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Update on R-Parity violation at the LHC

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We examine in detail the current LHC coverage of signatures arising from the R-Parity-violating Minimal Supersymmetric Standard Model. We take into account all experimental analyses for prompt signatures within this context, both explicit searches for RPV signals as well as other analyses containing applicable experimental signatures. These are contrasted with well-motivated phenomenological scenarios whereby we take the R-Parity-violating CMSSM as a guideline, imposing both Higgs and flavour constraints. We find that the analyses performed by the experimental collaborations provide very good coverage of relevant signatures. Finally, we address the question of whether R-Parity violation can ease the stringent collider constraints on models with CMSSM boundary conditions. We find that virtually all R-Parity-violating CMSSM models are either more strongly constrained or similarly constrained in comparison to the R-Parity-conserving CMSSM.

Presentation type

Parallel talk

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