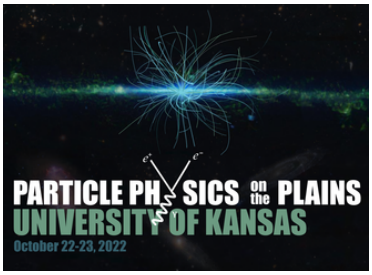

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Probes of new physics in final states with two taus and two muons

Sunday 23 October 2022 11:55 (20 minutes)

The recent experimental results of muon $g-2$ from the Fermilab and the longstanding discrepancies of lepton flavor universality violation in rare decays of B-mesons could be strong hints of new physics beyond the Standard Model. We had earlier shown that under a minimal R-parity violating supersymmetric scenario with relatively light third-generation sfermions (called 'RPV3'), the sneutrino gives the main contribution to muon $g-2$ anomaly. Here we propose a scenario in the sneutrino parameter space that leads to a distinct collider signal $\tau^+\tau^-\mu^+\mu^-$ from the sneutrino pair production. We further analyze this signal using the data recorded during Run-2 of the LHC and show the discovery prospect of this scenario.

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