

PHYSICS AND ASTRONOMY COLLOQUIUM

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Next-Generation Muon $g-2$

The Brookhaven muon $g-2$ experimental result—now more than 3 standard deviations greater than the Standard Model prediction—continues to generate significant theoretical interest. It represents one of the strongest hints of new physics. What could this be, and perhaps more importantly, is it real? To answer this, an even more precise experiment is being designed at Fermilab using the unique complex of accelerators associated with the so-called Intensity Frontier campaign. The E989 experiment will re-employ the original BNL storage ring, but otherwise much of the measurement equipment, beam delivery, and key elements related to muon storage, will be new. I will describe this exciting effort, including taking you along the wildly popular journey that brought the large superconducting coils from New York to Illinois.



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