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Research Papers: Conduction

The Effect of Spatially Correlated Roughness and Boundary Conditions on the Conduction of Heat Through a Slab

A. F. Emery, H. Dillon and A. M. Mescher

J. Heat

Transfer. 2010;132(5):051301-051301-11.

doi:10.1115/1.4000445.

Research Papers: Electronic Cooling

Self-Contained, Oscillating Flow Liquid Cooling System for Thin Form Factor High Performance Electronics

R. Wälchli, T. Brunschwiler, B. Michel and D. Poulikakos

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Transfer. 2010;132(5):051401-051401-9.

doi:10.1115/1.4000456.

Research Papers: Evaporation, Boiling, and Condensation

The Effect of the Angle of Inclination on the Operation Limiting Heat Flux of Long R-134a Filled Thermosyphons

M. H. M. Grooten and C. W. M. van der Geld

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Transfer. 2010;132(5):051501-051501-5.

doi:10.1115/1.4000441.

Research Papers: Experimental Techniques

A Phase-Sensitive Technique for Measurements of Liquid Thermal Conductivity

Zhefu Wang and Richard B. Peterson

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Transfer. 2010;132(5):051601-051601-8.

doi:10.1115/1.3211858.

Temperature Measurements of Diesel Fuel Combustion With

Multicolor Pyrometry

Tairan Fu, Zhe Wang and Xiaofang Cheng

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Transfer. 2010;132(5):051602-051602-7.

doi:10.1115/1.4000467.

Research Papers: Forced Convection

Superior Convective Heat Transport for Laminar Boundary Layer Flow Over a Flat Plate Using Binary Gas Mixtures With Light Helium and Selected Heavier Gases

Antonio Campo, Salah Chikh, Mohammad M. Papari and Mohammad R. Mobinipouya

J. Heat

Transfer. 2010;132(5):051701-051701-9.
doi:10.1115/1.4000433.

Forced Convection Heat Transfer Enhancement by

Porous Pin Fins in Rectangular Channels

Jian Yang, Min Zeng, Qiuwang Wang and Akira Nakayama

J. Heat

Transfer. 2010;132(5):051702-051702-8.
doi:10.1115/1.4000708.

Modeling the Effects of System Rotation on the

Turbulent Scalar Fluxes

B. A. Younis, B. Weigand, F. Mohr and M. Schmidt

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doi:10.1115/1.4000446.

Research Papers: Heat Exchangers

Computational Fluid

Dynamics Evaluation of Heat Transfer Correlations for Sodium Flows in a Heat Exchanger

Seok-Ki Choi, Seong-O Kim and Hoon-Ki Choi

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doi:10.1115/1.4000707.

A Design and Rating Method for Shell-and-Tube Heat

Exchangers With Helical Baffles

Jian-Fei Zhang, Ya-Ling He and Wen-Quan Tao

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doi:10.1115/1.4000457.

Research Papers: Heat Transfer in Manufacturing

Inverse Determination of Eroded Smelter Wall Thickness Variation Using an Elastic Membrane Concept

Daniel Baker, George S. Dulikravich, Brian H. Dennis and Thomas J. Martin

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doi:10.1115/1.4000436.

Research Papers: Jets, Wakes, and Impingement Cooling

Numerical Simulation of Transient Thermal Transport on a Rotating Disk Under Partially Confined Laminar Liquid Jet Impingement

Jorge C. Lallave and Muhammad M. Rahman

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Research Papers: Micro/Nanoscale Heat Transfer

doi:10.1115/1.4000442.

Effects of Variable Viscosity and Thermal Conductivity of CuO-Water Nanofluid on Heat Transfer Enhancement in Natural Convection: Mathematical Model and Simulation

Eiyad Abu-Nada

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Transfer. 2010;132(5):052401-052401-9.

doi:10.1115/1.4000440.

Monte Carlo Study of Phonon Heat Conduction in Silicon Thin

Films Including Contributions of Optical Phonons

Arpit Mittal and Sandip Mazumder

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Transfer. 2010;132(5):052402-052402-11.

doi:10.1115/1.4000447.

Design and Test of Carbon Nanotube Biwick Structure for

High-Heat-Flux Phase Change Heat Transfer

Qingjun Cai and Chung-Lung Chen

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Transfer. 2010;132(5):052403-052403-8.

doi:10.1115/1.4000469.

Constructal Allocation of Nanoparticles in Nanofluids

Chao Bai and Liqiu Wang

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doi:10.1115/1.4000473.

The Effect of Local Thermal Nonequilibrium on the Onset of

Convection in a Nanofluid

D. A. Nield and A. V. Kuznetsov

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doi:10.1115/1.4000474.

Research Papers: Radiative Heat Transfer

Spectral Collocation Method for Transient Combined Radiation and Conduction in an Anisotropic Scattering Slab With Graded Index

Ya-Song Sun and Ben-Wen Li

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doi:10.1115/1.4000444.

Technical Briefs

in Flow Fields With Steady Velocity Profile

Zhefu Wang and Richard B. Peterson

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Thermal Wave Applications

054501-4.
doi:10.1115/1.3194758.

Vapor Flow Analysis in Flat

Plate Heat Pipes Using Homotopy Perturbation Method

Hamid Reza Seyf and Mohammad Layeghi

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054502-4.
doi:10.1115/1.4000448.

Transient Conduction in a Hollow Cylinder With Variable

Thermal Conductivity

M. Kandula

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Transfer. 2010;132(5):054503-
054503-3.
doi:10.1115/1.4000471.

Design Innovation

Oscillatory Streaming Flow

Based Mini/Microheat Pipe Technology

Z. Zhang, C. Liu, A. Fadl, D. M. Meyer, M. Krafczyk and H. Sun

J. Heat

Transfer. 2010;132(5):055001-
055001-8.
doi:10.1115/1.4000443.