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Euso Balloon: the first flight

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EUSO-Balloon is a pathfinder mission for JEM-EUSO (Extreme Universe Space Observatory on-board the Japanese Experiment Module), the near-UV telescope proposed to be installed on board the International Space Station (ISS) before the end of this decade. The main objective of this pathfinder mission is to perform a full scale end-to-end test of all the key technologies of JEM-EUSO detectors and to measure the UV background .

The JEM-EUSO instrument consists of an UV telescope designed to focus the signal of the UV tracks generated by Extreme Energy Cosmic Rays propagating in Earth's atmosphere, onto a finely pixelized UV camera. The EUSO-Balloon instrument, smaller than the one designed for the ISS, was launched on August 2014 from Timmins (Ontario, Canada). The flight lasted about five hours and the instrument reached a float altitude of about 40 km. From this altitude the telescope registered, at a rate of 400'000 frames/sec, the nightglow background on forests, lakes and clouds, as well as city lights and artificial air showers tracks generated by means of a laser installed on an helicopter flying inside its field of view. In this contribution we will describe the instrument and its performance during the flight.

Collaboration

JEM EUSO Collaboration

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