

EINLADUNG

zum Vortrag
von

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Are the Current Theories of Electron Transfer applicable to Kinetics in Ionic Liquids?

am

Dienstag, 28. März 2017, um 17:30 Uhr

Ort: Lise-Meitner-Hörsaal, Fakultät für Physik, Universität Wien,
1090 Wien, Strudlhofgasse 4 / Boltzmannngasse 5, 1. Stock

Barrierefreier Zugang: Boltzmannngasse 5, Lift, 1. Stock rechts über den Gang zum Hintereingang des Hörsaals

Abstract:

First a short introduction into both, the current theories of electron transfer (namely Marcus-Theory, Nobel Prize 1992) and the unusual physical-chemical properties of ionic liquids, will be given. After that it is reported on the chemical kinetics of simple organic redox reactions measured by both Dynamic Electron-Spin (ESR)-spectroscopy and electrochemical methods. Rate constants and the corresponding thermodynamic parameters, like activation enthalpies and entropies, are presented for oxidation and reduction reactions measured in classical organic solvents as well as in ionic liquids. The results obtained in classical solvents can be fully understood in terms of inner- and outer-sphere reorganization energies of Marcus Theory. Whereas the results in ionic liquids strongly indicate that the outer-sphere reorganization concept is not applicable. Possible reasons for that will be discussed.