

Students' Annual Seminar

The Hessians of Structural Glasses

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Disordered materials have long warranted a microscopic physical theory explaining their properties, and model glasses form a basis for the study of such systems. The potential-energy surface (PES) formed by the elements of the model is representative of the complexities: the static properties are determined by the population of the various sites on said surface, while the transitions between them determine the dynamics. Hessians of the PES extract the concerted motions that the system may use to traverse the energy landscape, and so are a useful tool to understand the underlying processes.

We are studying various properties of the Hessian, specifically, the eigenvalue spectrum, to discern underlying spatial correlations. Another aspect is an attempt to model this dynamical matrix via a random matrix recipe.

Friday, Apr 26th 2019

2:30 PM (Tea/Coffee at 1:30 PM)

Seminar Hall, TIFR-H