



9th June 2016 - 10:00 h

CFEL – Building 99, seminar room I+II (ground floor)

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Probing molecular photoexcited dynamics: disentangling the electronic and nuclear degrees of freedom

Molecules selectively transform light energy into other forms of energy like heat, electricity, or chemical energy with high quantum efficiency. The energy conversion process is the result of a correlated motion of electrons and nuclei after photoexcitation, often under breakdown of the Born-Oppenheimer approximation. This talk is about ultrafast experiments aimed at resolving light induced molecular dynamics separately from the perspective of electronic structure and nuclear geometry. I will show experiments that use probe pulses in the extreme ultraviolet and soft x-ray spectral domain, which are highly sensitive to electronic structure. In addition, I will show first experimental results from a gas phase ultrafast electron diffraction campaign resolving coherent nuclear wavepackets in small molecules.