

Abstract Submitted  
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**Lorentz and CPT violation test in BNL muon g-2 data** XIAOBO HUANG, Boston University, BNL MUON G-2 COLLABORATION — V.A. Kostelecký et. al. proposed an extension of the standard model of the particle physics which allows Lorentz and CPT violation by introducing additional terms to the Lagrangian of the standard model. In this extended standard model, the muon anomalous precession frequency,  $\omega_a$ , is evaluated. There are two Lorentz and CPT violation signatures predicted: nonzero  $\Delta\omega_a$  ( $=\omega_a^{\mu^+} - \omega_a^{\mu^-}$ ) and sidereal variation of  $\omega_a^{\mu^\pm}$ . A Lorentz and CPT invariance test, using the BNL muon g-2 data, is done. No significant effect was found. The limit of Lorentz and CPT violation is set to be at the level of  $10^{-24}$  GeV.

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