

The Status of Muon $g-2$ Experiment at Fermilab and Slow Term Effect Study in Muon Anomalous Frequency Analysis

In 2023, the Fermilab Muon $g-2$ collaboration reported the Run-2/3 results, achieving a precision measurement of the muon's anomalous magnetic moment at 0.20 ppm. The analysis for the combined dataset from Run-4/5/6 is nearing completion, aiming to surpass previous precision levels. The slow term effects, which have been identified as significant contributors to systematic uncertainties in earlier runs, are now being rigorously investigated to understand and minimize their impact. This presentation will focus on the recent status of the experiment and the study of slow term effects with the datasets from Run-4/5/6.

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Session Classification: 分会场一

Track Classification: TeV 物理和超出标准模型新物理