

$^{169}\text{Tm}(^{12}\text{C},5n\gamma)$  1989Sa02

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

E=82 MeV. Measured  $E_\gamma$ ,  $\gamma\gamma$  coin, E(ce). Detectors:Ge(Li), magnetic spectrometer. Deduced  $\gamma$ -ray multiplicities. Other: 1986Da13.

 $^{176}\text{Re}$  Levels

E(level)	$J^\pi$ <sup>†</sup>	Comments
0.0 <sup>‡</sup>	(3 <sup>+</sup> )	
0.0+x <sup>#</sup>		Additional information 1.
70.5+x <sup>#</sup>		
76.2 <sup>‡</sup>	(5 <sup>+</sup> )	
170.0+x <sup>#</sup>		
247.7 <sup>‡</sup>	(7 <sup>+</sup> )	$J^\pi$ : 171.6 $\gamma$ E2 to (5 <sup>+</sup> ) state.
292.6+x <sup>#</sup>		
453.7+x <sup>#</sup>		
515.5 <sup>‡</sup>	(9 <sup>+</sup> )	
651.1+x <sup>#</sup>		
874.2+x <sup>#</sup>		
874.9 <sup>‡</sup>	(11 <sup>+</sup> )	$J^\pi$ : 359.5 $\gamma$ E2 to (9 <sup>+</sup> ) state.
1316.0 <sup>‡</sup>	(13 <sup>+</sup> )	
1825.9? <sup>‡</sup>	(15 <sup>+</sup> )	

<sup>†</sup> From ce data and rotational band structure.

<sup>‡</sup> Band(A): configuration=(( $\pi$  (h9/2) 1/2[541]), ( $\nu$  (p3/2) 1/2[521])).

<sup>#</sup> Band(B): Rotational band.

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

$E_\gamma$	$I_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult.	Comments
70.5	100 19	70.5+x		0.0+x		[M1]	
99.5	46 22	170.0+x		70.5+x		[M1]	
122.6	35 6	292.6+x		170.0+x		[M1]	
<sup>x</sup> 148.8	16 2						
<sup>x</sup> 158.9	20 2						
161.1	49 3	453.7+x		292.6+x		M1	$\alpha(\text{L})\text{exp}=0.08$ 3(1989Sa02)
171.6	84 5	247.7	(7 <sup>+</sup> )	76.2	(5 <sup>+</sup> )	E2	$\alpha(\text{L})\text{exp}=0.23$ 7(1989Sa02)
197.4	93 3	651.1+x		453.7+x		[M1]	$I_\gamma$ : contaminated with $^{19}\text{F}$ .
223.2	24 3	874.2+x		651.1+x		[M1]	
268.0	66 5	515.5	(9 <sup>+</sup> )	247.7	(7 <sup>+</sup> )	[E2]	
359.5	46 5	874.9	(11 <sup>+</sup> )	515.5	(9 <sup>+</sup> )	E2	$\alpha(\text{L})\text{exp}=0.05$ 2(1989Sa02)
441.0	33 3	1316.0	(13 <sup>+</sup> )	874.9	(11 <sup>+</sup> )	[E2]	
510.0 <sup>†</sup>	29 5	1825.9?	(15 <sup>+</sup> )	1316.0	(13 <sup>+</sup> )	[E2]	

<sup>†</sup> Placement of transition in the level scheme is uncertain.





<sup>x</sup>  $\gamma$  ray not placed in level scheme.

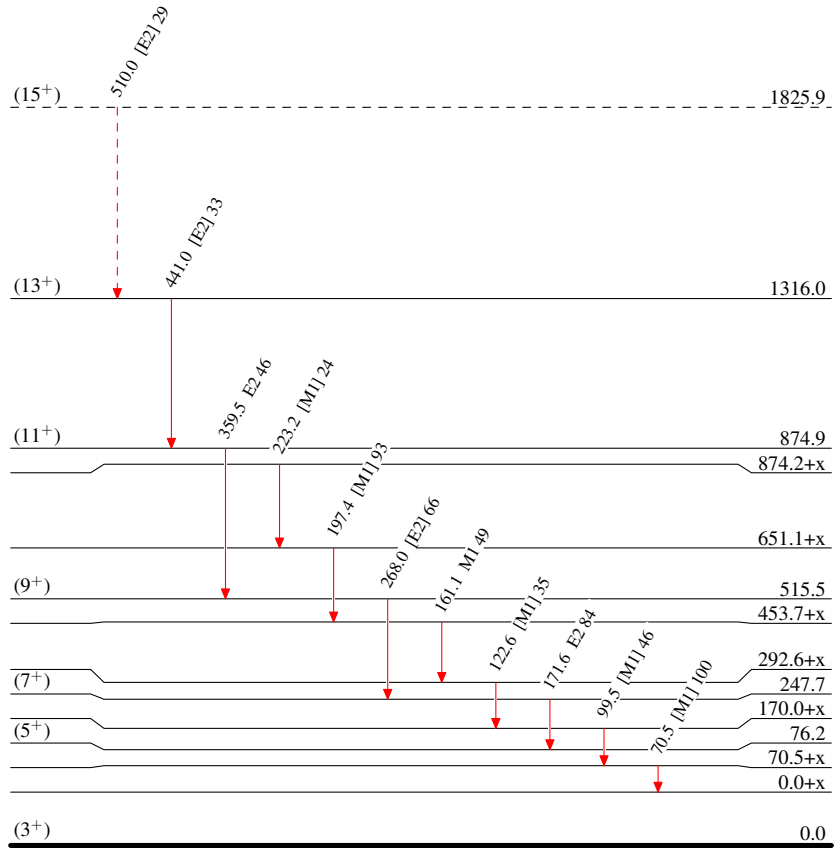
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Legend

## Level Scheme

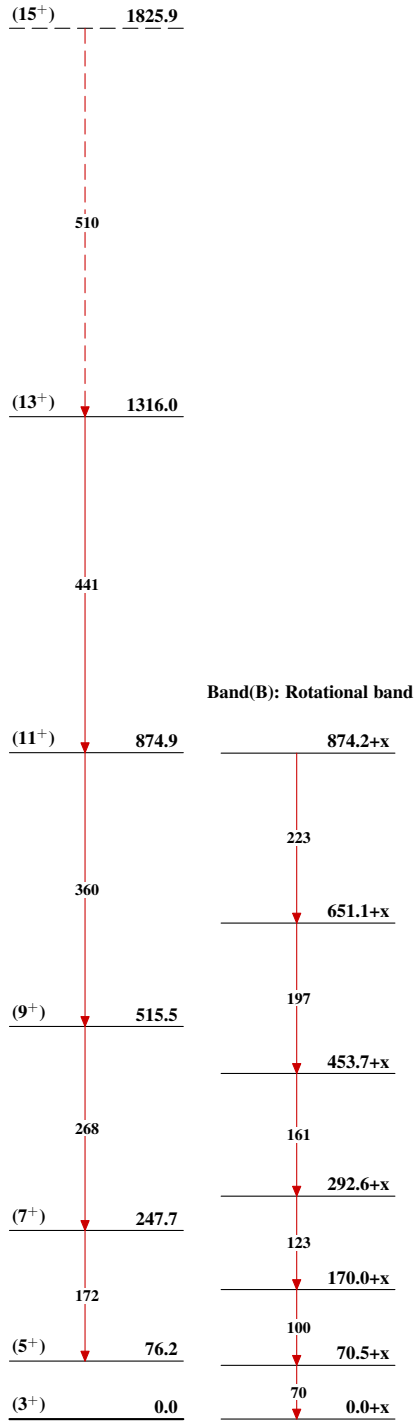
Intensities: Relative  $I_\gamma$ 

-   $I_\gamma < 2\% \times I_\gamma^{max}$
-   $I_\gamma < 10\% \times I_\gamma^{max}$
-   $I_\gamma > 10\% \times I_\gamma^{max}$
-   $\gamma$  Decay (Uncertain)

 $^{176}_{75}\text{Re}_{101}$

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Band(A): Configuration= $(\pi$   
 $(h9/2) 1/2[541], (\nu$   
 $(p3/2) 1/2[521])$

 $^{176}_{75}\text{Re}_{101}$