

Program of the 31st ILASS–Japan Symposium

Venue

6th floor of 39th building, Tsudanuma Campus, Nihon University
(1-2-1 Izumicho Narashino City, Chiba, 2758575)

Access information:

<https://www.cit.nihon-u.ac.jp/access/>

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Invited Lecture

December 15 (Thursday) 15:50–16:50

[Chair: Prof. Jun Hayashi (Kyoto Univ.)]

「Improvement on water flux distribution of fire sprinklers by optimizing deflector design」
Prof. Taehoon Kim (Seoul National University of Science and Technology)

Table of Lectures and Technical Sessions

December 16 (Thursday)

Time	Room A 室(Spring Hall)	Room B(Room 602)
10:00-	Registration	
11:00-11:10	Opening (Room A)	
11:10-12:50	A11 : Fuel Film Chair: Prof. Eriko Matsumura (Doshisha Univ.)	B11 : Cavitation Chair: Prof. Keisuke Komada (Fukuoka Inst. Tech.)
12:50-14:00	Lunch	
14:00-15:40	A12 : Atomization and Evaporation Chair: Prof. Chihiro Inoue (Kyushu Univ.)	B12 : Diesel Spray 1 Chair: Prof. Yoichi Ogata (Hiroshima Univ.)
15:40-15:50	Break	
15:50-16:50	Invited Lecture(Room A) 「Improvement on water flux distribution of fire sprinklers by optimizing deflector design」 Prof. Taehoon Kim (Seoul National University of Science and Technology)	
16:50-17:00	Break	
17:00-18:00	ILASS-Japan General Assembly Meeting (Room A)	

December 17 (Friday)

Time	Room A	Room B
9:00-	Registration	
10:00-11:40	A21 : Atomization Method and Equipment Chair: Prof. Yoshihiro Kobayashi (Tokyo Denki Univ.)	B21 : Diesel Spray 2 Chair: Dr. Noritsune Kawaharada (National Traffic Safety and Environment Laboratory)
11:40-13:00	Lunch	
13:00-14:40	A22 : Gasoline Spray Chair: Prof. Yoshimitsu Kobashi (Okayama Univ.)	B22 : Measurement and Evaluation Chair: Prof. Yoshio Zama (Gunma Univ.)
14:40-15:00	Break	
15:00-15:20	Award Ceremony of Best Presentation (Room A)	

Program of Technical Sessions

※Speaker
Presentation 15 min / Question 10 min

December 15 (Thursday)

A11 : Fuel film 11:10–12:50 Room A

Chair: Prof. Eriko Matsumura (Doshisha Univ.)

- 【A111】 Relationship between evaporative lifetime and surface roughness of fuel film formed by fuel spray impingement on the wall surface
※Hiroki HORI (Tokyo Denki Univ.), Yoshihiro KOBAYASHI, Masataka ARAI
- 【A112】 Measurement of fuel liquid film attached to the intake port wall in a gasoline engine using a newly developed MEMS sensor
※Tsukasa YOSHIHASHI (Chiba Univ.), Tatsuya KUBOYAMA, Yasuo MORIYOSHI, Ikue HIRAOKA (Meiji Univ.), Osamu NAKABEPPU, Satoshi TAKAYAMA (SUZUKI MOTOR Corp.)
- 【A113】 Effect of fuel viscosity on impingement behavior of a fine spray droplet ejected from gasoline-direct injector on fuel liquid film
※Yudai SUZUKI (Gunma Univ.), Yoshio ZAMA, Sachio MORI (TOYOTA MOTOR Corp.)
Shiro TANNO
- 【A114】 Measurement of fuel mass adhered by the impingement of gasoline spray on a wall under simulated low temperature environment
※Rei NOGAWA (Gunma Univ.), Yoshio ZAMA

A12 : Atomization and Evaporation 14:00–15:40 Room A

Chair: Prof. Chihiro Inoue (Kyushu Univ.)

- 【A121】 Investigation of breakup energy of a liquid jet in an air crossflow
※Yasuhiro SAITO (Kyushu Institute of Technology), Maki MIYAMOTO, Shota NAKASHIMA, Minori SHIROTA (Hirosaki Univ.), Shuichi IWATA (Nagoya Institute of Technology)
- 【A122】 A Study on Twin-fluid Atomization Process Using Deep-learning
※Wenjing XING (Hiroshima Univ.), Sushil RAUT, Kazunori SATOU, Keiya NISHIDA, Yoichi OGATA, Singh SANJAY (CSIR-CEERI)
- 【A123】 Formation of Vertical Wrinkles and Atomization Process after Bag Breakup of Planar Liquid Sheet by Parallel Air Flows
※Shoya KINGETSU (Kobe Univ.), Akira SOU, Ippei OSHIMA (Tohoku Univ.)
- 【A124】 Microgravity experiments on effect of ambient pressure on unsteadiness of single fuel droplet evaporation of decane
※Koyo NAKAGAWA (Nihon Univ.), Hiroshi NOMURA, Yusuke SUGANUMA

B11 : Cavitation 11:10–12:50 Room B

Chair: Prof. Keisuke Komada (Fukuoka Inst. Tech.)

- 【B111】 Proposal of Fuel Injector to Induce Swirling Flow by Rectangular Channel Experiment
※Moeka MATSUO (Kobe Univ.), Akira SOU, Yoshitaka WADA(Mazda Motor Corp.),
Yoshiharu UEKI
- 【B112】 Numerical Analysis of Swirling Flow during Valve-Closing Process of Mini-Sac Nozzle
※Tomoki KATAYAMA (Kobe Univ.), Akira SOU, Yoshitaka WADA(Mazda Motor Corp.),
Yoshiharu UEKI
- 【B113】 A Study on String Cavitation and Formation Behavior of Hollow Spray Using
Visualization Model of Multi-hole Diesel Nozzle
※Masaya OKAZAKI (Tottori Univ.), Haru OGAKI, Yuuta TSUBAKI, Takahiro SUMI
(Saga Univ.), Tetsuya ODA (Tottori Univ.)
- 【B114】 Reduction in Accumulation and Enhancement in Removal of Deposit at the Inner Wall of
Fuel Injector
※Taro BANDO (Kobe Univ.), Akira SOU, Yoshitaka WADA(Mazda Motor Corp.),
Yoshiharu UEKI

B12 : Diesel Spray 1 14:00–15:40 Room B

Chair: Prof. Yoichi Ogata (Hiroshima Univ.)

- 【B121】 Study of secondary breakup model of diesel spray droplet based on L2F measurements
Hiroki TOUGUCHI (Fukuoka Institute of Technology), ※ Keisuke KOMADA,
Shohei YAMAMOTO (Osaka Electro-Communication Univ.), Hironobu UEKI (Nagasaki
Univ.)
- 【B122】 Diesel Spray Simulation Under Non-evaporating Condition Using Various Spray
※Tomohiro YAMASHITA (Doshisha Univ.), Dai MATSUDA, Eriko MATSUMURA, Jiro
SENDA
- 【B123】 LES analysis of diesel sprays considering cavitation in the nozzle
※Yoshiki SHIMA (Okayama Univ.), Yoshimitsu KOBASHI, Nobuyuki KAWAHARA
- 【B124】 Numerical Simulations on the Flow inside a Nozzle during Liquid Ammonia Injections
※Noritsune KAWAHARADA (National Traffic Safety and Environment Laboratory),
Ippei OSHIMA (Tohoku Univ.)

December 16 (Friday)

A21 : Atomization Method and Equipment 10:00–11:40 Room A

Chair: Prof. Yoshihiro Kobayashi (Tokyo Denki Univ.)

- 【A211】 New Coating Technology to Deflect the Direction of Flight of Paint Particles after Spraying by Ultrasonic Waves
※Hiroki HAYAKAWA (Muroran Institute of Technology), Mitsutomo HIROTA, Hiroyasu SAITO (Shibaura Institute of Technology), Yoshitaka WADA (Mazda Motor Corp.), Kiyotaka SATO
- 【A212】 Atomization technology with plasma-liquid interaction
※Ryosuke WATANABE (Tokyo University of Agriculture and Technology), Godai MIYAJI, Daisuke YOSHINO
- 【A213】 A long-term room temperature preservation method of cells using spray freeze dry in a vacuum
※Tomoka KONOO (Osaka Univ.), Sora UEMATSU (ULVAC, Inc.), Kentaro KAWAI, Hidemine HONDA (Osaka Univ.), Tsuyoshi TAKIUCHI, Tadashi KIMURA (ULVAC, Inc.)
- 【A214】 Research on misting of solutions containing titanium dioxide
※Tomoya SAITO (National Institute of Technology, Anan College), Masaru KAMANO, Tomoya KONISHI, Takaya OZAKI, Takeshi FUJIHARA, Tao ZHENG, Takanori KAZAI

A22 : Gasoline Spray 13:00–14:40 Room A

Chair: Prof. Yoshimitsu Kobashi (Okayama Univ.)

- 【A221】 Shot-by-shot variation of fuel spray behavior ejected from a direct-injection gasoline injector in initial period of injection
※Ikumi EDA (Gunma Univ.), Yoshio ZAMA
- 【A222】 Mixture Formation Process Analysis of Direct Injection Gasoline Spray under Non-Evaporating Condition
※Koki MIYAOKU (Doshisha Univ.), Dai MATSUDA, ※Eriko MATSUMURA, Jiro SENDA
- 【A223】 Statistical Evaluation of Spray Injected from a Multi-hole Injector into Cross-flow
※Kentaro MIYUKI (Hiroshima Univ.), Gengxin ZHANG, Hongliang LUO, Yoichi OGATA, Keiya NISHIDA

B21 : Diesel Spray 2 10:00–11:40 Room B

Chair: Dr. Noritsune Kawaharada (NTSEL)

- 【B211】** Experimental analysis of turbulence characteristics in diesel spray
※Ryuichi MURAKAMI (Okayama Univ.), Yoshimitsu KOBASHI, Nobuyuki KAWAHARA
- 【B212】** Measurement of droplet diameter and velocity in fuel spray formed by a common-rail injector
※Masafumi IGUCHI (Okayama Univ.), Nobuyuki KAWAHARA, Yoshimitsu KOBASHI
- 【B213】** High accuracy analysis of droplet size distribution with depth of object field calibration in high spatial resolution and spray whole-area imaging methods
Dai Matsuda (Doshisha Univ.), ※Kentaro INASAKI, Shunsuke ISSHIKI, Eriko MATSUMURA, Jiro SENDA
- 【B214】** High-Speed Quantitative Imaging of Mixture Concentration Distribution in Evaporating Fuel Spray by Means of 2 Wave-Length Laser Absorption Scattering Principle (High-Speed LAS Method)
※Shinichiro NAITO (Hiroshima Univ.), SamirChandra RAY, Mats ANDERSSON (Chalmers University of Technology), Keiya NISHIDA (Hiroshima Univ.), Yoichi OGATA, Satoshi MATSUMURA (nac Image Technology Inc.)

B22 : Measurement and Evaluation 13:00–14:40 Room B

Chair: Prof. Yoshio Zama (Gunma Univ.)

- 【B221】** Simultaneous measurement of particle size and refractive index of submicron particles using scattered light intensities
※Ayaka KIGOSHI (Gunma Univ.), Haruto OTU, Ryota SAITOU, Juan C Gonzalez Palencia, Mikiya ARAKI
- 【B222】** Development of a method for three-dimensional spatial identification of fine particles by backlight photography
※Tokiha YADA (Gifu Univ.), Kyohei MIZUNO, Kodai IWASAKI, Kota NAKATA, Makoto ASAHARA, Takeshi MIYASAKA, Shiho KONDO, Yuka SATO, Kimihiko SUGISHIMA (ONDA MFG.CO.,LTD.)
- 【B223】** Basic discussion for identification of the state of gas-liquid two-phase flow accompanied by phase change
※Kenichi TOGASHI (Hokkaido Research Organization, Industrial Technology and Environment Research Department, Research Institute of Energy, Environment and Geology), Makoto ASAHARA (Gifu Univ.)
- 【B224】** High-speed visualization for gas atomization of fusible alloy
※Nao Uchida (Kyushu Univ.), Zhenying WANG, Chihiro INOUE, Takuya TAKASHITA (JFE Steel Corporation)