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## Results of a MUonE scaled detector with 160 GeV muon beam

Thursday 18 July 2024 20:45 (15 minutes)

The MUonE experiment proposes a novel approach to determine the hadronic contribution to the muon anomalous magnetic moment, by measuring the running of the QED coupling through the analysis of  $\mu e$  elastic scattering events. The experiment will be carried out at CERN North Area, by scattering the high intensity 160 GeV muon beam available on a low-Z target. The detector would have 40 stations comprising a low-Z target followed by a tracking system, which can measure the scattering angles with high precision; further downstream lies an electromagnetic calorimeter and a muon detector. To validate the basic concepts, a run was performed in 2023 with two stations followed by a calorimeter. This showed, for the first time, the ability of the detector to measure elastic events with high rate 160 GeV muons of 40 MHz and is considered a milestone to proceed with a Technical Proposal of the experiment. The results from the test run will be presented.

## Alternate track

## I read the instructions above

Yes

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