2010 Journal of Thermophysics and Heat Transfer Index

How to Use the Index

In the Subject Index, pages 853–856, 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 857–858, lists all authors associated with a given technical paper. The locating numbers are identical to those in the Subject Index. The Chronological Index, pages 859–862, 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 2009, that paper also will appear in both the Subject and Chronological Indexes. Authors of Comments also are listed in the Author Index.

Subject Index

ENERGY

Conservation

T10-056 Model of Film Condensation on a Vertical Plate with Noncondensing Gas

Hydrogen and Unique Fuels

T10-042 Transient Analysis of Cryogenic Liquid-Hydrogen Storage Tank with Intermittent Forced Circulation

FLIGHT SIMULATOR SYSTEMS

MEMS

T10-089 Investigation on Microheat Pipe Array with Arteries

T10-044 Experimental Investigation of Turbulent Heat Transfer in the Entrance Region of Microchannels

T10-087 Thermodynamic Analysis of Slip Flow Forced Convection Through a Microannulus

FLUID DYNAMICS

Boundary Layers and Heat Transfer-Laminar

T10-094 Heat Transfer Behind a Step in High-Enthalpy Laminar Hypersonic Flow

T10-080 Thermal Protection System Crack Growth Simulation Using Advanced Grid Morphing Techniques

T10-029 Falkner-Skan Flow over a Wedge with Slip Boundary Conditions

Boundary Layers and Heat Transfer-Turbulent

T10-044 Experimental Investigation of Turbulent Heat Transfer in the Entrance Region of Microchannels

T10-061 Direct Numerical Simulation of the Turbulent Ekman Layer: Turbulent Energy Budgets

Computational Fluid Dynamics

T10-082 Application of a Versatile "Real Space" Validation Methodology to a Fire Model

T10-026 Particle and Continuum Method Comparison of a High-Altitude, Extreme-Mach-Number Reentry Flow

T10-061 Direct Numerical Simulation of the Turbulent Ekman Layer: Turbulent Energy Budgets

T10-060 Turbulence Modeling Applied to Flow Through a Staggered Tube Bundle

T10-015 Unsteady Simulations of a Film Cooling Flow from an Inclined Cylindrical Jet

T10-002 Unstructured Cartesian Grid Methodology for Inviscid Nonequilibrium Hypersonic Flows

T10-003 Numerical Investigation of Nonequilibrium Plasma Flows in Constrictor- and Segmented-Type Arc Heaters

T10-047 Thermal Fluid Process in a Small Universal Electric Motor

T10-080 Thermal Protection System Crack Growth Simulation Using Advanced Grid Morphing Techniques

T10-005 Novel Semi-Empirical Model for Finite Rate Catalysis with Application to PM1000 Material

Hydrodynamics

T10-086 Heat Transfer from Rotating Porous Plate Using Homotopy Perturbation Method

Hypersonic Flow

T10-009 Analytical Method for Determining Heat Flux from Temperature-Sensitive-Paint Measurements in Hypersonic Tunnels

T10-001 Vibrational Modeling of CO₂ in High-Enthalpy Nozzle Flows

T10-069 Development of Coupled Particle Hypersonic Flowfield-Photon Monte Carlo Radiation Methods

T10-004 Nonequilibrium Radiation in Shocked Martian Mixtures

T10-077 Experimental and Numerical Investigation of Hypervelocity Carbon Dioxide Flow over Blunt Bodies

T10-026 Particle and Continuum Method Comparison of a High-Altitude, Extreme-Mach-Number Reentry Flow

T10-094 Heat Transfer Behind a Step in High-Enthalpy Laminar Hypersonic Flow

T10-006 Non-Darcian Behavior of Pyrolysis Gas in a Thermal Protection System

T10-078 Computation of Vibration-Dissociation Nonequilibrium Boundary Layers: Comparison of Various Models

Inlet, Nozzle, Diffuser, and Channel Flows

 T10-058 Comprehensive Gas Ejector Model
 T10-001 Vibrational Modeling of CO₂ in High-Enthalpy Nozzle Flows

Jets, Wakes, and Viscid-Inviscid Flow Interactions

T10-084 Jet Impingement Heat Transfer from a Circular Cylinder Located Between Confining Walls

T10-015 Unsteady Simulations of a Film Cooling Flow from an Inclined Cylindrical Jet

T10-024 Thermal Stress Induced by Inclined Impinging Heating Jet on a Flat Plate

Multiphase Flows

T10-012 Effect of Return Inlet on Thermal Stratification in a Rocket Tank

T10-052 Experimental Investigation of Mist Sprays Impinging on a Heated Cylinder

Plasmadynamics and MHD

T10-003 Numerical Investigation of Nonequilibrium Plasma Flows in Constrictor- and Segmented-Type Arc Heaters

T10-030 Chemical Species and Nonequilibrium Temperatures for Airflows in a Plasma Wind Tunnel

Rarefied Flows

T10-069 Development of Coupled Particle Hypersonic Flowfield-Photon Monte Carlo Radiation Methods

T10-087 Thermodynamic Analysis of Slip Flow Forced Convection Through a Microannulus

T10-026 Particle and Continuum Method Comparison of a High-Altitude, Extreme-Mach-Number Reentry Flow

T10-029 Falkner-Skan Flow over a Wedge with Slip Boundary Conditions

T10-027 Assessment of Collisional-Energy-Based Models for Atmospheric Species Reactions in Hypersonic Flows

T10-067 Study on Rotational Relaxation in a Steady Hydrogen Plasma Jet Using Emission Spectroscopy

T10-028 Reconsideration of Planar Couette Flows Using the Statistical Bhatnaga–Gross–Krook Approach

T10-080 Thermal Protection System Crack Growth Simulation Using Advanced Grid Morphing Techniques

T10-062 Compressible Laminar Boundary-Layer Flows with Statistical Bhatnaga–Gross–Krook Approaches

Reacting Flows and Combustion

T10-027 Assessment of Collisional-Energy-Based Models for Atmospheric Species Reactions in Hypersonic Flows

Separated Flows

T10-094 Heat Transfer Behind a Step inHigh-Enthalpy Laminar Hypersonic Flow

Shock Waves and Detonations

T10-081 Entropy-Shock Interactions Using the Unified Flow Solver

Supersonic Flow

T10-027 Assessment of Collisional-Energy-Based Models for Atmospheric Species Reactions in Hypersonic Flows

Unsteady Flows

T10-015 Unsteady Simulations of a Film Cooling Flow from an Inclined Cylindrical Jet

Vortices

T10-060 Turbulence Modeling Applied to Flow Through a Staggered Tube Bundle

GUIDANCE, CONTROL, AND DYNAMICS TECHNOLOGY

Optimization Techniques

T10-096 Boundary Surface Heat Fluxes in a Square Enclosure with an Embedded Design Element

INTERDISCIPLINARY TOPICS

Analytical and Numerical Methods

T10-057 Influence of Compressibility on Film-Cooling Performance

T10-082 Application of a Versatile "Real Space" Validation Methodology to a Fire Model

Lasers and Laser Applications

T10-011 Nonlinear Heat Conduction in Isotropic and Orthotropic Materials with Laser Heat Source

Multidisciplinary Design Optimization

T10-096 Boundary Surface Heat Fluxes in a Square Enclosure with an Embedded Design Element

Research Facilities and Instrumentation

T10-007 Durable Heat Flux Sensor for Extreme Temperature and Heat Flux Environments

T10-044 Experimental Investigation of Turbulent Heat Transfer in the Entrance Region of Microchannels

Sensor Systems

T10-007 Durable Heat Flux Sensor for Extreme Temperature and Heat Flux Environments

LAUNCH VEHICLE AND MISSILE (LV/M) TECHNOLOGY

Propulsion and Propellant Systems

T10-012 Effect of Return Inlet on Thermal Stratification in a Rocket Tank

Subsystem Design and Ground Support

T10-059 Transient Momentum and Enthalpy Transfer in Packed Beds at High Reynolds Numbers

Thermal Protection Systems

T10-049 Analysis of Entropy Generation and Thermal Stability in a Slab

PROPULSION

Energy Conservation

T10-012 Effect of Return Inlet on Thermal Stratification in a Rocket Tank

Engine Cooling and Heat Transfer

T10-008 Measurement of Transient Heat Flux and Surface Temperature Using Embedded Temperature Sensors

T10-055 Numerical Studies of Supercritical Turbulent Convective Heat Transfer of Cryogenic-Propellant Methane

Fuels and Propellants, Properties of

T10-033 Emissivity of Aluminum-Oxide Particle Clouds: Application to Pyrometry of Explosive Fireballs

Gas Turbine Engines

T10-014 Mach Number, Reynolds Number, Jet Spacing Variations: Full Array of Impinging Jets

Liquid Rocket Engines

T10-008 Measurement of Transient Heat Flux and Surface Temperature Using Embedded Temperature Sensors

Nuclear Propulsion and Power

T10-051 Geometric Effects on Critical Heat Flux on Horizontal Microporous Coatings

T10-043 Analysis of a Cylindrical Specimen Heated by an Impinging Hot Hydrogen Jet

Rotating Machinery

T10-047 Thermal Fluid Process in a Small Universal Electric Motor

Turbomachinery

T10-014 Mach Number, Reynolds Number, Jet Spacing Variations: Full Array of Impinging Jets

SPACE TECHNOLOGY

Aerobraking Configurations/ Aerothermodynamics

T10-002 Unstructured Cartesian Grid Methodology for Inviscid Nonequilibrium Hypersonic Flows

Spacecraft Thermal Management

T10-016 Spray Cooling Heat Flux Performance Using POCO HTC Foam

T10-018 Theoretical Studies of Hard Filling in Loop Heat Pipes

STRUCTURAL MECHANICS AND MATERIALS

Materials Structural Properties

T10-050 Microfluidic Method for Synthesizing Cu₂O Nanofluids

Structural Composite Materials

T10-036 Transient Hyperbolic Heat Conduction in a Functionally Graded Hollow Cylinder

T10-063 Heat Transfer to a Composite Material Under Ice Particle Impacts

THERMOPHYSICS AND HEAT TRANSFER

Ablation, Pyrolysis, Thermal Decomposition, and Degradation

T10-066 Experimental Study of Graphite Ablation in Nitrogen Flow, Part II: Further Numerical Analysis

T10-079 Computational Analysis of Arc-Jet Stagnation Tests Including Ablation and Shape Change

T10-006 Non-Darcian Behavior of Pyrolysis Gas in a Thermal Protection System

T10-022 Graphite Nitridation in Lower Surface Temperature Regime

Aerothermodynamics/Thermal Protection

T10-032 Nonequilibrium Radiation Intensity
Measurements in Simulated Titan Atmospheres
T10-065 Heat Balance of a Transpiration-Cooled
Heat Shield

T10-068 Direct Detection of NO Produced by High-Temperature Surface-Catalyzed Atom Recombination

T10-009 Analytical Method for Determining Heat Flux from Temperature-Sensitive-Paint Measurements in Hypersonic Tunnels

T10-003 Numerical Investigation of Nonequilibrium Plasma Flows in Constrictor- and Segmented-Type Arc Heaters

T10-024 Thermal Stress Induced by Inclined Impinging Heating Jet on a Flat Plate

T10-063 Heat Transfer to a Composite Material Under Ice Particle Impacts

T10-073 Improved Exponential Integral Approximation for Tangent-Slab Radiation Transport

T10-066 Experimental Study of Graphite Ablation in Nitrogen Flow, Part II: Further Numerical Analysis

T10-013 Sidewall Effects on Heat Transfer Coefficient in a Narrow Impingement Channel

T10-006 Non-Darcian Behavior of Pyrolysis Gas in a Thermal Protection System

T10-022 Graphite Nitridation in Lower Surface Temperature Regime

T10-071 Multigroup Correlated-*k* Distribution Method for Nonequilibrium Atomic Radiation

T10-079 Computational Analysis of Arc-Jet Stagnation Tests Including Ablation and Shape Change

T10-007 Durable Heat Flux Sensor for Extreme Temperature and Heat Flux Environments

T10-005 Novel Semi-Empirical Model for Finite Rate Catalysis with Application to PM1000 Material

Boiling/Condensation

T10-053 Acceleration Effects on the Cooling Performance of a Partially Confined FC-72 Spray T10-052 Experimental Investigation of Mist Sprays Impinging on a Heated Cylinder

T10-051 Geometric Effects on Critical Heat Flux on Horizontal Microporous Coatings

T10-056 Model of Film Condensation on a Vertical Plate with Noncondensing Gas

T10-021 Thermal- and Phase-Change Characteristics of Self-Assembled Ethanol/Polyalphaolefin Nanoemulsion Fluids

Computational Heat Transfer

T10-060 Turbulence Modeling Applied to Flow Through a Staggered Tube Bundle

T10-043 Analysis of a Cylindrical Specimen Heated by an Impinging Hot Hydrogen Jet

T10-070 Advanced Radiation Calculations of Hypersonic Reentry Flows Using Efficient Databasing Schemes

T10-086 Heat Transfer from Rotating Porous Plate Using Homotopy Perturbation Method

T10-038 Numerical Simulation of Melting in Porous Media via a Modified Temperature-Transforming Model

T10-065 Heat Balance of a Transpiration-Cooled Heat Shield

T10-069 Development of Coupled Particle Hypersonic Flowfield-Photon Monte Carlo Radiation Methods

T10-055 Numerical Studies of Supercritical Turbulent Convective Heat Transfer of Cryogenic-Propellant Methane

T10-077 Experimental and Numerical Investigation of Hypervelocity Carbon Dioxide Flow over Blunt Bodies

T10-010 Inverse Heat Conduction Using Measured Back Surface Temperature and Heat Flux

T10-042 Transient Analysis of Cryogenic Liquid-Hydrogen Storage Tank with Intermittent Forced Circulation

T10-037 Homogeneous Anisotropic Model for Natural Convection in Nonuniform Layered Porous Cavities

T10-073 Improved Exponential Integral Approximation for Tangent-Slab Radiation Transport

T10-097 Optimization and Comparative Study on Oblique- and Rectangular-Fin Microchannel Heat Sinks

T10-040 Asymptotic Behavior of a Storage Unit Undergoing Cyclic Melting and Solidification Processes

T10-075 Variable Thermal Conductivity and Perforation Effects on a Heat-Conducting Plate T10-056 Model of Film Condensation on a Vertical Plate with Noncondensing Gas

T10-092 Spectral Collocation Method for Transient Conduction-Radiation Heat Transfer

T10-096 Boundary Surface Heat Fluxes in a Square Enclosure with an Embedded Design Element

Electronics Cooling

T10-048 Statistical Model for Pressure Distribution of Bolted Joints

T10-019 Titanium-Water Loop Heat Pipe Operating Characteristics Under Standard and Elevated Acceleration Fields

T10-041 Encapsulated Phase Change Material Slurry Flow in Manifold Microchannels

T10-017 Mixed-Convection Heat Transfer from Simulated Air-Cooled Electronic Devices: Experimental and Numerical Study

T10-046 Flow Rate and Graphite Foam Thermal Management for a Power Amplifier Array

T10-088 Thermal Performance of Cylindrical Heat Pipe Using Nanofluids

T10-016 Spray Cooling Heat Flux Performance Using POCO HTC Foam

T10-051 Geometric Effects on Critical Heat Flux on Horizontal Microporous Coatings

T10-084 Jet Impingement Heat Transfer from a Circular Cylinder Located Between Confining Walls

T10-097 Optimization and Comparative Study on Oblique- and Rectangular-Fin Microchannel Heat Sinks

Forced Convection

T10-009 Analytical Method for Determining Heat Flux from Temperature-Sensitive-Paint Measurements in Hypersonic Tunnels

T10-052 Experimental Investigation of Mist Sprays Impinging on a Heated Cylinder

T10-086 Heat Transfer from Rotating Porous Plate Using Homotopy Perturbation Method

T10-013 Sidewall Effects on Heat Transfer Coefficient in a Narrow Impingement Channel

T10-024 Thermal Stress Induced by Inclined Impinging Heating Jet on a Flat Plate

T10-053 Acceleration Effects on the Cooling Performance of a Partially Confined FC-72 Spray T10-064 Investigation of the Importance of Convective Heat Transfer on Laser-Induced Heating

T10-055 Numerical Studies of Supercritical Turbulent Convective Heat Transfer of Cryogenic-Propellant Methane

T10-087 Thermodynamic Analysis of Slip Flow Forced Convection Through a Microannulus

T10-014 Mach Number, Reynolds Number, Jet Spacing Variations: Full Array of Impinging Jets T10-021 Thermal- and Phase-Change Characteristics of Self-Assembled Ethanol/Polyalphaolefin Nanoemulsion Fluids

T10-029 Falkner-Skan Flow over a Wedge with Slip Boundary Conditions

T10-084 Jet Impingement Heat Transfer from a Circular Cylinder Located Between Confining Walls

T10-047 Thermal Fluid Process in a Small Universal Electric Motor

T10-085 Heat Transfer Distribution of Semicylindrical Concave Surface Impinged by Circular Jet Rows

Heat Conduction

T10-091 Accounting for Finite Flash Duration in Diffusivity Experiments

T10-010 Inverse Heat Conduction Using Measured Back Surface Temperature and Heat Flux

T10-036 Transient Hyperbolic Heat Conduction in a Functionally Graded Hollow Cylinder

T10-035 Nonsteady Effective Thermal Conductivity of Dense Fibrous Composites with Graded Interface

T10-090 New In Situ Method for Estimating Thermal Diffusivity Using Rate-Based Temperature Sensors

T10-050 Microfluidic Method for Synthesizing Cu₂O Nanofluids

T10-049 Analysis of Entropy Generation and Thermal Stability in a Slab

T10-075 Variable Thermal Conductivity and Perforation Effects on a Heat-Conducting Plate
T10-008 Measurement of Transient Heat Flux and Surface Temperature Using Embedded Temperature Sensors

T10-023 New Orthotropic, Two-Dimensional, Transient Heat-Flux/Temperature Integral Relationship for Half-Space Diffusion

T10-092 Spectral Collocation Method for Transient Conduction-Radiation Heat Transfer

T10-046 Flow Rate and Graphite Foam Thermal Management for a Power Amplifier Array

T10-039 Solidification in a Continuous Medium with Periodically Distributed Two-Dimensional Circular Pores

Heat Pipes

T10-019 Titanium-Water Loop Heat Pipe Operating Characteristics Under Standard and Elevated Acceleration Fields

T10-018 Theoretical Studies of Hard Filling in Loop Heat Pipes

T10-045 Constrained Vapor Bubble Experiment for International Space Station: Earth's Gravity Results

T10-089 Investigation on Microheat Pipe Array with Arteries

T10-054 Thermal Performance of Microencapsulated Phase-Change-Material Slurry: Laminar Flow in Circular Tube

T10-088 Thermal Performance of Cylindrical Heat Pipe Using Nanofluids

Laser Interaction

T10-011 Nonlinear Heat Conduction in Isotropic and Orthotropic Materials with Laser Heat Source T10-064 Investigation of the Importance of Convective Heat Transfer on Laser-Induced Heating

T10-010 Inverse Heat Conduction Using Measured Back Surface Temperature and Heat Flux

Melting/Solidification

T10-020 Freezing Front Propagation on Microgrooved Substrates

T10-095 Icing Process of Small Water Droplets Impinging onto a Frozen Cold Plate

T10-040 Asymptotic Behavior of a Storage Unit Undergoing Cyclic Melting and Solidification Processes

T10-039 Solidification in a Continuous Medium with Periodically Distributed Two-Dimensional Circular Pores

T10-038 Numerical Simulation of Melting in Porous Media via a Modified Temperature-Transforming Model

Mixed Convection

T10-017 Mixed-Convection Heat Transfer from Simulated Air-Cooled Electronic Devices: Experimental and Numerical Study

Natural Convection

T10-037 Homogeneous Anisotropic Model for Natural Convection in Nonuniform Layered Porous Cavities

T10-038 Numerical Simulation of Melting in Porous Media via a Modified Temperature-Transforming Model

T10-076 Optimization of Natural Convection in Open Vertical Ducts with Heated Cores

Nonintrusive Diagnostics

T10-067 Study on Rotational Relaxation in a Steady Hydrogen Plasma Jet Using Emission Spectroscopy

T10-030 Chemical Species and Nonequilibrium Temperatures for Airflows in a Plasma Wind Tunnel

T10-095 Icing Process of Small Water Droplets Impinging onto a Frozen Cold Plate

Radiation in Participating Media

T10-033 Emissivity of Aluminum-Oxide Particle Clouds: Application to Pyrometry of Explosive Fireballs

T10-070 Advanced Radiation Calculations of Hypersonic Reentry Flows Using Efficient Databasing Schemes

T10-004 Nonequilibrium Radiation in Shocked Martian Mixtures

T10-073 Improved Exponential Integral Approximation for Tangent-Slab Radiation Transport

T10-072 Numerical Investigation of the Radiative Properties of Polymeric Foams from Tomographic Images

T10-092 Spectral Collocation Method for Transient Conduction-Radiation Heat Transfer

T10-025 Unified Wien's Displacement Law in Terms of Logarithmic Frequency or Wavelength Scale

T10-071 Multigroup Correlated-*k* Distribution Method for Nonequilibrium Atomic Radiation

Radiation Interchange Between Surfaces

T10-025 Unified Wien's Displacement Law in Terms of Logarithmic Frequency or Wavelength Scale

T10-074 Suitability of Multispectral Radiation Thermometry Emissivity Models for Predicting Steel Surface Temperature

T10-034 Nanosphere Near-Field Radiative Heat-Exchange Analysis

Thermal Control

T10-059 Transient Momentum and Enthalpy Transfer in Packed Beds at High Reynolds Numbers

T10-013 Sidewall Effects on Heat Transfer Coefficient in a Narrow Impingement Channel

T10-048 Statistical Model for Pressure Distribution of Bolted Joints

T10-053 Acceleration Effects on the Cooling Performance of a Partially Confined FC-72 Spray

T10-054 Thermal Performance of Microencapsulated Phase-Change-Material Slurry: Laminar Flow in Circular Tube

T10-093 Thermal Performance Analysis of Space Debris Protection Enhanced Multilayer Perforated Insulation **T10-016** Spray Cooling Heat Flux Performance Using POCO HTC Foam

Thermal Modeling and Analysis

T10-091 Accounting for Finite Flash Duration in Diffusivity Experiments

T10-032 Nonequilibrium Radiation Intensity Measurements in Simulated Titan Atmospheres

T10-043 Analysis of a Cylindrical Specimen Heated by an Impinging Hot Hydrogen Jet

T10-082 Application of a Versatile "Real Space" Validation Methodology to a Fire Model

T10-049 Analysis of Entropy Generation and Thermal Stability in a Slab

T10-035 Nonsteady Effective Thermal Conductivity of Dense Fibrous Composites with Graded Interface

T10-034 Nanosphere Near-Field Radiative Heat-Exchange Analysis

T10-057 Influence of Compressibility on Film-Cooling Performance

T10-072 Numerical Investigation of the Radiative Properties of Polymeric Foams from Tomographic Images

T10-018 Theoretical Studies of Hard Filling in Loop Heat Pipes

T10-090 New In Situ Method for Estimating Thermal Diffusivity Using Rate-Based Temperature Sensors

T10-017 Mixed-Convection Heat Transfer from Simulated Air-Cooled Electronic Devices: Experimental and Numerical Study

T10-031 Master Equation Study and Nonequilibrium Chemical Reactions for Hydrogen Molecule

T10-011 Nonlinear Heat Conduction in Isotropic and Orthotropic Materials with Laser Heat Source T10-042 Transient Analysis of Cryogenic Liquid-Hydrogen Storage Tank with Intermittent Forced Circulation

T10-071 Multigroup Correlated-*k* Distribution Method for Nonequilibrium Atomic Radiation

T10-054 Thermal Performance of Microencapsulated Phase-Change-Material Slurry: Laminar Flow in Circular Tube

T10-083 New Inverse Model for Detecting Fire-Source Location and Intensity

T10-088 Thermal Performance of Cylindrical Heat Pipe Using Nanofluids

T10-040 Asymptotic Behavior of a Storage Unit Undergoing Cyclic Melting and Solidification Processes

T10-039 Solidification in a Continuous Medium with Periodically Distributed Two-Dimensional Circular Pores

T10-074 Suitability of Multispectral Radiation Thermometry Emissivity Models for Predicting Steel Surface Temperature

T10-079 Computational Analysis of Arc-Jet Stagnation Tests Including Ablation and Shape Change

T10-089 Investigation on Microheat Pipe Array with Arteries

T10-046 Flow Rate and Graphite Foam Thermal Management for a Power Amplifier Array

Thermochemistry and Chemical Kinetics

T10-001 Vibrational Modeling of CO₂ in High-Enthalpy Nozzle Flows

T10-032 Nonequilibrium Radiation Intensity Measurements in Simulated Titan Atmospheres

T10-077 Experimental and Numerical Investigation of Hypervelocity Carbon Dioxide Flow over Blunt Bodies

T10-030 Chemical Species and Nonequilibrium Temperatures for Airflows in a Plasma Wind Tunnel

T10-068 Direct Detection of NO Produced by High-Temperature Surface-Catalyzed Atom Recombination

T10-078 Computation of Vibration-Dissociation Nonequilibrium Boundary Layers: Comparison of Various Models

T10-004 Nonequilibrium Radiation in Shocked Martian Mixtures

T10-031 Master Equation Study and Nonequilibrium Chemical Reactions for Hydrogen Molecule

T10-002 Unstructured Cartesian Grid Methodology for Inviscid Nonequilibrium Hypersonic Flows

T10-005 Novel Semi-Empirical Model for Finite Rate Catalysis with Application to PM1000 Material

T10-022 Graphite Nitridation in Lower Surface Temperature Regime

Thermophysical Properties

T10-033 Emissivity of Aluminum-Oxide Particle Clouds: Application to Pyrometry of Explosive Fireballs

T10-091 Accounting for Finite Flash Duration in Diffusivity Experiments

T10-067 Study on Rotational Relaxation in a Steady Hydrogen Plasma Jet Using Emission Spectroscopy

T10-036 Transient Hyperbolic Heat Conduction in a Functionally Graded Hollow Cylinder

T10-035 Nonsteady Effective Thermal Conductivity of Dense Fibrous Composites with Graded Interface

T10-050 Microfluidic Method for Synthesizing Cu₂O Nanofluids

T10-072 Numerical Investigation of the Radiative Properties of Polymeric Foams from Tomographic Images

T10-066 Experimental Study of Graphite Ablation in Nitrogen Flow, Part II: Further Numerical Analysis

T10-037 Homogeneous Anisotropic Model for Natural Convection in Nonuniform Layered Porous Cavities

T10-090 New In Situ Method for Estimating Thermal Diffusivity Using Rate-Based Temperature Sensors

T10-031 Master Equation Study and Nonequilibrium Chemical Reactions for Hydrogen Molecule

T10-074 Suitability of Multispectral Radiation Thermometry Emissivity Models for Predicting Steel Surface Temperature

T10-093 Thermal Performance Analysis of Space Debris Protection Enhanced Multilayer Perforated Insulation

T10-021 Thermal- and Phase-Change Characteristics of Self-Assembled Ethanol/Polyalphaolefin Nanoemulsion Fluids