

High Energy Physics - Phenomenology

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

Douglas M. Gingrich

(Submitted on 5 Jan 2010 (v1), last revised 4 Mar 2010 (this version, v3))

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.

Comments: addressed reviewer comments

Subjects: **High Energy Physics - Phenomenology (hep-ph)**; General Relativity and Quantum Cosmology (gr-qc); High Energy Physics - Theory (hep-th)

Cite as: [arXiv:1001.0626v3](#) [hep-ph]

Submission history

From: Douglas Gingrich Mr. [[view email](#)]

[\[v1\]](#) Tue, 5 Jan 2010 04:58:14 GMT (12kb)

[\[v2\]](#) Fri, 15 Jan 2010 18:10:43 GMT (12kb)

[\[v3\]](#) Thu, 4 Mar 2010 05:48:09 GMT (12kb)

[Which authors of this paper are endorsers?](#)

Download:

- [PostScript](#)
- [PDF](#)
- [Other formats](#)

Current browse context:

hep-ph

[< prev](#) | [next >](#)

[new](#) | [recent](#) | [1001](#)

Change to browse by:

[gr-qc](#)

[hep-th](#)

References & Citations

- [SLAC-SPIRES HEP](#)
([refers to](#) | [cited by](#))
- [CiteBase](#)

[1 blog link](#)(what is this?)

Bookmark

(what is this?)

[CiteULike logo](#)

[Connotea logo](#)

[BibSonomy logo](#)

[Mendeley logo](#)

[Facebook logo](#)

[del.icio.us logo](#)

[Digg logo](#)

[Reddit logo](#)