

Seminarium Astrofizyczne

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Mini-EUSO: Application of cosmic ray detection technique for observation of high-energy phenomena in the Earth's atmosphere

The objective of the JEM-EUSO program, is the realisation of a space mission devoted to Ultra-High Energy Cosmic Ray (UHECR) science. An ultra fast UV camera with wide field of view will look down to observe an Extensive Air Showers phenomena from space. The technology is under development and is tested in series of smaller on-ground, space and balloon born experiments. The Mini-EUSO is 40 kg telescope mounted onboard the International Space Station (ISS). Since installation in 2019, the detector has observed plenty of signal sources moving with speed of light in the atmosphere. In this talk, I'll present the basics of the JEM-EUSO scientific program including description of the Mini-EUSO detector putting emphasis on detection of ELVEs (Emission of Light and Very Low Frequency perturbations due to Electromagnetic Pulse Sources) – very energetic phenomena produced in upper atmosphere above the lightning. The potential connections of ELVEs with cosmic ray signals will be indicated as well.

Serdecznie zapraszam,

Agnieszka Majczyna