Fundamental Studies of Methane RCS

● Responsible Representative

Daiki Terakado, Research and Development Directorate, Research Unit IV

● Contact Information

Daiki Terakado　terakado.daiki@jaxa.jp

● Members

Daiki Terakado

● Abstract

The present RCS of hydrazine used for controling rockets has a weak point on its toxicity. The present project focuses on the non-toxic property of methane and develops safer RCS system for the future rockets.

● Reasons for using of JSS2

The present computation needs more than 10 species reactive computation, so that the computational cost is very large. In addition, a massive parametric study will be conduted to find the optimal way of injection. Thus, using supercomputer is necessary.

● Achievements of the Year

N/A

● Publications

N/A

Usage of JSS2

Computational Information

Parallelization Methods	N/A
Thread Parallelization Methods	N/A
Number of Processes	1
Elapsed Time per Case	24.00 hours

Resources Used

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

Details

Computing Resources		
System Name	Amount of Core Time (core x hours)	Fraction of Usage*2 (%)
SORA-MA	0.00	0.00
SORA-PP	26.64	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	158.95	0.11
/data	3,255.21	0.06
/ltmp	651.04	0.05

Archiver Resources		
Archiver System 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