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The JEM-EUSO Program

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JEM-EUSO, on board the International Space Station, is a mission that aims at unveiling the nature and the origin of the ultra high energy cosmic rays (UHECRs), and to address basic problems of fundamental physics at extreme energies. The instrument is designed to measure the arrival direction, the energy and, possibly, the nature of these particles. It consists of a wide-field of view telescope that looks down from the International Space Station during night-time to detect UV photons emitted from air showers generated by UHECRs in the atmosphere, in order to identify their individual sources and their association with known nearby astronomical objects. An infrared camera and an atmosphere monitoring system improve the performance of the instrument. The EUSO program is progressing with a number of payloads based on similar technology. Two pathfinders have been developed: EUSO-Balloon flew on board a stratospheric balloon in August 2014, and EUSO-TA is currently operating at the Telescope Array site. A super-pressure balloon payload is now being developed (EUSO-SPB) and a small version of the telescope, named Mini-EUSO, has been approved to be installed inside the Russian module of the ISS. A modified KLYPVE with EUSO technology, named K-EUSO, is planned for deployment on the Russian module of the ISS. JEM-EUSO will be proposed for delivery on to the JEM via the space-X Dragon.

16 Countries and about 350 researchers are collaborating in JEM-EUSO.

Collaboration

JEM-EUSO

Registration number following "ICRC2015-I/"

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Primary author: Prof. PICOZZA, Piergiorgio (INFN and University of Rome Tor Vergata)

Co-authors: Prof. SANTANGELO, Andrea (University of Tuebingen); Dr EBUSUZAKI, Toshikazu (RIKEN)

Presenter: Prof. SANTANGELO, Andrea (University of Tuebingen)

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