

$^{181}\text{Ta}(\text{p,t})$ **1982Wa10**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 110, 265 (2009)	15-Nov-2008

$J^\pi(\text{target})=7/2^+$.

Target: natural tantalum. Projectile: protons, $E(\text{p})=19$ MeV. Measured triton spectra at $\theta(\text{lab})=10^\circ$ to 60° in increments of 5° .

Detector: magnetic spectrograph + 6 position sensitive detectors, FWHM=10-14 keV.

 ^{179}Ta Levels

$E(\text{level})^\dagger$	$J^\pi^\#$	$L^\ddagger$	$E(\text{level})^\dagger$	$J^\pi^\#$	$L^\ddagger$	$E(\text{level})^\dagger$	$J^\pi^\#$	$L^\ddagger$	$E(\text{level})^\dagger$	$J^\pi^\#$	$L^\ddagger$
0.0 ^a	7/2 ⁺ @	0	1033			1527	7/2 ⁺ @	0	1813		
133 ^a	9/2 ⁺	(2)&	1105			1561			1857		(2)
296 ^a	11/2 ⁺	(4)&	1129			1576			1878		(2)
487 ^a	13/2 ⁺		1175 ^a	(19/2 ⁺)		1610			1905		(2)
696 ^a	15/2 ⁺		1206			1635			1958	7/2 ⁺ @	0
757			1298	7/2 ⁺ @	0	1705			2093		(2)
819			1351		(2)	1739	7/2 ⁺ @	0	2123		
875			1423		(2)	1760?			2212		(2)
928 ^a	(17/2 ⁺)		1453			1778		(2)			
1017			1475	7/2 ⁺ @	0	1793?					

[†] $\Delta E \leq 5$ keV for energies ≤ 1 MeV. $\Delta E \leq 10$ keV for energies > 1 MeV.

[‡] From comparisons of measured angular distributions with DWBA calculations.

[#] Based on L-transfers. g.s. rotational band assignment is based on rotational structure and also on a comparison of the present cross sections with those from $^{180}\text{Hf}(\text{p,t})^{178}\text{Hf}$ for the same band.

@ $K^\pi=7/2^+$, from angular momentum conservation for $L=0$ transfers on $^{181}\text{Ta}(J^\pi=K^\pi=7/2^+)$ targets.

& Poor agreement between $\sigma(\theta)$ and DWBA.

^a Band(A): 7/2[404] g.s. band.

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**Band(A): 7/2[404] g.s.
band**

(19/2⁺) 1175

(17/2⁺) 928

15/2⁺ 696

13/2⁺ 487

11/2⁺ 296

9/2⁺ 133

7/2⁺ 0.0

$^{179}_{73}\text{Ta}_{106}$