

Abstract Submitted
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An investigation of observable signatures in ATLAS from LSP decays to the Hidden Valley JACOB MINER, University of Washington, ATLAS HIDDEN VALLEY GROUP COLLABORATION — We present an ongoing investigation into the observable signatures from the Hidden Valley* model in the ATLAS detector at the Large Hadron Collider. Other recent studies have investigated decays to the Hidden Valley from a Z' or Higgs, however, this study investigates decays through the neutral LSP in supersymmetric scenarios. The neutral Hidden Valley particles may have long lifetimes and thus produce unique challenges in detecting their decays. Using a modified Pythia card created by M. Strassler, we show that the triggers proposed in the Z' and Higgs studies will assist in detecting the LSP decay to Hidden Valley pions.

*M. Strassler and K. Zurek, Physics Letters B 651 (2007) 374–379; Physics Letters B, 661 (4), p.263-267

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