

Abstract Submitted
for the DAMOP05 Meeting of
The American Physical Society

Momentum transfer dependence of the He $(e, 2e)$ cross section: scattered electron angular distributions¹ B.A. DEHARAK, N.L.S. MARTIN, U. Kentucky, ZHANGJIN CHEN, D.H. MADISON, U. Missouri-Rolla — In recent work we measured the angular distribution of electrons, *scattered* through a range of angles -30° to $+30^\circ$, in coincidence with electrons *ejected* at $\pm 90^\circ$ with respect to a 488eV incident electron beam. We presented the data as the *sum* and *difference* of scattered electron angular distributions. There was excellent agreement between the experiments and distorted wave Born approximation calculations – provided that post collision interaction effects were included.² The calculations predicted an interesting zigzag feature in the *difference* angular distribution at small angle scattering, but there were not enough data points at small angles to test this prediction. We have now carried out more extensive measurements in this angular region and will present our results. We will also present measurements and calculations for ejected electron directions $+75^\circ$ and -105° ; the results demonstrate that the $(e, 2e)$ scattered electron angular distributions are strong functions of the ejected electron direction.

¹Work supported by NSF Grants PHY-9987861 (NLSM), PHY-0070872 (DHM)

²B.A. deHarak, Zhangjin Chen, D.H. Madison, and N.L.S. Martin, submitted to J.Phys.B

Nicholas Martin
University of Kentucky

Date submitted: 28 Jan 2005

Electronic form version 1.4