

Abstract Submitted
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Calculation of Electron Affinity and Partial Cross Sections of Hf^{-1} LIN PAN, DONALD BECK, Michigan Technological University — We have calculated for the first time the electron affinity (EA) of Hf^{-} , using the relativistic configuration interaction method. Our calculations show Hf^{-} has only one bound state $5d^26s^26p$ $J=5/2$, which is a 6p attachment to the ground state of Hf I. By combining our valence stage result with the separate estimate for the modest core-valence contribution, the EA of Hf^{-} is about 0.114 eV. So far there have been only two experimental results [1,2] for the EA of Hf^{-} , but both gave only the limits. Our result falls within both of the limits. We also calculate the partial cross sections for photodetachment to the lower lying neutral thresholds. [1] M-J. Nadeau *et al*, Nucl. Instr. and Meth. B **123**, 521 (1997) [2] Vernon T. Davis *et al*, Nucl. Instr. and Meth. B **241**, 118 (2005)

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