1987 Journal of Thermophysics and Heat Transfer Index

How to Use the Index

In the Subject Index, pages 379-381, each technical paper is listed under a maximum of three appropriate headings. Note the number in boldface type following each paper title, and use that number to locate the paper in the Chronological Index. The Author Index, page 381, lists all authors associated with a given technical paper. The locating numbers are identical to those in the Subject Index. The Chronological Index, pages 382-384, lists all papers by their unique code 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, as well as the "CP" or conference volume number if the paper was published in a bound collection of meetings papers.

Subject Index

Aircraft Technology, Conventional, STOL/VTOL

Aerodynamics

Local Heat-Transfer Coefficients of Simulated Smooth Glaze Ice Formations on a Cylinder T87-017

Energy

Combustion

Interaction of Radiation with Turbulence: Application to a Combustion System

T87-008

Conservation

Experimental Study of Natural Convection in a Partially Porous Enclosure T87-038 Heat and Mass Transfer in Partial Enclosures T87-037 Radiative Heat Transfer in Emitting-Ab-

sorbing-Scattering Spherical Media

T87-022

Geothermal

Effect of Thermal Stratification on Free Convection within a Porous Medium

T87-04

Lasers

Mechanisms for Thermally Enhanced Target Coupling by Repetitively Pulsed Lasers T87-028

Nuclear Fission

Melting of a Horizontal Substrate Placed Under a Heavier and Miscible Pool

T87-04

Nuclear Fusion

Melting of a Horizontal Substrate Placed Under a Heavier and Miscible Pool

T87-048

Rotating Machinery

Local Endwall Heat/Mass Transfer Distributions in Pin Fin Channels

T87-054
Heat Transfer in Shrouded Rectangular
Cavities

T87-036
Local Heat-Transfer Performance and Mechanisms in Radial Flow Between Parallel
Disks

Fluid Dynamics

Boundary Layers and Convective Heat Transfer-Laminar

Thermal Boundary Layer on a Continuous Moving Plate with Freezing T87-050 Effect of Thermal Stratification on Free Convection within a Porous Medium

Mixed Convection From Vertical and Inclined Moving Sheets in a Parallel Freestream T87-040

Transition to Oscillatory Convective Heat

T87-041

Transfer in a Fluid-Saturated Porous Medium T87-039
Experimental Study of Natural Convection

Experimental Study of Natural Convection in a Partially Porous Enclosure T87-038 Comparison of Wet and Dry Growth in Artificial and Flight Icing Conditions

Heat Transfer in Squish Gaps T87-030
Interaction of Surface-Tension and Buoyancy Mechanisms in Horizontal Liquid Layers T87-019

Local Heat-Transfer Coefficients of Simulated Smooth Glaze Ice Formations on a Cylinder T87-017

Local Heat-Transfer Performance and Mechanisms in Radial Flow Between Parallel Disks T87-016

Boundary Layers and Convective Heat Transfer-Turbulent

Heat Transfer and Pressure Drop Experiments in Air-Cooled Electronic-Component Arrays

T87-055

Heat Transfer in Shrouded Rectangular Cavities

T87-036

Local Heat-Transfer Performance and Mechanisms in Radial Flow Between Parallel

Computational Methods

Heat Transfer in Shrouded Rectangular
Cavities T87-036
Computational Simulation of Laser Heat
Processing of Materials T87-025

Multiphase Flows

Transient, Stratified, Enclosed Gas and Liquid Behavior with Concentrated Heating from Above T87-053 Heat and Mass Transfer in Partial Enclosures T87-037 Two-Dimensional Condensing Vapor Flow on Parallel Flat Plates in an Enclosure T87-018 The Circulating Balls Heat Exchanger (CIBEX)

Plasmadynamics and MHD

Mechanisms for Thermally Enhanced Target
Coupling by Repetitively Pulsed Lasers
T87-028

Radiatively Coupled Flows and Heat Transfer

Gas Particle Radiator T87-042
A Two-Particle Model for Rocket Plume
Radiation T87-002

Shock Waves and Detonations

Hypersonic Merged-Layer Flow on a Sphere T87-003

Supersonic and Hypersonic Flow

Direct Simulation of Hypersonic Flows Over Blunt Wedges T87-014

Viscous Nonboundary-Layer Flows

Heat Transfer and Pressure Drop Experiments in Air-Cooled Electronic-Component Arrays T87-055

Interaction of Surface-Tension and Buoyancy Mechanisms in Horizontal Liquid Layers T87-019

Interdisciplinary Topics

Analytical and Numerical Methods

Thermal Boundary Layer on a Continuous Moving Plate with Freezing T87-050

Mixed Convection From Vertical and Inclined Moving Sheets in a Parallel Freestream T87-040

Transition to Oscillatory Convective Heat Transfer in a Fluid-Saturated Porous Medium T87-039

Computation of Heat Transfer with Solid/ Liquid Phase Change Including Free Convection T87-020

Atmospheric and Space Sciences

Comparison of Wet and Dry Growth in Artificial and Flight Icing Conditions T87-031

Lasers and Laser Applications

Transmission of a Laser Beam Through Anisotropic Scattering Media T87-034 Computational Simulation of Laser Heat Processing of Materials T87-025

Numerical Analysis

Determination of the Cross-Sectional Temperature Distribution and Boiling Limitation of a Heat Pipe T87-027

Space Processing

Interaction of Surface-Tension and Buoyancy Mechanisms in Horizontal Liquid T87-019 Lavers Design of a Thermocapillary Flow Experiment in Reduced Gravity T87-012

Propulsion

Combustion and Combustor Designs

Heat Transfer in Squish Gaps T87-030

Spacecraft Technology

Temperature Control

Variable Conductance Heat Pipes: A First-Order Model T87-005

Testing, Flight and Ground

A Two-Particle Model for Rocket Plume Radiation

Structural Mechanics and Materials

Materials, Properties of

Thermomechanical Effects of Intense Thermal Heating on Materials/Structures T87-024

Thermal Stresses

Periodic Heat Conduction Through Composite Panels

Thermophysics and Thermochemistry

Ablation, Pyrolysis, Thermal **Decomposition and Degradation** (including Refractories)

Steady State Ablation of an Arrhenius Material by External Heating T87-049 Structural Response of Materials Due to In-Depth Heating T87-029 Thermomechanical Effects of Intense Thermal Heating on Materials/Structures

T87-024

Generalized Phase Change Model for Melting and Solidification with Internal Heat Generation T87-023

Experimental Methods of Diagnostics

Transmission of a Laser Beam Through Anisotropic Scattering Media T87-034 Comparison of Wet and Dry Growth in Artificial and Flight Icing Conditions

Two-Dimensional Condensing Vapor Flow on Parallel Flat Plates in an Enclosure

Heat Conduction

Conjugated Heat Transfer from a Strip Heater Using the Unsteady Surface Element Method T87-052 Heat Transfer by Combined Conduction and Radiation in Axisymmetric Enclosures T87-045

Effect of Thermal Stratification on Free Convection within a Porous Medium

T87-041 Periodic Heat Conduction Through Composite Panels T87-026 Computational Simulation of Laser Heat Processing of Materials T87-025

Simultaneous Conduction and Radiation in a Two-Layer Planar Medium T87-021

Heat Pipes

Order Model

Effective Thermal Conductivity of Sintered Heat Pipe Wicks T87-051 Transient Heat Pipe Response and Rewetting Behavior T87-032 Two-Dimensional Condensing Vapor Flow on Parallel Flat Plates in an Enclosure T87-018 Variable Conductance Heat Pipes: A First-

Radiation and Radiative Heat Transfer

Crystallographic Effects During Radiative Melting of Semitransparent Materials T87-047

Solar Energy Transfer Through Semi-Transparent Plate Systems T87-046

Heat Transfer by Combined Conduction and Radiation in Axisymmetric Enclosures T87-045

Successive Improvement of the Modified Differential Approximation in Radiative Heat Transfer T87-044 Radiative Transfer in Thermal Insulations of

Hollow and Coated Fibers T87-043 Gas Particle Radiator T87-042 Evaluation of a Method for Measuring Spectral Emissivity at Moderate Temper-

atures T87-035 Transmission of a Laser Beam Through Anisotropic Scattering Media T87-034 Radiative Cooling of a Layer with Nonuniform Velocity: A Separable Solution

T87-033 Generalized Phase Change Model for Melting and Solidification with Internal Heat Generation T87-023

Radiative Heat Transfer in Emitting-Absorbing-Scattering Spherical Media

T87-022 Simultaneous Conduction and Radiation in a Two-Layer Planar Medium T87-021 Effect of Multiple Scattering on Radiation Transmission in Absorbing-Scattering

Radiation Transfer in Isotropically Scattering, Rectangular Enclosures T87-010 Independent and Dependent Scattering in Packed-Sphere Systems T27-009 Interaction of Radiation with Turbulence: Application to a Combustion System

T87-008 Radiative and Conductive Transfer for a Gas/Soot Mixture Between Diffuse Parallel Plates T87-007

Heat Transfer Analysis of Fiberglass Insulations With and Without Foil Radient Barriers T87-006

A Two-Particle Model for Rocket Plume Radiation

Radiatively Coupled Flows and Heat

Crystallographic Effects During Radiative Melting of Semitransparent Materials

T87-047

Mechanisms for Thermally Enhanced Target Coupling by Repetitively Pulsed Lasers T87-028

Effect of Multiple Scattering on Radiation Transmission in Absorbing-Scattering T87-011 Media

Interaction of Radiation with Turbulence: Application to a Combustion System

T87-008 Radiative and Conductive Transfer for a Gas/Soot Mixture Between Diffuse Parallel Plates T87-007 Hypersonic Merged-Layer Flow on a Sphere

T87-003 A Review of Some Approximate Methods Used in Aerodynamic Heating Analyses T87-001

Thermal Control

T87-005

Heat Transfer and Pressure Drop Experiments in Air-Cooled Electronic-Component Arrays T87-055 Solar Energy Transfer Through Semi-Transparent Plate Systems T87-046 Transient Heat Pipe Response and Rewetting Behavior T87-032 Determination of the Cross-Sectional Temperature Distribution and Boiling Limitation of a Heat Pipe T87-027 Variable Conductance Heat Pipes: A First-Order Model T87-005 Vapor-Deposited Emittance-Catalysis Coatings for Superalloys in Heat-Shield Application T87-004

Thermal Modeling and Analysis

Transient, Stratified, Enclosed Gas and Liquid Behavior with Concentrated Heating from Above T87-053 Conjugated Heat Transfer from a Strip Heater Using the Unsteady Surface Element Method Effective Thermal Conductivity of Sintered Heat Pipe Wicks T87-051 Melting of a Horizontal Substrate Placed Under a Heavier and Miscible Pool

T87-048 Solar Energy Transfer Through Semi-Transparent Plate Systems T87-046

Transition to Oscillatory Convective Heat Transfer in a Fluid-Saturated Porous Me-T87-039 Experimental Study of Natural Convection

T87-038 in a Partially Porous Enclosure Heat and Mass Transfer in Partial Enclo-T87-037

Transient Heat Pipe Response and Rewetting Behavior T87-032

Structural Response of Materials Due to T87-029 In-Depth Heating Determination of the Cross-Sectional Tem-

perature Distribution and Boiling Limitation of a Heat Pipe T87-027 Periodic Heat Conduction Through Com-T87-026

posite Panels Thermomechanical Effects of Intense Thermal Heating on Materials/Structures

T87-024

Radiative Heat Transfer in Emitting-Absorbing-Scattering Spherical Media

Computation of Heat Transfer with Solid/ Liquid Phase Change Including Free Con-T87-020 vection

Local Heat-Transfer Coefficients of Simulated Smooth Glaze Ice Formations on a T87-017 Cvlinder

The Circulating Balls Heat Exchanger

(CIBEX) T87-015
Independent and Dependent Scattering in
Packed-Sphere Systems T87-009

Thermal Surface Properties

Evaluation of a Method for Measuring Spectral Emissivity at Moderate Temperatures T87-035 Numerical Analysis of Solidification in a Thick-Walled Cylindrical Container T87-013

Thermophysical Properties of Matter

Effective Thermal Conductivity of Sintered

Heat Pipe Wicks

T87-051

Evaluation of a Method for Measuring Spectral Emissivity at Moderate Temperatures T87-035 Independent and Dependent Scattering in Packed-Sphere Systems T87-009

Author Index

Abramzon, B., T87-053 Aidun, C. K., T87-039 Al-Turki, A. M., T87-007 Ambrose, J. H., T87-032 Armaly, B. F., T87-040 Babikian, D. S., T87-002 Beam, J. E., T87-032 Beck, J. V., T87-052 Bergs, C. M., T87-013 Bobco, R. P., T87-005 Bohn, C. L., T87-028 Borsch-Supan, W., T87-049 Byun, K., T87-007 Chan, S. H., T87-023 Chang, C. I., T87-024, T87-029 Cheatwood, F. M., T87-001 Chen, T. S., T87-040 Cheung, F.-B., T87-050 Chow, L. C., T87-032 Chubb, D. L., T87-042 Chyu, M. K., T87-036 Clark, R. K., T87-004 Cole, K. D., T87-052 Couick, J. R., T87-028 Crawford, M. L., T87-028 Cuda, V. J., T87-014 Cunnington, G. R., Jr., T87-004

DeJarnette, F. R., T87-001

Dewitt, D. P., T87-035 Drolen, B. L., T87-009 Dunaway, W., T87-011 Edwards, D. K., T87-002, T87-053 Faruque, M. A., T87-038 Fletcher, L. S., T87-051 Gat. N., T87-015 Gnanamuthu, D., T87-025 Griffis, C. A., T87-024 Hamilton, H. H., T87-001 Han, L. S., T87-026 Hansman, R. J., Jr., T87-031 Hau, J. C., T87-054 Ho, C.-H., T87-021 Hsu, K, Y., T87-023 Hunter, L. W., T87-049 Hwan, C. L., T87-036 Jackson, J. P., T87-028 Jain, A. C., T87-003 Jumper, E. J., T87-028 Kamotani, Y., T87-012 Kim, T. K., T87-007 Kim, Y. S., T87-054 Kirby, M. S., T87-031 Kobayashi, Y., T87-018 Koyama, H., T87-041 Kumar, S., T87-043 Lau. S. C., T87-054

Love, T. J., T87-044 Matsumoto, T., T87-018 McKee, L. L., T87-028 Metzger, D. E., T87-036 Mitts, S. J., T87-046 Mochizuki, S., T87-016 Moss, J. N., T87-014 Nakayama, A., T87-041 Nelson, H. F., T87-034 Nemes, J. A., T87-024, T87-029 Olstad, S. J., T87-035 Ostrach, S., T87-012 Ozisik, M. N., T87-010, T87-021 Pais, M., T87-017 Peterson, G. P., T87-027, T87-051 Pike, R. L., T87-013 Ramachandran, N., T87-040 Rish, J. W., III, T87-006 Robinson, J. C., T87-004 Roux, J. A., T87-006 Sakurai, Y., T87-002 Santos, W. F. N., T87-055 Sarkar, S., T87-037 Sarma, G. S. R., T87-019 Sathe, S. B., T87-038 Satish, B. V., T87-034 Schneider, G. E., T87-020 Shankar, V., T87-025

Siegel, R., T87-033 Singh, S. N., T87-017 Sirignano, W. A., T87-053 Smith, R. N., T87-013 Smith, T. F., T87-007, T87-046 Song, T. H., T87-008 Souza Mendes, P. R., T87-055 Spurk, J. H., T87-030 Steen, P. H., T87-039 Stonesifer, F. R., T87-024 Sutton, W. H., T87-044 Swathi, P. S., T87-022 Taghavi, K., T87-048 Tanaka, F., T87-035 Thynell, S. T., T87-010 Tien, C. L., T87-009, T87-043 Tong, T. W., T87-022, T87-038 Vafai, K., T87-037 Viskanta, R., T87-008, T87-047 Wang, K. Y., T87-043 Webb. B. W., T87-047 Weilmuenster, K. J., T87-001 Williams, M. L., T87-045 Wu, C. Y., T87-044 Yang, W., T87-016 Yucel, A., T87-045 Yuen, W. W., T87-011.