



Polymers under Multiple Constraints

Polymer- & Soft-Matter-Seminar

Tuesday,
3rd December
2019

at: 5.15pm

VDP 4 1.27,
Von-Danckelmann-
Platz 4
06120 Halle

Prof. Michael Vogel

(Institut für Festkörperphysik, Technische Universität Darmstadt,
Germany)

**“From local to diffusive dynamics in ionic liquids and
polymer electrolytes: NMR studies across time and
length scales”**

The properties of liquid mixtures crucially depend on dynamical couplings of the components on various time and length scales. We exploit the capabilities of multi-nuclear and multi-method NMR approaches to investigate this interplay for two classes of materials with high technological relevance: ionic liquids and polymer electrolytes. Specifically, we use the isotope selectivity of the method to separately study the dynamics of the individual components. Moreover, we take advantage of the possibility to ascertain motions on various time and length scales by combining measurements in homogeneous and inhomogeneous magnetic fields. Thus, our combined NMR approaches allow us to follow the evolution from the elementary steps of the motion to the eventual transport.



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