

## **EUSO: an experiment to study Extreme Energy Cosmic Rays (EECRs) from space**

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The EUSO experiment, designed to study Extreme Energy Cosmic Rays (EECR) from space is presented. Euso is a telescope (2.5 m diameter) to be installed on the Columbus external payload facility of the International Space Station, looking downward to Nadir to detect the fluorescence light produced by EECRs in the atmosphere. The Fresnel optics and the large focal surface covered with multianode PMTs, allow to survey about 200000 square kilometers of the atmosphere, with a target mass of 10 to the 12 tons of air. The possibility to detect the Cherenkov light diffuse from ground, in a delayed coincidence with the fluorescence light, allows us to discriminate between neutrinos and charged particles interactions. The very high statistics above the energy threshold of Euso (a few times  $10^{19}$  eV) will clearly indicate the existence of the GZK effect: indeed, in 3 years of data taking, we expect of order of 70 interactions above 10 to 20 eV if there is the GZK effect, and of order of 1000 events if there is no effect. Finally, the present status of the experiment, and its perspectives, will be discussed.