



Contribution ID: 188

Type: **Talk**

## **Euso Balloon: a pathfinder mission for the JEM-EUSO experiment**

*Tuesday 12 February 2013 14:50 (20 minutes)*

The JEM-EUSO instrument is a wide-angle refractive telescope in near-UV wavelength region being proposed for attachment to the Japanese Experiment Module onboard ISS. The main scientific goal of the mission is the study of Ultra High Energy cosmic Rays. The instrument consists of high transmittance optical Fresnel lenses with a diameter of 2.5 m, a focal surface covered by 4932 MAPMTs of 64 pixels, front-end readout, trigger and system electronics.

In this paper will be presented the EUSO-BALLOON experiment, the JEM EUSO pathfinder mission, in which a telescope of smaller dimension respect to the one designed for the ISS, will be mounted in an unpressurized gondola of a stratospheric balloon which will float at 42 km above the sea level. We will describe in detail the Electronic System which performs instrument control and data management in such a critical environment. The main objective of this pathfinder mission, planned for the 2014, is to perform a full scale end-to-end test of all the key technologies and instrumentation of JEM-EUSO detectors and to prove the global detection chain. EUSO-BALLOON will measure the atmospheric and terrestrial UV background components, in different observational modes, fundamental for the development of the simulations. Through a series of stratospheric balloon flights performed by CNES, EUSO-Balloon also has the potential to detect Extensive Air Showers from above, paving the way for any future large scale, space-based UHECR observatory.

### **quote your primary experiment**

JEM-EUSO

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**Session Classification:** Astroparticle Detectors