Abstract Submitted
for the OSF10 Meeting of
The American Physical Society

Tunable Infrared Laser Photodetachment Spectroscopy of La^{-}[1] R.M. ALTON, Y.-G. LI, D.J. MATYAS, S.E. LOU, C.W. WALTER, N.D. GIBSON, Denison University — The negative ion of lanthanum has been investigated using tunable infrared laser photodetachment spectroscopy. The relative cross section for neutral atom production was measured with a crossed laser beam-ion beam apparatus over selected photon energy ranges between 0.3 – 0.5 eV. The photodetachment spectrum reveals several sharp peaks due to negative ion resonances. The energies and widths of the resonances were determined by fitting with Fano profiles. The results are compared with theoretical calculations on excited states of La^{-} [1].

[1] S.M. O'Malley and D.R. Beck, *Phys. Rev. A* **81**, 032503 (2010).

[1]This material is based on work supported by the National Science Foundation under Grant No. 0757976.

Nevin Gibson
Denison University

Date submitted: 13 Sep 2010 Electronic form version 1.4