



Contribution ID: 113

Type: Plenary/Parallel talk

Effective field theory of waterfall in hybrid inflation

Monday, 22 August 2022 15:00 (20 minutes)

We examine the validity of the classical approximation of the waterfall phase transition in hybrid inflation from an effective field theory (EFT) point of view. The EFT is constructed by integrating out the waterfall field fluctuations, up to one-loop order in the perturbative expansion. Assuming slow-roll conditions are obeyed, right after the onset of the waterfall phase, we find the backreaction of the waterfall field fluctuations to the evolution of the system can be dominant. In this case the classical approximation is completely spoiled. We derive the necessary constraint that ensures the validity of the EFT.

Primary authors: Dr GONG, Jinn-Ouk (Ewha Womans University); MYLOVA, Maria (Ewha Womans University)

Presenter: MYLOVA, Maria (Ewha Womans University)

Session Classification: Parallel Session Lecture Room

Track Classification: Inflation and the primordial universe