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Scale-invariant inflation

Wednesday, 15 May 2024 12:01 (5 minutes)

Fundamental scale invariance has been proposed as a new theoretical principle beyond renormalizability. Besides its highly predictive power, a scale-invariant formulation of gravity could provide a natural explanation for the long-standing hierarchy problem and interesting applications in cosmology.
We present a globally scale-invariant model of quadratic gravity and study its solutions in a spatially flat Robertson-Walker metric. The system admits a dynamical flow from an unstable to a stable fixed point, where scale symmetry gets spontaneously broken, and a mass scale —the Planck mass —is classically generated. This trajectory is compatible with an arbitrarily long stage of inflation which is investigated both at the classical level and at first order in perturbation theory. We outline some of the most recent result obtained within the framework of scale-invariant inflation.

Would you be interested in presenting a poster? (this will not impact the decision on your talk)

yes

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