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## R-Parity violating minimal supergravity at the LHC

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We consider the case where supersymmetry with broken R-parity is embedded in the minimal supergravity model (mSUGRA). This alters the standard mSUGRA spectrum and opens a wide range in parameter space, where the scalar tau is the lightest supersymmetric particle, instead of the lightest neutralino. We study the resulting LHC phenomenology. Promising signatures would be detached vertices from long-lived staus, multilepton final states and multi-tau final states. We investigate the corresponding cross sections and decay rates in detail.

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