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# GAPS: a balloon-borne cosmic-ray antimatter experiment

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Novel theories beyond the Standard Model predict dark matter candidates that could provide a significant enhancement of the antideuteron and antiproton flux, in particular at low energies. The General Antiparticle Spectrometer (GAPS) experiment is the first antimatter search experiment designed specifically for low-energy cosmic ray antideuterons and antiprotons.
GAPS identifies antideuterons and antiprotons using a technique based on exotic atom capture and decay. This novel detection technique allows GAPS to have unprecedented sensitivity in the low energy range (<0.25 GeV/n) for antiprotons and antideuterons. The apparatus consists of 10 planes of lithium-drifted Si (Si(Li)) detectors, surrounded on all sides by a plastic scintillator time-of-flight.
GAPS is designed to carry out its science program using long-duration balloon flights in Antarctica and is currently scheduled by NASA for its first flight in late 2020.
This presentation will describe the design, status, and discovery potential of the GAPS scientific program.

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