

## OS4 : Flow Dynamics and Combustion Technology of Hybrid Rocket Propulsion, 10th Edition

### EX-3

November 8, 2018

9:00-10:00 OS4-1

*Invited*

Dynamic Behavior of High Frequency Pressure and Heat Release Fluctuations in Hybrid Rocket

*H. Choi, S.H. Kang, C. Lee*

10:00-10:20 OS4-2

Verification of CFD Modeling of Hybrid Rocket Combustion Instability with Experimental Results

*G. Karthikeyan, T. Shimada*

10:40-11:00 OS4-3

Fuel Regression Behavior of Swirling-Injection End-Burning Hybrid Rocket Engine

*T. Sakurai, Y. Oishige, K. Saito*

11:00-11:20 OS4-4

Experimental Investigation of Paraffin-Based Hybrid Rocket Motor

*Y. Wu, X. Yu, S. Li, Z. Wang, X. Liu, N. Wang*

11:20-11:40 OS4-5

Fuel Regression Rate Augmentation Produced by a Radiant Heat Flux

*T. Morita, K. Aono, S. Yamaguchi*

11:40-12:00 OS4-6

Study of Hypergolic Hybrid Rocket Using Hydrogen Peroxide as Oxidizer

*C.-R. Lu, Y.-C. Chao, C.-A. Chen, H.-W. Hsu*

13:10-13:30 OS4-7

Error Propagation Analysis in Mixture- Ratio-Controlled Throttling in Hybrid Rocket

*T. Shimada*

13:30-13:50 OS4-8

O/F Ratio Measurement for Hybrid Rocket Engine Feedback Control

*J. Messineo, K. Kitagawa, T. Shimada*

13:50-14:10 OS4-9

Experimental study of O/F Control of A-SOFT Hybrid Rocket

*D. Kishizato, Y. Koinuma, I. Nakagawa, K. Kitagawa, N. Kimura, T. Shimada*

14:10-14:30 OS4-10

Proposal of Flight Demonstration of A-SOFT Hybrid Rocket Using Sounding Rocket

*K. Kitagawa, T. Shimada*

14:50-15:10 OS4-11

Hybrid Propulsion for Low-cost Access to Space

M. Kobald, C. Schmierer

15:10-15:30 OS4-12

Preliminary Flow System Design of an Apogee Kick Motor Using N<sub>2</sub>O/C<sub>2</sub>H<sub>4</sub>

L. Kamps, P. Biswas, K. Sakurai, E. Uchiyama, H. Nagata

15:30-15:50 OS4-13

Effect of Baffle Plate on Combustion Characteristics of Aluminized Solid Fuel for Hybrid Rocket

Y. Kanbayashi, Y. Yamazaki, H. Wachi, Y. Murakami, A. Takahashi, K. Takahashi

15:50-16:10 OS4-14

Quantitative Evaluation of Blast Safety Distance for Hybrid Rocket Propellants

A. Takahashi, K. Kitagawa, T. Shimada

16:30-16:50

Wrap-up

T. Shimada