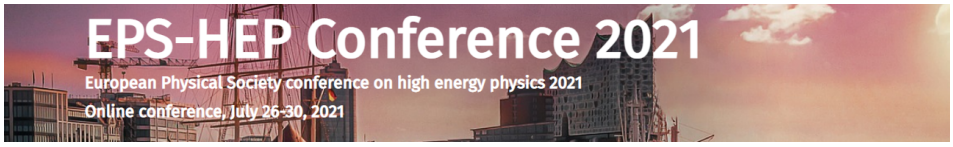

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CALET on the International Space Station: a precise measurement of the iron spectrum

Monday, 26 July 2021 18:15 (15 minutes)

The Calorimetric Electron Telescope (CALET) was launched on the International Space Station in 2015 and since then has collected a large sample of cosmic-ray charged particles over a wide energy. Thanks to a couple of layers of segmented plastic scintillators placed on top of the detector, the instrument is able to identify the charge of individual elements from proton to iron (and above).
The imaging tungsten scintillating fiber calorimeter provides accurate particle tracking and the lead tungstate homogeneous calorimeter can measure the energy with a wide dynamic range. One of the CALET scientific objectives is to measure the energy spectra of cosmic rays, to shed light on their acceleration and propagation in the Galaxy. After five years of observation, a precise measurement of the iron spectrum is now available in the range of kinetic energy per nucleon from 10 GeV/n to 2 TeV/n. The CALET result will be reported and compared with the findings from other experiments. A description of the analysis and details on the systematic uncertainties will be given.

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Collaboration / Activity

CALET

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