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Universality classes for models of inflation

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In some recent papers it was proved that the cosmological evolution of a scalar field in a potential can be descirbed in terms of a renormalisation group equation. The slow rolling regime of the inflaton can be compared with the slow departure from a fixed point of the beta function in the RG group context.
This can be seen as an effective approach to the problem in the sense that the perturbative expansion of the beta function close to the fixed point drives the reconstruction of the potential associated with the theory. This explains in part the universality observed in the predictions of a certain number of inflationary models. The nearly de Sitter geometry of the inflating universe can also be mapped into a corresponding anti de Sitter landscape that allows to discuss the topic in the context of the AdS/CFT correspondence. The holographic flow from the fixed point can then be naturally associated with the departure from the nearly AdS geometry. In this framework it is possible to reconsider some troblesome aspects under a whole different point of view that may suggest some new and intriguing interpretation.

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