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Effective group field theory metric for the universe

Wednesday 19 June 2024 15:00 (30 minutes)

Group field theory (GFT) is a background independent approach to quantum gravity that exhibits a rich phenomenology in the cosmological setting. In this talk we will explore a recent proposal that reconstructs an effective metric directly from the quantum theory. This is achieved by relating metric components to the expectation values of novel operators that are based on symmetries of the GFT action. The construction relies on a relational coordinate system spanned by four massless scalar fields. We will examine the effective metric of a flat homogeneous universe with perturbations.

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