

Inflation and gravitino dark matter embedded in gauge-mediated SUSY-breaking mechanism

Cosmic inflation in the primordial universe is now considered as a part of the “standard” cosmology because it can solve the horizon and flatness problems and account for the origin of the primordial perturbation. However, we still cannot tell what is the real model of inflation that our universe has experienced.

On the other hand, supersymmetry is one of the most promising candidate of the physics beyond the standard model of particle physics and expected to be proved by LHC and other experiments. The realistic supersymmetry model must be broken at a low energy scale and we require “hidden SUSY-breaking sector”. Here we constructed a inflation model embedded in a SUSY-breaking sector and succeeded in finding a parameter set that does not have any critical cosmological problems.

In this talk, I introduce this model and explain how we avoid cosmological problems. I also discuss the implication to the particle physics model.

Author: Dr KAMADA, Kohei (DESY)

Presenter: Dr KAMADA, Kohei (DESY)