

Dienstag, 16.01.2018

Hörsaal D, Chemiezentralgebäude, 17:15 Uhr

Sprecher: Martin T. Zanni
(University of Wisconsin-Madison, USA)

**Titel: Ultrafast 2D White-Light Microscopy of
Singlet Fission and Dichalcogenide
Crystals: Mapping the energetics of
structures and defects**

Abstract:

Crystallinity in light harvesting materials creates uniform energy levels capable of transporting energy and charges. Defects in the crystal lattice, caused by grain boundaries, vacancies, surfaces, and impurities, alter the energy levels and thereby impacting transfer. To study the origin of defects and their spatial dependence, we coupled an ultrafast Two-Dimensional White-Light (2DWL) spectrometer to the optical objective of an atomic force microscope. Broadband pump-probe images can be generated and 2D WL spectra collected at specific points. Data on TIPS-pentacene single crystals, a single fission material, and MoS₂ dichalcogenide flakes will be shown. The images are essentially maps of the electronic heterogeneity of the system. Interestingly, defects in the uniformity of energy levels are not present only at the edges and structural deformities, but throughout the crystals.

Organisation: T. Hertel

Kontakt: Prof. Dr. Tobias Hertel, Institut für Physikalische und Theoretische Chemie
tobias.hertel@uni-wuerzburg.de

Weitere Informationen unter:

<http://www.phys-chemie.uni-wuerzburg.de/startseite/veranstaltungen/>