STARS2019 / SMFNS2019

Contribution ID: 3

Type: Talk

Generalized SU(2) Proca inflation

Tuesday 7 May 2019 14:50 (20 minutes)

The generalized SU(2) Proca theory is the only modified gravity theory, nowadays, able to accommodate in a natural way a configuration of vector fields which is compatible with the homogeneous and isotropic nature of our Universe. In previous works, we have been able to uncover a self-tuning mechanism that drives an eternal slow-roll inflationary period for an ample spectrum of initial conditions. We have made a little and justified modification to the action so that the mentioned self-tuning mechanism is preserved but now the inflationary period has a graceful exit and is long enough to solve the classical problems of the standard Cosmology. The action is free of tachyonic, ghost, and Laplacian instabilities, and, in addition, provides a non-anomalous speed for the gravity waves. The usual naturalness problem of the primordial inflation in this scenario is, therefore, essentially absent.

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Track Classification: STARS