

Final 0.12 ppm Measurement from the Muon g-2 Experiment at Fermilab

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The Fermilab Muon g-2 experiment has now completed its analysis of the entire Run 1–6 data set, reaching a final precision of 0.12 ppm on the muon anomalous magnetic moment. I will outline the key experimental advances that enabled this result: refined magnetic-field mapping, upgraded beam dynamics modeling, improved calorimeter calibration, optimized offline production workflows and comprehensive control of systematic uncertainties. A brief comparison with current Standard-Model predictions will be given, but the focus will remain on experimental results and the path forward for next-generation precision muon measurements.

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