

Inflation from Entropy: Inflationary Solutions in the Gravity from Entropy Framework

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Gravity from entropy proposes quantum relative entropy between the spacetime metric and the metric induced by geometry and matter fields as the fundamental action for gravity. The resulting modified Einstein equations reduce to general relativity in the weak-coupling, low-curvature limit, while departing from it at high curvature. In this talk, I derive the Friedmann-equation analogues of GfE for a spatially flat FLRW universe and show that the vacuum equations admit inflationary solutions, with no inflaton field or added potential. This points to an entropic origin for inflation that avoids the need for a new scalar field. Assuming the standard relation between slow-roll parameters and CMB observables carries over to GfE, the theory predicts a viable primordial spectrum.

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