

Week 6 Schedule

Speaker: Hao Geng

Title: It From ETH Part II

Abstract: In this talk, I will recap what we discussed in the workshop and finish the rest of it. I'll explain how the Cardy boundary enriched large- c CFT ensemble enables a derivation of the multi-interval entanglement entropy in AdS₃/CFT₂ and provides a natural way to see the emergence of the replica wormhole in the calculation of the Page curve of the black hole radiation. I'll also discuss some open problems in quantum gravity inspired by our work.

Masamichi Miyaji

Title: Perturbative Hilbert space of JT closed universes

Abstract: We consider gravitational path-integral of JT gravity of closed universe in AdS and dS spacetimes, for fixed extrinsic curvature boundary conditions where the spacetime boundary is rigid rather than random. In the absence of topology change, we calculate the amplitude and identify the perturbative Hilbert space. We find the Hilbert space is given by the infinite-dimensional co-invariant Hilbert space, which can be obtained from a space of boundary conditions modded by constraints. We also propose a finite N regularization of the model, whose Hilbert space dimension is non-trivial.