Study of spaceborne lidar mission

● **Responsible Representative**

Taishi Sumita, Multi- footprint Observation Lidar and Imager Demonstration Pre-Project Team

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● **Abstract**

We conducted a system construction study on algorithm development for Multi-Footprint Observation Lidar and Imager Demonstration and on the development of ground system for product generation.

● **Reasons and benefits of using JAXA Supercomputer System**

The MOLI mission is considering using JSS as part of the ground processing system for product generation. JSS is best suited for operations that process large amounts of data in a short period of time, rather than real-time processing.

● **Achievements of the Year**

In the development of a global algorithm for the MOLI mission, a large amount of simulation data was generated and used as training data for deep learning to gain generality for the algorithm under development. We were also able to confirm, using dummy data, that JSS performs well as part of the ground system used to process MOLI products.

● **Publications**

N/A

● **Usage of JSS**

● **Computational Information**

Process Parallelization Methods	N/A
Thread Parallelization Methods	N/A
Number of Processes	1
Elapsed Time per Case	3 Hour(s)

- **JSS3 Resources Used**

Fraction of Usage in Total Resources[*1](%): 1.12

Details

Computational Resources		
System Name	CPU Resources Used (core x hours)	Fraction of Usage[*2](%)
TOKI-SORA	0.00	0.00
TOKI-ST	8,804,972.01	9.51
TOKI-GP	20,605.36	0.27
TOKI-XM	0.00	0.00
TOKI-LM	9,858.11	0.75
TOKI-TST	0.00	0.00
TOKI-TGP	0.00	0.00
TOKI-TLM	0.00	0.00

File System Resources		
File System Name	Storage Assigned (GiB)	Fraction of Usage[*2] (%)
/home	0.00	0.00
/data and /data2	163,790.00	1.01
/ssd	0.00	0.00

Archiver Resources		
Archiver Name	Storage Used (TiB)	Fraction of Usage[*2] (%)
J-SPACE	420.80	1.52

[*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.

● **ISV Software Licenses Used**

ISV Software Licenses Resources		
	ISV Software Licenses Used (Hours)	Fraction of Usage[2] (%)
ISV Software Licenses (Total)	0.00	0.00

[2]: Fraction of Usage：Percentage of usage relative to each resource used in one year.

● **ISV Software Licenses Used**