

Utilization of JSS2 for GCOM-C satellite control and mission operations

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● Abstract

GCOM-C*(SHIKISAI) was launched on Dec 23rd, 2017. It is conducting long-term and continuous global observation and data collection to understand the mechanism of changing radiation budget and carbon cycle needed to project future temperature rise accurately.

When upgrading the algorithm version, it is necessary to re-process by going back to the past data. Since it requires a very large-scale re-processing capability, a re-processing test for portability to JSS2 will be conducted.

*)GCOM-C : Global change Observation Mission-Climate

● Reasons and benefits of using JAXA Supercomputer System

By using JSS2 with a large scalability processing environment and executing processing of enormous scenes in parallel, it becomes possible to provide products to users more quickly.

● Achievements of the Year

We tested whether reprocessing of GCOM-C could be ported to JSS2. Most of the processing was confirmed to be portable without any problems. Problems remain in some processes, and testing is ongoing. (As of March 4)

● Publications

N/A

● Usage of JSS2

● Computational Information

Process Parallelization Methods	N/A
Thread Parallelization Methods	N/A
Number of Processes	1
Elapsed Time per Case	16 Minute(s)

● Resources Used

Fraction of Usage in Total Resources*1(%): 0.14

Details

Computational Resources		
System Name	Amount of Core Time (core x hours)	Fraction of Usage*2(%)
SORA-MA	0.00	0.00
SORA-PP	257,337.48	1.67
SORA-LM	3.35	0.00
SORA-TPP	0.00	0.00

File System Resources		
File System Name	Storage Assigned (GiB)	Fraction of Usage*2(%)
/home	248.75	0.21
/data	197,951.09	3.39
/ltmp	27,018.24	2.30

Archiver Resources		
Archiver Name	Storage Used (TiB)	Fraction of Usage*2(%)
J-SPACE	0.00	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.