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CPT and Lorentz violation as signatures for Planck-scale physics

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Minuscule deviations from CPT and Lorentz symmetry can arise in a number of theoretical approaches to quantum gravity. This opens an avenue for probing fundamental physics possibly arising at the Planck scale. We list some theoretical ideas along these lines. We further review Standard-Model Extension (SME), which describes the emergent low-energy effects. In the context of the SME, we discuss various experimental results that have been obtained recently.

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