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Research Papers: Flows in Complex Systems

A Method for Three-Dimensional Navier–Stokes Simulations of Large-Scale Regions of the Human Lung Airway

D. Keith Walters and William H. Luke

J. Fluids

Eng. 2010;132(5):051101-051101-8.
doi:10.1115/1.4001448.

Analysis and
Prevention of Vortex

Breakdown in the Simplified Discharge Cone of a Francis Turbine

Romeo Susan-Resiga, Sebastian Muntean, Vlad Hasmatuchi, Ioan Anton and François Avellan

J. Fluids

Eng. 2010;132(5):051102-051102-15.
doi:10.1115/1.4001486.

LES of the Slipstream
of a Rotating Train

Hassan Hemida, Nahia Gil and Chris Baker

J. Fluids

Eng. 2010;132(5):051103-051103-9.
doi:10.1115/1.4001447.

Influence of the Slant
Angle of 3D Bluff Bodies

on Longitudinal Vortex Formation

Patrick Gilliéron, Annie Leroy, Sandrine Aubrun and Pierre Audier

J. Fluids

Eng. 2010;132(5):051104-051104-9.
doi:10.1115/1.4001450.

Particle Trajectory
Study in Submerged

Flows With Baffles Using v_2^- - f and k - ϵ Turbulence Models

A. Mehdizadeh, B. Firoozabadi and S. A. Sherif

J. Fluids

Eng. 2010;132(5):051105-051105-10.
doi:10.1115/1.4001557.

Investigation of the
Flow Field in a

Rectangular Vessel Equipped With a Side-Entering Agitator

C. Gómez, C. P. J. Bennington and F. Taghipour

J. Fluids

Eng. 2010;132(5):051106-051106-13.
doi:10.1115/1.4001575.

A Study of Cycle-to-
Cycle Variations and the

Influence of Charge Motion Control on In-Cylinder Flow in an IC Engine

Mayank Mittal and Harold J. Schock

J. Fluids

Eng. 2010;132(5):051107-051107-8.
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Fluid Force Moment on
the Backshroud of a

Francis Turbine Runner in Precession Motion

Bingwei Song, Hironori Horiguchi, Yumeto Nishiyama, Shinichiro Hata, Zhenyue Ma and Yoshinobu Tsujimoto

J. Fluids

Eng. 2010;132(5):051108-051108-8.
doi:10.1115/1.4001618.

Axial Flow Fan Tip
Leakage Flow Control

Using Tip Platform Extensions

Ali Aktürk and Cengiz Camci

J. Fluids

Eng. 2010;132(5):051109-051109-10.
doi:10.1115/1.4001540.

Prediction of the
Nonuniform Tip

Clearance Effect on the Axial Compressor Flow Field

Young-Seok Kang and Shin-Hyoung Kang

J. Fluids

Eng. 2010;132(5):051110-051110-9.
doi:10.1115/1.4001553.

Flow and Dipole
Source Evaluation of a

Generic SUV

Jonas Ask and Lars Davidson

J. Fluids

Eng. 2010;132(5):051111-051111-12.
doi:10.1115/1.4001340.

**Research
Papers:** Fundamental Issues
and Canonical Flows

Flows and Their Stability in Rotating Cylinders With a Porous Lining

M. Subotic and F. C. Lai

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Eng. 2010;132(5):051201-051201-7.
doi:10.1115/1.4001541.

Active Control of Flow
Separation in a Radial

Blower

David Greenblatt and Guy Arzuan

J. Fluids

Eng. 2010;132(5):051202-051202-6.
doi:10.1115/1.4001446.

Spectral Linear
Stochastic Estimation of

the Turbulent Velocity in a Square Three-Dimensional Wall Jet

Joseph W. Hall and Daniel Ewing

J. Fluids

Eng. 2010;132(5):051203-051203-9.
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Experimental Study of
Turbulence Transport in a

Dilute Surfactant Solution Flow Investigated by PIV

Weiguo Gu, Yasuo Kawaguchi, Dezhong Wang and Saito Akihiro

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Eng. 2010;132(5):051204-051204-7.
doi:10.1115/1.4001631.

Flow Characteristics of
Microglass Fiber

Suspension in Polymeric Fluids in Spherical Gaps

Hiroshi Yamaguchi, Xin-Rong Zhang, Xiao-Dong Niu and Yuta Ito

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Eng. 2010;132(5):051205-051205-8.
doi:10.1115/1.4001491.

Shape Optimization of
Symmetric Cylinder

Shape on Buoyancy Using Fourier Series Approximation

Hyeongkeun Kim, Dongmin Choi, Youngjin Kim, Seunghyun Baik and Hyungpil Moon

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Eng. 2010;132(5):051206-051206-8.
doi:10.1115/1.4001493.

Research Papers: Multiphase
Flows

Separation of a Two-Phase Slug Flow in Branched 90 deg Elbows

F. Sanchez-Silva, V. Hernandez-Perez, I. Carvajal-Mariscal, J. G. Barbosa-Saldaña and J. A. Cruz-Maya

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Eng. 2010;132(5):051301-051301-8.
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Microbubble Drag
Reduction Downstream of

Ventilated Partial Cavity

Eduard Amromin

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Mitigation of Damage
to Solid Surfaces From

the Collapse of Cavitation Bubble Clouds

Parag V. Chitnis, Nicholas J. Manzi, Robin O. Cleveland, Ronald A. Roy and R. Glynn Holt

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Eng. 2010;132(5):051303-051303-6.
doi:10.1115/1.4001552.

Research Papers: Techniques
and Procedures

Shape Optimization of a Multi-Element Foil Using an Evolutionary Algorithm

Yu-Tai Lee, Vineet Ahuja, Ashvin Hosangadi and Michael Ebert

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Eng. 2010;132(5):051401-051401-11.

doi:10.1115/1.4001343.

Technical Briefs

A Serendipitous

Application of Supercavitation Theory to the Water-Running Basilisk Lizard

Eric R. White and Timothy F. Miller

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Eng. 2010;132(5):054501-054501-7.

doi:10.1115/1.4001487.

On the Derivation of Pressure Field

Distribution at the Entrance of a Rectangular Capillary

Prashant R. Waghmare and Sushanta K. Mitra

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