^{186}W(d,t),^{184}W(d,p) 1972Ca01

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	S. -c. Wu	NDS 106, 619 (2005)	1-Nov-2005

E=12.08 MeV.
Q(d,p)=3533 *10*, Q(d,t)=−939 *10*.
Target: >95% enriched ^{184}W and ^{186}W. Measured scattered protons and tritons at θ=60°, 90°, and 125°. Detector: magnetic spectrograph, FWHM(p)=10-12 keV, FWHM(t)=7-8 keV at θ=125°.

^{185}W Levels

E(level)[†‡]	Jπ[@]	L[#]	E(level)[†‡]	Jπ[@]	L[#]
0.0[&]	3/2−		1222		1
24[a]	1/2−		≈1279[l]		(3)
66[&]	5/2−	3	1290		1
94[a]	3/2−	1	1317[k]		
174[&]	7/2−		1317[l]		3
188[a]	5/2−	3	1335[gk]	(7/2−)	
244[c]	7/2−	3	1343[l]		3
302[&]	9/2−	≥5	1346[k]		
334[a]	7/2−	3	1361[gk]	(9/2−)	
384[bn]	13/2+		1382[k]		1,3
391[ck]	9/2−		≈1402[k]		≥5,3
≈478[&k]	(11/2−)		≈1410[k]		
≈492[ak]	(9/2−)		1428		1
≈570[c]	(11/2−)	≥5	1445[l]		(3)
666		1	1448[k]		3,1
706[a]	(11/2−)	≥5,3	1501[l]		1,3
716[d]	(9/2+)	3,≥5	1503[k]		3,1
733		1,(3)	1542		1
≈789[e]	(9/2−)	≥5,3	1561[jk]	13/2+	
≈801			1561[l]		(3)
833		(1)	1603[l]		
888[f]	5/2−	3	1623[l]		3,≥5
904			1627[k]		
921[k]		3	1646[k]		
986[f]	7/2−	3	1663[l]		1,3
1008[gk]	1/2−		1666[jk]	(9/2+)	1,3
1013[hm]	(1/2−)		1677[l]		3
1020[dk]	13/2+		≈1683[k]		
1040[h]	(3/2−)	1	1699[l]		
1058[i]	7/2−	3	1701[k]		3
1073[hk]	(5/2−)	3,1	1722[l]		1
1106[gk]	(3/2−)	1,3	1728[k]		1,3
1107[l]		1,3	1745[l]		1
≈1118[k]	(5/2−)& (9/2−)	3	1800[l]		1
1120		3,1	≈1830[l]		1
1149[l]		1	1845[l]		
1154[hk]	(7/2−)	3,1	1846[jk]	13/2+	
1185		1	1860[k]		
≈1219[ik]	(9/2−)	(≥5)	1874[k]		

Continued on next page (footnotes at end of table)

^{186}W(d,t),^{184}W(d,p) 1972Ca01 (continued)

^{185}W Levels (continued)

E(level)[†‡]	L[#]	E(level)[†‡]	L[#]	E(level)[†‡]	L[#]
1886[l]	1	1937[k]	3	1986[k]	1
1904[l]		1952[k]	3,1	2031[l]	1
1915[k]		1959[l]		≈2038[k]	

† Observed in (d,p) and (d,t), unless otherwise specified.
‡ Uncertainties are 6 keV per MeV of excitation energy for well resolved peaks. Energies for the 24-, 66-, 94-, 174-, 188-, 244-, 391- 1058-keV levels are from γ-ray measurements.
# From (d,p)/(d,t) cross-section ratios at θ=60°, 90°, and 125°. Uncertainty on L is 1.
@ Spin/parity and Nilsson orbital assignments are based on measured L-value transfers and σ(d,p)/σ(d,t) cross-section ratios, on the comparison of experimental cross-sections with values calculated using the DWBA approximation and Nilsson′s model, and on the energy systematics of Nilsson orbitals in odd-A tungsten nuclei. See Adopted Levels for adopted J^{π}′s.
& 3/2[512] rotational band.
a 1/2[510] rotational band.
b Member of 11/2[615] rotational band.
c 7/2[503] rotational band.
d 9/2[624] rotational band.
e Member of (9/2[505]) rotational band.
f 5/2[512] rotational band.
g 1/2[521] rotational band.
h K=1/2, (3/2[512],γ) γ-vibrational band.
i 7/2[514] rotational band.
j N=6 ($i_{13/2}$) Coriolis-mixed state.
k Observed only in (d,t).
l Observed only in (d,p).
m L=1 for 1008+1013 levels.
n Probable doublet: $5/2^-$,1/2[521] and $9/2^-$,5/2[512].