

Abstract Submitted
for the GEC08 Meeting of
The American Physical Society

GEC Student Award for Excellence Finalist: Atomic and Molecular Signatures for charged particle ionization¹ OLA AL-HAGAN, DON MADISON, Missouri University of Science and Technology, Rolla, Missouri, USA, CHRISTIAN KAISER, ANDREW MURRAY, University of Manchester, Manchester, UK — Charged particle ionization of atoms and molecules has been studied over several years and two prominent features are observed for both atoms and molecules – one where the bound electron is ejected in a direction which conserves momentum for a classical projectile-electron collision (the binary peak) and a smaller feature where this electron is ejected in the opposite direction (recoil peak). These conventional studies are all performed in the projectile scattering plane. Here we report results for a plane perpendicular to the conventional plane, and we find two new features – one the same for both atoms and molecules and one completely opposite. Quantum calculations are used to ascribe simple classical descriptions to these features.

¹Work Supported by NSF

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Date submitted: 08 Jul 2008

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