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Overview and status of the Mu2e experiment

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Neutrino oscillations have shown that lepton flavor is not a conserved quantity. Charged lepton flavor violation (CLFV) is suppressed by the small neutrino masses well below what is experimentally observable, while new physics models predict higher rates of CLFV. The CLFV $\mu- \longrightarrow e-$ conversion process is sensitive to a wide range of new physics models. The upcoming Mu2e experiment at FNAL will search for this CLFV process with unprecedented sensitivity.

The Mu2e experiment is currently under construction at FNAL. I will present an overview of the experiment and the current status as we prepare for the first physics run (Run 1) in 2027 before the long accelerator shutdown at FNAL. Mu2e will then continue running after the shutdown, collecting the remainder of its dataset in Run 2. Mu2e will improve the current sensitivity to $\mu- \longrightarrow e-$ conversion by a factor of 10,000 using the complete Run 1+2 dataset.

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