複数衛星粒子観測データを用いた静止軌道高エネルギー粒子環境の再構成
Reconstruction of high energy particle environment in geostationary orbit based on several satellite observations

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Currently there are several geostationary satellites which monitor high energy particle environment, although more than four hundreds of satellite exist in this orbit. New Japanese geostationary meteorological satellite, Himawari-8, has operated space environment data acquisition monitor since Nov. 2014. Because the magnetic dipole axis is not aligned with the rotational axis of the Earth, L-value of each GEO satellite is not the same and it changes depending on space weather conditions. To monitor the current condition of high energy particle environment for each satellite in GEO, which is a risk of spacecraft charging, we need to reconstruct high energy particle environment in GEO using several high energy particle observations. Before combining individual data from high energy particle sensors, cross calibration of each sensor is essential. However, the cross calibration needs some technique, because the specification of individual sensor is not the same. So we need to develop method of cross calibration of the sensor, and of combining individual particle data for reconstruction. In this presentation, we will introduce cross calibration method of high energy particle sensor and how to reconstruct high energy particle environment in geostationary orbits using data from the sensor onboard Himawari-8, GOES-13, 15, and Kodama. We also introduce our online database for archiving and providing Himawari-8 high energy particle data.

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