

Flight Demonstration of LIDAR-based Gust Alleviation Control System

Report Number: R20EDA102H00

Subject Category: Aeronautical Technology

URL: <https://www.jss.jaxa.jp/en/ar/e2020/14293/>

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● Abstract

Flight demonstration of LIDAR-based Gust Alleviation Control System will be performed. CFD analysis was conducted to build an aerodynamic database for the demonstration aircraft.

● Reasons and benefits of using JAXA Supercomputer System

Objective: Building aerodynamic models for flight motion analysis

Benefit: High fidelity

● Achievements of the Year

The validity of the 3D panel method, including the compressibility effect, was evaluated using the result of CFD analysis.

● Publications

N/A

● Usage of JSS

● Computational Information

Process Parallelization Methods	MPI
Thread Parallelization Methods	N/A
Number of Processes	128
Elapsed Time per Case	7.5 Hour(s)

- **Resources Used(JSS2)**

Fraction of Usage in Total Resources^{*1}(%): 0.01

Details

Computational Resources		
System Name	Amount of Core Time (core x hours)	Fraction of Usage ^{*2} (%)
SORA-MA	29,316.02	0.01
SORA-PP	25.84	0.00
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	3.13	0.00
/data	721.39	0.01
/tmp	627.79	0.05

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.

- **Resources Used(JSS3)**

Fraction of Usage in Total Resources^{*1}(%): 0.00

Details

Computational Resources		
System Name	Amount of Core Time (core x hours)	Fraction of Usage ^{*2} (%)
TOKI-SORA	2,900.69	0.00
TOKI-RURI	22.24	0.00
TOKI-TRURI	0.00	0.00

File System Resources		
File System Name	Storage Assigned (GiB)	Fraction of Usage ^{*2} (%)
/home	3.34	0.00
/data	911.63	0.02
/ssd	32.51	0.02

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.