Abstract Submitted
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Strong Field Ionization of small molecules measured with few-cycle ultrafast pulses and Velocity Map Imaging PETER SANDOR, VINCENT TAGLIAMONTI, Stony Brook University, TAMAS ROZGONYI, Institute of Materials and Environmental Chemistry, Hungarian Academy of Sciences, THOMAS WEINACHT, Stony Brook University — Using few-cycle pulses produced through filamentation in Argon, we study strong field ionization of small molecules with velocity map imaging to detect the photoelectrons. We discriminate between the direct removal of electrons from different valence orbitals ('direct ionization') and post-ionization transitions in the ion ('indirect ionization') using coincidence detection of the electron and ion produced from each molecule. We study how direct and indirect ionization vary with pulse duration, intensity and pulse shape, and interpret the pulse shape dependence of the photoelectron spectrum.

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