Abstract Submitted
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Fully differential single-photon double ionization of neon and argon[1] FRANK L. YIP, California Maritime Academy, Dept. of Science and Mathematics, FERNANDO MARTIN, Universidad Autonoma de Madrid, Dpto. de Quimica Modulo 13, THOMAS N. RESCIGNO, Lawrence Berkeley National Lab, Chemical Sciences Div., C. WILLIAM MCCURDY, Lawrence Berkeley National Lab, Chemical Sciences Div. and UC Davis, Dept. of Chemistry — Double photoionization of neon and argon differ significantly from helium in that three different final state couplings of the residual double ion (^1S, ^1D, and ^3P) are possible and greatly impact the observed angular distributions, but the multi-electron nature of such targets makes *ab initio* theoretical treatments of this correlated process a challenge. Triply differential cross sections (TDCS) have been calculated for single photon double ionization of these heavier rare gases at various photon energies by utilizing an expanded frozen-core treatment to represent the remaining $N-2$ target electrons of the residual ion. The resulting angular distributions are compared with and show significant agreement with existing experimental data.

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