

## Density Scaling Behavior of the Conductivity Relaxation Times of Ionic Liquids

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In this talk we are going to present the conductivity relaxation measurements of a number of ionic liquids (ILs). The dielectric studies of conductivity relaxation were performed as a function of both temperature and pressure. In addition we carried out PVT measurements for all investigated ILs. By combining these two sets of data we were able to analyze density dependence of the conductivity relaxation times and consequently to test the validity of density scaling concept. Moreover the temperature-volume data were analyzed in term of the modified Avramov model. As a result it was pointed out that there is the relation between the electrical transport properties of investigated ILs and their thermodynamic properties, represented by scaling exponent  $\gamma$  and Grüneisen constant  $\gamma_G$ , respectively.