

Journal of Heat Transfer

April,
2010 |
Volume
132 |
Issue 4

Email Alerts | RSS 
BASIC
VIEW | EXPANDED VIEW

Guest Editorial

Microchannels: Rapid Growth of a Nascent Technology

Satish G. Kandlikar

J. Heat

Transfer. 2010;132(4):040301-
040301-2.
doi:10.1115/1.4000889.

Research Papers

Effects of Axial Corrugated

Roughness on Low Reynolds Number Slip Flow and Continuum Flow in Microtubes

Zhipeng Duan and Y. S. Muzychka

J. Heat

Transfer. 2010;132(4):041001-
041001-9.
doi:10.1115/1.3211854.

Flow Boiling on Micropin Fins Entrenched Inside a

Microchannel—Flow Patterns and Bubble Departure Diameter and Bubble Frequency

Santosh Krishnamurthy and Yoav Peles

J. Heat

Transfer. 2010;132(4):041002-
041002-9.
doi:10.1115/1.2994718.

Heat Transfer in Microchannels With Suspended

Solid Particles: Lattice-Boltzmann Based Computations

Reza H. Khiabani, Yogendra Joshi and Cyrus K. Aidun

J. Heat

Transfer. 2010;132(4):041003-
041003-9.
doi:10.1115/1.4000860.

Generalized Two-Phase Pressure Drop and Heat Transfer

Correlations in Evaporative Micro/Minichannels

Hee Joon Lee, Dong Yao Liu, Y. Alyousef and Shi-chune Yao

J. Heat

Transfer. 2010;132(4):041004-
041004-9.
doi:10.1115/1.4000861.

Numerical Investigation of Heat Transfer Enhancement in a

Microchannel With Grooved Surfaces

O. Abouali and N. Baghernezhad

J. Heat

Transfer. 2010;132(4):041005-041005-8.
doi:10.1115/1.4000862.

An Extension to the Navier–Stokes Equations to Incorporate

Gas Molecular Collisions With Boundaries

Erik J. Arlemark, S. Kokou Dadzie and Jason M. Reese

J. Heat

Transfer. 2010;132(4):041006-041006-8.
doi:10.1115/1.4000877.

Flow Boiling Heat Transfer on Micro Pin Fins Entrenched in

a Microchannel

Santosh Krishnamurthy and Yoav Peles

J. Heat

Transfer. 2010;132(4):041007-041007-10.
doi:10.1115/1.4000878.

Using Direct Simulation Monte Carlo With Improved

Boundary Conditions for Heat and Mass Transfer in Microchannels

J. Yang, J. J. Ye, J. Y. Zheng, I. Wong, C. K. Lam, P. Xu, R. X. Chen and Z. H. Zhu

J. Heat

Transfer. 2010;132(4):041008-041008-9.
doi:10.1115/1.4000880.

Thermal Characterization of Interlayer Microfluidic Cooling

of Three-Dimensional Integrated Circuits With Nonuniform Heat Flux

Yoon Jo Kim, Yogendra K. Joshi, Andrei G. Fedorov, Young-Joon Lee and Sung-Kyu Lim

J. Heat

Transfer. 2010;132(4):041009-041009-9.
doi:10.1115/1.4000885.

Representative Results for Condensation Measurements at

Hydraulic Diameters ~ 100 Microns

Akhil Agarwal and Srinivas Garimella

J. Heat

Transfer. 2010;132(4):041010-041010-12.
doi:10.1115/1.4000879.

Investigation Into the Similarity Solution for

Boundary Layer Flows in Microsystems

Suhil Kiwan and M. A. Al-Nimr

J. Heat

Transfer. 2010;132(4):041011-041011-9.
doi:10.1115/1.4000886.

Analytical Modeling of Annular Flow Boiling Heat

Transfer in Mini- and Microchannel Heat Sinks

A. Megahed and I. Hassan

J. Heat

Transfer. 2010;132(4):041012-041012-11.
doi:10.1115/1.4000887.

Experimental Investigation

of Single-Phase Microjet Array Heat Transfer

Eric A. Browne, Gregory J. Michna, Michael K. Jensen and Yoav Peles

J. Heat

Transfer. 2010;132(4):041013-
041013-9.

doi:10.1115/1.4000888.