Abstract Submitted
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**Photoionization of Se+ and Se2+ Ions: Experiment and Theory**
D.A. ESTEVES, University of Nevada, Reno, NV, N.C. STERLING, NASA-GSFC Greenbelt, MD, GHASSAN ALNA'WASHI, University of Nevada, Reno, NV, A. AGUILAR, A.L.D. KILCOYNE, LBL-ALS Berkeley, CA, C.P. BALANCE, Rollins College, Winter Park, FL, P.H. NORRINGTON, B.M. MCLAUGHLIN, Queen's University of Belfast, UK — The determination of elemental abundances in astrophysical nebulae are highly dependent on the accuracy of the available atomic data. Numerical simulations show that derived Se abundances in ionized nebulae can be uncertain by factors of two or more from atomic data uncertainties alone. Of these uncertainties, photoionization cross section data are the most important, particularly in the near threshold region of the valence shell. Absolute photoionization cross sections for $Se^{+}$ and $Se^{2+}$ ions near their thresholds have been measured at the Advanced Light Source in Berkeley, using the merged beams photo-ion technique. Theoretical photoionization cross sections calculations were performed for both of these Se ions using the state-of-the-art fully relativistic Dirac R-matrix code (DARC). The calculations show encouraging agreement with the experimental measurements. A more comprehensive set of results will be presented at the meeting.

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