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Charge Transport and Stuctural Dynamics in Phosphonium-based Ionic Liquids ZACHARIAH VICARS, TYLER COSBY, Univ of Tennessee, Knoxville, YANGYANG WANG, Oak Ridge National Laboratory, KATSUHIKO TSUNASHIMA, Wakayama College, JOSHUA SANGORO, Univ of Tennessee, Knoxville — A series of phosphonium-based ionic liquids are investigated by broadband dielectric spectroscopy, rheology, and differential scanning calorimetry. Varying the molecular structure of the anion leads to significant changes in charge transport and structural dynamics. The results are discussed within the framework and current understanding of anion/cation interactions in determining physicochemical properties of ionic liquids.

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