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Antimatter gravity experiments at CERN

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A rich program to test the behaviour of antimatter in gravitational fields is ongoing at CERN. The Antiproton Decelerator facility provides a low energy antiproton beam that allows the efficient trapping of antiprotons and successful synthesis of antihydrogen. Antiproton and antihydrogen spectroscopy experiments are now able to investigate annual variations, signature of a gravitational redshift. A direct test of the universality of the free fall is also within reach and it is no less than three experiments now on a quest to lead antihydrogen to its free fall.

These singular antimatter experiments convene techniques from different fields in physics in order to tackle their specific challenges. This talk will review the principles behind the CERN experiments, their status and future developments.

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