

Lower bound on the gravitino mass in R-symmetry breaking new inflation model

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In supersymmetric theories, the R symmetry plays a unique role in suppressing a constant term in the superpotential. In single chiral field models of spontaneous breaking of a discrete R symmetry, an R-breaking field is a good candidate for an inflaton in new inflation models. We show that the model predicts a lower limit on the gravitino mass, 100 TeV. This lower limit is consistent with the observed Higgs mass of 126 GeV when the masses of the stops are of order the gravitino mass scale.

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