

Abstract Submitted
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Energy dependence of the $(e, 2e)$ recoil/binary peak ratio across He autoionizing levels¹ N.L.S. MARTIN, U. Kentucky, B.A. DE HARAK, Illinois Wesleyan University, K. BARTSCHAT, Drake University — In previous work we reported out-of-plane $(e, 2e)$ measurements and calculations for helium autoionizing levels. The results were presented as $(e, 2e)$ angular distributions² and $(e, 2e)$ energy spectra³ of ejected electrons. The angular distributions, which were energy integrated across an energy window of 0.3 eV for each resonance, showed a pronounced recoil peak for both $(2p^2)^1D$ and $(2s2p)^1P$, whereas that for direct ionization was negligible. We are currently measuring the energy dependence (in 30meV steps) of the recoil/binary peak ratio across these two resonances; theory predicts a rapid variation of this ratio. We will present our results and compare them with first and second order theoretical calculations.

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