Abstract Submitted for the DAMOP20 Meeting of The American Physical Society

Double photoionization of the Be isoelectronic sequence STEPHANE LAULAN, MARC-ANDRE ALBERT, SAMIRA BARMAKI, Universite de Moncton — We investigate the removal of the two outer electrons in the Be-like ions by using x-ray free electron laser pulses. Our theoretical approach to describe the interaction of the electrons with the laser pulse is based on solving the time-dependent Schrödinger equation with a spectral method of configuration interaction type ¹, ². We present the first theoretical results of double-to-single photoionization cross sections ratios for Be-like ions in support of possible photofragmentation experiments with x-ray free electron lasers ³. We also present results of the probe of the mutual interaction between the outer electrons at different photon energies and give details about the subsequent redistribution of the excess photon energy among them.

¹S. Barmaki et al., Chem. Phys. 517, 24 (2019)

²S. Barmaki et al., **Phys. Rev. A** 89, 063406 (2014)

³S. Barmaki et al., **J. Phys. B** 51, 105002 (2018)

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Date submitted: 31 Jan 2020

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