

Abstract Submitted
for the GEC14 Meeting of
The American Physical Society

Out-of-plane ($e, 2e$) measurements with 150eV incident beam energy on He autoionizing levels¹ NICHOLAS L.S. MARTIN, Univ of Kentucky, B.A. DEHARAK, Illinois Wesleyan University, K. BARTSCHAT, Drake University — In previous work we reported out-of-scattering-plane ($e, 2e$) measurements and calculations for helium $2\ell 2\ell'$ autoionizing levels at 488eV incident electron energy and scattering angle 20.5° . The results were presented as ($e, 2e$) angular distributions energy-integrated over each level² and the detailed energy dependence of the recoil/binary peak ratio³. We have now begun similar measurements at 150eV electron beam energy and scattering angle 39.2° . The geometry is then the same as for the earlier high energy experiments: ejected electrons are detected in a plane that contains the momentum transfer direction and is perpendicular to the scattering plane. The momentum transfer is 2.1 a.u., which is the same as in the earlier experiments. We will present preliminary data and compare the angular distributions with the high energy results.

¹This work was supported by the National Science Foundation under Grants Nos. PHY-0855040 (NLSM) and PHY-1212450 (KB).

²B.A. deHarak, K. Bartschat, and N.L.S. Martin, Phys. Rev. Lett. **100**, 063201 (2008)

³B. A. deHarak, K. Bartschat, and N. L. S. Martin, Phys. Rev. A **89**, 012702 (2014)

N.L.S. Martin
Univ of Kentucky

Date submitted: 05 Jun 2014

Electronic form version 1.4