

Abstract Submitted
for the DAMOP17 Meeting of
The American Physical Society

Study of electron correlations in Helium double Rydberg wave packets¹ XIAO WANG, FRANCIS ROBICHEAUX, Purdue Univ — The correlation between two bound electrons as a three-body Coulomb problem remains an interesting topic. We have performed fully quantum and classical calculations on a Helium atom with two excited Rydberg wave packets. Changing the central energies and the energy widths of the wave packets may lead to totally different behavior of the system, such as faster autoionization rates or more stable trajectories. We also studied field-caused double ionizations of this system with THz short pulses, where the results can be used to study the wavefunction structure of the system during autoionization process.

¹Department of Energy, Office of Science, Basic Energy Sciences.

Xiao Wang
Purdue Univ

Date submitted: 26 Jan 2017

Electronic form version 1.4