

Loop Blow-Up Inflation: a new inflationary model from string theory

Thursday, 4 July 2024 12:50 (5 minutes)

The topic of this talk will be a new inflationary model called ‘Loop Blow-Up Inflation’, first presented in 2403.04831. This model originates from string theory, by including string loop corrections in the potential of a blow-up Kähler modulus, a scalar field playing the role of the inflaton. The loop effects become dominant as soon as the inflaton is displaced from its post-inflationary minimum, giving rise to an inflationary potential with an inverse-power law behaviour. This talk will focus mostly on the post-inflationary history and reheating mechanisms predicted for different brane set-ups that realize the Standard Model. The predictions for the spectral index, the tensor-to-scalar ratio, and dark radiation are in good agreement with CMB data.

Title of the Poster/Talk

Related Papers/Preprints

<https://arxiv.org/pdf/2403.04831>

Primary authors: HEBECKER, Arthur-Georg; BRUNELLI, Luca (Università di Bologna); CICOLI, Michele (Istituto Nazionale di Fisica Nucleare); KUESPERT, Ruben (University of Heidelberg); BANSAL, Sukruti

Presenter: BRUNELLI, Luca (Università di Bologna)

Session Classification: Young Scientist Forum