

# Precision Fundamental Physics with Trapped Antihydrogen

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Antihydrogen provides a unique tool for precision studies of fundamental physics. Or, so have we been promising for a long time. Finally, after many years of developments, we have reached the stage, in which precision measurements can actually be performed on antihydrogen. In this talk, I will give an overview of the ALPHA antihydrogen experiment, with some emphasis on hyperfine and Lyman-alpha spectroscopy, as well as our new initiative on gravity measurement. Our recent results on 1s-2s transition will be covered by Claudio Cesar in a separate talk.