

Development of the medium-energy electron detector with hemispherical field-of-view and the flight test in the PARM (Pulsating AuRora and Microburst) mission

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Energetic electrons significantly affect ionospheric dynamics and the long-term evolution of surfaces and atmospheres of planets and moons. Since the energetic electron flux is not necessarily isotropic, it is important to cover the broad solid angle to quantitatively evaluate the effects on solar system bodies. With future planetary explorations in mind, we developed the medium-energy (20 - 100 keV) electron detector (MED) which can cover almost 2-pi steradian without the spacecraft spin. In order to test the performance of this analyzer in the relevant environment, we participated in the PARM mission, which aimed to measure electron precipitation using NASA's sounding rocket RockSat-XN. In this presentation we report on MED observation results obtained through the flight on 13 January 2019.