^{179}Hf(α,t),(^{3}He,d) 1983Wa01

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. A. Mccutchan	NDS 126, 151 (2015)	1-Feb-2015

$J^\pi(^{179}Hf)=7/2^+$.

E(α)=62.2 MeV. Measured $\sigma(\theta)$ at θ=10° and 15° using magnetic spectrometer and 50 cm long multiwire proportional counter (FWHM≤25 keV). E(d)=36 MeV. Measured $\sigma(\theta)$ at θ=15° and 35° using magnetic spectrometer and position sensitive telescope with three resistive wire proportional counters (FWHM=20-40 keV).

Additional information 1.

^{180}Ta Levels

E(level)[†]	J$^\pi$[‡]	L[#]	Comments
0.0[@]	(1$^+$)		
40[@]	(2$^+$)		
82[&]	(9$^-$)		
134			Complex peak. Possible components: $J^\pi=3^+$, configuration=((π7/2[404])-(ν9/2[624])); and $J^\pi=1^-$, configuration=((π9/2[514])-(ν9/2[624])).
181		4	Complex peak. Possible components: $J^\pi=8^+$, configuration=((π7/2[404])+(ν9/2[624])); $J^\pi=2^-$, configuration=((π9/2[514])-(ν9/2[624])); and $J^\pi=4^+$, configuration=((π7/2[404])-(ν9/2[624])).
235[a]	(3$^-$)		
285[&]	(10$^-$)		Complex peak at 296 keV (L=2) in (^{3}He,d).
320[a]	(4$^-$)		Complex peak. Possible contamination from 482-keV level in ^{181}Ta.
361[b]	(7$^+$)	2	
426[a]	(5$^-$)		Complex peak. Possible contamination from 615- and 619-keV levels in ^{181}Ta.
563		2	Complex peak. Possible components: $J^\pi=2^+$, configuration=((π5/2[402])-(ν9/2[624])); $J^\pi=6^-$, configuration=((π9/2[514])-(ν9/2[624])); and $J^\pi=8^+$, configuration=((π5/2[402])+(ν9/2[624])).

[†] From (α,t).

[‡] Authors made spin, parity, and configuration assignments on the bases of a comparison between experimental and theoretical cross sections for each reaction separately, on the comparison between $\sigma(\alpha,t)/\sigma(^3He,d)$ experimental and theoretical ratios, and on rotational structure with Coriolis coupling included.

[#] From comparison of measured angular distributions in (^{3}He,d) with DWBA calculations.

[@] $K^\pi=(1^+)$ rotational band probable configuration=((π7/2$^+$[404])-(ν9/2$^+$[624])).

[&] $K^\pi=(9^-)$ rotational band probable configuration=((π9/2$^-$[514])+(ν9/2$^+$[624])).

[a] $K^\pi=(0^-)$ rotational band probable configuration=((π9/2$^-$[514])-(ν9/2$^+$[624])).

[b] $K^\pi=(7^+)$ rotational band probable configuration=((π5/2$^+$[402])+(ν9/2$^+$[624])).