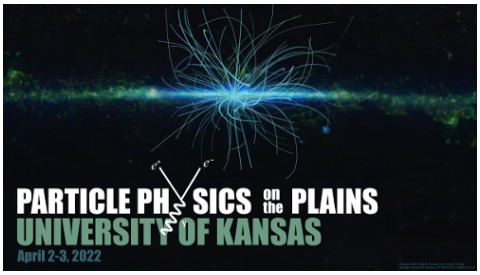

Contribution ID: **11** Type: **not specified**

CP-Violating Top Yukawa Coupling at the Multi-TeV Muon Collider Part II

Saturday 2 April 2022 11:30 (20 minutes)

CP-Violation was first discovered in the weak interaction in the 1960s. Since its discovery, efforts have been made to find new sources of CP-Violation to account for matter anti-matter asymmetry. This project proposes a search for CP-Violation in the top Yukawa interaction through high energy muon collisions. Signal processes include tth, $tth\nu\nu$, and $tbh\mu\nu$ decaying semi-leptonically. We present cross-section dependence of signal processes with varying CP-phase, α, at different center of momentum energies. We show luminosity required for 5σ discovery and give results to achieve 2σ exclusion given the Standard Model case, α = 0, at 1 TeV, 10TeV, and 30TeV at a muon collider.

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