

Title: Analyzing Lorentz violation with short-range gravitational experiments

Author: Chenggang Shao

Abstract: Local Lorentz invariance (LLI) is an important component of General Relativity (GR). The test of LLI can not only probe the foundation stone of GR, but also help to explore the physics beyond GR and Standard Model. We gave a combined analysis of data from experiments at Huazhong University of Science & Technology and Indiana University to respectively limit the coefficients for Lorentz violation correcting the Newton force law as the inverse fourth and sixth power of distance, and gave the current best constraints.