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Tests of local Lorentz invariance of post-Newtonian gravity

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General relativity (GR) is the current tour de force of gravitation that passes all experimental scrutinies with great precision. However, the difficult in incorporating quantum principles motives alternative theories beyond GR. Some of these theories predict the breakdown of local Lorentz invariance. Standard-model extension (SME) is a convenient effective-theoretic framework to study such possibilities from experiments. I will talk about lunar-laser-ranging, atom-interferometry, pulsar-timing experiments that probe post-Newtonian effects in SME.

Summary

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