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# An Experimental Search for Muon-Electron Conversion in Nuclear Field with Muonic Atoms Produced in a Primary Proton Target —DeeMe—

*Friday, 31 July 2020 09:00 (15 minutes)*

Muon-electron conversion in a nuclear field ($\mu^- + A \rightarrow e^- + A$) is a charged-lepton flavor violation (CLFV) process. It is possible that CLFV signals are present just under the current experimental limits.
DeeMe project aims to perform an experimental search for muon-electron conversion by utilizing muonic atoms copiously produced in a primary proton target. If muon-electron conversion occurs for these muonic atoms, mono-energetic electrons in delayed timing would emerge out of the primary proton target, and thus be easily identified by a simple magnetic spectrometer placed at the exit of a secondary beam line.
The physics sensitivity of DeeMe could reach to a level of $10^{-15}$, but the first physics run will aim to achieve $10^{-13}$ of a single event sensitivity. We are hoping to start the physics data taking soon after the beam line construction is completed at J-PARC MLF. The current status of DeeMe will be presented.

## I read the instructions

## Secondary track (number)

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