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The search for the muon electric dipole moment at Fermilab Muon g-2

After 6 years of taking data, the Muon g-2 Experiment measured the anomalous magnetic moment of the muon to a final precision of 127 ppb. In parallel to this analysis, it is possible to perform a measurement of the muon electric dipole moment (EDM) using the straw tracker detectors. In the Standard Model (SM) EDMs are predicted to be vanishingly small. A non-zero muon EDM would constitute physics beyond the SM and be a source of charge-parity violation. The current limit on the muon EDM was set by the predecessor experiment at Brookhaven National Laboratory, giving $|d_\mu| < 1.8 \times 10^{-19} e\cdot\text{cm}$ at a 95% confidence level - Fermilab will improve on this limit. This talk will present the methodology and latest results of this measurement.

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