

Conformal symmetry of the cosmological constant and the cosmological constant vacuum

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Abstract

In this paper we analyze the relationship between the cosmological constant and the cosmological constant vacuum. We investigate the formation of the cosmological constant in the presence of a massless scalar field. After introducing the appropriate positive and negative limits, we show that the formation of the cosmological constant is always possible in the presence of a massless scalar field. We also demonstrate that the formation of the cosmological constant is in agreement with the second order noncommutative Lagrangian of the common scalar fields.