

## **A04-O07**

### **GEOSPACE EXPLORATION PROJECT: ERG**

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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 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 2016. Comprehensive instruments for plasma/particles, and field/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. Moreover, the modeling/simulations play an important role for the quantitative understanding. The ERG mission reveals radiation environment in geospace as well as energetics of geospace. The radiation particles precipitate into the upper atmosphere, causing changes of chemistry of middle atmosphere. In this presentation, we will talk about an overview of the ERG project and how space radiation effects on the upper/middle atmosphere.