Abstract Submitted
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Antihydrogen gravity Apparatus[1] JOEL FAJANS, Univ of California - Berkeley, CHUKMAN SO[2], University of Calgary, ALPHA COLLABORATION
— ALPHA first measured the gravitational mass of antihydrogen atoms in a magnetic minimum trap in 2013, limiting anomalous forces coupled to the antiatoms to ¡75 times of gravity. A new apparatus is being designed to tighten the limit to much better than order unity. It entails a magnetic trap with a vertical long axis and maximal height to improve gravity signal. The magnets creating the trap are designed to ensure a magnetic up-down asymmetry ¡1e-5 T, a level of field control achieved by taking into account the effect of fabrication error, the inter-connections between current loops, the current leads into/out of the magnets, wire splices, and other fine, uncontrolled details inside the superconducting wires.

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