

R-Parity violating decays of NLSPs at the LHC

Supersymmetric extensions of the Standard Model with small R-parity and lepton number breaking naturally yield a consistent cosmology incorporating primordial nucleosynthesis, leptogenesis, and gravitino dark matter. Since the gravitino is no longer stable, its highly suppressed decays should lead to characteristic signatures in high-energy cosmic rays. This talk examines the implications of constraints on gravitino lifetime from recent astrophysical data for the decays of the next-to-lightest superparticle (NLSP) at the LHC.

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