

**LOOKING FOR A POSSIBLE BREAKDOWN OF LOCAL  
LORENTZ INVARIANCE FOR ELECTROMAGNETIC  
PHENOMENA: THEORY AND FIRST EXPERIMENTAL  
RESULTS**

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We propose a new electromagnetic test of breakdown of local Lorentz invariance. It is based essentially on the detection of a non-zero force between a circular steady current and a charge, both at rest in the Earth frame. A preliminary experimental run gave a positive evidence for such an effect, which appears strongly dependent on the orientation of the circuit. Possible theoretical interpretations are briefly discussed.

Key words: Lorentz invariance, symmetry breaking, experimental results.