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Higgs inflation on the brane

We analyze the slow-roll inflation within a brane framework with a real Higgs field confined at the brane. We prove that inflation occurs for field value below the 4- dimensional Planck scale and produces cosmological perturbations in accordance with observations. We find the dependence of the spectral index with the Higgs mass, the obtained result from running of the spectral index in the range of light Higgs masses 100 GeV < mH < 170 GeV are consistent with constraints from WMAP5.

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