

Abstract Submitted
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Differential Cross sections for Electron-Impact Ionization of Atomic Helium and Molecular Hydrogen for both Coplanar and Perpendicular Plane Scattering¹ OLA AL-HAGAN, DON MADISON, Missouri University of Science and Technology, XUEGUANG REN, ARNE SENFTLEBEN, ALEXANDER DORN, JOACHIM ULLRICH, Max-Planck-Institut für Kernphysik, DMITRY FURSA, IGOR BRAY, Curtin University, Perth, Australia — The effect of electronic and nuclear charge distributions can be studied by comparing atomic and molecular ionizing collisions for homoelectronic and homonuclear atoms and molecules. Experimental and theoretical differential cross sections will be presented for electron-impact ionization of atomic helium and molecular hydrogen for both coplanar and perpendicular plane scattering. Since the effects of electronic charge distributions and nuclear charge distributions on the fully differential cross sections are most pronounced for low energy electrons, results will be presented for one electron having an energy of 4 eV and the other one having 12 eV in the final state. Electronic and nuclear effects will be analyzed individually.

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