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The Constrained E6SSM at the LHC

Thursday, 1 September 2011 14:30 (20 minutes)

We will discuss LHC signatures of the constrained exceptional supersymmetric standard model (cE6SSM), inspired by unification under the gauge group E6. This model contains light exotic colour triplet charge 1/3 fermions, which we refer to as D-fermions; we calculate their LHC production cross section and discuss their decays. We also show that the model's extra Z' gauge boson may decay into exotic states, increasing its width and modifying the line shape of the dilepton final state. We will examine some cE6SSM benchmark points, discussing the impact of recent LHC searches.

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