

MONDAY:

NEW TECHNOLOGY CONCEPTS

- 1A-01 AN EXPERIMENTAL INVESTIGATION ON MOLECULAR REFORMULATION OF HYDROCARBON FUEL BY MAGNETIC ENERGIZER TO REDUCE EMISSIONS IN TWO STROKE SI ENGINE**
P. Govindasamy, S. Dhandapani
- 1A-02 APPLICATION AND EVALUATION OF HIGH EFFICIENCY COMBUSTION TECHNIQUE BY UTILIZATION OF ELECTRO-MAGNETIC WAVE INTO MANY KINDS OF COMBUSTORS**
Y. Miyakoshi, S. Okajima, S. Takahashi, M. Ito, O. Zushi, A. Lal
- 1A-03 EFFECT OF ELECTRO-MAGNETIC ENERGY ON FLAME PROPAGATION BEHAVIOR OF METHANE-AIR MIXTURES IN A CLOSED BOMB**
H. Nemoto, S. Okajima, S. Takahashi, S. Ito, O. Zushi, A. Lal
- 1A-04 NUMERICAL MODELING OF MILD COMBUSTION FOR COAL**
J.P. Kim, U. Schnell, G. Scheffknecht
- 1A-05 COMBUSTION ZONE LOCATION ON FLAMELESS COMBUSTION OF NATURAL GAS IN A LABORATORY SCALE FURNACE**
S. Murer, B. Pesenti, P. Lybaert
- 1A-06 POROUS RADIANT BURNER STUDY AND SIMULATION**
S. Gauthier, E. Lebas, D. Baillis
- 1A-07 SUPERCRITICAL VAPORIZATION OF A COLD FLUID PACKAGE**
P.L. Garcia-Ybarra, J.L. Castillo
- 1A-08 EFFECTS OF PRESSURE ON PERFORMANCE OF MESOSCALE BURNER ARRAYS FOR GAS TURBINE APPLICATIONS**
A. Bardos, K.M. Walters, M.G. Boutross, S. Lee, C.F. Edwards, C.T. Bowman
- 1A-09 COMBUSTION CHARACTERIZATION OF THE BULK H₂O/NANOAL SLURRY SAMPLES**
V.E. Zarko, V.N. Simonenko, C. Chauveau, I. Gokalp
- 1A-10 GASIFICATION OF SOLID FUEL IN PLASMA REACTOR**
V.E. Messerle, A.B. Ustimenko
- 1A-11 NITROGEN OXIDE EMISSION OF OXYGEN-ENRICHED CH₄/O₂/N₂ PREMIXED FLAMES UNDER ELECTRIC FIELD**
E.V. Vega, S.S. Shin, K.Y. Lee
- 1A-12 DEVELOPMENT AND APPLICATION OF LOW-NO_x OXYFUEL COMBUSTORS**
S.M. Lee, Y. D. Lee, H.S. Kim, K.Y. Ahn, H.K. Kim, Y.M. Kim
- 1A-13 A FLAME AS FUEL REFORMER FOR SOLID OXIDE FUEL CELLS.**
H. Kronemayer, W.G. Bessler, M. Vogler, M. Horiuchi, S. Sugauma, Y. Tokutake, C. Schulz, J. Warnatz

DETONATIONS AND EXPLOSIONS

- 1B-01 NUMERICAL STUDY OF CELLULAR DETONATIONS IN NON-CONSTANT CROSS-SECTION TUBES**
S. Chiang
- 1B-02 THE NUMBER DEFINING THE REALIZATION OF THE HOT SPOTS MECHANISM AT DETONATION OF HETEROGENEOUS EXPLOSIVES**
S.S. Rybanin, Yu.M. Mikhailov
- 1B-03 NUMERICAL STUDY OF DETONATION LIMIT OF FUEL CONCENTRATION IN GAS-FUEL DROPLET SYSTEMS**
T. Hong, P. Wang, C. Qin

1B-04 SHOCK-TUBE STUDY OF THE IGNITION OF REFERENCE FUELS AT INTERMEDIATE TEMPERATURES IGH PRESSURES

J. Herzler, M. Fikri, K. Hitzbleck, R. Starke, C. Schulz, P. Roth, G.T. Kalghatgi

1B-05 EXPERIMENTAL AND NUMERICAL STUDY OF IGNITION OF H₂-O₂ AND C₃H₈-O₂ MIXTURES BY HOT ERT GAS JET

A. Teodorczyk, M. Elhsnawi

1B-06 IGNITION OF PENTAERITHRITOL TETRANITRATE POWDER BY PULSE LASER ABLATION OF GROUND GLASS

K. Nagayama, Y. Kotsuka, S. Kubota, M. Nakahara

1B-07 SHOCK WAVE FORMATION IN THE SPATIALLY NON-UNIFORM SELF-IGNITING MIXTURE: ROLE OF THERMAL AND CHEMICAL KINETIC PARAMETERS

I.A. Zaev, I.A. Kirillov

1B-08 EFFECTS OF THERMAL CONDUCTIVITY, CONVECTION AND GRAVITY ON GAS PHASE AUTOIGNITION IN A CLOSED EXPLOSION SPHERE: SYSTEMATIC COMPUTATIONAL MODELING

I.A. Kirillov, I.A. Zaev, A.V. Panasenko, S.A. Vasil'evsky, H. Pasman, M.I. Silakova

1B-09 DETAILED FEATURES OF WAVE STRUCTURE AND UNSTEADINESS ON SHOCK-INDUCED COMBUSTION AND STABILIZED OBLIQUE DETONATION AROUND HYPERSONIC PROJECTILE

Y. Daimon, A. Matsuo, J. Kasahara

1B-10 NUMERICAL SIMULATION OF DUST LIFTING PROCESS FROM THE LAYER BEHIND PROPAGATING SHOCK WAVE

P. Zydak, R. Klemens

1B-11 NUMERICAL INVESTIGATION OF PREFERRED SPACING IN TWO-DIMENSIONAL HYDROGEN-AIR DETONATIONS

K. Inaba, D. Ando, M. Yamamoto

1B-12 PLASMA ASSISTED INITIATION OF DETONATION

V.P. Zhukov, A.E. Rakitin, A.Yu. Starikovskii

1B-13 INFLUENCE OF DETONATION CHAMBER GEOMETRY AND MAGNETIC FIELD ACTION ON GASEOUS ONATION FORMATION

V. Aksenov, D. Baklanov, S. Golovastov, V. Golub, D. Lisin, A. Savel'ev, V. Volodin

TURBULENT FLAMES—EXPERIMENTS ON NON-PREMIXED SYSTEMS

1C-01 Accurate measurement of mixture fraction dissipation in turbulent jet flames

G.-H. Wang, R.S. Barlow

1C-02 Characteristics of non-premixed flame structure in humid air combustion

X. Gu, S. Zang, B. Ge

1C-03 Spark ignition of turbulent non-premixed bluff-body flames

S.F. Ahmed, R. Balachandran, T. Marchione, E. Mastorakos

1C-04 Hydrogen versus hydrocarbons/hydrogen mixtures self-ignition in supersonic flows: Mixing/chemistry interplay

E. George, P. Magre, V.A. Sabel'nikov

1C-05 Auto-ignition of dimethylether at high pressure

H. Haessler, H. Bockhorn, G. Fast, D. Kuhn, A.G. Class

1C-06 Investigation of the effects of scalar mixing in the flame velocity field for turbulent stabilised stratified flames, using simultaneous PLIF and PIV

P. Anselmo Filho, S. Hochgreb

1C-07 Detailed combustion and emission characteristics of partially premixed turbulent flame

- 1C-08 Experimental studies of bluff body stabilized LPG diffusion flames**
D.Y. Kiran, D.P. Mishra
- 1C-09 Combustion of NG + H₂ fuel mixtures in a non-premixed swirl burner with radial fuel injection**
F. Cozzi, A. Olivani, A. Coghe
- 1C-10 Large-scale structure dynamics and buoyancy effects in strongly-pulsed turbulent jet diffusion flames**
J.C. Hermanson, M. Fregeau, D.P. Stocker
- 1C-11 CO and NO emissions of strongly-pulsed turbulent jet diffusion flames**
M. Fregeau, J.C. Hermanson, P.-Y. Tsai
- 1C-12 Laser Rayleigh imaging of dissipative structures in turbulent non-premixed flames**
S.A. Kaiser, J.H. Frank
- 1C-13 Experimental study of turbulent jet methane flame issuing from asymmetric nozzles**
C.O. Iyogun, M. Birouk

POLLUTANT FORMATION I

- 1D-01 Experimental and theoretical study of the effects of operating parameters on nitric oxide emissions from spark-ignition engines**
T. Ouksel, M. Kadja, P. Higelin, A. Chelghoum
- 1D-02 XPS analysis of carbon nanostructure within various soot samples**
R.L. Vander Wal, M.D. Hayes
- 1D-03 Temperature dependence of the yields of radicals from the gas-phase pyrolysis of hydroquinone, and catechol**
J. Adounkpe, L. Khachatryan, B. Dellinger
- 1D-04 An experimental research on coal reburning for NO_x emission control**
S. Li, T. M. Xu, P. Sun, Q.L. Zhou, H.Z. Tan, S.E. Hui
- 1D-05 Improved sooting tendency determinations for aromatics**
C.S. McEnally, L.D. Pfefferle
- 1D-06 Finite-volume model of pulverized coal combustion**
R. Straka, J. Makovicka, M. Benes, V. Havlena
- 1D-07 Influence of dimethoxymethane (DMM) addition on soot precursors formation in a rich ethylene - oxygen - argon FLAME: Experimental and numerical approaches**
C. Renard, J. Vandooren
- 1D-08 Predicting kinetic law for heavy metal vaporization from coal in fluidized bed**
J. Liu, S. Abanades, D. Gauthier, G. Flamant, C.G. Zheng, J.D. Lu
- 1D-09 Ignition delay of biodiesel and biodiesel surrogate fuel droplets**
T. Vaughn, A.J. Marchese
- 1D-10 A SO_x formation model for the fluent CFD solver**
S.A.L. Perera, R. Liu
- 1D-11 Aerosol formation in biomass combustion: Detailed kinetic modeling and experimental study**
ÍL. Hindiyarti, J. Zeuthen, F. Frandsen, H. Livbjerg, P. Glarborg
- 1D-12 Formation and characterization of the soot obtained from hydrocarbon pyrolysis**
M.P. Ruiz, E.M. Aznar, A. Callejas, A. Millera, M. U. Alzueta, R. Bilbao

1D-13 Oxidation of soot generated in the pyrolysis of acetylene

T. Mendiara, M.U. Alzueta, A. Millera, R. Bilbao

POLLUTANT FORMATION II

1E-01 Soot formation and oxidation in turbulent pressurized flames: Experimental investigations of soot volume fraction and flame temperatures

O. Lammel, K.P. Geigle, R. Lücknerath

1E-02 The detection and identification of polycyclic aromatic hydrocarbon products from 1-methylnaphthalene pyrolysis

M. Somers, X. Zhang, M.J. Wornat

1E-03 Perylene benzologues: A major class of PAH products from the supercritical pyrolysis of a synthetic jet fuel

J.O. Oña, M.J. Wornat

1E-04 Modeling PAH and PM formation in hybrid fuels premixed flat flames

A. Sully, S. Mancarella, M. Derudi, R. Rota, S. Granata, T. Faravelli, E. Ranzi

1E-05 Formation of polycyclic aromatic hydrocarbons from a Fischer-Tropsch jet fuel

S. Bagley, J. Oña, M.J. Wornat

1E-06 Preliminary investigation on the release rate of atomic sodium from black liquor using PLIF

W.L. Saw, G.J. Nathan, P.J. Ashman, Z.T. Alwahabi, C. Mueller, M. Hupa, M. Forssén

1E-07 Determination of oxygenated aromatics via HPLC coupled to atmospheric pressure photoionization mass spectrometry

F.S. Ehrenhauser, R.J. Alcanzare, S. Thomas, M.J. Wornat

1E-08 Experimental and modeling study of fuel break-up and soot formation during propylbenzene combustion

E. Goos, T. Kick, P. Frank

1E-09 Variation of flame shape and soot growth characteristics by applying DC electric fields

Y. Wang, Q. Yao

1E-10 The morphology of particulate matters analyzed by SEM and EDS

Y.I. Lee, J.P. Lee, H.S. Jung

1E-11 An experimental study on flash spray combustion characteristics of heavy oil – water emulsion

T.U. Yu, M.C. Shin, S.W. Kim

1E-12 Soot measurement in a tubular flame burner for heavy oil

K. Ishii, T. Tsuboi, K. Okada, M. Ishioka, Y. Suzukawa

1E-13 NO reburning with CH₄ in low temperature conditions: Influence of the residence time and the amount of methane

K. Marschallek, B. Lefort, L. Gasnot, J.F. Pauwels

POLLUTION

1F-01 The influence of sulfur on natural gas combustion

J. Andersen, P. Glarborg

1F-02 Effect of pressure on soot formation in low pressure methane air flames

P. Desgroux, X. Mercier, B. Lefort

1F-03 Generation of singlet oxygen in HV pulsed + DC cross discharge and pulsed dielectric barrier discharge at atmospheric and reduced pressure for oxygen-enhanced combustion

A. Bourig, V. Lago, J.-P. Martin, K. Pliavako, F. Pliavako, S. Gorbatov, A. Chernukho, V. Naumov

1F-04 Sizing and characterization of flame produced nanoparticles by spectral analysis of time resolved fluorescence anisotropy

P. Minutolo, A. Bruno, C. de Lisio, A. D'Alessio

1F-05 NO_x control through reburning using biomass in a laboratory furnace: Effect of particle size

C. Casaca, M. Costa

1F-06 Extracting chemical information on soot formation from small-angle x-ray scattering measurements and the maximum-entropy technique

J.P. Hessler, R.S. Tranter

1F-07 On soot formation/emissions from ethyl alcohol flames

A. Ergut, Y.A. Levendis, H. Richter, J.B. Howard, J. Carlson

1F-08 Soot threshold in premixed ethylbenzene flames

A. Ergut, Y.A. Levendis, H. Richter, J.B. Howard, J. Carlson

1E-22 Interactions of combustion-generated nanoparticles with lipid bilayers

R. Chang, A. Violi

1E-23 Diffusion and morphology of an aerosol formed from ethane

G.A. Milan, P.D. Pacey

1F-09 Combustion of the premixed benzene-oxygen mixture in electric field at low pressure

Z.A. Mansurov, N.G. Prikhodko, B.T. Lesbaev, T.T. Mashan

1F-10 Investigating soot growth pathways in shock tubes using a multivariate population balance model

M. Celnik, M. Kraft, I. Naydenova, J. Warnatz

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FIRE RESEARCH

1G-01 Theoretical Research of chain combustion

V.V. Kukueva, A.A. Kirillov

1G-02 Experimental investigation on release characteristic of light hydrocarbon during pulverized coal pyrolysis

F. Junjie, J. Jing

1G-03 Prediction of the upward flame spread along two vertical parallel sheets of thick combustible solid

H.Y. Wang, P. Joulain

1G-04 Mathematical modeling of crown forest fire initiation

V. Perminov

1G -05 Concurrent flame spread in an array of thin solids at low speed

H.Y. Shih, M.H. Chuang, G.M. Lee

1G -06 Flame spreading over propanol in narrow channels

H. Franco, J.L. Castillo, P.L. Garcia-Ybarra, J.C. Antoranz, V. Sankovitch

1G -07 A model to simulate Japan's '1 + 3' fire endurance test

H. Takeda, L.R. Richardson

1G -08 Extinction of non-premixed opposed-flow hydrocarbon flames by chemically-passive fire suppressants

K.M. Shebl, A.M. Abdilghanie, W.J.A. Dahm, G.M. Faeth

1G -09 Study of AP/HTPB/AL solid propellant combustion at atmospheric pressure

F. Chassagne, H.Y. Wang, P. Joulain, S. Bordachar

1G -10 Numerical investigation of the baroclinic torque in the context of smoke spread

M. Münch, H. Schmidt, M. Oevermann, R. Klein

1G -11 Pyrolysis and gaseous phase chemistry of a diffusion flame over a solid fuel

E. Chouteau, T. Rogaume, F. Richard, P. Rousseaux

1G -12 CFD simulation of large hydrocarbon pool fires

I. Vela, C. Kuhr, A. Schönbacher

1G -13 The probabilistic thermal radiation model Osramo II for large hydrocarbon pool fires

D. Göck, C. Kuhr, I. Vela, A. Schönbacher