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 Univ., R.C. BILODEAU, I. DIMITRIU, N. BERRAH, Western Michigan U., A. AGUILAR, ALS, LBL, D. HANSTORP, Univ. of Gothenburg, Sweden — The photodetachment spectrum of Se^- 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. Positive Se ions formed by multiple 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 above 50 eV. The $3p$threshold is observed above 156 eV and multielectron detachment resonance structure is observed near the $3s$ photodetachment threshold above 220 eV. Comparisons to inner-shell detachment from S^- and Te^- are discussed.

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