Energy dependence of the \((e, 2e)\) recoil/binary peak ratio across He autoionizing levels\(^1\) 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 distributions\(^2\) and \((e, 2e)\) energy spectra\(^3\) 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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