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### **Low-Energy Electron Impact Ionization of Helium**

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Following the completion of the measurements of the doubly-differential cross sections (DDCSs) for the electron-impact ionization of atomic hydrogen, the simplest three-body Coulomb system, we applied the experimental techniques developed to the simplest four-body system, electron scattering from helium. Recently completed measurements of the absolute DDCSs for the electron impact ionization of helium at low incident energies will be presented. The measurements were taken using the moveable nozzle technique developed in our laboratory.<sup>1</sup> Data were taken at incident energies of 26 eV, 28 eV, 30 eV, 32 eV, 34 eV, 36 eV, and 40 eV. The results are compared to the theoretical convergent close-coupling (CCC) calculations of Bray *et al.*<sup>2</sup> and good agreement is observed. This work is funded by the National Science Foundation under grant # NSF-RUI-PHY-0096808. In collaboration with Murtadha A. Khakoo, California State University, Fullerton.

<sup>1</sup>M. Hughes, K. E. James, Jr., J.G.Children, and M.A. Khakoo, *Meas. Sci. Technol.* **14**, 841 (2003)

<sup>2</sup>Igor Bray, Dmitry V.Fursa, and Andris T. Stelbovics *J. Phys. B* **36**, 2211 (2003), and private communication.