

31st International Symposium on Shock Waves 2

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Masahide Katayama
Editors

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Applications

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Preface

Shock wave is fascinating physical nature accompanied by various applications. The 31st International Symposium on Shock Waves (ISSW31) was a continuation in the series of sixty-year-lasting, biannual symposia on shock waves that have been held all over the world since 1957 at MIT, Boston, MA, USA. This is the third one held in Japan after ISSW18, which was held in Sendai in 1991 when the name of symposia was changed to the present one. Before that the tenth symposium was held in Kyoto in 1975. ISSW31 was held at Toyoda Auditorium, Nagoya University, Nagoya, Japan, during July 9–14, 2017.

ISSW31 was attended by 352 registered participants from 32 countries. Out of the participants 116 were graduate students. This large part of students, as large as one-third, should lead to promising future of our shock wave community. Student competition was conducted among 43 students who made an entry with submission of full paper by the deadline, which was about a month earlier than that for the other presentations. With respect to each candidate, his/her paper was evaluated by two referees, and presentation by another two. The top 12 students obtained an award that was offered by the International Shock Wave Institute (ISWI). Including 5 guests, 43 accompanying persons, 15 participants from sponsors, and 18 organizing staff, the ground total number of the participants was 433.

The International Advisory Committee (IAC) that consisted of 54 members from 21 countries chose 9 world-renowned scientists to deliver 9 invited plenary lectures in different shock wave-related disciplines. Unfortunately, one plenary lecture was cancelled due to the lecturer's problem. The invited plenary lectures included the traditional Paul Vieille Lecture in the opening session, which was given by Professor Zongling Jiang, Institute of Mechanics, Chinese Academy of Sciences, and the Irvine Israel Glass Lecture by Professor Kazuyoshi Takayama, Tohoku University. The inaugural Ray Stalker Lecture was planned to be presented by Professor Joanna Austin, California Institute of Technology, who unfortunately could not make it herself due to an urgent matter arising en-route. It was presented on her behalf by

Vince Wheatley from the University of Queensland. The other plenary lecturers were Prof. Oren Sadot, Prof. Dana D. Dlott, Dr. Nabiha Chaumeix, Prof. Noel T. Clemens, and Prof. Kazuhisa Fujita.

After reviewing 417 submitted abstracts by two independent reviewers to each, 287 and 103 were accepted for oral and poster presentations, respectively. Unfortunately, by the time the meeting started 96 accepted presentations were withdrawn due to failure of full paper submission, lack of travel funds, etc. Finally, 294 peer-reviewed contributed papers, 241 oral and 53 poster, were presented in addition to the plenary lectures. The oral sessions were held in parallel by either four or five. The sessions included five of “Supersonic and Hypersonic Flows” sessions, three of “Detonation and Combustion,” “Richtmyer-Meshkov Instability” and “Diagnostics/Flow Visualization” sessions each, and two of “Shock Wave Reflection/Interaction,” “Blast Waves,” “Plasmas/Magnetohydrodynamics,” “Shock/Boundary Layer Interaction,” “Multiphase Flow” “Shock Waves in Internal Flows,” “Shock Wave Interaction with Various Media,” “Numerical Methods” sessions each.

Following the tradition of ISSW, several social programs offered opportunities for the participants to further develop scientific/personal communications and exchanges in more relaxed ways, which could induce serendipity, innovations, and international collaboration projects. The excursion participants visited Takayama, an old town, and Shirakawa-go, a World Heritage, historic village characterized by Gassho-zukuri, that is a steep-pitched, thatched roof designed to shed against heavy snow. Watching Ground Sumo Tournament and Shocking Sound Waves, concert by participants, were specially organized menus in this symposium. The accompanying persons’ program on Monday was Inuyama Tour featured by Ukai watching. Thursday tour was to visit Toyota Commemorative Museum of Industry and Technology and Tokugawa Art Museum.

The arrangements for ISSW31 were well initiated with valuable advices from Professor Gabi Ben-Dor, Chair of ISSW30 in Tel Aviv. The ISSW31 was officially hosted by the Japan Society of Fluid Mechanics with financial support from Japan Society for the Promotion of Science as Grant-in-Aid for Publication of Scientific Research Results, KAKENHI, co-hosted by International Shock Wave Institute (ISWI), Shock Wave Research Society of Japan, and School of Engineering, Nagoya University. Also ISSW31 was co-sponsored by Society for Promotion of Space Science, Nagoya Convention & Visitors Bureau, Tokai Institute of Fluid and Heat Engineering, Nagoya University, Nobby Tech Ltd., nac Image Technology Inc., Photron Ltd., Shimadzu co., Beams Inc., USAC Inc., and Tokyo Instruments Inc. On behalf of my two co-chairs, Prof. Toshiyuki Aoki and Dr. Masahide Katayama, both of whom are vice presidents of Shock Wave Research Society of Japan, and the organizing committee, we thank all the participants, sponsors, and supporting societies/organizations, owing to whom this symposium was concluded to be a great success.

ISSW32 will be held in Singapore in July 2019 led by a team chaired by Professor Boo Cheong Khoo, National University of Singapore. The ISSW33 in 2021 will be held in Brisbane, co-hosted by the University of Queensland, the University of Southern Queensland, and the University of New South Wales in Canberra. The respective co-chairs are Richard Morgan, David Buttsworth, and Harald Kliene.

Co-Chairs, ISSW31

Nagoya, Japan
Kasuga, Japan
Tokyo, Japan

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Toshiyuki Aoki
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Contents

Volume I

Strength and Frequency of Underwater Shock Waves Related to Sterilization Effects on a Marine Bacterium	1
J. Wang, A. Abe, N. Ito, and K. Nishibayashi	
Effects of Liquid Impurity on Laser-Induced Gas Breakdown in Quiescent Gas: Experimental and Numerical Investigations	9
T. Ukai, H. Zare-Behtash, C. White, and K. Kontis	
Air Blast from a Structural Reactive Material Solid	17
F. Zhang, M. Gauthier, and C. V. Cojocaru	
Experimental Study on Configuration Effects of Supersonic Projectiles in Transitional Ballistic Regimes	25
C. M. Athira and G. Rajesh	
Non-ideal Blast Waves from Particle-Laden Explosives	33
Q. T. Pontalier, M. G. Lhoumeau, and D. L. Frost	
Attenuation of Blast Wave in a Duct with Expansion Region (Effects of Configuration, Porous Panel, and Acoustic Material)	41
M. Ishiguro and Y. Takakura	
Enhancement of the DDT Process with Energetic Solid Particle	51
Van Bo Nguyen, Quoc Thien Phan, Jiun-Ming Li, Boo Cheong Khoo, and Chiang Juay Teo	
Large-Scale Computation of Direct Initiation of Cylindrical Detonations	61
H. Shen and M. Parsani	
Numerical Study on a Cycle of Liquid Pulse Detonation Engines	69
Van Bo Nguyen, Quoc Thien Phan, Jiun-Ming Li, Boo Cheong Khoo, and Chiang Juay Teo	

Experimental Investigation on the Flame-Shock Wave Interactions in a Confined Combustion Chamber	79
Jianfu Zhao, Lei Zhou, Haiqiao Wei, Dongzhi Gao, and Zailong Xu	
The Influence of Spatial Heterogeneity in Energetic Material on Non-ideal Detonation Propagation	89
Hongbin Li, Jiangling Li, Lei Zhao, Cha Xiong, Xiaocheng Mi, and Andrew J. Higgins	
Experimental Research on the Detonation in Gaseous Mixtures with Suspended Aluminum Particles	97
X. Zhang, H. Chen, J. Li, S. Zhang, and H. Yu	
Large Eddy Simulation of Mixing Characteristic in the Cold Rotating Detonation Chamber	105
R. Zhou, B. L. Tian, X. P. Li, and J. P. Wang	
Research on the Continuous Rotating Detonation Wave in a Hollow Chamber with Laval Nozzle	113
Shijie Liu, Hailong Zhang, and Weidong Liu	
Experimental Research on a Long-Duration Operation of a Rotating Detonation Engine	125
J. Nishimura, K. Ishihara, K. Goto, K. Matsuoka, J. Kasahara, A. Matsuo, I. Funaki, H. Mukae, K. Yasuda, D. Nakata, K. Higashino, and H. Moriai	
Decaying Modes of Propagation of Detonation and Flame Front in Narrow Channel	131
S. V. Golovastov and G. Yu. Bivol	
Design and Measurement of Injection Gas Concertation in Rotating Detonation Engines via Diode Laser Sensors	139
Po-Hsiung Chang, Jiun-Ming Li, Boo Cheong Khoo, Lei Li, Jie Ming Teh, and Chiang Juay Teo	
Investigation of High-Frequency Pulse Detonation Cycle with Fuel Phase Transition	147
H. Taki, K. Takao, N. Hirota, K. Matsuoka, J. Kasahara, H. Watanabe, A. Matsuo, and T. Endo	
Numerical Study of Hydrogen–Air Detonation in Vibrational Non-equilibrium	157
L. S. Shi, P. Zhang, C. Y. Wen, H. Shen, M. Parsani, and D. L. Zhang	
Aerodynamic Force Measurement in a Large-Scale Shock Tunnel	165
Yunpeng Wang, Yunfeng Liu, Changtong Luo, and Zonglin Jiang	

Trial Implementation of TiN Surface Coating for a Main Piston Towards Reducing the Opening Time for a Diaphragmless Driver Section 173
 S. Udagawa, W. Garen, T. Inage, M. Ota, and K. Maeno

Aerodynamic Force Measurement Techniques in JF12 Shock Tunnel ... 181
 YF. Liu, YP. Wang, CK. Yuan, CT. Luo, and ZL. Jiang

Optimising the X3R Reflected Shock Tunnel Free-Piston Driver for Long Duration Test Times 189
 S. Stennett, D. E. Gildfind, and P. A. Jacobs

Development of a Total Enthalpy and Reynolds Number Matched Apollo Re-entry Condition in the X2 Expansion Tunnel..... 197
 T. G. Cullen, C. M. James, R. J. Gollan, and R. G. Morgan

Liquid-Coupled Dual Piston Driver for Small-Scale Impulse Facilities . 205
 S. O’Byrne, R. McCormack, and H. Kleine

Initial Testing of a 2 m Mach-10 Free-Piston Shock Tunnel..... 213
 Junmou Shen, Handong Ma, Chen Li, Xing Chen, and Bi Zhixian

CFD Evaluation and Experiment Test of the Running Time of the Ludwig Tube Quiet Wind Tunnel 221
 Junmou Shen, Ying Zhang, Dan Wang, Ruiqu Li, and Jian Gong

Development and Performance Study of Shock Tube with Extended Test Time for Materials Research 231
 Jayaram Vishakantaiah, Gowtham Balasubramanian, and Subba Rao Keshava

Measurement of Temperature Field Around Spiked Bodies at Hypersonic Mach Numbers 239
 Sneha Deep, Yedhu Krishna, and Gopalan Jagadeesh

Three-Dimensional Laser Interferometric CT Density Measurement of Unsteady Flow Field Around a Cylinder Induced by Discharged Shock Wave from a Cylindrical Nozzle 247
 D. Aoki, S. Nakazawa, K. Kurihara, and M. Ota

Curved Shock Wave Propagation in Environment Stratosphere by Laser Ablation 255
 D. T. Tran, C. Xie, and K. Mori

Hypervelocity Test with a Detonation-Driven Expansion Tube 261
 Z. Hu, K. Zhou, J. Peng, and Z. Jiang

Shock Shape Transition on Spherically Blunted Cones in Hypersonic Flows 269
 J. Martinez Schramm, K. Hannemann, and H. G. Hornung

Catalytic Recombination Characteristics of Atomic Oxygen on Material Surface by Optical Emission Spectroscopy	277
X. Lin, S. Wang, F. Li, S. Zhang, and X. Yu	
Influence of Dual Ignition on Test Conditions of a High-Enthalpy Shock Tunnel	283
Q. Wang, W. Zhao, J. W. Li, J. P. Li, P. Lu, and Z. L. Jiang	
Ablation Measurements in a Low-Density Heat Shield Using Ablation Sensor Unit (ASU)	291
Y. Dantsuka, T. Sakai, K. Iwamoto, Y. Ishida, T. Suzuki, and K. Fujita	
Driver Condition Development for High-Enthalpy Operation of the X3 Expansion Tube	297
A. Andrianatos, D. E. Gildfind, and R. G. Morgan	
Calculation of Intensity Profiles Behind a Shock Wave Traveling in Air at Speeds Exceeding 12 km/s	305
A. Lemal, S. Matsuyama, S. Nomura, H. Takayanagi, and K. Fujita	
Revisiting Temperature Measurements at the Focus of Spherically Converging Shocks in Argon.....	313
M. Liverts and N. Apazidis	
Influence of Matrix Resin on Impact Resistance of CFRP by a Small Sphere	321
T. Kawai, T. Irisawa, Y. Tanabe, M. Nakayama, and A. Yoshimura	
Improvement of Impact Resistance of Ceramics by Using Resin-Based Materials	327
S. Yamashita, T. Suzuki, S. Fujimori, T. Irisawa, and Y. Tanabe	
Measurement of Plasma Formed by High-Speed Impact to Estimate Temperature at Impact Point	335
Y. Motoyama, K. Umeda, T. Sakai, S. Kinoshita, and K. Watanabe	
Application of Riemann Solver for Compressible and Non-Expanding Fluid to Impact on Regolith	343
K. Suzuki	
Mathematical Modeling of the Impact of High-Speed Metallic Plates ...	351
S. Fortova, P. Utkin, V. Shepelev, and T. Kazakova	
Study of Shock Impact Pressure Amplification and Attenuation of Acoustic Waves in E-Glass Material	359
Jayaram Vishakantaiah, Kannan K. R., Arvind Raj G., and K. P. J. Reddy	
Computational Modeling of Recoilless Weapons Combat Training-Associated Blast Exposure	367
S. Wiri, A. Ritter, J. Bailie, C. Needham, and J. Duckworth	

Contribution of Cavitation Generation to Shock Wave Sterilization Effects in a Narrow Water Chamber 375
 J. Wang, A. Abe, T. Koita, and M. Sun

Shock Waves Confer Immunity Against Infections in Mice 383
 Akshay Datey, Dipshikha Chakravorty, and Gopalan Jagadeesh

On the Relation Between the Shock Wave Thickness in Biomaterials and the Threshold for Blast-Induced Neurotrauma 391
 M. I. P. Radulescu

Development of a Miniaturized Focused Shock Wave Generator for Medical Application 401
 H. Yamamoto, K. Takayama, and H. Shimokawa

Intracellular Ca²⁺ Increase Evoked by Single Acoustic Pulses 409
 A. Tsukamoto, T. Takahashi, S. Tada, and K. Nakagawa

A New Device for Crossing Chronic Total Occlusions 415
 L.-P. Riel, S. Dion, M. Charlebois-Ménard, M. Brouillette, S. Bérubé, M.-A. Despatis, A. Benko, M.-É. Clavet, M.-J. Bertrand, P. Geoffroy, and J.-F. Tanguay

Biological Effect of Shock Waves: Mechanism of Blast-Induced Traumatic Injury to Medical Application 421
 A. Nakagawa, K. Ohtani, T. Kawaguchi, and T. Tominaga

Toward Noninvasive Drug Injection via Control of Laser-Induced Breakdown in Liquid 427
 H. Ham, S. Yeo, H. Jang, and J. J. Yoh

Current Trend in Cell Membrane Manipulation by Ultrasound and Underwater Shock Wave 433
 S. F. Moosavi-Nejad and H. Hosseini

Analysis of Deformation Process of a Bubble in an Elastic Capsule by Shock Waves and Their Medical and Biological Applications 437
 M. Tamagawa, T. Imakado, and R. Ogasahara

Shock Waves Can Cure Biofilm Infections In Vivo in Combination with Antibiotics 443
 Akshay Datey, Divyaprakash Gnanadhas, Dipshikha Chakravorty, and Gopalan Jagadeesh

Simulation of Shock-Bubble Interaction Using a Four-Equation Homogeneous Model 451
 Eric Goncalves and B. Dia Zeidan

A Study of Dispersion, Vaporization, and Combustion of Burnable Liquids Surrounding Charges 459
 F. Togashi, J. D. Baum, O. A. Soto, R. Löhner, and J. Bell

Multi-scale Simulation of the Interaction of a Shock Wave and a Cloud of Particles	467
S. Taverniers, G. B. Jacobs, V. Fountoulakis, O. Sen, and H. S. Udaykumar	
Surface Jetting Induced by Explosion in Liquid Below an Immersed Bubble	475
Y. Zhu, G. Zhang, and J. Yang	
Generation Frequency of Rebound Shock Waves from Bubble Collapses in Cavitation Jet	483
K. Nishibayashi, J. Wang, and A. Abe	
Experimental Study on the Influence of Underwater Explosion Depth on the Disintegration of Thin Resin Plate Attached Microbubbles	491
T. Koita, M. Sun, Y. Fukushima, L. Guo, X. Zhao, and S. Kobayashi	
Numerical Study of the Flow Separation in a Rocket Nozzle	499
S. Zhu, Z. Chen, C. Zheng, H. Zhang, and Z. Huang	
Hybrid RANS/LES Simulation of Shock-Induced Separated Flow in Truncated Ideal Contour Nozzle	507
Eric Goncalves, B. Guillaume Lehnasch, and C. Julien Herpe	
Experimental Study of TICTOP Nozzles	515
R. Stark and C. Génin	
Three-Dimensional Instability of Shock-Wave/Boundary-Layer Interaction for Rocket Engine Nozzle Applications	523
A. Sansica, J.-Ch. Robinet, Eric Goncalves, and J. Herpe	
Shock Interactions in Thrust Optimised Parabolic (TOP) Nozzles during Start-Up and Shutdown	531
Ijaz Mohamed and G. Rajesh	
Shock System Deformation in High Mach Number Rocket Nozzles	543
C. Génin, R. Stark, and S. Karl	
Numerical Investigation of a Planar Shock Wave Interacting with an Acentric Water Ring	551
Gaoming Xiang and Bing Wang	
A Compact High-Order Finite Volume Method for Computing Shock Waves on Arbitrary Grids	561
L. Li, H. Luo, and Yuxin Ren	

Numerical Modelling of the Effects of Surface Roughness on Blunt Body Heat Transfer 571
 D. Kim, G. Park, and E. Avital

Numerical Study of Shock Propagation in Liquid/Gas Media 583
 N. Apazidis

Volume II

CFD Models of Shocks and Flow Fields Associated with Decelerating Spheres in Terms of Flow History and Inertial Effects..... 591
 H. Roohani, I. M. A. Gledhill, and B. W. Skews

Conjugate Heat Transfer Analysis in a Hypersonic Flow 601
 Ravi K. Peetala

Laser-Induced Shock Waves in Micro Tubes 611
 U. Teubner, Y. Kai, T. Schlegel, and W. Garen

Study of MHD Effects in the High-Enthalpy Shock Tunnel Göttingen (HEG) Using a 30 T-Pulsed Magnet System 617
 J. Martinez Schramm and K. Hannemann

An Electrodynamics Aerobraking Experiment in a Rarefied Arc-Heated Flow 625
 H. Katsurayama, N. Fukuda, T. Toyodome, Y. Katoh, K. Tomita, and M. Matsui

Blast Wave Propagation Affected by Ground Characteristics 633
 A. Lipshtat and S. Pistinner

Multiple Reflected Shock Wave in Closed Volume with Granular Screen..... 641
 O. Mirova, S. V. Golovastov, A. Kotelnikov, V. Golub, and T. Bazhenova

Some Aspects of the Numerical Modeling of Shock Wave–Dense Particle Bed Interaction Using Two-Fluid Approach 649
 P. Utkin

To the Complex Approach to the Numerical Investigation of the Shock Wave: Dense Particle Bed Interaction 657
 D. Sidorenko and P. Utkin

Numerical Study of Dusty Shock Reflection over a Double Wedge..... 665
 Jingyue Yin, Juchun Ding, and Xisheng Luo

Shock and Blast Wave Interaction with Hard Sand Pan	673
R. T. Paton and B. W. Skews	
Unsteady Dynamics of Particles Accelerated by a Shock Wave.....	681
A. Bordoloi, A. Martinez, and K. Prestridge	
Shock Focusing Effect upon Interaction of a Shock with Low-Density Dust Cloud	689
O. Sutyryn, V. Levin, and P. Georgievskiy	
Shock-Induced Motion of a Spherical Particle Floating in Air	697
Y. Sakamura, M. Oshima, K. Nakayama, and K. Motoyama	
Exploring the Capability of a New Shock Tube Facility to Investigate Shock Interaction with Inert Particle Columns	705
M. G. Omang, K. O. Hauge, and J. K. Trulsen	
Mitigation of Blast in a Water Mist	711
T. Schunck, M-O. Sturtzer, J. Mory, D. Eckenfels, and J-F. Legendre	
Shock Wave Propagation Through a Series of Perforated Plates	719
O. Ram, G. Ben-Dor, and O. Sadot	
Experimental Investigation of Strong Shock-Heated Gases Interacting with Materials in Powder Form	727
Jayaram Vishakantaiah	
Selective Shock-Refraction Properties in Non-ideal Fluids.....	735
E. Touber and N. Alferez	
A Numerical Investigation of Oblique Shock Waves in Non-ideal Compressible Fluid Flows	743
G. Gori, D. Vimercati, and A. Guardone	
Assessment of Real Gas Effects on S-CO₂ Flows with Shock Waves	751
Senthilkumar Raman and Heuy Dong Kim	
Structure of Shock Waves in Noble Gases Under High-Density Conditions	761
Z. A. Walenta and A. M. Słowicka	
Shock Train Structures in Rectangular Ducts	769
F. Gnani, H. Zare-Behtash, C. White, and K. Kontis	
Effect on Shock Train Behaviour of the Addition of a Cavity for Supersonic Intakes	777
A. Russell, H. Zare-Behtash, and K. Kontis	
Experiments in Supersonic Gaseous Ejector Using 2D-PIV Technique..	785
S. K. Karthick, Srisha M. V. Rao, Gopalan Jagadeesh, and K. P. J. Reddy	

Numerical Analysis of Surface Heat Flux in a Forward-Facing Cavity .. 795
 B. Sudarshan and S. Saravanan

Large Eddy Simulation of Expansion Wave Diffraction 807
 Z. Shaikh and B. W. Skews

**In-Pipe Aerodynamic Characteristics of a Projectile in Comparison
 with Free Flight for Transonic Mach Numbers Between 0.5 and 1.5.....** 815
 R. Hruschka and D. Klatt

**Experimental Investigation of Shock Wave Characteristics
 in Small-Scale Circular Channel** 823
 R. Singh, E. F. Médecin, and K. Tajiri

**Shock Oscillations in a Supersonic Diffuser Flow with Varying
 Stagnation Pressure** 829
 Jintu K. James and T. M. Muruganandam

Measurement of Shock Wave Attenuation in a Micro-channel 837
 J. Giordano, P. Perrier, L. Meister, and M. Brouillette

Surface Jets Produced from an Underwater Shock Wave 845
 B. W. Skews and H. Karnovsky

Pressure Sensors for Hostile Environments 853
 H. Fortier-Topping, M. Brouillette, V. Suponitsky, and D. Plant

**Visualization of Inception, Propagation, and Collapse Process
 of Underwater Positive Streamer** 859
 T. Sato, R. Kumagai, T. Nakajima, K. Ohtani, A. Komiya, S. Kanazawa,
 and T. Kaneko

**Optimization and Design of a Fully Instrumented Mach 12 Nozzle
 for the X3 Expansion Tube** 863
 P. Toniato, D. E. Gildfind, P. A. Jacobs, and R. G. Morgan

**Heat Flux Measurement of Flat Delta Plate Using Phosphor
 Thermography Technique in Gun Tunnel** 873
 Han Shuguang, Jia Guangsen, Bi Zhixian, and Wen Shuai

**Hypersonic Boundary Layer Tripping to Turbulence on a Conical
 Body** 881
 Tarandeep Singh and K. P. J. Reddy

Hypersonic Flow Computations by Using an Equivalent Gas Model 889
 S. Shitrit and E. Arad

DNS of Hypersonic Ramp Flow on a Supercomputer..... 897
 I. Klioutchnikov, S. Cao, and H. Olivier

The Role of Three-Dimensional Shock Wave Interaction in the Complex Hypersonic Heating	905
Chun Wang, Gaoxiang Xiang, Zonglin Jiang, Xudong Li, and Zengmin Shi	
Numerical Simulation of Effect of Angle of Attack on a Supersonic Parachute System	911
X. Xue, S. Luo, and C. Y. Wen	
Experimental Study of High-Altitude Environment Simulation for Space Launch Vehicles	917
Sungmin Lee and Gisu Park	
Characteristics of Self-Sustained-Shock Pulsation	925
Toshiharu Mizukaki and Kazuhiko Yamada	
Free Flight Experiment Investigation of AOA Effect on Cone Boundary Layer Transition at Mach 6	931
Zonghao Wang, Sen Liu, and Jie Huang	
Review on Film Cooling in High-Speed Flows	939
K. Fujiwara, R. Sriram, K. Kontis, and T. Ideta	
Ballistic Range Experiment and Numerical Simulation of Shock Stand-Off Distances Over Spheres in CO₂	947
Dongjun Liao, Sen Liu, Jie Huang, Hexiang Jian, Aimin Xie, and Zonghao Wang	
Prediction of Stagnation-Point Radiative Heating for FIRE II	957
Sung Min Jo, Gisu Park, and Oh Joon Kwon	
Characterisation of Curved Axisymmetric Internal Shock Waves	967
A. A. Filippi and B. W. Skews	
Comparative Heat Flux Measurement of a Sharp Cone Between Three Hypersonic Test Facilities at LHD	977
Q. Wang, P. Lu, J. W. Li, S. Wu, J. P. Li, W. Zhao, and Z. L. Jiang	
Near-Field Pressure Signature over Mach 1.7 Free-Flight Bodies	987
Y. Aoki, D. Yoshimizu, A. Iwakawa, and A. Sasoh	
Experimental Study of Radiation Behind Reflected Air Shock Waves ...	995
S. Yamazaki, A. Harasawa, and M. Funatsu	
Flow Field for an Accelerating Axisymmetric Body	1003
I. Mahomed, H. Roohani, B. W. Skews, and I. M. A. Gledhill	
Modeling of 3-DOF Launch Dynamics in Transonic and Supersonic Regime Using Navier-Stokes Equation	1011
Anupam Purwar and Gopalan Jagadeesh	

Skin Friction Measurement Based on SSLCCs in Hypersonic Wind Tunnel 1019
 Xing Chen, Bi Zhixian, Wen Shuai, Dapeng Yao, and Junjie Pan

Thermo-structural Design of Hypersonic Vehicle Sharp Leading Edges for Thermo-erosive Stability Using Finite Element Modelling 1027
 Anupam Purwar

Computational Study on Rigid Disk-Gap-Band Supersonic Parachute Aerodynamics..... 1035
 K. Takabayashi, K. Fukumoto, and K. Kitamura

Numerical Simulation of Laser Ablation Propulsion Performance for Spherical Capsule 1041
 C. Xie, D. T. Tran, and K. Mori

Investigation of the Heat Transfer in Hypersonic Flow on Modified Spike-Blunt Bodies 1053
 N. Gopalakrishna and S. Saravanan

Numerical Investigation on the Effects of Air Dissociation upon Hypersonic Projectile in Standard Atmospheric Air..... 1063
 Hirotaka Kasahara and Akiko Matsuo

Shockwave Oscillation Under Critical Starting Mach Number in Hypersonic Inlet..... 1071
 Pengfei Xiong, Hanchen Bai, Xiaofei Zhai, Jun Chen, and Zhenfeng Wang

Variation in Spanwise Direction of Transonic Buffet on a Three-Dimensional Wing 1079
 Y. Kojima, M. Kameda, A. Hashimoto, and T. Aoyama

Critical Condition of Bow-Shock Instability Around Edged Blunt Body 1087
 N. Ohnishi, Y. Inabe, K. Ozawa, and K. Ohtani

Experimental Study on Hypersonic Pitch-Up Anomaly in Shock Tunnel 1095
 H. Tanno, T. Komuro, K. Sato, and K. Itoh

Pressure Measurements Around an Electric Discharge Produced on a Wedge in a Supersonic Flow 1103
 P. Gnemmi, C. Rey, B. Sauerwein, and M. Bastide

Thermal Spike Conception for Wave Drag Reduction of Blunt Bodies at Different Supersonic Speeds..... 1111
 P. Georgievskiy and V. Levin

Experimental Investigations of a Diffuser Start/Unstart Characteristics for Two Stream Supersonic Wind Tunnel 1119
 S. Manoj Prabakar and T. M. Muruganandam

Experimental Investigation of Film Cooling Technique over a Blunt Body in Hypersonic Flow	1127
J. L. K. Sindhu, S. Mohammed Ibrahim, and K. P. J. Reddy	
Wavefront Aberration in a Laser Beam Induced by Supersonic Flow Field Around a Wedge	1135
Sangyoon Lee, Mancheol Jeong, Minwook Chang, In-Seuck Jeung, and Hyoung Jin Lee	
Boundary Layer Transition Measurements on Sharp and Blunt Cones in the T4 Stalker Tube	1141
David J. Mee and Sreekanth Raghunath	
Estimation of the Particle Drag Coefficients for Compressible and Rarefied Flows Using PIV and MTV Data	1149
T. Handa, S. Koike, and K. Imabayashi	
RANS Simulation of Over- and Under-expanded Beveled Nozzle Jets Using OpenFOAM	1155
B. Zang, Vevek U S, and T. H. New	
Exploration of Under-Expanded Free and Impinging Supersonic Jet Flows	1163
D. Donjat, F. Nicolas, O. Leon, F. Micheli, G. Le Besnerais, and F. Champagnat	
PIV Studies on the Effect of the Number of Lobes in a Supersonic ESTS Lobed Nozzle	1171
S. K. Karthick, V. Albin, Srisha M. V. Rao, and Gopalan Jagadeesh	
Numerical Study of Heat Transfer on Confined Under-Expanded Impinging Jet from Slot into a Plenum	1179
Tinglong Huang, Lianjie Yue, and Xinyu Chang	
Correction to: Three-Dimensional Instability of Shock-Wave/ Boundary-Layer Interaction for Rocket Engine Nozzle Applications	C1