

# Chronological Index

- T06-001 Temperature and Wavelength-Dependent Spectral Absorptivities of Metallic Materials in the Infrared.** Samuel Boyden, *New Mexico State University*; and Yuwen Zhang, *University of Missouri-Columbia* (20, 1, p. 9) Article
- T06-002 Analysis of Apollo Command Module Afterbody Heating Part I: AS-202.** Michael J. Wright, *NASA Ames Research Center*; Dinesh K. Prabhu, *ELORET Corp.*; and Edward R. Martinez, *NASA Ames Research Center* (20, 1, p. 16) Article based on AIAA Paper 2004-2468
- T06-003 Elemental Demixing in Inductively Coupled Air Plasma Torches at High Pressures.** Pietro Rini, *von Karman Institute for Fluid Dynamics, Belgium*; David Vanden Abeele and Gérard Degrez, *Université Libre de Bruxelles, Belgium* (20, 1, p. 31) Article based on AIAA Paper 2004-2472
- T06-004 Kinetic Model of Condensation in a Free Argon Expanding Jet.** Jiaqiang Zhong, Michael I. Zeifman, and Deborah A. Levin, *Pennsylvania State University* (20, 1, p. 41) Article based on AIAA Paper 2005-0767
- T06-005 Approximate Thermal Emission Models of a Two-Dimensional Gradient Index Semitransparent Medium.** Yong Huang and Xin-Gang Liang, *Tsinghua University, China (PRC)* (20, 1, p. 52) Article
- T06-006 Finite Volume Method for Radiation Heat Transfer in Graded Index Medium.** L. H. Liu, *Harbin Institute of Technology, China (PRC)* (20, 1, p. 59) Article
- T06-007 Effect of Coriolis and Centrifugal Forces at High Rotation and Density Ratios.** Ahmad K. Sleiti and Jay S. Kapat, *University of Central Florida* (20, 1, p. 67) Article based on AIAA Paper 2004-1276
- T06-008 Turbine Rotor with Various Tip Configurations Flow and Heat Transfer Prediction.** Huitao Yang, Hamn-Ching Chen, and Je-Chin Han, *Texas A&M University* (20, 1, p. 80) Article based on AIAA Paper 2005-573
- T06-009 Parameters Affecting Turbulent Film Cooling—Reynolds-Averaged Navier-Stokes Computational Simulation .** Shadi Mahjoob, *Aerospace Research Institute (Ministry of Science, Research, and Technology), Iran*; and Mohammad Taeibi-Rahni, *Sharif University of Technology, Iran* (20, 1, p. 92) Article
- T06-010 Direct Measurements of Eddy Transport and Thermal Dispersion in a High Porosity Matrix.** Yi Niu and Terry Simon, *University of Minnesota*; David Gedeon, *Gedeon Associates*; and Mounir Ibrahim, *Cleveland State University* (20, 1, p. 101) Article based on AIAA Paper 2004-5646
- T06-011 Actively Pumped Two-Phase Loop for Spray Cooling.** Lanchao Lin, *Universal Energy Systems*; Rengasamy Ponnappan and Kirk Yerkes, *U.S. Air Force Research Laboratory* (20, 1, p. 107) Article based on AIAA Paper 2005-0381
- T06-012 Model-Based Method of Theoretical Design Analysis of a Loop Heat Pipe.** Masao Furukawa, *Japan Aerospace Exploration Agency, Japan* (20, 1, p. 111) Article
- T06-013 Transient Conjugate Heat-Transfer Model for Circular Tubes Inside a Rectangular Substrate.** P. S. C. Rao and Muhammad M. Rahman, *University of South Florida* (20, 1, p. 122) Article
- T06-014 Prediction of Gross Parameters During Enclosed Incineration of Energetic Materials.** Robert Boehm, *University of Nevada, Las Vegas*; Jennifer Politano, *Bechtel Nevada*; and Zoran Stefanoski, *NVIDIA Corporation* (20, 1, p. 135) Article
- T06-015 Dimensionless Governing Equations for Vapor and Liquid Flow Analysis of Heat Pipes.** Gerardo Carbajal, *Rensselaer Polytechnic Institute*; C. B. Sobhan, *National Institute of Technology, India*; and G. P. Peterson, *Rensselaer Polytechnic Institute* (20, 1, p. 140) Technical Note
- T06-016 Impingement Heat Transfer with a Nonlinear First-Order  $k$ - $\epsilon$  Model.** Bart Merci, Karim Van Maele, and Erik Dick, *Ghent University, Belgium* (20, 1, p. 144) Technical Note
- T06-017 Statistical Model for Vibration-Chemical Reaction Interaction: Extension to Gas Mixtures.** Naoual Belouaggadia, *University of Casablanca, Morocco*; and Raymond Brun, *University of Marseille, France* (20, 1, p. 148) Technical Note
- T06-018 Meshless Local Petrov-Galerkin Method for Solving Radiative Transfer Equation.** L. H. Liu, *Harbin Institute of Technology, China (PRC)* (20, 1, p. 150) Technical Note
- T06-019 Analytical Calculation of Diffusion Coefficients and Other Transport Properties in Binary Mixtures.** Jurij Avsec, *University of Maribor, Slovenia*; and Maks Oblak, *University of Maribor* (20, 1, p. 154) Technical Note based on AIAA Paper 2004-2292
- T06-020 Turbine Blade Cooling Studies at Texas A&M University: 1980-2004.** Je-Chin Han, *Texas A&M University* (20, 2, p. 161) Article
- T06-021 Local Heat/Mass Transfer Phenomena in Rotating Passage, Part 1: Smooth Passage.** Kyung Min Kim, Yun Young Kim, Dong Hyun Lee, Dong Ho Rhee, and Hyung Hee Cho, *Yonsei University, South Korea* (20, 2, p. 188) Article
- T06-022 Local Heat/Mass Transfer Phenomena in Rotating Passage, Part 2: Angled Ribbed Passage.** Kyung Min Kim, Yun Young Kim, Dong Hyun Lee, Dong Ho Rhee, and Hyung Hee Cho, *Yonsei University, South Korea* (20, 2, p. 199) Article
- T06-023 Coupled Radiation, Conduction, and Joule Heating in Argon Thermal Plasmas.** Christine Deron, Philippe Rivière, Marie-Yvonne Perrin, and Anouar Soufiani, *Centre National de la Recherche Scientifique et École Centrale Paris, France* (20, 2, p. 211) Article
- T06-024 Modeling and Experimental Assessment of CN Radiation Behind a Strong Shock Wave.** Deepak Bose, Michael Wright, David Bogdanoff, George Raiche, and Gary A. Allen, *NASA Ames Research Center* (20, 2, p. 220) Article based on AIAA Paper 2005-768
- T06-025 Thermal Characterization of a Multilayer Material Through the Flash Method.** Isabelle Perry, Benjamin Remy, and Denis Maillet, *Université Henri Poincaré Nancy, France* (20, 2, p. 231) Article
- T06-026 Stabilization of Ill-Posed Problems Through Thermal Rate Sensors.** Jay I. Frankel and Gregory Osborne, *University of Tennessee*; and Kunihiko Taira, *California Institute of Technology* (20, 2, p. 238) Article
- T06-027 Influence of Geometry and Edge Cooling on Thermal Spreading Resistance.** Y. S. Muzychka, *Memorial University Newfoundland, Canada*; M. M. Yovanovich and J. R. Culham, *University of Waterloo, Canada* (20, 2, p. 247) Article based on AIAA Paper 2003-4187
- T06-028 Enhancement of Heat Transfer over a Cylinder by Acoustic Excitation.** J. H. Su and C. Gau, *National Cheng Kung University, Taiwan (ROC)*; and C.-S. Yang, *Far East College, Taiwan (ROC)* (20, 2, p. 256) Article
- T06-029 Analytical Model for Thermal Performance Analysis of an Enclosure Heated by Aligned Thermosyphons.** Fernando H. Milanez and Marcia B. Mantelli, *Federal University of Santa Catarina, Brazil* (20, 2, p. 267) Article based on AIAA Paper 2005-0382

**T06-030 Unsteady Laminar Buoyant Flow Through Rectangular Vents in Large Enclosures.** Ranganathan Kumar, Ahmad Sleiti, and Jayanta Kapat, *University of Central Florida* (20, 2, p. 276) Article

**T06-031 Numerical Simulation of Thermobuoyant Flow with Large Temperature Variation.** Masoud Darbandi and Seyed Farid Hosseinzadeh, *Sharif University of Technology, Iran* (20, 2, p. 285) Article based on AIAA Paper 2004-2459

**T06-032 Analytical Modeling of Natural Convection in Concentric Spherical Enclosures.** Peter M. Teertstra, M. Michael Yovanovich, and J. Richard Culham, *University of Waterloo, Canada* (20, 2, p. 297) Article based on AIAA Paper 2004-496

**T06-033 Thermal Interaction Between Two Vertical Systems of Free and Forced Convections.** M. E. Mosaad and M. Al-Hajeri, *Kuwait* (20, 2, p. 305) Article

**T06-034 Bridgman-Stockbarger Growth of Binary Alloyed Semiconductor Crystals with Steady Magnetic Fields.** Xianghong Wang and Nancy Ma, *North Carolina State University* (20, 2, p. 313) Article

**T06-035 Microscale Heat and Mass Transport of Evaporating Thin Film of Binary Mixture.** Sang-Kwon Wee, *Samsung Advanced Institute of Technology, South Korea*; Kenneth D. Kihm, *University of Tennessee*; David M. Pratt, *Wright-Patterson Air Force Base*; and Jeffrey S. Allen, *Michigan Technological University* (20, 2, p. 320) Article

**T06-036 Experimental In-Cavity Radiative Calibration of High Heat-Flux Meters.** Annageri V. Murthy, *Aero-Tech, Inc.*; Gerald T. Fraser and David P. DeWitt, *National Institute of Standards and Technology* (20, 2, p. 327) Article based on AIAA Paper 2005-5323

**T06-037 Modified View Factor Method for Estimating Molecular Backscattering Probability in Space Conditions.** Jin W. Lee and Min Y. Yi, *Pohang University of Science and Technology, South Korea*; Dong I. Han, Ik M. Jin, Chang H. Lee, and Sang R. Lee, *Korea Aerospace Research Institute, South Korea* (20, 2, p. 336) Article

**T06-038 Monte Carlo Solution of Transient Heat Conduction in Anisotropic Media.** Farshad Kowsary and Saeed Irano, *University of Tehran, Iran* (20, 2, p. 342) Technical Note

**T06-039 Analysis and Prediction of Constriction Resistance Between Coated Surfaces.** Christine T. Merrill and Suresh V. Garimella, *Purdue University* (20, 2, p. 346) Technical Note

**T06-040 Surface-Absorption Assumption for Radiant Heating and Ignition of Energetic Solids.** M. Q. Brewster, *University of Illinois* (20, 2, p. 348) Technical Note

**T06-041 Review of Condensation Heat Transfer in Microgravity Environments.** Yongping Chen, *Southeast University and Rensselaer Polytechnic Institute, China (PRC)*; C. B. Sobhan, *National Institute of Technology*; and G. P. Peterson, *Rensselaer Polytechnic Institute* (20, 3, p. 353) Article

**T06-042 Variable-Gravity Effects on a Single-Phase Partially-Confined Spray Cooling System.** Kirk L. Yerkes, Travis E. Michalak, Kerri M. Baysinger, and Rebekah Puterbaugh, *U.S. Air Force Research Laboratory*; Scott K. Thomas, *Wright State University*; and John McQuillen, *NASA John H. Glenn Research Center* (20, 3, p. 361) Article based on AIAA Paper 2006-0596

**T06-043 Fluidization Behavior of Fine Powders in Reduced Gravity Conditions.** Rui Shao, Richard R. Williams, and Ruel A. Overfelt, *Auburn University* (20, 3, p. 371) Article

**T06-044 Flows Induced by Thermoacoustic Waves in an Enclosure: Effects of Gravity.** Yiqiang Lin and Bakhtier Farouk, *Drexel University*; and Elaine S. Oran, *U.S. Naval Research Laboratory* (20, 3, p. 376) Article

**T06-045 Parametric Study of Modified Vertical Bridgman Growth in a Rotating Magnetic Field.** X. Wang and N. Ma, *North Carolina State University*; D. F. Bliss, *U.S. Air Force Research Laboratory*; G. W. Iseler, *Iseler Associates*; and P. Becla, *Solid State Scientific* (20, 3, p. 384) Article

**T06-046 Investigation of Effects of Auxiliary Measures for Startup of Loop Heat Pipes.** Guiping Lin and Hongxing Zhang, *Beihang University, China (PRC)*; Xingguo Shao, Jianfeng Cao, Ting Ding, and Jianyin Miao, *China Academy of Space Technology, China (PRC)* (20, 3, p. 389) Article

**T06-047 Thermal Joint Conductance of Low-Density Polyethylene and Polyester Polymetric Films: Experimental.** Ick-Chan Kim, Egidio E. Marotta, and Leroy S. Fletcher, *Texas A&M University* (20, 3, p. 398) Article based on AIAA Paper 2005-760

**T06-048 Performance of Shrouded Pin-Fin Heat Sinks for Electronic Cooling.** Waqar A. Khan, Richard J. Culham, and Milan M. Yovanovich, *University of Waterloo, Canada* (20, 3, p. 408) Article based on AIAA Paper 2005-5071

**T06-049 Cooling of a Heat-Generating Strip Immersed in a Laminar Channel Flow.** O. Bautista, *Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico*; F. Mendez, *Universidad Nacional Autónoma de México, Mexico*; and N. Luna, *Secretaría de Energía, Mexico* (20, 3, p. 415) Article

**T06-050 Transient Natural Convective Conjugate Cooling Mechanism in Vertical Fins.** Irais Contreras and César Treviño, *UNAM, Mexico*; and Francisco J. Higuera, *UPM, Spain* (20, 3, p. 422) Article

**T06-051 Optimal Inverse Design Problem in Determining Cooling Conditions for High-Speed Motors.** Cheng-Hung Huang and Hung-Chi Lo, *National Cheng Kung University, Taiwan (ROC)* (20, 3, p. 429) Article

**T06-052 Partial Melting and Resolidification of Metal Powder in Selective Laser Sintering.** Bin Xiao and Yuwen Zhang, *University of Missouri-Columbia* (20, 3, p. 439) Article

**T06-053 Fuel Cell Exergy Losses of Activation Energy and Cathode Polarization.** Greg F. Naterer, *University of Ontario Institute of Technology, Canada*; and C. D. Tokarz, *University of Manitoba, Canada* (20, 3, p. 449) Article

**T06-054 Coupled Rotational-Vibrational Relaxation of Molecular Hydrogen at High Temperatures.** Michiko Furudate, Kazuhisa Fujita, and Takashi Abe, *Institute of Space and Astronautical Science, Japan* (20, 3, p. 457) Article based on AIAA Paper 2003-3780

**T06-055 State-to-State Catalytic Models, Kinetics, and Transport in Hypersonic Boundary Layers.** Iole Armenise, *IMIP-CNR, Italy*; Maurizio Barbato, *SUPSI-DTI-ICIMSI, Switzerland*; Mario Capitelli, *Bari University, Italy*; and Elena Kustova, *Saint Petersburg State University, Russia* (20, 3, p. 465) Article

**T06-056 Reduction of State-to-State Kinetics to Macroscopic Models in Hypersonic Flows.** Gianpiero Colonna, Iole Armenise, Domenico Bruno, and Mario Capitelli, *Università di Bari and CNR-IMIP, Italy* (20, 3, p. 477) Article based on AIAA Paper 2005-5205

**T06-057 Shock-Tube Measurement of Nitridation Coefficient of Solid Carbon.** Chul Park, *Eloret Corporation, South Korea*; and David W. Bogdanoff, *Eloret Corporation* (20, 3, p. 487) Article based on AIAA Paper 2003-0158

**T06-058 Flight Extrapolation of Plasma Wind Tunnel Stagnation Region Flowfield.** Paolo Barbante, *Politecnico di Milano, Italy*; and Olivier Chazot, *von Karman Institute for Fluid Dynamics, Belgium* (20, 3, p. 493) Article

**T06-059 Thermal Shielding of a Reentry Vehicle by Ultra-High-Temperature Ceramic Materials.** Rodolfo Monti, Mario De Stefano Fumo, and Raffaele Savino, *University of Naples "Federico II", Italy* (20, 3, p. 500) Article based on AIAA Paper 2005-3265

**T06-060 Heating Environments of a Venus Entry Capsule in a Trail Balloon Mission.** Kazuhisa Fujita, Takahiro Sumi, Tetsuya Yamada, and Nobuaki Ishii, *Japan Aerospace Exploration Agency, Japan* (20, 3, p. 507) Article based on AIAA Paper 2005-5207

**T06-061 Sensitivity of Water Condensation in a Supersonic Plume to the Nucleation Rate.** Jiaqiang Zhong, Micheal I. Zeifman, and Deborah A. Levin, *Pennsylvania State University* (20, 3, p. 517) Article

**T06-062 Rarefied Background Flow in a Vacuum Chamber Equipped with One-Sided Pumps.** Chunpei Cai and Iain Boyd, Quanhua Sun, *University of Michigan* (20, 3, p. 524) Article

**T06-063 Numerical Investigation of Vortex Onset in Supersonic Taylor-Couette Flow.** Benedicte D. Lagnon, *University of Texas at Austin*; Stefan Wernz, *University of Arizona*; David B. Goldstein, *University of Texas at Austin*; and Hermann F. Fasel, *University of Arizona* (20, 3, p. 536) Article based on AIAA Paper 2005-517

**T06-064 Monte Carlo and Navier-Stokes Simulations of Compressible Taylor-Couette Flow.** Benedicte D. Lagnon, Kevin Marr, and David B. Goldstein, *University of Texas at Austin* (20, 3, p. 544) Article based on AIAA Paper 2005-965

**T06-065 Modern Integral Method Calculation of Turbulent Boundary Layers.** James Sucec, *University of Maine* (20, 3, p. 552) Article

**T06-066 Film-Cooling Prediction on Turbine Blade Tip with Various Film Hole Configurations.** Huitao Yang, Hamn-Ching Chen, and Je-Chin Han, *Texas A&M University* (20, 3, p. 558) Article

**T06-067 Heat Transfer in Two-Pass Rotating Rectangular Channels ( $AR=2:1$ ) with Discrete Ribs.** Wen-Lung Fu, Lesley M. Wright, and Je-Chin Han, *Texas A&M University* (20, 3, p. 569) Article

**T06-068 Transient Coupled Heat Transfer Inside a Scattering mMedium with Graded Refractive Index.** He-Ping Tan and Hong-Liang Yi, *Harbin Institute of Technology, China (PRC)*; Jian-Feng Luo, *National University of Defense Technology, China (PRC)*; and Hao-Chun Zhang, *Harbin Institute of Technology, China (PRC)* (20, 3, p. 583) Article

**T06-069 Material Dependence of Plasma Radiation Produced by a Capillary Discharge.** Malay Das, Stefan T. Thynell, Jianquan Li, and Thomas A. Litzinger, *Pennsylvania State University* (20, 3, p. 595) Article

**T06-070 Differential View Factor for a Rectangle with Intervening Parallelepiped or Sphere.** Srinivasa K. Ramanujam, Abishek S, and Subrahmanya S. Katte, *Shanmugha Arts, Science, Technology & Research Academy, India* (20, 3, p. 604) Technical Note

**T06-071 Transient Thermal Effects of Radiant Energy In Semitransparent Materials.** Parham Sadooghi, *K.N.T University of Technology, Iran* (20, 3, p. 607) Technical Note

**T06-072 Multiband Radiation Model for Simulation of Galileo Probe Entry Flowfield.** Shingo Matsuyama, *Japan Aerospace Exploration Agency, Japan*; Yuji Shimogonya, Naofumi Ohnishi, Akihiro Sasoh, and Keisuke Sawada, *Tohoku University, Japan* (20, 3, p. 611) Technical Note

**T06-073 Hybrid Method for Jet Vane Thermal Analysis in Supersonic Nozzle Flow.** Man Sun Yu and Hyung Hee Cho, *Yonsei University, South Korea*; Ki Young Hwang and Ju Chan Bae, *Agency for Defense Development, South Korea* (20, 3, p. 614) Technical Note based on AIAA Paper 2005-4820

**T06-074 Heat and Mass Transfer on Surfaces of Cooling Coils.** Mehmet S. Söylemez, *University of Gaziantep, Turkey* (20, 3, p. 617) Technical Note

**T06-075 Profile Patterns and Stability of Evaporating Liquid Sessile Drops.** David F. Chao and John M. Sankovic, *NASA John H. Glenn Research Center*; and Nengli Zhang, *Ohio Aerospace Institute* (20, 3, p. 620) Technical Note

**T06-076 Flow Patterns of Two-Phase Flow Vertical U-Type Return Bends.** Somchai Wongwises, Wason Kamsanam, *King Mongkut's University of Technology Thonburi, Thailand*; and Chi-Chuan Wang, *Industrial Technology Research Institute, Taiwan (ROC)* (20, 3, p. 624) Technical Note

**T06-077 Thermally Developing Flow in Microchannels.** Orhan Aydin and Mete Avci, *Karadeniz Technical University, Turkey* (20, 3, p. 628) Technical Note

**T06-078 Synthesis and Characterization of  $Zn_{1-x}Mg_xO$  Thin Films.** P. Raji and K. Ramachandran, *Madurai Kamaraj University, India*; and R. Sanjeeviraja, *Alagappa University, India* (20, 3, p. 632) Technical Note

**T06-079 Calculation of Pressure Loads in the Heater of a Hypersonic Blowdown Tunnel.** Kerrie A. Smith and Mark J. Lewis, *University of Maryland* (20, 3, p. 635) Technical Note

**T06-080 Effects of Surface Tension on Two-Dimensional Two-Phase Stratified Flows.** Y. F. Yap, John C. Chai, T. N. Wong, and K. C. Toh, *Nanyang Technological University, Singapore* (20, 3, p. 638) Technical Note

**T06-081 Modeling of Shock Tunnel Aeroheating Data on the Mars Science Laboratory Aeroshell.** Michael J. Wright, Joseph Olejniczak, and James L. Brown, *NASA Ames Research Center*; Hans G. Hornung, *California Institute of Technology*; and Karl T. Edquist, *NASA Langley Research Center* (20, 4, p. 641) Article based on AIAA Paper 2005-0177

**T06-082 Uncertainty Analysis of Laminar Aeroheating Predictions for Mars Entries.** Deepak Bose, *Eloret Corporation*; Michael J. Wright, *NASA Ames Research Center*; and Grant E. Palmer, *Eloret Corporation* (20, 4, p. 652) Article based on AIAA Paper 2005-4682

**T06-083 Convective and radiative heat flux prediction of Huygens entry on Titan.** Louis M. Walpot, *Advanced Operations and Engineering Services Group, The Netherlands*; L. Caillault, *Laboratoire EM2C, France*; R. C. Molina, *ESA, The Netherlands*; C O. Laux, *Laboratoire EM2C, France*; and T. Blanquaert, *ESA, The Netherlands* (20, 4, p. 663) Article

**T06-084 Comparison of Enthalpy Determination Methods for an Arc-Jet Facility.** Chul Park, *Eloret Corporation, South Korea*; George A. Raiche, David M. Driver, Joseph Olejniczak, Imelda Terrazas-Salinas, Thomas M. Hightower, and Takeharu Sakai, *NASA Ames Research Center* (20, 4, p. 672) Article based on AIAA Paper 2004-0487

**T06-085 Modelling of a  $CO_2-N_2$  Plasma Flow in a Supersonic Arcjet Facility.** Mário Lino da Silva, *Centre National de la Recherche Scientifique, Portugal*; Filipe Passarinho and Michel Dudeck, *Centre National de la Recherche Scientifique, France* (20, 4, p. 680) Article

**T06-086 Thermochemical Relaxation in Shock Tunnels.** Chul Park, *Korea Advanced Institute of Science and Technology, South Korea* (20, 4, p. 689) Article based on AIAA Paper 2006-0585

**T06-087 Numerical Modeling of Near-Continuum Flow over a Wedge with Real Gas Effects.** Yevgeniy Bondar, *Institute of Theoretical and Applied Mechanics, Russia*; Gennady Markelov, *Advanced Operations and Engineering Services, The Netherlands*; Sergey Gimelshein, *University of Southern California*; and Mikhail Ivanov, *Institute of Theoretical and Applied Mechanics, Russia* (20, 4, p. 699) Article based on AIAA Paper 2004-1183

**T06-088 Momentum and Heat Transfer in a Laminar Boundary Layer with Slip Flow.** Michael J. Martin and Iain D. Boyd, *University of Michigan* (20, 4, p. 710) Article

**T06-089 Analytical Model for Convection Heat Transfer from Tube Banks.** Waqar A. Khan, Richard J. Culham, and Milan M. Yovanovich, *University of Waterloo, Canada* (20, 4, p. 720) Article based on AIAA Paper 2005-958

**T06-090 Heat/Mass Transfer with Circular Pin Fins in Impingement/Effusion Cooling System with Crossflow.** Sung Kook Hong, Dong-Ho Rhee, and Hyung Hee Cho, *Yonsei University, South Korea* (20, 4, p. 728) Article



- T06-091 Turbulent Flow Through a Staggered Tube Bank.** You Qin Wang, Peter Jackson, and Timothy Phaneuf, *University of Northern British Columbia, Canada* (20, 4, p. 738) Article
- T06-092 Heat Transfer in Channels in Parallel-Mode Rotation at High Rotation Numbers.** Ahmad K. Sleiti and Jayanta S. Kapat, *University of Central Florida* (20, 4, p. 748) Article based on AIAA Paper 2004-2554
- T06-093 Film Cooling Effectiveness for an Advanced-Louver Cooling Scheme for Gas Turbines.** X. Z. Zhang, *Concordia University*; and Ibrahim Hassan, *Concordia University, Canada* (20, 4, p. 754) Article
- T06-094 Louver Cooling Scheme for Gas Turbines: Multiple Rows.** Ibrahim Hassan and X. Z. Zhang, *Concordia University, Canada*; and T. Lucas, *Pratt and Whitney Canada* (20, 4, p. 764) Article
- T06-095 Model for Ammonia Solar Thermal Thruster.** Gianpiero Colonna, Giulia Capitta, and Mario Capitelli, *Università di Bari and Consiglio Nazionale delle Ricerche, Italy*; Ingrid Wysong, *Edwards Air Force Base*; and Fred G. Kennedy, *Defense Advanced Research Projects Agency* (20, 4, p. 772) Article based on AIAA Paper 2005-4943
- T06-096 Thermal Analysis for Propellant Stream in Thruster's Injection Tube During Start Process.** Ze-juan Xiao and Hui-er Cheng, *Shanghai Jiao Tong University, China (PRC)* (20, 4, p. 780) Article
- T06-097 Effects of Forced Convection and Surface Tension during Methanol Droplet Combustion.** Vasudevan Raghavan, *University of Nebraska at Lincoln*; Daniel N. Pope, *University of Minnesota Duluth*; and George Gogos, *University of Nebraska at Lincoln* (20, 4, p. 787) Article
- T06-098 Manifestation of Acceleration During Transient Heat Conduction.** Kal R. Sharma, *Shanmugha Arts, Science, Technology & Research Academy, India* (20, 4, p. 799) Article
- T06-099 Design Graphs for Thermal Contact Conductance of Similar and Dissimilar Light Alloys.** Michael A. Lambert, *San Diego State University*; Srinivas Mirmira, *Applied Materials Corporation*; and L. S. Fletcher, *Texas A&M University* (20, 4, p. 809) Article based on AIAA Paper 98-2759
- T06-100 Characterization of Rough Engineering Surfaces for Use in Thermal Contact Conductance Modeling.** Anthony F. Black and Suresh V. Garimella, *Purdue University* (20, 4, p. 817) Article
- T06-101 Development and Test Results of a Dual Compensation Chamber Loop Heat Pipe.** Lin Guiping and Zhang Hongxing, *Beihang University, China (PRC)*; Shao Xingguo, Cao Jianfeng, Ding Ting, and Miao Jianyin, *China Academy of Space Technology, China (PRC)* (20, 4, p. 825) Article
- T06-102 Numerical Study of Heat Pipe Heat Spreaders with Large Periodic Heat Input.** Gerardo Carbajal, *Rensselaer Polytechnic Institute*; C. B. Sobhan, *National Institute of Technology, India*; and G. P. Peterson, *University of Colorado* (20, 4, p. 835) Article
- T06-103 Experimental Analysis of Supercritical Startup of Nitrogen/Stainless Steel Cryogenic Heat Pipe.** Paulo Couto, *Federal University of Rio de Janeiro, Brazil*; Marcia B. Mantelli, *Federal University of Santa Catarina, Brazil*; and Jay M. Ochterbeck, *Clemson University* (20, 4, p. 842) Article based on AIAA Paper 2003-4190
- T06-104 Destabilization Mechanisms and Scaling Laws of Convective Boiling in a Minichannel.** David Brutin and Lounès Tadrist, *Ecole Polytechnique Universitaire de Marseille, France* (20, 4, p. 850) Article
- T06-105 Simple Deployable Radiator with Autonomous Thermal Control Function.** Hosei Nagano, *Keio University*; Yuji Nagasaka, *Keio University, Japan*; and Akira Ohnishi, *Japan Aerospace Exploration Agency, Japan* (20, 4, p. 856) Article based on AIAA Paper 2005-5073
- T06-106 Heat Dissipation with Pitch-Based Carbon Foams and Phase-Change Materials.** Kevin W. Wierschke and Milton E. Franke, *Air Force Institute of Technology*; Roland Watts and Rengasamy Ponnappan, *Air Force Research Laboratory* (20, 4, p. 865) Article based on AIAA Paper 2005-5070
- T06-107 Improved Inverse Method for Radiative Characteristics of Closed-Cell Absorbing Porous Media.** Jaona H. Randrianalisoa and Dominique Baillis, *Centre de Thermique de Lyon, Institut National des Sciences Appliquées de Lyon, France*; and Laurent Pilon, *University of California* (20, 4, p. 871) Article
- T06-108 Local Heat Transfer Measurements on a Curved Microsurface Using Liquid Crystal Thermography.** Ibrahim G. Hassan and R. Muwanga, *Concordia University, Canada* (20, 4, p. 884) Article
- T06-109 Lattice Boltzmann Method Applied to Variable Thermal Conductivity Conduction and Radiation Problems.** Nishant Gupta, Raghu C. Gorthi, and Subhash C. Mishra, *Indian Institute of Technology Guwahati, India* (20, 4, p. 895) Article
- T06-110 Two-Dimensional Conduction Effects in Estimating Radiative Flux from a Capillary Discharge.** Malay Das and Stefan T. Thynell, *The Pennsylvania State University* (20, 4, p. 903) Article
- T06-111 Least-Squares Collocation Meshless Approach for Transient Radiative Transfer.** J. Y. Tan, L. H. Liu, and B. X. Li, *Harbin Institute of Technology, China (PRC)* (20, 4, p. 912) Article
- T06-112 Enhanced Long-Wavelength Infrared Extinction from Soot Agglomerates.** Daniel Mackowski, *Auburn University*; Robert A. Reed and Ben W. Hartsfield, *Arnold Engineering Development Center* (20, 4, p. 919) Technical Note
- T06-113 Influence of Electronic Excitation on the Thermodynamic Properties of Hydrogen Plasmas.** Francesco De Palma, Anna Rita Casavola, and Mario Capitelli, *Università degli Studi di Bari, Italy* (20, 4, p. 921) Technical Note
- T06-114 Application of Lumped-System Analysis to Layered Porous Cavities Heated from Below.** Michael J. Voon, Chean C. Ngo and Feng C. Lai, *University of Oklahoma* (20, 4, p. 925) Technical Note based on AIAA Paper 2005-0182
- T06-115 Numerical Study of Flow Inside an Annular Jet Pump.** Mohamed A. El Gazzar, *Helwan Eng. Industries Co., Egypt*; Tarek Meakhal, *High Institute of Energy, Egypt*; and Samy Mikhail, *Cairo University, Egypt* (20, 4, p. 930) Technical Note based on AIAA Paper 2359-TP10
- T06-116 Nonequilibrium Vibration-Dissociation Properties of Diatomic Molecule Behind Shock Waves.** Yu Ma, Shi-Kui Dong, Lin-Hua Liu, and He-Ping Tan, *Harbin Institute of Technology, China (PRC)* (20, 4, p. 933) Technical Note
- T06-117 Inlet Air Temperature Effects on the Performance of the Solid Fuel Ramjet.** Tae-Ho Lee, *Agency for Defense Development, South Korea* (20, 4, p. 937) Technical Note
- T06-118 Effects of Joule Heating on Electrohydrodynamics-Enhanced Natural Convection in an Enclosure.** Meirong Huang and Feng C. Lai, *University of Oklahoma* (20, 4, p. 939) Technical Note
- T06-119 Generalizing the Method of Kulish to One-Dimensional Unsteady Heat Conducting Slabs.** Jay Frankel, *University of Tennessee* (20, 4, p. 945) Technical Note