

Abstract Submitted
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Mission preparation status of Extreme Universe Space Observatory (EUSO) on Japanese Experiment Module (JEM) of International Space Station (ISS) YOSHIYUKI TAKAHASHI, The University of Alabama in Huntsville, JEM-EUSO COLLABORATION — JEM-EUSO is an international mission that is designed to identify the astronomical origin of extreme energy cosmic ray particles with energies $>10^{20}$ eV. Its instrument uses a near-UV telescope with the diameter of 2.5-m and the field-of-view of 60-degrees for the detection of fluorescence and Cherenkov light along the linear track of a cosmic ray event in atmosphere. JEM-EUSO can detect at least 1,000 particles above 7×10^{19} eV in a three year mission for the least expected flux by Greisen-Zatsepin-Kuzmin cutoff. Their energy and arrival direction will be accurately measured while all-sky is covered and monitored. These data will be used to identify the sources of the highest-energy particles including neutrinos and clarify their origin. The Japan Experiment Module (JEM) on the International Space Station (ISS) will host JEM-EUSO. Whereas an ordinary astronomical observatory looks up at the universe from earth, JEM-EUSO observes the universe by looking toward the earth because the earth's atmosphere is the largest detector yet employed in our quest to understand the origins of these elusive particles coming from the universe JEM-EUSO is a new type of astronomical space observatory, namely, an “earth-observing” astronomical telescope.

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