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ICTS Thesis Synopsis Seminar

Title : Analytically tractable models of one-dimensional anomalous heat transport

Speaker : Aritra Kundu, ICTS-TIFR, Bangalore

Thesis Supervisor: Abhishek Dhar

Date : Friday, September 28, 2018

Time : 2:00 PM

Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore

Abstract : The celebrated Fourier Law of heat conduction, which describes diffusive heat transport in numerous real systems breaks down for one-dimensional systems (1D). This implies the thermal conductivity of 1D systems diverge with the system size and energy transport is super-diffusive. In this talk, I will discuss one-dimensional anomalous energy transport by studying analytically tractable microscopic models. I will first focus on understanding the differences in transport of integrable and non-integrable systems and further, describe super diffusive transport in particular microscopic non-integrable models using fractional diffusion equation (analogous to Heat equation for diffusive transport).