# Fundamental physics with antihydrogen in the ALPHA experiment

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Precision measurements of trapped antihydrogen offer stringent tests of fundamental principles underlying particle physics and general relativity, such as Lorentz and CPT invariance, and the Einstein Equivalence Principle. In this presentation I will give an introduction to how precise measurements of the anti-atom are interpreted as tests of fundamental physics. I will present an overview of the ALPHA antihydrogen experiment at CERN including the most recent advances in antihydrogen synthesis, trapping and results from recent antiproton runs. I will conclude with a brief outline of the prospects for future high-precision experiments with antihydrogen.