

EUSO: EXTREME UNIVERSE SPACE OBSERVATORY.

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EUSO is a space mission approved by the European Space Agency for a Phase A study on its accommodation as external payload on the International Space Station. Operation is tentatively foreseen for 2007.

The objectives are:

the investigation of the highest energy processes present and accessible in the Universe, through the detection of the Cosmic Radiation (EECRs with $E > 5 \cdot 10^{19}$ eV), the opening of the channel of the high energy neutrino astronomy to investigate the nature and distribution of the EECR sources and to probe the boundaries of the Extreme Universe.

The approach is the observation from space of the fluorescence track induced by the Extensive air Showers developed in the atmosphere by the incoming radiation.

The instrument is a UV telescope based on a wide angle Fresnel optics (2.5 m lens diameter, $\pm 30^\circ$ FOV); a highly pixelised focal surface ($\sim 1 \text{ km}^2$ pixel at Earth); an on board electronics capable of triggering on the EAS images.

The poster will provide an extensive and comprehensive description of the mission.

Note: EUSO has been approved for the Phase A study by the European Space Agency ESA. The Phase A study will start in April 2001 and the EUSO Collaboration will be consequently formalized.