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## **Z'** production in an extended MSSM

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Searching for heavy neutral gauge bosons  $Z'$ , predicted in extensions of the Standard Model based on a  $U(1)'$  gauge symmetry, is among the main new physics investigations undertaken by the experiments at the Tevatron and at the Large Hadron Collider.

I will discuss study  $Z'$  phenomenology at hadron colliders according to several  $U(1)'$ -based models and in the Sequential Standard Model. In particular, as far as its decay is concerned, we shall include possible  $Z'$  decays into supersymmetric particles, besides the Standard Model modes so far investigated. Results on branching ratios and cross sections will be presented, as a function of the MSSM and  $U(1)'$  parameters, which will be varied within suitable ranges. Special attention will be paid to the decay into chargino, neutralino and charged-slepton pairs and gauge the feasibility to discover supersymmetry through this channel at the LHC.

**Author:** CORCELLA, Gennaro

**Presenter:** CORCELLA, Gennaro

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