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Analysis of real-time simulation data of Earth magnetosphere using space weather cloud system

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Space Weather Cloud has been constructed in National Institute of Information and Communications Technology (NICT). The Space Weather Cloud contains a high performance computer (NEX SX-8R), distributed mass storage system, and so on. The data obtained by simulation is important to cover geo-space because in-situ data observed by spacecraft are limited. Data from the real-time magnetosphere simulation are stored in the Space Weather Cloud. This enables not only event analysis but also data analysis corresponding to various solar wind conditions.

In the Space Weather Cloud, observation data and simulation data can be handled using the STARS (Solar-Terrestrial data Analysis and Reference System). It is possible to check data using data plots by the STARS.

We will report several examples of analysis using real-time magnetosphere simulation such as variations of geomagnetic field at geostationary orbit.

Keywords: space weather cloud, simulation, magnetosphere