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## The EUSO-Balloon Instrument

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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 and instrumentation of JEM-EUSO detectors and to prove the entire detection chain.

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 respect to the one designed for the ISS, is currently developed as a payload of a stratospheric balloon operated by the French Centre National d'Études Spatiales (CNES) and will be launched during the CNES flight campaign in August 2014. This telescope will point towards the nadir from a float altitude of about 40 km. With its Fresnel Optics and Photo-Detector Module, EUSO-Balloon will monitor a  $12 \times 12^\circ$  wide field of view in a wavelength range between 290 and 430 nm, at a rate of 400'000 frames/sec.

In this paper, we will review the main stages of the signal processing of the EUSO-Balloon instrument: the photodetection, the analog electronics, the trigger stages, which select events while rejecting random background, the electronic acquisition system which performs the data management and the monitoring, allowing the instrument control during operation.

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