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# ISS-CREAM detector performance and tracking algorithms

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The goal of the ISS-CREAM experiment is to measure spectra of cosmic-ray particles up to 1000 TeV from protons to iron nuclei. The detector was designed to complement other current space-based cosmic-ray missions, and was installed on the ISS on August 22, 2017. During 539 days of on-orbit operations, ISS-CREAM recorded over 58 million events. The instrument consists of a 4-layer silicon charge detector, a tungsten/scintillating-fiber sampling calorimeter for energy measurement, top and bottom scintillating detectors to create a trigger, and a boronated scintillator detector for additional shower sampling. A variety of subsystem issues developed during on-orbit operations, requiring careful data filtering, the development of extensive calibrations, and multiple tracking algorithms. We report on the performance of the ISS-CREAM instrument and present details of the analysis.

## Keywords

Cosmic ray; ISS; ISS-CREAM

## Collaboration

## other Collaboration

## Subcategory

Experimental Methods & Instrumentation

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