



ICTS String Seminar

Title : Heat transport in quantum mechanics : solvable models

Speaker : Loganayagam R (ICTS-TIFR, Bengaluru)

Date : Tuesday, 25 March 2025

Time : 11:30 AM (IST)

Abstract : We study solvable models of heat transport between two QM systems at different temperatures. At some initial time $t=0$, we turn on a weak interaction between the two systems, and study the transients as well as long time behaviour with heat current as the primary observable. We show via simple models that qualitatively different behaviours are possible. The simple models we study those which are Random Matrix like as well as those which are Schwarzian like. In these models, we derive a variety of exact results including the small time transients, long time approach to steady state as well as the thermal conductivity. We show how all these possibilities are realized in different limits within a more realistic exactly solvable model, namely the Double Scaled SYK model.

(Work done in collaboration with Prithvi Narayan and Swathi T S from IITPKD)

Venue : Madhava Lecture Hall

Zoom Link: <https://icts-res-in.zoom.us/j/88092766911?pwd=R3ZrVk9yeW96ZmQ4ZG9KRzVhenRKZz09>

Meeting ID: 880 9276 6911

Passcode: 232322