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Search for Violation of Lorentz Invariance in $t\bar{t}$ Production and Decay at the D0 Experiment DENVER WHITTINGTON, Indiana University, D0 COLLABORATION — Data used in the analysis of the $t\bar{t}$ production cross section in the lepton + jets channel is examined as a function of sidereal time. According to the standard model extension (SME), any sidereal time dependence in the yield would reflect the violation of Lorentz Invariance in the top quark sector. Within the SME framework, we set upper limits on the XX, XY, XZ, YY, and YZ components of the coefficients $(c_Q)_{\mu\nu 33}$ and $(c_U)_{\mu\nu 33}$ used to parametrize violation of Lorentz invariance in the top quark sector.

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