

# Inflation and Dark Matter with Weyl Symmetry

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The cosmological observations of cosmic microwave background and large-scale structure indicate that our universe has a nearly scaling invariant power spectrum of the primordial perturbation. However, the exact origin for this primordial spectrum is still unclear. We present a theoretical framework and several viable models to explain cosmic inflation and dark matter simultaneously, both are important ingredients for the formation of cosmic structures. We also discuss the connection with standard Starobinsky inflation and difference in the prediction on the magnitude of primordial gravitational waves, which may be probed by future experiments on cosmic microwave background.

**Primary author:** Prof. TANG, Yong (University of Chinese Academy of Sciences)

**Presenter:** Prof. TANG, Yong (University of Chinese Academy of Sciences)

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