



SFB1242

Nichtgleichgewichtsdynamik kondensierter
Materie in der Zeitdomäne

UNIVERSITÄT
DUISBURG
ESSEN

Open-Minded

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Campus Duisburg**

Femtosecond Stimulated Raman Spectroscopy: Observing Molecular Vibrations in Real Time

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Raman scattering and mid-infrared (mid-IR) spectroscopy are powerful techniques for probing the bond structure of molecules and solid-state materials. While time-resolved mid-IR spectroscopy is a well-established method, ultrafast Raman techniques are still in active development. The introduction of the stimulated Raman process has significantly advanced the field. In contrast to spontaneous Raman scattering—which is inherently weak and highly susceptible to background interference such as sample luminescence—femtosecond stimulated Raman spectroscopy (FSRS) overcomes these limitations. FSRS enables the acquisition of vibrational spectra with temporal resolution on the order of atomic motion in molecules. This presentation will discuss the physical principles and technological implications of FSRS, provide insight into its current limitations, and offer perspectives on future developments in the field.

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

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