ICTS | INTERNATIONAL CENTRE for THEORETICAL SCIENCES

TATA INSTITUTE OF FUNDAMENTAL RESEARCH

ICTS Statistical Physics Journal Club Seminar

Title : Anomalous transport in integrable 1d quantum systems

Speaker : Utkarsh Agrawal (University of Massachusetts, Amherst)

Date : Tuesday, 21st June, 2022

Time : 02:00 pm (IST)

Abstract : Integrable systems have an extensive number of stable quasiparticles which leads to a rich diversity of charge transport. In this talk, I will focus on the paradigmatic model of the XXZ spin chain. In the easy-plane regime of XXZ spin chains, spin transport is ballistic, with a Drude weight that has a discontinuous fractal dependence on the value of the anisotropy Δ. I will show that this structure necessarily implies the divergence of the low-frequency conductivity. I will then use the framework of generalized hydrodynamics (GHD) to tie the anomalous response to the Levy flight of quasiparticles.

Venue : ***Hybrid Mode:*** Offline: Emmy Noether Seminar Room

Online: Please click on the below link to join the seminar

https://icts-res-in.zoom.us/j/89183726486?pwd=V29OdFlwSFo4U1k5Tmg5NWJpY2FXUT09
Meeting ID: 891 8372 6486
Passcode: 212122