NMR relaxation time measurements of an ionic liquid [P66614][BMB]

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Ionic liquids (IL) have been subject of interest in recent years due their unique properties for example favorable solubility and high thermal stability [1, 2]. The [P66614][BMB] (trihexyl(tetradecyl)phosphonium bis(mandelato)borate) IL has been proposed as a replacement of synthetic lubricants such as engine oil. For this IL previously ran diffusion measurements revealed interesting phase transition around 323K [3]. At this work we are interested to observe phase transitions with traditional NMR (nuclear magnetic resonance) relaxation measurements and effects of those transitions to the spectra we observe. We will address briefly on T_2 -measurements at this poster and focus on the T_1 -measurements, phase transitions and hysteresis which could be observed when moving from lower temperature to higher and vice versa. Our measurements are showing some promising and interesting results that will be investigated further by multidimensional methods in the near future.

References

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