ICTS Seminar

Title : Out of time order quantum dissipation

Speaker : Soumyadeep Chaudhuri, ICTS-TIFR, Bangalore

Date : Wednesday, October 17, 2018

Time : 3:00 PM

Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore

Abstract : In this talk I will discuss the effective theory for computing OTOCs of a quantum Brownian particle interacting with a thermal bath. For concreteness, I will work with a model which is a perturbation over the Caldeira-Leggett model with harmonic baths. I'll demonstrate how the couplings in the effective theory are determined via sum rules involving OTO spectral functions of the bath. The Kubo-Martin-Schwinger relations between the bath correlators introduce new relations between the effective couplings which can be interpreted as nonlinear/OTO generalisations of the Fluctuation-Dissipation relation. I will also discuss how time reversal invariance in the bath constrains the form of the effective dynamics of the Brownian particle. This talk is based on an ongoing work done in collaboration with Bidisha Chakrabarty and R. Loganayagam.