

Abstract Submitted
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A Razor Search for Dark Matter at a Future 100 TeV Collider

ADARSH PYARELAL, University of Arizona — The existence and nature of dark matter is one of the most exciting (and perplexing) issues in modern physics. The Minimal Supersymmetric Standard Model provides a viable candidate for dark matter in the form of the lightest supersymmetric particle (LSP), which is predicted to be absolutely stable. We can study such particles at high energy colliders. The potential for studying supersymmetric dark matter and related particles at the Large Hadron Collider, with a center of mass energy of 14 TeV, however, is very limited. The recently proposed 100 TeV proton proton collider would open up many opportunities to find new physics. In this talk, I will describe a search strategy for Higgsinos (the superpartners of the Higgs boson) that decay to pure bino LSP dark matter at a 100 TeV proton-proton collider using 'razor' kinematical variables, and show what regions of the MSSM parameter space it can probe.

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