

Abstract Submitted
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Bichromatic control of photoelectron angular distribution for ionization via intermediate autoionizing states by ultrafast XUV pulses¹ C. WILLIAM MCCURDY, University of California, Davis, XUAN LI, DANIEL J. HAXTON, Lawrence Berkeley Natl Lab — Control of the angular dependence of photoelectrons from ionization of the Li atom by two ultrafast extreme-ultraviolet (XUV) pulses is investigated using an extension of a recently developed implementation of the multiconfiguration time-dependent Hartree Fock (MCTDHF) method. One-photon direct ionization and two-photon ionization via intermediate autoionizing states well above the ionization threshold combine to determine the angular distribution of the ejected photoelectron in these calculations. Two coincident attosecond pulses with different colors provide an opportunity for manipulating the ionization process not available with much longer pulses. It is shown that the resulting asymmetric angular distribution of photoelectrons is sensitive to and can be controlled by the difference between the carrier envelope phases of the two phase-locked XUV pulses of different frequencies.

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