Abstract Submitted
for the DAMOP20 Meeting of
The American Physical Society

Two-photon double photoionization of atomic Mg by ultrashort pulses[1] FRANK L YIP, California State University-Maritime Academy, ROGER Y BELLO, THOMAS N RESCIGNO, ROBERT R LUCCHESE, Lawrence Berkeley National Laboratory, C. WILLIAM MCCURDY, Lawrence Berkeley National Laboratory, UC Davis — We investigate the two-photon double ionization of atomic magnesium induced by ultrashort pulses. Much like for beryllium, and in contrast to helium, the range of photon energies for which nonsequential ionization is the only open pathway is very narrow (less than 1 eV). Thus, sequential ionization pathways feature heavily in these processes. The greater significance of excited-state correlating configurations in representing the initial state of magnesium has consequences on the resulting angular distributions at photon energies where sequential ionization can access intermediate states that lie nearby in energy, particularly when the pulse length is increased.

[1]Work supported by the US Dept. of Energy, Office of Basic Energy Sciences and the National Science Foundation, No. PHY-1806417

Frank L Yip
California State University-Maritime Academy

Date submitted: 31 Jan 2020 Electronic form version 1.4