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## Mu2e: Using Rare Muon Decays to Probe the Energy Frontier

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The Mu2e collaboration proposes to search for coherent, neutrinoless conversion of muons into electrons in the field of a nucleus with a sensitivity improvement of a factor of 10,000 over existing limits. Such a lepton flavor-violating reaction probes new physics at a scale unavailable by direct searches at either present or planned high energy

colliders. The physics motivation for Mu2e will be presented, as well as the design of the muon beamline and spectrometer. The scheme by which the experiment is to be mounted in the present Fermilab accelerator complex will be described, and the present status of the experiment will be given.

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