

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia		NDS 102,719 (2004)	1-Jun-2004

$Q(\beta^-)=2.39\times 10^3$ 5; $S(n)=6.52\times 10^3$ 7; $S(p)=7.7\times 10^3$ syst; $Q(\alpha)=-2.\times 10^2$ 6 [2012Wa38](#)

Note: Current evaluation has used the following Q record 2390 50 6520 70 7700 syst -200 600 [2003Au03](#).

$\Delta S(p)=300(\text{syst})$.

 ^{175}Tm LevelsCross Reference (XREF) Flags

A ^{175}Er β^- decay
B $^{176}\text{Yb}(\text{pol } t, \alpha)$

E(level) [†]	J ^π	T _{1/2}	XREF	Comments
0.0 @a	(1/2 ⁺)	15.2 min 5	AB	$\% \beta^- = 100$ J^π : The g.s. doublet comprised of J=1/2 and J=3/2 members of the 1/2[411] rotational band with an energy spacing between these levels that is typical for values of the decoupling parameter for this band in this mass region. g.s. 1/2 ⁺ assignment from systematics of $^{169,171}\text{Tm}$. T _{1/2} : from 1966Wi04 . Other value: 20 min <i>I</i> (1961Ku10).
2.6 @a 8	(3/2 ⁺)		AB	
123.7 &a 6	(5/2 ⁺)		AB	
130.8 &a 9	(7/2 ⁺)		AB	
357.9 a 8	(9/2 ⁺)		AB	
439 ‡b	(7/2 ⁻)		B	
532 ‡b	(9/2 ⁻)		B	
611 ‡c	(3/2 ⁺)		B	
639.3 b 10	(11/2 ⁻)		AB	
672 ‡c	(5/2 ⁺)		B	
756 ‡c	(7/2 ⁺)		B	
870 ‡c	(9/2 ⁺)		B	
941 ‡	(15/2 ⁻)		B	
1004 ‡			B	
1072 ‡			B	
1146 ‡	(7/2 ⁺ , 3/2 ⁺)		B	
1212 ‡	(7/2 ⁻ , 5/2 ⁺)		B	
1291.2 9			A	
1367.7 11	(7/2 ⁺)		AB	
1423 ‡d	(5/2 ⁺)		B	
1495 ‡	(7/2 ⁻ , 5/2 ⁺)		B	
1583 ‡			B	
1706 ‡e	(5/2 ⁺)		B	
1744 ‡			B	
1810 ‡e	(7/2 ⁺)		B	
1916 ‡f	(7/2 ⁻)		B	
1985 ‡	(5/2 ⁺)		B	Energy systematics of the 1/2[420] Nilsson orbital in Ho isotopes suggests a 5/2 ⁺ , 1/2[420] assignment.
2013 ‡			B	
2056 ‡			B	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued) ^{175}Tm Levels (continued)

<u>E(level)[†]</u>	<u>J^π#</u>	<u>XREF</u>
2095 ^{‡f}	(11/2 ⁻)	B
2216 [‡]		B
2310 [‡]		B

[†] Deduced by evaluator from a least-squares fit to adopted E γ , except as noted.

[‡] From $^{176}\text{Yb}(\text{pol t},\alpha)$.

J^π assignments are from rotational structure, energy systematics in neighboring nuclei, analyzing powers, and comparisons of experimental cross sections in $^{176}\text{Yb}(\text{pol t},\alpha)$ with DWBA calculations.

@ g.s. doublet in $^{176}\text{Yb}(\text{pol t},\alpha)$.

& Doublet at ≈ 126 keV in $^{176}\text{Yb}(\text{pol t},\alpha)$.

^a Band(A): 1/2(411) band.

^b Band(B): 7/2(523) band.

^c Band(C): 3/2(411) band.

^d Band(D): 5/2(402) band : tentative.

^e Band(E): 5/2(413) band.

^f Band(F): 5/2(532) band.

 $\gamma(^{175}\text{Tm})$

<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>α[‡]</u>	<u>Comments</u>
2.6	(3/2 ⁺)	2.6 8		0.0	(1/2 ⁺)			E _γ : Transition not observed; E _γ from level energy difference.
123.7	(5/2 ⁺)	120.9 6		2.6	(3/2 ⁺)	[M1]	1.84	
		123.7 6		0.0	(1/2 ⁺)	[E2]	1.41	
130.8	(7/2 ⁺)	128.5 6	100	2.6	(3/2 ⁺)	[E2]	1.22	
357.9	(9/2 ⁺)	227.3 6	≈ 32	130.8	(7/2 ⁺)	[M1]	0.314	
		234.0 6	100	123.7	(5/2 ⁺)	[E2]	0.157	
639.3	(11/2 ⁻)	281.4 6	100	357.9	(9/2 ⁺)	[E1]	0.022 6	
1291.2		1167.5 6	100	123.7	(5/2 ⁺)			
1367.7	(7/2 ⁺)	76.5 [#] 6	100	1291.2				

[†] From ^{175}Er β^- decay.

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

Placement of transition in the level scheme is uncertain.

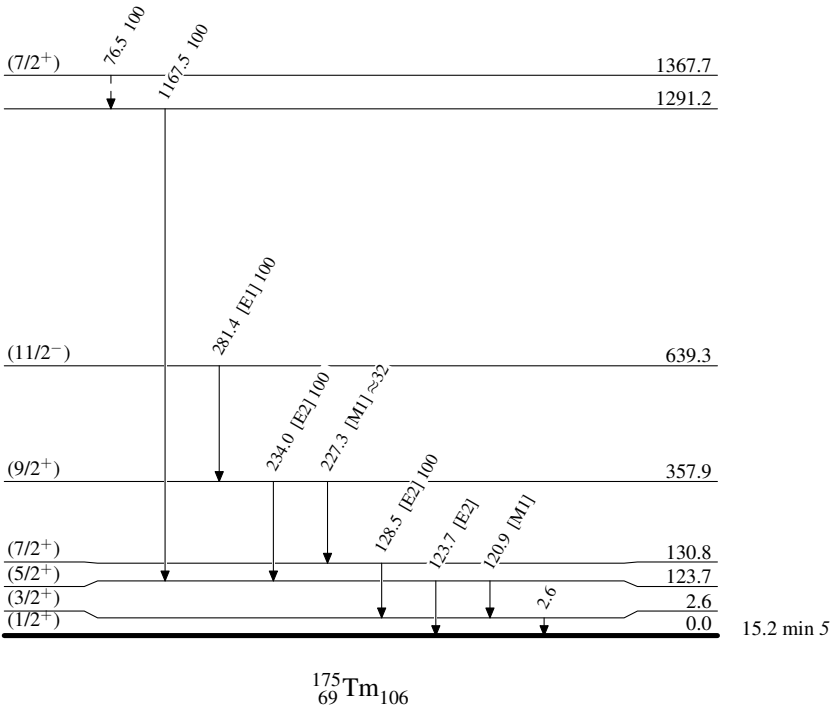
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Legend

Level Scheme

Intensities: Relative photon branching from each level

-----► γ Decay (Uncertain)



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