

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	E. Achterberg, O. A. Capurro, G. V. Marti		NDS 110,1473 (2009)	31-May-2008

Q(β⁻)=646 11; S(n)=6780 10; S(p)=9.5×10³ syst; Q(α)=-2.×10² syst [2012Wa38](#)

Note: Current evaluation has used the following Q record 645 10 6780 10 9520 syst -170 syst [2003Au03](#).

ΔS(p)=300, ΔQ(α)=300 ([2003Au03](#)).

¹⁷⁸Yb Levels

Level energies derived from proton spectra in ¹⁷⁶Yb(t,p) reactions ([1983Bu03](#),[1982Zu02](#)), and γ-ray data from ¹⁷⁶Yb(⁴⁸Ca,Xγ) and ¹⁷⁶Yb(¹⁵⁴Sm,Xγ) deep inelastic reactions ([1997Le11](#),[1999As05](#)).

Cross Reference (XREF) Flags

- A ¹⁷⁶Yb(t,p)
- B ¹⁷⁶Yb(⁴⁸Ca,Xγ), ¹⁷⁶Yb(¹⁵⁴Sm,Xγ)

E(level)	J ^π †	T _{1/2}	XREF	Comments
0.0@	0 ⁺	74 min 3	AB	%β ⁻ =100 T _{1/2} : from 1973Or03 . J ^π : L=0 in (t,p).
84.0@ 3	2 ⁺		AB	J ^π : L=2 in (t,p).
278.0@ 7	4 ⁺		AB	J ^π : L=4 in (t,p).
578.1@ 12	(6 ⁺)		AB	
981.3@ 18	(8 ⁺)		B	
1221& 3	(2 ⁺)		A	J ^π : L=2 in (t,p).
1315 ^a 3	0 ⁺		A	J ^π : L=0 in (t,p).
1335 3			A	
1387 [‡] 3	(2 ⁺)		A	
1404 ^{‡a} 3	2 ⁺		A	J ^π : L=2 in (t,p).
1436 3			A	
1483.5@ 25	(10 ⁺)		B	
1559 ^a 4	(4 ⁺)		A	J ^π : L=4 in (t,p).
1705 5			A	
1813 5			A	
1869 5			A	
1969 4			A	
2080@ 4	(12 ⁺)		B	
≈2111			A	
2131 4	(4 ⁺ ,5 ⁻)#		A	
2351 5			A	
2371 5			A	
2390 5	(4 ⁺)		A	
2405 5			A	
2690 7	(4 ⁺)		A	
2770@ 4	(14 ⁺)		B	
2899 7	3 ⁻		A	J ^π : L=3 in (t,p).
2996 13	(4 ⁺)		A	
3037 10	1 ⁻		A	J ^π : L=1 in (t,p).

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued) ^{178}Yb Levels (continued)

† J^π assignments are based on experimental L-values from $^{175}\text{Yb}(t,p)$ and on band structure systematics of lighter even-Yb isotopes. L-values are given with individual levels.

‡ There is some ambiguity about the identity of the 2^+ member of the excited $K^\pi=0^+$ band. Both the 1387 and the 1404 keV levels have been proposed; see comment in the (t,p) reaction dataset.

The J^π assignment should be considered tentative; see comments in the (t,p) reaction dataset.

@ Band(A): $K^\pi=0^+$ g.s. rotational band.

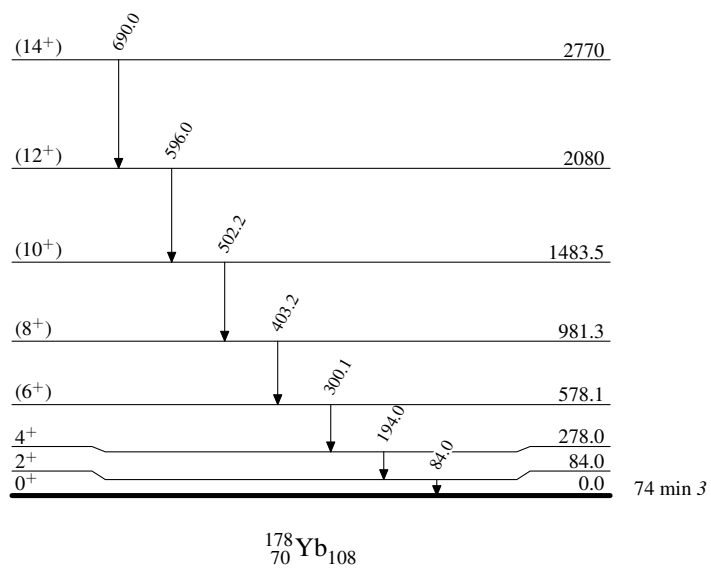
& Band(B): $K^\pi=2^+$ γ -vibrational band.

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

 $\gamma(^{178}\text{Yb})$

<u>$E_i(\text{level})$</u>	<u>J_i^π</u>	<u>E_γ^\dagger</u>	<u>E_f</u>	<u>J_f^π</u>
84.0	2^+	84.0 3	0.0	0^+
278.0	4^+	194.0 6	84.0	2^+
578.1	(6^+)	300.1 10	278.0	4^+
981.3	(8^+)	403.2 13	578.1	(6^+)
1483.5	(10^+)	502.2 17	981.3	(8^+)
2080	(12^+)	596.0 20	1483.5	(10^+)
2770	(14^+)	690.0 23	2080	(12^+)

† γ -ray data from (HI,X γ) deep inelastic reaction dataset.

Adopted Levels, GammasLevel Scheme

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