

Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Charge Transport and Dynamics in Confined Ammonium and Phosphonium-based Ionic Liquids MATTHEW HARRIS, TYLER COSBY, Univ of Tennessee, Knoxville, KATSUHIKO TSUNASHIMA, National Institute of Technology, Wakayama College, JOSHUA SANGORO, Univ of Tennessee, Knoxville — Charge transport and structural dynamics in a homologous series of ammonium and phosphonium ionic liquids confined in silica nanopores are investigated by broadband dielectric spectroscopy and Fourier transform infrared spectroscopy. The impact of the central atom of the cation on the physicochemical properties as well as the interplay between confinement effects and pore-wall interactions through silica surface silanization are investigated. The results are discussed within the framework of current understanding of confinement effects in ionic liquid systems, especially in comparison to imidazolium-based ionic liquids.

Matthew Harris
Univ of Tennessee, Knoxville

Date submitted: 25 Nov 2015

Electronic form version 1.4