Ground calibration results of Medium-Energy Particle analysers (MEPs) for ERG

*Satoshi Kasahara[1], Shoichiro Yokota[1], Takefumi Mitani[1], Kazushi Asamura[1], Masafumi Hirahara[2], Takeshi Takashima[1], Kazuhiro Yamamoto[3]

1.Institute of Space and Astronautical Science/ Japan Aerospace Exploration Agency, 2.Nagoya University, 3.Kyoto University

ERG (Exploration of energization and Radiation in Geospace) is the geospace exploration spacecraft, which is planned to be launched in FY2016. The mission goal is to unveil the physics behind the drastic radiation belt variability during space storms. One of 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. In previous space missions, however, the medium-energy range has been the missing region due to the limitation of conventional particle instruments. We present unique techniques, which are essential to challenge this difficult energy range, and report the ground calibration results of the instruments.

Keywords: ERG mission, Medium-Energy Particle analysers

