

Abstract Submitted
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Attosecond Time-Scale Multi-Electron Collisions: Imprints on Double and Single Energy Differential Cross Sections AGAPI EM-MANOUILIDOU, ITS, University of Oregon, Eugene — A finding of our work on triple photoionization of Li in a quasiclassical formulation is a classification scheme which organizes the triply photo-ionizing trajectories in groups according to the respective sequence of electron-electron collisions [ref1]. The collision sequences in triple ionization of Li take place on an attosecond time scale. These electron-electron collision sequences manifest themselves on the level of ensemble averages. The two main collision sequences the three electrons follow to ionize have unique traces in the classical probability densities [ref2]. We have very recently formulated quasiclassically the double energy differential cross sections [ref3]. For small energies we discuss the structure of the double and single energy differential cross sections and show how this structure bares the imprint of the “T-shaped” pattern of the three escaping electrons and thus of the electron-electron collision sequences. [ref1] A. Emmanouilidou and J.M. Rost, *J. Phys. B* 39, 4037 (2006). [ref2] A. Emmanouilidou and J. M. Rost, accepted *Phys. Rev. A* (2007). [ref3] A. Emmanouilidou, xxx.lanl.gov/physics/0701314.

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