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Thermofield Dynamics and Gravity

Thursday 20 August 2015 11:30 (1 hour)

I will discuss thermofield dynamics in terms of a path-integral using coherent states, and also in terms of a field theoretic formulation on a manifold $\mathcal{M} \times \tilde{\mathcal{M}}$ where the two components have opposite orientation. As an application, a formulation of gravitational dynamics for noncommutative geometry using thermofield dynamics, with a doubling the Hilbert space modeling the noncommutative space will be considered. For 2+1 dimensions, since $\mathcal{M}$ and $\tilde{\mathcal{M}}$ have the opposite orientation, the commutative limit leads to the Einstein-Hilbert action as the difference of two Chern-Simons actions.

Presenter: NAIR, Parameswaran