

## ERGサイエンスセンター: 宇宙嵐時の粒子加速・内部磁気圏変動の実証研究に向けて

# 関 華奈子 [1]; 三好 由純 [1]; 宮下 幸長 [1]; 堀 智昭 [2]; ERGサイエンスセンタータスクチーム 関 華奈子 [3]  
[1] 名大 STE 研; [2] 名大 STE 研; [3] -

## ERG Science Center: A basis to investigate particle acceleration and dynamics of the inner magnetosphere during geospace storms

# Kanako Seki[1]; Yoshizumi Miyoshi[1]; Yukinaga Miyashita[1]; Tomoaki Hori[2]; Kanako Seki ERG Science Center Task Team[3]  
[1] STEL, Nagoya Univ.; [2] STE lab., Nagoya Univ.; [3] -

Geospace storms are the largest electromagnetic disturbances in the near-Earth space caused by CMEs and CIRs accompanied by the strong southward IMF. During the geospace storms, it is observationally known that the particle acceleration up to the relativistic energies are taking place as a consequence of dynamic interactions of the magnetic and electric field and particles. In the course of the acceleration processes, all charged particles in a wide energy range over 6 orders of magnitude (from less than 1eV to greater than MeV) are potentially important. The occurrence frequency of geospace storms increases with increasing solar activities. Research into geospace storms are getting more international focus in preparation for the next solar maximum. International program CAWSES-II (climate and weather of Sun-Earth System, Part 2) and ISWI (International Space Weather Initiative) are now underway. RBSP (Radiation Belt Storm Probes) and Orbitals missions are being conducted in the US and Canada, respectively, with the ILWS (International Living With a Star) program aiming at the launch of geospace exploration satellites around 2012-2014. Japan is also planning the ERG (Energization and Radiation in Geospace) project as a mission of the scientific community. One of characteristics of the ERG project is close collaboration between three task teams, namely, the satellite, ground-based observation, and theory-modeling teams.

Aiming at understanding of physical mechanisms of the particle acceleration and regional couplings in solar-terrestrial system during the geospace storms as well as providing efficient study environment for the trinity collaboration in the ERG project, GEMSIS (Geospace Environment Modeling System for Integrated Studies) phase-2 project is planned to go from FY2010 to FY2015 at STEL, Nagoya University. One of important tasks of the GEMSIS phase 2 project is contribution to the ERG science center that facilitates the close collaboration between the satellite, ground-based observation, and theory-modeling for geospace studies by providing integrated data analysis tools and combined database.