

Abstract Submitted
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Search for muon EDM with ultra-cold muon beam at J-PARC
TSUTOMU MIBE, IPNS, KEK, J-PARC MUON G-2/EDM COLLABORATION
— The J-PARC experiment E34 aims to measure the anomalous magnetic moment ($g-2$) and electric dipole moment (EDM) of the positive muon with a novel technique utilizing an ultra-cold muons accelerated to $300\text{MeV}/c$ and a 66 cm-diameter compact muon storage ring without focusing-electric field. This measurement will be complementary to the previous BNL E821 experiment and upcoming FNAL E989 experiment with the muon beam at the magic momentum $3.1\text{GeV}/c$ in a 14 m-diameter storage ring. The experiment aims to achieve the sensitivity down to 0.1 ppm for $g-2$, and 10^{-21} e·cm for EDM. In this presentation, I'd like to discuss the technical achievements and prospects for realization of the experiment.

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