Abstract Submitted
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Observations of Bound and Resonance States of Ce^{-1} C.W. WALTER, Y.-G. LI, D.J. MATYAS, R.M. ALTON, S.E. LOU, R.L. FIELD III, N.D. GIBSON, Denison University, Granville, OH, D. HANSTORP, University of Gothenburg, Sweden — The negative ion of cerium has been investigated with tunable infrared laser photodetachment spectroscopy. The relative cross section for neutral atom production was measured with a crossed laser-ion beam apparatus over selected photon energy ranges between 0.56 – 0.7 eV. The spectrum reveals several sharp peaks due to negative ion resonances and possible bound-bound transitions in Ce^-. The newly observed transitions, together with our previous measurements [1], provide insight into the rich near-threshold spectrum of this lanthanide negative ion.

[1] C.W. Walter, N.D. Gibson, C. M. Janczak, K.A. Starr, A.P. Snedden, R.L. Field III, and P. Andersson, *Physical Review A* **76**, 052702 (2007).

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