

Thursday, September 1

DC3-1: Diesel Modeling 1

Seminar Rm. 2A+B

Chairpersons:

Takuji Ishiyama, Kyoto University
Kazuhisa Inagaki, Toyota Central R&D Laboratory

9:30 JSAE 20119099 / SAE 2011-01-1837

A Phenomenological Combustion Model Including In-Cylinder Pollutants to Support Engine Control Optimisation Under Transient Conditions

Romain Lebas, Morgan Fremovici, Grégory Font, Fabrice Le Berr, IFP Energies nouvelles

10:00 JSAE 20119177 / SAE 2011-01-1838

CFD Investigation of Heat Transfer in a Diesel Engine with Diesel and PPC Combustion Modes

Helgi Fridriksson, Bengt Sundén, Shahrokh Hajireza, Martin Tunér, Lund University

10:30 JSAE 20119258 / SAE 2011-01-1839

Influences of Subgrid Turbulent Kinetic Energy and Turbulent Dispersion on the Characteristics of Fuel Spray

Zhou Lei, China North Engine Research Institute; Xie Maozhao, Jia Ming, Dalian University of Technology; Zhou Qiang, FAW JIEFANG Qingdao Auto Factory; Xu Chunlong, China North Engine Research Institute

SC1-3: SI Combustion 3

Seminar Rm. 2C

Chairpersons:

Eiichi Murase, Kyushu University
Masafumi Mori, Daihatsu Motor

9:30 Oral Only

The Effect of Fuel Properties on Thermal Efficiency of Advanced Spark Ignition Engine

Koichi Nakata, Nozomi Sasaki, Atsuharu Ota, Katsunori Kawatake, TOYOTA MOTOR CORPORATION

The content of this presentation is published in International Journal of Engine Research.

10:00 JSAE 20119182 / SAE 2011-01-1878

Effects of CO₂ and N₂ Dilutions on Laminar and Turbulent Flame Propagation

Akihiro Hayakawa, Yukito Miki, Shoichi Kobayashi, Yukihide Nagano, Toshiaki Kitagawa, Kyushu University

10:30 JSAE 20119216 / SAE 2011-01-1879

Quantitative Measurements of Liquid and Vapor Distribution in Flash Boiling Fuel Sprays using Planar Laser Induced Exciplex Technique

Gaoming Zhang, Min Xu, Yuyin Zhang, Wei Zeng, Shanghai Jiao Tong University

11:00 JSAE 20119217 / SAE 2011-01-1880

Flow-field Evaluation of Superheated Fuel Sprays using High-Speed PIV

Zhang Ming, Min Xu, Yuyin Zhang, Wei Zeng, Shanghai Jiao Tong University

DC2-3: In-cylinder Mixture Preparation 3

A/V Study Rm. 2E

Chairpersons:

Raul Payri, Universidad Politecnica de Valencia
Jiro Senda, Doshisha University

9:30 JSAE 20119093 / SAE 2011-01-1833

Injector Sprayer Design Improvement in High Speed Diesels

Vladimir Anatolyevich Markov, Moscow State Technical University; Sergey Pavlovich Gladyshev, Michigan - Dearborn University; Sergey Nikolaevich Devyanin, Moscow State University for Agriculture and Engineering

10:00 JSAE 20119102 / SAE 2011-01-1834

Effect of Air Entrainment and Oxygen Concentration on Endothermic and Heat Recovery Process of Diesel Ignition

Amir Khalid, Keisuke Hayashi, Yoshiyuki Kidoguchi, The University of Tokushima; Tomoaki Yatsufusa, Hiroshima Institute of Technology

10:30 JSAE 20119143 / SAE 2011-01-1835

Flow Field Measurements inside a Piston Bowl of a Heavy-Duty Diesel Engine

Harri Johannes Hillamo, Aalto University; Teemu Anttinen, Ulf Aronsson, Clément Chartier, Övind Andersson, Bengt Johansson, Division of Combustion Engines, Lund University

11:00 JSAE 20119154 / SAE 2011-01-1836

An Investigation into Transient Diesel Spray Development Using High Speed Imaging in A Novel Optical Pressure Chamber

Priyesh Patel, Ramanarayanan Balachandran, Nicos Ladommatos, University College London (UCL); Paul Richards, Innospec Inc.

NP1: New Engines & Components

Conference Rm. 2D

Chairpersons:

Masatoshi Shimoda, Hino Motors
Yuichi Suzuki, Yamaha

9:30 JSAE 20119087 / SAE 2011-01-2020

A Method for the Estimation of the Service Life of a Precision Guiding Interface "Needle - Nozzle Body" of a Common-Rail-Injector for High Rail Pressures

Vladislav E. Lazarev, South Ural State University; Johann A. Wloka, Georg Wachtmeister, Technische Universität München

10:00 JSAE 20119184 / SAE 2011-01-2021

Study of Diesel Engine System for Hybrid Electric Vehicles

Tomomi Yamada, Hiroyuki Haga, Isao Matsumoto, Terutoshi Tomoda, TOYOTA MOTOR CORPORATION

10:30

JSAE 20119253 / SAE 2011-01-2024

New TOYOTA 4.8L V10 Petrol High Performance Engine for Lexus LFA

Takamitsu Okamoto, Hiroshi Kawamura, Keisuke Tsukamoto, Masakatsu Nagai, Takahiro Uchida, TOYOTA MOTOR CORPORATION; Heiji Maruyama, Yamaha Motor Co., Ltd.

11:00

JSAE 20119100 / SAE 2011-01-2023

A Single Fuel Pre-Chamber Jet Ignition Powertrain Achieving High Load, High Efficiency and Near Zero NOx Emissions

William Attard, Hugh Blaxill, MAHLE Powertrain

HC3-2: HCCI Combustion (Chemical Kinetics 2)

Conference Rm. 3A

Chairpersons:

Kazunari Kuwahara, Osaka Institute of Technology
Yasuhiro Urata, Honda R&D

9:30

JSAE 20119185 / SAE 2011-01-1784

Chemical Kinetic Mechanism of Compression Ignition Derived from Intermediate Species for PRF and Toluene/n-Heptane Fuel Systems

Hiroyuki Kosaki, Akio Yamashita, Mohd Adnin bin Hamidi, Atsumu Tezaki, University of Toyama

10:00

JSAE 20119186 / SAE 2011-01-1785

Comparison of PRF and Toluene/n-Heptane Mixture Fuel in the Mechanism of Compression Ignition using CA Resolved Sampling

Akio Yamashita, Hiroyuki Kosaki, Atsumu Tezaki, University of Toyama

FD2-6: Alternative Fuels for CI Engines 6 (HVO and GTL Fuels 1)

Conference Rm. 3I+J

Chairpersons:

Hirohiko Hoshi, TOYOTA MOTOR
Takashi Kaneko, JX Nippon Oil & Energy Corporation

9:30

JSAE 20119136 / SAE 2011-01-1950

Effect of Fischer-Tropsch Diesel on Fuel Supply System

Masachika Masuko, Yoriko Sakamoto, Nobuhiro Okabe, Showa Shell Sekiyu K.K.; Koji Kitano, Ichiro Sakata, TOYOTA MOTOR CORPORATION; Noboru Uchida, Hino Motors, Ltd.

10:00

JSAE 20119172 / SAE 2011-01-1965

Bus Fleet Operation on Renewable Paraffinic Diesel Fuel

Reijo Mäkinen, Helsinki Region Transport; Pirjo Saikkonen, Neste Oil; Arno Amberla, Proventia Emission Control; Nils-Olof Nylund, VTT Technical Research Centre of Finland; Kimmo Tapani Erkkilä, VTT Technical Research Centre of Finland

10:30

JSAE 20119239 / SAE 2011-01-1966

Emission Performance of Paraffinic HVO Diesel Fuel in Heavy Duty Vehicles

Kimmo Tapani Erkkilä, VTT Technical Research Centre of Finland; Reijo Kalevi Mäkinen, Helsinki Region Transport; Arno Heikki Amberla, Proventia Emission Control Oy; Nils-Olof Nylund, VTT Technical Research Centre of Finland; Aki Tili, Tuomo Hulkkonen, Aalto University School of Engineering; Pirjo Saikkonen, Seppo Mikkonen, Neste Oil

FS3-1: Fuels for SI Engines: CNG Engine

Conference Rm. 3K

Chairpersons:

Toru Nakazono, YANMAR
Thomas Wallner, Argonne National Laboratory

9:30

Oral Only

Performance Improvements of a Long Stroke Spark Ignition Gas Engine

Hideyuki Ogawa, HOKKAIDO UNIVERSITY; Keisuke Kimura, Keisuke Sasaki, TOYOTA MOTOR CORPORATION; Yuki Sato, Takahiro Sako, Osaka Gas Corporation

The content of this presentation is published in International Journal of Engine Research.

10:00

JSAE 20119132 / SAE 2011-01-1994

Improvement of Combustion of CNG Engine using CNG Direct Injection and Gas-jet Ignition Method

Mas Fawzi Mohd Ali, Yoshiyuki Kidoguchi, Yusuke Oka, Tomoshi Kaida, The University of Tokushima Japan

10:30

JSAE 20119171 / SAE 2011-01-1995

Potential of Concomitant Injection of CNG and Gasoline on a 1.6L Gasoline Direct Injection Turbocharged Engine

Jerome Obiols, Dominique Soleri, IFP Energies nouvelles; Nathalie Dioc, Marc Moreau, PSA Peugeot Citroen

11:00

JSAE 20119244 / SAE 2011-01-1996

Combustion Improvement of CNG Engines by Hydrogen Addition

Ryo Michikawauchi, Shiro Tanno, Yasushi Ito, Mutsumi Kanda, Masato Kawauchi, TOYOTA MOTOR CORPORATION

CM2: Combustion Diagnostics Part 1 of 2

(In-situ Measurement)

Conference Rm. 3B

Chairpersons:

Nobuyuki Kawahara, Okayama University
Oivind Andersson, Lund University

9:30

JSAE 20119021 / SAE 2011-01-2045

Development of In-Cylinder Mixture and Flame Propagation Distribution Measurement Device with Spark Plug Type Sensor

Koshiro Kimura, Sachio Mori, Masato Kawauchi, Rio Shimizu, TOYOTA MOTOR

10:00

JSAE 20119238 / SAE 2011-01-2047

Simultaneous Measurements of Temperatures of Flame and Wall Surface in a Combustion Chamber of Diesel Engine

Hidenori Kosaka, Takuma Arai, Tokyo Institute of Technology

10:30

JSAE 20119164 / SAE 2011-01-2046

Transmission Electron Microscopy of Soot Particles Sampled Directly from a Biodiesel Spray Flame

Jean-Guillaume Nerva, Universidad Politécnica de Valencia; Teruo Yamaguchi, Hiroki Iguma, Hiroki Nishigai, Katsufumi Kondo, Satoshi Takano, Tetsuya Aizawa, University of Meiji; Caroline L. Genzale, Georgia Institute of Technology; Lyle M. Pickett, Sandia National Laboratories

11:00

JSAE 20119152 / SAE 2011-01-2051

Direct Sampling, TEM Analysis and Optical Measurement of Soot at Different Axial Locations in a Transient Spray Flame

Teruo Yamaguchi, Katsufumi Kondo, Hiroki Nishigai, Satoshi Takano, Tetsuya Aizawa, Meiji University

DC3-2: Diesel Modeling 2

Seminar Rm. 2A+B

Chairpersons:

Takuji Ishiyama, Kyoto University
Efthimios G. Pariotis, Hellenic Naval Academy

13:00 JSAE 20119284 / SAE 2011-01-1841

3-D CFD Analysis of CO Formation in Diesel Combustion - The Use of Intake Air Throttling to Create Reducing Atmospheres for NSR Catalysts -

Jin Kusaka, WASEDA UNIVERSITY; Hiroki Yano, Hiroyuki Shimao, Graduate School of Creative Science and Engineering, WASEDA UNIVERSITY; Shigeki Nakayama, Yusuke Nozaki, Toshihiro Mori, TOYOTA MOTOR CORPORATION

13:30 JSAE 20119023 / SAE 2011-01-1842

Analysis of Transient Flow and Cavitation within Different Nozzle Geometry in High-Pressure Common Rail Injector

Ding Chuan, He Yong-Ling, Transportation Science & Engineering, Beihang University (Beijing University of Aeronautics and Astronautics)

14:00 JSAE 20119080 / SAE 2011-01-1843

Application of A Moments Spray Model to Solid Cone Diesel Sprays

Nwabueze G Emekwuru, University of Wolverhampton; A. Paul Watkins, School of Mechanical, Aerospace, and Civil Engineering, University of Manchester, UK.

14:30 JSAE 20119241 / SAE 2011-01-1844

Simulation and Optical Analysis of Oil Dilution in Diesel Regeneration Operation

Matthias Frank Budde, Markus Ehrly, Markus Jakob, Michael Wittler, Stefan Pischinger, Institute for Combustion Engines, RWTH Aachen University

SC2-1: SI Mixture Preparation 1 (DI Spray)

Seminar Rm. 2C

Chairpersons:

Eiichi Murase, Kyushu University
Masafumi Mori, Daihatsu Motor

13:00 JSAE 20119225 / SAE 2011-01-1881

Characterization of Internal Flow and Spray of Multihole DI Spray using X-ray Imaging and CFD

Ming-Chia Lai, Wayne State University; Jin Wang, Argonne National Lab; Lars Zigan, LTT & SAOT, Universität Erlangen-Nürnberg; Yi Zheng, Atsushi Mastumoto, Mark Shost, Wayne State University; Xusheng Zhang, Seoksu Moon, Jian Gao, Kamel Fezzaa, Argonne National Lab; Michael Wensing, LTT & SAOT, Universität Erlangen-Nürnberg

13:30 JSAE 20119275 / SAE 2011-01-1882

Experimental Analysis of the Start of Fuel Cycle-to-Cycle Variations of Solenoid-Actuated High Pressure Fuel Injectors

David L.S. Hung, Jie Zhong, University of Michigan-Shanghai Jiao Tong University Joint Institute, Shanghai Jiao Tong University

14:00 JSAE 20119344 / SAE 2011-01-1883

Interactions of Multi-hole DI Sprays with Charge Motion and their Implications to Flexible Valve-trained Engine Performance

Atsushi Matsumoto, Yi Zheng, Xingbin Xie, Ming-Chia Lai, Wayne State University; Wayne Moore, Delphi Advanced Powertrain

14:30

JSAE 20119111 / SAE 2011-01-1884

Towards Large Eddy Simulation of Spray Combustion in Direct Injection Spark Ignition Engine

Dmitry Goryntsev, Amsini Sadiki, Johannes Janicka, TU-Darmstadt, EKT

L6: Lubricant Applications for Powertrain and Industry Systems

A/V Study Rm. 2E

Chairpersons:

Hitoshi Hamaguchi, Evonik Degussa Japan
Moritsugu Kasai, Idemitsu Kosan

13:00 JSAE 20119054 / SAE 2011-01-2128

Impact of Viscosity Modifiers on Gear Oil Efficiency and Durability

William R S Barton, Lubrizol Limited; Daniel Knapton, Michael Huston, Farrukh Qureshi, Mark Baker, Brian O'connor, The Lubrizol Corporation; James Payne, Lubrizol Limited

13:30 JSAE 20119224 / SAE 2011-01-2129

The Effect of Engine, Axle and Transmission Lubricant, and Operating Conditions on Heavy Duty Diesel Fuel Economy: Part1: Measurements

Keith Selby, David Green, Rafael Herrera, Shell Global Solutions (UK)

14:00 JSAE 20119236 / SAE 2011-01-2130

The Effect of Engine, Axle and Transmission Lubricant, and Operating Conditions on Heavy Duty Diesel Fuel Economy: Part 2: Predictions

Robert Ian Taylor, Shell; Keith Selby, Shell Global Solutions (UK); Rafael Herrera, Shell Global Solutions (US) Inc.; David Green, Showa Shell Sekiyu K.K.

NP2: New Concept Engines

Conference Rm. 2D

Chairpersons:

Yuichi Suzuki, Yamaha
Akio Yoshimatsu, TOYOTA MOTOR

13:00 JSAE 20119022 / SAE 2011-01-2022

Reducing Throttle Losses Using Variable Geometry Turbine (VGT) in a Heavy-Duty Spark-Ignited Natural Gas Engine

Mehrzaad Kaiadi, Per Tunestal, Bengt Johansson, Lund University

13:30 JSAE 20119326 / SAE 2011-01-2025

A Novel Two-Stroke SI Design for NOx Reduction in Natural Gas RI Species Enhanced Engine

David Alan Blank, HCRI Technologies International, LLC

14:00 JSAE 20119026 / SAE 2011-01-2026

Compressed Air as Quality and Pollution Free Fuel Substitute in Reciprocating Engines - An Effective Solution to Improve The Engine Performance

Takayuki Sugita, Sanyo High School

14:30 JSAE 20119037 / SAE 2011-01-2027

An Ultimate Engine: Designed by Computational Fluid Dynamics

Ken Naitoh, Takehiro Emoto, Kazushi Nakamura, Yuusuke Kainuma, WASEDA UNIVERSITY

HC4: HCCI Combustion (Dual Fuel HCCI)

Conference Rm. 3A

Chairpersons:

Yasuhiro Urata, Honda R&D
Gen Shibata, HOKKAIDO UNIVERSITY

13:00 JSAE 20119336 / SAE 2011-01-1788

Spectroscopic Study of Two-Stage High Temperature Heat Release Behavior in a Supercharged HCCI Engine using Blended Fuels

Akira Iijima, Yujiro Tsutsumi, Koji Yoshida, Hideo Shoji, Nihon University

13:30 JSAE 20119118 / SAE 2011-01-1789

Combustion Process Modeling in HCCI Engine

Vyacheslav Gilimyanovich Kamaltdinov, South Ural State University

14:00 JSAE 20119252 / SAE 2011-01-1790

Effects of EGR and DME Injection Strategy in Hydrogen/DME Homogeneous Charge Compression Ignition Engine

Jeeyeon Jeon, Choongsik Bae, Korea Advanced Institute of Science and Technology

14:30 JSAE 20119288 / SAE 2011-01-1791

Improvement in DME-HCCI Combustion with Ethanol as a Low-temperature Oxidation Inhibitor

Hu Zhang, Ryo Hasegawa, Hideyuki Ogawa, HOKKAIDO UNIVERSITY

FD2-7: Alternative Fuels for CI Engines 7 (HVO and GTL Fuels 2)

Conference Rm. 3I+J

Chairpersons:

Takashi Kaneko, JX Nippon Oil & Energy Corporation
Hirohiko Hoshi, TOYOTA MOTOR

13:00 JSAE 20119289 / SAE 2011-01-1953

Performance of Diesel containing Bio-Hydrogenated Component

Rinaldo Caprotti, Infineum UK Ltd.; Nobuyuki Ishibe, Infineum Japan; Tristan Tang, Infineum Singapore; Inochanon Ratanavalee, PTT Public Company Ltd; Tipdecho Chonchada, PTT Public Company Ltd.; Supap Silapakampeerapap, PTT

13:30 JSAE 20119313 / SAE 2011-01-1954

Effects of Hydrotreated Vegetable Oil (HVO) as Renewable Diesel Fuel on Combustion and Exhaust Emissions in Diesel Engine

Kouseki Sugiyama, Isamu Goto, Koji Kitano, Kazuhisa Mogi, TOYOTA MOTOR CORPORATION; Markku Honkanen, Neste Oil

14:00 JSAE 20119322 / SAE 2011-01-1955

Emission Reduction Using Hydrotreated Vegetable Oil (HVO) with Miller Timing and EGR in Diesel Combustion

Kalle Lehto, Aalto University; Antti Elonheimo, Kari Häkkinen, Teemu Sarjoavaara, Martti Larmi, Aalto University School of Engineering

14:30 JSAE 20119327 / SAE 2011-01-1956

Large-Bore Compression-Ignition Engines: High NO_x Reduction Achieved at Low Load with Hydro-Treated Vegetable Oil

Matteo Imperato, Aki Tilli, Teemu Sarjoavaara, Martti Larmi, Aalto University School of Engineering

FS3-2: Fuels for SI Engines: Gaseous Fuel Engine

Conference Rm. 3K

Chairpersons:

Thomas Wallner, Argonne National Laboratory
Kiyoshi Kawasaki, The University of Shiga Prefecture

13:00 JSAE 20119212 / SAE 2011-01-1998

LNG-Fuelled Engines and Fuel Systems for Medium-Speed Engines for Maritime Applications

Vilmar Aesoy, Norwegian University of Science and Technology; Per Magne Einang, Erik Hennie, Ingebrigt Valberg, Dag Stenersen, MARINTEK

13:30 JSAE 20119219 / SAE 2011-01-1999

Combustion Properties of Hydrogen/Air Mixture with and without Dilution

Yukihide Nagano, Tomohiro Takeo, Keiichiro Tomari, Akihiro Hayakawa, Toshiaki Kitagawa, Shoichi Kobayashi, Kyushu University

14:00 JSAE 20119234 / SAE 2011-01-2000

High Compression Ratio Engine Operation on Biomass Producer Gas

Jesper Ahrenfeldt, Ulrik Birk Henriksen, Risø DTU; Torben Kvist Jensen, DGC

14:30 JSAE 20119044 / SAE 2011-01-2001

Influence of Injection Strategy in a High-Efficiency Hydrogen Direct Injection Engine

Thomas Wallner, Nicholas S. Matthias, Riccardo Scarcelli, Argonne National Laboratory

CM2: Combustion Diagnostics Part 2 of 2

(Advanced Measurement System)

Conference Rm. 3B

Chairpersons:

Oivind Andersson, Lund University
Nobuyuki Kawahara, Okayama University

13:00 JSAE 20119103 / SAE 2011-01-2049

Laser-Induced Phosphorescence Measurements of Combustion Chamber Surface Temperature on a Single-Cylinder Diesel Engine

Julian Kashdan, Gilles Bruneaux, IFP

13:30 JSAE 20119137 / SAE 2011-01-2050

A New Generation of Optically Accessible Single Cylinder Engines for High-speed and High-load Combustion Analysis

Takayuki Fuyuto, Takafumi Matsumoto, Yoshiaki Hattori, Ko Kugimoto, Taketoshi Fujikawa, Kazuhiro Akihama, Toyota Central R&D Labs.; Hisaki Ito, TOYOTA MOTOR CORPORATION

14:00 JSAE 20119283 / SAE 2011-01-2052

Analysis of In-cylinder Flow and Fuel Vapor Concentration Distribution in Gasoline Direct Injection Engine

Rei Ishida, Tomohiro Nakayama, Makoto Kaneko, Koji Morikawa, Fuji Heavy Industries

DC3-3: Diesel Modeling 3

Seminar Rm. 2A+B

Chairpersons:

Efthimos G. Pariotis, Hellenic Naval Academy
Kazuhiisa Inagaki, Toyota Central R&D Laboratory

15:15 JSAE 20119262 / SAE 2011-01-1846

Study on Simple and High-Speed Diesel Combustion Model with Wall Impingement

Satoshi Sakaida, Yutaka Tabe, Takemi Chikahisa, HOKKAIDO UNIVERSITY

15:45 JSAE 20119107 / SAE 2011-01-1847

Analysis of the Trade-off between Soot and Nitrogen Oxides in Diesel-Like Combustion by Chemical Kinetic Calculation

Li Tie, Ogawa Hideyuki, HOKKAIDO UNIVERSITY

16:15 JSAE 20119109 / SAE 2011-01-1848

Investigation about Predictive Accuracy of Empirical Engine Models using Design of Experiments

Yasutaka Kitamura, Atsuhiko Sekikawa, Mamoru Tokoro, Naoya Tomatsu, Tatsuya Uchimoto, Hiroyuki Yuasa, Akira Kato, Honda R&D Co., Ltd., Automobile R&D Center

16:45 JSAE 20119306 / SAE 2011-01-1849

LES Analysis of Mixture Formation and Combustion Processes in a Diesel Spray

Hirokazu Kojima, Hiroshi Kawanabe, Takuji Ishiyama, Kyoto University

SC2-2: SI Mixture Preparation 2 (DI and PFI Sprays)

Seminar Rm. 2C

Chairpersons:

Eiichi Murase, Kyushu University

David L. S. Hung, University of Michigan-Shanghai Jiao Tong University Joint Institute

15:15 JSAE 20119291 / SAE 2011-01-1886

Investigation of Fuel-Air Mixing in DISI Engine using LES

Dmitry Goryntsev, Amsini Sadiki, Johannes Janicka, TU-Darmstadt, EKT

15:45 JSAE 20119062 / SAE 2011-01-1887

The Investigation of Mixture Formation and Combustion with Port Injection System by Visualization of Flame and Wall Film

Miki Yumoto, Kazuhiro Goto, Shoichi Kato, Minoru Iida, Yamaha Motor Co., Ltd.

16:15 JSAE 20119158 / SAE 2011-01-1888

Development of Multi-Hole Nozzle Injector for Spray-Guided DISI Engine

Makoto Tanaka, Takeshi Mizobuchi, Norio Yamamoto, DENSO CORPORATION; Masahiro Shigenaga, NIPPON SOKEN, INC.

16:45 JSAE 20119201 / SAE 2011-01-1889

Evaporation of Gasoline-Like and Ethanol-Based Fuels in Hollow-Cone Sprays Investigated by Planar Laser-Induced Fluorescence and Mie Scattering

Mats Andersson, Chalmers University of Technology; Jonas Wärnberg, Saab Automobile Powertrain, Sweden; Stina Hemdal, Petter Dahlander, Ingemar Denbratt, Chalmers University of Technology, Sweden

17:15 JSAE 20119340 / SAE 2011-01-1890

µMist® - The Next Generation Fuel Injection System: Improved Atomization and Combustion for Port-Fuel-Injected Engines

Novid Beheshti, Novid Beheshti, Swedish Biomimetics 3000; Lars Uno Larsson, Swedish Biomimetics; Graham Pitcher, R Patel, Jamie Turner, Lotus Engineering; Graham Wigley, Loughborough university; Andrew McIntosh, Leeds university; Andrew Copestake, Richard G Walker, Swedish Biomimetics 3000 Ltd; Clive Card, Lotus Engineering

L3: Powertrain Tribology

A/V Study Rm. 2E

Chairpersons:

Akemi Ito, Tokyo City University

Michael E. Huston, Lubrizol Additives

15:15 JSAE 20119045 / SAE 2011-01-2117

Measurement of Oil Film Thickness in the Main Bearings of an Operating Engine using Thin-Film Electrode

Takumi Kataoka, Nippon Soken. Inc.; Takashi Kikuchi, TOYOTA MOTOR CORPORATION; Katsuhiko Ashihara, Taiho Kogyo Co., Ltd.

15:45 JSAE 20119250 / SAE 2011-01-2118

Lubrication Analysis of a Con-Rod Bearing Using a Cycle Simulation of Gasoline Engines with A/F Variation

Toshihiro Ozasa, Osaka Electro-Communication University; Masatoshi Nizeki, Faculty of Engineering, Osaka Electro-Communication University; Shinichi Sakurai, Graduate student, Osaka Electro-Communication University, Now; Daido Metal Co., Ltd.; Shigeo Suzuki, Toyota Central R&D Labs., INC.

16:15 JSAE 20119299 / SAE 2011-01-2119

Visualization Study on Lubricant Oil Film Behavior around Piston Skirt

Katsuyuki Ohsawa, Satoru Kiyama, Youhei Nakamura, Yoshitaka Ochiai, Tottori University; Yuma Miyauchi, Mazda Motor Corp.; Syun Nakagawa, Tottori University; Tetsuya Oda, Tottori University

16:45 JSAE 20119318 / SAE 2011-01-2120

A Study of Friction Reduction by 'Soft Skirt' Piston

Jun Hoshikawa, Kiminari Kato, Kazushi Miyamoto, Hirofumi Higashi, Mitsubishi Motors Corporation; Akemi Ito, Tokyo City University

17:15 JSAE 20119194 / SAE 2011-01-1746

Analysis of Piston Friction – Effects of Cylinder Bore Temperature Distribution and Oil Temperature –

Yuichiro Kimura, Motoichi Murakami, TOYOTA MOTOR CORPORATION

NP3: New Transmissions & Engine Components

Conference Rm. 2D

Chairpersons:

Akio Yoshimatsu, TOYOTA MOTOR

Kazutosi Nozaki, TOYOTA MOTOR

15:15 JSAE 20119148 / SAE 2011-01-2028

Development of Gerotor Oil Pump Positive Sealing for Light Duty Engine Lubrication Systems

Suresh Kumar Madhevan, Manonmani K, Government College of Technology India

15:45 JSAE 20119363 / SAE 2011-01-2029

Development of an Electronic Resin Throttle Body

Atsushi Tanaka, Naoki Hiraiwa, Tsuyoshi Arai, Hiroki Shimada, DENSO CORPORATION; Hideki Asano, Yasuhiro Nishikawa, AISAN INDUSTRY CO., LTD.

16:15 JSAE 20119063 / SAE 2011-01-2030

Development of Compact Continuously Variable Transmission Engine for Motorcycles

Takuji Murayama, Yamaha Motor Co., Ltd.

16:45 JSAE 20119141 / SAE 2011-01-2031

Clutchless Geared Smart Transmission

Yong-San Yoon, Kyung Soo Kim, Sun Je Kim, KAIST, Korea

17:15 JSAE 20119175 / SAE 2011-01-2032

Study on Wide Ratio Range Toroidal IVT

Tomohiro Inoue, Hiroki Nishii, NSK Ltd.

FD3-1: Gaseous Fuels for CI Engines

Conference Rm. 3A

Chairpersons:

Takahiro Sako, Osaka Gas
Masao Okazaki, KUBOTA

15:15 JSAE 20119070 / SAE 2011-01-1962

Combustion Modes in a Diesel-CNG Dual Fuel Engine

Fredrik Königsson, AVL Sweden; Hans-Erik Ångström, Royal Institute of Technology; Per Stålhammar, AVL Sweden

15:45 JSAE 20119140 / SAE 2011-01-1963

Improvement of Performance and Reduction of Exhaust Emissions by Pilot-Fuel-Injection Control in a Lean-Burning Natural-Gas Dual-Fuel Engine

Takuji Ishiyama, Kyoto University; Jeongho Kang, Yutaka Ozawa, Graduate School of Energy Science, Kyoto University; Takahiro Sako, Osaka Gas Co. Ltd.

16:15 JSAE 20119207 / SAE 2011-01-1964

Effects of Hydrogen Addition to Intake Mixture on Cyclic Variation of Diesel Engine

Toru Miyamoto, Hirokazu Hasegawa, Takashi Yagenji, Takehiko Seo, Masato Mikami, Yamaguchi University; Hajime Kabashima, Tomoyuki Hashimoto, Honda R&D Co., Ltd.

FD2-8: Alternative Fuels for CI Engines 8 (DME)

Conference Rm. 3I+J

Chairpersons:

Mitsuru Konno, Ibaraki University
Mitsuharu Oguma, The National Institute of Advanced Industrial Science and Technology

15:15 JSAE 20119101 / SAE 2011-01-1958

Influence of Pilot Injection on Combustion Characteristics and Emissions in a DI Diesel Engine Fueled with Diesel and DME

Dong Won Jung, Jae Hoon Jeong, Ock Teack Lim, Ulsan University; Young Duck Pyo, Young Jae Lee, Korea Institute of Energy Research; Norimasa Iida, Keio University in Japan

15:45 JSAE 20119256 / SAE 2011-01-1959

Life Cycle Energy Use and GHG Emissions Assessment for DME from Coal

Xiaomin Xie, Zhen Huang, Shanghai Jiao Tong University

16:15 JSAE 20119276 / SAE 2011-01-1960

Utilization of Biofuels by a New Technique to Reduce NO_x and Smoke Emissions in Diesel Engines

Masoud Iranmanesh, International Center for Science, High Technology and Environmental Sciences (ICST)

16:45 JSAE 20119314 / SAE 2011-01-1961

Study of DME Diesel Engine for Low NO_x and CO₂ Emission and Development of DME Truck for Commercial Use

Takashi Hara, Naoki Shimazaki, Naoki Yanagisawa, Takeshi Seto, Shigehisa Takase, Takeshi Tokumaru, Takuro Mita, Takeshi Okamoto, Isuzu Advanced Engineering Center; Yoshio Sato, National Traffic Safety and Environment Laboratory

FS3-3: Fuels for SI Engines: Hydrogen Engine

Conference Rm. 3K

Chairpersons:

Kiyoshi Kawasaki, The University of Shiga Prefecture
Toru Nakazono, YANMAR

15:15 JSAE 20119076 / SAE 2011-01-2002

Optimization of Hydrogen Jet Configuration by Single Hole Nozzle and High Speed Laser Shadowgraphy in High Pressure Direct Injection Hydrogen Engines

Masakuni Oikawa, Yusuke Ogasawara, Yoshikazu Kondo, Kanan Sekine, Kaname Naganuma, Yasuo Takagi, Tokyo City University; Yoshio Sato, National Traffic Safety and Environment Laboratory

15:45 JSAE 20119144 / SAE 2011-01-2003

High-Pressure Hydrogen Jet and Combustion Characteristics in a Direct-Injection Hydrogen Engine

Mithun Kanti Roy, Nobuyuki Kawahara, Eiji Tomita, Takashi Fujitani, Okayama University

16:15 JSAE 20119166 / SAE 2011-01-2004

The Technical Implementation of a Retrofit Hydrogen PFI System on a Passenger Car

Pieter Huyskens, Mark Pecqueur, Stijn Van Oost, Pieter-Jan Goemaere, Kobe Bertels, Karel de Grote University College

16:45 JSAE 20119376 / SAE 2011-01-2005

Development of High Pressure H₂ Gas Injectors, Capable of Injection at Large Injection Rate and High Response Using a Common-rail Type Actuating System for a 4-cylinder, 4.7-liter Total Displacement, Spark Ignition Hydrogen Engine

Kitataka Yamane, Masakuni Oikawa, Mai Nogami, Yukio Umemura, Tokyo City University; Yoshio Sato, Yuichi Goto, National Traffic Safety and Environment Laboratory

CM1: Controls and Optimization

Conference Rm. 3B

Chairperson:

Yasuo Moriyoshi, Chiba University

15:15 JSAE 20119315 / SAE 2011-01-2066

Modeling of Diesel Engine Components for Model-Based Control (First Report) –The Construction and Validation of a Model of the Air Intake System –

Toshitaka Nakamura, Yasumasa Suzuki, Jin Kusaka, Masatoshi Ogawa, Harutoshi Ogai, WASEDA UNIVERSITY; Shigeki Nakayama, Takao Fukuma, TOYOTA MOTOR

15:45 JSAE 20119312 / SAE 2011-01-2044

Modeling of Diesel Engine Components for Model-Based Control (Second Report) -Prediction of Combustion with High Speed Calculation Diesel Combustion Model-

Yasumasa Suzuki, Jin Kusaka, Masatoshi Ogawa, Harutoshi Ogai, WASEDA UNIVERSITY; Shigeki Nakayama, Takao Fukuma, TOYOTA MOTOR