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Determination of the Muon Anomalous Precession Frequency[1]
KEVIN LABE, Cornell University, FERMILAB MUON G-2 EXPERIMENT (E989) COLLABORATION — We describe the precision measurement of the anomalous precession frequency of the muon in the Fermilab muon g-2 experiment. Anomalous precession arises from the difference between the cyclotron and spin precession frequencies of the muon in the magnetic field of a storage ring, and enables a measurement of the anomalous magnetic moment. The precession frequency is measured using calorimeters which detect the muons' positron daughters. We discuss the reconstruction and analysis techniques applied, the determination of systematic uncertainties, and the method for combining our numerous correlated analyses.

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