Contribution ID: **201** Type: **Talk**

The Muon g-2 Experiment at Fermilab

Thursday, 10 September 2020 18:35 (25 minutes)

The main goal of the Muon *g-2* Experiment at Fermilab is to measure the anomalous magnetic moment of the muon with a fourfold improvement in precision as compared to the previous measurement at BNL. The measurement is motivated by the greater than 3 standard deviation difference between the Standard Model prediction and the BNL measurement, which hints at the possibility of new physics. The anomalous magnetic moment is measured by precisely determining the frequency of the muon spin precession relative to the muon momentum and the average magnetic field experienced by the muons in the storage ring. Detailed simulations of the muon storage ring are used to study systematic effects that arise from the beam and spin dynamics, which are important for the determination of systematic uncertainties. This talk presents the status of the experiment and Run-1 data analysis. The Run-1 data was collected during 2018, and it has a statistical uncertainty that is comparable to the BNL measurement.

Is this abstract from experiment?

Yes

Internet talk

Yes

Name of experiment and experimental site

Muon g-2 Experiment at Fermilab

Is the speaker for that presentation defined?

Yes

Details

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