

Abstract Submitted
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Beams and Rings for Precision Searches in HEP¹ MICHAEL SYPHERS, Northern Illinois University — New particle beams and storage rings are being constructed to make precision measurements of particle properties both to verify and to search for physics beyond the Standard Model. A close interplay between the beam preparation, storage ring beam dynamics, and the actual experimental procedure is tantamount to the reduction of systematic errors in these measurements of unprecedented precision. In this talk we will discuss the beam physics and requirements essential for such studies, such as for the Muon $g-2$ experiment at Fermilab for precision measurements of the muon's magnetic moment and the upper-bound of a muon electric dipole moment. We will also take a quick look at possible requirements for a future all-electric storage ring to search for a non-zero electric dipole moment of the proton.

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Michael Syphers
Northern Illinois University

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