

STEREO real-time data reception for the space weather forecast

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The high-speed solar wind according to an explosive sun activity phenomenon and the coronal halls such as solar flare and CMEs (Coronal Mass Ejections) and the solar high energy particle causes the ionosphere the trouble of the space satellite and the radiation exposure of interference and the measurement error margin in the human space exploration.

STEREO(Solar TERrestrial RELations Observatory) is the third mission in NASA's Solar Terrestrial Probes program .

The STEREO mission will employ two nearly identical space-based observatories - one ahead of Earth in its orbit, the other trailing behind - to provide the first-ever stereoscopic measurements to study the Sun and the nature of its CMEs. A real-time data transmission function for the space weather forecast called Space Weather Beacon(SWB) is installed. SWB always transmits the data of the limited amount.

We receive SWB in cooperation with United States NASA, SEC/NOAA, and CNES/ESA etc. of Europe, plan to construct the network used for the space weather forecast, and have advanced the preparation. Therefore, the observational data of the solar activity and space are in real time collected, and the research of the space weather forecast that aims to execute a necessary warning and the forecast is important. The satellite that had the real-time transmission function of the key parameter data to operational forecast and warning like ACE and IMAGE, etc. aiming at the used thing appears, too. The back end system for the satellite data reception is maintained to 11m parabolic antenna for VLBI of the National Institute of Information and Communications Technology(NICT) Koganei, and the preparation has been advanced in Japan. It is start-up and the operation examination and the adjustment of the earth station equipment have begun since about the end on January, 2007.

We will report recent status and earth station status and the use plan of data.