

Experimental design and progress for testing Lorentz symmetry in gravity

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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. In the previous work, we have limited the LLI coefficients with the gravitational experiments (gravitational inverse square law) performed in our lab. As the Lorentz-violation signal between two parallel plates is dominated by the edge effects, we made a special experimental design to enhance the violation signal, hoping to test LLI at a more accuracy level. At present, the experiment is ongoing.

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