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The de Sitter Instanton from Euclidean Dynamical Triangulations

Wednesday, August 10, 2022 4:50 PM (20 minutes)

In this talk, I will revisit the emergence of de Sitter space in Euclidean dynamical triangulations (EDT). Working within the semi-classical approximation, it is possible to relate the lattice parameters entering the simulations to the partition function of Euclidean quantum gravity. We verify that the EDT geometries behave semi-classically, and by making contact with the Hawking-Moss instanton solution for the Euclidean partition function, we show how to extract a value of the renormalized Newton coupling from the simulations. I will discuss new ways to extract the necessary quantities from the lattice configurations and present an updated value for the renormalized Newton coupling.

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