

## Mu2e in 10 minutes

*Tuesday, June 11, 2019 5:15 PM (15 minutes)*

The discovery of neutrino oscillation manifests the violation of lepton number conservation. It further indicates Charged Lepton Flavor Violation (CLFV) is not explicitly forbidden in the Standard Model (SM), although it is dynamically suppressed which remain unobserved. Many well-motivated physics models predict rates for CLFV processes that are within a few orders of magnitude of the current experimental bounds, such as the MSSM with right-handed neutrinos, SUSY with R-parity violation as well as models with leptoquarks, new gauge bosons, large extra-dimensions, and a non-minimal Higgs sector. The Mu2e experiment at Fermilab will be 10,000 times more sensitive than previous experiments looking for muon-to-electron conversion with a single-event sensitivity of a few  $10^{-17}$  for the ratio of  $\mu^- N \rightarrow e^- N$  conversions to conventional muon capture. Mu2e experiment has real discovery potential over a wide range of New Physics models and may prove to be a powerful discriminant among models.

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