Production of tidal-charged black holes at the Large Hadron Collider

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Abstract

Tidal-charged black hole solutions localized on a three-brane in the five-dimensional gravity scenario of Randall and Sundrum have been known for some time. The solutions have been used to study the decay, and growth, of black holes with initial mass of about 10 TeV. These studies are interesting in that certain black holes, if produced at the Large Hadron Collider, could live long enough to leave the detectors. I examine the production of tidal-charged black holes at the Large Hadron Collider and show that it is very unlikely that they will be produced during the lifetime of the accelerator.

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