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The Fermilab Muon g-2 Experiment

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The anomalous magnetic dipole moment of the muon can be both measured and computed to very high precision, making it a powerful probe to test the standard model and search for new physics such as SUSY. The previous measurement by the Brookhaven E821 experiment found a 3.6 standard deviation discrepancy from the predicted value. The new g-2 experiment at Fermilab will improve the precision by a factor of four through a factor of twenty increase in statistics and a reduced systematic uncertainty with an upgraded apparatus. The experiment will also carry out an improved measurement of the muon electric dipole moment. Construction at Fermilab is well underway.

Summary

Primary author(s) : Prof. VENANZONI, Graziano (Laboratori Nazionali di Frascati dell' INFN)

Presenter(s) : Dr. VENANZONI, Graziano (LNF-INFN Frascati)

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