

Abstract Submitted  
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**Nuclear-Recoil Differential Cross Sections for the Two Photon Double Ionization of Helium**<sup>1</sup> SHAHIN ABDEL NABY, M.F. CIAPPINA, T.G. LEE, M.S. PINDZOLA, Auburn University, Auburn, AL, J. COLGAN, Theoretical Division, Los Alamos National Laboratory, Los Alamos, NM — In support of the reaction microscope measurements at the free-electron laser facility at Hamburg (FLASH) [1], we use the time-dependent close-coupling method (TDCC) to calculate fully differential nuclear-recoil cross sections for the two-photon double ionization of He at photon energy of 44 eV. The total cross section for the double ionization is in good agreement with previous calculations. The nuclear-recoil distribution is in good agreement with the experimental measurements. In contrast to the single-photon double ionization, maximum nuclear recoil triple differential cross section is obtained at small nuclear momenta.

[1] A. Rudenko *et al*, Phys Rev. Letts. **101**, 073003 (2008).

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