SFB1242

SFB 1242 Nichtgleichgewichtsdynamik kondensierter Materie in der Zeitdomäne

UNIVERSITÄT DUISBURG ESSEN

Open-Minded

16.01.2018 / 10 Uhr c.t., Raum MG 272
Campus Duisburg

Ultrafast Raman Scattering in Complex Matter: New Views on Non-Equilibrium Dynamics

Prof. Dr. Paul H. M. van Loosdrecht

II. Physikalisches Institut, Universität zu Köln, D-50937 Köln, Germany

Many materials show fascinating physical phenomena when brought out of their normal thermal equilibrium state. For strongly perturbed systems, these phenomena include, among other, transitions into non-thermal states of matter and ultrafast switching of order parameters like magnetization. Closer to equilibrium, non-thermal states can provide a unique insight into the dynamical behavior of the various degrees of freedom (charge, lattice, spin, orbital occupation) in a material, and into the coupling between them. In this colloquium I will introduce a less common technique to study non-equilibrium state: ultrafast Raman scattering. Its potential and unique properties will be discussed by highlighting some recent results, including the observation of a transient Fano resonance in silicon, a study of exciton dynamics in graphene nano-ribbons, and experiments on ultrafast energy and momentum transfer between magnons and phonons in a skyrmionic material.

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

Contact: Prof. Dr. Björn Sothmann, Faculty of Physics
Phone: +49 (203) 379-1578 / Mail: bjoerns@thp.uni-due.de