



The current status of the mission instruments of GOSAT-2

Masakatsu Nakajima, Yukie Yajima, Makiko Hashimoto, Kei Shiomi, Hiroshi Suto, and Hiroko Imai
JAXA, GOSAT-2 Project Team, Tsukuba, Japan (nakajima.masakatsu@jaxa.jp)

The GOSAT-2 is the successor satellite to the GOSAT which is the satellite dedicated to the measurements of the greenhouse gases such as carbon dioxide and methane. GOSAT was launched in January of 2009 and has been operated for about seven years.

The development of the GOSAT-2 has been continued for three years, and currently the proto-flight model is under manufacturing. The mission instruments of the GOSAT-2 are TANSO-FTS-2 and TANSO-CAI-2. TANSO-FTS-2 is the Fourier Transform Spectrometer observing greenhouse gases such as Carbon Dioxide and Methane and TANSO-CAI-2 is the imager observing the aerosols and clouds to compensate the TANSO-FTS-2 data and to grasp the movements of the aerosols such as PM_{2.5}.

The mission instruments will adopt the same kinds of instruments as GOSAT. But some improvements will be carried.

Based on the results of the critical design, the manufacturing of the proto-flight model was started and through the manufacturing, the gap has emerged between the design and manufacturing. Especially, the results of the polarization sensitivity of the TANSO-CAI-2 was lower than 3% which is the requirements and the results of the test manufacturing has shown that it has been over than 40%. The root cause of this anomaly was that the thickness of the anti-reflecting coating had varied from place to place.

Therefore the design of the thickness of the anti-reflecting coating has been changed with consideration for the difference of the thickness of the coat between the center and edge of the lens. And we could meet the polarization sensitivity requirement.

In this presentation, the root cause and the investigation process of the polarization sensitivity anomaly will be presented as well as the current status of the manufacturing of the mission instruments of GOSAT-2.