

Development of Plasma Parameter Estimation using CRM on Reimei Satellite

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The Reimei satellite has been launched in August 2005 and has been observing aurora fine structure over the polar region. As one of the plasma science instruments, 3 sets of Langmuir Probes (CRM) are onboard the Reimei satellite. Primary science target of the CRM is to observe the density and temperature of the background plasma with high special resolution. In order to derive reliable observational data from limited information obtained by the Langmuire probes, we have challenged to compare observational data with the simulational model constructed by the NuSPACE.

NuSPACE is a software package of space plasma particle simulation. The NuSPACE has originally developed as a part of Geospace environment simulator (GES). By using this software, a large scale simulation reproduces a realistic physical satellite environment adopted not only for studying the Geospace environment but also for various human activities in space, such as susceptibility analysis of electric propulsion system to the environment.

We will summarise current status of the CRM observational data since its launch and also demonstrate the simulational results comparing the CRM data.