

$^{177}\text{Hf}(\text{d,t})$ 1972Za04

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 107, 791 (2006)	15-Sep-2005

Target: 92% enriched ^{177}Hf . Projectile: deuterons, E=14 MeV. Measured scattered deuterons at $\theta=35^\circ$ and 85° . Target: enriched ^{177}Hf . Projectile: deuterons, E=12 MeV. Measured scattered deuterons at $\theta=55^\circ$ and 75° . Detector: magnetic spectrograph.

 ^{176}Hf Levels

E(level) [†]	J π [‡]	Comments
0.0 [#]	0 ⁺	
87 [#] 2	2 ⁺	
289 [#] 3	4 ⁺	
596 [#] 2	6 ⁺	
1243 2		
1331 [@] 3	6 ⁺	
1506 ^{@d}	7 ⁺	
1578 ^{&} 2	3 ⁺	
1676 ^{&} 2	4 ⁺	
1704 3		
1724 4		
1759 4		
1795 ^{&} 5	5 ⁺	
1828 3		
1854 ^b 3	(5 ⁺)	
1886 ^a 3	4 ⁺	
1922 2		
1938 ^{&} 3	(6 ⁺)	
1956 4		
1984 ^c 3	(6 ⁺)	
2018 ^b 6	(6 ⁺)	
2038 2		
2060 ^a 3	5 ⁺	
2078 2		
2105 4		
2142 6		
2175 ^c 5	(7 ⁺)	
2217 ^b	(7 ⁺)	Very weak peak. $\Delta E=0.5$ keV given by authors is probably a misprint.
2274 ^a 4	(6 ⁺)	

[†] Renormalized by evaluator to 1506 keV for the J $\pi=7^+$ member of the K $\pi=6^+$ rotational band. Reference energy given by authors was 1508 keV. $\Delta E=1.5$ keV for the g.s. has been added in quadrature to the uncertainty of each level.

[‡] Spin and neutron configuration assignments are based on rotational structure, and on a comparison between experimental and theoretical (DWBA plus Nilsson model) cross sections at $\theta=35^\circ$. Theoretical values for the rotational bands with bandheads at 1578 keV (K $\pi=3^+$) and 1886 keV (K $\pi=4^+$) includes the effect of the Coriolis mixing of these bands.

[#] K $\pi=0^+$ g.s. rotational band.

[@] K $\pi=6^+$ band, configuration= ν 7/2[514], ν 5/2[512].

[&] K $\pi=3^+$ band, configuration= ν 7/2[514], ν 1/2[521].

^a K $\pi=4^+$ band, configuration= ν 7/2[514], ν 1/2[521].

^b K $\pi=(5^+)$ band, configuration= ν 7/2(54), ν 3/2[521].

^c K $\pi=(6^+)$ band, configuration= ν 7/2[514], ν 5/2[523].

^d Reference energy.