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Bounding CPT and Lorentz symmetry violations through ultra-high-energy cosmic rays

Monday 26 November 2018 17:15 (25 minutes)

In this talk, we review recent work on CPT and Lorentz violation in the context of the Standard-Model Extension. In particular, we show that, when CPT and Lorentz violation is present in the kinetic terms of any particle in the gauge boson or the lepton sector, this will generally lead to proton decay at sufficiently high energy. Using observational data from ultra-high energy cosmic rays, this has allowed to derive new bounds on the corresponding CPT and Lorentz-violation parameters.

Content of the contribution

Both

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