

Program of the 26th ILASS–Japan Symposium

Venue

National Institute of Advanced Industrial Science and Technology (AIST), Tokyo Waterfront

<http://www.aist.go.jp/waterfront/en/access/> :English website

<http://www.aist.go.jp/waterfront/ja/access/> :Japanese website

Invited Lecture

December 19 (Tuesday) 14:25~15:25 Room A

[Chair : Nobuyuki KAWAHARA (Okayama Univ.)]

Evaporation and Combustion Characteristics of a Droplet in Rapid Compression Machine

Prof. Hyemin Kim (Korea National University of Transportation)

Special Lecture

December 19 (Tuesday) 15:35~16:35 Room A

[Chair : Norihiko IKI (AIST)]

Practical Application and Challenge of Metal Additive Manufacturing

–Relation between Additive Manufacturing Technique and Liquid Atomization–

Shizuka NAKANO (AIST)

Organized Session and Organizers

Recent Measurement Technique

Yoshio ZAMA (Gunma Univ.)

Seoksu MOON (AIST)

Banquet

December 19 (Tuesday) 18:00 ~ 19:30

Venue : Time 24 Building 11F Sky Restaurant SEAGULL

(<http://www.bigsight.jp/facilities/time/shop/restaurant02/>)

Table of Lectures and Technical Sessions

December 19 (Tuesday)

Time	Room A	Room B
9:00—	Registration	
10:00—10:10	Opening Ceremony (Room A) Chair of organizing committee : Norihiko IKI (AIST)	
10:10—11:50	A11:Recent Measurement Technique (OS) Chair : Tatsuro Wakimoto (Osaka City Univ.)	B11:Wall Impingement (GS) Chair : Hiroshi NOMURA (Nihon Univ.)
11:50—13:00	Lunch	
13:00—14:15	A12:Combustion (GS) Chair : Yoshio ZAMA (Gunma Univ.)	B12:Atomization Mechanism (GS) Chair : Yoshimitsu KOBASHI (Hokkaido Univ.)
14:15—14:25	Break	
14:25—15:25	Invited Lecture (Room A) Evaporation and Combustion Characteristics of a Droplet in Rapid Compression Machine Prof. Hyemin Kim (Korea National University of Transportation)	
15:25—15:35	Break	
15:35—16:35	Special Lecture (Room A) Practical Application and Challenge of Metal Additive Manufacturing -Relation between Additive Manufacturing Technique and Liquid Atomization- Shizuka NAKANO (AIST)	
16:35—16:45	Break	
16:45—17:35	ILASS-Japan General Assembly Meeting (Room A)	
18:00—19:30	Banquet	

December 20 (Wednesday)

Time	Room A	Room B
9:00—	Registration	
9:30—10:45	A21:Numerical Simulation I (GS) Chair : Akira SOU (Kobe Univ.)	B21:Material Production (GS) Chair : Eriko MATSUMURA (Doshisya Univ.)
10:45—10:55	Break	
10:55—12:10	A22:Numerical Simulation II (GS) Chair : Junji SHINJO (Shimane Univ.)	B22:Secondary Atomization (GS) Chair : Jun HAYASHI (Kyoto Univ.)
12:10—13:20	Lunch	
13:20—15:00	A23:Diesel Spray (GS) Chair : Yoichi OGATA (Hiroshima Univ.)	B23:Spray Characteristics (GS) Chair : Chihiro INOUE (Univ. of Tokyo)
15:00—15:10	Break	
15:10—15:30	Award Ceremony of Best Presentation (Room A)	

Program of Technical Sessions

[General Report] , (Prompt Report), *Speaker
Presentation 15 min / Question 10 min

December 19 (Tuesday)

A11 : Recent Measurement Technique (OS) 10:10–11:50 Room A

Chair : Tatsuro Wakimoto (Osaka City Univ.)

- 【A-111】 PDA Measurement near the Nozzle Exit of the Injector in a DISI Engine
*Bunta MORI (Okayama Univ.), Nobuyuki KAWAHARA, Eiji TOMITA
- 【A-112】 Study on Droplet Evaporation Behavior Entered in Laminar Counterflow Flame
*Yoshiaki OKUBO (Osaka Univ.), Jun HAYASHI (Kyoto Univ.), Noriaki NAKATSUKA (Osaka Univ.), Yasue TANAKA (KANOMAX, Inc.), Tomohiro HORI, Fumiteru AKAMATSU (Osaka Univ.)
- 【A-113】 Effect of Ambient Gas Pressure on Characteristics of a Fuel Spray Ejected from DI Injector
*Shota SUGIYA (Gunma Univ.), Yoshio Zama, Tomohiko FURUHATA
- 【A-114】 X-Ray High Speed Visualization and Measurement of Cavitation Flow in a Nozzle under Transient Injection Condition
*Kazuya KOTANI (Kobe Univ.), Rubby PRASETYA, Takashi MIWA, Akira SOU, Seoksu MOON (AIST), Raditya Hendra PRATAMA

A12 : Combustion (GS) 13:00–14:15 Room A

Chair : Yoshio ZAMA (Gunma Univ.)

- 【A-121】 Bi-Propellant Thruster Performance Modeling with Film Cooling Fuel
*Chihiro INOUE (The Univ. of Tokyo), Go FUJII (JAXA), Yu Daimon
- 【A-122】 Effect of Temporally-Splitting High-Pressure Injection on Diesel Spray Mixture Formation and Combustion in 2-D Piston Cavity
*Shintaro YASAKI (Hiroshima Univ.), Tomoya SHIWAKU, Kang YANG, Keiya NISHIDA, Yoichi OGATA
- 【A-123】 The Effect of Spray Characteristics on Ignitability of Laser Induced Breakdown Ignition in Fuel Spray
*Hiromichi TATEISHI (Yamaguchi Univ.), Takehiko SEO, Masato MIKAMI

B11 : Wall Impingement (GS) 10:10–11:50 Room B

Chair : Hiroshi NOMURA (Nihon Univ.)

- 【B-111】 Experimental Investigation of Collision Behavior of High-Speed Microdroplets onto a Dry Surface
Naoya YAMANE (Tottori Univ.), Keisuke YAMAMOTO (Mazda Motor Corp.) ,
*Tetsuya ODA (Tottori Univ.), Hideaki YOKOHATA, Katsuyuki OHSAWA

- 【B-112】** An Experimental Study on Characteristics of Spray-Wall Impingement under Cross-Flow Condition
 *Zhanbo Si (Hiroshima Univ.), Nagisa SHIMASAKI, Keiya NISHIDA, Youichi OGATA, Chenglong TANG (Xi'an Jiaotong Univ.), Zuohua HUANG
- 【B-113】** Adhesion Behavior of Gasoline Spray Impinging on a Wall (Second Report : Under the Hot Surface Condition)
 *Kengo JINNAI (Tokyo Denki Univ.), Yoshihiro KOBAYASHI, Masataka ARAI
- 【B-114】** Wall Impingement Behavior and Liquid Film Formation of Gasoline Spray Impinging under High-Temperature and High-Pressure Ambient Conditions
 *Shintaro UCHITOMI (Hiroshima Univ.), Hong Liang LUO, Keiya NISHIDA, Youichi OGATA, Wu ZHANG (Mazda Motor Corp.), Tatsuya FUJIKAWA, Ryosuke HARA

B12 : Atomization Mechanism (GS) 13:00–14:15 Room B

Chair : Yoshimitsu KOBASHI (Hokkaido Univ.)

- 【B-121】** Effect of Breakup Formation on Spray Characteristic in Prefilming Airblast Atomizer
 *Toshihiro SAKAKI (Hirosaki Univ.), Naoki KATAGATA, Takahiro OKABE, Takao INAMURA, Minori SHIROTA
- 【B-122】** Experimental Study of Upwash Generated by Splash Plate Atomization
 *Miku KOBAYASHI (Hirosaki Univ.), Satoshi HIMORI, , Takao INAMURA, Takahiro OKABE
- (B-123)** Determination of Surface Physical Properties of a Soap Film using Thermo-Capillary Effect
 *Tatsuro WAKIMOTO (Osaka City Univ.), Nozomu TANAKA, Yoshimi HASHIGUCHI, Kenji KATOH

December 20 (Wednesday)

A21 : Numerical Simulation I (GS) 9:30–10:45 Room A

Chair : Akira SOU (Kobe Univ.)

- 【A-211】** Development of a Hybrid Spray LES Code Based on a Novel Turbulent Atomization Model
 *Junji SHINJO (Shimane Univ.), Akira UMEMURA (Nagoya Industrial Science Research Institute)
- 【A-212】** Numerical Simulation of Liquid Fuel Atomization in a Cross-flow Involved with Wall Impingement
 *Taisuke NAMBU (JAXA), Yasuhiro MIZOBUCHI

【A-213】 Development of Internal Mixing Multi Exit Port Twin Fluid Atomizer for Heavy Oil Fired Boilers (2nd Report : Two Phase Flow Analysis and Rapid Fluctuating Behaviors)

*Kazuaki HASHIGUCHI (Mitsubishi Heavy Industries, Ltd), Fumiya YAMANE, Hiroshi FUJII (Mitsubishi Hitachi Power Systems, Ltd), Kazunori SATOU, Keiya NISHIDA (Hiroshima Univ.)

A22 : Numerical Simulation II (GS) 10:55–12:10 Room A

Chair : Junji SHINJO (Shimane Univ.)

【A-221】 Hybrid Numerical Simulation of Turbulent Cavitation Flow in a Nozzle and Liquid Jet

*Masaki YAMAMOTO (Kobe Univ.), Kensho WASHIMI, Akira SOU, Yoshitaka WADA (MAZDA Motor Corp.), Yoshiharu UEKI, Hideaki YOKOHATA

【A-222】 Numerical Simulation of Cavitating Flow Considering Compressibility of Both Gas-Phase and Liquid-Phase under High Pressure Conditions

*Akitoshi FUJITA (Toyota Central R&D Labs., Inc.), Kiyomi KAWAMURA, Norikazu KATSUMI, Makoto NAGAOKA

【A-223】 Effect of Off-axis Valve Motion on Spray Shape of Fuel Injector

*Kazuki YOSHIMURA (Hitachi, Ltd.), Tomoyuki HOSAKA, Yoshihito YASYKAWA, Eiji ISHII, Kiyotaka OGURA (Hitachi Automotive Systems, Ltd.)

A23 : Diesel Spray (GS) 13:20–15:00 Room A

Chair : Yoichi OGATA (Hiroshima Univ.)

【A-231】 Prediction Method of Diesel Nozzle Spray Penetration

*Yuta HASHIMOTO (SOKEN, Inc.), Kazufumi SERIZAWA (DENSO Corp.)

【A-232】 Study of Spray Dispersion near Diesel Nozzle Orifice by L2F

*Shinichiro SEKI (Nagasaki Univ.), Manabu SAITO (IRS Corp.), Keisuke KOMADA (Nagasaki Univ.), Daisaku SAKAGUCHI, Hironobu UEKI

【A-233】 A Study on Entrainment Characteristics in Diesel Spray (Fourth report) (Effects of Nozzle Hole Diameter on Spray Characteristics)

*Kohsuke NISHIURA (Doshisya Univ.), Naoto TERASHI, Eriko MATSUMURA, Jiro SENDA

【A-234】 Flow Analysis on a Diesel Spray Impinging on a Circular Cylinder

*Wataru YATABE (Gunma Univ.), Yoshio ZAMA, Tomohiko FURUHATA, Manabu OKINAKA (NGK Spark Plug Co.), Tomoyuki HAYAKAWA

B21 : Material Production (GS) 9:30–10:45 Room B

Chair : Eriko MATSUMURA (Doshisya Univ.)

【B-211】 Fabrication and Evaluation of Nitrogen Doped Titanium Oxide Hollow Particles by Reaction Crystallization in Droplets

*Kotaro OSHIMA (Doshisya Univ.), Mikio YOSHIDA, Atsuko SHIMOSAKA, Yoshiyuki SHIRAKAWA

【B-212】 Synthesis and Evaluation of Hydrotalcite Using Instillation Process of Simulated Bittern

*Shinya MASAKI (DoshisyaUniv.), Mikio YOSHIDA, Atsuko SHIMOSAKA, Yoshiyuki SHIRAKAWA

【B-213】 Fabrication of Cathode of Solid Oxide Fuel Cell by Electrostatic Spray Deposition and Power Generation Performance Test

Ryoya SHIMIZU (Nihon univ.), Shinya SHIMIZU, Hiroshi NOMURA, Yusuke SUGIYAMA

B22 : Secondary Atomization (GS)

10:55–12:10 Room B

Chair : Jun HAYASHI (Kyoto Univ.)

【B-221】 Flash Boiling Effect with Ethane Mixed Fuel for Improvement of Pre-mixed Diesel Combustion Performance

*Shinnosuke Hirako (Kanazawa Institute of Tech.), Kaname Naganuma, Yoshimitsu Kobashi (Hokkaido Univ.)

【B-222】 Occurrences of Secondary Atomization during Combustion Processes of a FAME/Alcohol Mixture Droplet

*Chiaki KATO (Nihon Univ), Osamu IMAMURA, Kazuhiro AKIHAMA, Hiroshi YAMASAKI

【B-223】 Observation of Secondary Atomization Phenomena in Electrostatic Atomization of BDF/Water Emulsion

*Chien-hua FU (Nihon Univ), Osamu IMAMURA, Kazuhiro AKIHAMA, Hiroshi YAMASAKI

B23 : Spray Characteristics (GS)

13:20–14:35 Room B

Chair : Chihiro INOUE (Univ. of Tokyo)

【B-231】 Formation of High Dispersion Spray by Twisted Triangular Hole Nozzle

*Kiyomi KAWAMURA (Toyota Central R&D Labs., Inc.), Ryo MASUDA, Reiko UEDA, Yoshinori IDOTA, Makoto NAGAOKA

【B-232】 Effect of the Swirling Air Flow on Liquid Film Behavior with Swirl Injector at Sub-Atmospheric Pressure

*Shuai HUANG (Yamaguchi Univ.), Takehiko SEO, Masato MIKAMI

【B-233】 Influence of Nozzle Arrangement on Flow Rate and Droplet Diameter in Electrostatic Atomization

*Tomoro YAJIMA (Gunma Univ.), Akito ONOZATO, Juan C. GONZALES PALENCIA, Mikiya ARAKI, Seiichi SHIGA