

Abstract Submitted
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An Improved RMPS Approach to Ground and Metastable Ionization of Neutral Neon¹ C.P. BALLANCE, M.S. PINDZOLA, Auburn University, D.C. GRIFFIN, Rollins College — The large ground state ionization potential of neutral neon has traditionally made it difficult for non-perturbative basis-set methods, such as the RMPS, to calculate the ground state ionization cross section from the ionization threshold to its peak value. Current developments in the parallel R-matrix suite of codes (see Ballance and Griffin, JPB **37**, 2943 (2004)) in conjunction with the ICFT method have allowed both electron-impact ground and metastable term and level-resolved ionization cross sections to be calculated in a very efficient manner. We shall present electron-impact ionization cross sections from the ground state and $1s^2 2s^2 2p^5 nl (n < 6)$ metastables, comparing with available experiments. We shall also investigate differences between initial term and level-resolved cross sections.

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