



Contribution ID: 430

Type: Oral contribution

The CALorimetric Electron Telescope (CALET): a High-Energy Astroparticle Physics Observatory on the International Space Station

Wednesday 5 August 2015 15:00 (15 minutes)

The CALorimetric Electron Telescope (CALET) space experiment, which has been developed by Japan in collaboration with Italy and the United States, is a high-energy astroparticle physics mission to be installed on the International Space Station (ISS). The primary goals of the CALET mission include investigating possible nearby sources of high energy electrons, studying the details of galactic particle propagation and searching for dark matter signatures. During a two-year mission, extendable to five years, the CALET experiment will measure the flux of cosmic-ray electrons (including positrons) to 20 TeV, gamma-rays to 10 TeV and nuclei with $Z=1$ to 40 up to 1,000 TeV. The instrument consists of two layers of segmented plastic scintillators for the cosmic-ray charge identification (CHD), a 3 radiation length thick tungsten-scintillating fiber imaging calorimeter (IMC) and a 27 radiation length thick lead-tungstate calorimeter (TASC). CALET has sufficient depth, imaging capabilities and excellent energy resolution to allow for a clear separation between hadrons and electrons and between charged particles and gamma rays. The instrument is currently being prepared for launch, during the 2015 time frame, to the ISS with HTV-5 (HII Transfer Vehicle 5) and installed on the Japanese Experiment Module- Exposed Facility (JEM-EF).

Collaboration

CALET

Registration number following "ICRC2015-I/"

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