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Tests of Relativity in the Tau Sector

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In the last couple of decades, there has been a tremendous growth of interest in testing fundamental symmetries, such as CPT and the Lorentz invariance of special relativity. Using effective field theory, it has been possible to parameterize a much broader range of symmetry violations that had previously been envisioned or tested. The new possibilities include different patterns of symmetry breaking in different sectors of the theory. However, for short-lived elementary particles like the tau, precision tests of Lorentz symmetry are very challenging, and the best constraints on Lorentz and CPT violations in the tau sector actually come from the observation of extremely high energy cosmic-ray photons and hadrons.

What is your topic?

Lepton universality and flavour violation

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