

Theoriekolloquium

Am **17. Oktober 2019** um **14.15 Uhr** in **W2 1-143** hält

Herr Prof. Dr. Robertus Potting (Faro)

einen Vortrag mit dem Titel

Bounding Lorentz violation through ultra-high-energy cosmic rays

In this talk, we review recent work on CPT and Lorentz violation in the context of the Standard-Model Extension (SME). The SME is an effective field theory that contains the Standard Model, general relativity, and all possible operators that break Lorentz symmetry. After a short introduction to the SME, we show that the presence of CPT and Lorentz violation in the kinetic terms of any particle in the gauge boson or the lepton sector will generally lead to proton decay at sufficiently high energy. Using observational data from ultra-high energy cosmic rays, we show how this allows for the derivation of bounds on the corresponding CPT and Lorentz-violation parameters in the SME.

Interessierte sind herzlich eingeladen.

gez. Prof. Dr. Claus Lämmerzahl