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## The GAPS Instrument: An Antarctic Balloon Search for Cosmic Antinuclei

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The General Antiparticle Spectrometer (GAPS) is the first experiment optimized to identify low-energy ( $\leq 0.25$  GeV/ $n$ ) cosmic antinuclei, in particular antideuterons from dark matter annihilation or decay. Using a novel detection approach which relies on exotic atom formation and decay, the GAPS program will deliver an unprecedented sensitivity to cosmic antideuterons, an essentially background-free signature of various dark matter models, as well as a high-statistics antiproton spectrum in an unexplored energy range and leading sensitivity to cosmic antihelium. The GAPS instrument consists of a tracker of  $>1000$  custom Si(Li) detectors; a precision-timing, large-area time-of-flight system; and a novel oscillating heat pipe thermal system. GAPS is currently under integration and preparing for the first Antarctic balloon flight in late 2023 while two follow-up flights are planned.

In this contribution, we will present the custom-developed GAPS instrument technology, including the design principle, commissioning of the GAPS functional prototype, and integration and testing of GAPS full payload, with special focus on the construction of the Si(Li) tracker.

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