

Gastvortrag

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“Photoacid - Base Hydrogen Bond Structure: Probing with IR and with Soft-X-Ray Pulses”

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Hörsaal D (Chemie-Zentralbau)

Abstract: Photoacids are organic aromatic alcohols or protonated amines that exhibit a strong change in acidity (proton donating capability) upon electronic excitation. To understand microscopic mechanisms of photo-induced proton transfer dynamics, one has to unravel the hydrogen bond structure of photoacid-base complexes and its associated dynamical behaviour. IR spectroscopy has been a well-established approach to probe hydrogen bond structure. More recently soft-x-ray spectroscopy has witnessed major advances. Spectroscopic approaches to decipher hydrogen-bond structure should include the option of ultrashort pulses offering time resolution well into the femtosecond time domain. In this talk I will show recent results of ultrafast infrared spectroscopy of hydrogen-bonded photoacid-base complexes, including novel two-dimensional IR spectroscopic schemes, to probe the hydrogen bond through its hydrogen stretching oscillators. Recent activities in developing transient soft-x-ray spectroscopy of such photoacid-base complexes will also be presented.

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