



Contribution ID: 89

Type: **not specified**

Lorentz and CPT Violation in Top-Quark Production

Wednesday, 5 August 2015 14:00 (30 minutes)

Signals for Lorentz and CPT violation can appear in a wide range of experiments including hadron colliders like the LHC. We present a calculation of the Lorentz-violating cross section for top-quark pair production via gluon fusion. This process dominates at the LHC, and analysis of LHC data should permit sharpening the constraints on top-quark Lorentz violation obtained recently by the D0 Collaboration. We also present a separate calculation of single-top production, which is sensitive to CPT violation. Data from the LHC can be used to measure coefficients for CPT violation in the top-quark sector for the first time.

Oral or Poster Presentation

Oral

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Session Classification: Top Physics

Track Classification: Top Physics