Internal Seminar

Additivity Property and Mass Fluctuation in Conserved-Mass Transport Processes

Sayani Chatterjee

S. N. Bose National Centre for Basic Sciences, Kolkata

Characterizing fluctuations in many-particle systems is fundamental to the formulation of statistical mechanics. Unlike in equilibrium, where fluctuations are obtained from the Boltzmann distribution, there is no unified principle to characterize fluctuations in non-equilibrium. In this talk, we explore if a statistical mechanics framework could be constructed to understand fluctuations in non-equilibrium steady-state systems. We show that, in a broad class of conserved-mass transport processes, involving chipping, diffusion and coalescence of masses, the steady-state subsystem mass distribution can be determined using an equilibrium-like additivity property.

Thursday, Mar 08th 2018

02:00 PM (Tea/Coffee at 01:30 PM)

Auditorium, TIFR-H