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Performance of the CREAM-I Scintillating Fiber Hodoscope

Abstract content

The Cosmic Ray Energetics And Mass (CREAM) is a balloon-borne experiment to investigate the composition and energy spectra of cosmic rays at energies up to 10^{15} eV with a series of balloon flights. The main science objective of CREAM is to understand the source of high-energy cosmic-ray particles, their acceleration mechanisms and their propagation history in the interstellar medium. The first flight of CREAM in Antarctica took place from Dec. 16, 2004 to Jan. 27, 2005, with duration of about 42 days. CREAM-I incorporated two scintillating fiber hodoscopes: S0/S1 was comprised of 4 orthogonal layers of $2 \times 2 \text{ mm}^2$ square fibers mounted over the top carbon target, and 2 such layers comprised S2, which is positioned between the two target sections. These detectors were installed for supplementary charge identification and track reconstruction. This paper will present the performance of the hodoscopes during flight.

If this papers is presented for a collaboration, please specify the collaboration

CREAM-I Collaboration

Summary

Reference

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