

Abstract Submitted  
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**Monte Carlo simulations of multiple scattering effects in laser assisted free-free scattering experiments**<sup>1</sup> B.A. DEHARAK, J.L. SAVICH, H.M. ROBERTS, E.G. BROWN, M.R. MCGILL, Illinois Wesleyan University, B.N. KIM, C.M. WEAVER, N.L.S. MARTIN, University of Kentucky — We have conducted a series of Monte Carlo simulations of laser assisted free-free scattering experiments. The simulations make use of Kroll-Watson approximation<sup>2</sup> to account for the effects of the laser field on the scattering process. The parameters for these simulations are believed to mimic the experimental conditions of the work reported by Wallbank and Holmes<sup>3</sup>, particularly the target number density. The simulations account for the effects multiple scattering (i.e., the scattering of a single incident electron from multiple target atoms). We present a comparison of the results of these simulations to the experimental results of Wallbank and Holmes<sup>4,5</sup>.

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<sup>2</sup>N. M. Kroll and K. M. Watson, Phys. Rev. A 8, 804 (1973)

<sup>3</sup>B. Wallbank and J. K. Holmes, Can. J. Phys. 79, 1237 (2001)

<sup>4</sup>Ibid.

<sup>5</sup>B. Wallbank and J. K. Holmes, Phys. Rev. A 48, R2515 (1993)

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