

Research on High Performance Control Surfaces and High Lift Devices

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● Abstract

The purpose of the research is to develop and mature a bunch of elemental technologies on aerodynamics, aeroacoustics, structures and sensing and system design technologies to achieve high performance control surfaces and high-lift devices with higher environmental performances of future aircraft application, thereby helping the Japanese aviation industry to enhance its share on the global market. This business code was used for data sharing of computational results.

● Reasons and benefits of using JAXA Supercomputer System

To develop and mature advanced elemental technologies of aerodynamics, aircraft noise reduction, and structures for future aircrafts, development of CFD technologies and CFD-based design/analysis have been conducted in this research. The high-fidelity CFD analysis of high performance control surfaces and high lift devices requires large computational resources. JSS enables the high-fidelity evaluations of the performance in a timely manner and the technology developments.

● Achievements of the Year

This business code was used for data sharing of computational results.

● 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	1 Second(s)

● **JSS3 Resources Used**

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

Details

Computational Resources		
System Name	CPU Resources Used (core x hours)	Fraction of Usage*2(%)
TOKI-SORA	0.00	0.00
TOKI-ST	0.00	0.00
TOKI-GP	0.00	0.00
TOKI-XM	0.00	0.00
TOKI-LM	0.00	0.00
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	103.16	0.07
/data and /data2	107,306.30	0.51
/ssd	31,742.59	1.70

Archiver Resources		
Archiver Name	Storage Used (TiB)	Fraction of Usage* ² (%)
J-SPACE	2.55	0.01

*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.