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The AEgIS experiment: current status and outlook

Thursday, July 5, 2018 11:00 AM (30 minutes)

The AEgIS experiment at CERN's Antiproton Decelerator aims to perform a direct test of the Weak Equivalence Principle for antimatter by measuring the local gravitational acceleration for antihydrogen. The first step towards this goal is the formation of a pulsed, cold antihydrogen beam, which will be created by a charge exchange reaction between laser excited (Rydberg) positronium and cold antiprotons. The antihydrogen beam deflection due to Earth's gravity will then be measured using a moiré deflectometer coupled to a position sensitive detector.
In this talk I will give a general overview of the experiment with focus on the current status towards antihydrogen formation. I will present recent advancements on manipulation techniques for non-neutral plasmas in the AEgIS apparatus and the new positron injection scheme. I will also give an outlook for the measurements for the upcoming antiproton beam time.

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