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**Out-of-plane (e,2e) experiments on helium autoionizing levels<sup>1</sup>**

N.L.S. MARTIN, University of Kentucky

An (e,2e) experiment investigates the electron impact ionization by observing both the scattered and ejected electrons in (delayed) coincidence. Up to a decade ago, all experiments were of the coplanar type where the ejected electrons were detected in the scattering plane formed by the incident and scattered electron trajectories. Theory was in quite good agreement with experiment for such experiments. About 10 years ago, so called out-of-plane experiments, where the ejected electron was observed out of the scattering plane, found results for direct (non-resonant) ionization that could not be explained by existing theories. I shall describe an out-of-plane experiment and calculations carried out for ionization that involved autoionizing levels in helium.<sup>2</sup>

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