Abstract Submitted
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Large-angle electron diffraction structure in laser-induced rescattering from rare gases


— We have measured full momentum images of electron rescattered from Xe, Kr and Ar following the liberation of the electrons from these atoms by short, intense laser pulse. Structural study of transient target atoms (or molecules) can be done by focusing on the high energy backscattered electrons in such laser-matter interactions. Recent theoretical developments show that full solutions to time-dependant Schrodinger equation including rescattering allow the identification of specific “back rescattering ridges” (BRR) along which the angular structure of the differential cross section is clearly visible and very target dependant. We have experimentally observed these predicted features in the momentum images.

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