

Abstract Submitted
for the DAMOP20 Meeting of
The American Physical Society

Photodouble ionization of water at 20 eV above threshold at the unequal energy regime. JUAN MARTIN RANDAZZO, Phys. Dept., University of Central Florida, USA and CONICET., GIORGIO TURRI, Embry-Riddle Aeronautical University, Phys. Sciences Dept. Daytona Beach, FL, USA, PAOLA BOLOGNESI, CNR-Istituto di Struttura della Materia, CP10,00015 Monterotondo Scalo, Italy, JOHN MATHIS, Embry-Riddle Aeronautical University, Phys. Sciences Dept. Daytona Beach, FL, USA, LORENZO UGO ANCARANI, Universit de Lorraine, CNRS, LPCT, F-57000 Metz, France, LORENZO AVALDI, CNR-Istituto di Struttura della Materia, CP10,00015 Monterotondo Scalo, Italy — While the photo double ionization (PDI) of two electron atoms and simple molecules has been deeply studied, the progress for complex molecules has been rather slow over the last years. Triple differential cross section (TDCS) for water PDI at 20 eV above threshold have been recently measured, at equal energy regime and a particular geometry of the outgoing electrons. Further experimental results were presented considering different emission angles, together with a first theoretical step in the very difficult problem of completely modeling this highly complex process. Basically, it reduces the ten-electron degrees of freedom to the ones corresponding to a two-electron system, and decouple the initial states in partial waves, ending in a set of systems which is solved by means of the Generalized Sturmian Method. In this contribution we extend the analysis to the unequal energy regime for the outgoing electrons, based on new experimental and theoretical results. The experiment-theory comparison is fair, considering the theoretical approximations.

Juan Randazzo
Phys. Dept., University of Central Florida, USA and CONICET.

Date submitted: 27 Jan 2020

Electronic form version 1.4