Abstract Submitted
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Inner-shell photodetachment from Se^{-1} N.D. GIBSON, C.W. WALTER, R.L. FIELD III, D.J. CARMAN, J.Z. SHAPIRO, Denison University, R.C. BILODEAU, I. DUMITRIU, N. BERRAH, Western Michigan Univ., A. AGUILAR, Advanced Light Source, LBL — The photodetachment spectrum of Se^- from 50 - 62 eV has been investigated using the merged ion-photon beam photodetachment technique. Se^-ions were produced in a Cs sputtered negative ion source (SNICS II) while the photons were produced by the undulator on the Advanced Light Source Ion-Photon Beamline 10.0.1. Se^+andSe^{++} ions formed by double and triple detachment were detected as a function of photon energy. Correlations in short-lived negative ion resonances formed by completely filling the valence $4p$shell in Se^- by photoexcitation of $3d$electrons lead to three resonance structures. The resonances are observed in both the Se^+andSe^{++} decay channels bound by several eV below the $3d$ detachment threshold near 54 eV.

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