

IberiCOS 2022



Contribution ID : 41

Type : not specified

Contrasting predictions of Loop Quantum Cosmology with observations

Thursday, 5 May 2022 12:45 (15)

It has been shown that Loop Quantum Cosmology (LQC) has the potential to alleviate anomalies related to large scale power suppression and the lensing amplitude present in observations of the CMB. As a consequence of the pre-inflationary dynamics, some modes reach the onset of inflation in an excited state with respect to the Bunch-Davies vacuum, resulting in a scale dependence of the primordial power spectrum for large scales. However, the choice of vacuum state in the pre-inflationary regime and free parameters of the theory impact the concrete predictions. In this ongoing work we perform an MCMC analysis of the hybrid LQC model, contrasting with observations from the CMB, in order to obtain constraints on its free parameters and investigate whether the alleviation of some anomalies is prevalent.

Presenter(s) : NEVES, Rita (Universidad Complutense de Madrid)