

Donnerstag, 06.12.2012

Hörsaal C, Chemie Zentralbau, 17:15 Uhr

Sprecher: **Nikolaus Ernsting**
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Thema: **"Molecular spectrometers" in the condensed phase:
local THz-FIR response from femtosecond fluorescence**

Abstract: Dye molecules whose color depends on the polarity of the environment are studied with ultrafast fluorescence techniques. Following optical excitation, their fluorescence band typically red-shifts by 4000 cm^{-1} on femtosecond to nanosecond time scales. This "dynamic Stokes shift" reflects the molecular and environmental reorganisation of the system. We contribute with two research lines:
(1) development of rigid polar solvation probes whose vibrational response is removed from that of water, and
(2) broadband fluorescence detection to measure dynamic shifts more precisely.

Two results will be discussed.

(A) The probe N-Methyl-6-Oxyquinolinium betain is linked to the disaccharide trehalose, and the THz-FIR spectrum of its hydration layer is measured.

(B) A push-pull fluorene is inserted into a DNA duplex, and the THz vibrational of hydration water in the minor groove is measured.

Organisation: *C. Lambert*

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Weitere Informationen unter:
<http://www.for1809.uni-wuerzburg.de>