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POSTLAUNCH VERIFICATION RESULTS OF GCOM-C SPACECRAFT BUS AND SGLI RADIOMETER

Abstract

JAXA's GCOM-C spacecraft called "SHIKISAI" that means color or hue in Japanese was successfully launched on December 23, 2017 by H-IIA launch vehicle. Since then, the in-orbit verification and commissioning activities for the spacecraft bus and the mission instrument SGLI (Second Generation Global Imager) have been conducted. Global Change Observation Mission (GCOM) that forms two polar orbit spacecrafts of GCOM-W and GCOM-C aims to establish and demonstrate a global, long-term observing system to measure the essential geophysical parameters in order that we are able to understand the global water circulation and climate change, and to improve future climate prediction model. GCOM-W equipped with Advance Microwave Radiometer 2 (AMSR2) was launched in 2012 and has been in continuous operation. GCOM-C mounts two onboard SGLI instruments of Visible and Near Infrared Radiometer (VNR) and Infrared Scanning Radiometer (IRS) which perform an observation that excels in wide spectral bands (380nm-12m wavelength), wide field of view (1150-1400km) and high-resolution (250-500m pixel). It provides the science community with observational data products regarding clouds, aerosols, ocean color, vegetation, snow and ice, and other applications. In this paper, the commissioning and verification of GCOM-C bus and SGLI that we have performed during the first several months of in-orbit operation in order to confirm the system integrity will be reported. The in-orbit calibration and characterization activities for SGLI conducted by using the on-board calibrators and calibration maneuvers will be also reported.