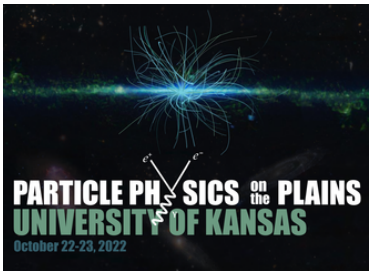

Contribution ID: **34** Type: **not specified**

Leptoquark-vectorlike quark model for the CDF m_W , $(g-2)_\mu$, $R_{K^{(*)}}$ anomalies and neutrino mass

Sunday 23 October 2022 09:40 (25 minutes)

Recently, the CDF collaboration has reported a substantial 7σ deviation of the W-boson mass from the Standard Model (SM) prediction. Furthermore, the Muon g-2 Experiment recently confirmed the longstanding tension in $(g-2)_\mu$. Besides, the updated result from the LHCb collaboration found evidence for the breaking of lepton universality in beauty-quark decays, which shows a 3.1σ discrepancy and is consistent with their previous measurements. Motivated by several of these drawbacks of the SM, in this work, we propose a model consisting of two scalar leptoquarks and a vectorlike quark to simultaneously address the W-boson mass shift, the $(g-2)_\mu$, and anomalies in the neutral current transitions of the B-meson decays. The proposed model also sheds light on the origin of neutrino mass and can be fully tested at the future colliders.

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