

Abstract Submitted
for the DAMOP16 Meeting of
The American Physical Society

Electron Dynamics in Intense Laser Fields: A Bohmian Mechanics Study¹ HOSSEIN Z. JOOYA, University of Kansas,USA, DMITRY A. TELNOV, St. Petersburg State University,Russia, SHIH-I CHU, University of Kansas,USA — We study the electron quantum dynamics of atomic hydrogen under intense near infrared laser fields by means of the De BroglieBohms framework of Bohmian mechanics. This method is used to study the mechanism of the multiple plateau generation and the cut-off extension, as the main characteristic features of high order harmonic generation spectrum. Electron multiple recollision dynamics under intense mid-infrared laser fields is also investigated. In this case, the resulting patterns in the high-order harmonic generation and the above-threshold ionization spectra are analyzed by comprehensive picture provided by Bohmian mechanics. The time evolution of individual trajectories is closely studied to address some of the major structural features of the photoelectron angular distributions.

¹This work is partially supported by DOE.

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Date submitted: 22 Jan 2016

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