

Stationary configurations of the SM potential: EW stability and Higgs inflation

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Summary

We extrapolate the Standard Model Higgs potential at very high energies. Starting from the most updated experimental data, the calculation is done according to the present state-of-the-art, namely at NNLO in the matching conditions and also in the running of the couplings. An improved two-loop RG effective potential is taken into account. Our goal is to study in detail the stability of the model and the gauge independent observables (e.g. the highness of the potential, which is related to the primordial tensor-to-scalar ratio) associated with two stationary configurations of particular interest: a second degenerate minimum and a rising inflection point. In these frameworks, the viability of a Higgs-driven primordial inflation is considered.

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