

## Slinky Inflation

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We present a new approach to quintessential inflation, in which both dark energy and inflation are explained by the evolution of a single scalar field. We start from a simple scalar potential with both oscillatory and exponential behavior. We employ the conventional reheating mechanism of new inflation, in which the scalar decays to light fermions with a decay width that is proportional to the scalar mass. Because our scalar mass is proportional to the Hubble rate, this gives adequate reheating at early times while shutting off at late times to preserve quintessence and satisfy nucleosynthesis constraints.

We discuss a simple model which solves the horizon, flatness, and “why now” problems. Without any additional tuning of parameters, this model satisfies all constraints from CMB, large scale structure, and nucleosynthesis. The predictions for the inflationary spectral indices are  $n_S = n_T = 1$ . In this model we are currently beginning the third cosmic epoch of accelerated expansion.

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