The Modern Physics of Compact Stars and Relativistic Gravity 2019



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Affine Gravity: From vacuum to matter in affine spacetime

In this talk we firstly explore the theoretical aspects of purely affine gravity in the presence of scalar fields, and reveal the intimate connection between vacuum state and metric structure. In a second stage, cosmological inflation will be studied in view of cosmological observations and unavoidable frame dependence occurring in general relativity. We show that affine geometry, based solely on geodesics with no a priori notion of lengths and angles, leads to general relativity dynamically and may clear away frame ambiguity in inflationary dynamics.

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