
 $^{178}\text{Hf}(\text{pol p,p'})$ E=65 MeV **1986Og02**

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	E. Achterberg, O. A. Capurro, G. V. Marti		NDS 110, 1473 (2009)	31-May-2008

Target: 91.94% enriched ^{178}Hf . Projectile: p, E=65 MeV. Detector: magnetic spectrograph. Measured scattered protons from $\theta=11^\circ$ to $\theta\approx 75^\circ$ in 1° steps at the forward angles, and in 2° steps at the backward angles; FWHM=17-20 keV. Determined multipole moments Q(L=2,4).

 ^{178}Hf Levels

The quoted deformation parameters were obtained by fitting experimental scattering cross sections with coupled channel calculations of the deformed optical potential and searching all the deformation parameters independently.

E(level)	J^π †	Comments
0.0‡	0 ⁺	
93‡	2 ⁺	$\beta_2=0.2529$.
307‡	4 ⁺	$\beta_4=-0.0401$.
632‡	6 ⁺	$\beta_6=-0.0160$.

† From Adopted Levels.

‡ Band(A): $K^\pi=0^+$ g.s. rotational band.

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**Band(A): $K^\pi=0^+$ g.s.
rotational band**

6^+	632
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4^+	307
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2^+	93
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0^+	0.0
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$^{178}_{72}\text{Hf}_{106}$