

Students' Annual Seminar

Probing Dynamic and Static Correlation Lengths in Supercooled Liquid using Rodlike Particles

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Probing dynamic and static correlation in glass-forming supercooled liquids has been a challenge for decades in spite of decades of extensive research. Dynamic correlation which manifests itself as Dynamic Heterogeneity is ubiquitous in a vast variety of systems starting from dense colloidal systems to collections of cells. On the other hand, static correlation in these dense disordered systems remain somewhat elusive and its existence is still actively debated. We propose a novel method to extract both dynamic and static correlations using rod like particles as probe. This method can be implemented in experimentally relevant molecular glass-forming liquids as well as in other soft matter systems including biologically relevant systems. We also show the first passage time of these rod-like particles to follow log-normal like distribution which is agreements with the results obtained in experiments.

Friday, Feb 28th 2020

10:30 AM (Tea/Coffee at 10:15 AM)

Seminar Hall, TIFR-H