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ENERGY-DEPENDENT DESCRIPTION OF GRAVITATION SUPPORTED BY AN ELECTROMAGNETIC TEST OF LOCAL LORENTZ INVARIANCE

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We put forward a possible intriguing connection between an energy-dependent metric for gravitation (obtained by fitting the data on the slowing down of clocks in the gravitational field of Earth) and the positive experimental results of a recently proposed electromagnetic test of breakdown of local Lorentz invariance, based on the detection of a voltage induced by a steady magnetic field.

Key words: gravitation, energy-dependent metric, breakdown of Lorentz invariance.

1. INTRODUCTION

The geometrical structure of the physical world - both at a large and a small scale - has been debated since a long. After Einstein, the generally

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