

Abstract Submitted  
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**Cosmic Ray Energetics and Mass for the International Space Station (ISS-CREAM)** IAN HOWLEY, University of Maryland, ISS-CREAM COLLABORATION — The Cosmic Ray Energetics and Mass detector is designed to directly measure cosmic rays with energy between  $10^{12}$ -  $10^{15}$  eV and composition from proton to iron thereby investigating cosmic ray origins, acceleration and propagation. CREAM has four subsystems. The silicon charge detector consists of four identical layers each containing 2688  $1.5 \times 1.6$  cm<sup>2</sup> pixels capable of measuring incident particle charge to about 0.2e. The calorimeter consists of a carbon target to induce interactions and alternating layers of tungsten plates and scintillating fibers used to measure incident particle energy, and provide triggering and particle tracking. The top and bottom counting detectors are scintillators with segmented read-out used for electron-proton separation. Finally, the boronated scintillator detector is a boron doped scintillator used to identify thermal neutrons emitted from interactions in the calorimeter, which can be used to separate electron and proton showers. Reconfiguring the payload for implementation on the ISS will provide an order of magnitude increase in exposure time and remove the atmospheric overburden as compared to previous balloon flights. In preparation for launch, the newly configured hardware must be tested, and remote monitoring and control capabilities must be established. The project overview, current status of testing, and preparations for launch in December 2014 will be presented.

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