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Inflection point inflation in SuperGravity

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We study the inflection point inflation generated by polynomial superpotential and canonical K\"ahler potential under the supergravity framework, where only one chiral superfield is needed. We find the special form of the scalar potential limits the possible Hubble value up to $\mathcal{O}(10^{10})$ GeV and the inflaton mass to $\mathcal{O}(10^{11})$ GeV. We obtained analytic results for samll field cases and present numerical results for large field ones. We find the tensor to scalar ratio r is always suppressed in these models while the running of spectral index α will be testable in next generation CMB experiments. We also discuss the possible effects of SUSY breaking polonyi term presenting in the super potential. We find a general upper bound for SUSY breaking scale for a given Hubble value.

Summary

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