## Greenhouse gases Observing SATellite-2 (GOSAT-2) Project

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Subject Category：Space Technology

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### ● Abstract

GOSAT-2 project retrieve and estimate the global concentration distribution of major greenhouse gases including the sources and natural absorbers with high level of accuracy to contribute to environmental administration as follows.

- Improved precision of climate change predictions
- Early detection of changes in the Earth system
- Better understanding of emission reduction level of the anthropogenic greenhouse gases and changing natural sink
- Contribution to air pollution monitoring policies

Also, GOSAT-2 project researches and develops new earth observation technologies required for future earth observing satellites.

http://global.jaxa.jp/projects/sat/gosat2/index.html

### ● Reasons for using of JSS2

GOSAT-2 project utilizes JSS2 as one of the GOSAT-2 Mission Operation System which processes the observation data of GOSAT-2. When processing algorithm is updated, JSS2 reprocesses all data observed in the past. Also, JSS2 is used as a remote storage of all data required for its reprocessing.

As the reprocessing targets of GOSAT-2 products extends to all data observed in the past, more computer resources (core, memory, storage, etc.) are required than in the real-time processing.

It is necessary to use JSS2 to shorten the reprocessing time and to provide the reprocessing products to GOSAT-2 users more quickly.

## ● Achievements of the Year

In the process of manufacturing and testing of the GOSAT-2 MOS (Mission Operation System), we completed the following test with JSS2.

（1）Interface test between GOSAT-2 MOS and JSS2
To confirm the interface specification which is defined in ICD between GOSAT-2 MOS and JSS2.

（2）Reprocessing test with JSS2
To confirm the reprocessing function of GOSAT-2 MOS can be worked with JSS2 as system requirement.
To confirm the reprocessing performance of GOSAT-2 MOS with JSS2.


## ● Publications

N/A

## 🔵 Usage of JSS2

### ● Computational Information

| Parallelization Methods | N/A |
|---|---|
| Thread Parallelization Methods | N/A |
| Number of Processes | 1 |
| Elapsed Time per Case | 5.00 minutes |

### ● Resources Used

Fraction of Usage in Total Resources*1 (%): 0.09

Details

| Computing Resources | | |
|---|---|---|
| System Name | Amount of Core Time (core x hours) | Fraction of Usage*2 (%) |
| SORA-MA | 0.00 | 0.00 |
| SORA-PP | 635.79 | 0.01 |
| SORA-LM | 0.00 | 0.00 |
| SORA-TPP | 0.00 | 0.00 |

| File System Resources | | |
|---|---|---|
| File System Name | Storage assigned(GiB) | Fraction of Usage*2 (%) |
| /home | 163.72 | 0.11 |
| /data | 100,930.58 | 1.87 |
| /ltmp | 33,528.66 | 2.53 |

| Archiver Resources | | |
|---|---|---|
| Archiver System Name | Storage used(TiB) | Fraction of Usage*2 (%) |
| J-SPACE | 0.01 | 0.00 |

*1 Fraction of Usage in Total Resources: Weighted average of three resource types (computing, file system, and archiver)

*2 Fraction of Usage: Percentage of usage relative to each resource used in one year