

**THE ATIC EXPERIMENT: PERFORMANCE OF THE SCINTILLATOR  
HODOSCOPE AND THE BGO CALORIMETER**

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The Advanced Thin Ionization Calorimeter (ATIC) Balloon Experiment had its first flight from McMurdo, Antarctica, 28/12/00 to 13/01/01, recording over 360 hours of data. The design goal for ATIC was to measure the Cosmic Ray composition and energy spectra from ~50 GeV to near 100 TeV utilizing a Si-matrix detector, a scintillator hodoscope, carbon targets and a calorimeter consisting of a stack of BGO scintillator crystals. The design, operation, and in-flight performance of the scintillator hodoscope and the BGO calorimeter are described.

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