

## OS18: The 15th International Students / Young Birds Seminar on Multi-scale Flow Dynamics

November 6, 2019

CON-SAKURA 2

15:00-(16:20)

Short Oral Presentation

(16:20-18:10)

Poster Presentation

- OS18-1 **Free-flight Test of Different Re-entry Capsule Shapes at Transonic Speed**  
Hideki Kiritani, Kiyonobu Ohtani, Hiroki Nagai (Tohoku University, Japan)
- OS18-2 **The Application of Pressure Sensitive Paints for Transonic Cavity Flow Measurements**  
Cheng-Yan Ye, Zih-Chen Lin, Chih-Yung Huang (National Tsing Hua University, Taiwan)
- OS18-3 **Micro-PIV Measurements on Flow Field of Inclined-angle Structure Microchannel with Acoustic Streaming**  
Ming-Xiang Chang, Tung-Yi Tsai, Tong-Miin Liou, Chih-Yung Huang (National Tsing Hua University, Taiwan)
- OS18-4 **Numerical Simulation of the Unsteady Process of Aircraft Ice Accretion**  
Chengxiang Zhu, Zhengzhi Wang, Chunling Zhu (Nanjing University of Aeronautics and Astronautics, China)
- OS18-5 **PIV Measurement of Oscillating Airfoil at Low Reynolds Number**  
Tsubasa Ikami, Koji Fujita, Hiroki Nagai (Tohoku University, Japan)
- OS18-6 **Aeroelastic Simulation Method and Dynamic Response of Wind Turbine in Typhoon Eye Area**  
Long Wang, Ran Han, Tongguang Wang (Nanjing University of Aeronautics and Astronautics, China)
- OS18-7 **Performance Enhancement of Darrieus Vertical Axis Wind Turbine with Wingtip Devices**  
Toshiki Kobayashi, Shinya Imai, Wataru Yamazaki (Nagaoka University of Technology, Japan)
- OS18-8 **Aerodynamic Performance Augmentation of Supersonic Transport by Fuselage Shape**  
Koudai Kamiyama, Wataru Yamazaki (Nagaoka University of Technology, Japan)
- OS18-9 **Two-Dimensional Aerodynamic Topology Optimization in Supersonic Flow**  
Naoki Ikarashi, Naohiko Ban, Wataru Yamazaki (Nagaoka University of Technology, Japan)
- OS18-10 **Aerodynamic Characteristics of Wing with Leading-edge Sweep Angles at Low Reynolds Number**  
Akira Shirakawa, Masato Okamoto (Kanazawa Institute of Technology, Japan)

- OS18-11 **Study of Magnetohydrodynamic Thruster**  
Yu-Hsuan Chen, Jia-Hong Cheng (National Chiao Tung University, Taiwan), Cing-Hui Zeng, Jen-Rung Huang (National Defense University, Taiwan), Wei-Hsiang Chao (National Chung-Shan Institute of Science and Technology, Taiwan), Yan-Hom Li, Kuan-Cheng Pan (National Defense University, Taiwan), Cherng-Shyong Chan (National Yunlin University of Science and Technology, Taiwan), Jen-Tzong Jeng (National Kaohsiung University of Science and Technology, Taiwan), Tsung-Long Liu (National Defense University, Taiwan), Ching-Yao Chen (National Chiao Tung University, Taiwan)
- OS18-12 **Aerodynamic Design of Micro-size Mars Airplane**  
Issei Mamiya, Koji Fujita, Hiroki Nagai (Tohoku University, Japan)
- OS18-13 **Comparison of Aerodynamic Characteristics on Hypersonic Flow using Boundary Fitted Coordinate Grid and Cartesian Grid**  
Rirai Yamashita, Yusuke Mizuno, Hiromu Fujiwara, Naoto Sato, Shun Takahashi, Gouji Yamada (Tokai University, Japan)
- OS18-14 **Bayesian Optimisation of a Low-boom Supersonic Tailless Delta Wing-body using Euler CFD**  
Timothy Jim (Tohoku University, Japan), Ghifari Adam Faza, Pramudita Palar (Bandung Institute of Technology, Indonesia), Koji Shimoyama (Tohoku University, Japan)
- OS18-15 **Development and Investigation of Microchannel Force Sensor for Normal and Shear Force Measurements**  
Wan-Ting Chen, Chih-Chun Yang, Chih-Yung Huang (National Tsing Hua University, Taiwan)
- OS18-16 **The Applications of Pressure Sensitive Paints on Transonic Convex-corner Flow Measurements**  
Yun-Fang Lin, Chih-Yung Huang (National Tsing Hua University, Taiwan)
- OS18-17 **Investigation of Effect of Flowfield in Rearing Tank on Larval Fishes**  
Katsumi Yamaguchi, Wataru Yamazaki (Nagaoka University of Technology, Japan), Tetsuya Sumida (National Institute of Technology, Oshima College, Japan), Yoshitaka Sakakura (Nagasaki University, Japan)
- OS18-18 **Investigation of Reynolds Number Effect of C-141 Aircraft**  
Jun Sakamoto, Hiroki Ichihashi, Wataru Yamazaki (Nagaoka University of Technology, Japan), Makoto Ueno (Japan Aero Space Exploration Agency, Japan)
- OS18-19 **An Investigation of Topological Analysis of Vortical Structure in a Channel Flow**  
Keita Kondo, Katuyuki Nakayama (Aichi Institute of Technology, Japan), Yuji Hattori (Tohoku University, Japan)
- OS18-20 **Development of Active Control System for Suppression of Unsteady Cavitation on NACA16-012**  
Takaho Ochiai, Koki Sugaya, Adrien Turchet, Junnosuke Okajima, Yuka Iga (Tohoku University, Japan)

- OS18-21 **Evaluation of Time Response Characteristic of Unsteady Two-color PSPs for Dynamic Wind-tunnel Testing**  
Ayana Wakayama, Daiju Numata (Tokai University, Japan)
- OS18-22 **Numerical Investigation of Aircraft Safety Landing in the Hangar Wake at Haneda Airport**  
Shu Iwabuchi, Ryoichi Yoshimura, Aiko Yakeno, Shigeru Obayashi (Tohoku University, Japan), Ryota Kikuchi (Doer Research, Inc., Japan)
- OS18-23 **Influence of Small Wavy Roughness on a Flat Plate Boundary Layer Transition**  
Hiroki Tameike, Aiko Yakeno, Shigeru Obayashi (Tohoku University, Japan)
- OS18-24 **Numerical Simulation and Experimental Analysis of Wind-induced Vibration Characteristics of the Rearview Mirror Based on Fluid-Structure Coupling**  
Xingjun Hu, Yulong Lei, Peng Guo, Zewei Wang, Zheng Hui, Yanghui Zhang, Qinlin Wan (Jilin University, China)
- OS18-25 **CFD Model Validation of Swirling Induction Type Displacement HVAC System in a Large Factory Space**  
Wan Khairil Arif, Kotaro Hirose, Wataru Yamazaki (Nagaoka University of Technology, Japan), Nguyen Dang Binh Thanh (Hanoi University of Science and Technology, Vietnam), Hidechika Koga (Takasago Vietnam Co., Ltd., Vietnam), Yusuke Toda (Takasago Singapore Pte. Ltd., Singapore)
- OS18-26 **2D Backward Facing Step Flow Analysis using Cartesian-mesh CFD with Immersed Boundary Method**  
Kentaro Ouchi, Daisuke Sasaki (Kanazawa Institute of Technology, Japan)
- OS18-27 **Feature of Local Axial Topology in terms of Eigen-Vortical-Axis Line in Homogeneous Isotropic Turbulence**  
Ruka Funazaki, Hayato Hori, Katsuyuki Nakayama (Aichi Institute of Technology, Japan)
- OS18-28 **Characteristics of Local Axial Topology in Eigen-Vortical-Axis Line**  
Kazuma Doi, Katsuyuki Nakayama (Aichi Institute of Technology, Japan)
- OS18-29 **Development of Efficient Method for Aerodynamic Analysis by Machine Learning**  
Akitaka Toyota, Yuji Hattori (Tohoku University, Japan)
- OS18-30 **Numerical Estimation of the Flight Range of a Gliding Mars Exploration Aircraft Based on Experimental Results**  
Naoki Okamoto, Marie Kosaka, Takao Unoguchi (Tottori University, Japan), Seiichiro Morizawa (National Institute of Technology, Okinawa College, Japan), Hiromitsu Kawazoe (Tottori University, Japan), Shigeru Obayashi (Tohoku University, Japan)
- OS18-31 **Study on Surface-temperature Equalization of Test Models for PSP Measurement in Dynamic Wind Tunnel Test**  
Takaaki Uchida, Ayana Wakayama, Daiju Numata (Tokai University, Japan)
- OS18-32 **Simplified MTHINC Method Using Mass Center Approximation of Indicator Function Integral for Three-dimensional Free Surface Flows**  
Ryosuke Sasaki, Tameo Nakanishi (Yamagata University, Japan)

- OS18-33 **Experimental Investigation of Unsteady Characteristics of Cavitation in Centrifugal Pump**  
Shunta Tsuchiyama, Junnosuke Okajima (Tohoku University, Japan), Donghyuk Kang (Saitama University, Japan), Motohiko Nohmi (Ebara Corporation, Japan), Yuka Iga (Tohoku University, Japan)
- OS18-34 **Experimental Study of the Rotor-wing Aerodynamic Interaction for Wing Span in Hover**  
Hiroki Oshima, Takeshi Akasaka, Yusuke Hamamoto (Kanazawa Institute of Technology, Japan)
- OS18-35 **Effect of Width of Porous Foam on Pressure Attenuation Behind Simple Helmet Model Subjected to Shock Wave Loading**  
Kazuki Ueguri, Shota Kajii, Taketoshi Koita, Susumu Kobayashi (Saitama Institute of Technology, Japan)
- OS18-36 **Influence of Porosity of Porous Foam on Pressure Attenuation of Shock Wave Through Simple Helmet Model**  
Shota Kajii, Kazuki Ueguri, Taketoshi Koita, Susumu Kobayashi (Saitama Institute of Technology, Japan)

**November 7, 2019**

**CON-SAKURA 2**

9:00-(10:10)

Short Oral Presentation

(10:10-12:00)

Poster Presentation

- OS18-37 **Temperature Prediction of a Heat Pipe Using Gas-liquid Two-phase Simulation**  
Kaoru Takemura, Hiroaki Nagashima, Yuki Kawamoto, Shun Takahashi, Manami Kondo, Akiko Kawachi (Tokai University, Japan), Shun Okazaki, Hideyuki Fuke (Japan Aerospace Exploration Agency, Japan)
- OS18-38 **Study on Start-up Characteristics of Hydrophobized OHP**  
Hiroki Nagasawa, Takuya Adachi, Koji Fujita, Hiroki Nagai (Tohoku University, Japan)
- OS18-39 **Study on Effect of Vapor Flow Path Shape in Large Isothermal Evaporator of Two-Phase Mechanically Pumped Fluid Loop**  
Takumi Hirata, Takuya Adachi, Koji Fujita, Hiroki Nagai (Tohoku University, Japan)
- OS18-40 **Active Thermal Radiation Control Based On MIM Metasurface**  
Hiroki Hasegawa, Masaya Araki, Hidetoshi Kishi, Atsushi Sakurai (Niigata University, Japan)
- OS18-41 **Heat Transfer Enhancement with Metal Porous Media in Mini-Channel Flow**  
Ryoto Tasaka, Takashi Yamada, Naoki Ono (Shibaura Institute of Technology, Japan)

- OS18-42 **Development of a High-Fidelity Thermo-Fluid Analysis Model for an Automotive Heat Exchanger**  
Yoshio Sato, Koji Shimoyama (Tohoku University, Japan), Jun Onodera, Gun Liu (Keihin Corporation, Japan)
- OS18-43 **Evaluation of Spatiotemporal Bubble Generation accompanying Flow Boiling in Multi-microchannel**  
Daiki Sugawara, Shuichi Moriya, Junnosuke Okajima, Atsuki Komiya (Tohoku University, Japan)
- OS18-44 **Characteristics of Subcooled Flow Boiling in Impacting Drops**  
Masaki Kato, Takahiro Okabe, Minori Shirota (Hirosaki University, Japan)
- OS18-45 **Development of Temperature Measurement System for Cavitation in High Temperature Water**  
Taku Hanyuda, Junnosuke Okajima, Yuka Iga (Tohoku University, Japan)
- OS18-46 **Visualization of Cavitation Behavior around the Fin in the Heat Exchanger**  
Ning Yang, Shuichi Moriya, Junnosuke Okajima (Tohoku University, Japan), Tomokazu Nomura (Honda Motor Co., Ltd., Japan), Yuka Iga (Tohoku University, Japan)
- OS18-47 **Numerical Investigation of Thermodynamic Parameter in Cavitating Flow of Liquid Hydrogen**  
Masaki Nakano, Le Dinh Anh, Junnosuke Okajima, Yuka Iga (Tohoku University, Japan)
- OS18-48 **Effects Total Enthalpy Profiles on Stability of Ammonia/Air premixed Flames in a Swirling Flow**  
Daiki Sugawara, Kapurugen Don Kumkuma Amila Somarathne, Akihiro Hayakawa, Hideaki Kobayashi (Tohoku University, Japan)
- OS18-49 **Combustion Instabilities of a Mesoscale Swirl Injector Array in a Lean-premixed Model Gas Turbine Combustor**  
Ukhwa Jin, Hyebin Kang, Teasong Lee, Kyu Tae Kim (Korea Advanced Institute of Science and Technology, Korea)
- OS18-50 **Measurement of the Effect of Recess on Co-axial Jet Diffusion Flames Using OH-PLIF at Elevated Pressures**  
Yasuhiro Higuchi, Kiyonori Takeuchi (Tohoku University, Japan), Yoshio Nunome, Sadatake Tomioka, Takeo Tomita, Kazuki Sakaki (Japan Aerospace Exploration Agency, Japan), Taku Kudo, Akihiro Hayakawa, Hideaki Kobayashi (Tohoku University, Japan)
- OS18-51 **Study on Ignition and Combustion Characteristics of Electrolyte Solvent in Lithium-ion Battery Using a Micro Flow Reactor with Controlled Temperature Profile**  
Shota Morikura, Shintaro Takahashi, Hisashi Nakamura, Takuya Tezuka, Youhi Morii (Tohoku University, Japan), Kaoru Maruta (Tohoku University, Japan / Far Eastern Federal University, Russia), Takayuki Shirane, Kensuke Nakura (Panasonic Corporation, Japan)

- OS18-52 **Prediction of Polycyclic Aromatic Hydrocarbons Formation using Flamelet Approach with Additional Transport Equations**  
Hirumu Miyamoto, Shota Akaotsu, Yohsuke Matsushita, Hideyuki Aoki (Tohoku University, Japan), Weeratunge Malalasekera (Loughborough University, UK)
- OS18-53 **Structure of Laminar and Turbulent Premixed Flames of Bio-Fuel Isomers**  
Kyouhei Nishikawa, Taisuke Abe, Akihiro Hayakawa, Taku Kudo, Hideaki Kobayashi (Tohoku University, Japan)
- OS18-54 **Self-excited Instabilities of Two Interacting Lean-premixed Flames: Effects of Swirl Impingement and Swirl Number**  
Jiho Lee, Taesong Lee, Kyu Tae Kim (KAIST, Korea)
- OS18-55 **Interactions between Turbulent Shear Flows and Jet Premixed Flames**  
Motoki Kato, Hiroki Sasaki, Taku Kudo, Akihiro Hayakawa, Hideaki Kobayashi (Tohoku University, Japan)
- OS18-56 **Optimization of Engine Cylinder Block Cooling Channel Based on EGO Algorithm**  
Haitao Bai, Bin Zhao, Chenguang Lai, Yi Chen, Yizhao Zhang (Chongqing University of Technology, China)
- OS18-57 **Performance Improvement of Microstructured Fluid Separator Utilizing the Soret Effect**  
Takumi Saiki, Tomohiro Otsuka, Tomoya Miyauchi (Shibaura Institute of Technology, Japan), Sohei Matsumoto (National Institute of Advanced Industrial Science and Technology, Japan), Shinya Watanabe (Ibaraki University, Japan), Naoki Ono (Shibaura Institute of Technology, Japan)
- OS18-58 **Spectroscopic Evaluation of Arc-Heated Plasma Flows Graphite Ablation**  
Keisei Tsubouchi, Ryuta Koto, Gouji Yamada (Tokai University, Japan)
- OS18-59 **Investigation of Oil Transport Around a Piston Ring Based on Multiphase Flow Simulation**  
Yuiki Kuramoto, Yuki Kawamoto, Shun Takahashi, Masayuki Ochiai, Akihiko Azetsu, Kenji Yamamoto (Tokai University, Japan)
- OS18-60 **Effects of Mixture Temperature on Laminar Burning Velocity and Markstein Length of Ammonia/Air Premixed Flames**  
Takahiro Kudo, Ryuhei Kanoshima, Akinori Ichikawa, Akihiro Hayakawa, Taku Kudo, Hideaki Kobayashi (Tohoku University, Japan)
- OS18-61 **Thermal Analysis of Spacecraft using Data Assimilation**  
Hiroto Tanaka, Hiroki Nagai (Tohoku University, Japan), Takashi Misaka (National Institute of Advanced Industrial Science and Technology, Japan)
- OS18-62 **Elucidation of Ionization Phenomena in Argon Plasmas behind a Strong Shock Wave**  
Fumiteru Kikuchi, Gouji Yamada (Tokai University, Japan)
- OS18-63 **Spectroscopy of High Enthalpy Plasma Flows for Mars Entry**  
Ryotaro Tanaka, Goji Yamada (Tokai University, Japan)

- OS18-64 **Spectroscopic Diagnostics of Carbon Ablative Shock Layer Radiation in an Arc-Heated Wind Tunnel**  
Ryuta Koto, Keisei Tsubouchi, Gouji Yamada (Tokai University, Japan)
- OS18-65 **Visualization Measurement of Natural Convection in Open Cavity using Infrared Thermography**  
Yuto Ishioka, Takahiro Okabe, Taimei Miyagawa, Minori Shirota (Hirosaki University, Japan)
- OS18-66 **Effects of Swirler Dimensions on Atomization Characteristics of an Air-blast Atomizer**  
Ayato Shibazaki, Koshi Matsushita, Taku Kudo (Tohoku University, Japan), Masahiro Uchida (IHI Corporation, Japan), Akihiro Hayakawa, Hideaki Kobayashi (Tohoku University, Japan)
- OS18-67 **Study on Pyrolysis of Nitromethane using a Micro Flow Reactor with a Controlled Temperature Profile**  
Yoshimichi Yamamoto, Takuya Tezuka, Hisashi Nakamura (Tohoku University, Japan)

13:00 – (14:00)

Short Oral Presentation

(14:00-15:50)

Poster Presentation

- OS18-68 **Vibration Control of Flexible Space Structures with Magnetostrictive Transducer**  
Naoya Sogo, Li An, Kanjuro Makihara (Tohoku University, Japan)
- OS18-69 **System Identification of Piezoelectric Dynamic System for High-Efficiency Vibration Control**  
Kensuke Saito, Yushin Hara, Kanjuro Makihara (Tohoku University, Japan)
- OS18-70 **Numerical Analysis of Induced Eddy Current Distribution in the Submandibular Region by Magnetic Stimulation Using Biostructure Data Acquired by CT**  
Hitoshi Mori (IFG Corporation / Tohoku University, Japan), Hitoshi Kagaya, Yoko Inamoto (Fujita Health University, Japan), Shin-ichi Izumi (Tohoku University, Japan), Kenji Yashima (IFG Corporation, Japan), Toshiyuki Takagi (Tohoku University / ELyTMaX, Japan)
- OS18-71 **Electromagnetic Field Analysis for Cavity Quantum Effect in Open Porous Metal**  
Tatsuro Hirai, Hiroki Gonome (Yamagata University, Japan)
- OS18-72 **New Framework of Strain Based Beam Formulation for Rigid Body Motion**  
Takahiro Suzuki, Keisuke Otsuka, Shunsuke Hirotsu, Shuonan Dong, Kanjuro Makihara (Tohoku University, Japan)
- OS18-73 **Effect of Bubble Interfusion on Optical Properties of Scattering Medium**  
Mizuho Ono, Tadahito Takahashi (PRIMIX Corporation, Japan), Hiroki Gonome (Yamagata University, Japan),

- OS18-74 **The Effect of Local Degradation on Thickness Gauging Using Point-Focusing EMAT Evaluated with Experiment and Numerical Analysis**  
Akitoshi Tezuka, Hongjun Sun, Ryoichi Urayama, Tetsuya Uchimoto, Toshiyuki Takagi (Tohoku University, Japan)
- OS18-75 **A Reactive-Force Field Molecular Dynamics Study of Deposition Mechanism during Chemical Vapor Deposition Processes**  
Naoya Uene, Takuya Mabuchi (Tohoku University, Japan), Masaru Zaitso, Shigeru Yasuhara (Japan Advanced Chemicals Ltd., Japan), Takashi Tokumasu (Tohoku University, Japan)
- OS18-76 **Development of Numerical Method for Clear Air Turbulence by Using LIDAR Data Assimilation**  
Ryoichi Yoshimura, Aiko Yakeno (Tohoku University, Japan), Takashi Misaka (National Institute of Advanced Industrial Science and Technology, Japan), Ryota Kikuchi (DoerResearch, Inc., Japan), Shu Iwabuchi, Shigeru Obayashi (Tohoku University, Japan)
- OS18-77 **Quantitative Evaluation of the Influence of Membrane Structure on Protein Mass Diffusion**  
Ryo Watanabe, Shuichi Moriya (Tohoku University, Japan), Sébastien Livi (INSA Lyon, France), Alkitabi Aldaftari Hani, Atsuki Komiya (Tohoku University, Japan),
- OS18-78 **Numerical Simulation of Concentration Field around a Growing Crystal Subjected to Gravity**  
Hani Alkitabi Aldaftari, Ryo Watanabe, Atsuki Komiya (Tohoku University, Japan)
- OS18-79 **Consolidation and Metal Alloying of Cu/Zn Mixed Powders by Warming Compression Shearing Method**  
Takuma Takahashi, Hiroyuki Miki, Sho Takeda, Hiroyuki Kosukegawa, Toshiyuki Takagi (Tohoku University, Japan)
- OS18-80 **An Automated Signal Analysis Model for Eddy Current Testing using Artificial Neural Network**  
Xinwu Zhou, Ryoichi Urayama, Tetsuya Uchimoto, Toshiyuki Takagi (Tohoku University, Japan)
- OS18-81 **Optimization of Mini-Channel Wavy Tube Structure of Liquid Cooling Cylindrical Battery Module Based on EGO**  
Youchang Sun, Yi Chen, Chenguang Lai, Bin Zhao, Zhiwei Ling, Liang Li, Jie Yang (Chongqing University of Technology, China)
- OS18-82 **Evaluation of Water Uptake in Ionic Liquid Composite Polymer Coating: Comparison between Gravimetric and Capacitance Measurements**  
Lucas Ollivier-Lamarque, Tetsuya Uchimoto (Tohoku University, Japan), Nicolas Mary, Sabrina Marcelin, Benoit Ter-Ovanessian, Sébastien Livi (INSA Lyon, France)
- OS18-83 **The Influence of Hydrophobic Parts of the Peptide on the Interaction between the Peptide and the Solid Surface**  
Masaya Hirano, Ryuichi Sato, Akinori Fukushima (University of Fukui, Japan)



- OS18-84 **Development of Soft-magnetic DLC Sensor for Detecting Adhesive Joint Defect in Composite Materials**  
Zhuo Diao, Hiroyuki Kosukegawa, Hiroyuki Miki, Toshiyuki Takagi (Tohoku University, Japan)
- OS18-85 **Optical Diagnostics of Dissociating Nitrogen Flow in a Shock Tube**  
Mizuki Kajino, Gouji Yamada (Tokai University, Japan)
- OS18-86 **Efficient Aerodynamic Shape Optimization of a 3D Supersonic Transport Configuration Using Proper Orthogonal Decomposition**  
Nomin Buyanbaatar, Wataru Yamazaki (Nagaoka University of Technology, Japan)
- OS18-87 **Hydrogen Embrittlement Evaluation Using Eddy Current Testing on Fatigued Specimens of Hydrogen Charged Austenitic Stainless Steel**  
Eri Tokuda, Sho Takeda, Tetsuya Uchimoto, Toshiyuki Takagi (Tohoku University, Japan), Hirotohi Enoki, Takashi Iijima (National Institute of Advanced Industrial Science and Technology, Japan)
- OS18-88 **Multi-Objective Bayesian Optimization of the Power-Law Configuration for a Low-Boom Waverider**  
Potsawat Boonjaipetch (Tohoku University, Japan), Ghifari Adam Faza, Pramudita Satria Palar (Bandung Institute of Technology, Indonesia), Koji Shimoyama, Shigeru Obayashi (Tohoku University, Japan)
- OS18-89 **A Spectrally Selective Solar Absorber based on a Double-layered Film**  
Ryota Igarashi, Atsushi Sakurai (Niigata University, Japan)
- OS18-90 **Evaluation of Characteristics of Anodized-Aluminum Pressure-Sensitive Paints with Hydrophobic Coating**  
Koji Wada, Soichiro Kawazoe, Daiju Numata (Tokai University, Japan)
- OS18-91 **Analysis of Proton Transport Properties of Hydrocarbon Ion Exchange Membrane at Low Water Contents**  
Kazushi Hara, Keitaro Kouda (University of Fukui, Japan), Takashi Tokumasu (Tohoku University, Japan), Akinori Fukushima (University of Fukui, Japan)
- OS18-92 **Preparation and Evaluation of Electrolytes by Spray Pyrolysis Deposition for All-Solid-State Lithium Batteries**  
Yasuhiro Ouchi, Naoki Yoshida, Kazuhisa Sato, Toshiyuki Hashida (Tohoku University, Japan)
- OS18-93 **Mechanical Properties of Al and Cu Thin Plates Fabricated by Warming Process with Compression Shearing Method**  
Yusuke Koshihira, Shun Nagai, Hiroyuki Miki, Sho Takeda, Takamichi Miyazaki, Hiroyuki Kosukegawa, Toshiyuki Takagi (Tohoku University, Japan)
- OS18-94 **Development of Solid Oxide Fuel Cells' Nondestructive Inspection System by Machine Learning Based on Terahertz Spectroscopy**  
Yoshie Yabuta, Keigo Kumada (Tohoku University, Japan), Ken-ichi Fukui, Masayuki Numao (Osaka University, Japan), Kazuhisa Sato, Toshiyuki Hashida (Tohoku University, Japan)