

$^{177}\text{Hf}(\text{t,p})$ 2005Bu07

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

Target $J^\pi=7/2^-$.

E=17 MeV; 86.49% ^{177}Hf metallic target, $\approx 170 \mu\text{gm}/\text{cm}^2$ thick; Enge split-pole spectrograph with photographic plates, FWHM $\approx 12 \text{ keV}$; measured proton spectra At 11 angles ($\theta=6^\circ$ to 67.5°).

 ^{179}Hf Levels

E(level)	L [†]	$d\sigma/d\Omega$, $\mu\text{b}/\text{sr}$ [#]	Comments
214.3 ^{‡@}	0	133 4	E(level): energy scale adjusted by 2005Bu07 to give rounded value from Adopted Levels for this state.
336 [@]	2	(2) 9 I	L: tentative value from fig. 3.
376 ^{&}	3	≤ 2	
420 ^{&}	2	≤ 2	
487 [@]	1	(2) 8 I	L: tentative value from fig. 3.
662 [@]	2	4 I	
682 ^{&}	2	3 I	
790 ^a	2	≤ 1	
860 [@]	4	≤ 2	
939 ^a	3	≤ 2	
1030 ^a	2	≤ 1	
1074 2	0	14 I	
1164 2		≤ 1	
1185 2		1.4 5	
1313 2			E(level),L: observed peak includes L=0 g.s. group arising from ^{180}Hf impurity. Deviation of $\sigma(\theta)$ from L=0 shape implies $L \neq 0$ for this level.
1375 2	0	26 2	
1405 ^b	2	4 I	
1434 2	0	16 2	
1498 2	0	31 2	
1529 3	0	9 2	
1558 [‡]	3	≤ 10	
1588 [‡]	3	≤ 2	
1604 [‡]	3	4 I	
1641 [‡]	3	6 I	
1656 [‡]	3	≤ 2	
1689 [‡]	3	2 11 I	probable configuration $K^\pi=11/2^-$ ($7/2[514]+2^+$) γ vibration bandhead.
1761 3		4 I	
1816 4		3 I	

[†] From comparison of measured $\sigma(\theta)$ with DWBA calculations.

[‡] From $\theta=25^\circ$ spectrum; peak obscured In 30° spectrum.

[#] $d\sigma/d\Omega(30^\circ)$ In $\mu\text{b}/\text{sr}$, except As noted.

[@] Band(A): (ν $7/2[514]$) band.

[&] Band(B): (ν $1/2[510]$) band.

^a Band(C): (ν $3/2[512]$) band.

^b Band(D): $K^\pi=3/2^-$ [$7/2[514]-2^+$] γ -vibrational band.

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Band(D): $K^\pi=3/2^-$
 $[7/2[514]-2^+]$
 γ -vibrational band

Band(C): $(\nu\ 3/2[512])$ band 1405

1030

939

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

860

790

Band(B): $(\nu\ 1/2[510])$ band

682

662

487

420

376

336

214.3