

Imaging the temporal evolution of molecular orbitals during ultrafast dissociation

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We investigate the temporal evolution of molecular frame angular distributions of Auger electrons emitted during ultrafast dissociation of HCl following a resonant single photon excitation. The electron emission pattern changes its shape from that of a molecular σ -orbital to that of an atomic p -state as the system evolves from a molecule into two separated atoms.

The talk will briefly introduce the topic of ultrafast dissociation, the measurement technique and present the results obtained.