

Abstract Submitted
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Theoretical and Experimental Study of Out-of-Plane Cross Sections for Electron Impact Ionization of He and H₂¹ OLA AL-HAGAN, D.H. MADISON, University of Missouri-Rolla, CHRISTIAN KAISER, ANDREW MURRAY, University of Manchester — In recent years, sharp disagreement between theory and experiment has been found for heavy particle ionization of He for electrons ejected out of the scattering plane. On the other hand, good agreement was found in the scattering plane. The lack of agreement between experiment and theory for out-of-plane has been attributed to a double scattering mechanism where the projectile first ‘hits’ the electron and then scatters off the nucleus. If these effects are important for a He nucleus, they should be even more important for a H₂ nucleus. We will report theoretical and experimental fully differential cross section (FDCS) results for electron impact ionization of both He and H₂. Electron ejection both in the scattering plane and out-of- plane will be examined.

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