

Abstract Submitted
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Probing Excited State Molecular Dynamics with Time-resolved Velocity Map Imaging of Photoelectrons and Photoions¹ YUSONG LIU, State Univ of NY - Stony Brook, PRATIP CHAKRABORTY, Temple University, SAMUEL MCCLUNG, State Univ of NY - Stony Brook, SPIRIDOULA MATSIKA, Temple University, THOMAS WEINACHT, State Univ of NY - Stony Brook — We describe the development of an apparatus to measure excited state molecular dynamics using UV pump and VUV probe pulses and velocity map imaging (VMI) of the photoelectrons and photoions generated by the pump and probe pulses. We apply a fast voltage switch on the VMI plates and a time-stamping camera (Timepix3) in order to measure the vector momenta of both the electrons and ions with a single detector. We highlight the capabilities of the instrument and present and interpret measurements of internal conversion in several molecules including 1,3-cyclohexadiene, *cis,cis*-1,3-cyclooctadiene.

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