OS4: Flow Dynamics and Combustion Technology of Hybrid Rocket Propulsion, 14th Edition

November 10, 2022
EX-3-B

OS4-1
13:10-13:40
Preliminary Study of Copper-Infused Electrically Conductive Polymer Igniter for Rocket Ignition
Yownin Albert M. Leung, Shota Hirai, Yuki Nobuhara, Landon T. Kamps, Harunori Nagata (Hokkaido University, Japan)

OS4-2
13:40-14:10
Experiment about Heat Transfer Characteristics of Liquid Oxygen Flow in a Thin Tube Surrounded by Air
Kazuaki Tanaka, Kohei Matsui, Koki Kitagawa (Kyushu Institute of Technology, Japan)

OS4-3
14:10-14:40
One-Dimensional Model for the Study of Helical Cooling Channels Based on Cryogenic Oxygen in Hybrid Rocket Engines
Giuseppe Gallo, Shota Hirai, Landon Kamps, Harunori Nagata (Hokkaido University, Japan)

OS4-4
14:50-15:20
Effects of Adding Boron and Aluminum Powders to WAX-based Solid Fuels to Improve Hybrid Rocket Performance
Akihisa Kawasumi, Akiyo Takahashi, Ayana Banno, Kenichi Takahashi (Nihon University, Japan)

OS4-5
15:20-15:50
Study on Cellulose Addition to WAX-based Solid Fuels for Hybrid Rockets
Yusuke Nishimura, Akiyo Takahashi, Ayana Banno, Kenichi Takahashi (Nihon University, Japan)

OS4-6
15:50-16:20
Study on the Method of Measuring Real Time O/F of a Hybrid Rocket
Ichiro Nakagawa (Tokai University, Japan)

OS4-7
16:30-17:00
Research on the Fuel Fragmentation for the Safety of Hybrid Rocket Propellants
Akiyo Takahashi, Nodoka Kanasashi, Ryo Saito, Hidehito Yuki, Kenichi Takahashi (Nihon University, Japan)

OS4-8
17:00-17:30
Summary of Hybrid Rocket Research Presented at ICFD Between 2009 and 2022
Toru Shimada (Japan Aerospace Exploration Agency, Japan)