

R006-51

Zoom meeting B : 11/4 AM2 (10:45-12:30)

12:00~12:15

Performance of Medium-Energy Particle experiments (MEPs) onboard ERG: a long-term view

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ERG (Exploration of energization and Radiation in Geospace, also called “Arase”) is the geospace exploration spacecraft, which was launched on 20 December 2016. One of the key observations is the measurement of ions and electrons in the medium-energy range (10-200 keV), since these particles excite EMIC, magnetosonic, and whistler waves, which are theoretically suggested to play significant roles in the relativistic electron acceleration and loss. Medium-Energy Particle experiments - electron analyser (MEP-e) measures the energy and the direction of each incoming electron in the range of 7 to 87 keV. The sensor covers 2π radian disk-like field-of-view with 16 detectors, and the solid angle coverage is achieved using spacecraft spin motion. Medium-Energy Particle experiments - ion mass analyser (MEP-i) measures the energy, mass, charge state, and direction of each incoming ion in the medium-energy range (<10 to >180 keV/q). MEP-i thus provides the velocity distribution functions of medium-energy ions (e.g., protons and oxygen ions). MEPs have carried out continuous observations for more than 4 years without any significant malfunction or degradation. Here we report the long-term trend of the sensor characteristics such as efficiency, in comparison with other instruments onboard ERG for higher and lower energy ranges.