

Abstract Submitted  
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**Infra-red Photodetachment of Lanthanide Anions** K.C. CHARTKUNCHAND, V.T. DAVIS, University of Nevada, Reno, S.S. DUVVURI, University of Florida, Z.A. MCCORMICK, J.S. THOMPSON, P.P. WIEWIOR, AARON COVINGTON, University of Nevada, Reno — Lanthanide anions, including  $\text{Lu}^-$  and  $\text{Tb}^-$ , have been investigated at 1030 nm using a crossed laser-ion beams Laser Photodetachment Electron Spectroscopy apparatus. In the case of  $\text{Lu}^-$ , the measured spectral variation of the asymmetry parameter is shown to be consistent with  $p$ -subshell photodetachment using the simplified model of Hanstrop *et.al* [Phys. Rev. A 40, 670 (1989)]. The experimental results are shown to be in good agreement with the bound states predicted by Eliav *et.al* [Phys. Rev. A 52, 291 (1995)] and are in excellent agreement with the more recent calculations O'Malley and Beck [Private Communication 2008]. Results of recent photodetachment experiments on  $\text{Tb}^-$  are also presented. which extend previous measurements to lower photon energies.

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