

Charged-lepton-flavor violation from Lorentz violation

Monday 27 September 2021 13:05 (20 minutes)

Lorentz invariance is among the most fundamental and tested symmetries in physics. Measurements from over two decades of experiments place stringent constraints on many Lorentz-violating interactions affecting the particles of the Standard Model. However, a large class of interactions inducing charged-lepton-flavor violation remains largely unexamined. In this talk, we discuss dominant Lorentz- and CPT-violating operators initiating flavor-changing tau and muon decays. Branching-ratio measurements from the MEG and BaBar collaborations allow several first constraints to be placed on flavor off-diagonal tau, muon, and electron coefficients for Lorentz violation. The outlook for improved constraints in future experiments is also discussed.

What is your topic?

Physics beyond the Standard Model

Author: Dr SHERRILL, Nathaniel Lawrence (University of Sussex)

Presenter: Dr SHERRILL, Nathaniel Lawrence (University of Sussex)

Session Classification: Session 2a: Test of fundamental symmetries with tau lepton

Track Classification: Tau2021 Abstracts