

Realization of pseudo high-frequency high-resolution observation by combined observation of geostationary satellite and orbiting satellite

*Yoshiaki HONDA¹, Koji KAJIWARA¹, Ryota ISHIBASHI¹

1. Center for Environmental Remote Sensing, Chiba University

From both fields of earth science and practical use, higher frequency and higher resolution observation data is desired for the earth observation optical sensor data. However, high-frequency observation and high-resolution observation cannot be simultaneously realized with a single satellite, and a large number of microsatellite operations are being realized. However, microsatellites generally have problems such as a short design life and no calibration system. On the other hand, medium or larger satellites including geostationary satellites have a long design life and have a calibration system. However, in order to achieve high frequency and high resolution with a satellite of a medium or larger size, the budget is enormous and impractical to secure the number of satellites. This proposal is based on high-frequency observations of relatively low-resolution geostationary satellites and high-resolution but low-frequency orbiting satellite observations among satellites launched by Japan (assuming successors such as Himawari, GCOM-C, and ALOS) A framework for providing such high-quality, long-term provisions that aims to produce pseudo-high-frequency, high-resolution observation data through models that mutually adjust some of the sensor specifications of each satellite and adjust for differences in observation geometry To build. This aims to expand the use of satellite optical sensor data in earth science and practical applications, and to advance science and expand practical use. This framework is a step toward achieving greater results with the planned budget, and the expansion of practical applications will also contribute to ensuring the continuity of earth observation in Japan. Furthermore, by incorporating newly planned satellites from other countries into this framework, we aim to increase Japan's earth observation presence in the fields of earth science and practical use.

Keywords: Geostationary satellite, Orbiting satellite, Himawari, GCOM-C, ALOS