

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 107,791 (2006)	15-Sep-2005

Q(β^-)=-105.5 17; S(n)=6864.4 11; S(p)=8.47×10³ 5; Q(α)=569 5 [2012Wa38](#)

Note: Current evaluation has used the following Q record -106.8 166864.8 108470 50570 4 [2003Au03](#).

¹⁷⁶Yb Levels

Cross Reference (XREF) Flags

A	¹⁷⁶ Tm β^- decay	E	¹⁷⁶ Yb(d,d'), (α,α')	I	¹⁷⁶ Yb(γ,γ')
B	¹⁷⁶ Yb IT decay (11.4 s)	F	¹⁷⁶ Yb(p,p')	J	¹⁷⁶ Yb(n,n' γ)
C	Coulomb excitation	G	¹⁷⁶ Yb(pol p,p')	K	¹⁷⁶ Yb(⁴⁸ Ca,X γ), ¹⁷⁶ Yb(¹⁵⁴ Sm,X γ)
D	¹⁷⁴ Yb(t,p)	H	¹⁷⁶ Lu ϵ decay (3.635 h)		

E(level) [†]	J $^\pi$	T _{1/2} ^a	XREF	Comments
0.0 ^c	0+ [@]	stable	ABCDEFGHIJK	T _{1/2} ($\beta\beta$) >= 1.6 x 10 ¹⁷ y (68% confidence level) to 2+ 82 level in ¹⁷⁶ Hf (1996De60). Measured isotope shift: $\Delta\langle r^2 \rangle$ (¹⁷⁴ Yb, ¹⁷⁶ Yb)=0.0833 fm ² 43 (1991Ji06), $\Delta\langle r^2 \rangle$ (¹⁷⁴ Yb, ¹⁷⁶ Yb)=0.090 fm ² 2 (1994Ma57). Others: 2003Ba90 , 2002Zi04 , 2001Lo30 , 1991Ho27 , 1991Ma48 , 1991Ki14 , 1990Sp05 , 1990Bi08 , 1973Le16 , 1973Ru04 .
82.135 ^c 15	2+ ^{‡@}	1.76 ns 5	ABCDEFGHIJK	$\mu=+0.67$ 3 Q=2.2 4 μ : Mossbauer (1967Ec02 , 1989Ra17). Coul. ex. DPAD (1966Ti01 , 1989Ra17). J $^\pi$: 82.13 γ E2 to 0+ in Coulomb excitation. Q: From Q(¹⁷⁶ Yb-82)/Q(¹⁷⁰ Yb-84)=1.045 2 Mossbauer (1967Ec01), and Q(¹⁷⁰ Yb-84)=2.1 4 (1989Ra17). No polarization correction (1989Ra17). T _{1/2} : Weighted average of 1.72 ns 5 (Coul. Excitation), 1.76 ns 5 delay coin (1966Ti01), and 2.01 ns 14 delay coin (1962Bi05).
271.85 ^c 3	4+ ^{‡@}	0.11 ns 1	ABCDEFGHJK	J $^\pi$: 189.7 γ E2 to 2+ in Coulomb excitation.
564.5 ^c 4	6+ [‡]	14 ps 1	ABC EFG JK	J $^\pi$: 292.6 γ E2 to 4+ in Coulomb excitation. From good fit of both cross sections and analyzing powers in (pol p,p'); and agreement between experimental and theoretical cross sections in (α,α').
953.9 ^c 6	8+ [‡]	3.5 ps 5	BC EFG JK	J $^\pi$: 389.4 γ E2 to 6+ state. Agreement between experimental and theoretical cross sections in (α,α').
1049.8 ^k 6	8-	11.4 s 3	B G J	%IT=100 T _{1/2} : from ¹⁷⁶ Yb IT decay (11.4 s). J $^\pi$: 96.0 γ E1 to 8+ state.
1088.228 ⁱ 17	(1-)		A J	J $^\pi$: 1088 γ E1 to 0+ g.s.
1132.104 ⁱ 23	(2-)&		A D J	
1138.95 ^e 4	(0+)&		J	
1193.309 ⁱ 23	(3-)&		A J	
1199.578 ^e 24	(2+)		J	J $^\pi$: 1199.5 γ E2 to 0+ g.s. Band assignment.
1260.893 ^d 17	2+	0.76 ps 7	A CDEFG J	J $^\pi$: 1260.8 γ E2 to 0+ g.s. Experimental B(E2, 1261 γ)/B(E2, 179 γ) =0.53 7 agrees with theoretical value of 0.70 for J,K=2,2 (Alaga rule). T _{1/2} : Other value: 0.55 ps 4 (d,d'),(α,α').
1283.27 ⁱ 13	(4-)&		A J	
1336.378 ^d 25	(3+)&		d J	XREF: d(1338).
1341.08 ^f 3	(4+)		A dE J	XREF: d(1338).

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Adopted Levels, Gammas (continued)

^{176}Yb Levels (continued)

E(level) [†]	J ^π	T _{1/2} ^a	XREF	Comments
1409.61 ⁱ 11	(5 ⁻)&		J	J ^π : 1258.9γ E2 to 2 ⁺ state.
1431.0 ^c 13	(10) ⁺ &‡	1.2 ps 1	C K	
1431.70 ^j 3	(2 ⁻)&		A J	
1435.50 ^d 5	(4) ⁺		A CDEFG J	J ^π : 1353γ E2 to 2 ⁺ , 1163.7γ to 4 ⁺ . Experimental B(E2, 1353γ)/B(E2, 1164γ)=0.3 1 compares with theoretical value of 0.34 for J,K=2,2 (Alaga rule) in Coulomb excitation.
1491.52 ^f 13	(5 ⁺)&		EF J	
1498.73 ^j 4	(3 ⁻)		A F J	J ^π : 410.5γ E2 to the (1 ⁻) state.
1518.93 ^g 7	(0 ⁺)&		D J	
1541.1 5	(6 ⁺)&		J	
1558.34 ^d 7	(5 ⁺)&		J	
1575.32 5	(3)&		A J	
1588.57 ^j 8	(4 ⁻)&		J	
1609.97 ^g 5	(2 ⁺)		J	J ^π : 1338γ E2 to the 4 ⁺ state.
1630.03 6			A J	
1671.45 4	(3)&		A J	J ^π : 239.8γ to (2 ⁻), δ=0.00 10, and 330.4γ to (4 ⁺), δ -0.14 7 and -3.8 +9-13 in (n,n'γ).
1692 6			E	
1738 6			D	
1767 6			E	
1778.46 11	0 ⁺		D J	J ^π : L=0 in (t,p).
1790 6			EF	
1798.10 6			A F J	
1819.24 ^h 12	(1 ⁺)&		J	
1821.09 6			J	
1867.93 ^h 10	(2 ⁺)&		J	
1984.6 ^c 20	(12) ⁺ &‡	0.59 ps 6	C K	J ^π : 553.6γ E2 to the (10) ⁺ state.
2027?			J	
2053.34 12	(3 ⁺ ,4 ⁺)		A D J	J ^π : 1971γ to 2 ⁺ , log ft=5.65 from ^{176}Tm (J ^π =(4 ⁺)).
2095?			J	
2139?			J	
2153.50 24			A J	
2163.1 7	(1) [#]	11.5 ^b fs 3	I	
2170?			J	
2245?			J	
2295.2 4			A D	
2394?			J	
2453.1 7	(1) [#]	7.7 ^b fs 17	I	
2480.7 4			A	
2530?			J	
2537.8 6			A	
2570?			J	
2602 ^c 3	(14) ⁺ &‡	0.38 ps 7	C K	
2704.1 7	(1) [#]	7.4 ^b fs 15	IJ	
2938.1 7	(1) [#]	10 ^b fs 4	I	
2949.8 6	(3 ⁺ ,4 ⁺)		A	J ^π : 2868γ to (2 ⁺), log ft=5.66 from ^{176}Tm (J ^π =(4 ⁺)).
2953.8 3	(3 ⁺ ,4 ⁺)		A	J ^π : 2872γ to (2 ⁺), log ft=5.21 from ^{176}Tm (J ^π =(4 ⁺)).
3052.2 3	(3 ⁺ ,4 ⁺ ,5 ⁺)		A	J ^π : log ft=5.50 from ^{176}Tm (J ^π =(4 ⁺)).
3126.1 7	1 ⁻	3.8 ^b fs 16	I	

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Adopted Levels, Gammas (continued)

^{176}Yb Levels (continued)					
E(level) [†]	J^π	$T_{1/2}$ ^a	XREF		Comments
3143.1 7	(1) [#]	2.2 ^b fs 16		I	
3186.3 4	(4 ⁺ ,5 ⁺)		A		J^π : 2622 γ to 6 ⁺ , log $ft=4.92$ from ^{176}Tm ($J^\pi=(4^+)$).
3270 ^c 5	(16) ^{+‡}		C	K	
3456.1 7	(1) [#]	6 ^b fs 3		I	
3480.1 7	1 ⁻	8 ^b fs 4		I	
3516.1 7	(1) [#]	5 ^b fs 3		I	
3540.1 7	(1 ⁻) [#]	3.2 ^b fs 15		I	
3557.1 7	(1) [#]	3.1 ^b fs 9		I	
3780.1 7	(1 ⁻) [#]	1.6 ^b fs 5		I	
3845.2 10		1.7 ^b fs 9		I	
3979 ^c 6	(18) ^{+‡}		C	K	
4729 ^c 6	(20) ⁺			K	J^π : Based on rotational structure and stretched E2 transition.

[†] Deduced by evaluator from a least-squares fit to adopted γ -ray energies.

[‡] Assignment based on rotational band structure, E2 cascade γ 's, and on the comparison of experimental level half-lives with values predicted by the rotational model (1976Wa06).

[#] From $\gamma(\theta)$ in $^{176}\text{Yb}(\gamma,\gamma')$.

[@] From excellent fit of both cross sections and analyzing powers in (pol p,p'); and agreement between experimental and theoretical cross sections in (α,α').

[&] From $\gamma(\theta)$ and relative level population in (n,n' γ).

^a From Coulomb excitation, unless otherwise specified.

^b From $\Gamma_{\gamma 0}$ and branching in $^{176}\text{Yb}(\gamma,\gamma')$.

^c Band(A): $K=0^+$ g.s. rotational band Rotational parameters: $A=13.7$, $B=-6.5$. Spin members of the band used in the fit: 0 to 8. Deformation parameters: $\beta_2=0.276$, $\beta_4=-0.054$ (1968He24); $\beta_2=0.230$ 10, $\beta_4=-0.350$ 10 (1970Ap03).

^d Band(B): $K^\pi=2^+$ γ -vibrational band.

^e Band(C): $K^\pi=0^+$ band.

^f Band(D): $K^\pi=4^+$, configuration: $\pi 1/2[411]+\pi 7/2[404]$.

^g Band(E): $K^\pi=0^+$ band.

^h Band(F): $K^\pi=1^+$, configuration: $\nu 7/2[633]-\nu 9/2[624]$.

ⁱ Band(G): $K^\pi=1^-$, configuration: $\nu 7/2[514]-\nu 9/2[624]$.

^j Band(H): $K^\pi=2^-$, configuration: $\nu 5/2[512]-\nu 9/2[624]$.

^k Band(I): $K^\pi=8^-$, configuration: $\nu 7/2[514]+\nu 9/2[624]$.

Adopted Levels, Gammas (continued)

$\gamma(^{176}\text{Yb})$

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult. ^b	δ^d	α^e	Comments
82.135	2 ⁺	82.13 [‡] 2	100	0.0	0 ⁺	E2		7.06	B(E2)(W.u.)=183 7
271.85	4 ⁺	189.69 [‡] 4	100	82.135	2 ⁺	E2		0.324	B(E2)(W.u.)=270 25
564.5	6 ⁺	292.6 ^{&} 4	100	271.85	4 ⁺	E2		0.0803	B(E2)(W.u.)=298 22
953.9	8 ⁺	389.4 [‡] 5	100	564.5	6 ⁺	E2		0.0349	B(E2)(W.u.)=3.0×10 ² 5
1049.8	8 ⁻	95.92 9	100	953.9	8 ⁺	E1		0.384	B(E1)(W.u.)=1.47×10 ⁻¹⁴ 9 Mult.: from ¹⁷⁶ Yb IT decay (11.4 s).
1088.228	(1 ⁻)	1006.11 4	100 5	82.135	2 ⁺	(E1+M2)	0.0 +2-8		
		1088.245 20	21.9 11	0.0	0 ⁺	E1 ^d			I _γ : 17.9 19 in ¹⁷⁶ Tm β ⁻ decay.
1132.104	(2 ⁻)	1049.966 20	100	82.135	2 ⁺	(E1+M2)	-0.02 5		
1138.95	(0 ⁺)	1056.81 3	100	82.135	2 ⁺				
1193.309	(3 ⁻)	921.48 5	10.1 6	271.85	4 ⁺	E1+(M2)	0.00 5		
		1111.150 20	100 8	82.135	2 ⁺	E1+(M2)	0.00 5		
1199.578	(2 ⁺)	111.38 9	19.37 15	1088.228	(1 ⁻)				
		927.7	<0.4	271.85	4 ⁺				
		1117.440 20	100 5	82.135	2 ⁺	M1+E2 ^d	+11 +5-3		
		1199.50 8	12.1 7	0.0	0 ⁺	E2 ^d			
1260.893	2 ⁺	122.01	7.4	1138.95	(0 ⁺)				
		172.8 ^f 3	5.6 ^f 10	1088.228	(1 ⁻)				
		988.8 3	2.7 5	271.85	4 ⁺				
		1178.759 20	100 6	82.135	2 ⁺	M1+E2 ^d	+160 +0-130		B(E2)(W.u.)=0.000111 15
		1260.875 23	88.7 4	0.0	0 ⁺	E2			B(E2)(W.u.)=1.80 21 I _γ : 74 7 in ¹⁷⁶ Tm β ⁻ decay.
1283.27	(4 ⁻)	1011.35 4	100	271.85	4 ⁺	(E1+M2)	-0.05 5		
1336.378	(3 ⁺)	1064.55 7	22.2 14	271.85	4 ⁺	M1+E2 ^d	-6 +9-5		
		1254.235 20	100 5	82.135	2 ⁺	M1+E2			+100<δ<-100.
1341.08	(4 ⁺)	1069.223 20	100 5	271.85	4 ⁺	M1+E2	-0.26 2		E _γ : Multiplete in (n,n'γ).
		1258.95 4	11.9 6	82.135	2 ⁺	E2 ^d			
1409.61	(5 ⁻)	1137.77 11	100	271.85	4 ⁺				
1431.0	(10 ⁺)	477.1 ^a 11	100	953.9	8 ⁺	E2		0.0202	B(E2)(W.u.)=320 30
1431.70	(2 ⁻)	238.31 5	28.7 18	1193.309	(3 ⁻)	M1+E2	-0.40 +10-20	0.281 10	I _γ : 39 5 in ¹⁷⁶ Tm β ⁻ decay.
		299.60 5	43.2 24	1132.104	(2 ⁻)	M1+E2	+0.09 +3-6	0.161 1	
		343.60 5	100 5	1088.228	(1 ⁻)	M1+E2	-0.11 2	0.111	
		1349.45 15	12.2 10	82.135	2 ⁺	E1+M2+(E3)			I _γ : 23 3 in ¹⁷⁶ Tm β ⁻ decay.
1435.50	(4 ⁺)	1163.65 4	100 5	271.85	4 ⁺	M1+E2	-1.2 3		
		1353.36 8	65 4	82.135	2 ⁺	E2 ^d			
1491.52	(5 ⁺)	150.44 12	100 6	1341.08	(4 ⁺)	M1+E2	+0.23 8	1.06 1	
		208.1 10	14 4	1283.27	(4 ⁻)				
		1219.7 10	6 2	271.85	4 ⁺				

Adopted Levels, Gammas (continued)

$\gamma(^{176}\text{Yb})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult. ^b	δ^d	α^e	Comments
1498.73	(3 ⁻)	215.5 3	30 3	1283.27	(4 ⁻)				
		305.34 ^f 12	26.7 ^f 25	1193.309	(3 ⁻)				I _γ : 50 17 with respect to I _γ of 215.5γ in ¹⁷⁵ Tm β ⁻ decay.
		366.60 5	100 6	1132.104	(2 ⁻)	M1+E2	0.00 5	0.07 3	
		410.54 ^f 6	90 ^f 5	1088.228	(1 ⁻)	E2 ^d		0.0301	
		1226.91 14	32.6 21	271.85	4 ⁺	E1+M2	-0.04 +8-4		
		1416.7	2.1	82.135	2 ⁺				
1518.93	(0 ⁺)	1436.79 6	100	82.135	2 ⁺	E2			
1541.1	(6 ⁺)	976.6 3	100 11	564.5	6 ⁺				
		1269.0 10	24 11	271.85	4 ⁺				
1558.34	(5 ⁺)	1286.49 6	100	271.85	4 ⁺	M1+E2			
1575.32	(3)	234.21 4	100 5	1341.08	(4 ⁺)				Mult.: M1 or E1 in (n,n'γ).
		1303.3 3	9.8 15	271.85	4 ⁺				
		1493.12 11	17.7 15	82.135	2 ⁺				
1588.57	(4 ⁻)	152.8 5	6 4	1435.50	(4 ⁺)				
		179.2 5	4.9 21	1409.61	(5 ⁻)				
		247.32 19	25 5	1341.08	(4 ⁺)				
		305.34 ^f 12	44 ^f 4	1283.27	(4 ⁻)				
		395.27 8	100 6	1193.309	(3 ⁻)	M1+E2	+0.27 10	0.074 2	
1609.97	(2 ⁺)	1338.11 6	92 5	271.85	4 ⁺	E2 ^d			
		1527.83 6	100 5	82.135	2 ⁺	M1+E2	-1.5 +9-35		
		1610.04 22	29 3	0.0	0 ⁺				
1630.03		288.93 6	100 7	1341.08	(4 ⁺)				
		436.75 19	39 4	1193.309	(3 ⁻)				
		498.3 2	25 4	1132.104	(2 ⁻)				I _γ : 65 8 in ¹⁷⁶ Tm β ⁻ decay.
		1358.1 4	12 3	271.85	4 ⁺				
1671.45	(3)	95.9 [@] 1	9.8 [@] 12	1575.32	(3)				I _γ : With respect to I _γ of 330.4γ in ¹⁷⁶ Tm β ⁻ decay.
		172.8 ^f 3	19 ^f 3	1498.73	(3 ⁻)				I _γ : 11.0 12 with respect to I _γ of 330.4γ in ¹⁷⁶ Tm β ⁻ decay.
		239.80 5	83 5	1431.70	(2 ⁻)				δ: 0.00 10 in (n,n'γ).
		330.42 5	84 5	1341.08	(4 ⁺)				δ: -0.14 7 and -3.8 +9-13 in (n,n'γ).
		410.54 ^f 6	100 ^f 5	1260.893	2 ⁺				I _γ : 51 4 with respect to I _γ of 330.4γ in ¹⁷⁶ Tm β ⁻ decay.
		477.8 2	16.0 18	1193.309	(3 ⁻)				
		539.0	2.8	1132.104	(2 ⁻)				I _γ : 7.7 12 with respect to I _γ of 330.4γ in ¹⁷⁶ Tm β ⁻ decay.
		1589.39 17	25.9 24	82.135	2 ⁺				
1778.46	0 ⁺	1696.32 11	100	82.135	2 ⁺				
1798.10		457.02 5	100	1341.08	(4 ⁺)				
1819.24	(1 ⁺)	1737.1 3	49 6	82.135	2 ⁺				
		1819.23 13	100 8	0.0	0 ⁺	M1,E1		0.0015 5	
1821.09		322.30 16	48 4	1498.73	(3 ⁻)				
		389.40 5	100 6	1431.70	(2 ⁻)				

Adopted Levels, Gammas (continued)

$\gamma(^{176}\text{Yb})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult. ^b	δ^d	α^e	Comments
1867.93	(2 ⁺)	1785.80 10 1867.2 7	100 6 15 4	82.135 0.0	2 ⁺ 0 ⁺	(M1+E2)	+0.02 +16-1	0.00201 4	
1984.6 2027?	(12) ⁺	553.6 ^a 15 1945.3 ^g 3 2027.0 ^g 3	100 100 8 66 8	1431.0 82.135 0.0	(10) ⁺ 2 ⁺ 0 ⁺	E2		0.0140	B(E2)(W.u.)=3.1×10 ² 4 E _γ : Multiplete in (n,n'γ).
2053.34	(3 ⁺ ,4 ⁺)	255.2 [@] 2 381.8 [@] 2 423.6 [@] 3 554.6 [@] 5 621.7 [@] 3 712.1 [@] 6 1970.9 [@] 6	4.7 [@] 6 100 [@] 5 3.9 [@] 8 2.2 [@] 3 14.4 [@] 13 3.0 [@] 6 10.6 [@] 9	1798.10 1671.45 1630.03 1498.73 1431.70 1341.08 82.135	 (3) (3 ⁻) (2 ⁻) (4 ⁺) 2 ⁺				
2095?		2012.9 ^g 3 2094.5 ^g 5	100 15 35 9	82.135 0.0	2 ⁺ 0 ⁺				E _γ : Multiplete in (n,n'γ).
2139?		2056.7 ^g 3	100	82.135	2 ⁺				E _γ : Multiplete in (n,n'γ).
2153.50		482.2 [@] 3 654.8 [@] 6 1881.2 [@] 7 2070.8 [@] 8	100 [@] 10 27 [@] 7 23 [@] 5 23 [@] 5	1671.45 1498.73 271.85 82.135	(3) (3 ⁻) 4 ⁺ 2 ⁺				
2163.1	(1)	2081 [#] 2163 [#]	65 [#] 14 100 [#]	82.135 0.0	2 ⁺ 0 ⁺	D ^c			
2170?		1898.3 ^g 3 2088.2 ^g 12	100 13 25 13	271.85 82.135	4 ⁺ 2 ⁺				E _γ : Multiplete in (n,n'γ).
2245?		1973.3 ^g 2 2163.1 ^g 2	65 16 100 13	271.85 82.135	4 ⁺ 2 ⁺				E _γ : Multiplete in (n,n'γ).
2295.2 2394?		241.9 [@] 3 2122.4 ^g 5 2311.3 ^g 7	100 [@] 100 5 42 8	2053.34 271.85 82.135	(3 ⁺ ,4 ⁺) 4 ⁺ 2 ⁺				E _γ : Multiplete in (n,n'γ). E _γ : Multiplete in (n,n'γ).
2453.1	(1)	2371 [#] 2453 [#]	41 [#] 6 100 [#]	82.135 0.0	2 ⁺ 0 ⁺	D ^c			
2480.7 2530?		809.2 [@] 5 2258.5 ^g 8 2448.3 ^g 6	100 [@] 93 17 100 17	1671.45 271.85 82.135	(3) 4 ⁺ 2 ⁺				E _γ : Multiplete in (n,n'γ).
2537.8		2265.5 [@] 8 2456.0 [@] 8	54 [@] 12 100 [@] 12	271.85 82.135	4 ⁺ 2 ⁺				

Adopted Levels, Gammas (continued)

$\gamma(^{176}\text{Yb})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult. ^b	α^e	Comments
2570?		2298.3 ^g 3	100 12	271.85	4 ⁺			
		2487.9 ^g 8	37 12	82.135	2 ⁺			
2602	(14) ⁺	617 ^a 2	100	1984.6	(12) ⁺	E2	0.0108	E_γ : Multiplete in (n,n' γ). B(E2)(W.u.)=2.8×10 ² 6
2704.1	(1)	2622 [#]	37 [#] 5	82.135	2 ⁺			
		2704 [#]	100 [#]	0.0	0 ⁺	D ^C		
2938.1	(1)	2856 [#]	30 [#] 10	82.135	2 ⁺	D ^C		
		2938 [#]	100 [#]	0.0	0 ⁺	D ^C		
2949.8	(3 ⁺ ,4 ⁺)	1756.1 [@] 8	27 [@] 6	1193.309	(3 ⁻)			
		2678 [@] 1	51 [@] 6	271.85	4 ⁺			
		2868 [@] 1	100 [@] 12	82.135	2 ⁺			
2953.8	(3 ⁺ ,4 ⁺)	900.4 [@] 5	100 [@] 10	2053.34	(3 ⁺ ,4 ⁺)			
		1282.4 [@] 6	69 [@] 8	1671.45	(3)			
		1612.7 [@] 7	39 [@] 4	1341.08	(4 ⁺)			
		2682.0 [@] 8	51 [@] 5	271.85	4 ⁺			
		2871.9 [@] 9	80 [@] 8	82.135	2 ⁺			
3052.2	(3 ⁺ ,4 ⁺ ,5 ⁺)	571.5 [@] 3	33 [@] 5	2480.7				
		1254.1 [@] 4	100 [@] 11	1798.10				
		2780.7 [@] 8	29 [@] 3	271.85	4 ⁺			
3126.1	1 ⁻	3044 [#]	100 [#]	82.135	2 ⁺			
		3126 [#]	43 [#] 13	0.0	0 ⁺			
3143.1	(1)	3061 [#]	100 [#]	82.135	2 ⁺			
		3143 [#]	46 [#] 7	0.0	0 ⁺	D ^C		
3186.3	(4 ⁺ ,5 ⁺)	1845.1 [@] 6	17.4 [@] 16	1341.08	(4 ⁺)			
		2621.6 [@] 6	69 [@] 6	564.5	6 ⁺			
		2914.7 [@] 6	100 [@] 8	271.85	4 ⁺			
3270	(16) ⁺	668 ^a 3	100	2602	(14) ⁺	E2		
3456.1	(1)	3374 [#]	80 [#] 36	82.135	2 ⁺			
		3456 [#]	100 [#]	0.0	0 ⁺	D ^C		
3480.1	1 ⁻	3398 [#]	100 [#]	82.135	2 ⁺			
		3480 [#]	76 [#] 34	0.0	0 ⁺			
3516.1	(1)	3434 [#]	98 [#] 38	82.135	2 ⁺			
		3516 [#]	100 [#]	0.0	0 ⁺	D ^C		
3540.1	(1 ⁻)	3458 [#]	100 [#]	82.135	2 ⁺			

Adopted Levels, Gammas (continued)

$\gamma(^{176}\text{Yb})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult. ^b	Comments
3540.1	(1 ⁻)	3540 [#]	56 [#] 18	0.0	0 ⁺	D ^c	
3557.1	(1)	3475 [#]	97 [#] 19	82.135	2 ⁺		
		3557 [#]	100 [#]	0.0	0 ⁺	D ^c	
3780.1	(1 ⁻)	3698 [#]	100 [#]	82.135	2 ⁺		
		3780 [#]	53 [#] 11	0.0	0 ⁺	D ^c	
3845.2		3763 [#]	100 [#]	82.135	2 ⁺		
3979	(18) ⁺	709 ^a 4	100	3270	(16) ⁺	E2	
4729	(20) ⁺	750.5	100	3979	(18) ⁺		E_γ : From (⁴⁸ Ca,X γ).

[†] From ¹⁷⁶Yb(n,n' γ), unless otherwise specified.

[‡] Weighted average from ¹⁷⁶Tm β^- decay, Coulomb excitation, ¹⁷⁶Yb IT decay (11.4 s), and ¹⁷⁶Yb(n,n' γ), unless otherwise specified.

[#] From ¹⁷⁶Yb(γ,γ').

[@] From ¹⁷⁶Tm β^- decay.

[&] Using the limitation of relative statistical weight method ([1985ZiZY](#)) from ¹⁷⁶Tm β^- decay, Coulomb excitation, ¹⁷⁶Yb IT decay (11.4 s), and ¹⁷⁶Yb(n,n' γ).

^a From Coulomb excitation.

^b From Coulomb excitation, unless otherwise specified.

^c From $\gamma(\theta)$ in ¹⁷⁶Yb(γ,γ').

^d From ¹⁷⁶Yb(n,n' γ).

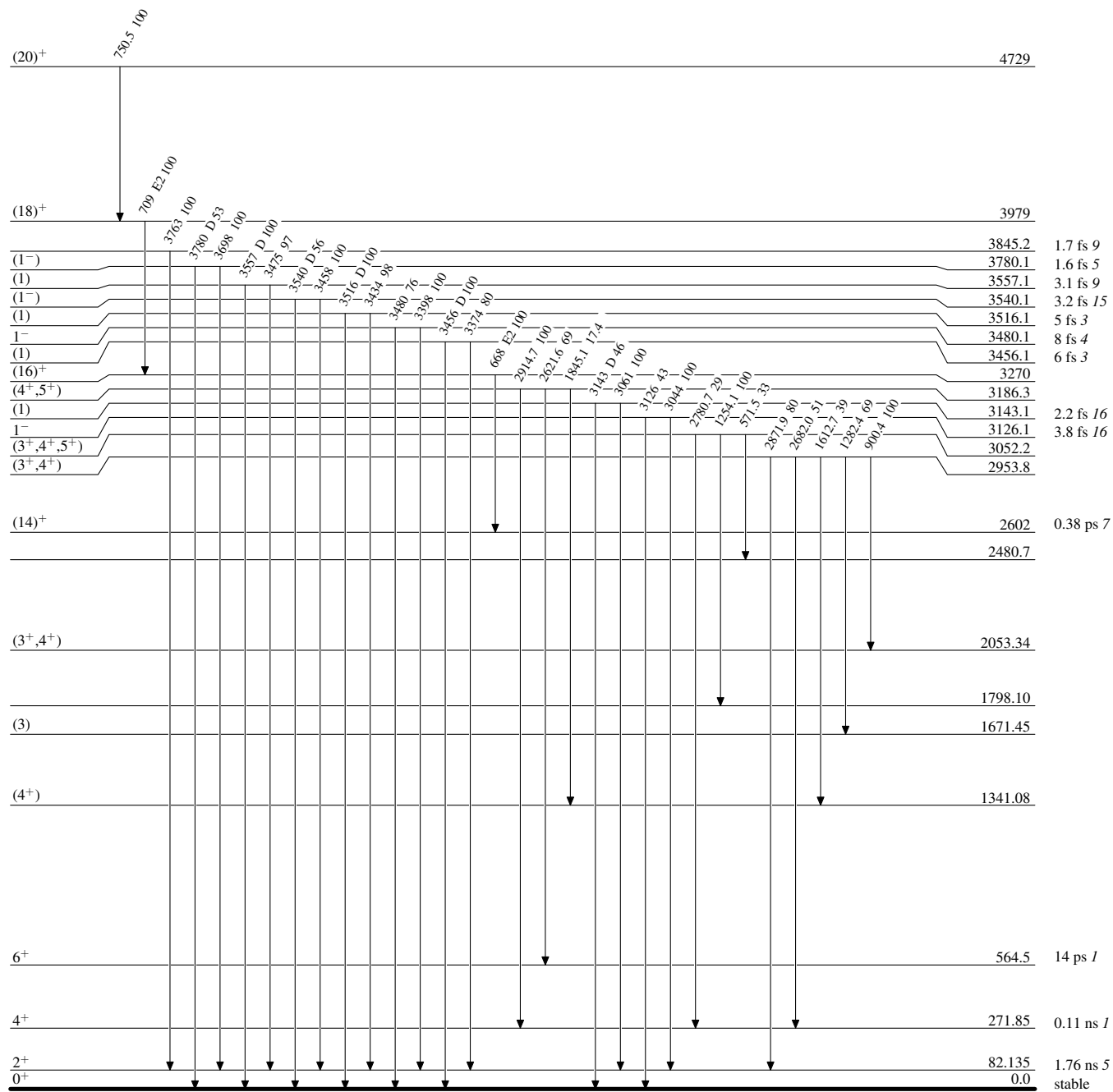
^e Total theoretical internal conversion coefficients, calculated using the BrIcc code ([2008Ki07](#)) with Frozen orbital approximation based on γ -ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

^f Multiply placed with undivided intensity.

^g Placement of transition in the level scheme is uncertain.

Adopted Levels, GammasLevel Scheme

Intensities: Relative photon branching from each level

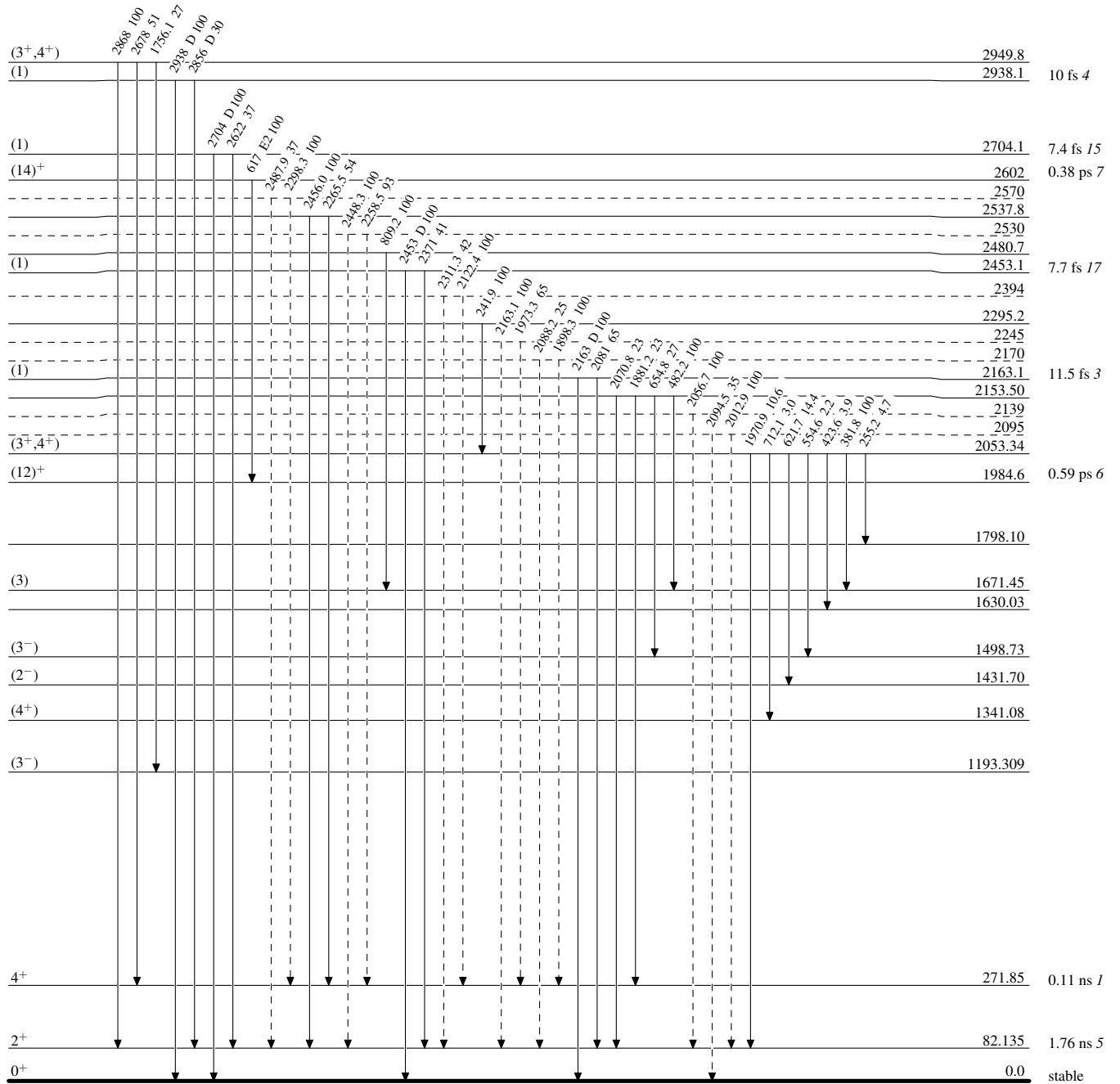
 $^{176}_{70}\text{Yb}_{106}$

Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

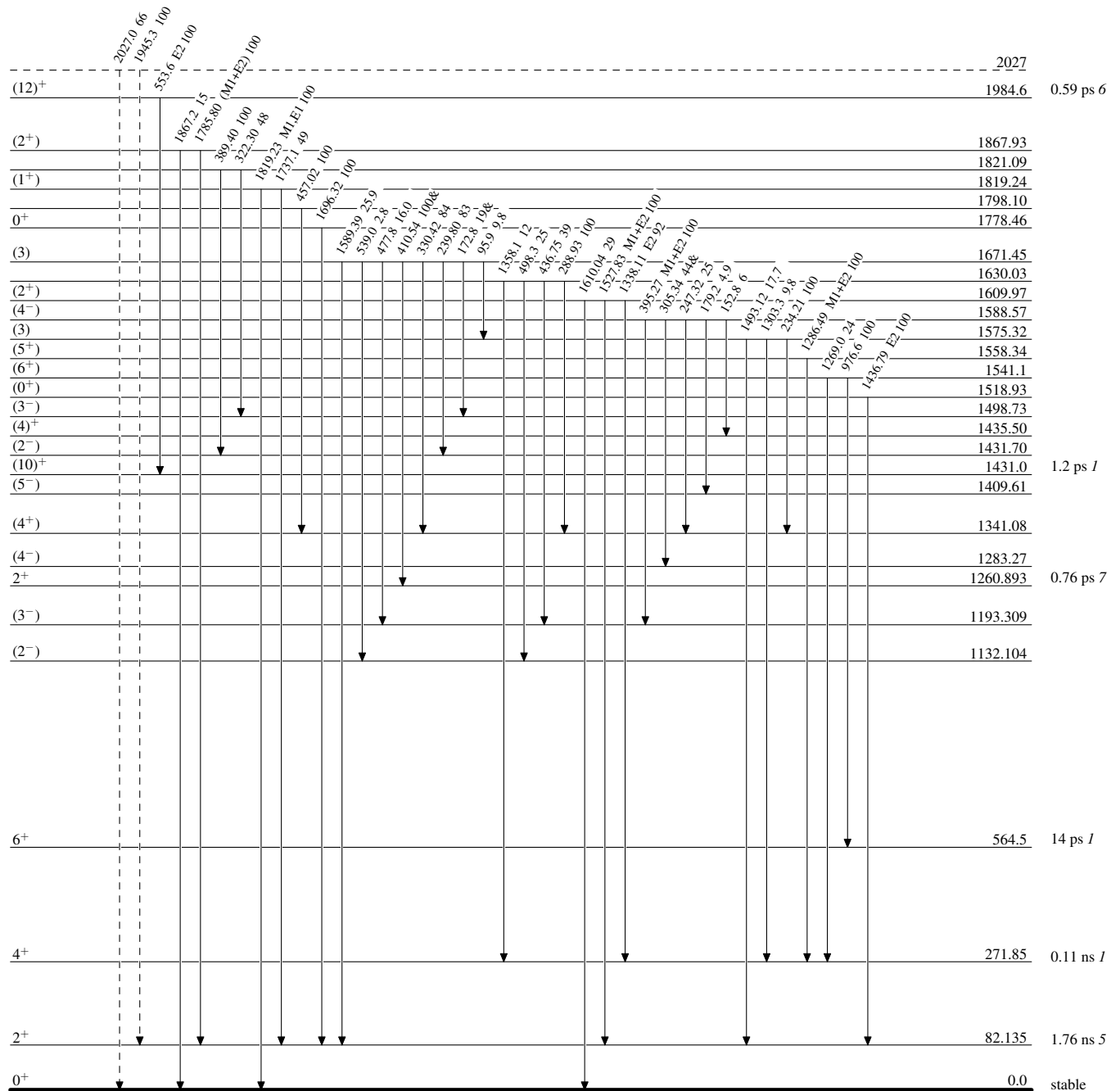
-----▶ γ Decay (Uncertain) $^{176}_{70}\text{Yb}_{106}$

Adopted Levels, Gammas

Legend

Level Scheme (continued)

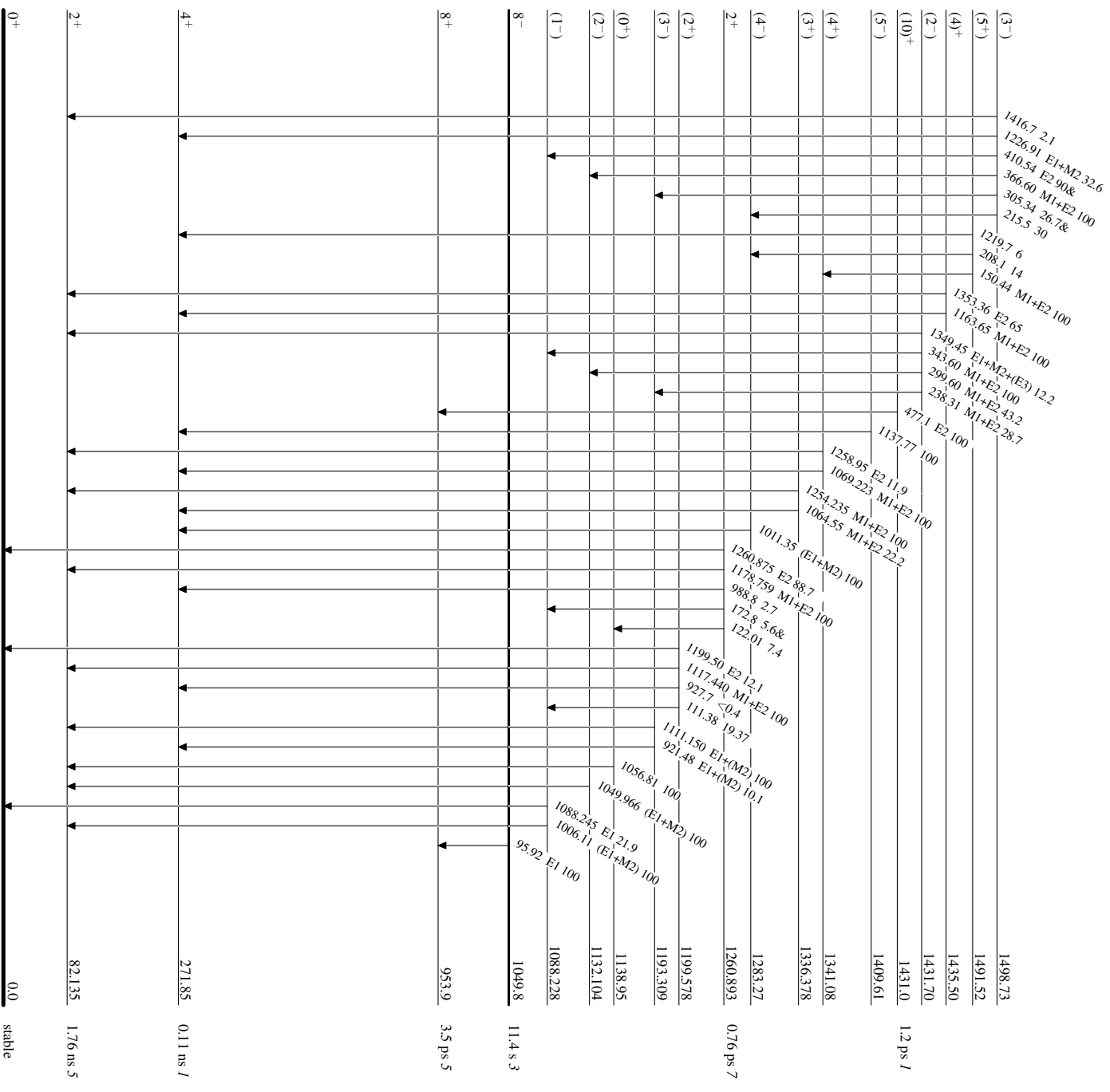
Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

-----▶ γ Decay (Uncertain) $^{176}_{70}\text{Yb}_{106}$

Adopted Levels, Gammas

Level Scheme (continued)

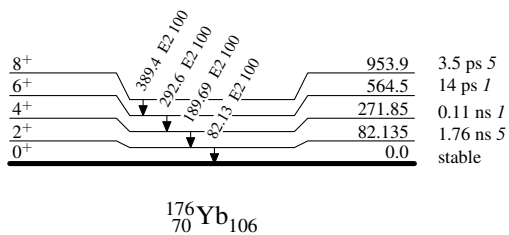
Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given



¹⁷⁶Yb₁₀₆

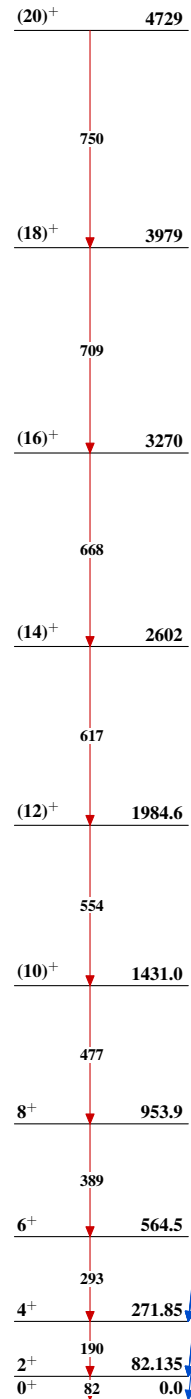
Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

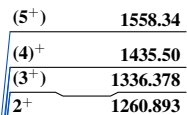


Adopted Levels, Gammas

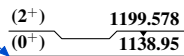
**Band(A): $K=0^+$ g.s.
rotational band
Rotational parameters:
 $A=13.7, B=-6.5$**



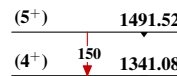
**Band(B): $K^\pi=2^+_{11}$
 γ -vibrational band**



**Band(C): $K^\pi=0^+_{22}$
band**



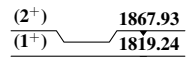
**Band(D): $K^\pi=4^+_{11}$,
configuration:
 $\pi 1/2[411]+\pi 7/2[404]$**

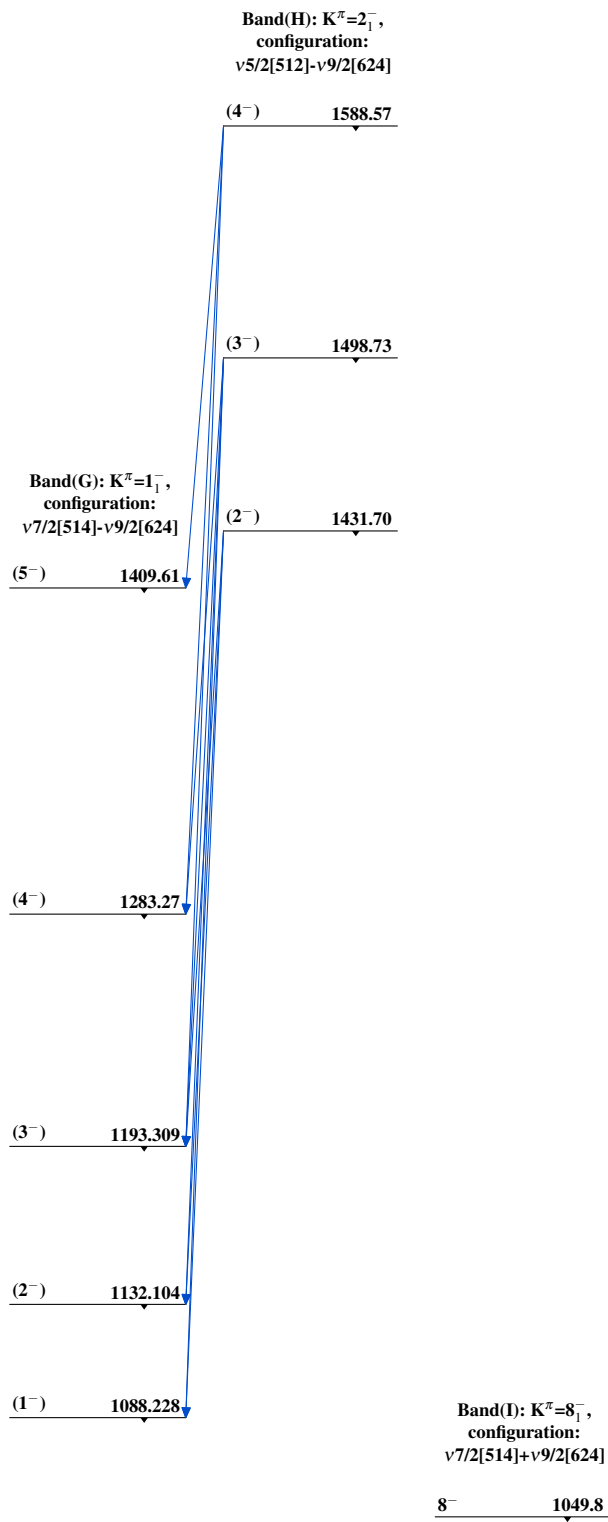


**Band(E): $K^\pi=0^+_{33}$
band**



**Band(F): $K^\pi=1^+_{11}$,
configuration:
 $\nu 7/2[633]-\nu 9/2[624]$**



Adopted Levels, Gammas (continued) $^{176}_{70}\text{Yb}_{106}$