



Contribution ID: 372

Type: Parallel Session Talk

Reheating Temperature after Inflation in String-inspired Supergravity

Friday, 23 July 2010 15:10 (13 minutes)

By using a string-inspired modular invariant supergravity model, which was proved well to explain WMAP observations appropriately, a mechanism of preheating just after the end of inflation is investigated. By using the canonically normalized and diagonalized scalars, the decay rates of these fields are calculated inflaton S into gauge sector fields.

The reheating temperature is estimated by both the stability condition of Boltzmann equation and the instant preheating mechanism. Both of reheating temperatures are almost the same order of magnitude $\sim O(10^{10})$ GeV. Because two mechanisms are completely independent processes, the former is caused through the inflaton decays into gauge fields and gauginos and the latter is caused by the scattering process of two inflatons into two right handed sneutrinos, which will decay into Higgs fields and other minimal SUSY standard model (MSSM) particles, we conclude that both mechanisms play essential roles in the preheating process after inflation.

Primary author: HAYASHI, Mitsuo J. (Tokai University)

Presenter: HAYASHI, Mitsuo J. (Tokai University)

Session Classification: 11 - Particle Astrophysics and Cosmology

Track Classification: 11 - Particle Astrophysics and Cosmology