

MUonE - update

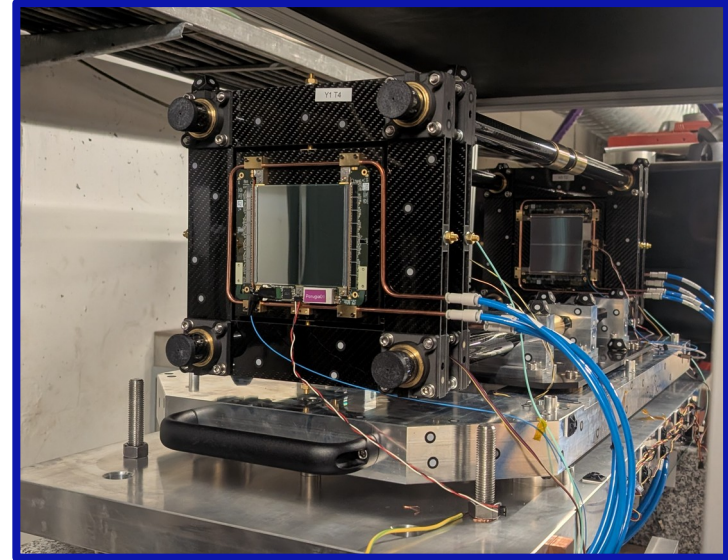
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MUonE update

- Paper on 2S modules performance in the 2025 run: internal review ongoing
- Aim to obtain a preliminary result on $\Delta\alpha_{lep}$ by the end of the year
- Liverpool is the leading group in the analysis of 2025 data / software development
 - Implementation of 2S modules efficiencies from data in the simulation + study of effects on track reconstruction (Clement)
 - Improvement of 2S modules simulation (Giorgia)
 - Workflow for extraction of $\Delta\alpha_{lep}$ (Clement)
 - Stability of efficiency vs runs (Estifa'a)
 - Background studies with dedicated generators (Katie)
 - Implementation of DQC database (Saskia)
 - Beam energy measurement using μe elastic events (Tom)
 - Electron efficiency in μe elastic events (Lorenzo P.)

BMS data taking plan - 2026

- BMS = beam momentum spectrometer: measure muon beam momentum before reaches MUonE
- Liverpool constructed mechanics/infrastructure last year. Installation during 2025 run
- Parasitic run this year to exercise online/nearline momentum reconstruction
- Giorgia, Graziano, Riccardo at CERN in April to setup the infrastructure
- DAQ team working on firmware updates



Today's agenda

- Tom: muon beam energy measurement using elastic events (PhD Y1 presentation)
- Lorenzo P: electron detection efficiency in elastic scattering events