

Thermodynamics of $f(R)$ Theories

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This work starts from a toy model for inflation in a class of modified theories of gravity in the metric formalism. Instead of the standard procedure – assuming a non-linear Lagrangian $f(R)$ in the Jordan frame – we start from a simple φ^2 potential in the Einstein frame and investigate the corresponding $f(R)$ in the former picture. The addition of an ad-hoc Cosmological Constant in the Einstein frame leads to a thermodynamical interpretation of this physical system, which allows further insight on its (meta)stability and evolution.

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