

Geospace Exploration Project ERG: Contribution to Heliosphere/Geospace (H/GSO) system observatory

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The ERG (Exploration of energization and Radiation in Geospace) is Japanese geospace exploration project. The project focuses on the geospace dynamics and accelerations of radiation belt electrons in the context of the cross-energy coupling via wave-particle interactions. The project consists of the satellite observation team, the ground-based network observation team, and integrated-data analysis/simulation team. The ERG satellite will be launched in FY2016. Comprehensive instruments for plasma/particles, and eld/waves are installed in the ERG satellite to understand the cross-energy coupling system. In the ERG project, several ground-network teams join; magnetometer networks, radar networks, optical imager networks, etc, which provide a global view of geospace and complementary observation with the ERG satellite observation. Moreover, the modeling/simulations play an important role for the quantitative understanding. Besides research teams in the project, the science center has been operated. The science data from the project have been archived. Moreover, the science center has developed an integrated data analysis software that are a plug-in for SPEDAS in cooperation with the THEMIS mission. These data and softwares are available via the ERG-Science Webpage (<http://ergsc.stelab.nagoya-u.ac.jp>). In this presentation, we will talk about an overview of the ERG project and discuss the international collaborations with Van Allen Probes, MMS, THEMIS, Cluster, etc and ground network observations under the framework of Heliosphere/Geospace (H/GSO) system observatory.

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