



SFB1242

Nichtgleichgewichtsdynamik kondensierter
Materie in der Zeitdomäne

UNIVERSITÄT
DUISBURG
ESSEN

Open-Minded

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Campus Duisburg**

Giving Infrared Spectroscopy a Boost: New Methods for Studying Interfaces, Chirality, Vibrational Energy Transfer Across the Spectrum, and Proton Transfer Reactions

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We are pushing the envelope of ultrafast and nonlinear mid-IR spectroscopic methods to probe the structure and dynamics at surface and in bulk systems, and further applying them to a series of novel systems. Mid-infrared (IR) spectroscopy directly interrogates the chemical bonds molecules are composed of through their vibrational frequencies and thus offers a direct and local probe of molecular structure and nuclear motion. However, ultrafast IR spectroscopy is very challenging and thus heavily technology driven. Progress is driven by technical advances and the development of new laser sources and techniques that shed new light on existing problems, resolve controversies, and can lead to the discovery of new and unexpected phenomena. I'll present an overview of our efforts including new methods for studying chiral water structures in biological settings, surface-bound catalysts, and the ultrafast vibrational dynamics and proton transfer within strongly hydrogen-bonded systems.

Für diese Zeit steht eine Kinderbetreuung nach vorheriger Anmeldung zur Verfügung.

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