Contribution ID : **55** Type : **Contributed (oral)**

Density Perturbations from Curvatons Revisited

Monday, 4 June 2012 17:40 (0:20)

Abstract content

The curvaton scenario provides a simple explanation for the generation of the cosmological perturbations, however most works have focused on cases with rather trivial curvaton energy potentials, e.g. quadratic ones. In this talk I will present the rich phenomenology of curvatons by showing that non-quadratic curvatons exhibit new behaviors, leading to interesting signals in the resulting density perturbations. Especially, I will show that curvaton potentials that are flatter compared to a quadratic lead to enhancement of the linear and second-order density perturbations, while steepend potentials can generate strongly scale-dependent non-Gaussianity. Our analyses are analytic, and thus provide a systematic framework for studying curvatons in general.

Primary author(s) : Dr. KOBAYASHI, Takeshi (Canadian Institute for Theoretical Astrophysics, University of Toronto)

Presenter(s) : Dr. KOBAYASHI, Takeshi (Canadian Institute for Theoretical Astrophysics, University of Toronto)

Session Classification : Cosmology

Track Classification : Cosmology