^{162}Tb β^- decay 1977Ka08

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

Parent: ^{162}Tb: E=0; J$^\pi$=1$^-$; T$_{1/2}$=7.74 min *9*; Q(β^-)=2301.6 *22*; %β^- decay=100
^{162}Tb-J$^\pi$: Additional information 1.
^{162}Tb-T$_{1/2}$: Additional information 2.
^{162}Tb-Q(β^-): From 2021Wa16.
Additional information 3.
Data and level scheme are based on 1977Ka08, unless otherwise noted. For 1977Ka08, source produced by ^{163}Dy(γ,p) on enriched (93.07%) target. Report T$_{1/2}$, Eγ and Iγ for 47 γ's (Ge detectors), $\gamma\gamma$ coincidences (NaI and Ge detectors), and $\beta\gamma$ coincidences (plastic detector).
Other ^{162}Tb decay studies: 1965Sc24; 1966Fu08; 1966Sc24; 1967Gu03; 1969Cl11; and 1968Ka10.
^{162}Tb has been produced by the ^{163}Dy(γ,p), ^{162}Dy(n,p), and ^{165}Ho(n,α) reactions.

^{162}Dy Levels

The consistency of the scheme is supported by the fact that the sum of the energies of the radiations is 2290 *100* which agrees with the Q value of 2301.6 *22*.
Additional information 4.

E(level)[†]	J$^\pi$[‡]	T$_{1/2}$[#]	Comments
0.0[@]	0$^+$	stable	
80.66[@] *5*	2$^+$		
265.64[@] *7*	4$^+$		
888.19[&] *5*	2$^+$		
962.97[&] *6*	3$^+$		
1148.24[a] *6*	2$^-$	0.21 ns *4*	T$_{1/2}$: from 1968Se02, $\beta\gamma$ delayed coincidences.
1210.02[a] *23*	3$^-$		
1275.78[b] *24*	1$^-$		
1357.80[b] *29*	3$^-$		
1453.6[c] *4*	2$^+$		
1691.41[d] *23*	2$^-$		
1745.48[e] *22*	1$^+$		
1782.63[e] *20*	2$^+$		
1982.4 *4*	1,2$^+$		
1999.2 *5*	2$^+$		
2128.6 *4*	1$^-$		
2163.3 *4*	1,2,3		
2371.27? *32*	1$^-$,2,3		E(level): this level which is bound in 1977Ka08 (Q(β^-)=2530 *80*) is getting unbound for the actual adopted value (Q(β^-)=2301.6 *22* (2021Wa16)).

[†] From least-squares fit to the γ energies.
[‡] J^π and band assignments are from ^{162}Dy Adopted Levels. Arguments are given there for each assignment.
[#] Data given here for excited states are only for experiments from ^{162}Tb β^- decay; see ^{162}Dy Adopted Levels for summary of all level half-life measurements.
[@] Band(A): K$^\pi$=0$^+$ ground-state band.
[&] Band(B): K$^\pi$=2$^+$ γ-vibrational band.
[a] Band(C): K$^\pi$=2$^-$ octupole-vibrational band. Dominant configuration=(π 7/2[523])-(π 3/2[411]), from log *ft* in β^- decay.
[b] Band(D): K$^\pi$=0$^-$ octupole band.

Continued on next page (footnotes at end of table)

^{162}Tb β^- decay 1977Ka08 (continued)

^{162}Dy Levels (continued)

[c] Band(E): $K^\pi=0^+$ band.
[d] Band(F): $K^\pi=1^-$ octupole-vibrational band.
[e] Band(G): $K^\pi=1^+$ band.

β^- radiations

E(decay)	E(level)	Iβ^-[†‡]	Log *ft*	Comments
	2371.27?	0.027 *3*	5.2 *5*	av Eβ=37 *12*
(138.3 *25*)	2163.3	0.024 *2*	5.21 *5*	av Eβ=36.74 *63*
(173.0 *25*)	2128.6	0.054 *3*	5.16 *3*	av Eβ=46.63 *65*
(302.4 *25*)	1999.2	0.009 *1*	6.71 *5*	av Eβ=85.65 *71*
(319.2 *25*)	1982.4	0.019 *2*	6.46 *5*	av Eβ=90.95 *71*
(519.0 *24*)	1782.63	0.14 *1*	6.29 *4*	av Eβ=157.52 *77*
(556.1 *24*)	1745.48	0.17 *1*	6.30 *3*	av Eβ=170.55 *79*
(610.2 *24*)	1691.41	0.32 *2*	6.17 *3*	av Eβ=189.84 *80*
(848.0 *25*)	1453.6	0.015 *2*	7.99 *6*	av Eβ=278.56 *86*
(943.8[#] *24*)	1357.80	0.06 *1*		av Eβ=315.81 *88* Iβ^-: from the listed Iβ value, log *ft*=7.56 *8*. From the assigned J^π values, this is a 2nd forbidden transition, for which the log *ft* value is expected to be >11.0 (1973Ra10). Thus, the evaluator has shown this transition as questionable.
(1025.8 *24*)	1275.78	0.14 *2*	7.32 *7*	av Eβ=348.30 *89*
(1153.4 *24*)	1148.24	97 *6*	4.67 *3*	av Eβ=399.75 *90* E(decay): measured values: 1380 *80* (1977Ka08), 1250 *100* (1968Ka10), 1450 *100* (1967Gu03), 1375 *50* (1966Sc24) and 1300 (1966Fu08).
(1338.6 *24*)	962.97	≤0.3	≥8.2[1u]	av Eβ=477.45 *88* Iβ^-: Value is from log *ft* systematics (1973Ra10). Value computed from γ intensity balance is 0.7 *10*.
(1413.4 *24*)	888.19	1 *5*	7.0 *22*	av Eβ=507.55 *93*
(2220.9 *24*)	80.66	0.1	8.7	av Eβ=858.08 *98* Iβ^-: Evaluators′ decomposition of measured 0.4% branch to 0- and 80-keV levels (1968Ka10).
(2301.6 *26*)	0.0	0.3	8.3	av Eβ=893.94 *98* Iβ^-: Evaluator′s decomposition of measured 0.4% branch to 0- and 80-keV levels (1968Ka10). There might be some concern as to the possibility that part of this component was due to summing. Also, 1968Ka10 give Iβ^-(888)≈5% which is a factor of 10 larger than the value deduced here. 1977Ka08 give Iβ^-(0+80)<0.5%.

[†] From γ-intensity balances, unless otherwise noted; therefore, their accuracy depends on the completeness of the decay scheme.
[‡] Absolute intensity per 100 decays.
[#] Existence of this branch is questionable.

γ(^{162}Dy)

Iγ normalization: From sum of Iβ^-=100%. Iβ^- are from γ intensity balances, except Iβ^-(0+80)=0.4% as measured by 1968Ka10, Iβ^-(962)≤0.3% from log *ft* systematics (1973Ra10), and Iβ^-(1210)=0.0% since transition is 2nd forbidden (computed value is Iβ^-=0.018% *4*). 1977Ka08 use Iγ normalization=0.0434, which is in agreement.

E$_\gamma$[†]	I$_\gamma$[‡#f]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.[@]	δ[@]	α[&]	Comments
(74.7[a])	0.07[b]	962.97	3$^+$	888.19	2$^+$	[M1,E2]		6.9 *14*	α(K)=3.4 *13*; α(L)=2.7 *21*; α(M)=0.6 *5*; α(N+..)=0.16 *13* α(N)=0.15 *11*; α(O)=0.018 *13*; α(P)=0.00019 *10* %Iγ=0.0030 α: value computed assuming δ=1.
80.66 *5*	202 *11*	80.66	2$^+$	0.0	0$^+$	E2		6.14	α(K)=1.82 *3*; α(L)=3.32 *5*; α(M)=0.797 *12*; α(N+..)=0.200 *3* α(N)=0.178 *3*; α(O)=0.0212 *3*; α(P)=7.66×10^{-5} *11* %Iγ=8.6 *6*
184.98 *9*	63[c] *3*	265.64	4$^+$	80.66	2$^+$	E2		0.307	α(K)=0.200 *3*; α(L)=0.0826 *12*; α(M)=0.0194 *3*; α(N+..)=0.00494 *7* α(N)=0.00438 *7*; α(O)=0.000551 *8*; α(P)=9.37×10^{-6} *14* %Iγ=2.68 *16*
185.27 *5*	337[c] *20*	1148.24	2$^-$	962.97	3$^+$	E1	[e]	0.0595	α(K)=0.0501 *7*; α(L)=0.00731 *11*; α(M)=0.001598 *23*; α(N+..)=0.000419 *6* α(N)=0.000365 *6*; α(O)=5.13×10^{-5} *8*; α(P)=2.51×10^{-6} *4* %Iγ=14.3 *10*
(247.1[a])	0.031[b] *5*	1210.02	3$^-$	962.97	3$^+$	E1		0.0281	α(K)=0.0238 *4*; α(L)=0.00340 *5*; α(M)=0.000742 *11*; α(N+..)=0.000195 *3* α(N)=0.0001700 *24*; α(O)=2.41×10^{-5} *4*; α(P)=1.230×10^{-6} *18* %Iγ=0.00132 *22*
260.05 *6*	187×10^1 *10*	1148.24	2$^-$	888.19	2$^+$	E1	[e]	0.0247	α(K)=0.0209 *3*; α(L)=0.00297 *5*; α(M)=0.000649 *9*; α(N+..)=0.0001711 *24* α(N)=0.0001488 *21*; α(O)=2.11×10^{-5} *3*; α(P)=1.085×10^{-6} *16* %Iγ=80 *5*
(321.9[a])	0.059[b] *9*	1210.02	3$^-$	888.19	2$^+$	E1		0.01445	α(K)=0.01225 *18*; α(L)=0.001725 *25*; α(M)=0.000376 *6*; α(N+..)=9.94×10^{-5} *14* α(N)=8.64×10^{-5} *12*; α(O)=1.235×10^{-5} *18*; α(P)=6.49×10^{-7} *9* %Iγ=0.0025 *4*
543.2 *6*	2.5 *3*	1691.41	2$^-$	1148.24	2$^-$	M1+E2		0.018 *6*	α(K)=0.015 *6*; α(L)=0.0023 *6*; α(M)=0.00052 *12*; α(N+..)=0.00014 *4* α(N)=0.00012 *3*; α(O)=1.7×10^{-5} *5*; α(P)=9.E−7 *4* %Iγ=0.106 *13* α: value computed assuming δ=1.
622.52 *10*	20.8 *7*	888.19	2$^+$	265.64	4$^+$	E2		0.00875	α(K)=0.00718 *10*; α(L)=0.001229 *18*; α(M)=0.000274 *4*; α(N+..)=7.22×10^{-5} *11* α(N)=6.29×10^{-5} *9*; α(O)=8.83×10^{-6} *13*; α(P)=4.08×10^{-7} *6* %Iγ=0.88 *5*

^{162}Tb β^- decay 1977Ka08 (continued)

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

E_γ[†]	I_γ[‡#f]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[@]	δ[@]	α[&]	Comments
697.35 *10*	60.3 *18*	962.97	3^+	265.64	4^+	E2(+M1)	>10.4	0.00672	α(K)=0.00556 *9*; α(L)=0.000912 *13*; α(M)=0.000203 *3*; α(N+..)=5.34×10^{-5} *8* α(N)=4.65×10^{-5} *7*; α(O)=6.58×10^{-6} *10*; α(P)=3.18×10^{-7} *5* %Iγ=2.56 *12*
728.5 *4*	1.62 *19*	1691.41	2^-	962.97	3^+	E1		0.00231	%Iγ=0.069 *9*
807.53 *8*	1000 *30*	888.19	2^+	80.66	2^+	E2+M1	+57 *+∞−33*	0.00481	α(K)=0.00400 *6*; α(L)=0.000628 *9*; α(M)=0.0001390 *20*; α(N+..)=3.68×10^{-5} *6* α(N)=3.20×10^{-5} *5*; α(O)=4.56×10^{-6} *7*; α(P)=2.30×10^{-7} *4* %Iγ=42.5 *21*
819.7 *6*	0.58 *10*	1782.63	2^+	962.97	3^+				%Iγ=0.025 *4*
857.0 *3*	2.03 *13*	1745.48	1^+	888.19	2^+	M1(+E2)	<0.29	0.00759 *18*	α(K)=0.00644 *15*; α(L)=0.000897 *19*; α(M)=0.000196 *5*; α(N+..)=5.24×10^{-5} *11* α(N)=4.54×10^{-5} *10*; α(O)=6.67×10^{-6} *15*; α(P)=3.89×10^{-7} *10* %Iγ=0.086 *7*
882.32 *8*	314 *10*	962.97	3^+	80.66	2^+	E2+M1	+41 *+34−13*	0.00397	α(K)=0.00332 *5*; α(L)=0.000508 *8*; α(M)=0.0001121 *16*; α(N+..)=2.97×10^{-5} *5* α(N)=2.58×10^{-5} *4*; α(O)=3.69×10^{-6} *6*; α(P)=1.91×10^{-7} *3* %Iγ=13.4 *7*
888.20 *8*	904 *28*	888.19	2^+	0.0	0^+	E2		0.00391	α(K)=0.00327 *5*; α(L)=0.000500 *7*; α(M)=0.0001103 *16*; α(N+..)=2.92×10^{-5} *4* α(N)=2.54×10^{-5} *4*; α(O)=3.64×10^{-6} *5*; α(P)=1.88×10^{-7} *3* %Iγ=38.4 *19*
894.7 *4*	0.69 *6*	1782.63	2^+	888.19	2^+				%Iγ=0.0293 *28*
944.2 *6*	0.24 *5*	1210.02	3^-	265.64	4^+	E1+M2	−0.10 *+3−5*	0.00153 *18*	α(K)=0.00130 *15*; α(L)=0.000176 *22*; α(M)=3.8×10^{-5} *5*; α(N+..)=1.02×10^{-5} *13* α(N)=8.8×10^{-6} *12*; α(O)=1.29×10^{-6} *17*; α(P)=7.4×10^{-8} *10* %Iγ=0.0102 *22*
980.4 *7*	0.10 *4*	2128.6	1^-	1148.24	2^-				%Iγ=0.0043 *17*
1014.9 *6*	0.36 *4*	2163.3	1,2,3	1148.24	2^-				%Iγ=0.0153 *18*
1067.55 *10*	13.0 *4*	1148.24	2^-	80.66	2^+	[E1]		1.11×10^{-3}	α(K)=0.000946 *14*; α(L)=0.0001252 *18*; α(M)=2.72×10^{-5} *4*; α(N+..)=7.23×10^{-6} *11* α(N)=6.26×10^{-6} *9*; α(O)=9.16×10^{-7} *13*; α(P)=5.28×10^{-8} *8* %Iγ=0.553 *27*

From ENSDF

$^{162}_{66}Dy_{96}$-4

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

E_γ [†]	I_γ [‡#f]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [@]	δ [@]	α [&]	Comments
1092.4 *4*	0.46 *4*	1357.80	3^-	265.64	4^+	E1	[e]	1.06×10^{-3}	α(K)=0.000907 *13*; α(L)=0.0001199 *17*; α(M)=2.60×10^{-5} *4*; α(N+..)=6.93×10^{-6} *10* α(N)=6.00×10^{-6} *9*; α(O)=8.78×10^{-7} *13*; α(P)=5.07×10^{-8} *8* %Iγ=0.0196 *19*
1129.3 *4*	0.28 *4*	1210.02	3^-	80.66	2^+	E1+M2	+0.05[e] *+5−3*	0.00102 *7*	α(K)=0.00087 *6*; α(L)=0.000115 *9*; α(M)=2.50×10^{-5} *18*; α(N+..)=1.12×10^{-5} *5* α(N)=5.8×10^{-6} *5*; α(O)=8.5×10^{-7} *7*; α(P)=4.9×10^{-8} *4*; α(IPF)=4.50×10^{-6} *9* %Iγ=0.0119 *18*
1161.1 *6*	0.16 *3*	2371.27?	1^-,2,3	1210.02	3^-				%Iγ=0.0068 *13*
1187.9 *6*	0.16 *3*	1453.6	2^+	265.64	4^+	E2		0.00215	α(K)=0.00181 *3*; α(L)=0.000261 *4*; α(M)=5.71×10^{-5} *8*; α(N+..)=1.93×10^{-5} *3* α(N)=1.317×10^{-5} *19*; α(O)=1.91×10^{-6} *3*; α(P)=1.046×10^{-7} *15*; α(IPF)=4.15×10^{-6} *8* %Iγ=0.0068 *13*
1195.1 *3*	2.11 *8*	1275.78	1^-	80.66	2^+	E1	[e]	9.23×10^{-4}	α(K)=0.000772 *11*; α(L)=0.0001017 *15*; α(M)=2.20×10^{-5} *3*; α(N+..)=2.75×10^{-5} *4* α(N)=5.09×10^{-6} *8*; α(O)=7.44×10^{-7} *11*; α(P)=4.32×10^{-8} *6*; α(IPF)=2.17×10^{-5} *4* %Iγ=0.090 *5*
1223.0 *6*	0.31 *4*	2371.27?	1^-,2,3	1148.24	2^-				%Iγ=0.0132 *18*
[x]1267.5 *6*	0.18 *3*								%Iγ=0.0077 *13*
1275.8 *4*	1.1[d] *3*	1275.78	1^-	0.0	0^+	E1	[e]	8.60×10^{-4}	α(K)=0.000687 *10*; α(L)=9.03×10^{-5} *13*; α(M)=1.96×10^{-5} *3*; α(N+..)=6.29×10^{-5} *9* α(N)=4.52×10^{-6} *7*; α(O)=6.62×10^{-7} *10*; α(P)=3.85×10^{-8} *6*; α(IPF)=5.77×10^{-5} *9* %Iγ=0.047 *13*
1276.9 *4*	1.0[d] *3*	1357.80	3^-	80.66	2^+	E1		8.60×10^{-4}	α(K)=0.000686 *10*; α(L)=9.02×10^{-5} *13*; α(M)=1.95×10^{-5} *3*; α(N+..)=6.35×10^{-5} *9* α(N)=4.51×10^{-6} *7*; α(O)=6.61×10^{-7} *10*; α(P)=3.84×10^{-8} *6*; α(IPF)=5.83×10^{-5} *9* %Iγ=0.043 *13*
[x]1287.6 *5*	0.36 *4*								%Iγ=0.0153 *18*
1372.9 *6*	0.19 *3*	1453.6	2^+	80.66	2^+	M1+E2(+E0)	+0.40 *15*	0.00253 *4*	α(K)=0.00202 *8*; α(L)=0.000277 *10*; α(M)=6.04×10^{-5} *22*; α(N+..)=5.65×10^{-5} *14* α(N)=1.40×10^{-5} *5*; α(O)=2.06×10^{-6} *8*; α(P)=1.21×10^{-7} *5*; α(IPF)=4.03×10^{-5} *8* %Iγ=0.0081 *13*

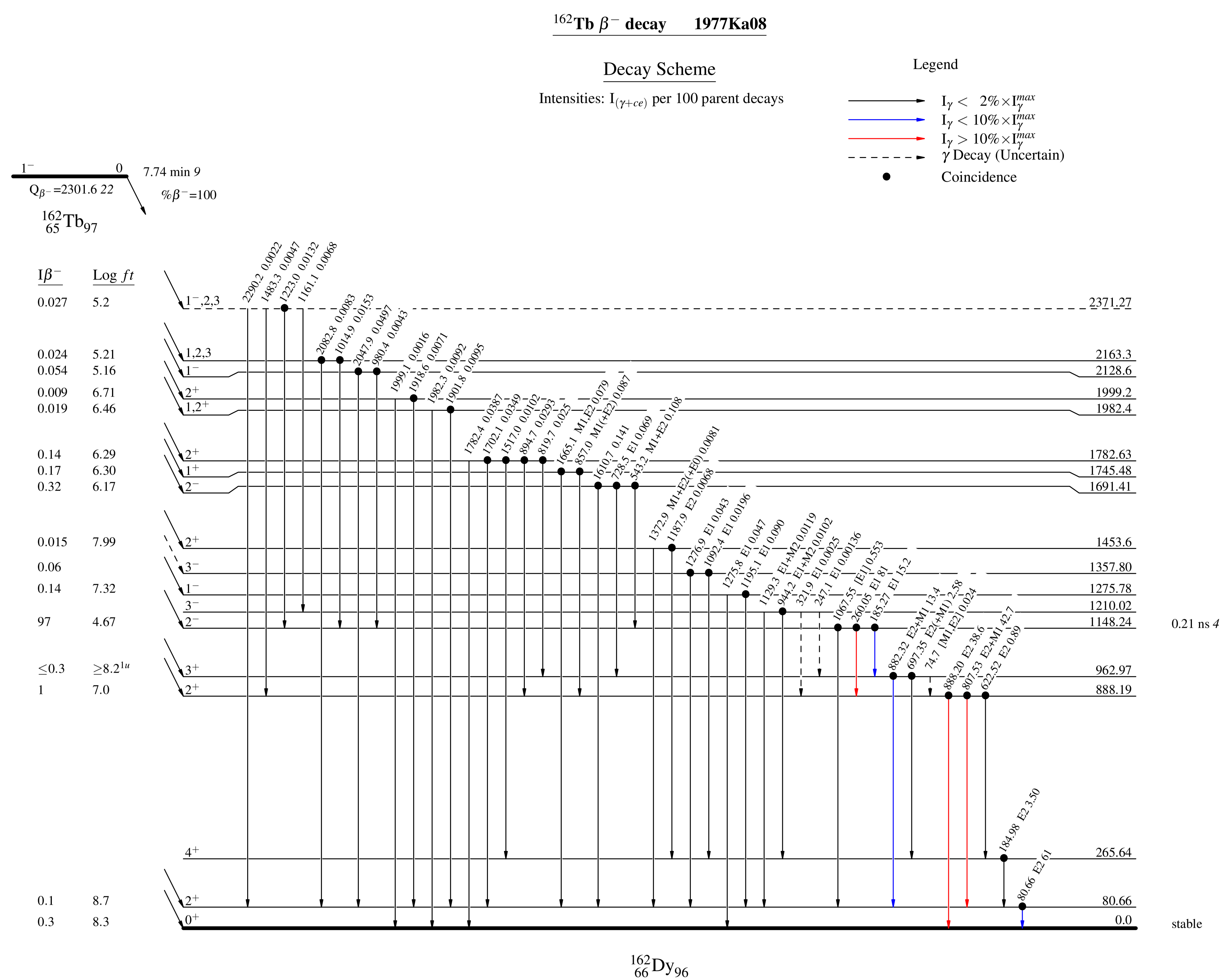
$^{162}_{66}Dy_{96}$-5

γ(^{162}Dy) (continued)

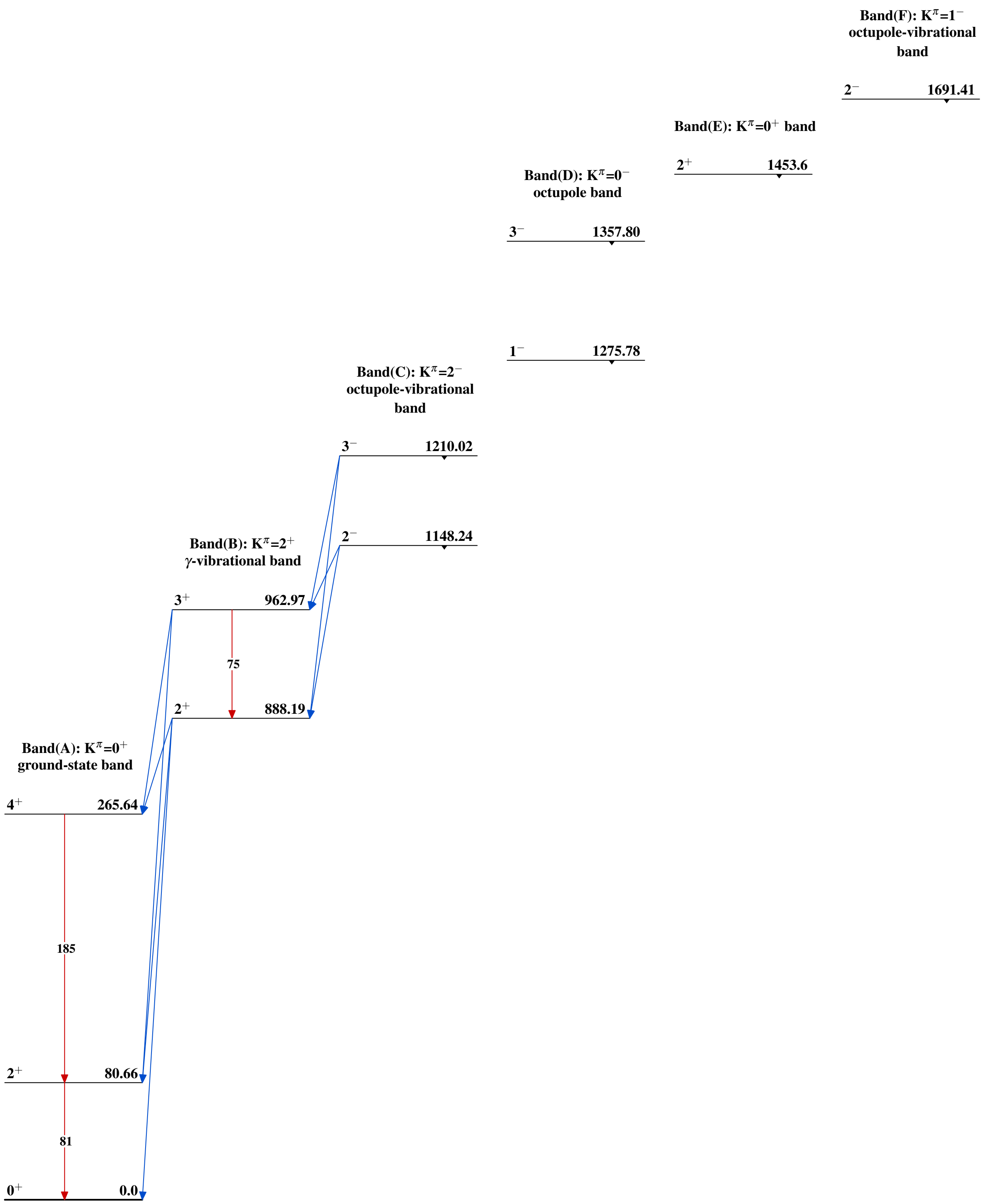
E_γ [†]	I_γ [‡#f]	E_i(level)	J^π_i	E_f	J^π_f	Mult. [@]	α [&]	Comments
								Mult.,δ: from (n,n′γ). See the comment on this point in the Adopted Gammas. α: value computed using the listed mult and δ. No contribution from a possible E0 contribution is included.
1483.3 *5*	0.11 *3*	2371.27?	1^-,2,3	888.19	2^+			%Iγ=0.0047 *13*
1517.0 *6*	0.24 *3*	1782.63	2^+	265.64	4^+			%Iγ=0.0102 *13*
[x]1547.4 *6*	0.23 *3*							%Iγ=0.0098 *13*
[x]1556.5 *6*	0.16 *3*							%Iγ=0.0068 *13*
1610.7 *3*	3.32 *11*	1691.41	2^-	80.66	2^+			%Iγ=0.141 *7*
1665.1 *3*	1.86 *7*	1745.48	1^+	80.66	2^+	M1,E2	0.00150 *25*	α(K)=0.00115 *21*; α(L)=0.00016 *3*; α(M)=3.4×10^{-5} *6*; α(N+..)=0.000156 *14* α(N)=7.9×10^{-6} *14*; α(O)=1.17×10^{-6} *21*; α(P)=6.8×10^{-8} *13*; α(IPF)=0.000147 *13* %Iγ=0.079 *4* α: value computed assuming δ=1.
1702.1 *5*	0.82 *4*	1782.63	2^+	80.66	2^+			%Iγ=0.0349 *22*
1782.4 *3*	0.91 *4*	1782.63	2^+	0.0	0^+			%Iγ=0.0387 *22*
[x]1806.1 *8*	0.108 *18*							%Iγ=0.0046 *8*
1901.8 *6*	0.223 *22*	1982.4	1,2^+	80.66	2^+			%Iγ=0.0095 *10*
1918.6 *6*	0.168 *17*	1999.2	2^+	80.66	2^+			%Iγ=0.0071 *8*
1982.3 *6*	0.216 *17*	1982.4	1,2^+	0.0	0^+			%Iγ=0.0092 *8*
1999.1 *8*	0.038 *11*	1999.2	2^+	0.0	0^+			%Iγ=0.0016 *5*
2047.9 *4*	1.17 *4*	2128.6	1^-	80.66	2^+			%Iγ=0.0497 *25*
2082.8 *6*	0.194 *16*	2163.3	1,2,3	80.66	2^+			%Iγ=0.0083 *8*
[x]2167.3 *6*	0.164 *14*							%Iγ=0.0070 *7*
[x]2233.0 *8*	0.143 *13*							%Iγ=0.0061 *6*
2290.2 *10*	0.051 *10*	2371.27?	1^-,2,3	80.66	2^+			%Iγ=0.0022 *4*

[†] From 1977Ka08. The only other values of comparable quality are from 1969Cl11 for 8 γ′s.
[‡] From 1977Ka08. There are no other data of comparable quality.
[#] I(K x)=320 *110* (1967Gu03).
[@] Assignments and values are from the ^{162}Dy Adopted γ radiations and are based on the following: ce data from (n,γ) (1967Ba34), (α,2nγ) (1982Fi15), and ^{162}Ho ε decay (1961Ha23,1961Jo10); $\gamma(\theta)$ following (α,2nγ) (1982Fi15) and (n,n′γ) (1977Ho11); and $\gamma\gamma(\theta)$ following (n,γ) (1980Hu06) and Coulomb excitation (1972Do01).
[&] Values are computed for the more precise Eγ values in ^{162}Dy Adopted γ radiations.
[a] Nominal value from ^{162}Dy Adopted γ radiations.
[b] From ^{162}Dy Adopted γ radiations.
[c] Doublet value decomposed to give intensity balance at 265 level (1977Ka08).
[d] Doublet value decomposed from $\gamma\gamma$ coincidence data.
[e] See ^{162}Dy Adopted γ radiations for limit on M2 mixing.
[f] For absolute intensity per 100 decays, multiply by 0.0425 *16*.
[x] γ ray not placed in level scheme.

$^{162}_{66}$Dy$_{96}$-6


162Tb β− decay 1977Ka08
Decay Scheme
Intensities: I(γ+ce) per 100 parent decays
Legend
Iγ < 2%×Iγmax
Iγ < 10%×Iγmax
Iγ > 10%×Iγmax
γ Decay (Uncertain)
Coincidence
1− 0 7.74 min 9
Qβ− =2301.6 22
%β−=100
162 65 Tb97
Iβ−
Log ft
0.027 5.2 1−,2,3 2371.27
0.024 5.21 1,2,3 2163.3
0.054 5.16 1− 2128.6
0.009 6.71 2+ 1999.2
0.019 6.46 1,2+ 1982.4
0.14 6.29 2+ 1782.63
0.17 6.30 1+ 1745.48
0.32 6.17 2− 1691.41
0.015 7.99 2+ 1453.6
0.06 3− 1357.80
0.14 7.32 1− 1275.78
3− 1210.02
97 4.67 2− 1148.24 0.21 ns 4
≤0.3 ≥8.2 1u 3+ 962.97
1 7.0 2+ 888.19
4+ 265.64
0.1 8.7 2+ 80.66
0.3 8.3 0+ 0.0 stable
2290.2 0.0022
1483.3 0.0047
1223.0 0.0132
1161.1 0.0068
2082.8 0.0083
1014.9 0.0153
2047.9 0.0497
980.4 0.0043
1999.1 0.0016
1918.6 0.0071
1982.3 0.0092
1901.8 0.0095
1782.4 0.0387
1702.1 0.0349
1517.0 0.0102
894.7 0.0293
819.7 0.025
1665.1 M1,E2 0.079
857.0 M1(+E2) 0.087
1610.7 0.141
728.5 E1 0.069
543.2 M1+E2 0.108
1372.9 M1+E2(+E0) 0.0081
1187.9 E2 0.0068
1276.9 E1 0.043
1092.4 E1 0.0196
1275.8 E1 0.047
1195.1 E1 0.090
1129.3 E1+M2 0.0119
944.2 E1+M2 0.0102
321.9 E1 0.0025
247.1 E1 0.00136
1067.55 [E1] 0.553
260.05 E1 81
185.27 E1 15.2
882.32 E2+M1 13.4
697.35 E2(+M1) 2.58
74.7 [M1,E2] 0.024
888.20 E2 38.6
807.53 E2+M1 42.7
622.52 E2 0.89
184.98 E2 3.50
80.66 E2 61
162 66 Dy96

^{162}Tb β^- decay 1977Ka08



$^{162}_{66}Dy_{96}$

^{162}Tb β^- decay 1977Ka08 (continued)