Abstract Submitted
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Electron-Impact Double Ionization of H^{-1} M.S. PINDZOLA, F. ROBICHEAUX, Auburn University, J. COLGAN, LANL — The time-dependent close-coupling method for three electron systems is used to calculate the electron-impact double ionization of H^-. The total 9d wavefunction is represented by a coupled channels expansion involving simple products of 3d radial lattices and 6d coupled spherical harmonics. Following time evolution of the total 9d wavefunction according to the Schrodinger equation, collision probabilities are found by projection of the total 9d wavefunction onto fully antisymmetric products of spatial and spin functions representing three outgoing Coulomb waves. The non-perturbative double ionization cross section results for H^- are found to be more than a factor of 5 below the experimental measurements of Peart et al., J.Phys.B**4**, 88 (1971) and in excellent agreement with the experimental measurements of Yu et al., J.Phys.B**25**, 4593 (1992).

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