



Institute Seminar

Monday, 7 March 2016

4:00 p.m.

Fermion

Speaker:

Prof. Richard Buchner

Institut fuer Physikalische und Theoretische Chemie, Universitaet Regensburg, Germany

Title:

Cooperative Dynamics and Solvation Processes in Ionic Liquid + Solvent Mixtures

Abstract:

In this contribution we discuss the use of dielectric spectroscopy in the investigation of ionic liquids and their mixtures with polar solvents. After a brief introduction highlighting the peculiarities and pitfalls when determining the dielectric properties of such systems and a short description of the instrumentation used, the presentation will work out the features distinguishing the cooperative dynamics of pure aprotic and protic ionic liquids. The second focus of the talk will be on mixtures of both protic and aprotic ionic liquids with polar solvents. These investigations showed that aprotic ionic liquids keep their molten-salt like behavior down to IL mole fractions of ~ 0.4 before gradually turning into “conventional” electrolyte solutions. The behavior of protic ILs is similar albeit somewhat more complicated. In particular, due to hydrogen bond formation between anions and cations these compounds remain strongly associated on dilution.
