OS2: [ICCEU14]

CON-HAGI
November 7, 2018

14:00-14:10
Opening
H.G. Im

14:10-15:00 OS2-1
Invited Keynote
Detachment Mechanisms of Non-Premixed Turbulent Jet Flames at Elevated Pressures
T.F. Guiberti, W.R. Boyette, W.L. Roberts

15:00-15:30 OS2-2
Invited Topical
Evolution of Flame Speeds in Turbulence at Different Pressures
H. Dave, S. Chaudhuri

15:40-16:10 OS2-3
Invited Topical
High Pressure Soot Formation in Laminar Diffusion Flames of C_2-C_4 Olefins
E.A. Griffin, Ö.L. Gülder

16:10-16:40 OS2-4
Invited Topical
The Impact of Spark Gap and Differential Diffusion on Turbulent Premixed Ignition: Turbulent Facilitated Ignition versus Minimum Ignition Energy Transition
S. Shy , M.-T. Nguyen, S.-Y. Huang

16:40-17:10 OS2-5
Invited Topical
Uncertainty Quantification in Turbulent Combustion Simulations using Subspace Methods
Z. Ren , W. Ji

17:20-17:50 OS2-6
Invited Topical
High-fidelity Simulations of Rotating Detonation Engines
T. Sato, V. Raman

17:50-18:20 OS2-7
Invited Topical
High Pressure Effects in Real Fluid Based Counterflow Diffusion Flame
Y.M. Park, B.J. Lee , P.E. Lapenna, P.P. Ciottoli, F. Creta, M. Valorani

CON-SHIRAKASHI I
November 7, 2018

14:00-14:20 OS2-8
Temperature Distribution Reconstruction Basing on Proper Orthogonal Decomposition
S. Sun , S. Liu,F. Guo, M. Wang

14:20-14:40 OS2-9
Image Data Fusion under a Bayesian Approach for Tomography Measurement
M. Wang , S. Liu, J. Liu, S. Sun

14:40-15:00 OS2-10
Inverse Problem of Finding the Parameters of the Combustion Model
G.V. Grenkin, A.Y. Chebotarev , V.I. Babushok, S.S. Minaev

15:00-15:20 OS2-11
Optimized Acid Gas Combustion for Optimum Sulfur Recovery and Reduced Natural Gas Consumption
R. Rahman, S. Ibrahim, A. Raj

15:40-16:00 OS2-12
Kinetic Effects of *n* -Heptane Addition on Low and High Temperature Oxidation of Methane in a Jet-stirred Reactor
Z. Zhang, L. Cao , H. Zhao, G. Li, Y. Ju

16:00-16:20 OS2-13
A Reduced Chemical Kinetic Mechanism for Combustion of Dimethyl Ether
T. Bolshova, V. Shvartsberg, A. Dmitriev, N. Alyanova, D. Knyazkov

16:20-16:40 OS2-14
Effects of Molecular Structure of Pentane Isomers on Stabilized Multiple Weak Flames in Micro Flow Reactor with a Controlled Temperature Profile
R. Nakada , H. Nakamura, S. Hasegawa, T. Tezuka, K. Maruta

16:40-17:00 OS2-15
Auto-ignition of Methane – TRF Mixtures Behind the Reflected Shock Waves
W. Dai , G. Li,Z. Zhang, J. Liang

17:20-17:40 OS2-16
On Two-stage Oxidation of CH_2F_2 (R32)/air Weak Flame in a Micro Flow Reactor with a Controlled Temperature Profile
S. Takahashi , H. Nakamura, T. Tezuka, S. Hasegawa, K. Maruta

17:40-18:00 OS2-17
Chemiluminescence and Soot Measurements in an Under-ventilated Buoyant Turbulent Fire
P.P. Panda , D. Zeng, Y. Wang

18:00-18:20 OS2-18
Study on the Soot formation of Bio-oil Droplet combustion using the micro- Schlieren
S. Yang , Y. Lin, M. Wu

18:00-18:20 OS2-18
Study on the Soot formation of Bio-oil Droplet combustion using the micro-Schlieren
S. Yang , Y. Lin, M. Wu

18:20-18:40 OS2-19
Study on Operating Characteristics of a Reciprocating Free Piston Linear Engine with Glow Plug Assisted CompressionIgnition
F. Huang, W. Kong

CON-SHIRAKASHI 2

November 7, 2018

14:00-14:20 OS2-20
Experimental and Numerical Study of Flame Propagation in Heptane-Based Foamed Emulsion
B. Kichatov , A. Korshunov, A. Kiverin, I. Yakovenko

14:20-14:40 OS2-21
Influence of Heat Conductivity and Pore Size of Porous Materials on the Efficiency of Cylindrical Radiative Burners
E. Dats , T. Miroshnichenko, S. Minaev, K. Maruta

14:40-15:00 OS2-22
Effects of Transverse DC Electric Fields on the Dynamics of a Laminar Premixed Bunsen Flame
M. Belhi , B.J. Lee, M.S. Cha, H.G. Im

15:00-15:20 OS2-23
An Experimental Study on Flame spread Over Various Diameter of Electrical Wire with Applied AC Electric Fields
S.H. Park, J. Park , S.H. Chung

15:40-16:00 OS2-24
Plasma-Chemical Support for the Ignition and Combustion of Powder Systems Forming Condensed Reaction Products
A. Kirdyashkin , R. Gabbasov

16:00-16:20 OS2-25
Direct Measurements of Branching Ratios of $O(^1D)$ Reactions with Alcohols
H. Zhong , C.C. Teng, C. Yan, T. Chen, A. Rousso, G. Wysocki, Y. Ju

16:20-16:40 OS2-26
Methane Pyrolysis with N_2/Ar/He Dilution in a Repetitively-pulsed Nanosecond Discharge
X. Mao , Q. Chen, C. Guo

16:40-17:00 OS2-27
An Application of Plasma-Activated Gas to Laminar Lifted Non-Premixed Jet Flames
Y.-H. Liao , H.-T. Kuo

17:20-17:40 OS2-28
Kinetics Effects of Excited States on AC Plasma Assisted Methane Pyrolysis and Oxidation
J. Sun , Q. Chen, J. Xu

17:40-18:00 OS2-29
Emissions of NOx and CO Suppression and Flammability Enhancement by Non-Thermal Plasma in a Swirl Lean Premixed Flame
G.T. Kim , C.S. Yoo, J. Park, D.M. Kim, H.S. You, J.S. Lee, S.H. Chung

18:00-18:20 OS2-30
Effects of Molecular Excitation on Dry Reforming of Methane in a Low Temperature Discharge
Q. Chen , Y. Guo, J. Sun

CON-HAGI
November 8, 2018

9:00-9:20 OS2-31
Retrieval of Aerosol Size Distribution by Different Optical Measurement Methods
Z. He , J. Mao

9:20-9:40 OS2-32
Flame Front Structure of Ammonia/air Turbulent Premixed Flames in Swirling Flows under Various Pressures
A.Hayakawa , M. Tsukamoto, K.D.K.A. Somarathne, T. Kudo, H. Kobayashi

9:40-10:00 OS2-33
Computed NOx Formation of Opposed-Jet CH_4/NH_3 and H_2/NH_3 Diffusion Flames
Y.-H. Lin , H.-Y. Shih

10:00-10:20 OS2-34
Experimental Study of Turbulent Flame Propagation of Ammonia/Air Mixture in a Fan-Stirred Closed Vessel
R. Ichimura , K. Hadi, N. Hashimoto, A. Hayakawa, H. Kobayashi, O. Fujita

10:40-11:00 OS2-35
Emission Characteristics and the Structure of Ammonia- Air Flames in a Micro Gas Turbine Swirl Combustor
E.C. Okafor , R. Rattanasupapornsak, K.D.K.A. Somarathne , A. Hayakawa, T. Kudo, O. Kurata, N. Iki, H. Kobayashi

11:00-11:20 OS2-36
Effect of Wall Heat Transfer on Emission Characteristics of Ammonia/air Swirling Flames in a Gas Turbine–like Combustor
K.D.K.A. Somarathne , A. Hayakawa, H. Kobayashi

11:20-11:40 OS2-37
Study on Chemical Structure of Ammonia/N_2O Weak flames in a Micro Flow Reactor with a Controlled Temperature Profile
M. Shindo , O. Mathieu, E.L. Petersen, T. Tezuka, H. Nakamura

11:40-12:00 OS2-38
Study of Ammonium Perchlorate Decomposition in the Condensed Phase using Detailed Chemical Kinetics
H. Panchal, A. Chowdhury, N. Kumbhakarna

13:10-13:20
Opening
P. Dagaut

13:20-14:10 OS2-39
Invited Keynote
Cool Flames and Warm Flames: Dynamics and Chemistry
Y. Ju , C.B. Reuter, O.R. Yehia

14:10-14:40 OS2-40
Invited Topical
Initiation and Propagation of a Premixed Cool Flame
Z. Chen

14:50-15:20 OS2-41
Invited Topical
Wall Chemical Effect on Cool Flame
Y. Suzuki , M. Lee, S. Wan, Y. Fan

15:20-15:50 OS2-42
Invited Topical
Kinetics of SI Engine Knock
A.Miyoshi

15:50-16:20 OS2-43
Invited Topical
Experimental Study on Ignition Characteristics of Bio-blended Gasoline under Lean Burn Conditions
K. Tanaka , T. Funabashi, S. Sakaida, M. Konno

16:30-17:00 OS2-44
Invited Topical
Mechanism Validation for Ammonia Combustion using Flame Chromatography and Mass Spectrometry (FC/MS)
H. Nakamura

17:00-17:30 OS2-45
Invited Topical
New Insights into Oxygenated Biofuels Oxidation: Experimental and Kinetic Modeling Studies.
P. Dagaut , G. Dayma, M. Lailliau, Z. Serinyel, S. Thion, C. Togbé

CON-SHIRAKASHI I

November 8, 2018

9:00-9:20 OS2-46
Effects of Inlet Parameters on the Characteristics of Combustion and Heat Loss for CH_4/Air Mixture in Micro Channels
Y. Zhang, J. Pan , Q. Lu, Y. Liu, Y. Zhu, S. Bani

9:20-9:40 OS2-47
Innovative Designs of Micro Combustors for Portable Power Applications.
B. Aravind , S. Kumar

9:40-10:00 OS2-48
Numerical Simulations of Methane-oxygen Diffusion Flame-streets in a 3-D Narrow Channel
X. Kang , Y. Wang

10:00-10:20 OS2-49
Critical Stretch for the Flame Jet Propagating in Microchannel with Narrowing
T. Miroshnichenko , G. Uruipin, S. Minaev

10:40-11:00 OS2-50
Hetero-/Homogeneous Combustion Characteristics of Premixed Hydrogen–Air Mixture in a Planar Catalytic Micro-Combustor
Q. Lu , J. Pan, J. Pan, Y. Zhang, J. Zhu, Y. Wang

11:00-11:20 OS2-51
Differential Diffusion Effects of Lean Premixed Flames Stabilized on a Meso-scale Bluff-body
Y.J. Kim , B.J. Lee, H.G. Im

11:20-11:40 OS2-52
Effect of Bluff Bodies on Combustion Characteristics of Hydrogen/Air in Micro Combustor
Y. Zhang , J. Pan, J. Zhu, C. Zhang, J. Li

11:40-12:00 OS2-53
Gas-Fired Luminous Radiant Heater Based on Cylindrical Ni-Al Burner
A.Maznoy , A. Kirdyashkin, S. Minaev, N. Pichugin

13:10-13:30 OS2-54
A New Device for Recovering Liquid Pressure Energy with High Efficiency
Z. Liu , N. Liu, Y. Li

13:30-13:50 OS2-55
Optimization of Flow Rate and Irradiation for Honeycomb Receiver with Concentrated Radiation
I.Tsuchida , M. Nakakura, K. Matsubara, T. Kodama, N. Gokon, S. Bellan

13:50-14:10 OS2-56
A Study on Steady-Flow-Type Particle Receiver for High-Temperature Solar Utilization
Y. Suzuki , K. Matsubara, T. Kodama, A. Sakurai, S. Bellan, N. Gokon, Y. Matsudaira

14:10-14:30 OS2-57
Performance of Selective Hydrogenation of Highly Concentrated Acetylene to Ethylene
Q. Zheng, X. Shi , D. Wu, Y. Wang

14:50-15:10 OS2-58
Oxygen Transport Membranes for Oxy-Fuel Combustion and Carbon Capture Purposes
R. Falkenstein-Smith, V. DeBiase , H. Nagashima, T. Tokumasu, J. Ahn

15:10-15:30 OS2-59
Thermal Transpiration Based Pumping and Power Generation
J. Wongwiwat, P. Bhuripanyo, T. Welles, V. DeBiase , J. Ahn, P. Ronn

15:30-15:50 OS2-60
Novel Piston Engine and Electrochemical Hybrid System for Unmanned Aerial Systems
T.S. Welles , J. Ahn

15:50-16:10 OS2-61
Micro-tubular Flame-assisted Fuel Cells (mT-FFCs) for Rich-burn, Quick-mix, Lean-burn (RQL) Furnace
R.J. Milcarek, M. Chu , J. Ahn

16:30-16:50 OS2-62
On the Communication of Acoustic Wave, Entropy Wave and Vorticity Wave in an Annular Combustor
S. Zhu , J. Li, L. Yang

16:50-17:10 OS2-63
Theoretical Analysis of Thermoacoustic Instabilities in Annular Combustors with Linear Mean Temperature Gradient and Mean Flow
J. Nan , J. Li, L. Yang

17:10-17:30 OS2-64
Effect of Fuel Composition on OH Distribution of Bio-syngas/ Air Inverse Diffusion Flame
Q. Zhou , C.S. Cheung, C.W. Leung, Z.Huang

17:30-17:50 OS2-65
Composition Effects on Combustion and Ignition Properties of Multi-components Syngas/Air Mixtures Derived from In-cylinder Fuel Reforming
Y. Murakami , H. Nakamura, T. Tezuka, S. Hasegawa, G. Asai, K. Maruta

CON-SHIRAKASHI Ⅱ

November 8, 2018

9:00-9:20 OS2-66
Effect of Injection Condition on the Propagation Characteristics of Rotating Detonation Wave in Plane-radial Combustor
Z. Xia , H. Ma, C. Zhuo, C. Zhou

9:20-9:40 OS2-67
Numerical Simulations of Flame Acceleration and Deflagration-to-Detonation Transition of Hydrogen-Air Mixtures in A Particle-laden Obstructed Channel
H. Zhang , M. Zhao

9:40-10:00 OS2-68
Three-dimensional Numerical Simulation of Continuous Rotating Detonation Ramjet Flowfields
G. Ge , H. Ma, Y. Ma, Z. Xia, C. Zhou

10:00-10:20 OS2-69
Deflagration-to-Detonation Transition in Foamed Emulsion Bubbled with Hydrogen-Oxygen Mixture
A.Kiverin , B. Kichatov, A. Korshunov, I. Yakovenko

10:40-11:00 OS2-70
Acceleration of the Deflagration to Detonation Transition in Microchannels through Ozone Addition to Lean C_2H_2/O_2 Mixtures
J. Sepulveda, A. Rousso , H. Ha. T. Chen, V. Cheng, W. Kong, Y. Ju

11:00-11:20 OS2-71
Effect of Hydrogen Added on the Detonation Performance of Methane/Oxygen at Different Equivalent Ratios
J. Li , J. Pan, Z. Pan, C. Jiang, J. Ni, W. Chen

11:20-11:40 OS2-72
Development of a Novel Flash Ignitor for Propulsion Using Nitrocellulose-Based Energetic Superthermite
H.-Y. Li , Y.-C. Chao, J.-Y. Yu, Y.-P. Chan H.-W. Hsu

11:40-12:00 OS2-73
Combustion and NOx Formation of Opposed-jet Oxygen Enriched Syngas Diffusion Flames with CO2 Dilution
S.-R. Yao , H.-Y. Shih

13:10-13:30 OS2-74
Numerical Study of Counterflow Flames in Asymmetric Flows
R. Fursenko , S. Minaev

13:30-13:50 OS2-75
Analysis of Diffusive-Thermal Instabilities of Hydrogen Flames, a Way to Verify the Reaction Mechanism
V. Gubernov , V. Bykov, U. Maas

13:50-14:10 OS2-76
Hydrogen Flame Propagation Regimes in a Thin Layer Compartment
M. Kuznetsov , J. Grune

14:10-14:30 OS2-77
Destabilization of Weakly Stretched Counterflow Flames at Low Lewis Number under Microgravity
T. Akiba , T. Okuno, S. Hasegawa, H. Nakamura, R. Fursenko, S. Minaev, M. Kikuchi, K. Maruta

14:50-15:10 OS2-78
Modeling of Transition from “Flame Ball” to the Flat Flame
S. Minaev , R. Fursenko, A. Chebotarev

15:10-15:30 OS2-79
Cellular Structures and Flame Propagation Velocities of DME Air-premixed Flames in a Narrow-gap-disk-burner (NGDB)
H.J. Jang , N.I. Kim

15:30-15:50 OS2-80
Length of Laminar Non-premixed Methane Flames under Elevated Pressures
J. Lee , G. Gil, H.Y. Kim, N.I. Kim

15:50-16:10 OS2-81
An Analytical Study on the Transversely Forced Flame Transfer Function
T. Liu , J. Li, L. Yang

16:30-16:50 OS2-82
Experimental Study of Flow Field and Premixed Gas Combustion in Planar Counterflow Reactor
S. Mokrin , R. Fursenko, E. Odintsov, D. Sharaborin, G. Uriupin, D. Tanygina, A. Chernov, V. Dulin, S. Minaev

16:50-17:10 OS2-83
The Influence of Pressure Rise Rate on Laminar Flame Speed
Y. Wang , Z. Chen

17:10-17:30 OS2-84
Laminar Burning Velocity Measurements of CH_3OCHO + Air Mixtures at Elevated Temperatures
R. Kumar , A. Katoch, S. Kumar

17:30-17:50 OS2-85
Effect of Downsized Annular-Stepwise-Diverging-Tube (ASDT) for Flame Propagation Velocities of Methane Air-premixed Flames
G. Gil , H.Y. Kim, J. Lee, N.I. Kim

CON-HAGI
November 9, 2018

9:00-9:20 OS2-86
Internal Combustion (IC) Engines: A High-efficiency Zero-emissions Power System in Future
H. Liu , Y. Wang, X. Fang, Q. Tang, M. Yao

9:20-9:40 OS2-87
Chemical Properties of PM of a Diesel Engine Fueled with Diesel/Biodiesel/Ethanol (DBE) in Blended and Fumigation Modes
M. Ahmadi Ghadikolaei , K.-F. Yung, C.S. Cheung

9:40-10:00 OS2-88
Combustion Characteristics and Particulate Emissions of a Diesel Engine Fueled with Diesel/Biodiesel/Alcohol Mixtures
D. Mao, M. Ahmadi Ghadikolaei, C.S. Cheung

10:00-10:20 OS2-89
Gaseous Fuel Injection Timing Effects on a Novel Natural Gas-Diesel Rotary Engine Performance
W. Chen , J. Pan, B. Fan, Y. Lu, Y. Zhang

10:40-11:00 OS2-90
Design and Simulation of an Eccentric Swing Blade Rotary Engine
H.-K. Ma , N.-T. Liu, M.-H. Hsu, Y.-W. Liu, C.-Y. Lin

11:00-11:20 OS2-91
Effect of Apex Seal Gap on the Flow Field of a Side-ported Rotary Engine
Y. Zhang, B. Fan , J. Pan, W. Chen, P. Otchere, Y. Lu

11:20-11:40 OS2-92
Investigation on Explosion of Lubricating Oil Droplet during Combustion of Ambient Gaseous Mixture under High Pressure and Temperature Conditions
S. Fei , Z. Wang, Y. Qi, Y. Wang, H. Zhang

11:40-12:00 OS2-93
Combustion Characteristics of Inorganic Kerosene Gel Droplet
Q. Cao , F. Feng, W. Wu

13:10-13:20
Opening
K. Maruta

13:20-14:10 OS2-94
Invited Keynote
Prediction of Pre-ignition and Super-knock in Modern Engines Using Theory and Computation
H.G. Im , M. Jaasim, M.B. Luong

14:10-14:40 OS2-95
Invited Topical
Current Status of SIP Super Lean-Burn SI Engine Project A Study of Ignition and Combustion in Super Lean-Burn SI engine Using Turbulent Combustion Diagram
K. Sugata, S. Lee, T. Yokomori, N. Iida

14:50-15:20 OS2-96
Invited Topical
Comprehensive Modeling of Turbulence, Heat Transfer, Flame Propagation and Ignition for Next Generation IC Engine Design - Aid for HINOCA Development -
M. Tanahashi , M. Shimura, Y. Minamoto

15:20-15:50 OS2-97
Invited Topical
Plasma-Assisted Ignition and Combustion
Y. Ju

15:50-16:20 OS2-98
Invited Topical
Optimization of One-parameter Family of Integration Formulae for Chemical Kinetic ODEs
Y. Morii , E. Shima, K. Maruta

16:30-16:50 OS2-99
Effects of Temperature Stratification on Combustion Modes Associated with End-gas Autoignition
T. Nogawa , H. Terashima

16:50-17:10 OS2-100
Numerical Simulations of Flame Ignition and Propagation in Spatially-Varying Straining Flow
E. Sereshchenko , R. Fursenko, S. Minaev, K. Maruta

17:10-17:30 OS2-101
Ignition Experiments by Nanosecond Repetitively Pulsed Discharges for Lean Burn Application
K. Uesugi , T. Tezuka, S. Hasegawa, Y. Morii, H. Nakamura, H. Takana, K. Maruta

17:30-17:50 OS2-102
A Novel Method for the Estimation of Hydrocarbon Fuel Reactivity by Separated Weak Flames in a Micro Flow Reactor with a Controlled Temperature Profile
P. Grajetzki , H. Nakamura, T. Tezuka, S. Hasegawa, K. Maruta

CON-SHIRAKASHI I
November 9, 2018

9:00-9:20 OS2-103
Cancelled

9:20-9:40 OS2-104
Investigation of Flow and Flame Dynamics in a Methane-air Premixed Swirling Combustor
Z. Rao , B. Zhang, B. Wang

9:40-10:00 OS2-105
Characteristics Study on A New Type Advanced Vortex Combustor
J. Xie, Y. Zhu, J. Li , J. Pan

10:00-10:20 OS2-106
LES/Flamelet Study of Vortex-Flame Interaction in a Turbulent Nonpremixed Swirl Burner
Z. Lu , A. M. Elbaz, F.E. Hernandez Perez, W.L. Roberts, H.G. Im

10:40-11:00 OS2-107
Reactions and Productions of Hot Diluted Oxidizer Combustion
F. Zhang, G. Zhang, G. Lou

11:00-11:20 OS2-108
Study of a Novel Can Type Swirl Stabilized Flameless Combustor
S. Sharma , G. Agarwal, A. Chowdhury, S. Kumar

11:20-11:40 OS2-109
Combustion of Coal Particles under Radiation from Porous Burner
A. Ponomareva , A. Triguba, K. Tcoi, V. Babushok, K. Shtym

11:40-12:00 OS2-110
Application and Research on Heat-carrier-free Regenerative Rotating-bed Coal Pyrolysis Process (HRRP process)
D. Li, L. Ding , X. Zhao, B. Dong, J. Chen, Y. Guo, Q. Zhang, D. Wu

13:10-13:30 OS2-111
Integration Study on Fast Pyrolysis of Low-rank Coal Coupling of Gas-based Shaft Furnace Reduction Technology
L. Liu, Y. Wen , X. Yuan, Q. Zheng, J. Tang, L. Feng, Z. Han, Z. Cao, Q. Wang, D. Wu

13:30-13:50 OS2-112
Combustion Characteristic of a Heating Furnace by Hydrogen/Air Micro-Jet Diffusion Flame
J. Li , H. Huang, N. Kobayashi

13:50-14:10 OS2-113
Numerical Prediction of the Heat Transfer Performance of a Frit Melting Furnace
J. Rentería , L. Cardona, B. Herrera

14:10-14:30 OS2-114
Energy Saving Technology for Ferrochrome Alloy Production
P. Chen, Z. Cao , Z. Ren, D. Wu