

Colloquium: Precision measurements of antihydrogen in ALPHA at CERN

Tuesday, 2 July 2024 16:00 (1 hour)

Precision measurements of the properties 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 overview of the ALPHA antihydrogen experiment at CERN including recent results from spectroscopy and observations of the effect of gravity. I will briefly summarise how results are interpreted as tests of fundamental physics. I will give an outline of the prospects for future high-precision spectroscopy, free-fall and gravitational redshift experiments with antihydrogen.

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Session Classification: Talks