Hall B Virtual Seminar

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My Experience with Fermilab's Muon g-2 Experiment

Abstract

Nearly twenty years ago a team from Brookhaven National Lab measured the anomalous part of the muon's dipole moment (a_μ) finding a ~three-sigma discrepancy against contemporary Standard Model predictions. The mystery lingered for a time as there were no further measurements, but within a few years a small dedicated team set into motion a plan to revive the technique at Fermilab. This team grew into the new Muon g-2 Collaboration, whose first result was published in spring 2021. In our first run repeating the experiment, we confirmed the original measurement while utilizing major system upgrades and increased statistics to push the precision below one half ppm. The original incongruity persists and could potentially reach discovery-level significance within the planned run time of the experiment. I will provide a perspective on the result and our outlook for reaching a few times better resolution with further data.

Wednesday, May 11, 2022

2:30 PM – 3:30 PM

https://jlab-org.zoomgov.com/j/1619093633?pwd=RWpiWWROSU11dUluTHVuS1pCaEg5UT09&from=addon