

Launch and first results of Mini-EUSO telescope, observing UV emissions of cosmic and terrestrial origin from the International Space Station

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Mini-EUSO is a detector observing the Earth in the ultraviolet band from the International Space Station, launched in 2019.

The main camera has an optical system with two Fresnel lenses and a focal surface with 2k channels and field of view of 44°, range (290-430 nm), pixel size of 6.3 km, sampling of 2.5μs, through a nadir-facing UV-transparent window in the Russian Zvezda module. It also has 2 cameras in the near infrared and visible ranges and Silicon Photomultipliers. Mini-EUSO is capable of observing Extensive Air Showers generated by Cosmic Rays with energy above 1e21eV and detect artificial showers. Other objectives are the search for nuclearites and Strange Quark Matter, the study of atmospheric phenomena, meteors and meteoroids, the observation of artificial satellites and man-made space debris.

We will discuss the instruments in the detector, its performance prior and during flight and the perspectives for future usage of this technology in future space missions.

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