

Inflation from Phase Transitions in Scalar-Tensor theories

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Inflation with tunneling from a false to a true vacuum is viable in the presence of a non-minimally coupled scalar field. As a by-product this field also sets dynamically the value of the Planck mass, which can be exponentially large. Therefore along with Inflation we also suggest a natural dynamical explanation for why gravity is so weak today. Moreover we predict a spectrum of gravity waves peaked at around 0.1 mHz, that will be detectable by the planned space inteferometer LISA and we discuss interesting predictions on cosmological scalar and tensor fluctuations in the CMB. Finally we discuss possible ways of making the additional scalar compatible with late-time constraints.

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