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The Unified No-Scale Inflation

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One of the outstanding problems in theoretical physics is the cosmological constant problem. In the context of supersymmetry, the origin of supersymmetry breaking remains a mystery. We present a self-contained no-scale supergravity model which incorporates the Starobinsky-like inflation, an adjustable supersymmetry breaking scale $\mathcal{O}(10^3)$ GeV, and a small positive cosmological constant (dark energy density) at a scale $\mathcal{O}(10^{-120})$. The mechanism also avoids the problem of AdS vacua, which are often found in supergravity models and are corrected a posteriori. This provides a framework which can be combined with various inflationary potentials, including the α-attractors.

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