

EARTH OBSERVATION SYMPOSIUM (B1)
Future Earth Observation Systems (2)

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GOSAT-2 - MISSION REQUIREMENTS AND SPECIFICATIONS

Abstract

GOSAT was launched almost 3 and half years ago, and the calibration and validation activities have been continued. Based on these cal/val activities, the data processing algorithm have been improved a few times. In March of 2012, the latest version of the level 1B algorithm, version 1.50 was released and the re-processing of the data obtained from April 2009 to March of 2012 had been performed in parallel with the nominal processing of new data. Until now in addition to the level 1B data, which is the interferogram, the higher level products have been disclosed to public users as well as PIs. The results of the three and half years operation will be summarized in this presentation at first. GOSAT has accomplished certain results and we have recognized the availability of the GHG observation from space. And it has been required to expand this mission for real to make it useful for mankind. So Japan's three parties, Ministry of the Environment(MOE), National Institute for Environmental Studies(NIES) and JAXA which have led the GOSAT project have studied the mission requirements for the GOSAT-2. And we defined the mission requirements for GOSAT-2 with a goal of the contribution to the policies on the climate changes such as the decision of the emission reduction targets based on the scientific facts, the monitor of the emission reduction efforts and so on. Based on these requirements, we have studied about the observation specifications. GOSAT-2 will aim to improve the concentration measurement precision and estimation error of the fluxes. For this purposes, GOSAT-2 will continuously adopt the Fourier Transform Spectrometer (FTS) as the instrument to measure the gases, and will equip the imager to compensate the FTS data. But the performance of these instruments will be improved, for example the new channel to measure the CO will be added to FTS and the observation band in UV of CAI will adopt the grating spectrometer for the measurement of NO₂ and to improve the aerosol retrievals. In this presentation, the requirements for GOSAT-2 and the specification of the satellite and two mission instruments.