

A simple model for curved inflation

In general relativity, inflationary models with a non-zero background curvature require additional parameters or fine-tuning compared to flat inflation. For this reason, there is no consensus on the primordial power spectrum that should be considered at large scales in a curved Universe. I will present a model of curved inflation not requiring additional parameters and in which the usual canonical quantization and Bunch–Davies vacuum of the flat case can be considered. The framework is a recently proposed parameter-free modification of general relativity in which a topological term is added to the Einstein equation. This model gives a natural and simple solution to the problem of constructing curved inflation, and at the same time provides an additional argument for this topological modification of general relativity.

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