

Abstract Submitted
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Molecules interacting with intense laser pulses. ANDRES MORA, AGNIESZKA JARON-BECKER, TENNESSE JOYCE, YUQING XIA, Univ of Colorado - Boulder — Ultrashort high intensity laser pulses have allowed for the observation of ultrafast dynamics in atoms and molecules. Due to the complexity, these multielectron systems interacting with ultrashort intense laser fields are often theoretically studied using the single active electron approximation (SAE). We present here results of simulations within Time Dependent Density Functional Theory which addresses the multielectron nature of the studied systems. Results for ionization of several molecules, High Harmonic Generation (HHG) properties and dynamic localization are discussed. In particular, we show how the resonance effects can modify properties of these processes and how Mollow sidebands can be observed for HHG spectra.

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