ICTS Synopsis Seminar

Title : Holography of Information in de Sitter Quantum Gravity

Speaker : Tuneer Chakraborty (ICTS-TIFR, Bengaluru)

Date : Wednesday, 1st May 2024

Time : 11:00 AM (IST)

Abstract : Based on the asymptotic structure of the Hilbert space of Quantum Gravity around a de Sitter background, we propose a novel path-integral based norm structure. Due to the diff $\times$ Weyl symmetry of the state wavefunctionals at late times, the integrand is gauge fixed via a Faddeev-Popov procedure. A residual gauge freedom persists which is found to correspond to the conformal group $SO(1,d+1)$. This freedom is further fixed by a point-fixing procedure within the state wavefunctionals. This norm is shown to reduce to Higuchi's group-average prescription in the non-gravitational limit. A novel definition of cosmological correlators is proposed which takes care of fixing large diffeomorphisms in the spherical dS slice. It is further shown that knowledge of all such correlators in a finite subregion of the late time slice is enough to completely deduce all cosmological observables in that state.

Venue : Emmy Noether Seminar Room

Zoom link: https://icts-res-in.zoom.us/j/92051632976?pwd=WGhTSklXKzBtZzVxS0xia2pQSzV3Zz09
Meeting ID: 920 5163 2976
Passcode: 010203