

Abstract Submitted
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**Electron Impact Single Ionization of Atoms and Molecules:
Three-Dimensional Images for the Electron Emission** XUEGUANG
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many — While electron impact ionization for the simplest atomic species hydrogen
and helium can be handled well by theory, more heavy atoms and molecules pose
severe challenges. Presently we are performing systematic (e,2e) experiments in the
impact energy range below 200 eV for various atomic targets as Ne and Ar, and for
molecular species as H₂, Ar₂, N₂, O₂ and CO₂. The goal is to provide benchmark
cross sections covering the full solid angle and a large range of ejected electron en-
ergies and momentum transfers by applying an experimental multi-particle imaging
technique (Reaction Microscope).

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