

Abstract Submitted
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Wavelength-dependence of momentum-space images of low-energy electrons generated by short, intense laser pulses at high intensities¹ CHAKRA MAHARJAN, Kansas State University, ALI AL-NASER, The American University of Sharjah, PREDRAG RANITOVIC, IGOR LITVINYUK, CHARLES COCKE, Kansas State University — We have measured highly resolved momentum-space images of low energy electrons generated by the interaction of short intense laser pulses with argon atoms at high intensities (tunneling regime). We have done this over a wavelength range from 400 to 800 nm. The spectra show considerable structure in both the energy and angular distributions of the electrons. Some, but not all, energy features can be identified as multi-photon resonances. The angular structure shows a regularity which transcends the resonant structure and may be due instead to diffraction. We have also measured electron momentum-space images for aligned N₂ and O₂ molecules at 800nm. Rotational wave packets were used to align the targets. We will preliminary results on the effects of alignment on the energy and angular structure.

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