^{180}Hf(^{3}He,α)   1981Th05

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

E=32 MeV. Target:>97.5% enriched ^{180}Hf. Measured $\sigma(\theta)$ at eleven angles from θ(lab)=7.5° to θ=50°. Detector: magnetic spectrograph + nuclear emulsions; FWHM≈30 keV.

^{179}Hf Levels

Band(α,X) 9/2[624] band.

E(level)	$J^{\pi\dagger}$	L‡	E(level)	$J^{\pi\dagger}$	L‡	E(level)	$J^{\pi\dagger}$	L‡	E(level)	$J^{\pi\dagger}$	L‡
0.0	9/2$^+$	4$^{\#}$	619$^{\&}$ 5	(7/2$^-$)	(3)	1161^c 5	(9/2$^+$)	(4)	1672 5	(13/2$^+$)	(6)
123 5	11/2$^+$	6$^{\#}$	≈630	(17/2$^+$)	(8)	1191 5	(9/2$^+$)	(4)	1748 5	13/2$^+$	6
269 5	13/2$^+$	6	697^a 5	5/2$^-$	3	1275^c 5	(11/2$^+$)	(6)	1829 5		
335$^{@}$ 5	9/2$^-$	5	787^b 5	(5/2$^-$)	(3)	1358^c 5	13/2$^+$	6	1905 5		(3)
439 5	(15/2$^+$)	(8)	851^a 5	(7/2$^-$)	(3)	1437 5	13/2$^+$	6	2011 5	(13/2$^+$)	6
484 5		(3)	908^b 5	(7/2$^-$)	(3)	1573 5	(9/2$^+$)	(4)	2655 5	(13/2$^+$)	6

† Spins are assigned by 1981Th05 on the basis of L transfer, rotational structure, and agreement between experimental and calculated cross sections (Nilsson model with Coriolis mixing included).

‡ Based on comparison of experimental $\sigma(\theta)$ with theoretical DWBA or CCBA calculations. Authors′ assignments from figs. 2 and 10 are shown as tentative, unless there is good agreement between experiment and theory.

$^{\#}$ Angular distribution requires CCBA calculation.

$^{@}$ Band(A): 7/2[514] band.

$^{\&}$ Band(B): 5/2[512] band.

^{a} Band(C): 1/2[521] band.

^{b} Band(D): 3/2[512] band.

^{c} Band(E): 7/2[633] band.

^{180}**Hf(^{3}He,α)**   **1981Th05**

Band(E): 7/2[633] band

13/2$^+$ **1358**

(11/2$^+$)   **1275**

(9/2$^+$)   **1161**

Band(D): 3/2[512] band

(7/2$^-$)   **908**

Band(C): 1/2[521] band

(7/2$^-$)   **851**

(5/2$^-$)   **787**

5/2$^-$ **697**

Band(B): 5/2[512] band

(7/2$^-$)   **619**

Band(A): 7/2[514] band

9/2$^-$ **335**

$^{179}_{72}$Hf$_{107}$