

Abstract Submitted
for the DAMOP14 Meeting of
The American Physical Society

Laser-assisted XUV few-photon double ionization of helium atoms: joint angular distributions¹ AIHUA LIU, UWE THUMM, Kansas State University — We have studied the multi-(XUV+IR)-photon double ionization of helium by solving the fully dimensional time-dependent Schrödinger equation within a finite-element discrete-variable-representation scheme. We analyze the joint angular distributions for both equal and unequal energy sharing of the two emitted electrons for XUV-photon double ionization in the presence of a short IR pulse. For equal energy sharing, we find that the assisting IR pulse temporarily promotes side-by-side emission and enables back-to-back emission. For unequal energy sharing case, we find enhanced back-to-back emission.

¹Supported by the Chemical Sciences, Geosciences, and Biosciences Division, Office of Basic Energy Sciences, Office of Science, U.S. Department of Energy under Grant No. DE-FG02-86ER13491 and NSF Grant PHY-1068752.

Uwe Thumm
Kansas State University

Date submitted: 31 Jan 2014

Electronic form version 1.4