Internal Seminar

Reentrant freezing of colloids in a random potential

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We present Monte Carlo simulations of model Hamiltonians: (i) inverse-twelfth power potential [1]; and (ii) inverse-twelfth power potential with added random potential [2], to study the dynamics of colloids. The random potential energy landscape [3, 4] has a Gaussian distribution with zero mean and exponentially decaying correlations [2]. After a quench, we monitor the time-averaged local particle density and its Fourier transform, structure factor to characterize and obtain a phase diagram. We find, interestingly, a reentrant phase behavior of colloids in the presence of random potential energy landscape.

References:


Wednesday, Aug 9th 2017

11:30 AM (Tea/Coffee at 11:15 AM)

Auditorium, TIFR (FReT-B)