



Contribution ID: 96

Type: **not specified**

Galactic cosmic rays results from HEPD-01 detector on board CSES-01 satellite

Monday, 11 September 2023 17:00 (15 minutes)

The High Energy Particle Detector 01 (HEPD-01) is hosted on board of the China Seismo-Electromagnetic Satellite (CSES-01). It was launched on the 2nd of February 2018 and it is on a Sun-Synchronous orbit at an altitude of 500 km. HEPD-01 is completely developed by the Italian part of the CSES-Limadou collaboration. It is dedicated to the detection of charged particles: electrons (about 3-100 MeV), protons (about 30 –300 MeV), light nuclei (up to a few hundreds of MeV/nucleon). The instrument is composed of a tracking system, a trigger made by a segmented layer of plastic scintillator, a calorimeter made by a tower of plastic scintillators and an array of LYSO cubes and a veto system. Thanks to the wide angular acceptance, HEPD-01 is capable to provide measurements on different topics with a good statistic. In this contribution the main scientific results obtained with the HEPD-01 detector will be reported, focusing on the measurements of protons and helium fluxes obtained in the first period of the flights. Also the analysis on cosmic ray solar modulation for proton and helium spectra will be shown.

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Session Classification: CCR: Charged Cosmic Ray

Track Classification: Charged Cosmic Rays