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Differential Equations for Cosmological Correlators

Tuesday 12 December 2023 16:00 (30 minutes)

I will describe how methods largely developed to tackle problems in QCD are extremely useful to understand the gravitational problem of the initial conditions. More specifically, I will how to obtain differential equations (in terms of boundary momenta) for tree-level cosmological correlators in a toy model. The differential equations follow a set of self consistent rules that can be explained autonomously, regardless of the "bulk time integral"picture used to derive them in first place. This "kinematic flow,"besides providing a practically useful way of computing the correlators, suggests that there is an alternative description of cosmology in which time evolution is an output, rather than wired-in from the get-go.

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