

## INDEX

- Agnon, Y.** *See* Toledo & Agnon
- Andersen, A.** *See* Böhling, Andersen & Fabre
- Anderson, B.** *See* Brandner, Walker, Niekamp & Anderson
- Böhling, L., Andersen, A. & Fabre, D.** Structure of a steady drain-hole vortex in a viscous fluid, 177–188
- Bottaro, A.** *See* Cherubini, Robinet, Bottaro & De Palma
- Boulouchos, K. B.** *See* Chikatamarla, Frouzakis, Karlin, Tomboulides & Boulouchos
- Brandner, P. A., Walker, G. J., Niekamp, P. N. & Anderson, B.** An experimental investigation of cloud cavitation about a sphere, 147–176
- Charru, F.** *See* Luchini & Charru
- Cherubini, S., Robinet, J.-C., Bottaro, A. & De Palma, P.** Optimal wave packets in a boundary layer and initial phases of a turbulent spot, 231–259
- Chikatamarla, S. S., Frouzakis, C. E., Karlin, I. V., Tomboulides, A. G. & Boulouchos, K. B.** Lattice Boltzmann method for direct numerical simulation of turbulent flows, 298–308
- Conroy, D. T., Craster, R. V., Matar, O. K. & Papageorgiou, D. T.** Dynamics and stability of an annular electrolyte film, 481–506
- Craster, R. V.** *See* Conroy, Craster, Matar & Papageorgiou
- Davis, A. M. J. & Llewellyn Smith, S. G.** Tangential oscillations of a circular disk in a viscous stratified fluid, 342–359
- Ding, H.** *See* Valluri, Náraigh, Ding & Spelt
- Fabre, D.** *See* Böhling, Andersen & Fabre
- Felderhof, B. U.** Echoing in a viscous compressible fluid confined between two parallel plane walls, 223–230
- Frigaard, I. A.** *See* Guha & Frigaard
- Frouzakis, C. E.** *See* Chikatamarla, Frouzakis, Karlin, Tomboulides & Boulouchos
- Gao, B. & Wu, Z. N.** A study of the flow structure for Mach reflection in steady supersonic flow, 29–50
- Gao, L. & Yu, S. C. M.** A model for the pinch-off process of the leading vortex ring in a starting jet, 205–222
- Glezer, A.** *See* Vukasinovic, Rusak & Glezer
- Guha, A. & Frigaard, I. A.** On the stability of plane Couette–Poiseuille flow with uniform crossflow, 417–447
- Henningson, D. S.** Description of complex flow behaviour using global dynamic modes, 1–4
- Jakirlić, S. & Jovanović, J.** On unified boundary conditions for improved predictions of near-wall turbulence, 530–539
- Jovanović, J.** *See* Jakirlić & Jovanović
- Juniper, M. P.** *See* Rees & Juniper
- Karlin, I. V.** *See* Chikatamarla, Frouzakis, Karlin, Tomboulides & Boulouchos
- Kearney-Fischer, M.** *See* Samimy, Kim, Kearney-Fischer & Sinha
- Kim, J.-H.** *See* Samimy, Kim, Kearney-Fischer & Sinha
- Kong, D.** *See* Zhang, Kong & Liao
- Liao, X.** *See* Zhang, Kong & Liao

- Lindborg, E.** *See* Vallgren & Lindborg
- Llewellyn Smith, S. G.** *See* Davis & Llewellyn Smith
- Luchini, P. & Charru, F.** Consistent section-averaged equations of quasi-one-dimensional laminar flow, 337–341
- Matar, O. K.** *See* Conroy, Craster, Matar & Papageorgiou
- Náraigh, L. Ó.** *See* Valluri, Náraigh, Ding & Spelt
- Niekamp, P. N.** *See* Brandner, Walker, Niekamp & Anderson
- De Palma, P.** *See* Cherubini, Robinet, Bottaro & De Palma
- Papageorgiou, D. T.** *See* Conroy, Craster, Matar & Papageorgiou
- Redekopp, L. G.** *See* Sakai & Redekopp
- Rees, S. J. & Juniper, M. P.** The effect of confinement on the stability of viscous planar jets and wakes, 309–336
- Robinet, J.-C.** *See* Cherubini, Robinet, Bottaro & De Palma
- Roisman, I. V.** Fast forced liquid film spreading on a substrate: flow, heat transfer and phase transition, 189–204
- Rusak, Z.** *See* Vukasinovic, Rusak & Glezer
- Sakai, T. & Redekopp, L. G.** A weakly nonlinear evolution model for long internal waves in a large lake, 260–297
- Samimy, M., Kim, J.-H., Kearney-Fischer, M. & Sinha, A.** Acoustic and flow fields of an excited high Reynolds number axisymmetric supersonic jet, 507–529
- Schmid, P. J.** Dynamic mode decomposition of numerical and experimental data, 5–28
- Sengupta, T. K., Singh, N. & Suman, V. K.** Dynamical system approach to instability of flow past a circular cylinder, 82–115
- Singh, N.** *See* Sengupta, Singh & Suman
- Sinha, A.** *See* Samimy, Kim, Kearney-Fischer & Sinha
- Spelt, P. D. M.** *See* Valluri, Náraigh, Ding & Spelt
- Suman, V. K.** *See* Sengupta, Singh & Suman
- Tabatabaei, S. M. & van de Ven, T. G. M.** Tangential electroviscous drag on a sphere surrounded by a thin double layer near a wall for arbitrary particle–wall separations, 360–406
- Toledo, Y. & Agnon, Y.** A scalar form of the complementary mild-slope equation, 407–416
- Tomboulides, A. G.** *See* Chikatararla, Frouzakis, Karlin, Tomboulides & Boulouchos
- Vallgren, A. & Lindborg, E.** Charney isotropy and equipartition in quasi-geostrophic turbulence, 448–457
- Valluri, P., Náraigh, L. Ó., Ding, H. & Spelt, P. D. M.** Linear and nonlinear spatio-temporal instability in laminar two-layer flows, 458–480
- van de Ven, T. G. M.** *See* Tabatabaei & van de Ven
- Vukasinovic, B., Rusak, Z. & Glezer, A.** Dissipative small-scale actuation of a turbulent shear layer, 51–81
- Walker, G. J.** *See* Brandner, Walker, Niekamp & Anderson
- Wu, Z. N.** *See* Gao & Wu
- Yu, S. C. M.** *See* Gao & Yu
- Zhang, K., Kong, D. & Liao, X.** On fluid flows in precessing narrow annular channels: asymptotic analysis and numerical simulation, 116–146

CAMBRIDGE

## New and Exciting Titles in Fluid Mechanics!

### Second Edition

Computational Fluid Dynamics

T. J. CHUNG

\$145.00; Hb: 978-0-521-76969-3; 1,030 pp.

Fundamentals of Jet Propulsion  
with Applications

RONALD D. FLACK

*Cambridge Aerospace Series*

\$70.00; Pb: 978-0-521-15417-8; 664 pp.

Dynamics of Rotating Machines

MICHAEL I. FRISWELL

JOHN E. T. PENNY

SEAMUS D. GARVEY

ARTHUR W. LEES

*Cambridge Aerospace Series*

\$115.00; Hb: 978-0-521-85016-2; 544 pp.

Gasoline, Diesel and  
Ethanol Biofuels from  
Grasses and Plants

RAM B. GUPTA

AYHAN DEMIRBAS

\$75.00; Hb: 978-0-521-76399-8; 224 pp.

### Nineteenth Edition

Acta Numerica 2010

*Edited by* ARIEH ISERLES

*Acta Numerica*

\$135.00; Hb: 978-0-521-19284-2; 604 pp.

Introductory Fluid Mechanics

JOSEPH KATZ

\$135.00; Hb: 978-0-521-19245-3; 456 pp.

Micro- and Nanoscale  
Fluid Mechanics

Transport in Microfluidic Devices

BRIAN J. KIRBY

\$125.00; Hb: 978-0-521-11903-0; 650 pp.

Combustion Physics

CHUNG K. LAW

\$80.00; Pb: 978-0-521-15421-5; 744 pp.

A Practical Guide to the  
Invariant Calculus

ELIZABETH LOUISE MANSFIELD

*Cambridge Monographs on  
Applied and Computational  
Mathematics*

\$75.00; Hb: 978-0-521-85701-7; 260 pp.

### Second Edition

Fundamentals of  
Engineering  
Numerical Analysis

PARVIZ MOIN

\$120.00; Hb: 978-0-521-88432-7; 264 pp.

\$59.00; Pb: 978-0-521-71123-4

NIST Handbook of  
Mathematical Functions

*Edited by* FRANK W. J. OLVER

DANIEL W. LOZIER

RONALD F. BOISVERT

CHARLES W. CLARK

\$99.00; Hb: 978-0-521-19225-5; 966 pp.

\$50.00; Pb: 978-0-521-14063-8

Fluid-Structure  
Interactions

Cross-Flow-Induced Instabilities

MICHAEL PAIDOUSSIS

STUART PRICE

EMMANUEL DE LANGRE

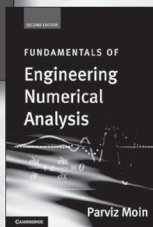
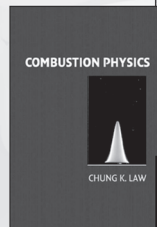
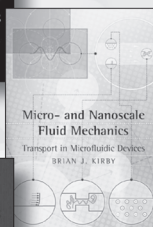
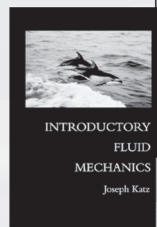
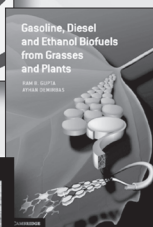
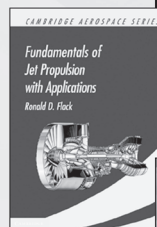
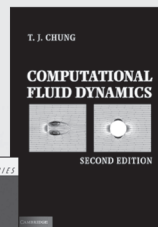
\$125.00; Hb: 978-0-521-11942-9; 396 pp.

Gravity–Capillary  
Free-Surface Flows

JEAN-MARC VANDEN-BROECK

*Cambridge Monographs on Mechanics*

\$110.00; Hb: 978-0-521-81190-3; 336 pp.



Prices subject to change.

[www.cambridge.org/us/engineering](http://www.cambridge.org/us/engineering)  
800.872.7423



CAMBRIDGE  
UNIVERSITY PRESS



- 1 Description of complex flow behaviour using global dynamic modes  
**D. S. Henningson**
- 5 Dynamic mode decomposition of numerical and experimental data  
**P. J. Schmid**
- 29 A study of the flow structure for Mach reflection in steady supersonic flow  
**B. Gao & Z. N. Wu**
- 51 Dissipative small-scale actuation of a turbulent shear layer  
**B. Vukasinovic, Z. Rusak & A. Glezer**
- 82 Dynamical system approach to instability of flow past a circular cylinder  
**T. K. Sengupta, N. Singh & V. K. Suman**
- 116 On fluid flows in precessing narrow annular channels: asymptotic analysis and numerical simulation  
**K. Zhang, D. Kong & X. Liao**
- 147 An experimental investigation of cloud cavitation about a sphere  
**P. A. Brandner, G. J. Walker, P. N. Niekamp & B. Anderson**
- 177 Structure of a steady drain-hole vortex in a viscous fluid  
**L. Böhling, A. Andersen & D. Fabre**
- 189 Fast forced liquid film spreading on a substrate: flow, heat transfer and phase transition  
**I. V. Roisman**
- 205 A model for the pinch-off process of the leading vortex ring in a starting jet  
**L. Gao & S. C. M. Yu**
- 223 Echoing in a viscous compressible fluid confined between two parallel plane walls  
**B. U. Felderhof**
- 231 Optimal wave packets in a boundary layer and initial phases of a turbulent spot  
**S. Cherubini, J.-C. Robinet, A. Bottaro & P. D. Palma**
- 260 A weakly nonlinear evolution model for long internal waves in a large lake  
**T. Sakai & L. G. Redekopp**
- 298 Lattice Boltzmann method for direct numerical simulation of turbulent flows  
**S. S. Chikatamarla, C. E. Frouzakis, I. V. Karlin, A. G. Tomboulides & K. B. Boulouchos**
- 309 The effect of confinement on the stability of viscous planar jets and wakes  
**S. J. Rees & M. P. Juniper**
- 337 Consistent section-averaged equations of quasi-one-dimensional laminar flow  
**P. Luchini & F. Charru**
- 342 Tangential oscillations of a circular disk in a viscous stratified fluid  
**A. M. J. Davis & S. G. L. Smith**
- 360 Tangential electroviscous drag on a sphere surrounded by a thin double layer near a wall for arbitrary particle-wall separations  
**S. M. Tabatabaei & T. G. M. van de Ven**
- 407 A scalar form of the complementary mild-slope equation  
**Y. Toledo & Y. Agnon**
- 417 On the stability of plane Couette–Poiseuille flow with uniform crossflow  
**A. Guha & I. A. Frigaard**
- 448 Charney isotropy and equipartition in quasi-geostrophic turbulence  
**A. Vallgren & E. Lindborg**
- 458 Linear and nonlinear spatio-temporal instability in laminar two-layer flows  
**P. Valluri, L. Ó Náraigh, H. Ding & P. D. M. Spelt**
- 481 Dynamics and stability of an annular electrolyte film  
**D. T. Conroy, R. V. Craster, O. K. Matar & D. T. Papageorgiou**
- 507 Acoustic and flow fields of an excited high Reynolds number axisymmetric supersonic jet  
**M. Samimy, J.-H. Kim, M. Kearney-Fischer & A. Sinha**
- 530 On unified boundary conditions for improved predictions of near-wall turbulence  
**S. Jakirlić & J. Jovanović**
- 540 INDEX TO VOLUME 656

