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Parameter Dependences of Inflation in Modified Modular invariant Supergravity

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We will propose a new modular invariant model with gaugino condensation inspired by heterotic string compactification. We investigate possible parameter ranges for which slow role inflation scenario can apply. As results of these survey, the calculated values of inflation parameters such as power spectrum, spectral index and its tilt coincide with the WMAP observations almost completely. The ratio between scalar power spectrum and tensor is also predicted to be the value $r \sim 6.8 \times 10^{-2}$ seems in range possibly observed by Planck satellite soon for some choices of parameters. Moreover, the possibility of observation of gauginos by LHC experiments, which will give some hints of identity of dark matters. The plausible supergravity model of inflation which here described will open the hope to construct the realistic theory of particle theory and cosmology. Modulus and anomaly mediation are discussed for the super symmetry breaking.

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