

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 132, 1 (2016)	4-Dec-2015

Q(β^-)=-1339 5; S(n)=8744 4; S(p)=5517.5 3; Q(α)=178.9 8 2017Wa10
 Q(ϵ)=60.0 3; S(2n)=15656 4; S(2p)=13523.3 3 2017Wa10
 Additional information 1.

¹⁵⁷Tb Levels

Theory and model calculation of interest: Nilsson level energies (1975Ni03, 1973Wi22, 1990Na14); configurations for bandheads (1972So12, same results are in 1973Ga29 and 1971SoZW, 1985AlZO); parameters for ground-state rotational band (1975Jo01); level energies in rotational bands (1978Al14, 1990Ha37); yrast states (1979KeZV); and E1 transitions (1973Wi02, 1993Ne10). Assignments to the 1/2[541] band and a 1/2[411] band fragment are not adopted here, but are discussed in the levels from the ¹⁵⁶Gd(³He,d) reaction.
 No band parameters are given for 5/2[532] band because it is highly distorted; if A and B are computed, the A value is negative. This distortion is due to mixing with the 7/2[523] band.
 Additional information 2.

Cross Reference (XREF) Flags

A	¹⁵⁷ Dy ϵ decay	D	¹⁵⁷ Gd(d,2n γ), ¹⁵⁷ Gd(p,n γ)
B	¹⁵⁴ Sm(⁷ Li,4n γ)	E	¹⁵⁸ Tb(p,d)
C	¹⁵⁶ Gd(³ He,d), ¹⁵⁶ Gd(α ,t)	F	¹⁵⁹ Tb(p,t)

E(level) [†]	J ^π [‡]	T _{1/2}	XREF	Comments
0.0 [#]	3/2 ⁺	71 y 7	ABCDEF	$\% \epsilon = 100$ $\mu = +2.01$ 2; Q = +1.40 8 J^π : From L=0 for (p,t) on 3/2 ⁺ target and band assignment from comparison of measured and calculated cross sections for (³ He,d) and (α ,t) reactions. T _{1/2} : From T _{1/2} (ϵ_K)=455 y 40 (1983Be42) and $\epsilon_K/\epsilon = 0.157$ 7, corresponding to the adopted Q value of 60.04 30. 1983Be42 deduce T _{1/2} =99 y 10 using $\epsilon_K/\epsilon = 0.218$, corresponding to a Q value of 62.9 7. Others: 150 y 30 (1964Fu03), 160 y 40 (1963Iw04), and 280 y 120 (1964Gr14). 1983Be42 suggest that the latter values need to be corrected for capture to higher (i.e., M, O, etc.) shells, and that the corrected values are 100 y 20 (from 1964Fu03 value) and 220 y 95 (from 1964Gr14 value). μ : from 2011StZZ compilation and based on measurement of 1990Al36 by collinear fast beam laser spectroscopy; other: 2.0 I from electron-paramagnetic-resonance measurement (1968Ea04). Q: from 2011StZZ compilation and based on measurement of 1990Al36 by collinear fast beam laser spectroscopy. RMS charge radius $\langle r^2 \rangle^{1/2} = 5.0489$ fm 1500 (2013An02).
60.881 [@] 3	5/2 ⁺	0.49 ns 12	ABCDEF	J^π : from M1+E2 γ to 3/2 ⁺ level and band structure. T _{1/2} : from ¹⁵⁷ Dy ϵ decay (1972Af03); other: < 0.42 ns (Muminov, thesis, Dubna, 1978 as cited in 1997Ad08). 1997Ad08 suggest that the 1972Af03 value is too large.
143.921 [#] 6	7/2 ⁺		ABCDEF	J^π : From M1+E2 γ to 5/2 ⁺ level, E2 to 3/2 ⁺ , and band structure.
252.58 [@] 6	9/2 ⁺		ABCDEF	J^π : From band structure and (³ He,d) and (α ,t) data.
326.346 ^{&} 6	5/2 ⁻	0.20 ns 4	AB D f	XREF: f(325). J^π : From E1 γ 's to 3/2 ⁺ and 7/2 ⁺ levels. T _{1/2} : The five reported values form two groups each of which is internally

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Adopted Levels, Gammas (continued)

¹⁵⁷Tb Levels (continued)

E(level) [†]	J ^π [‡]	XREF	Comments
			consistent, but the groups are inconsistent. The adopted value is from 1967Ma33 ; and the values that are consistent with it are <0.25 ns (1966Me06) and ≤0.23 (1972Af03). The average of the other two values is 0.34 ns 4 from 0.33 ns 4 (1967Ko17) and 0.41 ns 9 (1967Ha12). If the three actual values are averaged, the result is 0.28 ns 5 with a reduced-χ ² value of 3.8. All values are from ¹⁵⁷ Dy ε decay and measured by X-γ(t) with two plastic scintillators (1966Me06) and with two NaI(Tl) detectors (1967Ha12 and 1967Ko17) and Auger electron-cε(t) (1967Ma33) with double lens magnetic spectrometer.
327.647 ^b 21	5/2 ⁺	ABCD f	XREF: f(325). J ^π : From band structure and (³ He,d) and (α,t) data.
357.663 ^a 8	7/2 ⁻	ABCD	J ^π : From band structure and (³ He,d) and (α,t) data.
377.65 [#] 11	11/2 ⁺	B DEF	J ^π : From γ's to 7/2 ⁺ and 9/2 ⁺ levels and band structure.
408.01 ^c 19	7/2 ⁺	BCD	J ^π : from (³ He,d) and (α,t) reaction data and γ's to 3/2 ⁺ and 5/2 ⁺ levels.
425.77 ^{&} 12	9/2 ⁻	BCD	J ^π : From band structure and (³ He,d) and (α,t) data.
513.94 ^b 13	9/2 ⁺	B D	J ^π : From band structure and γ's to 5/2 ⁺ and 7/2 ⁻ levels.
517.57 ^a 11	11/2 ⁻	BCD	J ^π : from (³ He,d) and (α,t) reaction data and γ's to 7/2 ⁻ and 9/2 ⁺ levels.
531.98 [@] 12	13/2 ⁺	B D F	J ^π : from band structure and γ's to 9/2 ⁺ and 11/2 ⁺ levels.
571.71 ^d 25	(7/2 ⁺)	B D	J ^π : from band structure and γ's to 5/2 ⁻ and 7/2 ⁻ levels.
597.376 ^f 8	1/2 ⁺	A CDEF	J ^π : from M1 γ to 3/2 ⁺ level and (³ He,d) and (α,t) reaction data. The 1/2[411] band, which is mixed with γ-vibrational components, has its bandhead at 597 keV. Calculations of 1972So12 (and 1973Ga29) give a configuration for this level of 64% 1/2(411), 26% vibrational state based on 3/2 ⁺ ground state, and 7% vibrational state based on 5/2 ⁺ state at 327 keV. The M1 γ's from members of this band to the ground-state band support the 1/2[411] component; and the fact that the decoupling parameter is 0.05 times the value expected for this orbital supports the presence of the vibrational components.
637.358 ^f 8	3/2 ⁺	A CD F	J ^π : from M1 γ to 5/2 ⁺ level and (³ He,d) and (α,t) data.
643.50 ^c 13	11/2 ⁺	B D	J ^π : from band structure and γ's to 7/2 ⁺ and 9/2 ⁻ levels.
647.92 ^{&} 12	13/2 ⁻	B D	J ^π : from band structure and γ's to 9/2 ⁻ and 11/2 ⁺ levels.
658.4 3	7/2 ⁺	A CD	J ^π : from (³ He,d) and (α,t) data.
693.57 [#] 15	15/2 ⁺	B D	J ^π : from band structure and γ's to 11/2 ⁺ and 13/2 ⁺ levels.
697.293 ^f 7	5/2 ⁺	A CD F	J ^π : From M1 γ to 7/2 ⁺ level and (³ He,d) and (α,t) data.
708.8 ^d 4	(9/2 ⁺)	BCD	J ^π : from band structure and γ's to 7/2 ⁻ level.
783.15 ^a 13	15/2 ⁻	B D	J ^π : from band structure and γ's to 11/2 ⁻ and 13/2 ⁺ levels.
793.53 ^f 19	7/2 ⁺	A CD F	J ^π : From band structure and (³ He,d) and (α,t) data.
797.02 ^b 13	13/2 ⁺	B	J ^π : from band structure and γ's to 9/2 ⁺ and 11/2 ⁺ levels.
838 ⁸ 3	5/2 ⁺	C	J ^π : from (³ He,d) and (α,t) reaction data.
859.8 ^d 4	11/2 ⁺	B	J ^π : from (³ He,d) and (α,t) reaction data and γ's to 7/2 ⁺ and 9/2 ⁻ levels.
860.5 [?] 10	11/2 ⁻	CD	J ^π : from band structure and γ's to 7/2 ⁻ and 9/2 ⁺ levels.
883.324 22	(1/2 ⁻)	A C	J ^π : from E1 γ to 3/2 ⁺ level and γ to 1/2 ⁺ .
890.30 [@] 17	17/2 ⁺	B D	J ^π : from band structure and γ's to 13/2 ⁺ and 15/2 ⁺ levels.
895.058 20	(1/2,3/2,5/2) ⁺	A	J ^π : M1+E2 γ to 3/2 ⁺ .
896 ^f 3	9/2 ⁺	F	J ^π : from band structure as observed in (p,t).
922.70 8	(5/2 ⁻)	A C	J ^π : from band structure as observed in (³ He,d) and (α,t).
925.304 25	3/2 ⁺ ,5/2 ⁺	A	J ^π : M1+E2 γ's to 5/2 ⁺ and 3/2 ⁺ .
927 3	17/2 ⁺	F	J ^π : from band structure as observed in (p,t).
947 10		F	
966 3		C	J ^π : Assigned both 1/2 ⁺ and 3/2 ⁻ from (³ He,d) and (α,t) data; however, configurations not adopted.
970.381 20	3/2 ⁻	A	J ^π : from E1 γ to 5/2 ⁺ level and γ to 1/2 ⁺ .
970.56 ^c 14	15/2 ⁺	B	J ^π : from band structure and γ's to 11/2 ⁺ and 13/2 ⁺ levels.
974.32 ^{&} 16	17/2 ⁻	B D	J ^π : from band structure and γ's to 13/2 ⁻ and 15/2 ⁺ levels.

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Adopted Levels, Gammas (continued)

¹⁵⁷Tb Levels (continued)

E(level) [†]	J ^π [‡]	XREF	Comments
991.701 ^h 16	3/2 ⁺	A EF	J ^π : from L=0 in (p,t) on 3/2 ⁺ target and E0 γ component to 3/2 ⁺ level.
1005 3		C	J ^π : Assigned as (3/2 ⁺) from (³ He,d) and (α,t) data; however, configuration not adopted.
1033.8 ^d 5	13/2 ⁺	B	J ^π : from band structure and γ's to (9/2 ⁺) and 11/2 ⁺ levels.
1044.351 ^h 19	5/2 ⁺	A EF	XREF: E(1048)F(1048). J ^π : From band structure and (³ He,d) and (α,t) data.
1047.4 ^e 4	(11/2 ⁻)	B	J ^π : from band structure and γ's to 9/2 ⁺ and 11/2 ⁺ levels.
1049 3		C	J ^π : Assigned as (9/2 ⁻) from (³ He,d) and (α,t) data; however, configuration not adopted.
1067 4		C	
1078 3		C F	J ^π : Assigned as (5/2 ⁺) from interpretation of charged-particle reaction data; however, configuration not adopted.
1083.06 [#] 18	19/2 ⁺	B D	J ^π : from band structure and γ's to 15/2 ⁺ and 17/2 ⁺ levels.
1096.497 18	1/2 ⁻ ,3/2 ⁻	A	J ^π : from E1 γ's to 1/2 ⁺ and 3/2 ⁺ levels.
1102.364 8	3/2 ⁻	A C	J ^π : From E1 γ's to 1/2 ⁺ and 5/2 ⁺ levels.
1120 ^h 3	7/2 ⁺	C EF	J ^π : from band structure as observed in (p,t).
1141.36 ^a 18	19/2 ⁻	B D	J ^π : from band structure and γ's to 15/2 ⁻ and 17/2 ⁻ levels.
1160.719 17	5/2 ⁻	A	J ^π : 3/2 ⁻ ,5/2 ⁻ ,7/2 ⁻ from M1 γ to 5/2 ⁻ ; 7/2 ⁻ excluded by log ft=8.4 from 3/2 ⁻ parent; 3/2 ⁻ less likely from γ to 7/2 ⁺ .
1164 3	(7/2 ⁻)	C	J ^π : from (³ He,d) and (α,t) data.
1166.38 ^b 15	17/2 ⁺	B	
1194 3		C	
1207 10		F	
1220.5 ^d 6	(15/2 ⁺)	B	J ^π : from band structure and γ to (11/2 ⁺) level.
1238 ^h 5	(9/2 ⁺)	F	J ^π : from band structure as observed in (p,t).
1261.2 ^e 4	(15/2 ⁻)	B	J ^π : from band structure and γ's to (11/2 ⁻) and 15/2 ⁺ levels.
1275.51 3	3/2 ⁻ ,5/2 ⁻	A F	J ^π : 1/2 ⁻ ,3/2 ⁻ ,5/2 ⁻ FROM E1 G TO 3/2 ⁺ ; 1/2 ⁻ LESS LIKELY BY G TO 7/2 ⁺ .
1317.21 [@] 20	21/2 ⁺	B	J ^π : from band structure and γ's to 17/2 ⁺ and 19/2 ⁺ levels.
1318.62 6		A F	
1352		F	
1377.06 ^c 19	19/2 ⁺	B	J ^π : from band structure and γ's to 15/2 ⁺ and 17/2 ⁻ levels.
1390.31 ^{&} 19	21/2 ⁻	B	J ^π : from band structure and γ's to 17/2 ⁻ and 19/2 ⁻ levels.
1417		F	
1426.5 ^d 7	(17/2 ⁺)	B	J ^π : from band structure and γ's to (13/2 ⁺) level.
1454 3		C F	
1487		F	
1529 3		C	
1535.91 [#] 21	23/2 ⁺	B F	J ^π : from band structure and γ's to 19/2 ⁺ and 21/2 ⁺ levels.
1541 3		C	
1556.7 ^e 5	(19/2 ⁻)	B	J ^π : from band structure and γ's to 15/2 ⁻ and 19/2 ⁺ levels.
1562 3		C	
1578		F	
1580.13 ^a 21	23/2 ⁻	B	J ^π : from band structure and γ's to 19/2 ⁻ and 21/2 ⁻ levels.
1602		F	
1608.65 ^b 20	21/2 ⁺	B	J ^π : from band structure and γ's to 17/2 ⁺ and 19/2 ⁻ levels.
1631		F	
1659		F	
1695		F	
1749		F	
1800.91 [@] 23	25/2 ⁺	B	
1849.55 ^c 24	23/2 ⁺	B	
1879.00 ^{&} 23	25/2 ⁻	B	
1935.2 ^e 7	(23/2 ⁻)	B	

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Adopted Levels, Gammas (continued) ^{157}Tb Levels (continued)

E(level) [†]	J^π [‡]	XREF	E(level) [†]	J^π [‡]	XREF	E(level) [†]	J^π [‡]	XREF
2040.22 [#] 25	27/2 ⁺	B	3216.1 ^b 4	33/2 ⁺	B	4402.0 ^a 4	43/2 ⁻	B
2086.29 ^a 25	27/2 ⁻	B	3230.0 ^a 4	35/2 ⁻	B	4669.3 ^c 9	(43/2 ⁺)	B
2108.72 ^b 25	25/2 ⁺	B	3472.5 [@] 4	37/2 ⁺	B	4748.0 [@] 5	(45/2 ⁺)	B
2328.4 [@] 3	29/2 ⁺	B	3487.7 ^e 11	(35/2 ⁻)	B	4778.0 ^{&} 4	(45/2 ⁻)	B
2372.8 ^c 3	27/2 ⁺	B	3511.2 ^c 5	35/2 ⁺	B	4945.7 ^b 7	(45/2 ⁺)	B
2394.1 ^e 9	(27/2 ⁻)	B	3571.0 ^{&} 4	(37/2 ⁻)	B	5034.0 ^a 5	(47/2 ⁻)	B
2420.9 ^{&} 3	29/2 ⁻	B	3749.0 [#] 4	39/2 ⁺	B	5061.8 [#] 7	(47/2 ⁺)	B
2582.8 [#] 3	31/2 ⁺	B	3785.7 ^b 5	37/2 ⁺	B	5307.8 ^c 10	(47/2 ⁺)	B
2644.1 ^a 3	31/2 ⁻	B	3813.7 ^a 4	39/2 ⁻	B	5456.5 [@] 7	(49/2 ⁺)	B
2649.8 ^b 4	29/2 ⁺	B	4080.7 ^c 7	(39/2 ⁺)	B	5728.0 ^a 7	(51/2 ⁻)	B
2887.3 [@] 3	33/2 ⁺	B	4082.4 ^e 12	(39/2 ⁻)	B	5794.9 [#] 8	(51/2 ⁺)	B
2920.9 ^e 10	(31/2 ⁻)	B	4089.4 [@] 4	41/2 ⁺	B	6217.6 [@] 9	(53/2 ⁺)	B
2931.1 ^c 4	31/2 ⁺	B	4153.0 ^{&} 4	(41/2 ⁻)	B	6581.8 [#] 10	(55/2 ⁺)	B
2993.2 ^{&} 3	33/2 ⁻	B	4349.8 ^b 5	(41/2 ⁻)	B			
3152.7 [#] 3	35/2 ⁺	B	4381.9 [#] 4	43/2 ⁺	B			

[†] Values are computed from a least-squares fit to the γ energies for levels for which there are depopulating γ rays and for others from average of values from the reaction studies.

[‡] The assignments from the ($^3\text{He},d$) and (α,t) studies are based on comparison of experimental and calculated (ie., DWBA calculations including effects of pairing and Coriolis interaction) spectroscopic factors, systematics of Nilsson states, and rotational band structure. For levels above 1660 keV, the J^π are from the γ decay modes and the band structure, unless given otherwise.

[#] Band(A): Signature=-1/2 portion of 3/2[411] band, A=12.20, B=-0.0092, A₃=0.0234. From a fit to nine level energies, 1975Jo01 report A=12.2, B=-0.0082, A₃=0.0084.

[@] Band(B): Signature=+1/2 portion of 3/2[411] band.

[&] Band(C): Signature=+1/2 portion of 5/2[532] band.

^a Band(D): Signature=-1/2 portion of 5/2[532] band.

^b Band(E): Signature=+1/2 portion of 5/2[413] band, A=11.05, B=0.0177.

^c Band(F): Signature=-1/2 portion of 5/2[413] band.

^d Band(G): 7/2[404] band, A=18.5, B=0.018.

^e Band(H): 11/2⁻ band.

^f Band(I): 1/2(411) band with mixture of γ -vibration based on 3/2[411] ground state, A=12.66, a=0.053.

^g Band(J): 5/2(402) bandhead.

^h Band(K): $K^\pi=3/2^+$ band, for β -vibration based on 3/2(411) ground state, A=10.5.

Adopted Levels, Gammas (continued)

$\gamma(^{157}\text{Tb})$

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult.‡	$\delta^{\ddagger@}$	$\alpha^\#$	Comments
60.881	5/2 ⁺	60.882 3	100	0.0	3/2 ⁺	M1+E2	0.10 2	9.28 14	$\alpha(\text{K})=7.69$ 11; $\alpha(\text{L})=1.25$ 5; $\alpha(\text{M})=0.274$ 12 $\alpha(\text{N})=0.063$ 3; $\alpha(\text{O})=0.0096$ 4; $\alpha(\text{P})=0.000577$ 9 B(M1)(W.u.)=0.019 5; B(E2)(W.u.)=26 13
143.921	7/2 ⁺	83.04 4	100 2	60.881	5/2 ⁺	M1+E2	<0.17	3.77	$\alpha(\text{K})=3.14$ 5; $\alpha(\text{L})=0.49$ 4; $\alpha(\text{M})=0.108$ 8 $\alpha(\text{N})=0.0250$ 18; $\alpha(\text{O})=0.00380$ 22; $\alpha(\text{P})=0.000234$ 4
		143.922 10	23.7 21	0.0	3/2 ⁺	E2		0.706	$\alpha(\text{K})=0.417$ 6; $\alpha(\text{L})=0.223$ 4; $\alpha(\text{M})=0.0524$ 8 $\alpha(\text{N})=0.01180$ 17; $\alpha(\text{O})=0.001558$ 22; $\alpha(\text{P})=2.20 \times 10^{-5}$ 3
252.58	9/2 ⁺	108.65 18	100 4	143.921	7/2 ⁺				
		191.7 2	46.2 22	60.881	5/2 ⁺				
326.346	5/2 ⁻	182.424 9	1.43 4	143.921	7/2 ⁺	E1		0.0599	$\alpha(\text{K})=0.0506$ 7; $\alpha(\text{L})=0.00730$ 11; $\alpha(\text{M})=0.001588$ 23 $\alpha(\text{N})=0.000363$ 5; $\alpha(\text{O})=5.39 \times 10^{-5}$ 8; $\alpha(\text{P})=3.04 \times 10^{-6}$ 5 B(E1)(W.u.)=2.7 $\times 10^{-6}$ 6
		265.469 9	0.183 4	60.881	5/2 ⁺	E1		0.0225	$\alpha(\text{K})=0.0191$ 3; $\alpha(\text{L})=0.00269$ 4; $\alpha(\text{M})=0.000585$ 9 $\alpha(\text{N})=0.0001340$ 19; $\alpha(\text{O})=2.01 \times 10^{-5}$ 3; $\alpha(\text{P})=1.196 \times 10^{-6}$ 17 B(E1)(W.u.)=1.10 $\times 10^{-7}$ 23
		326.336 10	100	0.0	3/2 ⁺	E1		0.01344	$\alpha(\text{K})=0.01141$ 16; $\alpha(\text{L})=0.001589$ 23; $\alpha(\text{M})=0.000345$ 5 $\alpha(\text{N})=7.92 \times 10^{-5}$ 11; $\alpha(\text{O})=1.195 \times 10^{-5}$ 17; $\alpha(\text{P})=7.27 \times 10^{-7}$ 11 B(E1)(W.u.)=3.2 $\times 10^{-5}$ 7
327.647	5/2 ⁺	266.766 20	38	60.881	5/2 ⁺	M1		0.1423	$\alpha(\text{K})=0.1203$ 17; $\alpha(\text{L})=0.01722$ 25; $\alpha(\text{M})=0.00376$ 6 $\alpha(\text{N})=0.000869$ 13; $\alpha(\text{O})=0.0001340$ 19; $\alpha(\text{P})=8.89 \times 10^{-6}$ 13
		327.6 5	100	0.0	3/2 ⁺				
357.663	7/2 ⁻	31.32&		326.346	5/2 ⁻	[E2]		391	$\alpha(\text{L})=302$ 5; $\alpha(\text{M})=71.5$ 10 $\alpha(\text{N})=15.94$ 23; $\alpha(\text{O})=2.00$ 3; $\alpha(\text{P})=0.000701$ 10
		296.784 11	100	60.881	5/2 ⁺	E1		0.01701	$\alpha(\text{K})=0.01443$ 21; $\alpha(\text{L})=0.00202$ 3; $\alpha(\text{M})=0.000439$ 7 $\alpha(\text{N})=0.0001006$ 14; $\alpha(\text{O})=1.516 \times 10^{-5}$ 22; $\alpha(\text{P})=9.13 \times 10^{-7}$ 13
377.65	11/2 ⁺	125.1 2	100 4	252.58	9/2 ⁺				
		233.7 2	93 7	143.921	7/2 ⁺				
408.01	7/2 ⁺	347.1 5	100	60.881	5/2 ⁺				
		408.0 5	22	0.0	3/2 ⁺				
425.77	9/2 ⁻	68.3	29	357.663	7/2 ⁻				
		99.1	≈4	326.346	5/2 ⁻				
		281.8 2	100	143.921	7/2 ⁺				
513.94	9/2 ⁺	105.7 5		408.01	7/2 ⁺				
		156.2 5	46 11	357.663	7/2 ⁻				
		186.3 5	36 7	327.647	5/2 ⁺				
		370.0 2	100 11	143.921	7/2 ⁺				
		453.3 5	21	60.881	5/2 ⁺				
517.57	11/2 ⁻	91.7 2	100 5	425.77	9/2 ⁻				
		160.0 2	21.3 10	357.663	7/2 ⁻				
		265.0 2	61 3	252.58	9/2 ⁺				
531.98	13/2 ⁺	154.4 2	73 4	377.65	11/2 ⁺				
		279.5 2	100 5	252.58	9/2 ⁺				

I_γ : from $^{154}\text{Sm}(^7\text{Li},4n\gamma)$; other: 29 from $^{157}\text{Gd}(d,2n\gamma)$.

Adopted Levels, Gammas (continued)

 $\gamma(^{157}\text{Tb})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult. [‡]	$\delta_i^\ddagger@$	$\alpha^\#$	Comments
571.71	(7/2 ⁺)	214		357.663	7/2 ⁻				
		245.3 3		326.346	5/2 ⁻				
597.376	1/2 ⁺	597.376 8	100	0.0	3/2 ⁺	M1+E2	0.72 +17-13	0.0147 9	$\alpha(\text{K})=0.0124$ 8; $\alpha(\text{L})=0.00180$ 9; $\alpha(\text{M})=0.000394$ 18
637.358	3/2 ⁺	493.44 2	0.45 6	143.921	7/2 ⁺	[E2]		0.01506	$\alpha(\text{N})=9.1\times 10^{-5}$ 4; $\alpha(\text{O})=1.39\times 10^{-5}$ 7; $\alpha(\text{P})=8.9\times 10^{-7}$ 6
		576.475 9	100	60.881	5/2 ⁺	E2+M1	1.9 +7-5	0.0121 11	$\alpha(\text{K})=0.01217$ 17; $\alpha(\text{L})=0.00225$ 4; $\alpha(\text{M})=0.000503$ 7
		637.36 3	62 6	0.0	3/2 ⁺	M1		0.01486	$\alpha(\text{N})=0.0001151$ 17; $\alpha(\text{O})=1.683\times 10^{-5}$ 24; $\alpha(\text{P})=8.13\times 10^{-7}$ 12
643.50	11/2 ⁺	129.2 5		513.94	9/2 ⁺				$\alpha(\text{K})=0.0100$ 10; $\alpha(\text{L})=0.00161$ 11; $\alpha(\text{M})=0.000356$ 22
		217.7 2	80 12	425.77	9/2 ⁻				$\alpha(\text{N})=8.2\times 10^{-5}$ 5; $\alpha(\text{O})=1.23\times 10^{-5}$ 9; $\alpha(\text{P})=7.0\times 10^{-7}$ 8
		235.5 2	92 12	408.01	7/2 ⁺				$\alpha(\text{K})=0.01262$ 18; $\alpha(\text{L})=0.001755$ 25; $\alpha(\text{M})=0.000382$ 6
		390.8 2	100 16	252.58	9/2 ⁺				$\alpha(\text{N})=8.82\times 10^{-5}$ 13; $\alpha(\text{O})=1.364\times 10^{-5}$ 20; $\alpha(\text{P})=9.18\times 10^{-7}$ 13
647.92	13/2 ⁻	130.4 2	100 5	517.57	11/2 ⁻				
		222.2 2	45.9 16	425.77	9/2 ⁻				
		270.2 2	16.9 12	377.65	11/2 ⁺				
658.4	7/2 ⁺	251.1	46	408.01	7/2 ⁺				
		300.7 3	100	357.663	7/2 ⁻	[E1]		0.01646	$\alpha(\text{K})=0.01397$ 20; $\alpha(\text{L})=0.00195$ 3; $\alpha(\text{M})=0.000424$ 6
		331.1	49	327.647	5/2 ⁺				$\alpha(\text{N})=9.73\times 10^{-5}$ 14; $\alpha(\text{O})=1.466\times 10^{-5}$ 21; $\alpha(\text{P})=8.84\times 10^{-7}$ 13
693.57	15/2 ⁺	161.6 2	55 3	531.98	13/2 ⁺				
		315.9 2	100	377.65	11/2 ⁺				
697.293	5/2 ⁺	553.374 10	99 2	143.921	7/2 ⁺	E2+M1	10 +99-5	0.0113 4	$\alpha(\text{K})=0.0092$ 3; $\alpha(\text{L})=0.00162$ 4; $\alpha(\text{M})=0.000360$ 8
		636.41 4	100 14	60.881	5/2 ⁺	M1		0.01491	$\alpha(\text{N})=8.24\times 10^{-5}$ 18; $\alpha(\text{O})=1.22\times 10^{-5}$ 3; $\alpha(\text{P})=6.24\times 10^{-7}$ 22
		697.290 10	19.5 6	0.0	3/2 ⁺	E2+M1	1.5 +99-12	0.0081 34	$\alpha(\text{K})=0.01267$ 18; $\alpha(\text{L})=0.001761$ 25; $\alpha(\text{M})=0.000383$ 6
									$\alpha(\text{N})=8.86\times 10^{-5}$ 13; $\alpha(\text{O})=1.370\times 10^{-5}$ 20; $\alpha(\text{P})=9.21\times 10^{-7}$ 13
									E_γ : The energies for the 637 and 697 γ 's from this level are not consistent. From the level energies the deduced values are 636.444 8 and 697.321 7.
708.8?	(9/2 ⁺)	137.3 5	22	571.71	(7/2 ⁺)				$\alpha(\text{K})=0.0068$ 30; $\alpha(\text{L})=1.02\times 10^{-3}$ 34; $\alpha(\text{M})=2.24\times 10^{-4}$ 71
		351.2 5	100	357.663	7/2 ⁻				$\alpha(\text{N})=5.2\times 10^{-5}$ 17; $\alpha(\text{O})=7.8\times 10^{-6}$ 27; $\alpha(\text{P})=4.8\times 10^{-7}$ 23
783.15	15/2 ⁻	135.2 2	100 4	647.92	13/2 ⁻				
		251.2 2	15.6 12	531.98	13/2 ⁺				
		265.6 2	96 4	517.57	11/2 ⁻				
793.53	7/2 ⁺	540.94 18	79	252.58	9/2 ⁺				
		650	100	143.921	7/2 ⁺				

Adopted Levels, Gammas (continued)

$\gamma(^{157}\text{Tb})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult. [‡]	$\delta^{\ddagger@}$	$\alpha^\#$	Comments
797.02	13/2 ⁺	153.3 5		643.50	11/2 ⁺				
		279.4 2	65 9	517.57	11/2 ⁻				
		283.1 2	100 7	513.94	9/2 ⁺				
		419.4 2	51 5	377.65	11/2 ⁺				
		544.3 5		252.58	9/2 ⁺				
859.8	11/2 ⁺	151.2 5	6.5	708.8?	(9/2 ⁺)				
		287.7 5		571.71	(7/2 ⁺)				
		434.2 5	100	425.77	9/2 ⁻				
860.5?	11/2 ⁻	151.2&		708.8?	(9/2 ⁺)				
		289.&		571.71	(7/2 ⁺)				
		434.7		425.77	9/2 ⁻				
883.324	(1/2) ⁻	245.96 4	71 18	637.358	3/2 ⁺				
		285.96 5	100 24	597.376	1/2 ⁺				
		883.32 3	41 4	0.0	3/2 ⁺	E1		1.51×10 ⁻³	$\alpha(\text{K})=0.001289$ 18; $\alpha(\text{L})=0.0001706$ 24; $\alpha(\text{M})=3.69\times 10^{-5}$ 6 $\alpha(\text{N})=8.49\times 10^{-6}$ 12; $\alpha(\text{O})=1.305\times 10^{-6}$ 19; $\alpha(\text{P})=8.60\times 10^{-8}$ 12
890.30	17/2 ⁺	196.8 2	50 2	693.57	15/2 ⁺				
		358.3 2	100 5	531.98	13/2 ⁺				
895.058	(1/2,3/2,5/2) ⁺	895.06 3	100	0.0	3/2 ⁺	M1+E2	0.7 +6-3	0.0055 9	$\alpha(\text{K})=0.0047$ 8; $\alpha(\text{L})=0.00066$ 9; $\alpha(\text{M})=0.000143$ 19 $\alpha(\text{N})=3.3\times 10^{-5}$ 5; $\alpha(\text{O})=5.1\times 10^{-6}$ 7; $\alpha(\text{P})=3.4\times 10^{-7}$ 6
922.70	(5/2) ⁻	861.78 9	100 30	60.881	5/2 ⁺				
		922.78 15	92 15	0.0	3/2 ⁺				
925.304	3/2 ⁺ ,5/2 ⁺	287.7 2	67 27	637.358	3/2 ⁺				
		781.37 6	13 7	143.921	7/2 ⁺				
		864.42 4	100 7	60.881	5/2 ⁺	E2+M1	1.6 +40-10	0.0048 14	$\alpha(\text{K})=0.0041$ 12; $\alpha(\text{L})=0.00059$ 15; $\alpha(\text{M})=0.00013$ 4 $\alpha(\text{N})=3.0\times 10^{-5}$ 8; $\alpha(\text{O})=4.5\times 10^{-6}$ 12; $\alpha(\text{P})=2.85\times 10^{-7}$ 93
		925.35 6	73 5	0.0	3/2 ⁺	M1+E2	0.3 +5-3	0.0057 8	$\alpha(\text{K})=0.0049$ 7; $\alpha(\text{L})=0.00067$ 9; $\alpha(\text{M})=0.000146$ 18 $\alpha(\text{N})=3.4\times 10^{-5}$ 5; $\alpha(\text{O})=5.2\times 10^{-6}$ 7; $\alpha(\text{P})=3.5\times 10^{-7}$ 6 Mult., δ : From $\alpha(\text{K})$ exp in ¹⁵⁷ Dy ϵ decay.
970.381	3/2 ⁻	273.09 4	57. 11	697.293	5/2 ⁺				
		333.03 6	11.1 16	637.358	3/2 ⁺				
		373.01 4	100. 3	597.376	1/2 ⁺				
		909.49 3	36.5 16	60.881	5/2 ⁺	E1		1.42×10 ⁻³	$\alpha(\text{K})=0.001219$ 17; $\alpha(\text{L})=0.0001611$ 23; $\alpha(\text{M})=3.48\times 10^{-5}$ 5

Adopted Levels, Gammas (continued)

$\gamma(^{157}\text{Tb})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult. [‡]	$\delta_i^\ddagger@$	$\alpha^\#$	Comments
									$\alpha(\text{N})=8.02\times 10^{-6}$ 12; $\alpha(\text{O})=1.233\times 10^{-6}$ 18; $\alpha(\text{P})=8.14\times 10^{-8}$ 12
970.381	3/2 ⁻	970.38 9	1.9 3	0.0	3/2 ⁺				
970.56	15/2 ⁺	173.5 5		797.02	13/2 ⁺				
		322.7 2	36 4	647.92	13/2 ⁻				
		326.9 2	100 9	643.50	11/2 ⁺				
		438.7 2	31 4	531.98	13/2 ⁺				
974.32	17/2 ⁻	191.1 2	80. 3	783.15	15/2 ⁻				
		280.8 5		693.57	15/2 ⁺				
		326.4 2	100. 5	647.92	13/2 ⁻				
991.701	3/2 ⁺	847.75 5	27.8 9	143.921	7/2 ⁺	E2		0.00412	$\alpha(\text{K})=0.00345$ 5; $\alpha(\text{L})=0.000525$ 8; $\alpha(\text{M})=0.0001153$ 17 $\alpha(\text{N})=2.65\times 10^{-5}$ 4; $\alpha(\text{O})=4.00\times 10^{-6}$ 6; $\alpha(\text{P})=2.37\times 10^{-7}$ 4
		930.82 3	100.0 27	60.881	5/2 ⁺	E2		0.00337	$\alpha(\text{K})=0.00283$ 4; $\alpha(\text{L})=0.000421$ 6; $\alpha(\text{M})=9.23\times 10^{-5}$ 13 $\alpha(\text{N})=2.12\times 10^{-5}$ 3; $\alpha(\text{O})=3.22\times 10^{-6}$ 5; $\alpha(\text{P})=1.95\times 10^{-7}$ 3
1033.8	13/2 ⁺	991.70 2	40.6 13	0.0	3/2 ⁺	E0+(E2)			
		173.9 5		859.8	11/2 ⁺				
		325.1 5		708.8?	(9/2 ⁺)				
1044.351	5/2 ⁺	686.68 6	11.1 12	357.663	7/2 ⁻				
		791.77 7	21.6 15	252.58	9/2 ⁺				
		900.43 3	54 3	143.921	7/2 ⁺	E2+M1	3 +29-2	0.0039 11	$\alpha(\text{K})=0.00327$ 95; $\alpha(\text{L})=0.00048$ 12; $\alpha(\text{M})=0.000106$ 25 $\alpha(\text{N})=2.4\times 10^{-5}$ 6; $\alpha(\text{O})=3.7\times 10^{-6}$ 10; $\alpha(\text{P})=2.27\times 10^{-7}$ 73
		983.50 6	21.3 9	60.881	5/2 ⁺	E0+(E2)			
		1044.34 3	100 3	0.0	3/2 ⁺	M1+E2	0.8 +15-8	0.0037 9	$\alpha(\text{K})=0.0032$ 7; $\alpha(\text{L})=0.00044$ 9; $\alpha(\text{M})=9.6\times 10^{-5}$ 19 $\alpha(\text{N})=2.2\times 10^{-5}$ 5; $\alpha(\text{O})=3.4\times 10^{-6}$ 7; $\alpha(\text{P})=2.3\times 10^{-7}$ 6
1047.4	(11/2 ⁻)	669.6 5		377.65	11/2 ⁺				
		795.2 5		252.58	9/2 ⁺				
1083.06	19/2 ⁺	192.8 2	33 2	890.30	17/2 ⁺				
		389.4 2	100 5	693.57	15/2 ⁺				
1096.497	1/2 ⁻ , 3/2 ⁻	171.20 4	13 6	925.304	3/2 ⁺ , 5/2 ⁺				
		201.44 4	3.6 7	895.058	(1/2, 3/2, 5/2) ⁺				
		459.16 4	9.0 7	637.358	3/2 ⁺	E1		0.00597	$\alpha(\text{K})=0.00508$ 8; $\alpha(\text{L})=0.000695$ 10; $\alpha(\text{M})=0.0001506$ 21 $\alpha(\text{N})=3.46\times 10^{-5}$ 5; $\alpha(\text{O})=5.27\times 10^{-6}$ 8; $\alpha(\text{P})=3.31\times 10^{-7}$ 5
		499.12 4	38.8 11	597.376	1/2 ⁺	E1		0.00494	$\alpha(\text{K})=0.00421$ 6; $\alpha(\text{L})=0.000573$ 8; $\alpha(\text{M})=0.0001241$ 18

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Adopted Levels, Gammas (continued)

$\gamma(^{157}\text{Tb})$ (continued)

<u>E_i(level)</u>	<u>J_i^{π}</u>	<u>E_{γ}[†]</u>	<u>I_{γ}[†]</u>	<u>E_f</u>	<u>J_f^{π}</u>	<u>Mult.[‡]</u>	<u>$\delta^{\ddagger}@$</u>	<u>$\alpha^{\#}$</u>	<u>Comments</u>
1096.497	1/2 ⁻ , 3/2 ⁻	770.12 3	100.0 22	326.346	5/2 ⁻	E2		0.00509	$\alpha(\text{N})=2.86 \times 10^{-5}$ 4; $\alpha(\text{O})=4.35 \times 10^{-6}$ 6; $\alpha(\text{P})=2.76 \times 10^{-7}$ 4 $\alpha(\text{K})=0.00425$ 6; $\alpha(\text{L})=0.000664$ 10; $\alpha(\text{M})=0.0001462$ 21 $\alpha(\text{N})=3.36 \times 10^{-5}$ 5; $\alpha(\text{O})=5.05 \times 10^{-6}$ 7; $\alpha(\text{P})=2.92 \times 10^{-7}$ 4
1102.364	3/2 ⁻	1096.55 7 207.31 3 405.08 2	0.47 4 3.2 5 40.7 9	0.0 895.058 697.293	3/2 ⁺ (1/2, 3/2, 5/2) ⁺ 5/2 ⁺	E1		0.00798	$\alpha(\text{K})=0.00679$ 10; $\alpha(\text{L})=0.000935$ 13; $\alpha(\text{M})=0.000203$ 3 $\alpha(\text{N})=4.66 \times 10^{-5}$ 7; $\alpha(\text{O})=7.06 \times 10^{-6}$ 10; $\alpha(\text{P})=4.39 \times 10^{-7}$ 7
		464.93 17 504.99 2	0.28 12 10.9 4	637.358 597.376	3/2 ⁺ 1/2 ⁺	E1		0.00481	$\alpha(\text{K})=0.00410$ 6; $\alpha(\text{L})=0.000558$ 8; $\alpha(\text{M})=0.0001209$ 17 $\alpha(\text{N})=2.78 \times 10^{-5}$ 4; $\alpha(\text{O})=4.24 \times 10^{-6}$ 6; $\alpha(\text{P})=2.69 \times 10^{-7}$ 4
		744.702 8	91.2 21	357.663	7/2 ⁻	E2		0.00550	$\alpha(\text{K})=0.00457$ 7; $\alpha(\text{L})=0.000722$ 11; $\alpha(\text{M})=0.0001592$ 23 $\alpha(\text{N})=3.66 \times 10^{-5}$ 6; $\alpha(\text{O})=5.49 \times 10^{-6}$ 8; $\alpha(\text{P})=3.14 \times 10^{-7}$ 5
		776.010 10	100.0 21	326.346	5/2 ⁻	E2+M1	19 +99-16	0.0050 4	$\alpha(\text{K})=0.0042$ 4; $\alpha(\text{L})=0.00065$ 5; $\alpha(\text{M})=0.000144$ 9 $\alpha(\text{N})=3.30 \times 10^{-5}$ 21; $\alpha(\text{O})=5.0 \times 10^{-6}$ 4; $\alpha(\text{P})=2.9 \times 10^{-7}$ 3
		1041.48 3 1102.36 6	5.09 18 2.98 18	60.881 0.0	5/2 ⁺ 3/2 ⁺	E1		9.97 × 10 ⁻⁴	$\alpha(\text{K})=0.000853$ 12; $\alpha(\text{L})=0.0001118$ 16; $\alpha(\text{M})=2.41 \times 10^{-5}$ 4 $\alpha(\text{N})=5.56 \times 10^{-6}$ 8; $\alpha(\text{O})=8.56 \times 10^{-7}$ 12; $\alpha(\text{P})=5.71 \times 10^{-8}$ 8; $\alpha(\text{IPF})=1.93 \times 10^{-6}$ 3
1141.36	19/2 ⁻	167.0 2 358.2 2	46 2 100 5	974.32 783.15	17/2 ⁻ 15/2 ⁻				
1160.719	5/2 ⁻	523.36 3 803.05 3	52 8 100 8	637.358 357.663	3/2 ⁺ 7/2 ⁻	E2		0.00464	$\alpha(\text{K})=0.00387$ 6; $\alpha(\text{L})=0.000599$ 9; $\alpha(\text{M})=0.0001317$ 19 $\alpha(\text{N})=3.03 \times 10^{-5}$ 5; $\alpha(\text{O})=4.56 \times 10^{-6}$ 7; $\alpha(\text{P})=2.66 \times 10^{-7}$ 4
		834.37 3	69 5	326.346	5/2 ⁻	E2+M1	19 +99-16	0.0043 4	$\alpha(\text{K})=0.0036$ 3; $\alpha(\text{L})=0.00055$ 4; $\alpha(\text{M})=0.000120$ 8 $\alpha(\text{N})=2.76 \times 10^{-5}$ 18; $\alpha(\text{O})=4.2 \times 10^{-6}$ 3; $\alpha(\text{P})=2.46 \times 10^{-7}$ 23
		1016.71 18	19 5	143.921	7/2 ⁺				

Adopted Levels, Gammas (continued)

$\gamma(^{157}\text{Tb})$ (continued)									
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult.‡	$\alpha^\#$	Comments	
1160.719	5/2 ⁻	1099.89 6	27 5	60.881	5/2 ⁺				
		1160.68 6	25 9	0.0	3/2 ⁺				
1166.38	17/2 ⁺	195.9 5		970.56	15/2 ⁺				
		369.3 2	100 7	797.02	13/2 ⁺				
		383.3 2	28 3	783.15	15/2 ⁻				
		472.8 5	23 3	693.57	15/2 ⁺				
		634.7 5		531.98	13/2 ⁺				
1220.5	(15/2 ⁺)	360.7 5	100	859.8	11/2 ⁺				
1261.2	(15/2 ⁻)	213.9 5	100 9	1047.4	(11/2 ⁻)				
		567.5 5	48 9	693.57	15/2 ⁺				
1275.51	3/2 ⁻ , 5/2 ⁻	949.20 4	11.4 12	326.346	5/2 ⁻				
		1214.60 5	50.0 23	60.881	5/2 ⁺				
		1275.46 6	100 3	0.0	3/2 ⁺	E1	8.25×10 ⁻⁴	$\alpha(\text{K})=0.000657$ 10; $\alpha(\text{L})=8.57\times 10^{-5}$ 12; $\alpha(\text{M})=1.85\times 10^{-5}$ 3 $\alpha(\text{N})=4.26\times 10^{-6}$ 6; $\alpha(\text{O})=6.57\times 10^{-7}$ 10; $\alpha(\text{P})=4.41\times 10^{-8}$ 7; $\alpha(\text{IPF})=5.86\times 10^{-5}$ 9	
1317.21	21/2 ⁺	234.1 2	29.6 11	1083.06	19/2 ⁺				
		426.9 2	100 5	890.30	17/2 ⁺				
1318.62		1174.79 8	100 30	143.921	7/2 ⁺				
		1257.65 13	69 8	60.881	5/2 ⁺				
		1318.50 11	92 8	0.0	3/2 ⁺				
1377.06	19/2 ⁺	211.0 5		1166.38	17/2 ⁺				
		402.6 5	26 3	974.32	17/2 ⁻				
		406.5 2	100 7	970.56	15/2 ⁺				
		486.9 5	27 3	890.30	17/2 ⁺				
1390.31	21/2 ⁻	249.0 2	68 4	1141.36	19/2 ⁻				
		416.0 2	100 4	974.32	17/2 ⁻				
1426.5	(17/2 ⁺)	392.7 5	100	1033.8	13/2 ⁺				
1535.91	23/2 ⁺	218.6 2	22 1	1317.21	21/2 ⁺				
		452.9 2	100 5	1083.06	19/2 ⁺				
1556.7	(19/2 ⁻)	295.6 5	100 7	1261.2	(15/2 ⁻)				
		473.5 5	32 5	1083.06	19/2 ⁺				
1580.13	23/2 ⁻	189.9 2	30.4 13	1390.31	21/2 ⁻				
		438.7 2	100 5	1141.36	19/2 ⁻				
1608.65	21/2 ⁺	231.8 5		1377.06	19/2 ⁺				
		442.3 2	100 6	1166.38	17/2 ⁺				
		467.2 5	15.2 23	1141.36	19/2 ⁻				
		525.5 5	25 3	1083.06	19/2 ⁺				
1800.91	25/2 ⁺	264.9 2	30.6 12	1535.91	23/2 ⁺				
		483.7 2	100 5	1317.21	21/2 ⁺				
1849.55	23/2 ⁺	459.0 5		1390.31	21/2 ⁻				
		472.5 2		1377.06	19/2 ⁺				
		532.5 5		1317.21	21/2 ⁺				
1879.00	25/2 ⁻	298.8 2	71.4 24	1580.13	23/2 ⁻				

Adopted Levels, Gammas (continued)

 $\gamma(^{157}\text{Tb})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π
1879.00	25/2 ⁻	488.7 2	100 5	1390.31	21/2 ⁻	3511.2	35/2 ⁺	580.1 2	100	2931.1	31/2 ⁺
1935.2	(23/2 ⁻)	378.5 5	100.	1556.7	(19/2 ⁻)	3571.0	(37/2 ⁻)	340.9 2	47.2 22	3230.0	35/2 ⁻
2040.22	27/2 ⁺	239.2 2	18.1 9	1800.91	25/2 ⁺			577.9 2	100 5	2993.2	33/2 ⁻
		504.4 2	100 4	1535.91	23/2 ⁺	3749.0	39/2 ⁺	276.3 5	17.0 15	3472.5	37/2 ⁺
2086.29	27/2 ⁻	207.2 2	20.4 10	1879.00	25/2 ⁻			596.3 2	100 7	3152.7	35/2 ⁺
		506.2 2	100 5	1580.13	23/2 ⁻	3785.7	37/2 ⁺	569.6 2	100	3216.1	33/2 ⁺
2108.72	25/2 ⁺	500.1 2	100 3	1608.65	21/2 ⁺	3813.7	39/2 ⁻	242.5 5	15.6 12	3571.0	(37/2 ⁻)
		528.7 5		1580.13	23/2 ⁻			583.7 2	100 4	3230.0	35/2 ⁻
		572.5 5	23 4	1535.91	23/2 ⁺	4080.7	(39/2 ⁺)	569.5 5	100	3511.2	35/2 ⁺
2328.4	29/2 ⁺	288.2 2	27.1 14	2040.22	27/2 ⁺	4082.4	(39/2 ⁻)	594.7 5	100	3487.7	(35/2 ⁻)
		527.5 2	100 5	1800.91	25/2 ⁺	4089.4	41/2 ⁺	340.3 5	25.9 18	3749.0	39/2 ⁺
2372.8	27/2 ⁺	523.2 2	100	1849.55	23/2 ⁺			616.9 2	100 6	3472.5	37/2 ⁺
2394.1	(27/2 ⁻)	458.9 5	100	1935.2	(23/2 ⁻)	4153.0	(41/2 ⁻)	339.3 5	32 3	3813.7	39/2 ⁻
2420.9	29/2 ⁻	334.6 2	49.2 24	2086.29	27/2 ⁻			582.0 2	100 6	3571.0	(37/2 ⁻)
		542.0 2	100 5	1879.00	25/2 ⁻	4349.8	(41/2 ⁻)	564.1 2	100	3785.7	37/2 ⁺
2582.8	31/2 ⁺	254.4 2	18.2 10	2328.4	29/2 ⁺	4381.9	43/2 ⁺	292.8 5	18.2 23	4089.4	41/2 ⁺
		542.6 2	100 5	2040.22	27/2 ⁺			632.9 2	100 6	3749.0	39/2 ⁺
2644.1	31/2 ⁻	223.1 2	17.2 11	2420.9	29/2 ⁻	4402.0	43/2 ⁻	249.0 5	17 5	4153.0	(41/2 ⁻)
		557.8 2	100 6	2086.29	27/2 ⁻			588.3 2	100 6	3813.7	39/2 ⁻
2649.8	29/2 ⁺	541.1 2	100	2108.72	25/2 ⁺	4669.3	(43/2 ⁺)	588.6 5	100	4080.7	(39/2 ⁺)
2887.3	33/2 ⁺	304.3 2	22.4 13	2582.8	31/2 ⁺	4748.0	(45/2 ⁺)	658.6 2	100	4089.4	41/2 ⁺
		558.9 2	100 4	2328.4	29/2 ⁺	4778.0	(45/2 ⁻)	376.0 5	44 6	4402.0	43/2 ⁻
2920.9	(31/2 ⁻)	526.8 5	100	2394.1	(27/2 ⁻)			625.0 2	100 8	4153.0	(41/2 ⁻)
2931.1	31/2 ⁺	558.3 2	100	2372.8	27/2 ⁺	4945.7	(45/2 ⁺)	595.9 5	100	4349.8	(41/2 ⁻)
2993.2	33/2 ⁻	349.2 2	40.3 21	2644.1	31/2 ⁻	5034.0	(47/2 ⁻)	255.8 5	<16	4778.0	(45/2 ⁻)
		572.3 2	100 3	2420.9	29/2 ⁻			632.1 2	100 6	4402.0	43/2 ⁻
3152.7	35/2 ⁺	265.3 2	21.1 11	2887.3	33/2 ⁺	5061.8	(47/2 ⁺)	679.9 5	100	4381.9	43/2 ⁺
		569.9 2	100 5	2582.8	31/2 ⁺	5307.8	(47/2 ⁺)	638.5 5	100	4669.3	(43/2 ⁺)
3216.1	33/2 ⁺	566.3 2	100	2649.8	29/2 ⁺	5456.5	(49/2 ⁺)	708.5 5	100	4748.0	(45/2 ⁺)
3230.0	35/2 ⁻	236.7 5	14.7 12	2993.2	33/2 ⁻	5728.0	(51/2 ⁻)	694.0 5	100	5034.0	(47/2 ⁻)
		585.8 2	100 6	2644.1	31/2 ⁻	5794.9	(51/2 ⁺)	733.1 5	100	5061.8	(47/2 ⁺)
3472.5	37/2 ⁺	319.9 2	27.6 14	3152.7	35/2 ⁺	6217.6	(53/2 ⁺)	761.1 5	100	5456.5	(49/2 ⁺)
		585.3 2	100 3	2887.3	33/2 ⁺	6581.8	(55/2 ⁺)	786.9 5	100	5794.9	(51/2 ⁺)
3487.7	(35/2 ⁻)	566.8 5	100	2920.9	(31/2 ⁻)						

[†] From ¹⁵⁷Dy ϵ decay, ¹⁵⁴Sm(⁷Li,4n γ), and ¹⁵⁷Gd(d,2n γ), ¹⁵⁷Gd(p,n γ) datasets.

[‡] All assignments and values are from ¹⁵⁷Dy ϵ decay. In addition there are DCO values from (⁷Li,4n γ) that give some distinction between $\Delta J=1$ transitions and stretched E2's.

Additional information 3.

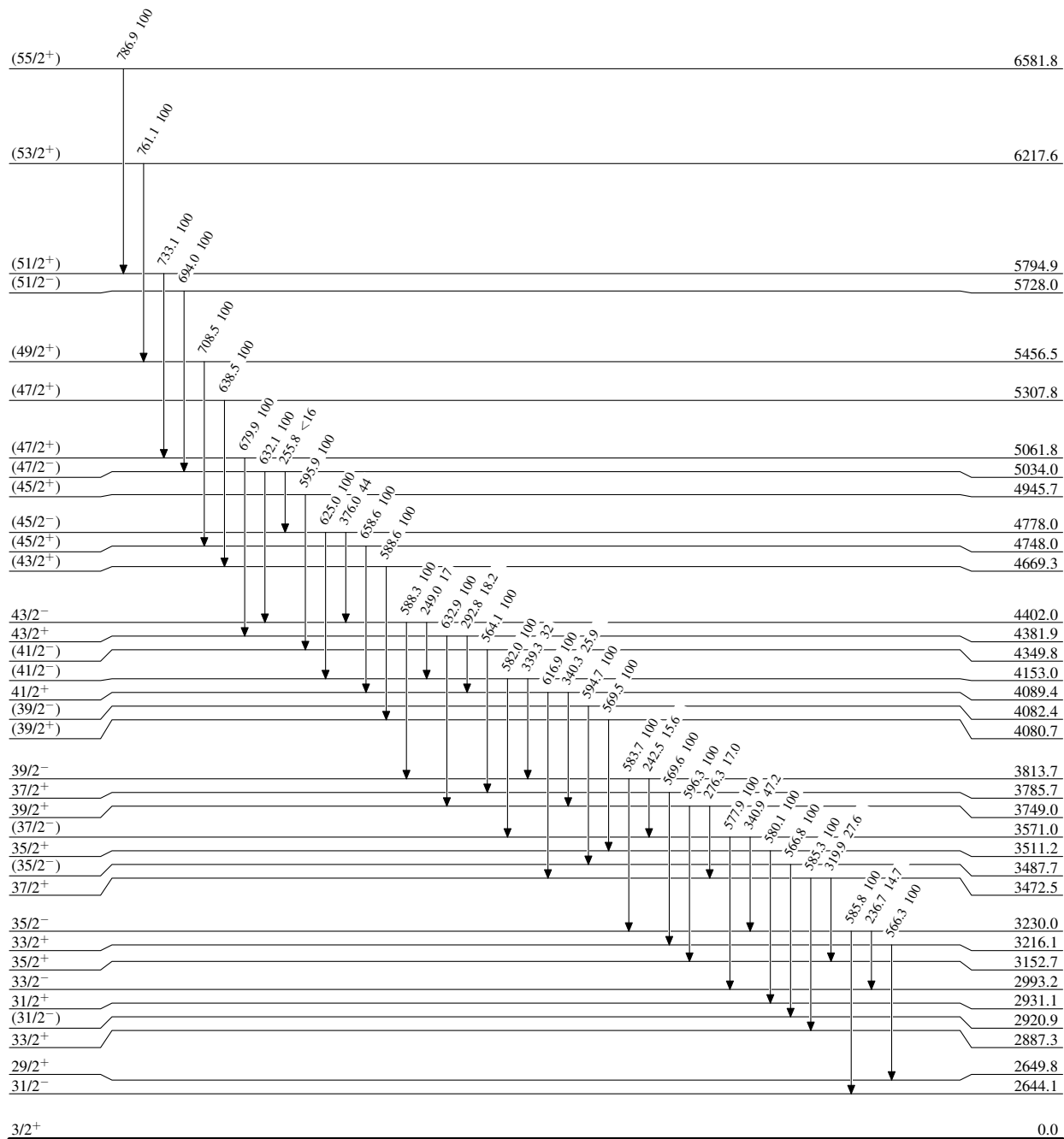
@ If no value given it was assumed $\delta=1.00$ for E2/M1, $\delta=1.00$ for E3/M2 and $\delta=0.10$ for the other multipolarities.

& Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

Level Scheme

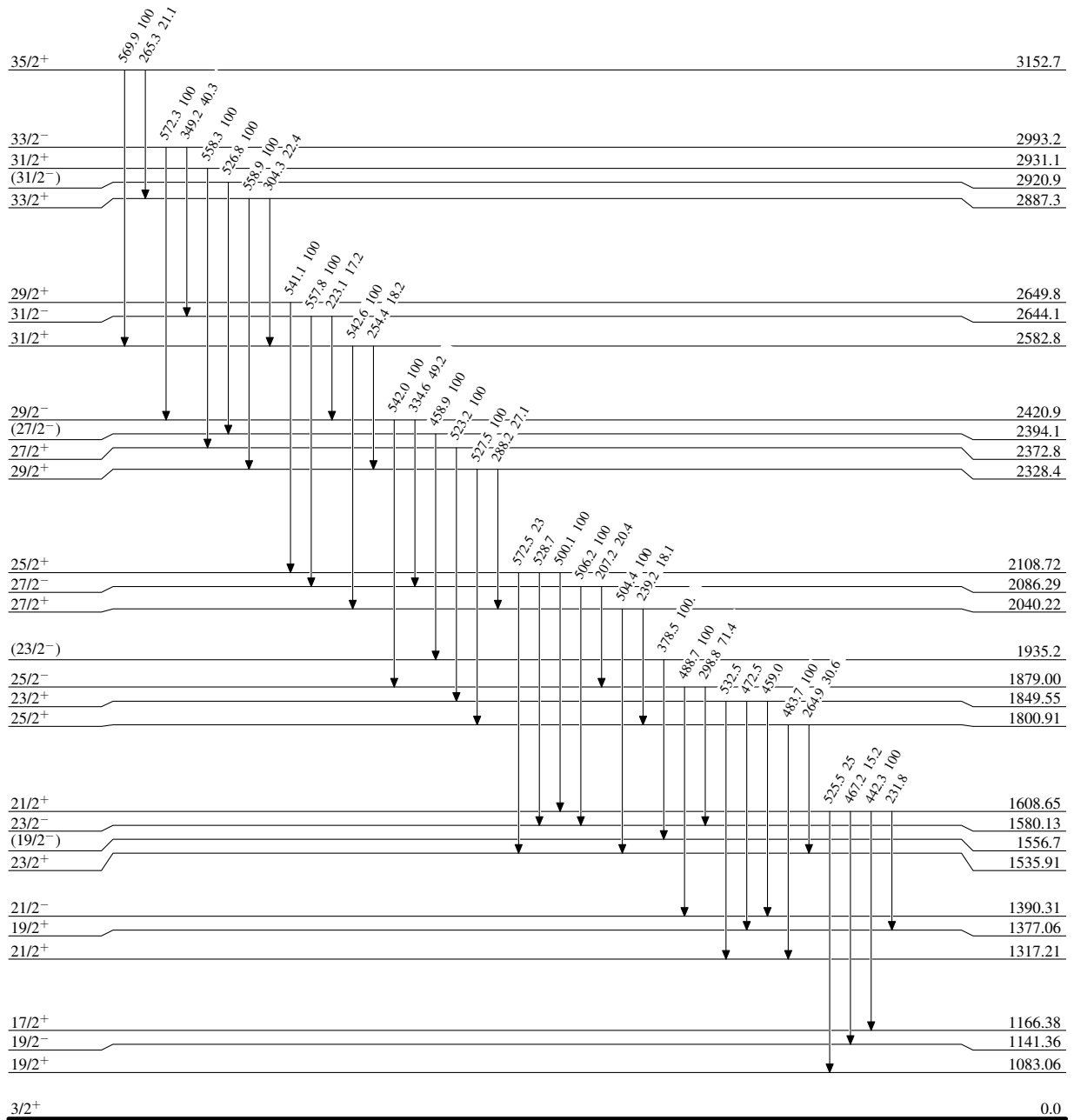
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

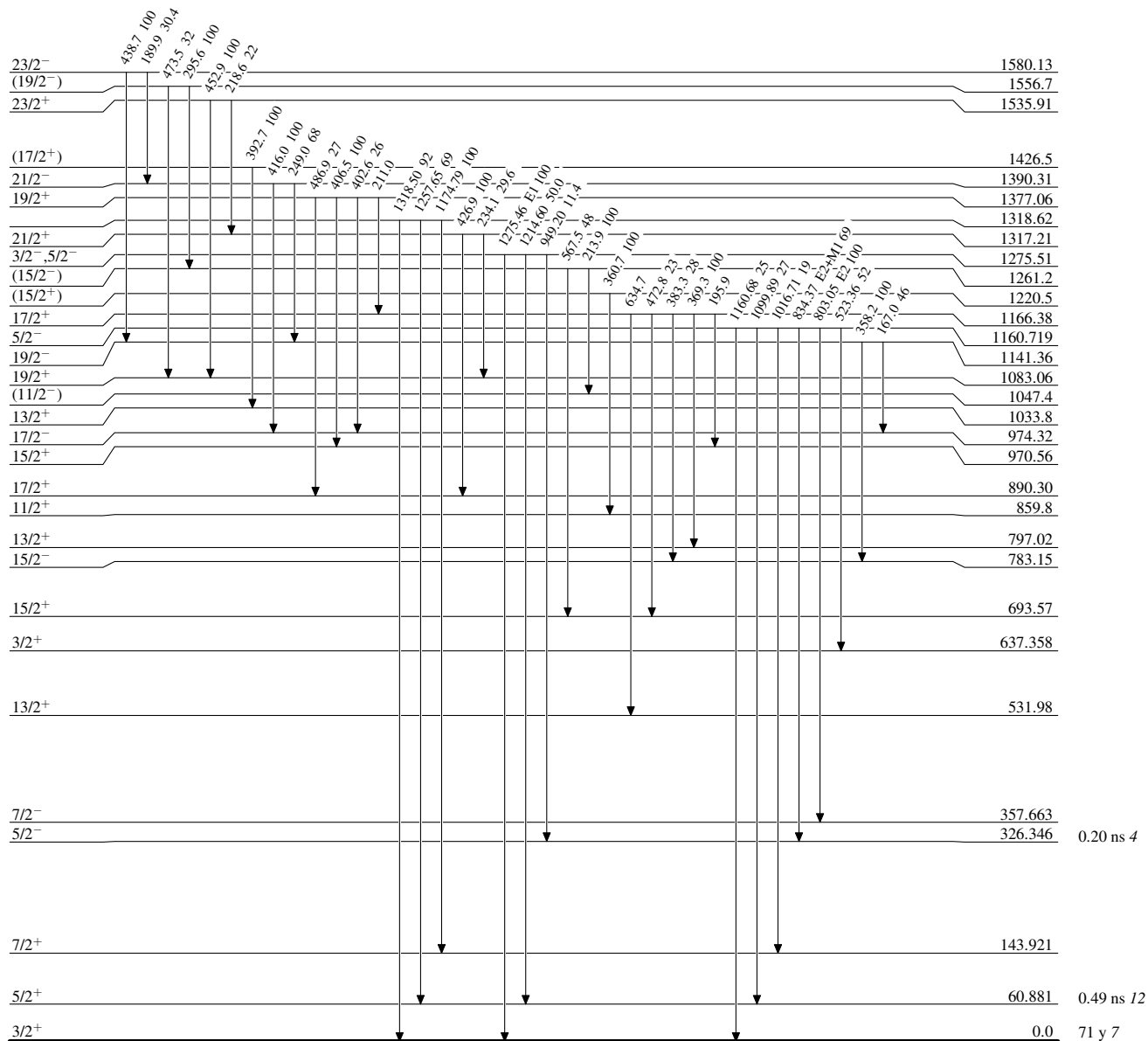


71 y 7

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

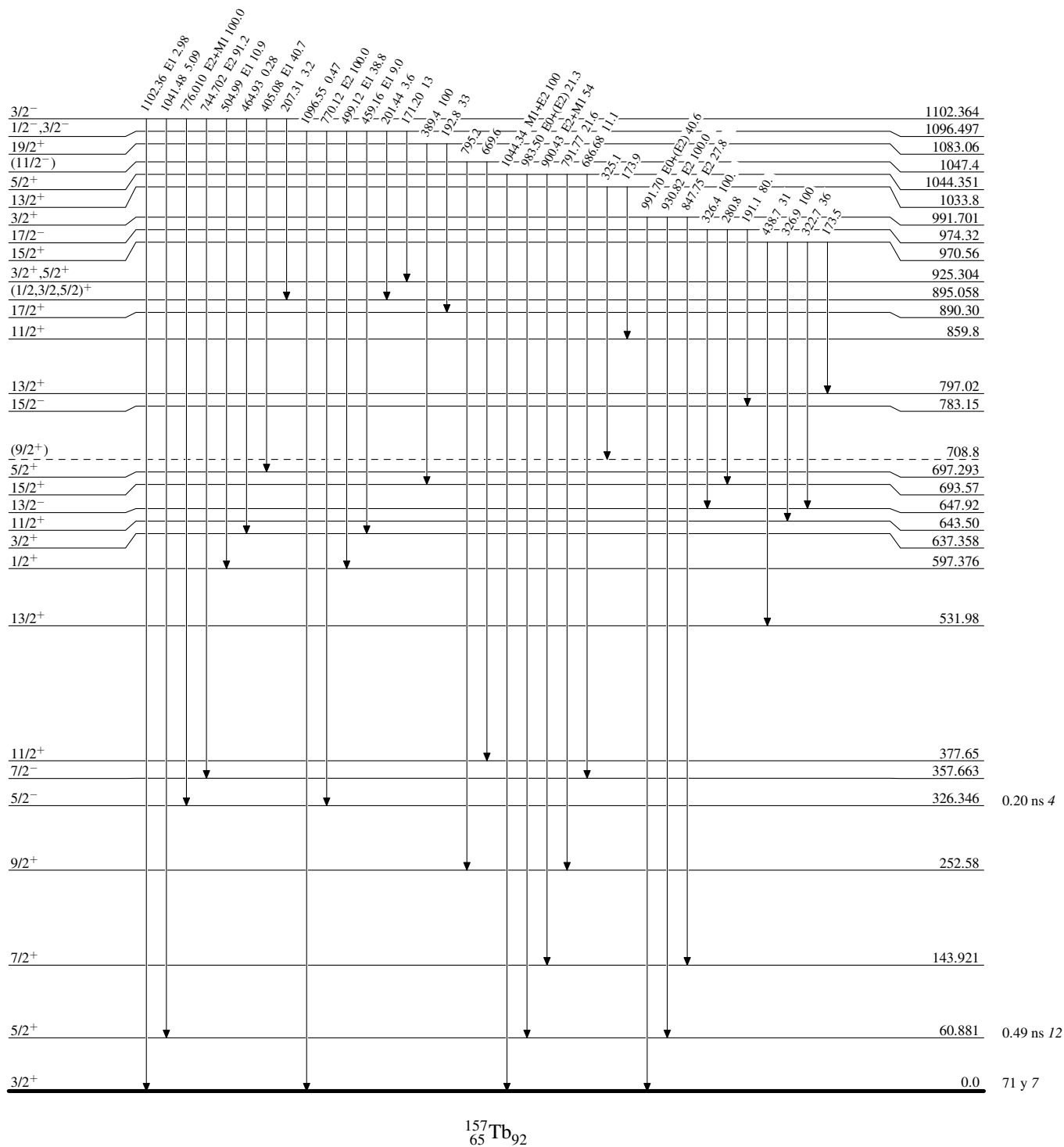


¹⁵⁷Tb₉₂

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



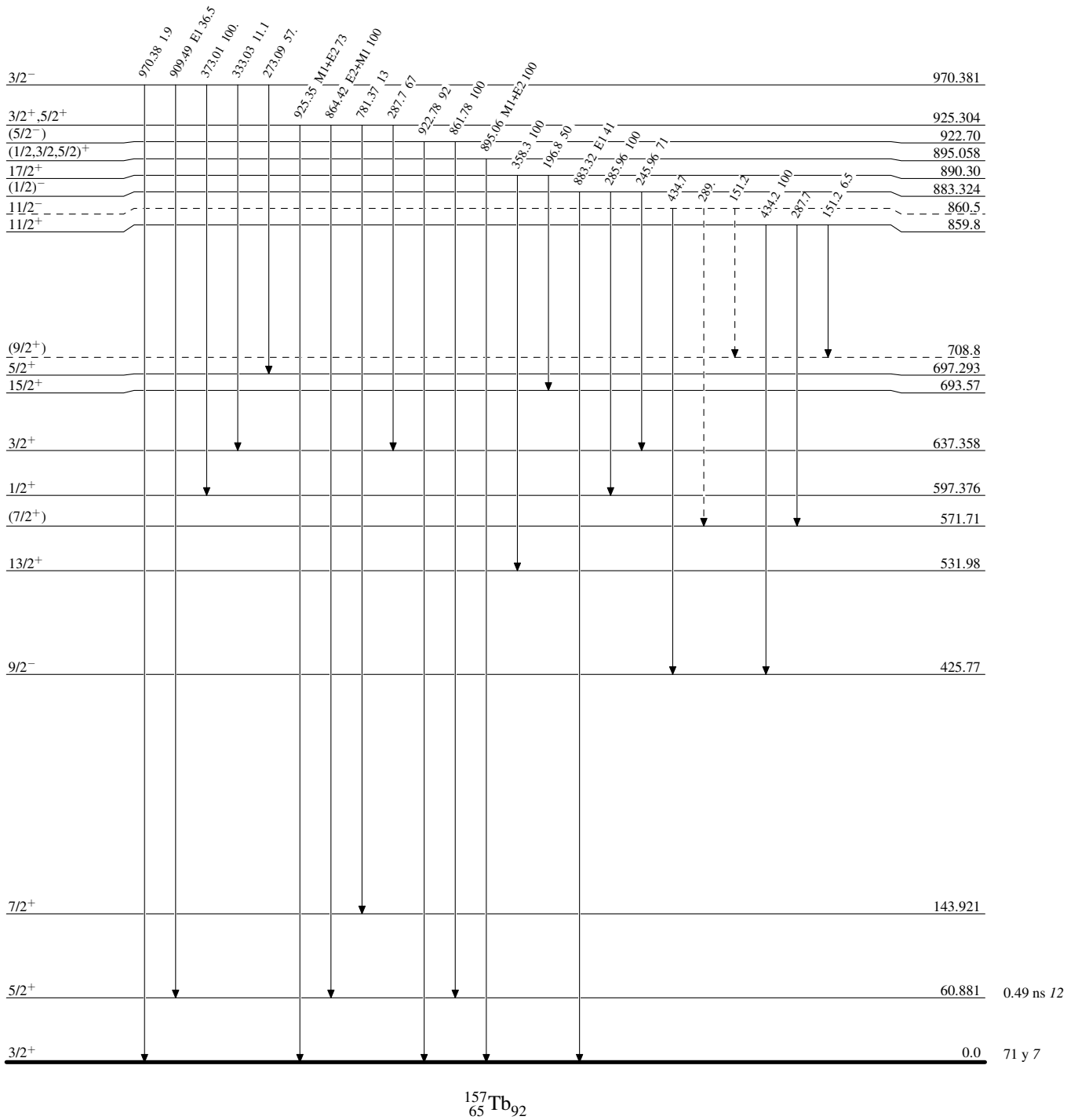
Adopted Levels, Gammas

Legend

Level Scheme (continued)

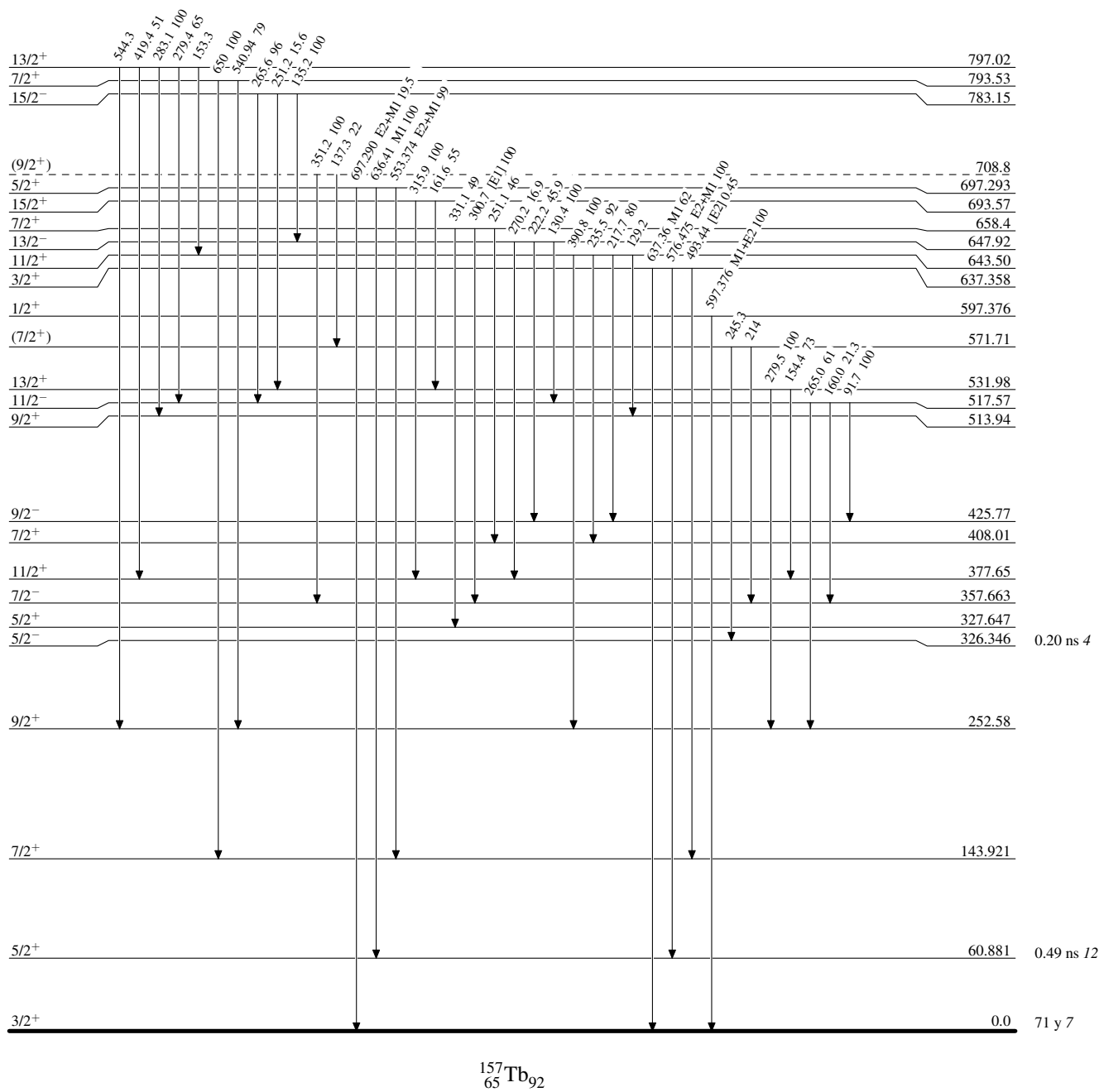
Intensities: Relative photon branching from each level

-----▶ γ Decay (Uncertain)



Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level



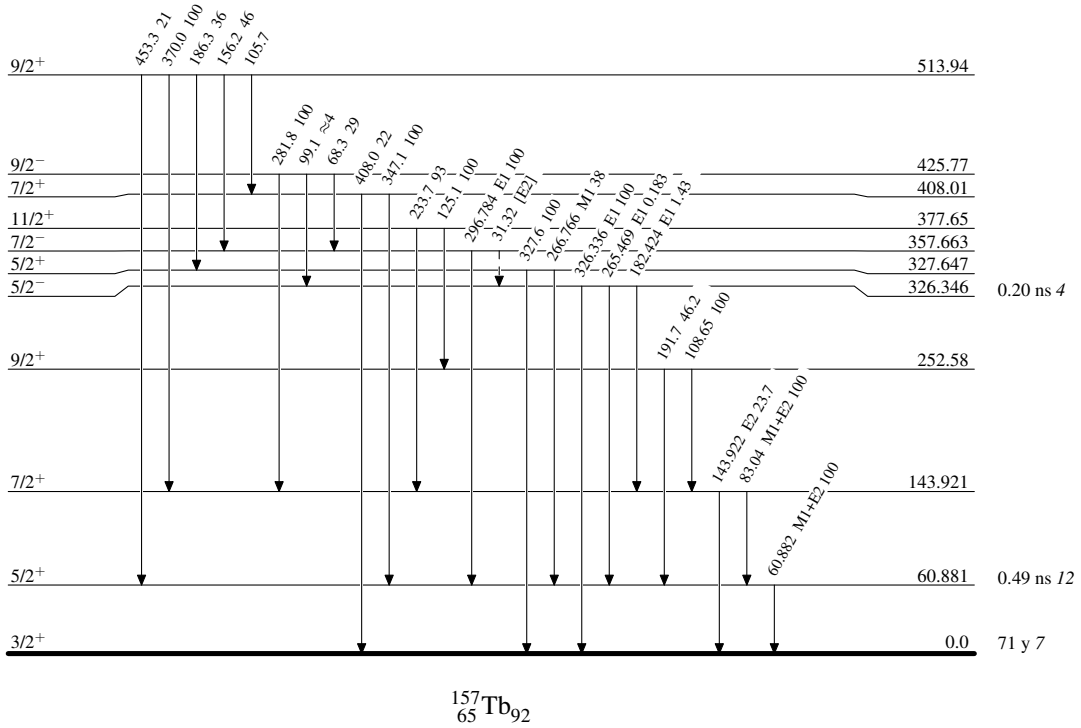
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

-----▶ γ Decay (Uncertain)



Adopted Levels, Gammas

**Band(A): Signature=-1/2
portion of 3/2[411] band,
A=12.20, B=-0.0092
A₃=0.0234**

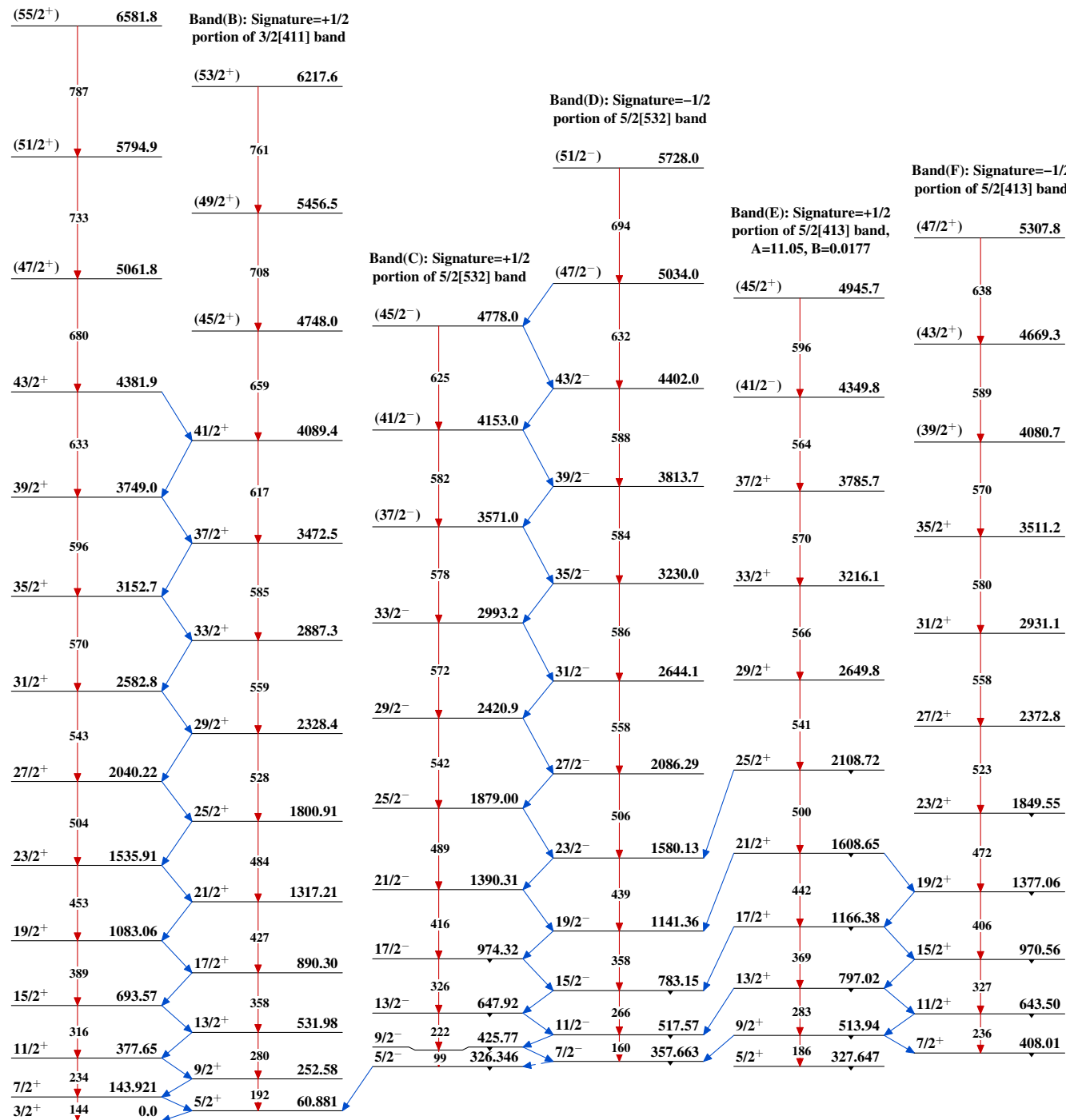
**Band(B): Signature=+1/2
portion of 3/2[411] band**

**Band(D): Signature=-1/2
portion of 5/2[532] band**

**Band(C): Signature=+1/2
portion of 5/2[532] band**

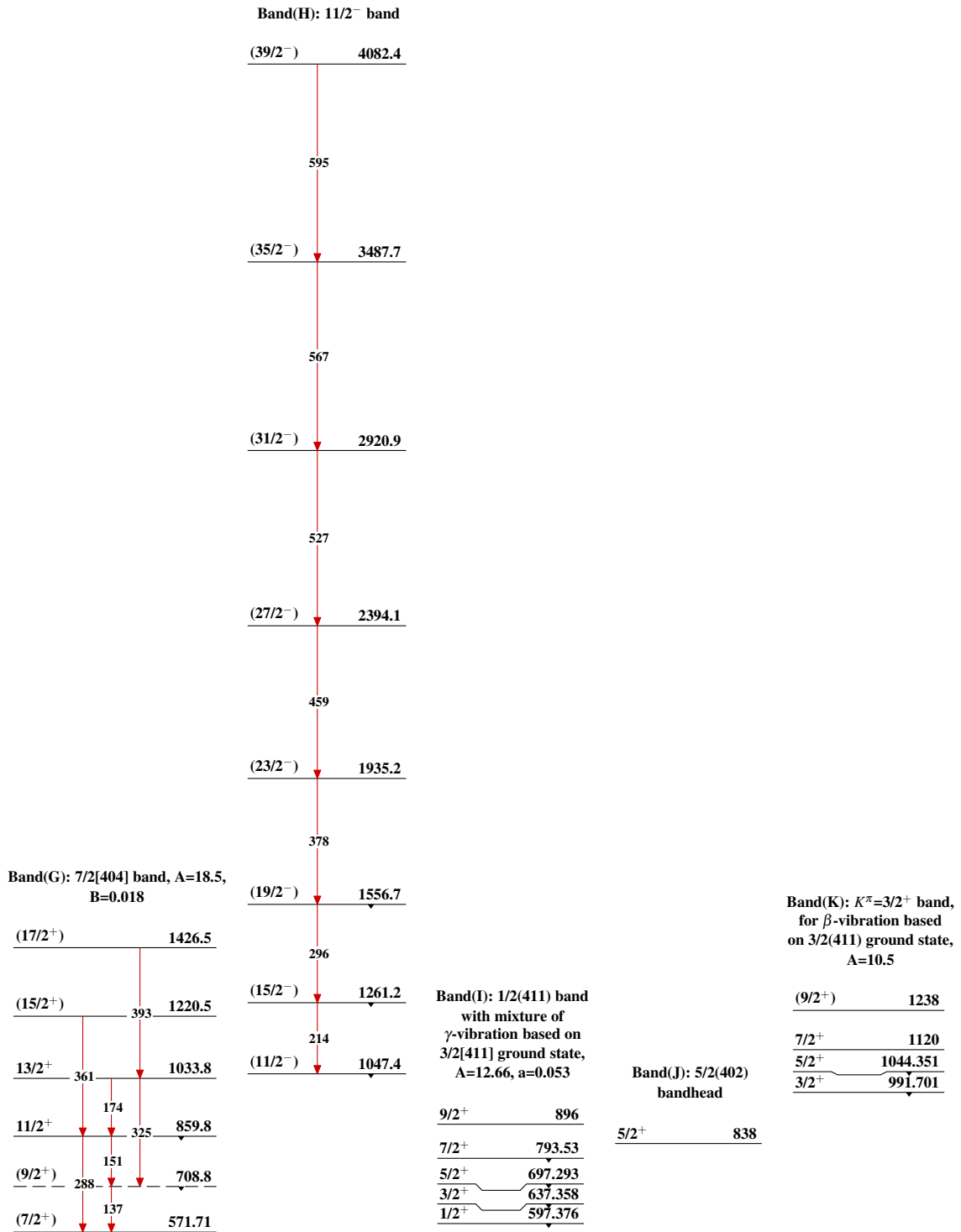
**Band(E): Signature=+1/2
portion of 5/2[413] band,
A=11.05, B=0.0177**

**Band(F): Signature=-1/2
portion of 5/2[413] band**



$^{157}\text{Tb}_{92}$

Adopted Levels, Gammas (continued)



¹⁵⁷Tb₉₂