



Contribution ID: 99

Type: parallel talk

Running Non-Minimal B-L Inflation with Stabilized Inflaton Potential

Monday 4 May 2015 18:00 (15 minutes)

We consider $\lambda\phi^4$ inflation with non-minimal gravitational coupling in the context of the minimal B-L extension of the Standard Model, where the B-L Higgs field with a $+2$ B-L charge is identified as an inflaton. When quantum corrections for the inflation potential are taken into account, the instability of the potential occurs because of the small quartic coupling during the inflation. Imposing a condition on the beta function of the quartic coupling to remove the instability, we analyze the slow-roll inflation scenario to obtain the inflationary predictions as well as predictions for low energy observables such as the mass ratio of the B-L gauge boson to the right handed neutrinos and the inflaton mass. With the correlations between the inflationary predictions and the low energy observables, more precise measurements of the inflationary predictions in the future experiments can give a more severe constraint on low energy observables. On the other hand, search for the minimal B-L model can also provide constraint on the inflationary predictions.

Author: Mr RAUT, Digesh (Department of Physics, University of Alabama)

Co-author: Mr OKADA, Nobuchika (Department of Physics, University of Alabama)

Presenter: Mr RAUT, Digesh (Department of Physics, University of Alabama)

Session Classification: Cosmology II