

Abstract Submitted
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Charge Dependent Effects in Double-Photo-Ionization of Helium-Like Ions MATT FOSTER, JAMES COLGAN, Theoretical Division, T-4 Los Alamos National Laboratory — A study is made of triple differential cross sections (TDCS) for double-photo-ionization (DPI) of helium-like ions. The angular distribution between the equal energy outgoing electrons is examined as a function of the nuclear target charge. Time-dependent close-coupling theory (TDCC) will be used to solve the time-dependent Schrödinger equation for both outgoing electrons. The TDCC method treats the correlation between the electrons without approximation. Previous theoretical models that have calculated the TDCS for helium-like ions have only included the electron-electron interaction through approximate perturbative methods. We will analyze the effects of the electron correlation and its dependence relative to the nuclear charge. We will compare our calculations with previous experimental and theoretical work, where available.

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