

**EUSO: EXTREME UNIVERSE SPACE OBSERVATORY – DOING
ASTRONOMY LOOKING DOWNWARD THE EARTH’S ATMOSPHERE.**

To be defined for the EUSO Collaboration (see note)
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The detection of Extreme Energy Cosmic Rays and Neutrinos is the challenge of the future generation experiments in Astroparticle Physics. The space mission “Extreme Universe Space Observatory - EUSO“ is devoted to the investigation of the Extreme Energy Cosmic Rays (EECR with $E > 5 \cdot 10^{19}$ eV) and of the High Energy Cosmic Neutrino flux looking, from space and downward the Earth’s atmosphere, at the streak of UV fluorescence light produced when the particles coming from Outer Space interact with the atmosphere itself. EUSO it is expected to detect of the order of 10^3 /year EECRs with $E > 10^{20}$ eV and to open a window into the High Energy Neutrino Astronomy. EUSO has been approved by ESA in march 2001 for a Phase A study; EUSO will be accommodated onboard the International Space Station ISS, with a goal for a three year flight starting in mid 2007. EUSO is a collaboration effort of research groups from Europe, Japan and U.S.A. EUSO, as an astroparticle space observatory, is unique in its class.

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.