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## The GAPS experiment: a cosmic ray antinuclei detector for dark matter signatures

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The General Antiparticle Spectrometer (GAPS) is specifically designed to identify low-energy ( $<0.25$  GeV/n) cosmic antinuclei, in particular antideuterons, as a signature of dark matter annihilation or decay. This low energy channel is very promising since beyond-the-Standard Model physics predicts a signal from dark matter that is several orders of magnitude higher than the antideuteron flux produced by cosmic rays during their propagation through the Galaxy. Using a novel detection approach that relies on exotic atom formation and decay, GAPS will provide unprecedented sensitivity to cosmic antideuterons, a high-statistics antiproton spectrum in an unexplored energy range, and leading sensitivity to cosmic antihelium. The GAPS instrument consists of a large-area scintillator time-of-flight, ten planes of silicon detectors with dedicated ASIC readout, and a novel oscillating heat pipe cooling approach. GAPS is currently under integration and preparing for the first Antarctic balloon flight while two follow-up flights are planned. This talk will review the current progress of construction and the overall status of the instrument, discuss the latest sensitivity estimates and present the path forward to the first flight.

**Primary author:** MUNINI, Riccardo (Istituto Nazionale di Fisica Nucleare)

**Presenter:** MUNINI, Riccardo (Istituto Nazionale di Fisica Nucleare)

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