ICTS Condensed Matter Seminar

Title : Aspects of Eigenstate Thermalization: Entanglement Entropy, Bounds on Chaos, and Non-Abelian ETH

Speaker : Chaitanya Murthy (Stanford University)

Date : Tuesday, 12th July 2022

Time : 03:00 pm (IST)

Abstract : I discuss the key aspects of three of my papers related to the Eigenstate Thermalization Hypothesis (ETH), which explains why chaotic quantum many-body systems thermalize internally. The first [Phys Rev. E 100, 022131 (2019)] concerns the bipartite entanglement properties of an energy eigenstate with nonzero energy density. In the second [Phys. Rev. Lett.123, 230606 (2019)], I show that the Maldacena-Shenker-Stanford bound on the growth rate of the out-of-time-order four-point correlator in chaotic quantum systems follows directly from the general ETH structure of operator matrix elements. Finally [arXiv:2206.05310v1], I discuss the interesting ways in which the ETH needs to be modified in systems with continuous non-Abelian symmetries (e.g., models with global SU(2) spin rotation symmetry).

Venue : Offline: Emmy Noether Seminar Room

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

https://icts-res-in.zoom.us/j/81381089496?pwd=UmtTRDUvMGUzZncza1dnVjNmcnZxZz09
Meeting ID: 813 8108 9496
Passcode: 121222