Contribution ID: 37

Variable gravity: A suitable framework for quintessential inflation

Thursday 29 January 2015 16:15 (15 minutes)

A unified description of inflation and late-time cosmic acceleration (quintessential inflation) will be discussed in variable gravity frame work. Nonminimal coupling between massive neutrinos and the scalar field is considered in the Einstein frame.

Tensor-to-scalar ratio is large (r > 0.1) such that the scale of inflation is around the GUT scale.

Relic gravitational wave spectrum has a blue spectrum due to the presence of kinetic energy dominated regime after inflation.

Instant preheating is implemented since ordinary reheating mechanism does not work here. Lyth bound can be evaded in this model.

After neutrinos become non-relativistic the nonminimal coupling becomes effective and plays an important roll for the scalar field to exit from the scaling behavior and

dominate over the matter giving rise to late time cosmic acceleration.

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Session Classification: Inflation-II