Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Kolloquium der Physikalischen und Theoretischen Chemie

Dienstag, 18.12.2012 **Hörsaal D, Chemie Zentralbau, 17:15 Uhr**

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Thema: Ultrafast, Coherent Dynamics of Biomimetic Molecular Switches

Abstract:

Within the Department of ultrafast Optics and Nanophotonics (DON) at IPCMS, the BIODYN team (for « BIOmolecular DYNamics ») applies femtosecond spectroscopy to investigate photoinduced ultrafast processes in organic molecules in condensed phase. After introducing shortly our different subjects of interest (organic photovoltaics, biomolecular interactions), I will focus on our work on ultrafast coherent photoisomerization in biomimetic photoswitches.

Coherent photoisomerization is a rare, ultrafast process in which the photon energy activates a selected set of reactive vibrational modes, thus ensuring efficient photomechanical energy conversion. We combine experimental and theoretical approaches to investigate this process in a model molecular switch. Transient absorption reveals signatures of a quantum vibrational wave packet that drives the molecular motion from the electronic excited S1 to the ground S0 states, thus mimicking energy conversion in rhodopsin. Quantum chemistry and semi-classical trajectory computations allow us to unravel the mechanistic origin of the observed oscillations.

Organisation: P. Nürnberger

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Weitere Informationen unter
http://www.phys-chemie.uni-wuerzburg.de