

# Inflation and Preheating in the Mixed Higgs- $R^2$ Model

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We consider the inflation and preheating process in a two-field model which consists of the  $R^2$  term in the Starobinsky model and standard model Higgs field with non-minimal coupling. The inflation dynamics is found to be effectively single-field like with large non-minimal coupling. The (p)reheating process presents different properties from those in single-field models. The violent behavior and the cutoff scale problem in the Higgs inflation are resolved by the  $R^2$  term. More precisely, the cutoff scale is pushed up to Planck scale and the spiky effective mass found in the single-field Higgs inflation gets milder.

**Presenter:** HE, Minxi (RESCEU, UTokyo)

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