

## Upper Weather Prediction

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● **Abstract**

This study aims to develop the reanalysis system for upper atmospheric density to improve the satellite orbit prediction accuracy.

● **Reasons for using JSS2**

In order to realize atmospheric density reanalysis, it is required to perform atmospheric density model calculation with many calculation conditions simultaneously.

● **Achievements of the Year**

The construction of reanalysis system for atmospheric density was completed, and it was confirmed through numerical experiments that the atmospheric density reanalysis can be performed.

● **Publications**

N/A

● **Usage of JSS2**

● **Computational Information**

Process Parallelization Methods	N/A
Thread Parallelization Methods	Automatic Parallelization
Number of Processes	1
Elapsed Time per Case	20 Minute (s)

- **Resources Used**

Fraction of Usage in Total Resources\*<sup>1</sup> (%): 0.02

Details

Computational Resources		
System Name	Amount of Core Time (core x hours)	Fraction of Usage* <sup>2</sup> (%)
SORA-MA	111,942.89	0.01
SORA-PP	2,447.74	0.02
SORA-LM	0.00	0.00
SORA-TPP	0.00	0.00

File System Resources		
File System Name	Storage Assigned (GiB)	Fraction of Usage* <sup>2</sup> (%)
/home	95.37	0.10
/data	4,846.58	0.09
/tmp	5,729.17	0.49

Archiver Resources		
Archiver Name	Storage Used (TiB)	Fraction of Usage* <sup>2</sup> (%)
J-SPACE	0.00	0.00

\*<sup>1</sup>: Fraction of Usage in Total Resources: Weighted average of three resource types (Computing, File System, and Archiver).

\*<sup>2</sup>: Fraction of Usage: Percentage of usage relative to each resource used in one year.