

MONDAY ORAL SCHEDULE

| Time | Room 1 | Room 2 | Room 3 | Room 4 | Room 5 |
|--------|---|---|--|---|--|
| 8:30 | Welcome | Welcome | | | |
| 9:00 | PLENARY - Raman | PLENARY - Raman | | | |
| 10:00 | Coffee break | Coffee break | Coffee break | Coffee break | Coffee break |
| Set M1 | RDE Combustors | Detonation Cellular Dynamics 1 | Metalized Reactions 1 | Chemical Reaction Kinetics 1 | Fire Dynamics 1 |
| 10:30 | 178: Numerical Analysis of the Effect of Combustor Length on Cylindrical Rotating Detonation Engine with Diverging Channel Sada, Takumi*; Matsuo, Akiko; Shima, Eiji; Itouyama, Noboru; Kawasaki, Akira; Matsuoka, Ken; Kasahara, Jiro | 8: Graph theory, geometric probabilities and a representative width for three-dimensional detonation cells Monnier, Vianney; Vidal, Pierre*; Rodriguez, Vincent; Zitoun, Ratiba | 327: Combustion of Metallic Iron in Solid Propellants Thomas, James C*; Lukasik, Gavin; Rodriguez, Felix A; Kulatilaka, Waruna; Petersen, Eric | 142: Characterizing Strong Ignition Overpressure in Oxy-Methane Combustion Experiments Sandberg, Matthew G*; Turner, Mattias; Petersen, Eric | 23: Effects of Equivalence Ratio on the Fire Characteristics of Kerosene/Air Flame Impinged by Composite Materials Manescau, Brady Axel*; Ogabi, Raphael; Chetehouna, Khaled |
| 10:55 | 189: Operation Characteristics of a Throatless Rotating Detonation Engine with Diverging Channel Nakata, Kotaro*; Kimura, Tomoaki; Ishihara, Kazuki; Itouyama, Noboru; Matsuoka, Ken; Kasahara, Jiro; Kawasaki, Akira; Watanabe, Hiroaki; Matsuo, Akiko; Funaki, Ikko; Higashino, Kazuyuki; Athmanathan, Venkat; Braun, James; Meyer, Terrence; Paniagua, Guillermo | 67: Divergent Flow Effects in Cellular Detonations Voelkel, Stephen*; Short, Mark; Chiquete, Carlos | 16: Mesoscale surface deflagration modeling of metalized solid propellants Choi, Hong-Suk*; Yoh, Jack J. | 254: Ignition delay of ultra-lean hydrogen/air mixtures Krivoshveyev, Pavel N*; Penyzkov, Oleg; Sevrouk, Kirill; Skilandz, Alexander; Tereza, Anatoly M | 74: Flame Spread over Inclined Electrical Wire with Applied AC Electric Fields Li, Zhisheng; Kim, Juhan; Zhang, Yuchun; Park, Jeong*; Chung, Sukho |
| 11:20 | 291: Experimental Investigation on the Ignition Characteristics of Scramjet Combustor Using a Micro Pulse Detonation Engine Kim, Min-su; Lee, Jae-Hyuk; Lee, Eun-Sung; Han, Hyung-Seok; Choi, Jeong-Yeol* | 68: Predicting the Detonation Cell Size of Biogas-Oxygen Mixture Using Machine Learning Models Siatkowski, Stanislaw*; Wacko, Krzysztof; Kindracki, Jan | 150: Factors influencing the burning characteristics of electrically controlled solid propellant with various metal content Lim, Daehong*; Kanagaraj, Gnanaprakash; Rajak, Rajendra; Yoh, Jack J. | 91: Shock-Tube Study of Lubricating Oil Ignition Delay Times Abulail, Matthew*; Cooper, Sean P; Sandberg, Matthew G; Petersen, Eric L | 301: Measurement of Internal Structural Changes during Pyrolysis of Wooden Pellet under Radiant Heating Field using Synchrotron X-ray CT Daitoku, Tadafumi* |
| 11:45 | 179: Study on the Effect of Combustor Scale in Annular RDES Miyashita, Moeno*; Matsuo, Akiko; Shima, Eiji; Itouyama, Noboru; Kawasaki, Akira; Matsuoka, Ken; Kasahara, Jiro | 86: Uncertainty on Predicted Detonation Cell Width Huang, Xiangrong; Weng, Z.; Mevel, Remy; Chatelain, Karl P.; Vargas, João; Melguizo-Gavilanes, Josue*; Lacoste, Deanna | 165: Thermal Analysis of Electrically Controlled Solid Propellant with Different Metal Additives Rajak, Rajendra*; Lim, Daehong; Kanagaraj, Gnanaprakash; Oh, Jouyong; Yoh, Jack J. | 121: Ignition Delay Study of Low Reactivity Fuel Blends Min, Kyungwook*; Kim, Keunsoo; Lee, Tonghun | 197: Near-infrared visualization of flame spread in a narrow space Ikebe, Koji* |
| 12:10 | Lunch | Lunch | Lunch | Lunch | Lunch |
| Set M2 | RDE Mode Analysis 1 | Detonation Structure 1 | Detonations and Shocks with Particles 1 | Chemical Reaction Kinetics 2 | Fire Dynamics 2 |
| 13:50 | 100: Timescale Analysis for a Standard Rotating Detonation Rocket Engine Dave, Raj; Burr, Jason; Ross, Mathias C; Bennewitz, John W* | 256: Thermionuclearly-Driven Cellular Structure of Detonation on the Surface of a White Dwarf Iwata, Kazuya* | 123: The separation of mass, momentum and heat transfer scales in particle-laden detonations Martinez-Ruiz, Daniel*; Huete, Cesar; Sánchez, Antonio L | 181: Homogeneity of Propane/Air Ignition in Shock Tubes: Ignition Delay Times and High-Speed Imaging Navel, Damien*; Cooper, Sean P.; Sandberg, Matthew G; Abulail, Matthew; Mohr, Darryl J.; Hay, Matthew K.; Fikri, Mustapha; Kulatilaka, Waruna D.; Petersen, Eric L.; Schulz, Christof | 212: Time Variation of Smoke Behavior and Images' File Size Konda, Tomohiro* |
| 14:15 | 97: On the Directionality of Rotating Detonation Waves Burke, Robert F*; Rezzag, Taha; Jacobson, Jonathan; Cideme, Robyn; Hytowick, Rachel; Ahmed, Kareem | 182: Viscous and thermal boundary layers in detonation driving zone Watanabe, Hiroaki*; Matsuo, Akiko; Chinnayya, Ashwin; Itouyama, Noboru; Matsuoka, Ken; Kasahara, Jiro | 209: Initiation characteristics of wedge-induced oblique detonations in partially pre-vaporized n ₇ heptane sprays Teng, Honghui; Tian, Cheng*; Zhao, Majie; Yang, Pengfei | 192: Special Cases Affecting the Low-Temperature Ignition of Evaporated Hydrocarbon-Air Mixtures in a Rapid Compression Machine Shimchenko, Sergey*; Leschevich, Vladimirt | 24: Effect of cavitation inside a Nuxgen burner nozzle on flame dynamics Manescau, Brady Axel*; LaMoot, Ludovic; Chetehouna, Khaled |
| 14:40 | 173: Interaction Between Primary and Secondary Waves in a Rotating Detonation Rocket Engine Vignat, Guillaume*; Brouzet, Davy; Bonanni, Matthew; Ihme, Matthias | 134: Effect of a Spatially Distributed Reaction Zone on Regular and Mach Reflection of a Detonation Short, Mark*; Chiquete, Carlos; Voelkel, Stephen | 245: High-Fidelity Simulations of Shock Induced Break-up of Droplets Bielawski, Ral J*; Raman, Venkat | 143: Experimental and Numerical Investigation of Shock Wave-Based Methane Pyrolysis for Clean H ₂ Production Ferris, Alison*; Biswas, Pujan; Panda, Alka; Zaczek, Luke; Choudhary, Rishav; Hanson, Ronald | 296: Heat transfer characteristics of turbulent boundary layer flames stabilized under a mixed-convective environment Srivastava, Alankrit*; Kumar, Saurav; Singh, Ajay V. |
| 15:05 | 199: Influence of Outer-Diameter Cavities on Wave Number and Velocity in an RDE. Stevens, Christopher A*; Fotia, Matthew; Hoke, John; Badger, Dustin | 250: High-fidelity Simulations of Oblique Detonation Waves Abisileman, Sebastian S*; Bielawski, Ral J; Raman, Venkat | 218: Study on aluminum particle/oxygen or air two-phase detonation Hayashi, A. Koichi*; Hosoda, Hideaki | 203: Induction and reaction time measurements in hydrogen-air mixtures for a wide stoichiometry range at high temperatures and pressures Baranyshyn, Yauhen A*; Penyzkov, Oleg; Sevrouk, Kirill; Kuzmitski, Vyacheslav V | 308: Local burning behavior of wind-driven flames under the influence of mixed-convective turbulent flow conditions Srivastava, Alankrit*; Singh, Ajay V. |
| 15:30 | Coffee break | Coffee break | Coffee break | Coffee break | Coffee break |
| Set M3 | RDE Liquid Fuels | Detonation Spectroscopy | DDT 1 | Flame Instabilities 1 | Laminar Flame Velocity |
| 16:00 | 247: Air breathing Rotating Detonation Engine supplied with liquid fuels Perkowski, Witold; Kawalec, Michał; Bilal, Adam; Augustyn, Maksymilian; Zocforńska, Elżbieta; Wolański, Piotr | 120: Simultaneous Visualization of Induction and Reaction Zones by Planar Laser Induced Fluorescence in Hydrogen Detonations Rojas Chavez, Samir Boset*; Chatelain, Karl P.; Alicherif, Mhedine; Lacoste, Deanna | 9: Rapid flame acceleration and DDT in supersonic mixture Zhao, Wandong*; Wang, Xinxin; Liang, Jianhan; Cai, Xiaodong; Deterding, Ralf | 38: Self-acceleration of Propagating Cylindrical Hydrogen/air Flames at Normal and Cryogenic Temperatures Yang, Linlin; Wang, Yiqing; Chen, Zheng* | 75: Laminar Burning Velocities of Propane-air Mixtures at Elevated Temperatures and Pressures Shinde, Vijay*; Fulzele, Amardeep Mahendra; Kumar, Sudarshan |
| 16:25 | 145: Experimental Study on Propagation Mode of Cylindrical Rotating Detonation Engine with Liquid Ethanol, Ai Liquid Nitrous Oxide Sato, Tomoki*; Ishihara, Kazuki; Nakata, Kotaro; Kimura, Tomoaki; Kikuchi, Yusei; Nakajima, Kosuke; Sawada, Satoru; Inada, Masahiro; Sakata, Rinpei; Suzuki, Yamato; Oda, Yusuke; Itouyama, Noboru; Matsuoka, Ken; Kasahara, Jiro; Kawasaki, Akira; Watanabe, Hiroaki; Okano, Hiro; Tada, Takuya; Fujiura, Akitomo; Namera, Mio; Nakazawa, Ryu; Eguchi, Hikaru; Nakata, Daisuke; Uchiumi, Masaharu; Matsuo, Akiko; Funaki, Ikko | 26: Induction Zone Length Measurements for Regular Cell Pattern by Nitric Oxide Planar Laser-Induced Fluorescence Alicherif, Mhedine*; Chatelain, Karl P.; Rojas Chavez, Samir Boset; Lacoste, Deanna | 19: Effects of SF ₆ Jet-in-crossflow on deflagration-to-detonation transition of premixed methane-oxygen Zhang, Bo* | 105: Effect of linearly increased equivalence ratio on combustion instability of lean-premixed low-swirl hydrogen jet flame Kawai, Maho*; Nagao, Jun; Pillai, Abhishek L.; Kurose, Ryoichi | 34: Numerical studies on the spherically expanding premixed cool flames under the gravitational conditions Wang, Yiqing*; Guan, Xuefeng; Xie, Shumeng; Zhou, Mengni; Zhang, Zunhua; Chen, Zheng; Zhang, Tianhan |
| 16:50 | 55: Experimental Investigation on Rotating Detonation Combustion Fueled by Kerosene Wen, Haocheng*; Wang, Bing | 81: Challenges of the Induction Zone Length Measurements by NO-LIF Chatelain, Karl P.*; Rojas Chavez, Samir Boset; Alicherif, Mhedine; Lacoste, Deanna | 62: DDT run-up distance for stoichiometric hydrogen-methane-oxygen Ciccarelli, Gabriel*; Pan, Chuanyu; Wang, Xishi | 151: Experimental and Numerical Study of Forced Response of Small-Scale Lean-Premixed Pure Hydrogen Flames Kang, Hyebin*; Kim, Kyu Tae | 224: Pressure Effects on Laminar Burning Velocity of SNG/air Mixtures in a Closed Vessel Cho, SeoHee* |
| 17:15 | 312: Simulations of two-phase kerosene/air rotating detonation engine at Ma5 flight conditions Wang, Fang*; Weng, Chunsheng | 72: Laser Absorption Measurements of Detonations in a Simulated RDRE Ross, Mathias C*; Burr, Jason; Karagozian, Ann | 220: Effect of Chemical Mechanisms on Deflagration to Detonation Transition and Its Application to Mechanism Reduction Li, Han*; Chen, Zhi X; Zhang, Tianhan | 152: Influences of axial-fuel-staging on combustion dynamics of a lean premixed combustor choi, yongseok*; Kim, Kyu Tae | 46: Propagation of expanding ellipsoid-shaped flame Zhang, Yakun; Weng, Z.; Mevel, Remy* |
| 17:40 | 277: Study on the effect of two-phase fuel on the detonation-wave collision process in a rotating detonation ramjet engine Huang, Xixuan; LIN, Zhiyong* | 198: Detonation onset chemiluminescence: an experimental analysis to choose light filters Mejia-Botero, Cristian C*; Virot, Florent; Melguizo-Gavilanes, Josue | 31: Analysis of Super Knock and Detonation in A Rapid Compression Machine Li, Jinzhou*; Yang, Junfeng | 162: Influences of Fuel Supply-Driven Instability on Flame Transfer Functions and Combustion Instability Nam, Jaehyun*; Yoh, Jack J. | 112: Experimental investigation of the laminar burning velocity for n-dodecane/air mixture at elevated temperatures Fulzele, Amardeep Mahendra*; Mohapatra, Subhankar; Kumar, Sudarshan |

TUESDAY ORAL SCHEDULE

| Time | Room 1 | Room 2 | Room 3 | Room 4 | Room 5 |
|--------|--|--|--|--|--|
| 9:00 | PLENARY - Chaumeix | PLENARY - Chaumeix | | | |
| 10:00 | Coffee break | Coffee break | Coffee break | Coffee break | Coffee break |
| Set T1 | RDE Mode Analysis 2 | Detonation Structure 2 | Novel Detonation Models | Flames in Porous Media | Flames with Particulates 1 |
| 10:30 | Paper 191 Data-Driven Multi-mode Recognition and Reconstruction of the Rotating Detonation Chamber Authors: Wang, Xutun; Wen, Haocheng; Wang, Bing* | Paper 267 Probing Nitrogen Vibrational Relaxation in Hydrogen-Oxygen-Nitrogen Detonations Using Ozone Authors: Shi, Xian*; Wang, Hai | Paper 48 An OpenFOAM Solver for Shock and Detonation Simulation in Real Gas Authors: Weng, Z.; Mevel, Remy* | Paper 153 Experimental investigation on flame propagation characteristics in Kelvin-type ordered porous media Authors: Xinjian Chen*, Junwei Li, Xu He, Ningfei Wang | Paper 255 Modelling turbulence interaction and the preferential concentration of reacting iron particles Authors: Hemamaliini, Shyam Sundar*; Guhathakurta, Swagnik; Cuenot, Benedicte; van Oijen, Jeroen; Mi, Xiaocheng |
| 10:55 | Paper 180 Relationship between fuel concentration distribution in the combustion chamber of a rotating detonation engine and its operating mode Authors: Duong, Nghia Dinh; Kawasaki, Kazuma; Shibagaki, Shuri; Ishii, Kazuhiro | Paper 183 Analysis of chemical structure of a weakly unstable cellular gaseous detonation Authors: Watanabe, Hiroaki*; Matsuo, Akiko; Chinnayya, Ashwin; Itouyama, Noboru; Matsuoka, Ken; Kasahara, Jiro | Paper 93 Experimental and Numerical Comparison of Weakly Unstable Detonation using Planar Laser-Induced Fluorescence of Nitric Oxide Imaging Authors: Sankar, Vigneshwaran*; Chatelain, Karl P.; Melguizo-Gavilanes, Josue; Rojas Chavez, Samir Boset; Alicherif, Mhedine; Lacoste, Deanna | Paper 76 Modeling of In-situ Combustion in Porous Media Accounting for the Instability of the Interface Authors: Evgeniya I Skryleva*, Nickolay N. Smirnov, Valeriy Nikitin, Anastasiya Manakhova | Paper 217 Exploring Laminar Iron-Flame Propagation Limits in Long, Narrow Channels Authors: Guhathakurta, Swagnik*; van Oijen, Jeroen; Martinez, Daniel |
| 11:20 | Paper 233 On the Presence of Inhomogeneous Co-Rotating Detonation Waves in a Rotating Detonation Combustor Authors: Feleo, Alexander D*; Gamba, Mirko | Paper 122 Towards predictive simplified kinetics for detonation simulations Authors: Veiga-Lopez, Fernando*; Taileb, Said; Chinnayya, Ashwin; Melguizo-Gavilanes, Josue | Paper 231 One and Two-Dimensional Detonation simulation in OpenFOAM Using Load Balanced Adaptive Mesh Refinement and Finite Rate Chemistry Authors: Shahanaghi, Ali*; Karimkashi Arani, Shervin; Kaario, Ossi; Vuorinen, Ville | Paper 163 Effects of Porous Structures at Pipe Outlet on Self-ignition of High-Pressure Hydrogen Leakage Authors: Hyounjin Lee (Inha University); Minsk Yun (Inha University)* | Paper 229 Simulation of Radiative Laminar Coal Dust Flames Authors: Aguilar, Jose A*; Houim, Ryan |
| 11:45 | Paper 320 Equivalence Ratio Scans in a Rotating Detonation Engine Authors: Boyette, Wesley R*; Weber, Justin; Bedick, Clinton; Ferguson, Donald | Paper 244 Detonation thermodynamic state statistics: 2D and 3D simulations in hydrogen-oxygen Authors: Crane, Jackson*; Lipkowitz, Jonathan; Shi, Xian; Wlokas, Irenaeus; Kempf, Andreas; Wang, Hai | Paper 208 An Application of Lagrangian Equations Coupled with Detailed Chemical Kinetics to the Simple Prediction of Transient Reaction Front Propagation Authors: Ryu, Je Ir* | Paper 239 Influence of Copper Foam on the Flame Front Dynamics of a Hydrogen-Air Mixture in an Open Channel Authors: Sergey Golovastov, Grigory Yu Bivol, Victor Golub, Fyodor Kuleshov | Paper 258 Theoretical Modeling of Iron-droplet Combustion Informed by Molecular Dynamics Simulations Authors: Thijs, Leon*; Kritikos, Efstratios; Giusti, Andrea; Ramaekers, Giel; van Oijen, Jeroen; de Goey, Phillip; Mi, Xiaocheng* |
| 12:10 | Lunch | Lunch | Lunch | Lunch | Lunch |
| Set T2 | RDE Heat Analysis and Management | Detonation Cellular Dynamics 2 | Flame Theory | Numerical Turbulent Flows | Flames with Particulates 2 |
| 13:50 | 10: Effects of Air Film Cooling on Rotating Detonation Engine Cho, Kevin Y*; Chriss, Scott; Hoke, John; Holley, Adam; Schumaker, Stephen | 226: Detonation Cell Size Measurement and Prediction for Hydrogen- and Hydrocarbon-Nitrous Oxide Mixtures Bakalis, Georgios*; Zhang, Bo; Ng, Hoi Dick | 80: A mode identification index for multi-regime combustion Angelilli, Lorenzo*; Hernandez-Perez, Francisco; Im, Hong G. | 111: Development of a multiphase turbulent flow solver for rocket injector atomization simulation Kim, Hyoungwoo; Shin, Donghyuk* | 149: Multiphase Homogeneous Mixture Model On Metal Combustion With Eulerian To Lagrangian Transformation Kang, Jeongseok*; Sung, Hong-Gye |
| 14:15 | 116: Development of an Unsteady Conjugate Heat Transfer Solver for Rotating Detonation Engines Hou, Yuechen*; Ma, John Z.; Sheng, Zhaohua; Wang, Jianping | 240: Numerical Investigation of the Critical Tube Diameter Problem with Modulated Cellular Detonation Fronts Bakalis, Georgios*; Yan, Chian; Tang-Yuk, Kelsey C; Mi, Xiaocheng; Ng, Hoi Dick | 64: Application of FGM Method Considering Preferential Diffusion and Flame Stretch to a Cylindrical Propagating Hydrogen Flame Kinuta, Kazuhiro*; Kai, Reo; Kurose, Ryochi | 35: Turbulent/non-turbulent interface and flow topogloy in a temporally evolving mixing layer Dongqi, Huang* | 232: Temperature measurement during the combustion of a single aluminium particle Glasziou, Valentin*; Legros, Guillaume; Chauveau, Christian; Courtaud, Sebastien; Halter, Fabien |
| 14:40 | 190: Adaptive three-dimensional simulations of rotating detonation with cooling walls Peng, Han*; Deiterding, Ralf | 270: The Hydrodynamic Origin of the Detonation Cell Meagher, Patrick A*; Shi, Xian; Jayaraman, Amitesh; Kateris, Nikolaos; Zhao, Xinyu; Wang, Hai | 61: Effect of Lewis Number and Zeldovich Number in the Quenching Distance Lauermann, Carlos H*; Mendiburu, Antonio; Hayashi, Thamy | 139: Development of a real-fluid based OpenFOAM solver for transcritical and supercritical flows Nguyen, Danh Nam*; Yoo, Chun Sang; Lee, Jae Hun | 104: A model for aluminum-dust flames based on particle burning time Gosset, Antoine*; Suarez, Jimmy; Courtaud, Sebastien; Selle, Laurent |
| 15:05 | 219: Average Heat Flux Characteristics of a Compact Rotating Detonation Engine for Space Propulsion Ma, John Z.*; Hou, Yuechen; Wang, Yingnan; Zhang, Xiangjun; He, Xiaojian; Wang, Jianping | 261: Evidence of Supersonic Reaction Front in Detonation Cells Hytovick, Rachel*; Burke, Robert F; Ahmed, Kareem | 225: A Lean Unified Non-Empiric Model for Fundamental Concentration Limits of Spherical Flame Balls and Plane Deflagration Flames in the Hydrogen-Containing Mixtures Plaksin, Vadim Yu; Kirillov, Igor A* | 144: On the ignition characteristics of NH3/air and NH3/H2/air mixing layers in turbulent flows Oh, Seyoung; Yoo, Chun Sang* | 171: Development of a Numerical Framework for Modeling Fully Resolved Combustion Processes of Multiple Iron Particles Ezra, Moran*; Peles, Oren; Kozak, Yoram |
| 15:30 | Poster Session and Coffee | Poster Session and Coffee | Poster Session and Coffee | Poster Session and Coffee | Poster Session and Coffee |
| Set T3 | Diagnostic Methods | Ignition | Hele-Shaw Flame Dynamics | Battery Kinetics 1 | Turbulent Flame Structure |
| 16:45 | 131: Prediction of the Derived Cetane Number of Hydrocarbon Fuels Using Extended-Wavelength FTIR Spectra and Support Vector Regression Boddapati, Vivek*; Ferris, Alison; Hanson, Ronald | 69: Effects of Repetitive Spark Discharges with Milliseconds Intervals on the Ignition-to-Flame Propagation Transition for Lean n-Heptane/Air and iso-Octane/Air Mixtures Kakizawa, Takashi*; Hirano, Yoshiki; Mukoyama, Taichi; Tezuka, Takuya; Morii, Youhi; Nakamura, Hisashi; Maruta, Kaoru | 227: Topology of 2dim Expanding Slow Hydrogen-Air Flames in Cylindrical Horizontal Hele-Shaw Cell Filippov, Alexander; Denisenko, Valeriy; Nikolaev, Igor; Gubernov, Vladimir; Plaksin, Vadim Yu; Moskalev, Pavel V; Kirillov, Igor A* | 36: Shock-Tube CO Measurements during the Combustion of Ethylene Carbonate, a Battery Electrolyte Component Gregoire, Claire M*; Petersen, Eric L.; Mathieu, Olivier; Kanayama, Keisuke; Nakamura, Hisashi; Maruta, Kaoru | 29: A Direct Numerical Simulation based comparison between conventional and MILD combustion processes of turbulent stratified mixtures Awad, Hazem S.A.M.* |
| 17:10 | 205: External standard calibration method for high-repetition-rate shock tube kinetic studies with synchrotron-based time-of-flight mass spectrometry Cano Ardila, Fabian E*; Nagaraju, Sharath; Tranter, Robert S; Abid, Said; Desclaux, Anthony; Roque, Anthony; Chaumeix, Nabih; Comandini, Andrea | 170: Thermal Ignition by Millimeter-Scale Surface Hot Spots Schoeffler, Donner T*; Shepherd, Joseph | 71: Numerical Study of the Propagation Patterns of Lean Hydrogen-Air Flames Under Confinement Dejoan, Anne*; Fernandez-Galisteo, Daniel; Kurdyumov, Vadim N | 187: Toward Model Prediction for Combustion Properties of Lithium-Ion Battery Electrolyte Solvents Kanayama, Keisuke*; Nakamura, Hisashi; Tezuka, Takuya; Maruta, Kaoru | 44: Evolution of Displacement Speed Statistics during Flame-Wall Interaction within Turbulent Boundary Layers Ozel Erol, Gulcan*; Ahmed, Umair; Chakraborty, Nilanjana |
| 17:35 | 235: 266 nm Laser-Induced Fluorescence Reference Spectra of Ketones and Aromatic Compounds Brunzendorf, Jens*; Höltkemeier-Horstmann, Jacqueline; Markus, Detlev | 287: Experimental Study on Laser-Induced Spark Ignition of Some Flammable Premixtures Imamura, Tomohiko*; Morizumi, Norimichi; Miyazaki, Yuki | 221: Dynamics of 2dim Expanding Slow Hydrogen-Air Flames in Cylindrical Horizontal Hele-Shaw Cell Moskalev, Pavel V*; Filippov, Alexander; Denisenko, Valeriy; Nikolaev, Igor; Gubernov, Vladimir; Plaksin, Vadim Yu; Kirillov, Igor A | 168: Thermal runaway modelling of high-nickel NCA-SCN lithium-ion battery based on kinetic analysis Padhi, Upasana P; Yoh, Jack J.* | 204: A Comparative Study of the Effect of Cavity and Obstacle on Propagation Behavior of Premixed Methane-Air Flame Wu, Deyao; Ma, Tianbao; Li, Jian* |

TUESDAY MAIN-TRACK POSTERS

| Time | Poster Session and Coffee | Poster Session and Coffee | Poster Session and Coffee | Poster Session and Coffee | Poster Session and Coffee |
|--------|--|---|--|---|---|
| 15:30 | Main-Track Posters | Main-Track Posters | Main-Track Posters | Main-Track Posters | Main-Track Posters |
| Set TP | | | | | |
| | 307: Characterization of volatile fire effluent from thermoplastic polyurethane under variable oxygen concentration using TG-FTIR Zong, Ruowen* | 326: Radiative heat losses from spherical flames of hydrogen and methane mixtures Roque, Anthony*; Hamadi, Alaa; Idir, Mahmoud; Comandini, Andrea; Chaumeix, Nabih | 159: Modeling the electrical ignition of energetic material via Joule heating Park, Kisung*; Yoh, Jack J. | 260: Investigation on The Transition to Quasi Planar Detonation in Hydrogen-Air Cideme, Robyn*; Hytovick, Rachel; Burke, Robert F; Ahmed, Kareem | 115: Experimental Research on Water-Cooled Rotating Detonation Engine Sato, Kohei*; Fukuda, Takayuki; Yamazaki, Shuhei; Nagao, Takahisa; Itoh, Mitsunori; Iwaki, Yuki; Ikeda, Ryosuke; Bagnol, Thibault; Dzieminska, Edyta |
| | 330: Change of Flame Surface Area in Downward-Propagating Premixed Flames under Electric Fields Yu, Siyeong; Park, Daegeun; Yoon, Sung Hwan* | 318: Laminar flame properties from spherically propagating premixed flames Hamadi, Alaa*; Roque, Anthony; Chaumeix, Nabih | 288: Reliability Verification Method of Aged-Electric Initiator using Closed Bomb Test Kim, Dong-seong*; Jang, Seung-gyo | 275: Gaseous-Liquid Detonation Controllable Synthesis of Polycrystalline Nanostructure TiO2 and TiO2 Carbon Composites Luo, Ning* | 241: Regenerative cooling in Rotating Detonation Rocket Engine supplied with liquid propellants Kawalec, Michał*; Augustyn, Maksymilian; Perkowski, Witold; Bilar, Adam; Wolanski, Piotr |
| | 58: Hot Gas Ball Curvature Effect on Expansion Rate Tsuruda, Takashi* | 43: Explosion Limit of Hydrogen/Oxygen Mixture with Water Vapor Addition Wang, Zijun; Gou, Xiaolong; Zhang, Huangwei* | 282: Operating behavior of initiators based on the exploding foil and bridge-wire Han, Doohee*; Jang, Seunggyo | 283: Effects of nitrogen dilution on the diffraction and re-initiation for quasi-detonations sun, xuxu*; Chen, Xianfeng | 294: Numerical Simulation of Film-cooled Vitiated Air Heater for Direct-connect Scramjet Experiment Sung, Bu-Kyeng*; Lee, Eun-Sung; Lee, Jae-Hyuk; Jeong, Seung-Min; Choi, Jeong-Yeol |
| | 304: A study on ammonia dual-fuel combustion in higher ammonia energy ratio using multiple optical diagnostics Wen, Mingsheng; Cui, Yanqing; Ming, Zhenyang; Wang, Guanyue; Feng, Lei; Liu, Haifeng*; Yao, Mingfa | 45: Hybrid Mixture Explosions Testing in the 1 qm Vessel Gabel, Dieter*; Dworschak, Rene; Köppenbender, Lars; Kleinert, Jan | 30: The turbulent/non-turbulent interface and entrainment in a hypersonic boundary layer Meng, Fanzhao*; Han, Wang; Lijun, Yang | 284: Experimental investigation of detonation limits in smooth and rough-walled tubes using various gaseous mixtures Ren, tianfei*; Shang, Cheng; Lee, John; Zhang, Qingming | |
| 12:10 | Lunch | Lunch | Lunch | Lunch | Lunch |

WEDNESDAY ORAL SCHEDULE

| Time | Room 1 | Room 2 | Room 3 | Room 4 | Room 5 |
|-----------|---|---|--|---|---|
| Set W1 | RDE Wave Stability | Detonation Diffraction | Simplified Detonation Models | Catalysts and Inhibitors 1 | Flame Structure 1 |
| 9:00 | 11: An Attempt for Establishing Continuous Detonation in a Linearized Combustor by Directly Injecting Liquid Jet A1 Huang, Xin*; Chang, Po-Hsiung; Teo, Zhen Wei; Li, Jiun-Ming; Teo, Chiang Juay; Khoo, B. C. | 238: Acetylene-air Flame Acceleration in Rough Channels Bivol, Grigory Yu*; Golovastov, Sergey; Golub, Victor | 89: An Approach to Modulate the Frontal Detonation Structures in Numerical Simulations Tang-Yuk, Kelsey C*; Bakalis, Georgios; Lee, John; Ng, Hoi Dick; Mi, Xiaocheng | 126: Detonation Inhibition using Retardant Weight Analysis for Halogenated Compounds Singh, Ranjay k*; Singh, Ajay V.; Dahake, Ashlesh | 128: Emission Spectra from Oxygenated Ammonia Spherical Laminar Flames Almarzooq, Yousef*; Hay, Matthew; Turner, Mattias; Kulatilaka, Waruna; Petersen, Eric |
| 9:25 | 196: Effect of Injector Expansion Angle on a Rotating Detonation Engine Performance Nakajima, Kosuke*; Matsuoka, Ken; Itouyama, Noboru; Kasahara, Jiro; Kawasaki, Akira; Matsuo, Akiko | 59: Three-dimensional dynamics of detonation diffraction: effects of the tube cross-section shape Monnier, Vianney*; Rodriguez, Vincent; Vidal, Pierre; Zitoun, Ratiba | 113: Stability Analysis of ZND Detonation for Majda's Model with More General Ignition Function Sun, Yuanxiang * | 314: An Experimental and Computational Study on the Impact of Key Parameters on Methane Steam Reforming over a Ni/Al2O3 Catalyst Richter, Jana*; Rachow, Fabian; Charlafti, Evgenia; Karg, Thomas; Gönther, Vivien; Roth, Norbert; Mauss, Fabian | 172: Lewis Number Effect on Explosive Transition of Stretch-Free Flat Flame Morii, Youhi*; Tsunoda, Akira; Maruta, Kaoru |
| 9:50 | 298: Detonation propagation characteristics according to the fuel injector shape of rotating detonation engine Koo, Inhoi*; Han, hyung-Seok; Lee, Eun-Sung; Choi, Jeong-Yeol | 297: Ray-tracked Dynamics of Detonation Wave Fronts during Critical Diffraction Xiao, Qiang*; Mevel, Remy; Gallier, Stany; Radulescu, Matei | 269: Eulerian and Lagrangian Statistics in Weakly Two-dimensional Detonations Sow, Aliou * | 88: Influence of a hydrocarbon inhibitor on the detonation in a syngas-air mixture. Smirnov, Nickolay N.*; Nikitin, Valeriy; Mikhailchenko, Elena; Azatyan, Vlyen | 253: Soret Diffusion Effects on the Exergy Losses in Hydrogen-Air Laminar Premixed Flames Marra, Francesco Saverio*; Acampora, Luigi |
| 10:15 | 125: Modeling Impinging Injectors for Mixing efficiency in a rotating Detonation Engine Jacobson, Jonathan; Cideme, Robyn*; Burke, Robert F; Ahmed, Kareem | 103: Experimental Study on Detonation Propagation in Annular Channels Li, Jian* | 90: The Effect of a Modulated Cellular Detonation Structure on the Wave Transmission across an Inert Layer Tang-Yuk, Kelsey C*; Lee, John; Bakalis, Georgios; Ng, Hoi Dick; Mi, Xiaocheng | 99: Exploration of the explosion suppression mechanism of modified silica suppressant on ALH3 explosion Xue, Chen lu*; Jiang, Haipeng; Zhu, Chenchen; Gao, Wei | 271: The deformation of wrinkled H2-air flames from the head on interaction with expansion waves Yang, Hongxia*; Cheevers, Kevin; Pekalski, Andrzej; Radulescu, Matei |
| 10:40 | Coffee break | Coffee break | Coffee break | Coffee break | Coffee break |
| 1040-1300 | WIP POSTERS | WIP POSTERS | WIP POSTERS | WIP POSTERS | WIP POSTERS |
| Set W2 | RDE Modeling 1 | Detonation Cellular Dynamics 3 | Analysis of Explosions and Mitigation Strategies 1 | Condensed-Phase Detonation and Burning | Chemical Reaction Kinetics 3 |
| 11:10 | 54: Lagrangian Particle Tracking Analysis of NOx Emissions in Rotating Detonation Engines Van Beck, Caleb*; Raman, Venkat | 176: Two-Dimensional Detailed Numerical Simulation on Ammonia/Hydrogen/Air Detonation - Stability of Cellular Structure - Kohama, Shui*; Tsuboi, Nobuyuki; Ozawa, Kohei; Hayashi, A. Koichi | 249: Modeling of Explosively Driven Dispersion: Application to the Fukushima Daiichi Accident Fouchier, Charline*; Shepherd, Joseph | 70: Validation of a High Explosive Detonation Product Equation of State via a Slab Geometry Test Anderson, Eric Karl*; Voelkel, Stephen; Short, Mark; Chiquete, Carlos; Jackson, Scott I | 317: Toluene pyrolysis using high-repetition-rate shock tube coupled to synchrotron-based double imaging photoelectron/photoion coincidence spectroscopy Cano Ardila, Fabian E*; Nagaraju, Sharath; Tranter, Robert S; Jasper, Ahren W.; Abid, Said; Desclaux, Anthony; Roque Anthony; Nahon, Laurent; Garcia, Gustavo; Chaumeix, Nabih; Comandini, Andrea |
| 11:35 | 160: Examining Structural Inhomogeneities of Detonations in a Rotating Detonation Rocket Engine Bonanni, Matthew*; Brouzet, Davy; Vignat, Guillaume; Ihme, Matthias | 193: Detailed Numerical Simulation on Dimethyl Ether/Oxygen Premixture Detonation Using Reduced Chemical Reaction Model - Disturbance of Cellular Structure - Kubota, Daiki*; Tsuboi, Nobuyuki; Ozawa, Kohei; Hayashi, A. Koichi | 213: Flow Conditions during Formation of Hybrid Mixtures in the 20L-sphere Heilmann, Vanessa*; Zake, Sabine; Krause, Ulrich | 138: Shock initiation experiments and reactive flow modeling analysis for pentaerythritol tetranitrate (PETN) high explosive Chiquete, Carlos*; Burns, Malcolm J.; Anderson, Eric Karl; Jackson, Scott I | 184: Effect of oxygenated species on pyrolysis and fuel-rich oxidation of CH4 in the context of polygeneration: Soot optical density, CO-concentration, and temperature Nativel, Damien*; Herzler, Jorgen; Fikri, Mustapha; Schulz, Christof |
| 12:00 | 236: Effects of Non-Idealities on Gain in a Detonation Cycle Huff, Riley*; Gamba, Mirko | 266: Non-linear pulsating detonations, the decorrelation time and evidence for self-organized criticality (SOC) Radulescu, Matei*; Sow, Aliou | 207: Numerical study of shock waves attenuation by a polydispersed water spray Siddappa, Chethan*; Hadjadj, Abdellah | 278: Modeling of Impact-Driven Shock-to-Detonation Transition in Porous PBX 9502 Garno, Joshua*; Short, Mark; Voelkel, Stephen; Chiquete, Carlos | 319: Detailed kinetics of soot formation from aromatic fuels pyrolysis Viola, Tullio I*; Carneiro Piton, Leticia; Nobili, Andrea; Idir, Mahmoud; Abid Said; Chaumeix, Nabih; Comandini, Andrea |
| 12:25 | 174: Numerical Investigation of Three-dimensional (3D) Rotating Detonation Engine with Premixed Hydrogen/Air Nejaamtheen, Mohammed Niyasdeen*; Choi, Jeong-Yeol | 49: Propagation of Hydrogen-Oxygen Cellular Detonation with Ozone Sensitivity in Open Space Wenhu, Han*; Zhang, Qing; Gu, Gongtian; Wan, Feng | 286: A Systematic Calibration and Experimental Verification Method for Self-Designed Explosion Ball Yeh, Yung Lan*; Chang, Hui-Pei | 85: Numerical Simulation of Solid Fuel Combustion in Hybrid Engine Stamov, Lyuben*; Tyurenkova, Veronika; Mikhailchenko, Elena | 148: Isothermal decomposition and kinetic analysis of petroleum pitch in an inert atmosphere using the model-free method Sahoo, Khokan*; Kumar, Sudarshan; Kumbhakarna, Neeraj R |
| 12:50 | Lunch | Lunch | Lunch | Lunch | Lunch |

WEDNESDAY WIP POSTERS

| Time | Poster Session and Coffee | Poster Session and Coffee | Poster Session and Coffee | Poster Session and Coffee | Poster Session and Coffee |
|--------|---|---|---|--|--|
| 10:15 | WIP-Track Posters | WIP-Track Posters | WIP-Track Posters | WIP-Track Posters | WIP-Track Posters |
| Set WP | | | | | |
| | 6: A Numerical Study on the New Slit Flame Combustor Design to Control Hydrogen Flame Shape Kim, Young Bae*; Shin, Eunju E.J. | 335: High-Temperature Line Strengths with He- and Ar-Broadening Coefficients of the P(20) line in the 1, μm 0 band of Carbon Monoxide Gregoire, Claire M*; Mathieu, Olivier; Petersen, Eric L. | 343: The Effect of Low Temperature Chemistry on Detonation Propagation in Dimethyl Ether Mixture Liu, Xingyu* | 352: Impact of particle concentration on temperatures in premixed aluminum dust flames Yu, Tao* | 362: Linear Burn Rates of HAN-Based Propellants Gelled Using Hydrophilic Fumed Silica Chen, Yu-Jia; Tsai, I-You; Song, Yan-Ze; Wu, Ming-Hsun* |
| | 7: A Study on the Evaluation of Steam Efficiency for Direct Contact Steam Generator with Premixed Combustion Kim, Young Bae* | 336: Battery cell thermal runaway in an enclosed volume: preliminary 3D simulations of an experiment Chakaroun, Sirar*; Coste, Pierre; de Persis, Stephanie; Bengaouer, Alain; Fiette, Sebastien; Cognard, Jerome; Chaumeix, Nabih | 344: Assessing NOx Emission from Hydrogen-Enriched Natural Gas in Oxygen-Enriched Conditions Dai, Ming-Wei*; Li, Yueh-Heng; Li, Yueh-Ju | 353: Combustion characteristics of torrefied biomass/coal blended fuels Huang, Wei-Cheng; Hou, S.-S.*; Lin, Tai-Hui | 363: Influence of Ozone on Flame Acceleration and Deflagration-to-Detonation Transition in Narrow Channels Chang, Bao-wen; Wu, Ming-Hsun*; Ssu, Hao-Wei |
| | 17: Reaction Kinetics Modeling on Hydrogen Co-firing in Natural Gas Horizontal Firetube Boilers for Steelmaking Industry Applications Jeong, Kwangkook*; McCann, Roy A | 337: Development of comprehensive chemical kinetic mechanism for ammonia/methanol mixture Nadiri, Solmaz* | 345: H2 and H2/CO flames speed correlations in isotropic turbulence Yves, Balossier*; Anthony, Desclaux; Maxime, Bouton; Jules, Goulier; Comandini, Andrea; Nabih, Chaumeix | 355: Thermal Effect of Hot Gas Exhausted from Liquid Rocket Engines in a High-Altitude Test Kim, Chaehyoung*; Kim, Seong_Lyong; Kim, Seung_Han; Lee, Kwang_Jin | 364: Influences of Electrolysis Duration and Voltage Magnitude on Decomposition of HAN Aqueous Solutions Chou, Yu-Ting; Yang, Guo-Jheng; Wu, Ming-Hsun* |
| | 141: Investigation of the thermal ignition phenomena of liquid fuel in a hot atmosphere Fouchier, Charline*; Laboureur, Delphine; Shepherd, Joseph | 338: Partial Flame Analysis for Dynamic Characteristics of GCH4-GO2 Jet-swirl Coaxial Injector under Acoustic Perturbation Jo, Hyeontaek*; Kim, Dae Hwan; Yoon, Youngbin | 346: TG-FTIR characterization of volatile thermoplastic polyurethane fire effluent under varying oxygen concentration Zong, Ruowen* | 356: Multiphase Bunsen burner set-up for investigating solid chemical inhibitors in hydrogen-air explosions van Wingerden, Matthijs*; Skjold, Trygve | 175: Numerical and experimental investigation of lean turbulent premixed flames in a rectangular duct-type combustor Choi, Byung Chul* |
| | 322: Dynamic Pressure-Based Combustion States Clustering Using Variational Auto-Encoder Method Choi, Seungkyu* | 339: Development of Swirl-flow Non-Premixed Mesoscale Combustor Kumar, Pravendra*; Solagar, Saran; Aravind, B; Kumar, Sudarshan | 347: Autoignition characteristics of coke oven gas in hot air coflow Lin, Hsien-Tsung*; Wu, Fang-Hsien; Chen, Guan-Bang | 357: Throttling and Re-ignition Combustion Tests of Staged Combustion Cycle Technical Demonstration Model (TDM) Lee, Jungho*; Jeon, Junsoo; Woo, Seongphil; Kim, Chaehyoung; Kim, Seungghan; Lee, Kwangjin; Han, Yeongmin | 359: Emission Spectra from NH3/H2-Air and NH3/H2/N2-Air Spherical Laminar Flames Almarzoq, Yousef*; Hay, Matthew; Turner, Mattias; Kulatilaka, Waruna; Petersen, Eric |
| | 331: Numerical Study of CH4/H2 Co-Combustion in an Industrial Pilot Scale Heating Furnace Pan, Zong-Yu*; Lin, Tai-Hui; Wu, Ming-Hsun; Wu, Fang-Hsien; Chen, Guan-Bang | 340: Relationship between Transient Characteristics of Burning Velocity Just After Ignition and Quenching Distance Suematsu, Jun-ichi*; Imamura, Tomohiko | 348: Effects of hydrogen addition on the preheating zone and soot generation of ethylene/air/nitrogen inversed diffusion flames Lin, Po Hung* | 358: Effect of Hydrogen Addition in Flameless Combustion with Kerosene Sood, Mudit*; Ansari, Mohammad Kalamuddin; Solagar, Saran; Kumar, Sudarshan | |
| | 332: Flame Visualization of GOX/GCH4 pintle model combustor Kim, Dae Hwan*; Jo, Hyeontaek; Heo, Subeom; Choi, Jaehong; Kim, Inho; Yoon, Youngbin | 341: Numerical Study of MMH/NTO Hypergolic Ignition in Co-flowing Plane Jets Jeong, Hwanghui*; Shin, Jaeryul; Chae, Jongwon; Lee, Bok Jik | 350: Silicon Dust Explosions: An Experimental Study of Flame Propagation in Dust Extraction Systems Faye, Andreas*; Bjørnsen, Anders; van Wingerden, Matthijs; Buseth, Torfinn; Pedersen, Geir; Skjold, Trygve | 360: Experimental observations of Shock-flame interactions: New Facility at CNRS-ICARE Roque, Anthony*; Abid, Said; Idir, Mahmoud; Comandini, Andrea; Chaumeix, Nabih | |
| | 333: Experimental Study of Flashback Characteristics in a Partially Premixed Hydrogen Combustor Choi, Jaehong*; Kim, Dae Hwan; Yoon, Youngbin | 342: Multiscale modeling on shock-cool flame interaction with DME/Air mixture Fan, E*; Zhang, Tianhan | 351: Modified three-step chemical model for the critical height for detonation propagation Watanabe, Hiroaki*; Taieb, Said; Melguizo-Gavilanes, Josue; Chinnayya, Ashwin | 361: Influence of Aluminum Particle Size of Reaction Propagation of Al/CuO Nanothermite Layers on Copper Meshes Hsu, Wan-Lien; Su, Sheng-Huai; Wu, Ming-Hsun* | |
| 12:25 | Lunch | Lunch | Lunch | Lunch | Lunch |

THURSDAY ORAL SCHEDULE

| Time | Room 1 | Room 2 | Room 3 | Room 4 | Room 5 |
|--------|--|---|--|---|--|
| 9:00 | PLENARY - Maruta | PLENARY - Maruta | | | |
| 10:00 | Coffee break | Coffee break | Coffee break | Coffee break | Coffee break |
| Set R1 | Ramjet and Scramjet Combustors 1 | DDT 2 | Analysis of Explosions and Mitigation Strategies 2 | Kinetic Analysis | Ammonia Flames 1 |
| 10:30 | 156: Hydrogen Combustion Characteristics in Cavity-based Supersonic Combustor YIM, Geon Wook*; Lee, Hyung Jin | 194: A Study of The Deflagration-To-Detonation Transition and Its Limits of Hydrogen-Air Mixtures in An Open-Ended, Obstructed Channel Herniksen, Mathias*; Pykhtina, Anna; Gaathaug, Andre Vagner; Vaagsaether, Knut; Bjerketvedt, Dag | 82: Examination of Large-Scale Dust Explosion Reactivity by Decoupling Dust Injection and Turbulence Generation Bauwens, C. Regis L*; Boeck, Lorenz R; Dorofeev, Sergey | 315: Styrene thermal decomposition under shock tube pyrolysis conditions: an experimental and kinetic modeling study Hamadi, Alaa*; Cano Ardila, Fabian-Esneider; Abid, Said; Chaumeix, Nabih; Comandini, Andrea | 246: Laminar flame speed and minimum spark-ignition energy measurements of ammonia in air/gon Figueroa Labastida, Miguel*; Zheng, Lingzhi; Ferris, Alison; Hanson, Ronald |
| 10:55 | 206: Effect of inlet conditions in hydrogen-air supersonic reactive mixing layers Huete, César*; Martínez-Ferrer, Pedro J.; Martínez-Ruiz, Daniel; Mira, Daniel | 108: Admixture of Hydrogen to Pipelines - Experimental work on DDT without obstacles Lucassen, Arnas*; Tampieri, Enrico; Spitzer, Stefan; Salzano, Ernesto | 12: Dynamics of Hybrid-Mixture Explosions at Large Scales Boeck, Lorenz R*; Bauwens, C. Regis L; Dorofeev, Sergey | 94: A systematic analysis of chemical mechanisms for ethylene oxidation and PAH formation Wang, Yiqing*; Han, Wang; Chen, Zheng | 300: End-gas auto-ignition of ammonia-air mixture with spark ignition in a rapid compression machine Ridong, Zhang; Liu, Wei; Zhang, Qihang; Wang, Zhi* |
| 11:20 | 251: Controlling Combustor Mode Transition in Dual-Mode Scramjet Yu, Kenneth* | 127: Numerical Simulation on DDT in Real and Large Scale Combustion Chamber Using a Combustion Velocity Method and Ignition Model with a Detailed Chemical Reaction System Nakamori, Ichiro; Tomizuka, Takayuki; Takahashi, Atsuo; Onishi, Fumitomo; Kuzunetsov, Mikhail; Kodama, Takashi; Tamauchi, Yoshikazu; Sato, Naoya; Hayashi, A. Koichi*; Tsuboi, Nobuyuki | 201: Propagation and Severity of Coal-Dust Explosions and the Effect of Radiation in Different Channel Lengths Guhathakurta, Swagnik; Houim, Ryan* | 4: The Reduced-Kinetic Description of Hydrogen-Air Gas-Turbine Combustion Li, Brandon; Carpio, Jaime; Fernandez-Galisteo, Daniel; Sanchez, Antonio L*; Williams, Forman | 63: Studies on the Combustion Characteristics of Ammonia in a Swirl Combustor Song, Jae Ho*; Kim, Jae Hyun; Kwon, Oh Chae |
| 11:45 | 293: 3D Numerical Simulation for the Combustion Characteristics Analysis of the Dual Combustion Ramjet Engine Sung, Bu-Kyeng*; Jeong, Seung-Min; Choi, Jeong-Yeol | 73: A one-dimensional model for accelerating deflagrations and their transition to detonations Rakotoarison, Willstrong*; Yang, Hongxia; Radulescu, Matei | 132: Modelling the effect of phase transition on the blast wave in BLEVEs Vaagsaether, Knut*; M.Ibrahim, Osama Kabbashi; Hansen, Per Morten; Bjerketvedt, Dag | 289: Numerical Simulation of the Effect of Impurities on Laminar Flame Characteristics of Lean Hydrogen-Air Mixtures Tereza, Anatoly M*; Betev, Andrei; Anderzhanov, Enes; Agafonov, Gennady; Medvedev, Sergei; Khomik, Sergei | 101: Laminar Burning Velocity Measurement of Ammonia Fuel Blends at Elevated Temperature and Pressures Berwal, Pragna*; Kumar, Sudarshan |
| 12:10 | Lunch | Lunch | Lunch | Lunch | Lunch |
| Set R2 | Detonations with Losses | Ballistics | Propellant Combustion | Battery Kinetics 2 | Catalysts and Inhibitors 2 |
| 13:50 | Paper 50 Near-limit Detonation in Long Spiral Tube: Improved Design and Methodology Authors: Huang, Zhaoyuan; Ni, Zihang; Li, Zongtai; Weng, Z.; Mevel, Remy* | 177: Visualization of Detonation Initiation by a Spherical Projectile Launched into The Soap Bubble Filled with a Combustible Mixture Maeda, Shinichi*; Hanyu, Naoki; Hiraoka, Yuichi; Sato, Ryoto; Nomura, Keisuke; Obara, Tetsuro | 52: Laser Ignition of HTPB Fuel in Oxidizing Conditions Rodriguez, Felix A*; Landry, Christian; Thomas, James C; Petersen, Eric | 136: Venting and Gas Generation from 18650 Lithium-ion Batteries with LFP Cathode Chemistry During Thermal Runaway Almodovar, Christopher A*; Boeck, Lorenz R; Bauwens, C. Regis L | 237: 1D Simulation of Direct Carbon Dioxide Conversion to Methane over NiO/SiO2 Catalyst Using Detailed Surface Chemistry Günther, Vivien*; Rakhi, Rakhi; León, Larisa; Mauss, Fabian |
| 14:15 | Paper 119 Soot-foil recordings of cellular detonation propagating in annular tubes Authors: Rodriguez, Vincent*; Chinnayya, Ashwin | 228: Ballistic Experiments on Shock-Induced Combustion in Square Channel Leschevich, Vladimir V* | 166: Peculiar Burning Characteristics of Electrically Controlled Solid Propellants Rajak, Rajendra*; Lim, Daehong; Kanagaraj, Gnanaprakash; Oh, Juyoung; Yoh, Jack J. | 158: The Significant Hazards of Thermal Runaway of Ultra-high-nickel Lithium-ion Batteries during Charging Oh, Juyoung*; Mehrotra, Ayushi; Lee, Yejun; Yoh, Jack J. | 129: Effect of Initial Conditions on the Inhibition Process of H ₂ -O ₂ /air Detonations Using CF ₃ I, CO ₂ , and H ₂ O Dahake, Ashlesh*; Singh, Ranjay k; Singh, Ajay V. |
| 14:40 | Paper 234 Numerical Simulation of Flame Quenching and Acceleration by a Metal Foam Authors: Li, Hsiao-Chi; Houim, Ryan* | 243: Imaging Pyrometry and Shock Wave Tracking During Ballistic Impact of Metal Projectiles Idrici, Dihia*; Loiseau, Jason; Laing, Zoe; Frost, David; Goroshin, Samuel | 292: Experimental study of AP-HTPB solid propellant combustion under periodic strain conditions Gu, Mingming; Ouyang, Jianfeng; Wang, Shaojie; Zhou, Zhongyue*; Qi, Fei | 285: Experimental Investigation on Diethyl Carbonate Combustion Cooper, Sean P; Gregoire, Claire M; Almarzoq, Yousef; Petersen, Eric; Mathieu, Olivier* | 316: Thermodynamic model for reforming and oxidation of methane over nickel catalyst Rakhi, Rakhi*; Gönther, Vivien; Franken, Tim ; Mauss, Fabian |
| 15:05 | Poster Session and Coffee | Poster Session and Coffee | Poster Session and Coffee | Poster Session and Coffee | Poster Session and Coffee |
| Set R3 | Ramjet and Scramjet Combustors 2 | Detonation Initiation via Focusing | Detonation in Nonuniform Conditions | Kinetic Algorithms | Ammonia Flames 2 |
| 16:20 | 306: A Study on the Cavity L/D Effect of Direct-Connect Supersonic Combustor Using LES-PaSR Kim, Jaeun; Jeong, Seung-Min; Sung, Bu-Kyeng; Choi, Jeong-Yeol* | 37: Numerical and experimental analysis of autoignition induced by shock wave focusing Zhang, Bo* | 223: The Propagation of Detonation Waves in the Temperature Non-uniform Zone Liu, Xi; Ma, Tianbao; Li, Jian* | 65: A Physics-Constrained Neural Network Model for Combustion Chemical Kinetic Prediction Wang, Tinghao*; Zhang, Tianhan; Chen, Zheng | 252: Numerical investigation on the spark ignition of laminar strained premixed NH ₃ -air flames with CH ₄ and H ₂ as co-fuels Yu, Chunkan; Schiebl, Robert A; Maas, Ulrich; Markus, Detlev*; Essmann, Stefan; Shu, Bo |
| 16:45 | 222: Direct numerical simulation of supersonic cavity-based premixed flame stabilization: Effect of inflow turbulence Lin, Ming; Fang, Jian; Deng, Xi; Chen, Zhi X* | 96: Experimental Study on the Combination of Laser Ignition and Shock Focusing Method for Detonation Initiation Sato, Tomoyuki*; Matsuoka, Ken; Kawasaki, Akira; Itouyama, Noboru; Watanabe, Hiroaki; Kasahara, Jiro | 200: Hydrogen-Air Detonation Propagation in Fuel-Stratified Layers Ryu, Je Ir* | 311: A combined CSP-PCA framework for accelerated integration of stiff chemistry in reacting flow solvers Malik, Rafi*; Malpica Galassi, Riccardo; Valorani, Mauro; Im, Hong G. | 130: Numerical Investigation of Soot Reduction by Ammonia Addition in Laminar Counterflow Diffusion Flames with Reactive Inception Model Guo, Junjun*; Wang, Qi; Liu, Peng; Quadarella, Erica; Roberts, William; Sarathy, S. Mani ; Im, Hong G. |
| 17:10 | 147: Local Dynamic Combustion Model Adaptation for Large-Eddy Simulation of Scramjets at Reduced Cost Bonanni, Matthew*; Norris, Andrew; Ihme, Matthias | 21: Reflected Shock Wave Bifurcation Detonation Initiation Yousefi-Asli, Vahid*; Ciccirelli, Gaby | 66: Numerical simulation of detonation wave propagation in a non-uniform medium in the shock-attached frame Lopato, Alexander; Poroshyna, Yaroslava; Utkin, Pavel S.* | 140: Coarse-grained state analysis of methane combustion mechanism Li, Meng; Du, Pei; Liang, Shengyao; Acampora, Luigi; Marra, Francesco Saverio; Ji, Lin* | 167: TDLAS Spectrometer for the Quantification of Ammonia under Elevated Temperature and Pressure Zhu, Denghao*; Agarwal, Sumit; Seifert, Leopold; Shu, Bo; Fernandes, Ravi; Qu, Zhechao |
| 17:35 | 40: Control of oblique detonation wave in an unsteady inflow Sun, Jie*; Yang, Pengfei; Tian, Baolin; Chen, Zheng | 265: The critical conditions for the formation of the Mach shock from shock reflections Zangene, Farzane*; Radulescu, Matei | 274: The influence of non-equilibrium translational effects on reactive dynamics during the shock to detonation transition using molecular dynamics Murugesan, Ramki*; Radulescu, Matei | 215: Construction of Compact Reaction Models for Methane and Natural Gas using Genetic Algorithms Hirose, Kaito*; Nakamura, Hisashi; Shimoyama, Koji | 188: Laminar Burning Velocity Measurement of NH ₃ /H ₂ /air Mixtures at Elevated Temperatures S, Shawnam*; Berwal, Pragna; Kumar, Sudarshan |

THURSDAY MAIN-TRACK POSTERS

| Time | Poster Session and Coffee | Poster Session and Coffee | Poster Session and Coffee | Poster Session and Coffee | Poster Session and Coffee |
|--------|---|--|---|---|---|
| 15:05 | Main-Track Posters | Main-Track Posters | Main-Track Posters | Main-Track Posters | Main-Track Posters |
| Set RP | | | | | |
| | 154: Design Considerations for a Premixed Rotating Detonation Combustor Matsuoka, Ken*; Schoeffler, Donner T; Shepherd, Joseph | 323: Accidental Hydrogen Explosions: Strength of Knowledge in Risk Assessments Skjold, Trygve* | 169: NOx and CO emission Characteristics of Two-Stage Model Gas-Turbine Combustor Using CH4/NH3 Blended Fuel Kim, Juhan*; Lee, Jong Moon; Park, Jeong; Yoo, Chun Sang; Chung, Suk Ho | 305: Effects of strain rate on entropy generation in laminar counterflow diffusion flames Xue, Silu*; Han, Wang; Lijun, Yang | 5: A study on the combustion reaction and control algorithm using methane-hydrogen mixture gas. Shin, Eunju E.J.*; Kim, Young Bae |
| | 310: Rotating Detonation in an Annular Combustor with Pulsed Supply of Fuel and Oxidizer Assad, Mohamad* | 60: PARs Governing Parameters and Criteria for Unified Protocol of Performance Rating and Safety Margins Assessment Kirillov, Igor A* | 195: Improved Chemical Mechanism of NH3/H2/Air and Adoption of Artificial Neural Network Kwon, Serang*; Im, Seongkyun | 79: Stability Limits And Transfer Functions Of Partly Dissociated Ammonia Flames Shohdy, Nader*; Alicherif, Mhedine; Lacoste, Deanna | 281: Nonlinear Analysis of Outward Propagating Hydrodynamically Unstable Flame at Large Gas Expansion Ratio Minaev, Sergey*; Gubernov, Vladimir; Dats, Evgeniy |
| | 313: Numerical simulation of moving shock wave interaction with particle bed using coupled Eulerian-Lagrangian framework Bajpai, Aasheesh*; Wangikar, Aaditya U; Kumar, Rakesh | 22: Effect of a Bio-Jet Fuel on Ignition Delay as an Additive to a Kerosene Aviation Jet Fuel Han, Hee Sun; Kang, Saetbyeol; Jeong, Byung Hun; Sohn, Chae Hoon* | 27: An Experimental Investigation of Ignition Delay of Gas-to-Liquid (GTL) Fuel Blends Elbashir, Aboubaker; Ahmed, Samer F* | 133: Pre-detection Study of Combustion Instability Using Dual-Nozzle Swirl Combustor and Classifying Criteria Jang, Dae Jin*; Lee, Min Chul | 295: Parametric Instability of Hydrogen-enriched Combustion in High-pressure Condition Byun, Hosung*; Rubiella, Clemence; Do, Hyungrok |
| | 42: Evaporation and combustion characteristics of nano-aluminum decane droplet under laser excitation Zhou, Xinyuan* | 135: Simple method to determine the global activation energy of methane-air premixed flames Moroshkina, Anastasia; Ponomareva, Alina; Mislavskii, Vladimir; Gubernov, Vladimir; Bykov, Viatcheslav*; Minaev, Sergey | 263: A comparison between water addition and CO2 addition to a diffusion jet flame Esquivias Rodriguez, Brandon; Girodon, hugo; Chien, Yu-Chien* | 95: Forced ignition of premixed cool and hot DME/air flames in a laminar counterflow Wang, Yan; Xie, Shumeng; BVöttler, Hannes; Chen, Xinyi; Scholtissek, Arne; Hasse, Christian; Chen, Zheng* | |
| 16:20 | | | | | |

FRIDAY ORAL SCHEDULE

| Time | Room 1 | Room 2 | Room 3 | Room 4 | Room 5 |
|--------|--|---|--|--|--|
| Set F1 | RDE Thrust | Flame Instabilities 2 | Novel Facilities and Methods | EOS and Electric Models | Metalized Reactions 2 |
| 9:00 | 164: Experimental Study on the Performance of Rotating Detonation Engine with Aerospike Nozzle Lee, Hyoung Jin; Roh, Tae-Seong; Kim, Hyung Jun* | 279: Relationship between Combustion Noise and Premixed Flame Behaviors in a Backward-Facing-Step Burner Yeo, Ji Hun*; Kim, Nam Il | 47: A Matlab code for driver insert design Tan, Yaqin; Li, Zongtai; Mevel, Remy* | 248: Pareto-Optimal Assignment of Thermodynamic State Equations for LES of Transcritical Reacting Flows Sharma, Pushan; Brouzet, Davy; Ihme, Matthias* | 186: Reaction kinetics of magnesium subjected to hydrothermal aging at oxygen-rich conditions Lee, Yejun*; Oh, Juyoung; Yoh, Jack J. |
| 9:25 | 210: Characteristics of Torque around Axial Direction on Cylindrical Rotating Detonation Engines Sawada, Satoru*; Ishihara, Kazuki; Itouyama, Noboru; Watanabe, Hiroaki; Kawasaki, Akira; Matsuoka, Ken; Kasahara, Jiro; Matsuo, Akiko; Funaki, Ikkoh | 28: Re-stabilization of Acoustic Parametric Instability for Downward Propagating Premixed Flames of Le>1 Mixtures Dubey, Ajit K*; Fujita, Osamu | 77: Issues for the Creation of the DRTF, A Large-Scale Facility for Study of Detonations and Explosions Oran, Elaine S*; Zipf, Karl; Thomas, Kelly; Gamezo, Vadim; Jackson, Scott I; Petersen, Eric | 39: Theoretical Studies of Real-Fluid Effects on 1-D Combustion Characteristics Simulations by Using the Virial-Enskog Method Bai, Junfeng*; Zhao, Hao | 276: Metallothermic Combustion Reaction on Synthesis of Titanium Boride-Spinel Composites Yeh, Chun-Liang* |
| 9:50 | 303: Effect of Ejector Channel Arrangement on Performance of Rotating Detonation Ejector Wu, Qianmin; LIN, Zhiyong* | 53: Premixed flames in narrow heated channels of circular cross-section: steady-state solutions, their linear stability analysis and dynamics Jimenez, Carmen*; Fernandez-Galisteo, Daniel; Kurdyumov, Vadim N | 161: Machine learning-based prediction of global equivalence ratio from absorption spectra on a swirl combustor Bong, Cheolwoo*; Bak, Moon Soo; Kwon, Yongjun | 117: Simulation of counterflow nonpremixed flame with electric fields Son, Jinwoo*; Cha, Min Suk; Park, Jin | 157: Performance and Combustion of Characteristics of Diesel Blended with Ceria Nano-additives Jain, Akshat; Saini, Umesh; Ambekar, Anirudha D*; Thajudeen, Thaseem |
| 10:15 | Coffee break | Coffee break | Coffee break | Coffee break | Coffee break |
| Set F2 | RDE Stability | Detonation Initiation Concepts | Detonation Structure 3 | Jet Ignition | Detonations and Shocks with Particles 2 |
| 10:45 | 273: Effects of Inlet Fluctuations on the Operating Modes of Rotating Detonation Engines Yao, Songbai*; Tang, Ximeng; Zhang, Wenwu | 18: Theoretical analysis on detonation initiation induced by thermal nonuniformity in a supersonic flow Yu, Dehai*; Yang, Pengfei; Yue, Lianjie; Chen, Zheng | 262: Lagrangian Analysis of the Thermochemical Structure of the 3D Ethylene/Air Detonations with Complex Chemistry Dammati, Sai Sandeep*; Poludnenko, Alexei | 211: Turbulent Hot Jet Ignition of Ultra-Lean H2/Air Mixtures: Influence of the Orifice Diameter Höltkemeier-Horstmann, Jacqueline*; Markus, Detlev; Essmann, Stefan | 20: Deflagration to Detonation Transition in mixtures of Ethanol and Acetone Sprays with Gaseous Oxygen Kadosh, Hertzeli*; Michaels, Dan |
| 11:10 | 13: Relative Role of Stratification and Mixing on the Stability of Linear Detonation Combustors Ullman, Michael J*; Prakash, Supraj; Raman, Venkat | 216: Prediction methods of detonation initiation using transient values and integral of reactivity gradient Ryu, Je Ir* | 14: Treatment of boundary conditions in three-dimensional large eddy simulations of calorically perfect gas detonations Maxwell, Brian* | 114: The Influence of Air Dilution with Nitrogen on Hydrogen Jet Ignition Nassar, Odie Aziz*; Kozak, Yoram; Alves, Marcel M; Kaundinya Oruganti, Surya; Ishay, Liel; Kudriakov, Sergey; Studer, Etienne | 51: Numerical Analysis of Cellular Detonation Frontal Structure in Liquid n-Dodecane Sprays Meng, Qingyang; Zhang, Liangqi; Zhang, Huangwei* |
| 11:35 | 124: Experimental Testing of a Self-balancing Dual Air Stream Hollow Core Rotating Detonation Engine Fotia, Matthew*; Hencel, Regan J; Hoke, John; Schumaker, Stephen | 110: Effect of NTC Behavior on the Characteristic Length Scale of Direct Detonation Initiation Luong, Minh Bau*; Im, Hong G. | 87: Steady Detonation in Gaseous Pyrolysis Products of Ammonium Dinitramide and its related Ionic Liquids Itouyama, Noboru*; Kasahara, Jiro; Huang, Xiangrong; Mevel, Remy | 118: Effects of Helium Dilution and Pressure Ratio on Hydrogen Jet Ignition in a Shock Tube Alves, Marcel M*; Nassar, Odai; Kudriakov, Sergey; Studer, Etienne; Ishay, Liel; Kozak, Yoram | 56: Effects of particle diameter on the interactions between a circular particle cloud and hydrogen detonation wave Xu, Yong* |
| 12:00 | 264: Impact of Turbulence on Wave Propagation in a C2H4-O2 Rotating Detonation Engine Connolly-Boutin, Sean F.*; Higgins, Andrew; Kiyanda, Charles B | 325: Effects of Ozone Addition on Direct Initiation of Detonation in Hydrogen/Oxygen Mixtures Li, Haiyue*; Liang, Wenkai; Law, Chung K. | 78: Non-Equilibrium effects in H2-O2-diluent mixtures using the ZND reactor model Vargas, João*; Chatelain, Karl P.; Lacoste, Deanna; Huang, Xiangrong; Mevel, Remy | 57: Combustion Characteristics of Inverse Oxygen/Methane Coaxial Jet Flames at Elevated Pressure Kim, Young Hoo*; Kim, Jae Hyun; Kwon, Oh Chae | 268: Shock-Initiated Fragmentation of n-Dodecane Nano-droplets: A Molecular Dynamics Study Kateris, Nikolaos*; Genter, Ethan; Wang, Hai |
| 12:25 | Lunch | Lunch | Lunch | Lunch | Lunch |
| Set F3 | RDE Modeling 2 | DDT 3 | Detonation Initiation with Diffraction | Reactions in Solids | Flame Structure 2 |
| 14:15 | 109: Modeling a pulse detonation engine Mikhailchenko, Elena*; Nikitin, Valeriy | 242: CH4-O2 flame acceleration morphology: A comparative analysis under different hydrocarbon fuel, channel geometry and scale Mejia-Botero, Cristian C*; Viro, Florent; Melguizo-Gavilanes, Josue | 202: Re-initiation in Diffraction of Detonation Propagating in A Thin Channel Ishii, Kazuhiro*; Hamaya, Ken | 106: Reaction Propagations of Al/CuO Nanothermite Layers Assembled on Copper Grids Hsu, Wan-Lien; Wu, Ming-Hsun* | 272: Flame surface enhancement from the head on interaction with an expansion wave Cheevers, Kevin*; Yang, Hongxia; Pekalski, Andrzej; Radulescu, Matei |
| 14:40 | 41: Numerical and theoretical studies of a hydrogen-air rotating detonation engine Jiang, Chunxue; Wang, Yuhui* | 238: Acetylene-air Flame Acceleration in Rough Channels Bivol, Grigory Yu*; Golovastov, Sergey; Golub, Victor | 214: On the re-initiation of an attenuated detonation wave following an abrupt area expansion Peswani, Mohnish*; Maxwell, Brian | 155: Numerical Investigation on the Oscillatory Propagation of Intermetallic Reaction Waves in Microscale Aluminum/Nickel Multilayers Kim, Kyoungjin*; Lee, Moon Ho | 299: Counterflow Flame Behavior at Large Lewis Number around Explosive Transition of Deflagration Tsunoda, Akira*; Morii, Youhi; Maruta, Kaoru |
| 15:05 | 25: Numerical Study on Effect of Inner Cylinder on Flow Field of Carbon/Air Rotating Detonation Engines Zhu, Wenchao; Wang, Yuhui* | 309: The effect of composition gradients on deflagration-to-detonation transition in fuel-rich mixtures of H2-air in an obstructed channel Fan, Jumeng* | 98: Detonation Initiation After a Backward Facing Step Poroshyna, Yaroslava; Lau-Chapdelaine, Sebastien; Ciccarelli, Gabriel* | 15: Auto-ignition Behaviors of the GAP/CL-20 Propellant under Thermal Stimulation Yu, Tao*; Yang, Meng; Fang, Ming; Tang, Chenglong | 302: OH/CH/C2 Chemiluminescence of N2 diluted CH4 Edge Flames under Small Fuel Concentration Gradients Park, Jungkeuk; Kim, Nam Il*; Lee, Minjung |
| 15:30 | | 259: Flame acceleration and transition to detonation in acetylene-based mixtures Yakovenko, Ivan* | 3: Three-dimensional Numerical Simulations of Detonation Initiation in Supersonic Flow: Effects of Tube Cross-sections Cai, Xiaodong; Kin, Kaiyan*; Chen, Weiqiang | 230: Thermal analysis of the decomposition of a LOVA gun propellant based on RDX and Nitrocellulose Delbarre, Samuel*; Courty, Leo; William-Louis, Mame | 84: Modeling of Non-Premixed Turbulent Flame Dynamics Using an Open-Source CFD code Kim, Sayop*; Ryu, Je Ir |
| 16:00 | Farewell party | Farewell party | Farewell party | Farewell party | Farewell party |