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Perturbation of heliosynchronous orbits in stable Kaluza-Klein theory

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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 dependance 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.

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