Contribution ID: **6** Type: **Overview**

CALET observations during the first 5 years on the ISS

Thursday, 10 June 2021 15:00 (25 minutes)

The CALorimetric Electron Telescope CALET is collecting science data on the International Space Station since October 2015 with excellent and continuous performance.
Energy is measured with a deep homogeneous calorimeter (1.2 nuclear interaction lengths, 27 radiation lengths) preceded by an imaging pre- shower (3 radiation lengths, 1mm granularity) providing tracking and 10^{-5} electron/proton discrimination. Two independent sub-systems identify the charge Z of the incident particle from proton to iron and above (Z<40). CALET measures the cosmic-ray electron+positron flux up to 20 TeV, gamma rays up to 10 TeV, and nuclei up to 1 PeV.
In this paper, we report the on-orbit performance of the instrument and summarize the main results obtained during the first 5 years of operation, including the electron+positron energy spectrum and the individual spectra of protons, heavier nuclei and iron. Solar modulation and gamma- ray observations are also concisely reported, as well as transient phenomena and the search for gravitational wave counterparts.

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Session Classification: Energy spectrum and mass composition around and above the knee (direct and EAS measurements)

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