

IAF MICROGRAVITY SCIENCES AND PROCESSES SYMPOSIUM (A2)
Gravity and Fundamental Physics (1)

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HAS MICROSCOPE REVEALED A VIOLATION OF THE EQUIVALENCE PRINCIPLE ?

Abstract

The MICROSCOPE satellite ended its mission in October 2018. Aiming at testing the Equivalence Principle (EP), the funding hypothesis of the General Relativity with unprecedented precision, a first publication in 2017 showed no evidence of a violation at 10^{-14} level. Since then; 3 years of analysis made it possible to improve the accuracy by one order of magnitude, placing this test as a reference for the test of General Relativity (GR).

This presentation will focus on the most challenging topic of the data analysis: estimating errors and ensuring the best accurate test. The final result will be discussed and its impact on alternative theories to GR will be given.