

PLANCK mission, Starobinsky inflation and its realization in old-minimal supergravity

Tuesday 3 December 2013 16:00 (25 minutes)

It is argued that the recent PLANCK data about the CMB favors some particular inflationary models, such as the Starobinsky inflation and the Higgs inflation. It is, therefore, important to reconsider the embedding of the Starobinsky inflation into supergravity and string theory, towards expanding the current phenomenological status of the Starobinsky inflation to a fundamental theory of gravity, like superstrings. It is demonstrated that there are good prospects for that, because the supergravity realization of the Starobinsky inflation leads to the no-scale supergravity models favored by many superstring compactifications, the supersymmetry breaking scale appears to be arbitrary, and a (tree level) cosmological constant vanishes. The recently constructed new models of the Starobinsky inflation in supergravity are compatible with all known observations, and offer new possibilities for subsequent reheating and leptogenesis.

- Reference::

e-Print: arXiv:1309.7494, together with T. Terada (U. of Tokyo)

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