Copernicus Webinar and Colloquium Series



Contribution ID: 179

Type: not specified

A large $|\eta|$ approach to single field inflation

Tuesday 27 June 2023 15:00 (1h 20m)

Single field models of inflation capable to produce primordial black holes usually require a significant departure from the standard, perturbative slow-roll regime. In fact, in many of these scenarios, the size of the slow-roll parameter $|\eta|$ becomes larger than one during a short phase of inflationary evolution. In order to develop an analytical control on these systems, I explore the limit of $|\eta|$ large, and promote $1/|\eta|$ to a small quantity to be used for perturbative expansions. Formulas simplify, and analytic expressions for the two-and three-point functions of curvature fluctuations are obtained. I will then discuss the behavior of loop corrections to inflationary observables in this framework.

Presenter: TASINATO, Gianmassimo (Universita di Bologna & Swansea University)