

Abstract Submitted
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Black Hole production in cosmic ray showers ARUNAVA ROY, MARCO CAVAGLIA, The University of Mississippi — One way around the hierarchy problem of particle physics is to introduce large extra dimensions (LED). This suggests that gravity may become strong at the TeV and so production of scale black holes (BH's) would be possible by particle colliders and UHECR's. The interesting question is, what would be the BH signatures and whether we would detect them at the LHC or at the Auger Observatory. We also deal with the case of rotating BH's and how they may decay. Page [1976] showed that the power emitted from rotating four-dimensional BH's increases with angular momentum and so it is worth considering if this picture changes in higher dimensions. Also discussed is the case of excited string excitations from the decay of strings produced by neutrino-quark interactions. Ref: Page, D.N. (1976), Particle emission rates from a black hole. II. Massless particles from a rotating hole, Phys. Rev. D 14, 3260 - 3273

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