

Towards a high-precision measurement of the magnetic moment of the antiproton

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We observed spin-flips with a single proton for the first time and measured the particle's magnetic moment with a relative precision of 8.9×10^{-6} . The developed techniques can be directly transferred to measure the magnetic moment of the antiproton, which can be improved by more than a factor of 100. By application of the so-called double Penning trap technique, we finally aim at a measurement with a relative precision of 1×10^{-9} , and thus, a millionfold improvement of the antiproton's magnetic moment.

In my talk I will present the current status of the experiment and describe our activities towards a high precision measurement of the magnetic moment of the antiproton.

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