

General Relativity and Quantum Cosmology

Nonlinear instability of wormholes supported by exotic dust and a magnetic field

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(Submitted on 8 Jan 2010 (v1), last revised 11 Feb 2010 (this version, v2))

Recently, spherically symmetric, static wormholes supported by exotic dust and a radial magnetic field have been derived and argued to be stable with respect to linear radial fluctuations. In this report we point out that these wormholes are unstable due to the formation of shell-crossing singularities when the nonlinearities of the theory are taken into account.

Comments: 5 pages, no figures. A small paragraph added in Sec. III. An appendix added explaining the derivation of the main equations

Subjects: **General Relativity and Quantum Cosmology (gr-qc)**

Cite as: **arXiv:1001.1202v2 [gr-qc]**

Submission history

From: Olivier Sarbach [[view email](#)]

[v1] Fri, 8 Jan 2010 06:30:11 GMT (7kb)

[v2] Thu, 11 Feb 2010 15:29:34 GMT (8kb)

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