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## The first level trigger of JEM-EUSO: concept and tests

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JEM-EUSO is a space mission devoted to the investigation of Ultra-High Energy Cosmic Rays and Neutrinos ( $E > 5 \cdot 10^{19}$  eV) from the International Space Station (ISS). The telescope is formed by a system of three Fresnel lenses and a focal surface filled with multi anode photomultipliers read by a front-end electronics based on the single photon counting.

The trigger system should face different major challenging points:

- a) to manage a large number of pixels ( $\sim 3 \cdot 10^5$ );
- b) to use a very fast, low power consuming, and radiation hard electronics;
- c) to achieve a high signal-to-noise performance and flexibility;
- d) to cope with the limited down-link transmission rate from the ISS to Earth.

In this contribution the general overview of the first trigger level for cosmic ray detection is reviewed; tests that validate its performance are discussed.

### Collaboration

JEM-EUSO Collaboration

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