

¹⁸⁰W(d,t) 1972Ca01

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

ED=12.08 MeV. Target: 65% enriched ¹⁸⁰W. Projectile: deuterons. Measured triton spectra at $\theta=60^\circ, 90^\circ, \text{ and } 125^\circ$. Detector: magnetic spectrograph, FWHM=7-8 keV. Other: [1973K107](#).

¹⁷⁹W Levels

E(level) [‡]	J ^π [†]	dσ/dΩ(90°) [#]	Comments
0.0 ^a	7/2 ⁻	≈3	
222 ^b	1/2 ⁻	183	
305 ^b	3/2 ⁻	41	
318 ^b	5/2 ⁻	44	
≈390		≈5	
430 ^d	5/2 ⁻	9	
468 ^e 3	13/2 ⁺ &	28	
508 ^b	7/2 ⁻	56	
532 ^{@d}	7/2 ⁻	115	dσ/dΩ is for 532+533 doublet.
533 ^{@b}	9/2 ⁻		see comment on dσ/dΩ for 532 level.
≈560		≈4	
689 ^c	3/2 ⁻	11	
722		6	
748		11	
788 ^c	5/2 ⁻	13	
≈816 ^b	11/2 ⁻	≈4	
≈914		≈18	
958 6		32	
1031		7	
≈1073		28	
≈1295		8	

[†] Authors' J^π and Nilsson orbital assignments are based on energy systematics of single particle states in neighboring tungsten nuclei, and on the comparison of experimental cross sections at three angles with values calculated using DWBA and the Nilsson model.

[‡] ΔE=6 keV per MeV excitation for well-resolved peaks for which dσ/dΩ(90°)≥20 μb/sr. Energies for 222, 305, 318, 430, 508, 532, 533 levels are taken by [1972Ca01](#) from conversion electron measurements of [1968Ha39](#).

[#] dσ/dΩ for (d,t) At 90° In μb/sr ([1972Ca01](#)). For well-resolved lines, the uncertainty In relative cross sections is ±10%; absolute uncertainties are ±20% for dσ/dΩ>20 μb/sr, up to ±50% otherwise.

[@] [1972Ca01](#) indicate the presence of both the 532 and the 533 levels but could not have resolved them.

& Suggested by σ(θ).

^a Band(A): 7/2[514] g.s. band.

^b Band(B): 1/2[521] band. Cross section fingerprint matches that calculated for 1/2[521] band ([1972Ca01](#)).

^c Band(C): 1/2[510] band. Tentative assignment ([1972Ca01](#)).

^d Band(D): 5/2[512] band.

^e Band(E): 9/2[624] Coriolis-mixed band.

$^{180}\text{W}(\text{d,t})$ **1972Ca01****Band(B): 1/2[521] band**11/2⁻ ≈816**Band(C): 1/2[510] band**5/2⁻ 7883/2⁻ 689**Band(D): 5/2[512] band**9/2⁻ 5337/2⁻ 5327/2⁻ 508**Band(E): 9/2[624]
Coriolis-mixed band**13/2⁺ 4685/2⁻ 4305/2⁻ 3183/2⁻ 305**Band(A): 7/2[514] g.s.
band**1/2⁻ 2227/2⁻ 0.0