

Abstract Submitted
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Black Holes and other exotica at the Large Hadron Collider¹

ARUNAVA ROY, MARCO CAVAGLIA, University of Mississippi — If the fundamental scale of gravity is of the order of 1 TeV, black holes might be produced at the Large Hadron Collider. We present simulations of black holes and other exotic predictions of physics beyond the Standard Model - supersymmetry and string theory. Black hole events are simulated using the CATFISH Monte Carlo generator, simulations of string resonances use PYTHIA and supersymmetric simulations use a combination of ISAJET and PYTHIA. Our analysis shows that black holes can be discriminated from supersymmetry and string resonances. Isolated leptons with high transverse momentum can be used to distinguish black holes and supersymmetry. Z bosons and photons with high transverse momentum allow the discrimination of black holes and string resonances. The analysis of visible and missing energy /momenta, event-shape variables and multilepton events complement these techniques.

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