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Perturbation of heliosynchronous orbits in stable Kaluza-Klein theory

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(Submitted on 31 Jan 2010)

Although the methods and techniques have been greatly improved since the late nineteenth century, the precision on the measurement of the gravitational constant G does not exceed 1 part in 1000. Intrinsic variations of G caused by the geomagnetic field may explain the observed dispersion of the laboratory measurements. This involves a coupling between gravitation and electromagnetism (hereafter GE coupling) and a dependence of the effective G constant with latitude and longitude. In this paper I analyse the effects of this coupling in the framework of classical space mechanics by focusing on heliosynchronous orbits. The predictions are found inconsistent with experimental data from the SPOT mission.

Comments: 3 pages, 1 figure

Subjects: **Earth and Planetary Astrophysics (astro-ph.EP)**

Cite as: [arXiv:1002.0116v1](https://arxiv.org/abs/1002.0116v1) [astro-ph.EP]

Submission history

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[v1] Sun, 31 Jan 2010 09:36:18 GMT (193kb)

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