

Unveiling the dynamics of reheating in modified chaotic and mutated hilltop inflation

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The Reheating era of inflationary Universe can be parameterized by various parameters like reheating temperature T_{re} , reheating duration N_{re} and average equation of state parameter \bar{w}_{re} , which can be constrained by observationally feasible values of scalar power spectral amplitude and spectral index. In our work, we have done the single phase reheating study of a modified form of quadratic chaotic potential in order to put limits on parameter space of model. By investigating the reheating epoch using Planck+BK18+BAO observational data, we show that even a slight modification in basic chaotic model can make it consistent with latest cosmological observations. We also find that the study of reheating era helps to put much tighter constraints on model and effectively improves accuracy of model.

Track type

Cosmology

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