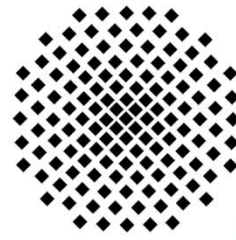


# Stuttgarter Physikalisches Kolloquium

Fachbereich Physik, Universität Stuttgart  
Max-Planck-Institut für Festkörperforschung  
Max-Planck-Institut für Intelligente Systeme

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Dienstag, 18. Juni 2019

16:15 Uhr

Hörsaal V 57.01

Universität Stuttgart, Pfaffenwaldring 57, 70569 Stuttgart-Vaihingen

Gastgeber: Prof. Dr. Rudolf Hilfer, Universität Stuttgart, Telefon: 0711 - 685-67607

## The Scaling of Relaxation Processes

**Friedrich Kremer**  
Universität Leipzig

### Abstract

Glasses are ubiquitous materials and known since ancient times. Their dynamics spans an extraordinary spectral range of more than 15 decades from THz to mHz ( $10^{12}$  Hz -  $10^{-3}$  Hz) and below and can be studied with a variety of spectroscopic techniques such as Broadband Dielectric Spectroscopy (BDS), Nuclear Magnetic Resonance (NMR), Broadband Mechanical Spectroscopy, Temperature-modulated (AC) Calorimetry or Photon Correlation Spectroscopy (PCS) to name the most important. Numerous concepts have been developed to describe the slowing down of the dynamics in the course of glassy vitrification, but a quantitative theoretical understanding is still missing. In the talk the characteristic features of glassy dynamics will be outlined and discussed with respect to theoretical models. Special emphasis will be devoted to the interplay between inter- and intra-molecular interactions in the course of glassy vitrification.