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CERN: Antimatter Under The Microscope

Sunday, 28 September 2025 09:00 (30 minutes)

n this contribution I will review the experimental efforts currently operated at the antimatter factory of CERN to test the fundamental charge, parity, time reversal invariance and other fundamental symmetries using antiprotons, antiprotonic atoms, and antihydrogen. The talk will review several world-class precision spectroscopy results, including proton/antiproton charge-to-mass ratio and magnetic moment comparisons, as well as results of antihydrogen precision spectroscopy. I will also talk about most recent results on studying gravity with baryon antimatter systems, and will give an outline on the future of the program, that will e.g. include antiproton transport and spectroscopy of the antihydrogen molecular ion.

Primary author: ULMER, Stefan (HHU Duesseldorf, RIKEN, CERN)

Co-author: ON BEHALF OF THE AD/ELENA COLLABORATIONS

Presenter: ULMER, Stefan (HHU Duesseldorf, RIKEN, CERN)

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