

Fundamental physics in the cosmos: The early, the large and the dark Universe



Contribution ID: 31

Type: **not specified**

CMB constraints on the inflaton couplings in α -attractor models

Thursday 28 September 2017 14:00 (17 minutes)

We show that the parameter space of single field models of inflation contains viable regions in which the inflaton couplings to radiation can be determined from the properties of CMB temperature fluctuations, in particular the spectral index. This may be the only way to measure these fundamental microphysical parameters, which shaped the universe by setting the initial temperature of the hot big bang and contain important information about the embedding of a given model of inflation into a more fundamental theory of physics. We apply the method to α -attractor models in which the inflaton couples to other scalars or fermions.

Primary author: Dr DREWES, Marco (Université catholique de Louvain)

Co-authors: Dr KANG, Jin U (ICTP); Mr MUN, Ui Ri (SISSA)

Presenter: Dr DREWES, Marco (Université catholique de Louvain)

Session Classification: Parallel Sessions: Cosmology & Astroparticle Physics - Inflation

Track Classification: Cosmology & Astroparticle Physics