12
1728.02 7	0.060 3	1793.643	5/2$^+$	65.4609	5/2$^+$			%Iγ=0.0412 21
^{x}1745.60 12	0.0173 19							%Iγ=0.0119 13
1750.45 6	0.0421 19	1750.098	5/2$^-$	0.0	3/2$^+$			%Iγ=0.0289 14
1758.10 10	0.0037 4	1913.60	5/2$^-$	155.783	7/2$^+$			%Iγ=0.00254 28
1764.86 9	0.010 4	1991.78	3/2$^-$	226.916	5/2$^-$			%Iγ=0.0069 27
1769.60 20	0.0031 5	1835.82	3/2,5/2	65.4609	5/2$^+$			%Iγ=0.00213 34
^{x}1786.48[#] 7	0.0046 2							%Iγ=0.00316 14
1793.64 6	0.070 4	1793.643	5/2$^+$	0.0	3/2$^+$			%Iγ=0.0481 28
1795.30 10	0.0210 20	1860.95	1/2$^+$,3/2,5/2	65.4609	5/2$^+$			%Iγ=0.0144 14
^{x}1799.99[#] 19	0.0022 3							%Iγ=0.00151 21
1803.60 8	0.0211 14	1868.95	3/2$^+$,5/2$^+$	65.4609	5/2$^+$			%Iγ=0.0145 10
^{x}1811.86[#] 7	0.0030 2							%Iγ=0.00206 14
^{x}1814.64[#] 6	0.0032 3							%Iγ=0.00220 21
1835.55 15	0.0143 14	1991.78	3/2$^-$	155.783	7/2$^+$			%Iγ=0.0098 10

γ(^{155}Tb) (continued)

E_γ[†]	I_γ[‡@f]	E_i(level)	J^π_i	E_f	J^π_f	Comments
1846.2 *3*	0.0059 *17*	1911.19	(5/2)$^-$	65.4609	5/2$^+$	%Iγ=0.0041 *12*
^{x}1852.12[#] *9*	0.0028 *3*					%Iγ=0.00192 *21*
^{x}1857.55[#] *9*	0.0182 *16*					%Iγ=0.0125 *11*
1866.17 *25*	0.0177 *25*	1865.82	5/2$^-$	0.0	3/2$^+$	%Iγ=0.0122 *17*
1869.00 *10*	0.00060 *10*	1868.95	3/2$^+$,5/2$^+$	0.0	3/2$^+$	%Iγ=0.00041 *7*
^{x}1879.64[#] *18*	0.0014 *3*					%Iγ=0.00096 *21*
1889.22 *8*	0.0317 *24*	1954.72	(3/2,5/2)$^-$	65.4609	5/2$^+$	%Iγ=0.0218 *17*
^{x}1893.72[#] *19*	0.0222 *18*					%Iγ=0.0153 *13*
^{x}1902.60[#] *8*	0.0018 *2*					%Iγ=0.00124 *14*
^{x}1911.23[#] *9*	0.0018 *3*					%Iγ=0.00124 *21*
1913.60 *10*	0.00070 *10*	1913.60	5/2$^-$	0.0	3/2$^+$	%Iγ=0.00048 *7*
^{x}1951.59[#] *25*	0.0083 *14*					%Iγ=0.0057 *10*
1954.76 *11*	0.0203 *20*	1954.72	(3/2,5/2)$^-$	0.0	3/2$^+$	%Iγ=0.0139 *14*

[†] From 1980Ab17.

[‡] Listed values are those of 1980Ab17, normalized to Iγ(226.9γ)=100, unless noted otherwise.

[#] Eγ and Iγ are from 1996AdZW.

[@] I(Tb K x rays)=179, relative to Iγ(226.9γ)=100 (1967Bl12).

[&] Unless noted otherwise, the listed values are those deduced by 1980Ab17 from comparison of measured conversion coefficients and L-subshell ratios with theoretical values. The normalization of the Iγ and Ice data was done by requiring that α(K)exp=0.0287 (the theoretical value for E1) for the 226.9 γ. Mult=E1 for this γ is established by the measured L-subshell ratios (see, for example, 1980Ab17).

[a] The α(K)exp values deduced by 1980Ab17 for a number of the γ transitions seem disturbingly large. They lead to rather large M2/E1 mixing ratios for some low-energy (below≈800 keV) transitions for which Δπ=yes and, in some instances, imply pure M2 transitions which compete favorably with higher-energy transitions of lower multipole order. The reason for these large α(K)exp values, if they are indeed incorrect, is not clear; they appear in many instances to be associated with small values of Ice(K). The existence of large values of α(K)exp has also been used by 1980Ab17 to infer the presence of E0 components in transitions for which Δπ=no. In some instances, the interpretation of M2 rather than E0 in a transition seems to have been based largely on whether or not a parity change was involved. Thus, these admixtures, and the deduced mults, are determined from considerations other that of α(K)exp alone. The evaluator has used the mults and δ values from these α(K)exp data, but has generally avoided using them in adopting J^π values for the associated levels.

[b] Unless otherwise indicated, the listed values are those calculated by the evaluator from the L-subshell ratios reported by 1980Ab17.

[c] In the low-temperature nuclear orientation studies of 1984ShZN and 1996KrZY, some δ values are shown with minus signs and some without a sign. The evaluator has assumed that these latter should be positive and has listed them, where an δ value is adopted, with a positive sign.

[d] γ shown as questionably placed by 1980Ab17. Several problems are presented by this transition. 1980Ab17 report Ice(K)=0.0016, which gives mult=E1, inconsistent with the indicated placement in the decay scheme. 1972Ha41, however, state that this transition is E2, based on their measured L-subshell ratios (these data are not shown in their paper); however, mult=E2, together with the adopted Iγ, would lead to Ice(K)=0.0062. 1971Wi24 report a γ transition deexciting to the g.s. from this level, although it is weaker, relative to the 269.3 γ, by a factor of ≈4 than the Iγ value of the 334.9 γ given by 1980Ab17 (the one listed here). The energy fit is also not particularly good. No resolution of these difficulties is apparent at this time. It may be that the 334.963 peak reported

$\gamma(^{155}$Tb) (continued)

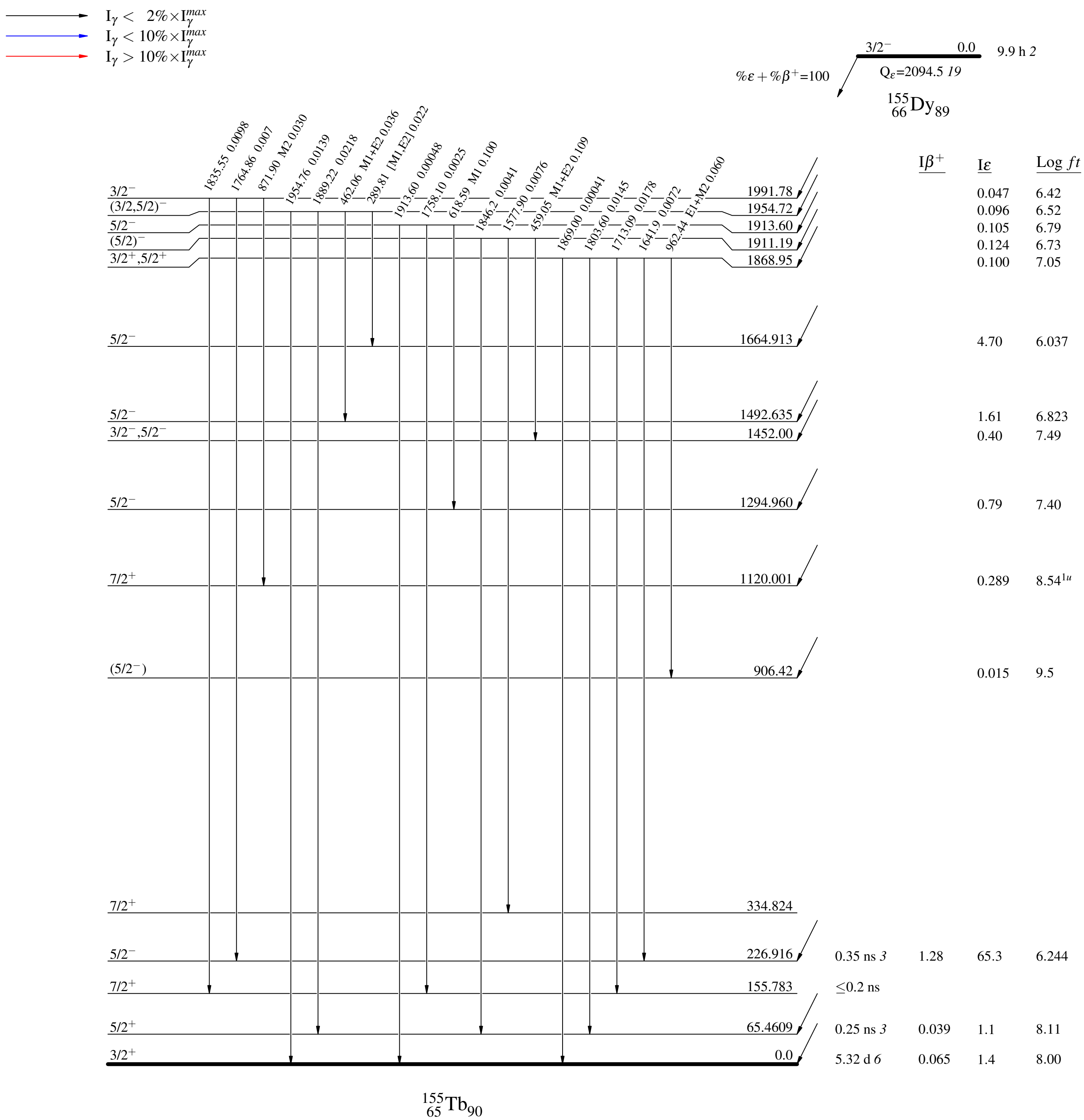
by 1980Ab17 is complex, with only a small portion of it being the g.s. transition, but this is merely speculation at this time.
[e] Additional information 2.
[f] For absolute intensity per 100 decays, multiply by 0.687 *10*.
[g] Placement of transition in the level scheme is uncertain.
[x] γ ray not placed in level scheme.

$^{155}_{65}$Tb$_{90}$-28

^{155}Dy ε decay 1980Ab17

Decay Scheme

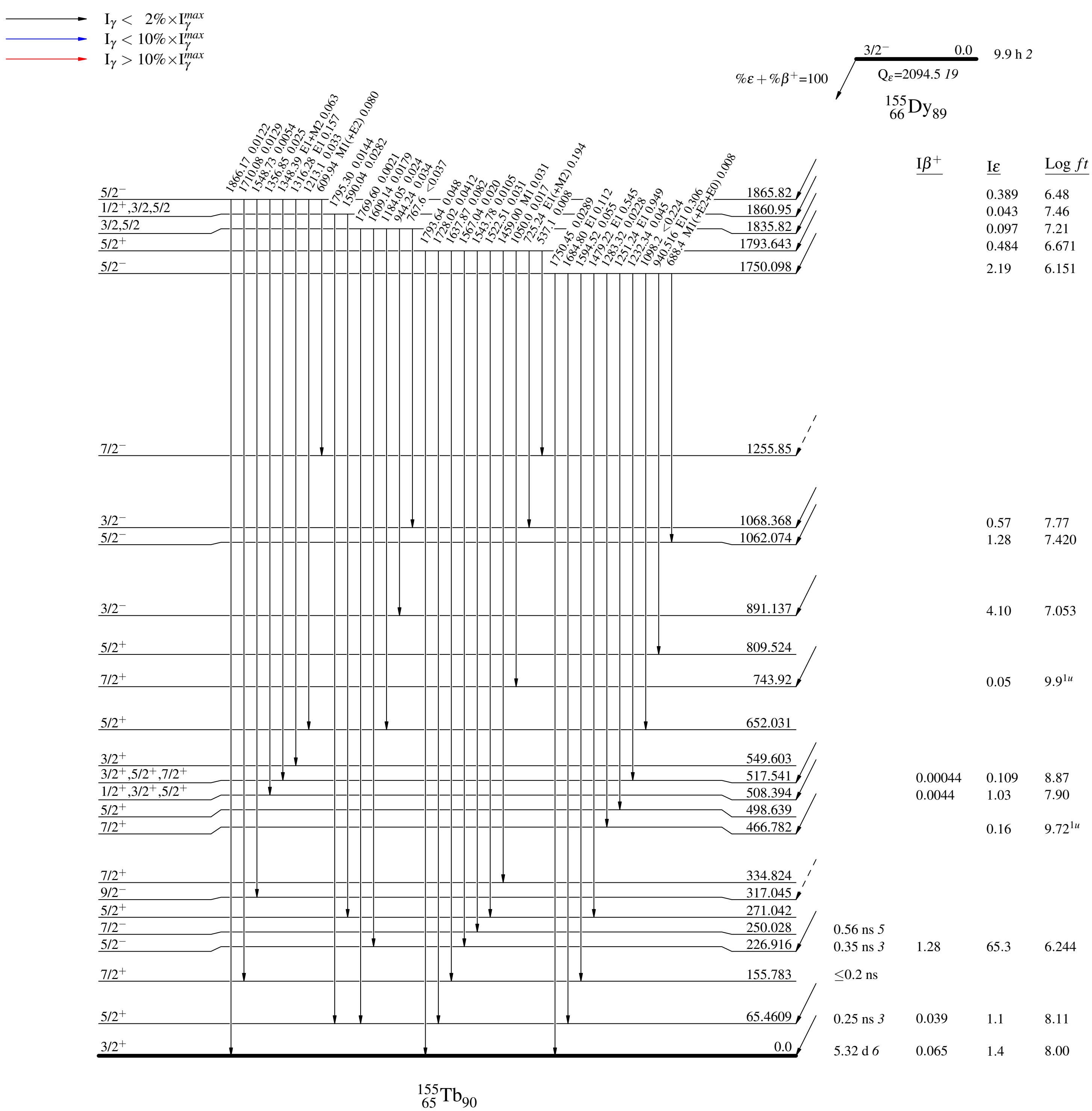
Intensities: I_γ per 100 parent decays



^{155}Dy ε decay 1980Ab17

Decay Scheme (continued)

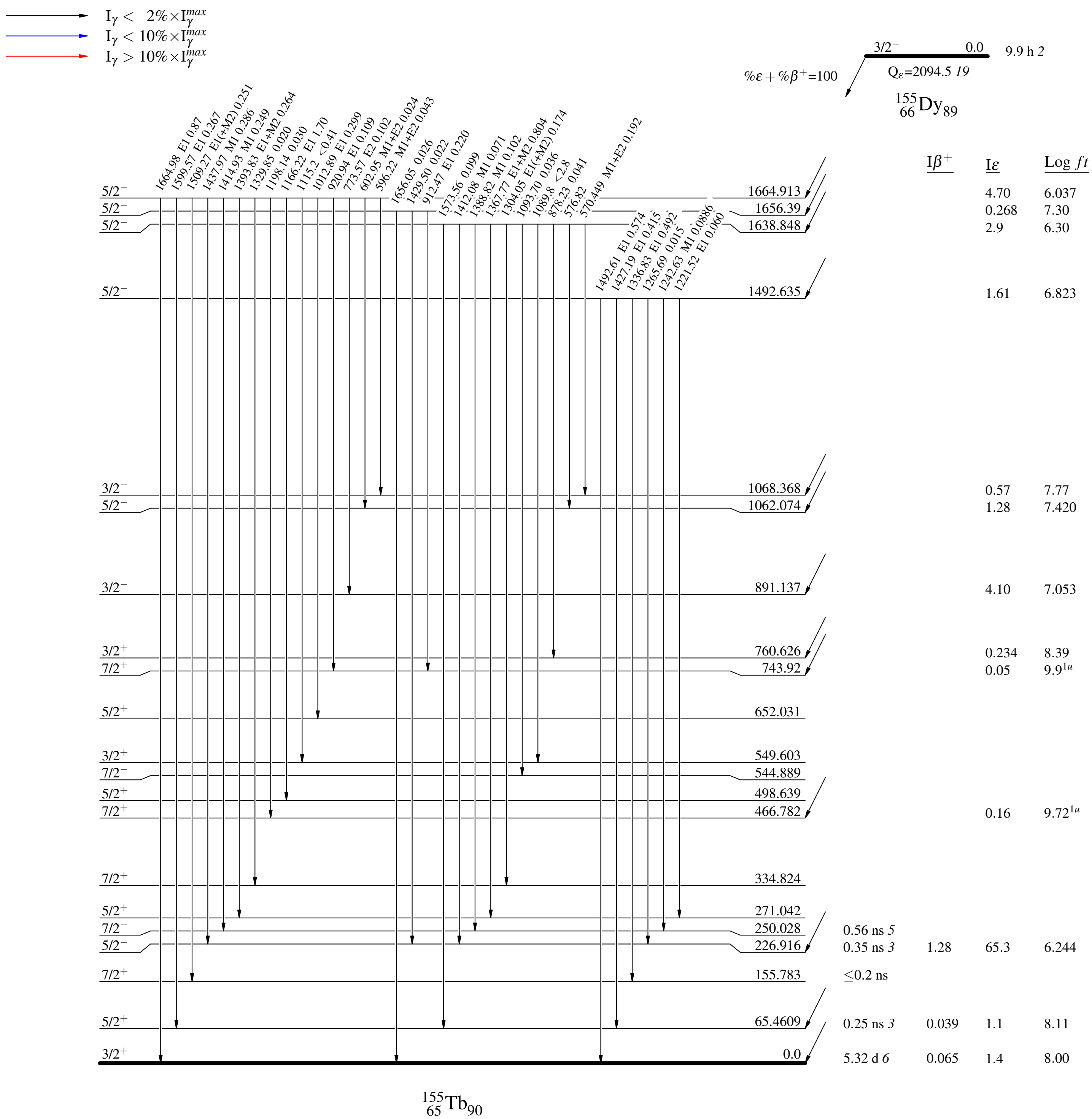
Intensities: I_γ per 100 parent decays



^{155}Dy ε decay 1980Ab17

Decay Scheme (continued)

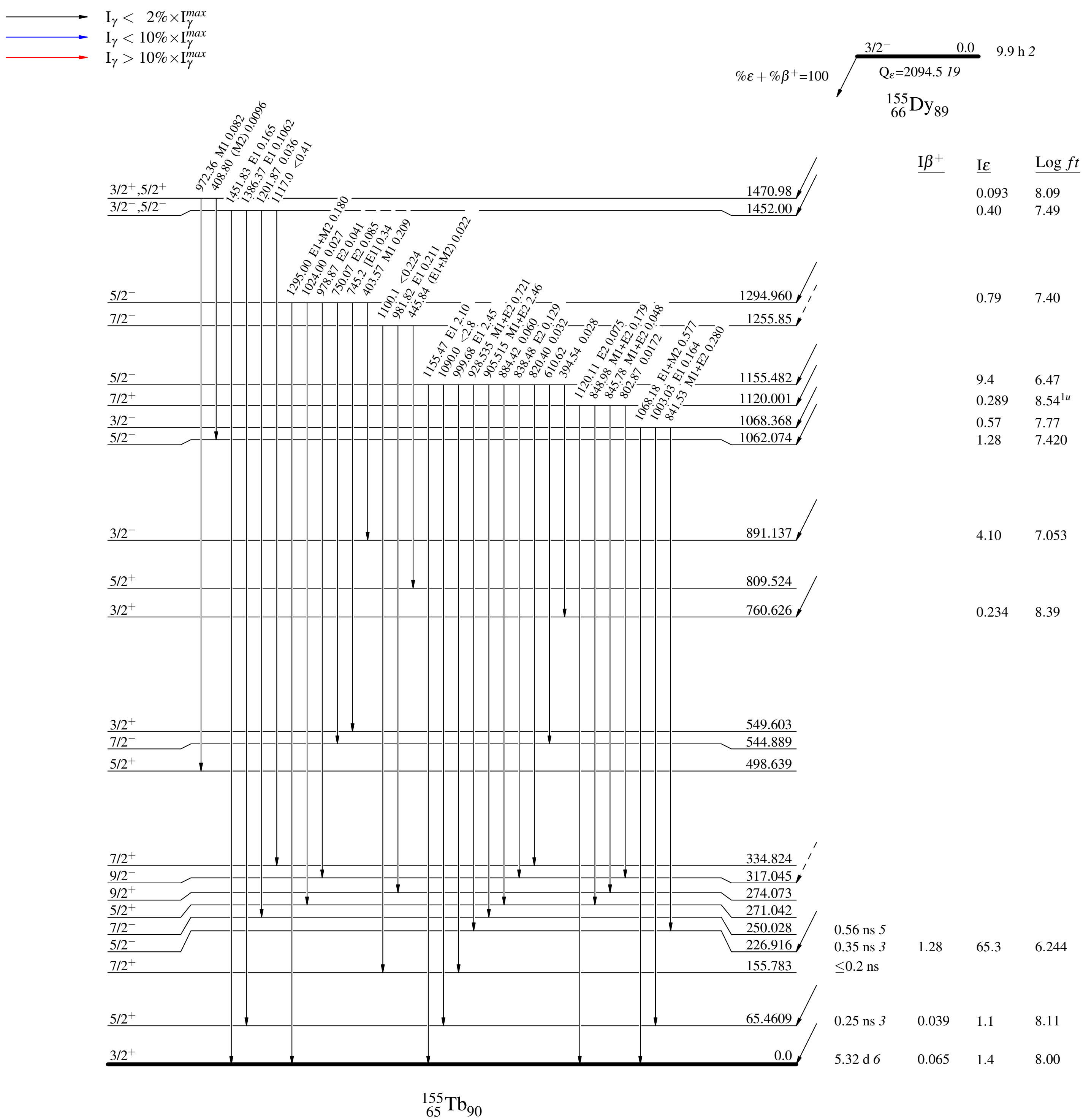
Intensities: I_γ per 100 parent decays



^{155}Dy ε decay 1980Ab17

Decay Scheme (continued)

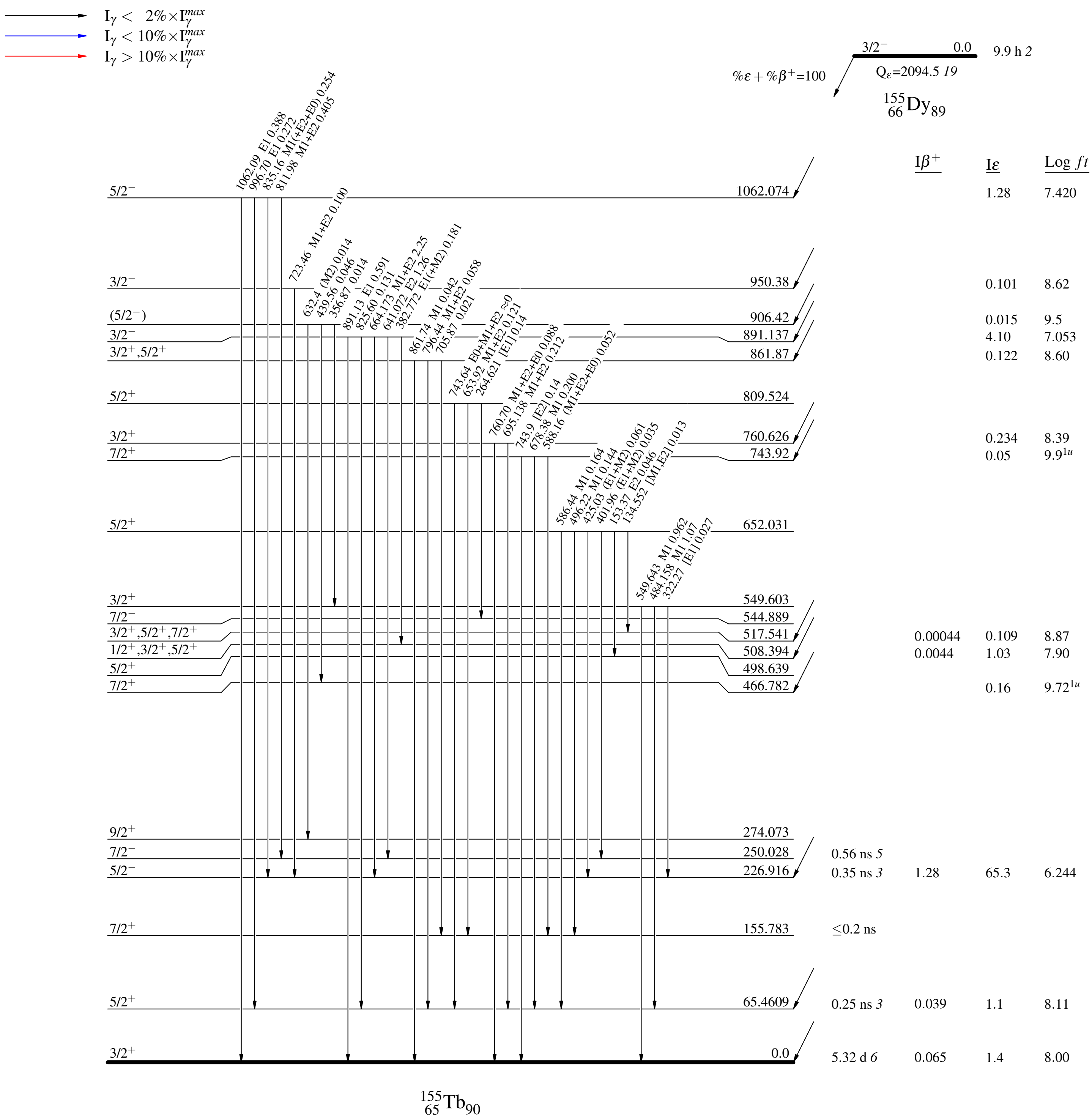
Intensities: I_γ per 100 parent decays



^{155}Dy ε decay 1980Ab17

Decay Scheme (continued)

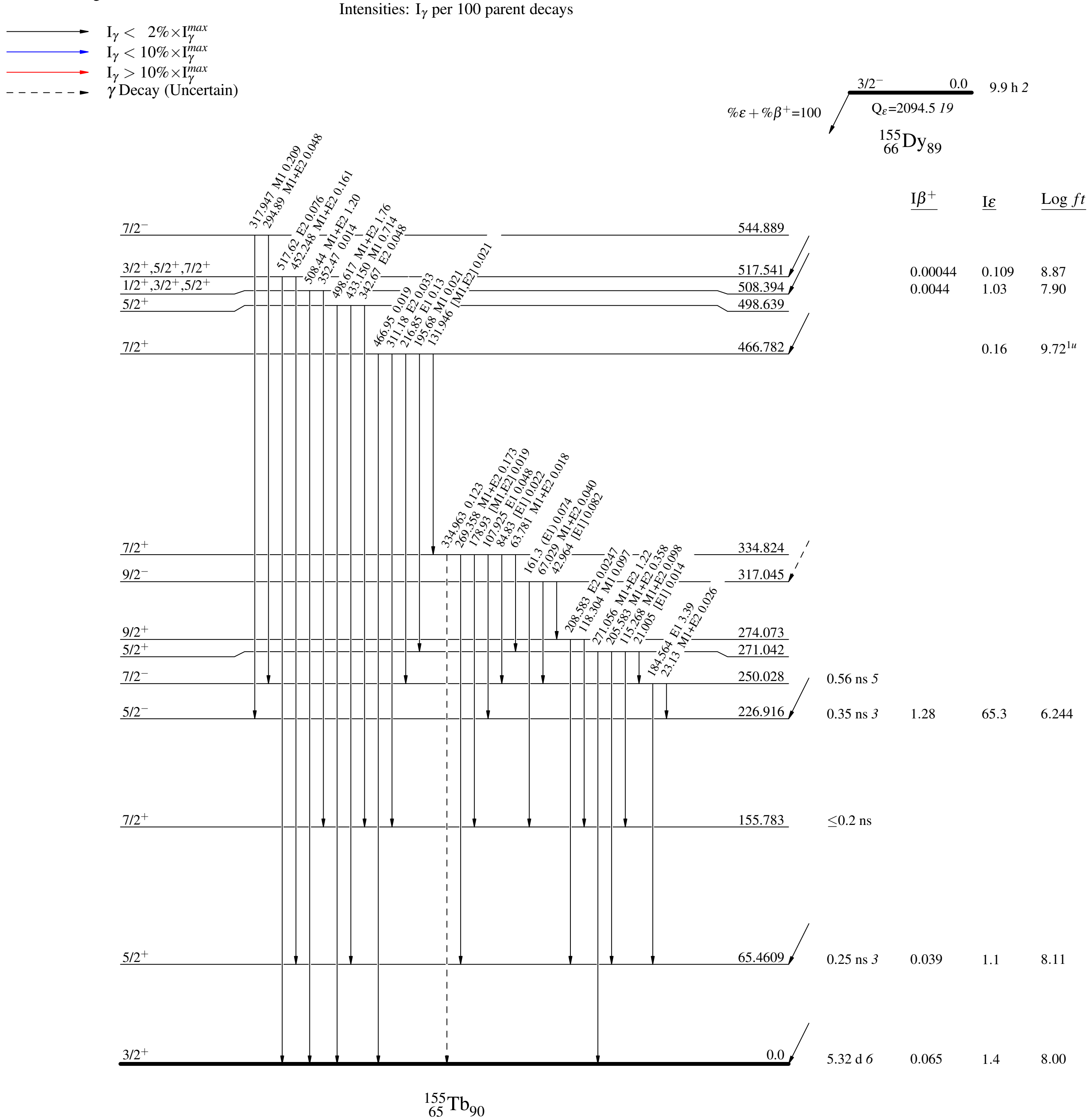
Intensities: I_γ per 100 parent decays



^{155}Dy ε decay 1980Ab17

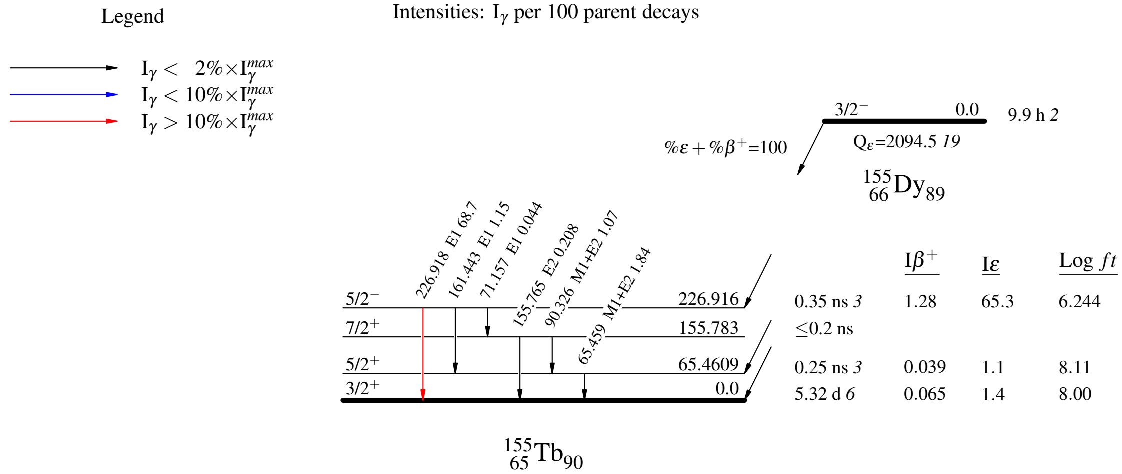
Decay Scheme (continued)

Intensities: I_γ per 100 parent decays

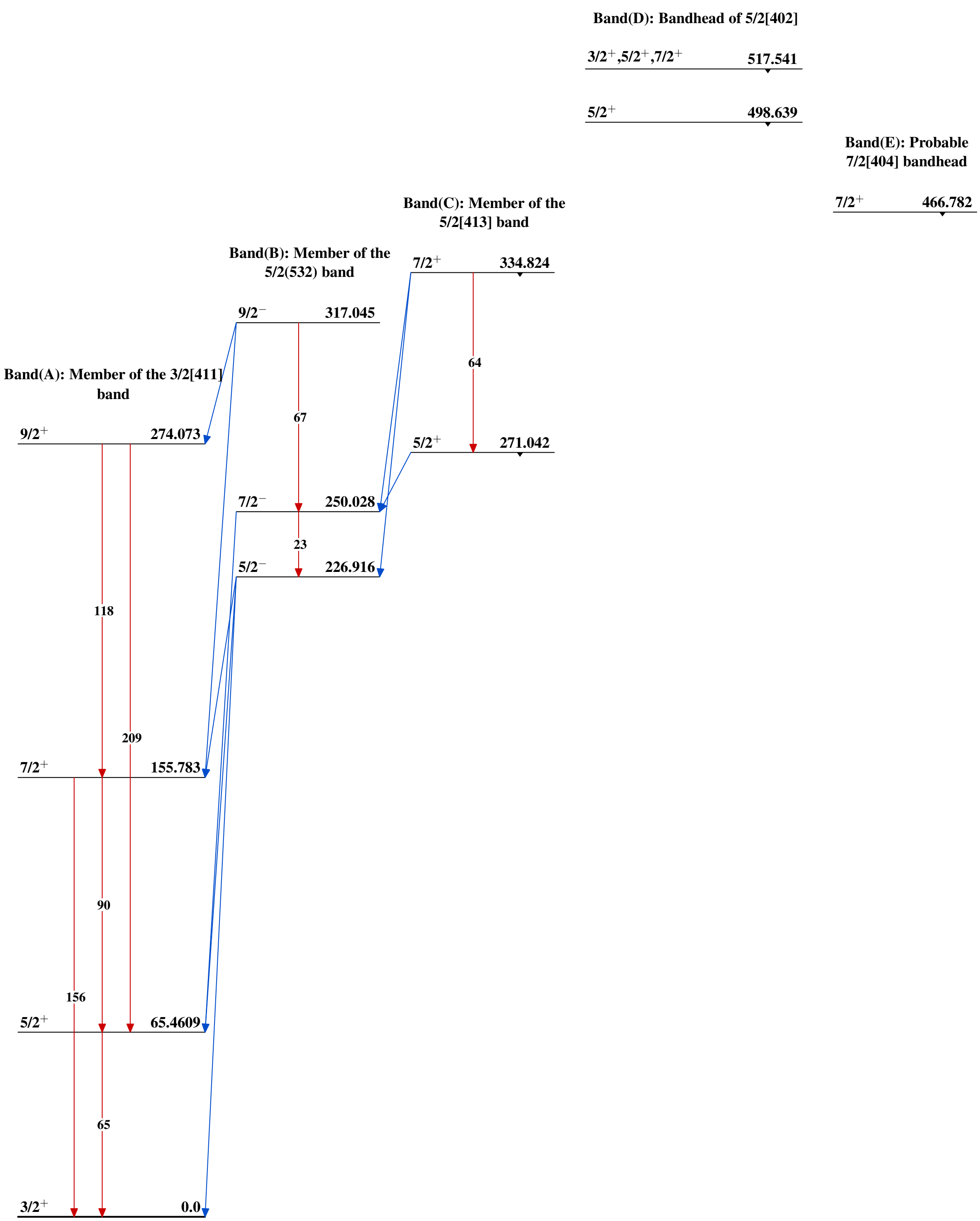


^{155}Dy ε decay 1980Ab17

Decay Scheme (continued)



^{155}Dy ε decay 1980Ab17



$^{155}_{65}Tb_{90}$