

# Cosmological attractor inflation from the RG-improved Higgs sector of finite gauge theory

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## Abstract

© 2016 IOP Publishing Ltd and Sissa Medialab srl. The possibility to construct an inflationary scenario for renormalization-group improved potentials corresponding to the Higgs sector of finite gauge models is investigated. Taking into account quantum corrections to the renormalization-group potential which sums all leading logs of perturbation theory is essential for a successful realization of the inflationary scenario, with very reasonable parameter values. The inflationary models thus obtained are seen to be in good agreement with the most recent and accurate observational data. More specifically, the values of the relevant inflationary parameters,  $n_s$  and  $r$ , are close to the corresponding ones in the R2 and Higgs-driven inflation scenarios. It is shown that the model here constructed and Higgs-driven inflation belong to the same class of cosmological attractors.

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## Keywords

cosmology of theories beyond the SM, inflation, modified gravity