

# 2006 Journal of Thermophysics and Heat Transfer Index

## How to Use the Index

In the Subject Index, pages 951–954, each technical paper is listed under a maximum of three appropriate headings. Note the locating number in boldface type preceding each paper title, and use that number to find the paper in the Chronological Index. The Author Index, pages 955–956, lists all authors associated with a given technical paper. The locating numbers are identical to those in the Subject Index. The Chronological Index, pages 957–960, also lists all papers by their locating numbers. This listing contains titles, authors and their affiliations, and volume, issue number, and page where the paper appeared. It also gives the AIAA paper number, if any, on which the article was based. Comments, Replies, and Errata are listed directly beneath the paper to which they refer. If the paper to which they refer was published prior to 2006, that paper also will appear in both the Subject and Chronological Indexes. Authors of Comments also are listed in the Author Index.

## Subject Index

### AIRCRAFT TECHNOLOGY, CONVENTIONAL, STOL/VTOL

#### *Aerodynamics*

**T06-019** Analytical Calculation of Diffusion Coefficients and Other Transport Properties in Binary Mixtures

#### *Aerospace Plane*

**T06-059** Thermal Shielding of a Reentry Vehicle by Ultra-High-Temperature Ceramic Materials

#### *Propeller and Rotor Systems*

**T06-066** Film-Cooling Prediction on Turbine Blade Tip with Various Film Hole Configurations

### ENERGY

#### *Flywheels*

**T06-064** Monte Carlo and Navier-Stokes Simulations of Compressible Taylor-Couette Flow  
**T06-063** Numerical Investigation of Vortex Onset in Supersonic Taylor-Couette Flow

#### *Fuel Cells*

**T06-053** Fuel Cell Exergy Losses of Activation Energy and Cathode Polarization

#### *Rotating Machinery*

**T06-092** Heat Transfer in Channels in Parallel-Mode Rotation at High Rotation Numbers

#### *Stirling Engine*

**T06-010** Direct Measurements of Eddy Transport and Thermal Dispersion in a High Porosity Matrix

### FLUID DYNAMICS

#### *Boundary Layers and Heat Transfer-Laminar*

**T06-058** Flight Extrapolation of Plasma Wind Tunnel Stagnation Region Flowfield  
**T06-055** State-to-State Catalytic Models, Kinetics, and Transport in Hypersonic Boundary Layers  
**T06-033** Thermal Interaction Between Two Vertical Systems of Free and Forced Convections  
**T06-089** Analytical Model for Convection Heat Transfer from Tube Banks

**T06-088** Momentum and Heat Transfer in a Laminar Boundary Layer with Slip Flow

#### *Boundary Layers and Heat Transfer-Turbulent*

**T06-065** Modern Integral Method Calculation of Turbulent Boundary Layers  
**T06-007** Effect of Coriolis and Centrifugal Forces at High Rotation and Density Ratios  
**T06-009** Parameters Affecting Turbulent Film Cooling—Reynolds-Averaged Navier-Stokes Computational Simulation  
**T06-093** Film Cooling Effectiveness for an Advanced-Louver Cooling Scheme for Gas Turbines

#### *Computational Fluid Dynamics*

**T06-016** Impingement Heat Transfer with a Nonlinear First-Order  $k$ - $\epsilon$  Model  
**T06-092** Heat Transfer in Channels in Parallel-Mode Rotation at High Rotation Numbers  
**T06-045** Parametric Study of Modified Vertical Bridgman Growth in a Rotating Magnetic Field  
**T06-080** Effects of Surface Tension on Two-Dimensional Two-Phase Stratified Flows  
**T06-115** Numerical Study of Flow Inside an Annular Jet Pump  
**T06-009** Parameters Affecting Turbulent Film Cooling—Reynolds-Averaged Navier-Stokes Computational Simulation  
**T06-002** Analysis of Apollo Command Module Afterbody Heating Part I: AS-202  
**T06-081** Modeling of Shock Tunnel Aeroheating Data on the Mars Science Laboratory Aeroshell  
**T06-087** Numerical Modeling of Near-Continuum Flow over a Wedge with Real Gas Effects  
**T06-007** Effect of Coriolis and Centrifugal Forces at High Rotation and Density Ratios  
**T06-034** Bridgman-Stockbarger Growth of Binary Alloyed Semiconductor Crystals with Steady Magnetic Fields  
**T06-085** Modelling of a CO<sub>2</sub>-N<sub>2</sub> Plasma Flow in a Supersonic Arcjet Facility  
**T06-044** Flows Induced by Thermoacoustic Waves in an Enclosure: Effects of Gravity  
**T06-031** Numerical Simulation of Thermo-buoyant Flow with Large Temperature Variation  
**T06-091** Turbulent Flow Through a Staggered Tube Bank

**T06-082** Uncertainty Analysis of Laminar Aeroheating Predictions for Mars Entries

**T06-059** Thermal Shielding of a Reentry Vehicle by Ultra-High-Temperature Ceramic Materials  
**T06-030** Unsteady Laminar Buoyant Flow Through Rectangular Vents in Large Enclosures

#### *Hydrodynamics*

**T06-043** Fluidization Behavior of Fine Powders in Reduced Gravity Conditions  
**T06-010** Direct Measurements of Eddy Transport and Thermal Dispersion in a High Porosity Matrix

#### *Hypersonic Flow*

**T06-017** Statistical Model for Vibration-Chemical Reaction Interaction: Extension to Gas Mixtures  
**T06-004** Kinetic Model of Condensation in a Free Argon Expanding Jet  
**T06-058** Flight Extrapolation of Plasma Wind Tunnel Stagnation Region Flowfield  
**T06-055** State-to-State Catalytic Models, Kinetics, and Transport in Hypersonic Boundary Layers  
**T06-060** Heating Environments of a Venus Entry Capsule in a Trail Balloon Mission  
**T06-083** Convective and radiative heat flux prediction of Huygens entry on Titan  
**T06-079** Calculation of Pressure Loads in the Heater of a Hypersonic Blowdown Tunnel  
**T06-086** Thermochemical Relaxation in Shock Tunnels

#### *Inlet, Nozzle, Diffuser, and Channel Flows*

**T06-085** Modelling of a CO<sub>2</sub>-N<sub>2</sub> Plasma Flow in a Supersonic Arcjet Facility  
**T06-095** Model for Ammonia Solar Thermal Thruster  
**T06-115** Numerical Study of Flow Inside an Annular Jet Pump

#### *Jets, Wakes, and Viscid-Inviscid Flow Interactions*

**T06-115** Numerical Study of Flow Inside an Annular Jet Pump  
**T06-009** Parameters Affecting Turbulent Film Cooling—Reynolds-Averaged Navier-Stokes Computational Simulation

### **Multiphase Flows**

- T06-004** Kinetic Model of Condensation in a Free Argon Expanding Jet  
**T06-043** Fluidization Behavior of Fine Powders in Reduced Gravity Conditions  
**T06-080** Effects of Surface Tension on Two-Dimensional Two-Phase Stratified Flows  
**T06-061** Sensitivity of Water Condensation in a Supersonic Plume to the Nucleation Rate

### **Rarefied Flows**

- T06-061** Sensitivity of Water Condensation in a Supersonic Plume to the Nucleation Rate  
**T06-062** Rarefied Background Flow in a Vacuum Chamber Equipped with One-Sided Pumps  
**T06-088** Momentum and Heat Transfer in a Laminar Boundary Layer with Slip Flow  
**T06-064** Monte Carlo and Navier-Stokes Simulations of Compressible Taylor-Couette Flow  
**T06-063** Numerical Investigation of Vortex Onset in Supersonic Taylor-Couette Flow  
**T06-004** Kinetic Model of Condensation in a Free Argon Expanding Jet  
**T06-087** Numerical Modeling of Near-Continuum Flow over a Wedge with Real Gas Effects

### **Reacting Flows and Combustion**

- T06-097** Effects of Forced Convection and Surface Tension during Methanol Droplet Combustion

### **Separated Flows**

- T06-091** Turbulent Flow Through a Staggered Tube Bank

### **Shock Waves and Detonations**

- T06-024** Modeling and Experimental Assessment of CN Radiation Behind a Strong Shock Wave  
**T06-087** Numerical Modeling of Near-Continuum Flow over a Wedge with Real Gas Effects

### **Supersonic Flow**

- T06-061** Sensitivity of Water Condensation in a Supersonic Plume to the Nucleation Rate

### **Unsteady Flows**

- T06-079** Calculation of Pressure Loads in the Heater of a Hypersonic Blowdown Tunnel  
**T06-091** Turbulent Flow Through a Staggered Tube Bank

### **Vortices**

- T06-063** Numerical Investigation of Vortex Onset in Supersonic Taylor-Couette Flow

## **GUIDANCE, CONTROL, AND DYNAMICS TECHNOLOGY**

### **Optimization Techniques**

- T06-051** Optimal Inverse Design Problem in Determining Cooling Conditions for High-Speed Motors

## **INTERDISCIPLINARY TOPICS**

### **Analytical and Numerical Methods**

- T06-079** Calculation of Pressure Loads in the Heater of a Hypersonic Blowdown Tunnel  
**T06-018** Meshless Local Petrov-Galerkin Method for Solving Radiative Transfer Equation  
**T06-111** Least-Squares Collocation Meshless Approach for Transient Radiative Transfer

## **LAUNCH VEHICLE AND MISSILE (LV/M) TECHNOLOGY**

### **Propulsion and Propellant Systems**

- T06-096** Thermal Analysis for Propellant Stream in Thruster's Injection Tube During Start Process

### **Thermal Protection Systems**

- T06-084** Comparison of Enthalpy Determination Methods for an Arc-Jet Facility  
**T06-036** Experimental In-Cavity Radiative Calibration of High Heat-Flux Meters

## **PROPULSION**

### **Airbreathing Propulsion**

- T06-117** Inlet Air Temperature Effects on the Performance of the Solid Fuel Ramjet

### **Electric Propulsion**

- T06-062** Rarefied Background Flow in a Vacuum Chamber Equipped with One-Sided Pumps

### **Engine Cooling and Heat Transfer**

- T06-028** Enhancement of Heat Transfer over a Cylinder by Acoustic Excitation  
**T06-090** Heat/Mass Transfer with Circular Pin Fins in Impingement/Effusion Cooling System with Crossflow

### **Fuel Cells**

- T06-053** Fuel Cell Exergy Losses of Activation Energy and Cathode Polarization

### **Gas Turbine Engines**

- T06-020** Turbine Blade Cooling Studies at Texas A&M University: 1980-2004

### **Ignition**

- T06-040** Surface-Absorption Assumption for Radiant Heating and Ignition of Energetic Solids

### **Ramjets and Scramjets**

- T06-117** Inlet Air Temperature Effects on the Performance of the Solid Fuel Ramjet

### **Solar Power**

- T06-095** Model for Ammonia Solar Thermal Thruster

### **Transient Combustion**

- T06-098** Manifestation of Acceleration During Transient Heat Conduction

## **SPACE TECHNOLOGY**

### **Spacecraft Contamination/Sterilization**

- T06-037** Modified View Factor Method for Estimating Molecular Backscattering Probability in Space Conditions

### **Spacecraft Thermal Management**

- T06-105** Simple Deployable Radiator with Autonomous Thermal Control Function  
**T06-046** Investigation of Effects of Auxiliary Measures for Startup of Loop Heat Pipes

## **THERMOPHYSICS AND HEAT TRANSFER**

### **Ablation, Pyrolysis, Thermal Decomposition and Degradation**

- T06-057** Shock-Tube Measurement of Nitridation Coefficient of Solid Carbon

- T06-026** Stabilization of Ill-Posed Problems Through Thermal Rate Sensors

### **Aerothermodynamics/Thermal Protection**

- T06-036** Experimental In-Cavity Radiative Calibration of High Heat-Flux Meters  
**T06-066** Film-Cooling Prediction on Turbine Blade Tip with Various Film Hole Configurations  
**T06-082** Uncertainty Analysis of Laminar Aeroheating Predictions for Mars Entries  
**T06-083** Convective and radiative heat flux prediction of Huygens entry on Titan  
**T06-119** Generalizing the Method of Kulish to One-Dimensional Unsteady Heat Conducting Slabs  
**T06-060** Heating Environments of a Venus Entry Capsule in a Trail Balloon Mission  
**T06-059** Thermal Shielding of a Reentry Vehicle by Ultra-High-Temperature Ceramic Materials  
**T06-072** Multiband Radiation Model for Simulation of Galileo Probe Entry Flowfield  
**T06-093** Film Cooling Effectiveness for an Advanced-Louver Cooling Scheme for Gas Turbines  
**T06-117** Inlet Air Temperature Effects on the Performance of the Solid Fuel Ramjet  
**T06-094** Louver Cooling Scheme for Gas Turbines: Multiple Rows  
**T06-084** Comparison of Enthalpy Determination Methods for an Arc-Jet Facility  
**T06-067** Heat Transfer in Two-Pass Rotating Rectangular Channels ( $AR=2:1$ ) with Discrete Ribs  
**T06-003** Elemental Demixing in Inductively Coupled Air Plasma Torches at High Pressures  
**T06-073** Hybrid Method for Jet Vane Thermal Analysis in Supersonic Nozzle Flow  
**T06-024** Modeling and Experimental Assessment of CN Radiation Behind a Strong Shock Wave  
**T06-081** Modeling of Shock Tunnel Aeroheating Data on the Mars Science Laboratory Aeroshell  
**T06-002** Analysis of Apollo Command Module Afterbody Heating Part I: AS-202  
**T06-058** Flight Extrapolation of Plasma Wind Tunnel Stagnation Region Flowfield
- Boiling/Condensation**
- T06-015** Dimensionless Governing Equations for Vapor and Liquid Flow Analysis of Heat Pipes  
**T06-041** Review of Condensation Heat Transfer in Microgravity Environments  
**T06-104** Destabilization Mechanisms and Scaling Laws of Convective Boiling in a Minichannel  
**T06-102** Numerical Study of Heat Pipe Heat Spreaders with Large Periodic Heat Input  
**T06-076** Flow Patterns of Two-Phase Flow Vertical U-Type Return Bends  
**T06-011** Actively Pumped Two-Phase Loop for Spray Cooling  
**T06-074** Heat and Mass Transfer on Surfaces of Cooling Coils
- Computational Heat Transfer**
- T06-072** Multiband Radiation Model for Simulation of Galileo Probe Entry Flowfield  
**T06-071** Transient Thermal Effects of Radiant Energy In Semitransparent Materials  
**T06-030** Unsteady Laminar Buoyant Flow Through Rectangular Vents in Large Enclosures  
**T06-083** Convective and radiative heat flux prediction of Huygens entry on Titan

**T06-064** Monte Carlo and Navier-Stokes Simulations of Compressible Taylor-Couette Flow  
**T06-066** Film-Cooling Prediction on Turbine Blade Tip with Various Film Hole Configurations  
**T06-109** Lattice Boltzmann Method Applied to Variable Thermal Conductivity Conduction and Radiation Problems  
**T06-118** Effects of Joule Heating on Electrohydrodynamics-Enhanced Natural Convection in an Enclosure  
**T06-007** Effect of Coriolis and Centrifugal Forces at High Rotation and Density Ratios  
**T06-034** Bridgman-Stockbarger Growth of Binary Alloyed Semiconductor Crystals with Steady Magnetic Fields  
**T06-026** Stabilization of Ill-Posed Problems Through Thermal Rate Sensors  
**T06-031** Numerical Simulation of Thermobuoyant Flow with Large Temperature Variation  
**T06-039** Analysis and Prediction of Constriction Resistance Between Coated Surfaces  
**T06-051** Optimal Inverse Design Problem in Determining Cooling Conditions for High-Speed Motors  
**T06-044** Flows Induced by Thermoacoustic Waves in an Enclosure: Effects of Gravity  
**T06-016** Impingement Heat Transfer with a Nonlinear First-Order  $k$ - $\epsilon$  Model  
**T06-003** Elemental Demixing in Inductively Coupled Air Plasma Torches at High Pressures  
**T06-014** Prediction of Gross Parameters During Enclosed Incineration of Energetic Materials  
**T06-094** Louver Cooling Scheme for Gas Turbines: Multiple Rows  
**T06-093** Film Cooling Effectiveness for an Advanced-Louver Cooling Scheme for Gas Turbines  
**T06-113** Influence of Electronic Excitation on the Thermodynamic Properties of Hydrogen Plasmas  
**T06-080** Effects of Surface Tension on Two-Dimensional Two-Phase Stratified Flows  
**T06-114** Application of Lumped-System Analysis to Layered Porous Cavities Heated from Below  
**T06-092** Heat Transfer in Channels in Parallel-Mode Rotation at High Rotation Numbers  
**T06-045** Parametric Study of Modified Vertical Bridgman Growth in a Rotating Magnetic Field  
**T06-008** Turbine Rotor with Various Tip Configurations Flow and Heat Transfer Prediction  
**T06-107** Improved Inverse Method for Radiative Characteristics of Closed-Cell Absorbing Porous Media  
**T06-015** Dimensionless Governing Equations for Vapor and Liquid Flow Analysis of Heat Pipes  
**T06-038** Monte Carlo Solution of Transient Heat Conduction in Anisotropic Media

### **Electronics Cooling**

**T06-013** Transient Conjugate Heat-Transfer Model for Circular Tubes Inside a Rectangular Substrate  
**T06-049** Cooling of a Heat-Generating Strip Immersed in a Laminar Channel Flow  
**T06-108** Local Heat Transfer Measurements on a Curved Microsurface Using Liquid Crystal Thermography  
**T06-048** Performance of Shrouded Pin-Fin Heat Sinks for Electronic Cooling  
**T06-099** Design Graphs for Thermal Contact Conductance of Similar and Dissimilar Light Alloys

**T06-042** Variable-Gravity Effects on a Single-Phase Partially-Confined Spray Cooling System  
**T06-106** Heat Dissipation with Pitch-Based Carbon Foams and Phase-Change Materials  
**T06-011** Actively Pumped Two-Phase Loop for Spray Cooling  
**T06-027** Influence of Geometry and Edge Cooling on Thermal Spreading Resistance  
**T06-039** Analysis and Prediction of Constriction Resistance Between Coated Surfaces  
**T06-028** Enhancement of Heat Transfer over a Cylinder by Acoustic Excitation  
**T06-100** Characterization of Rough Engineering Surfaces for Use in Thermal Contact Conductance Modeling

### **Forced Convection**

**T06-077** Thermally Developing Flow in Microchannels  
**T06-089** Analytical Model for Convection Heat Transfer from Tube Banks  
**T06-028** Enhancement of Heat Transfer over a Cylinder by Acoustic Excitation  
**T06-065** Modern Integral Method Calculation of Turbulent Boundary Layers  
**T06-048** Performance of Shrouded Pin-Fin Heat Sinks for Electronic Cooling  
**T06-021** Local Heat/Mass Transfer Phenomena in Rotating Passage, Part 1: Smooth Passage  
**T06-022** Local Heat/Mass Transfer Phenomena in Rotating Passage, Part 2: Angled Ribbed Passage  
**T06-088** Momentum and Heat Transfer in a Laminar Boundary Layer with Slip Flow  
**T06-016** Impingement Heat Transfer with a Nonlinear First-Order  $k$ - $\epsilon$  Model  
**T06-067** Heat Transfer in Two-Pass Rotating Rectangular Channels ( $AR=2:1$ ) with Discrete Ribs  
**T06-073** Hybrid Method for Jet Vane Thermal Analysis in Supersonic Nozzle Flow  
**T06-104** Destabilization Mechanisms and Scaling Laws of Convective Boiling in a Minichannel  
**T06-102** Numerical Study of Heat Pipe Heat Spreaders with Large Periodic Heat Input  
**T06-090** Heat/Mass Transfer with Circular Pin Fins in Impingement/Effusion Cooling System with Crossflow  
**T06-008** Turbine Rotor with Various Tip Configurations Flow and Heat Transfer Prediction  
**T06-033** Thermal Interaction Between Two Vertical Systems of Free and Forced Convections  
**T06-108** Local Heat Transfer Measurements on a Curved Microsurface Using Liquid Crystal Thermography  
**T06-049** Cooling of a Heat-Generating Strip Immersed in a Laminar Channel Flow  
**T06-013** Transient Conjugate Heat-Transfer Model for Circular Tubes Inside a Rectangular Substrate  
**T06-020** Turbine Blade Cooling Studies at Texas A&M University: 1980-2004  
**T06-010** Direct Measurements of Eddy Transport and Thermal Dispersion in a High Porosity Matrix

### **Heat Conduction**

**T06-025** Thermal Characterization of a Multilayer Material Through the Flash Method  
**T06-038** Monte Carlo Solution of Transient Heat Conduction in Anisotropic Media

**T06-049** Cooling of a Heat-Generating Strip Immersed in a Laminar Channel Flow  
**T06-099** Design Graphs for Thermal Contact Conductance of Similar and Dissimilar Light Alloys  
**T06-078** Synthesis and Characterization of  $Zn_{1-x}Mg_xO$  Thin Films  
**T06-110** Two-Dimensional Conduction Effects in Estimating Radiative Flux from a Capillary Discharge  
**T06-026** Stabilization of Ill-Posed Problems Through Thermal Rate Sensors  
**T06-027** Influence of Geometry and Edge Cooling on Thermal Spreading Resistance  
**T06-039** Analysis and Prediction of Constriction Resistance Between Coated Surfaces  
**T06-098** Manifestation of Acceleration During Transient Heat Conduction  
**T06-119** Generalizing the Method of Kulish to One-Dimensional Unsteady Heat Conducting Slabs  
**T06-100** Characterization of Rough Engineering Surfaces for Use in Thermal Contact Conductance Modeling

### **Heat Pipes**

**T06-035** Microscale Heat and Mass Transport of Evaporating Thin Film of Binary Mixture  
**T06-101** Development and Test Results of a Dual Compensation Chamber Loop Heat Pipe  
**T06-046** Investigation of Effects of Auxiliary Measures for Startup of Loop Heat Pipes  
**T06-103** Experimental Analysis of Supercritical Startup of Nitrogen/Stainless Steel Cryogenic Heat Pipe  
**T06-041** Review of Condensation Heat Transfer in Microgravity Environments  
**T06-108** Local Heat Transfer Measurements on a Curved Microsurface Using Liquid Crystal Thermography  
**T06-015** Dimensionless Governing Equations for Vapor and Liquid Flow Analysis of Heat Pipes  
**T06-012** Model-Based Method of Theoretical Design Analysis of a Loop Heat Pipe

### **Laser Interaction**

**T06-001** Temperature and Wavelength-Dependent Spectral Absorptivities of Metallic Materials in the Infrared  
**T06-040** Surface-Absorption Assumption for Radiant Heating and Ignition of Energetic Solids  
**T06-052** Partial Melting and Resolidification of Metal Powder in Selective Laser Sintering

### **Melting/Solidification**

**T06-052** Partial Melting and Resolidification of Metal Powder in Selective Laser Sintering  
**T06-034** Bridgman-Stockbarger Growth of Binary Alloyed Semiconductor Crystals with Steady Magnetic Fields  
**T06-106** Heat Dissipation with Pitch-Based Carbon Foams and Phase-Change Materials  
**T06-045** Parametric Study of Modified Vertical Bridgman Growth in a Rotating Magnetic Field

### **Mixed Convection**

**T06-043** Fluidization Behavior of Fine Powders in Reduced Gravity Conditions

### **Natural Convection**

**T06-032** Analytical Modeling of Natural Convection in Concentric Spherical Enclosures

**T06-033** Thermal Interaction Between Two Vertical Systems of Free and Forced Convections  
**T06-114** Application of Lumped-System Analysis to Layered Porous Cavities Heated from Below  
**T06-118** Effects of Joule Heating on Electrohydrodynamics-Enhanced Natural Convection in an Enclosure

**T06-031** Numerical Simulation of Thermobuoyant Flow with Large Temperature Variation  
**T06-050** Transient Natural Convective Conjugate Cooling Mechanism in Vertical Fins

**T06-030** Unsteady Laminar Buoyant Flow Through Rectangular Vents in Large Enclosures

### *Nonintrusive Diagnostics*

**T06-023** Coupled Radiation, Conduction, and Joule Heating in Argon Thermal Plasmas

### *Radiation in Participating Media*

**T06-023** Coupled Radiation, Conduction, and Joule Heating in Argon Thermal Plasmas

**T06-110** Two-Dimensional Conduction Effects in Estimating Radiative Flux from a Capillary Discharge

**T06-109** Lattice Boltzmann Method Applied to Variable Thermal Conductivity Conduction and Radiation Problems

**T06-068** Transient Coupled Heat Transfer Inside a Scattering Medium with Graded Refractive Index

**T06-071** Transient Thermal Effects of Radiant Energy in Semitransparent Materials

**T06-072** Multiband Radiation Model for Simulation of Galileo Probe Entry Flowfield

**T06-111** Least-Squares Collocation Meshless Approach for Transient Radiative Transfer

**T06-018** Meshless Local Petrov-Galerkin Method for Solving Radiative Transfer Equation

**T06-069** Material Dependence of Plasma Radiation Produced by a Capillary Discharge

**T06-107** Improved Inverse Method for Radiative Characteristics of Closed-Cell Absorbing Porous Media

**T06-006** Finite Volume Method for Radiation Heat Transfer in Graded Index Medium

**T06-005** Approximate Thermal Emission Models of a Two-Dimensional Gradient Index Semitransparent Medium

### *Radiation Interchange Between Surfaces*

**T06-070** Differential View Factor for a Rectangle with Intervening Parallelepiped or Sphere

**T06-036** Experimental In-Cavity Radiative Calibration of High Heat-Flux Meters

### *Thermal Control*

**T06-101** Development and Test Results of a Dual Compensation Chamber Loop Heat Pipe

**T06-027** Influence of Geometry and Edge Cooling on Thermal Spreading Resistance

**T06-051** Optimal Inverse Design Problem in Determining Cooling Conditions for High-Speed Motors

**T06-041** Review of Condensation Heat Transfer in Microgravity Environments

**T06-099** Design Graphs for Thermal Contact Conductance of Similar and Dissimilar Light Alloys

**T06-105** Simple Deployable Radiator with Autonomous Thermal Control Function

**T06-012** Model-Based Method of Theoretical Design Analysis of a Loop Heat Pipe

**T06-029** Analytical Model for Thermal Performance Analysis of an Enclosure Heated by Aligned Thermosyphons

**T06-106** Heat Dissipation with Pitch-Based Carbon Foams and Phase-Change Materials

**T06-042** Variable-Gravity Effects on a Single-Phase Partially-Confined Spray Cooling System

**T06-047** Thermal Joint Conductance of Low-Density Polyethylene and Polyester Polymetric Films: Experimental

### *Thermal Modeling and Analysis*

**T06-047** Thermal Joint Conductance of Low-Density Polyethylene and Polyester Polymetric Films: Experimental

**T06-104** Destabilization Mechanisms and Scaling Laws of Convective Boiling in a Minichannel

**T06-042** Variable-Gravity Effects on a Single-Phase Partially-Confined Spray Cooling System

**T06-078** Synthesis and Characterization of  $Zn_{1-x}Mg_xO$  Thin Films

**T06-114** Application of Lumped-System Analysis to Layered Porous Cavities Heated from Below

**T06-073** Hybrid Method for Jet Vane Thermal Analysis in Supersonic Nozzle Flow

**T06-113** Influence of Electronic Excitation on the Thermodynamic Properties of Hydrogen Plasmas

**T06-094** Louver Cooling Scheme for Gas Turbines: Multiple Rows

**T06-029** Analytical Model for Thermal Performance Analysis of an Enclosure Heated by Aligned Thermosyphons

**T06-014** Prediction of Gross Parameters During Enclosed Incineration of Energetic Materials

**T06-012** Model-Based Method of Theoretical Design Analysis of a Loop Heat Pipe

**T06-013** Transient Conjugate Heat-Transfer Model for Circular Tubes Inside a Rectangular Substrate

**T06-025** Thermal Characterization of a Multilayer Material Through the Flash Method

**T06-032** Analytical Modeling of Natural Convection in Concentric Spherical Enclosures

**T06-105** Simple Deployable Radiator with Autonomous Thermal Control Function

**T06-096** Thermal Analysis for Propellant Stream in Thruster's Injection Tube During Start Process

**T06-008** Turbine Rotor with Various Tip Configurations Flow and Heat Transfer Prediction

**T06-053** Fuel Cell Exergy Losses of Activation Energy and Cathode Polarization

**T06-050** Transient Natural Convective Conjugate Cooling Mechanism in Vertical Fins

**T06-052** Partial Melting and Resolidification of Metal Powder in Selective Laser Sintering

**T06-040** Surface-Absorption Assumption for Radiant Heating and Ignition of Energetic Solids

**T06-035** Microscale Heat and Mass Transport of Evaporating Thin Film of Binary Mixture

**T06-048** Performance of Shrouded Pin-Fin Heat Sinks for Electronic Cooling

**T06-109** Lattice Boltzmann Method Applied to Variable Thermal Conductivity Conduction and Radiation Problems

**T06-001** Temperature and Wavelength-Dependent Spectral Absorptivities of Metallic Materials in the Infrared

**T06-100** Characterization of Rough Engineering Surfaces for Use in Thermal Contact Conductance Modeling

**T06-119** Generalizing the Method of Kulish to One-Dimensional Unsteady Heat Conducting Slabs

**T06-098** Manifestation of Acceleration During Transient Heat Conduction

**T06-089** Analytical Model for Convection Heat Transfer from Tube Banks

### *Thermochemistry and Chemical Kinetics*

**T06-056** Reduction of State-to-State Kinetics to Macroscopic Models in Hypersonic Flows

**T06-060** Heating Environments of a Venus Entry Capsule in a Trail Balloon Mission

**T06-116** Nonequilibrium Vibration-Dissociation Properties of Diatomic Molecule Behind Shock Waves

**T06-086** Thermochemical Relaxation in Shock Tunnels

**T06-085** Modelling of a  $CO_2-N_2$  Plasma Flow in a Supersonic Arcjet Facility

**T06-055** State-to-State Catalytic Models, Kinetics, and Transport in Hypersonic Boundary Layers

**T06-095** Model for Ammonia Solar Thermal Thruster

**T06-081** Modeling of Shock Tunnel Aeroheating Data on the Mars Science Laboratory Aeroshell

**T06-017** Statistical Model for Vibration-Chemical Reaction Interaction: Extension to Gas Mixtures

**T06-003** Elemental Demixing in Inductively Coupled Air Plasma Torches at High Pressures

**T06-113** Influence of Electronic Excitation on the Thermodynamic Properties of Hydrogen Plasmas

**T06-057** Shock-Tube Measurement of Nitridation Coefficient of Solid Carbon

**T06-054** Coupled Rotational-Vibrational Relaxation of Molecular Hydrogen at High Temperatures

### *Thermophysical Properties*

**T06-047** Thermal Joint Conductance of Low-Density Polyethylene and Polyester Polymetric Films: Experimental

**T06-078** Synthesis and Characterization of  $Zn_{1-x}Mg_xO$  Thin Films

**T06-057** Shock-Tube Measurement of Nitridation Coefficient of Solid Carbon

**T06-019** Analytical Calculation of Diffusion Coefficients and Other Transport Properties in Binary Mixtures

**T06-025** Thermal Characterization of a Multilayer Material Through the Flash Method

**T06-107** Improved Inverse Method for Radiative Characteristics of Closed-Cell Absorbing Porous Media

**T06-116** Nonequilibrium Vibration-Dissociation Properties of Diatomic Molecule Behind Shock Waves

**T06-001** Temperature and Wavelength-Dependent Spectral Absorptivities of Metallic Materials in the Infrared

**T06-112** Enhanced Long-Wavelength Infrared Extinction from Soot Agglomerates

**T06-056** Reduction of State-to-State Kinetics to Macroscopic Models in Hypersonic Flows

**T06-071** Transient Thermal Effects of Radiant Energy in Semitransparent Materials