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The JEM-EUSO Mission ANGELA OLINTO, The University of Chicago, JEM-EUSO COLLABORATION — The JEM-EUSO mission will study the origin of extreme energy cosmic rays (EECRs) above 100 EeV. It will measure the spectrum and angular distribution of EECRs over the full sky enabling the identification of extragalactic cosmic ray sources. It is designed to achieve an exposure above 1 million km2 sr year to open a new particle astronomy window. A wide-field (60 degrees) telescope with a diameter of about 2.5 m will look down from the International Space Station (ISS) onto the night sky to detect near UV photons (330-400nm, both fluorescent and Cherenkov photons) emitted from the giant air showers produced by EECRs. The arrival direction map with more than five hundred events will allow the identification of the nearest EECR sources with known astronomical objects and the understanding of the physics of the acceleration and propagation mechanisms. The observed energy spectra and sky map can finally confirm the GZK process and/or determine the maximum energy of astrophysical accelerators. Neutral components (neutrinos and gamma rays) may also be detected, if their fluxes are high enough. The JEM-EUSO mission is planned to be launched by a H2B rocket, transferred to the ISS by H2 Transfer Vehicle (HTV), and attached to the Exposed Facility external experiment KIBO platform.

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