

Abstract Submitted
for the DAMOP15 Meeting of
The American Physical Society

Multiple scattering in laser assisted free-free scattering experiments¹ B.A. DEHARAK, B.N. KIM, M.R. MCCARTER, J.L. SAVICH, A.C. SCHERER, Illinois Wesleyan University, C.M. WEAVER, N.L.S. MARTIN, University of Kentucky — Multiple scattering has been repeatedly invoked² as a possible explanation for the theoretical difficulties of describing some of the laser assisted free-free experiments reported by Wallbank, et. al³. Here, we report on experimental results for electron-helium scattering in the presence of an Nd:YAG laser field of 1.17 eV photons where target number densities are varied so that multiple scattering occurs. We compare our results with simple monte carlo simulations that make use of Kroll-Watson approximation ⁴ calculations.

¹This work was supported by the National Science Foundation under grants Nos. PHY-0855040 (NLSM) and PHY-1402899 (BAd)

²e.g., Nathan Morrison and Chris H. Greene, Phys. Rev. A 86, 053422 (2012)

³e.g., B. Wallbank and J. K. Holmes, Phys. Rev. A 48, R2515 (1993)

⁴N. M. Kroll and K. M. Watson, Phys. Rev. A 8, 804 (1973)

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Date submitted: 29 Jan 2015

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