

Day 4 - 18<sup>th</sup> July 2019, Thursday

Time	Program				
08:00 - 08:45	<i>Foyer</i>				
	<b>Registration</b>				
09:00 - 09:45	<b>LT7A</b>				
	<i>Session Chair: Prof. Riccardo Bonazza</i>				
	<b>Plenary Lecture:</b> Simplified Model Researches for Understanding the Complex Shock Interactions in Hypersonic Inlet Flow <b>Prof. Yang JiMing</b> University of Science and Technology of China				
09:45 - 09:50	<b>Movement</b>				
	<b>Shock Wave Reflection / Interaction (2)</b>	<b>Numerical Methods (3)</b>	<b>Nozzle Flow (1) / Richtmyer-Meshkov Instability (4)</b>	<b>Chemical Kinetics</b>	
	<i>LT7A</i>	<i>Auditorium</i>	<i>EA-06-02</i>	<i>EA-06-03</i>	
	<i>Session Chair: Georges Jourdan</i>	<i>Session Chair: Felix Sharipov</i>	<i>Session Chair: Zhang Mengqi</i>	<i>Session Chair: Elangannan Arunan</i>	
09:55 - 10:15	A Numerical Study of Shock Wave Propagation in a Double Bent Duct at Various Angles <b>Dan Igra (OR-15-0063)</b> O. Igra	Numerical Study of Flow in Low-Pressure Turbines with Undulated Leading Edge and Suction Surface <b>Cui Jiahuan (OR-11-0289)</b> Zheng Yao, Liu Jian	Use of a Detonation Tube for Investigation of the Mixing Effects of Hot Gas and Coolant in a Film Cooled Nozzle <b>Sandra Ludescher (OR-10-0007)</b> H.Olivier	The Auto-ignition Characteristics of Gasoline and Diesel Fuel Blends: A High-Pressure Ignition Study and Reactivity Comparison with Gasoline Fuels <b>Li Yang (OR-02-0181)</b>	
10:15 - 10:35	Numerical Study of the Transition from Regular to Mach Reflection on the Semicylinder and Hemisphere <b>Marcel Grzeszczuk (OR-15-0148)</b> J. J. Gottlieb, C. P. T. Groth	A Low Dissipation Cure for the Grid-Aligned Shock Instability at High Mach Numbers <b>Nico Fleischmann (OR-11-0301)</b> S. Adami, X.Y. Hu, N.A. Adams	Aerodynamic design and performance evaluation of half-flexible supersonic nozzle <b>Gao Xinglong (OR-10-0037)</b> Q. Peng, CH. Fu and B.B. Xu	Self-Ignition and Pyrolysis of Acetone behind Reflected Shock Waves <b>Anatoly Tereza (OR-02-0204)</b> S.P. Medvedev and V.N. Smirnov	
10:35 - 10:55	Effects of Centerline Geometry on Shock Interactions of V-shaped Blunt Leading Edges <b>Wang Jun (OR-15-0158)</b> Li Zhufei, Zhang Zhiyu, Yang Jiming	An immersed boundary method for shock wave-solid body interactions using a high-order finite difference method <b>Britton Olson (OR-11-0309)</b>	Interaction of a cylindrical shock with a heavy gas layer with perturbed outer surface <b>Ding Juchun (OR-13-0172)</b> Zhai Zhigang, Si Ting, Luo Xisheng	Spectroscopic Observation of Cool Flames for Gasolines and Their Surrogates in a High Pressure Shock Tube <b>Hiroki Tachino (OR-02-0209)</b> R. Murai, K. Takahashi	
10:55 - 11:15	<b>Tea Break</b>				
	<b>Shock Wave Reflection / Interaction (3)</b>	<b>Numerical Methods (4) / Shock Waves in Rarefied Flows</b>	<b>Nozzle Flow (2)</b>	<b>Multiphase Flow (1)</b>	
	<i>LT7A</i>	<i>Auditorium</i>	<i>EA-06-02</i>	<i>EA-06-03</i>	
	<i>Session Chair: Ravi Samtaney</i>	<i>Session Chair: Xu Aiguo</i>	<i>Session Chair: Jiang Zonglin</i>	<i>Session Chair: Yang JiMing</i>	
11:15 - 11:35	Dynamics of the unsteady transition between asymmetric shock interactions <b>Luis Laguarda Sanchez (OR-15-0235)</b> S. Hicckel, F. F. J. Schrijer, B. W. Van Oudheusden	Influences of Shock-Adaptive Mesh Refinement on Numerical Solution of Hypersonic Flow <b>Hiroki Sakamoto (OR-11-0396)</b> K. Kitazono, M. Takahashi, N. Ohnishi	Nozzle design for a large-scale high-enthalpy shock tunnel <b>Wang Yunpeng (OR-10-0198)</b> Tang Bei, Luo Changtong, Jiang Zonglin	Proton Radiography of Explosively Dispersed Particles with Varying Carrier Fluids <b>Kyle Hughes (OR-09-0116)</b> A. Martinez, K. Prestridge	
11:35 - 11:55	Non-axisymmetric effects on a conical converging shock wave with flow inclination <b>Ji Junze (OR-15-0252)</b> Zhang Enlai, Li Zhufei, Yang Jiming	AutoCAD inspired level-set algorithm for 3D simulation of deflagration spreading in complicated building structures <b>Kim Hyun-Jun (OR-11-0485)</b> Tae-Jun Roh, Jack J. Yoh	Shock Structure and Performance Characteristics of a Single Expansion Ramp Nozzle Considering External Stream Interaction <b>Sourav Kumar Mondal (OR-10-0331)</b> Sattajit Barua, A. B. M. Toufique Hasan	Effects of water droplet evaporation on detonation in H <sub>2</sub> -Air mixture <b>Zhuang Yijie (OR-09-0282)</b> Zhang Huangwei	
11:55 - 12:15	Flow Fields Generated by a Cone-Cylinder-Flare Projectile Undergoing Non-rectilinear Motion <b>Peter Stathoulis (OR-15-0304)</b> H. Roohani, B.W. Skews	A Characteristic-based Trouble-cell Indicator for Conservation Laws via Artificial Neutral Networks <b>Feng Yiwei (OR-11-0498)</b> Wang Kun, Zhang Xiaotao, Li Tiegang	Control of Flare Induced Shock - Boundary Layer Interaction using Micro Vortex Generators <b>Han Xiangdong (OR-10-0500)</b> B.C. Khoo	Experimental and numerical studies of ultrasonic cavitation-assisted ballast water treatment process <b>Lu Xin (OR-09-0322)</b> Tandiono, C.K. Turangan, C.W. Kang, F. Lim, M. Lucas, H.Osman	
12:15 - 12:35	Numerical Investigation on Axisymmetric and Planar Shock Reflections in Steady Viscous Flow <b>Georgy Shov (OR-15-0334)</b> H.Ogawa	Temperature dependence of shock wave thickness <b>Felix Sharipov (OR-19-0105)</b> Fernanda C. Dias		Initial Moving Simulation of Densely-Packed Particles Driven by Planar Shock Wave <b>lv Hua (OR-09-0202)</b> TZhanli Mao, Zhongqi Wang, Jianping Li	
12:35 - 13:55	<b>Lunch</b>				

	<b>LT7A</b>			
	<i>Session Chair: Prof. Martin Brouillette</i>			
13:55 - 14:40	<b>Plenary Lecture:</b> Picosecond-nanosecond laser ash, formation of powerful elastic waves in crystals, and shock peening <b>Prof. Nail' A Inogamov</b> Russian Academy of Sciences			
14:40 - 14:45	<b>Movement</b>			
	<b>Supersonic and Hypersonic Flows (5)</b>	<b>Detonation and Combustion (7)</b>	<b>High Enthalpy Gas Dynamics (1)</b>	<b>Multiphase Flow (2)</b>
	<i>LT7A</i>	<i>Auditorium</i>	<i>EA-06-02</i>	<i>EA-06-03</i>
	<i>Session Chair: Akikko Matsuo</i>	<i>Session Chair: Zhang Huangwei</i>	<i>Session Chair: Jan Martinez Schramm</i>	<i>Session Chair: Shi Hong-Hui</i>
14:50 - 15:10	Characteristics of turbulent spots in a hypersonic transitional boundary layer inferred from dense arrays of thin-film heat transfer gauges <b>David John Mee (OR-24-0359)</b> S. Raghunath, D. Estruch-Samper	Numerical Analysis on Spherical Detonation: AMR and H <sub>2</sub> /O <sub>2</sub> Detailed Chemical Reaction <b>A. Koichi Hayashi (OR-04-0386)</b> X. Tang, E. Dzieminska, N. Tsuboi, M. Asahara	Test and computation of CO <sub>2</sub> radiation in Mars entry <b>Lyu Junming (OR-07-0195)</b> X.L. Cheng, J.J. Yu, F. Li and X.L. Yu	Simulations of Discontinuities Waves with Velocity Non-Equilibrium Two-Phase Flows <b>Dia Zeidan (OR-09-0070)</b> Eric Goncalves
15:10 - 15:30	Numerical Investigation on the Sabot Separation in Hypersonic Regime <b>Hiroataka Kasahara (OR-24-0369)</b> A.Matsuo	Energy localized ignition mechanism in shocked beta-HMX crystals induced by different defects: a molecular dynamics study based on ReaxFF force field <b>Wen Yushi (OR-04-0115)</b> Qiao Zhiqiang, Dai Xiaogan, Li Ming, Huang Xiaona, Zhang Kaili	Effects of Wall Temperature in High Enthalpy Rarefied Hypersonic Separated Flow <b>Ram Prakash (OR-07-0327)</b> L.P. Mcquellin, A.J. Neely, S.L. Gai	Blast wave mitigation and micrometric particle capture by aqueous foam – Experimental and numerical approach <b>Maeva Mazia (OR-09-0450)</b> D. Counilh, F. Ballanger, M. Mazia and A. Chinnayya
15:30 - 15:50	Improved Transition Model for Hypersonic Flows by Introducing Curvature Effects <b>R C Diviaharshavardini (OR-24-0381)</b> K. Arul Prakash, G. Rajesh	Near-limit detonations of methane-oxygen mixtures in long-narrow tubings <b>Cao Wei (OR-04-0060)</b> Yong Han, Hoi Dick Ng, John H.S. Lee	Hypersonic flow field-radiation coupling for Saturn entry <b>Rowan Gollan (OR-07-0332)</b> C. Jacobs, P. Marriotto, P. Jacobs	Numerical Investigation of AUSM-family Schemes Dissipation for Compressible Multiphase Flow Simulations <b>Junya Aono (OR-09-0367)</b> K. Kitamura
15:50 - 16:10	Experimental Study of Shock Instabilities over Spiked body in presence of Frontal Concave cavity at Hypersonics <b>Snehal Mandlik (OR-24-0400)</b> Ashish Vashishtha, G Jagadeesh	Phase-Locked OH* Chemiluminescence and OH PLIF Imaging in a Rotating Detonation Engine <b>Chang Po-Hsiung (OR-04-0351)</b> Chen Sihe, Xin Huang, Lei Li, Li Jiun-Ming, Teo Chiang Juay, Khoo Boo Cheong	Measurement of Stagnation Heat Flux in HEK-X Expansion Tube <b>Hideyuki Tanno (OR-07-0214)</b> Y. Fujiwara, A. Tezuka, K. Shimamura, T. Okamoto, K. Yamada, T. Komuro	On Water Entry Problem of Cylindrical Shells with Different Head Shapes <b>Shi Hong-Hui (OR-09-0076)</b> Y. Liu, J. S. Wen
16:10 - 16:30	<b>Tea Break</b>			
	<b>Supersonic and Hypersonic Flows (6)</b>	<b>Detonation and Combustion (8)</b>	<b>High Enthalpy Gas Dynamics (2)</b>	<b>Multiphase Flow (3)</b>
	<i>LT7A</i>	<i>Auditorium</i>	<i>EA-06-02</i>	<i>EA-06-03</i>
	<i>Session Chair: David Gildfind</i>	<i>Session Chair: Chan Wai Lee</i>	<i>Session Chair: Wen Chih-yung</i>	<i>Session Chair: Dia Zeidan</i>
16:30 - 16:50	Study of the sonic jet from a novel mixing enhancement nozzle in supersonic cross-flow <b>Kanderpalli Nagashetty (OR-24-0403)</b> Srisha M V Rao, Nanditha N H, Saravanan S	Energy Output Characteristics of Explosives Containing B-Al in Air Blast and Underwater Explosion <b>Gao Dayuan (OR-04-0095)</b> Cao Wei, Li Xing-long, Song Qing-guan, Wen Shang-gang, Guo Xiang-li, Zhao Feng, Zhang Yuan-ping	Thermal Response Simulation of Low Density Heat Shields Under An Arcjet Flow Condition <b>Bernard Otieno Owiti (OR-07-0449)</b> T. Sakai, Y. Ishida, H. Tanno	Formation of cylindrical shock and rarefaction waves by SW-loading a bubbly liquid layer with free surface <b>Pavel Georgievskiy (OR-09-0486)</b> E. Zhuravleva, Valeriy Kedrinskiy
16:50 - 17:10	Non-linear Effects of Pressure Disturbances on Sharp Cone Measured in High Enthalpy Shock Tunnel <b>Hideyuki Tanno (OR-24-0340)</b> T. Tonai, K. Itoh, H. Nagai	Experimental study of mode transition characteristics of Scramjet combustor with continuous dynamic parameters <b>Gu Hongbin (OR-04-0280)</b> Meng Yu, Gao Zhanbiao, Huan Lian, Chang Xinyu	Hypersonic non-equilibrium flow over spherically blunted cone capsules <b>Jan Martinez Schramm (OR-07-0455)</b> Klaus Hannemann, Hans G. Hornung	On Water Exit of Supercavitating Projectiles with Different Head Shapes <b>Shi Hong-Hui (OR-09-0073)</b> Y. Liu, L. W. Lu
17:10 - 17:30	Effects of Free Stream Perturbations Passing Through Shocks in Thermochemical Nonequilibrium <b>Monal Patel (OR-24-0432)</b> S. Navarro-Martinez	Effects of detonation front number on combustion instability in a rotating detonation engine <b>Zhao Majie (OR-04-0320)</b> Zhang Huangwei	Measurement of Real-Gas Aerodynamics for Martian Atmospheric Entry Using a Light-Gas Gun <b>Kazuhiisa Fujita (OR-07-0495)</b> S. Nomura, S. Matsuyama, H.Tanno	Discontinuous Galerkin simulation of the shock-vortex interaction in dusty gas Shardin's problem <b>Rho Shin Myong (OR-09-0097)</b> O. Ejtehadi, A. Rahimi
17:30-17:50	Direct Numerical Simulation of Hypersonic Boundary-Layer Stabilization with Porous Coating <b>Zhao Rui (OR-24-0140)</b> C. Y. Wen , T. H. Long		Real gas effects on hypersonic leading edge separation with bluntness <b>Anna Khraibut (OR-07-0319)</b> S. L. Gai, A. J. Neely	Experimental Investigation of Droplet Breakup at Constant Weber Number in Sub and Supersonic Flow <b>Wang Zhaoguang (OR-09-0242)</b> T. Hopfes, M. Giglmaier, N. A. Adams
	<b>Departure from NUS to Banquet Venue</b>			
19:00 - 19:30	<b>Cocktail</b>			
19:30-22:00	<b>Banquet &amp; Student Award Ceremony</b>			