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Post-inflationary enhancement of adiabatic perturbations in modular cosmology

Thursday 25 September 2025 17:06 (18 minutes)

In this talk I will present a recent investigation where we show that multi-field inflationary models with negligible turning in field space during inflation can lead to an effective sourcing of adiabatic from entropic perturbations after the end of inflation. I will illustrate this general phenomenon with a detailed analysis of an inflationary model whose scalar potential is determined by modular invariance. Its entropic perturbations are frozen during inflation, but instead, they are converted into adiabatic ones in the first post-inflationary e-folds. Finally, I will show that the curvature power spectrum, giving rise to CMB fluctuations, reaches a novel and enhanced plateau and end up with a discussion on the implications on the inflationary observables As, ns and r.

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