



Contribution ID: 26

Type: oral

## Domain wall and isocurvature perturbation problems in axion models

*Thursday, November 14, 2013 8:55 AM (25 minutes)*

Axion models have two serious cosmological problems, domain wall and isocurvature perturbation problems. These problems may be solved if the field value of the Peccei-Quinn (PQ) scalar is large during inflation. However, the fluctuations of the PQ field grow after inflation through the parametric resonance and stable axionic strings may be produced, which results in the domain wall problem. We study formation of axionic strings using lattice simulations and obtain the constraints on the PQ breaking scale and the Hubble parameter during inflation.

**Primary author:** Prof. KAWASAKI, Masahiro (Institute for Cosmic Ray Research, University of Tokyo)

**Presenter:** Prof. KAWASAKI, Masahiro (Institute for Cosmic Ray Research, University of Tokyo)

**Session Classification:** Cosmology II

**Track Classification:** Cosmology