



Contribution ID: 10

Type: **Talk**

Lorentz Violation in Hadronic Physics

Monday, June 11, 2018 5:30 PM (30 minutes)

The effects of quark-sector Lorentz violation on deep inelastic electron-proton scattering are studied. We show that existing data can be used to establish first constraints on numerous coefficients for Lorentz violation in the quark sector at an estimated sensitivity of parts in a million. We calculate the expected bounds that can be extracted from existing HERA data and the reach of the proposed Electron-Ion Collider (in the JLAB and BNL configurations).

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Session Classification: CPT