

## INDEX

- Billant, P.** Zigzag instability of vortex pairs in stratified and rotating fluids. Part 1. General stability equations, 354–395
- Billant, P., Deloncle, A., Chomaz, J.-M. & Otheguy, P.** Zigzag instability of vortex pairs in stratified and rotating fluids. Part 2. Analytical and numerical analyses, 396–429
- Brancher, J.-P.** *See* Métivier, Nouar & Brancher
- Camussi, R., Grilliat, J., Caputi-Gennaro, G. & Jacob, M. C.** Experimental study of a tip leakage flow: wavelet analysis of pressure fluctuations, 87–113
- Caputi-Gennaro, G.** *See* Camussi, Grilliat, Caputi-Gennaro & Jacob
- Chen, Q., Liu, S. & Tong, C.** Investigation of the subgrid-scale fluxes and their production rates in a convective atmospheric surface layer using measurement data, 282–315
- Cheng, M., Lou, J. & Luo, L.-S.** Numerical study of a vortex ring impacting a flat wall, 430–455
- Chomaz, J.-M.** *See* Billant, Deloncle, Chomaz & Otheguy
- Chomaz, J.-M.** *See* Meliga, Sipp & Chomaz
- Coffey, C. J. & Hunt, G. R.** The unidirectional emptying box, 456–474
- Dai, A.** *See* Phillips, Dai & Tjan
- Deloncle, A.** *See* Billant, Deloncle, Chomaz & Otheguy
- Detert, M., Nikora, V. & Jirka, G. H.** Synoptic velocity and pressure fields at the water–sediment interface of streambeds, 55–86
- Dey, J.** *See* Mandal, Venkatakrisnan & Dey
- Grilliat, J.** *See* Camussi, Grilliat, Caputi-Gennaro & Jacob
- Guimbard, D., Le Dizès, S., Le Bars, M., Le Gal, P. & Leblanc, S.** Elliptic instability of a stratified fluid in a rotating cylinder, 240–257
- Hewitt, G. F. & Marshall, J. S.** Particle focusing in a suspension flow through a corrugated tube, 258–281
- Hunt, G. R.** *See* Coffey & Hunt
- Jacob, M. C.** *See* Camussi, Grilliat, Caputi-Gennaro & Jacob
- Jirka, G. H.** *See* Detert, Nikora & Jirka
- Kumaran, V.** *See* Reddy, Talbot & Kumaran
- Le Bars, M.** *See* Guimbard, Le Dizès, Le Bars, Le Gal & Leblanc
- Leblanc, S.** *See* Guimbard, Le Dizès, Le Bars, Le Gal & Leblanc
- Le Dizès, S.** *See* Guimbard, Le Dizès, Le Bars, Le Gal & Leblanc
- Le Dizès, S. & Riedinger, X.** The strato-rotational instability of Taylor–Couette and Keplerian flows, 147–161
- Le Gal, P.** *See* Guimbard, Le Dizès, Le Bars, Le Gal & Leblanc
- Liu, S.** *See* Chen, Liu & Tong
- Lou, J.** *See* Cheng, Lou & Luo
- Lueptow, R. M.** *See* Tilton, Martinand, Serre & Lueptow
- Luo, L.-S.** *See* Cheng, Lou & Luo
- Mandal, A. C., Venkatakrisnan, L. & Dey, J.** A study on boundary-layer transition induced by free-stream turbulence, 114–146
- Marshall, J. S.** *See* Hewitt & Marshall

- Martinand, D.** *See* Tilton, Martinand, Serre & Lueptow
- Marxen, O. & Rist, U.** Mean flow deformation in a laminar separation bubble: separation and stability characteristics, 37–54
- Meliga, P., Sipp, D. & Chomaz, J.-M.** Effect of compressibility on the global stability of axisymmetric wake flows, 499–526
- Mellado, J. P.** The evaporatively driven cloud-top mixing layer, 5–36
- Métivier, C., Nouar, C. & Brancher, J.-P.** Weakly nonlinear dynamics of thermoconvective instability involving viscoplastic fluids, 316–353
- Nikora, V.** *See* Detert, Nikora & Jirka
- Nouar, C.** *See* Métivier, Nouar & Brancher
- Otheguy, P.** *See* Billant, Deloncle, Chomaz & Otheguy
- Pelekasis, N.** *See* Vlachomitrou & Pelekasis
- Phillips, W. R. C., Dai, A. & Tjan, K. K.** On Lagrangian drift in shallow-water waves on moderate shear, 221–239
- Reddy, K. A., Talbot, J. & Kumaran, V.** Dynamics of sheared inelastic dumbbells, 475–498
- Riedinger, X.** *See* Le Dizès & Riedinger
- Rist, U.** *See* Marxen & Rist
- Serre, E.** *See* Tilton, Martinand, Serre & Lueptow
- Sipp, D.** *See* Meliga, Sipp & Chomaz
- Stevens, B.** Cloud-top entrainment instability?, 1–4
- Talbot, J.** *See* Reddy, Talbot & Kumaran
- Tilton, N., Martinand, D., Serre, E. & Lueptow, R. M.** Pressure-driven radial flow in a Taylor–Couette cell, 527–537
- Tjan, K. K.** *See* Phillips, Dai & Tjan
- Tong, C.** *See* Chen, Liu & Tong
- Venkatakrishnan, L.** *See* Mandal, Venkatakrishnan & Dey
- Vlachomitrou, M. & Pelekasis, N.** Short- to long-wave resonance and soliton formation in boundary-layer interaction with a liquid film, 162–196
- Whitney, J. P. & Wood, R. J.** Aeromechanics of passive rotation in flapping flight, 197–220
- Wood, R. J.** *See* Whitney & Wood

CAMBRIDGE

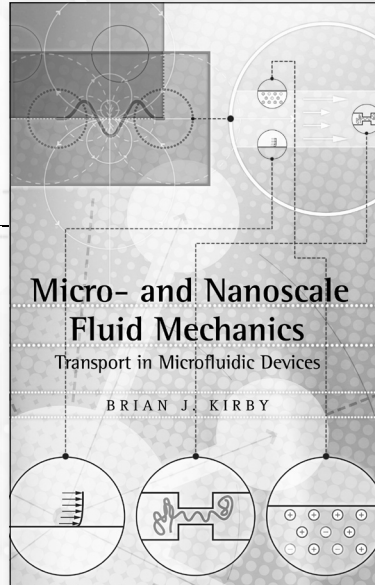
## AVAILABLE *for* ADOPTION

### Micro- and Nanoscale Fluid Mechanics Transport in Microfluidic Devices

BRIAN J. KIRBY, *Cornell University*

Hardback | 9780521119030 | July 2010 |  
536 pages | 228 illustrations | 23 tables | 360 exercises

This text focuses on the physics of fluid transport in micro- and nanofabricated liquid-phase systems, with consideration of gas bubbles, solid particles, and macromolecules. This text was designed with the goal of bringing together several areas that are often taught separately – namely, fluid mechanics, electrofluidics, and interfacial chemistry and electrochemistry – with a focused goal of preparing the modern microfluidics researcher to analyze and model continuum fluid mechanical systems encountered when working with micro- and nanofabricated devices. This text is not a summary of current research in the field, and it omits any discussion of microfabrication techniques or any attempt to summarize the technological state of the art. This text serves as a useful reference for practicing researchers but is designed primarily for classroom instruction. Worked sample problems are inserted throughout to assist the student, and exercises are included at the end of each chapter to facilitate use in classes.



#### Features:

- *Brings together several areas often taught separately preparing the modern microfluidics researcher to analyze and model continuum fluid mechanical systems*
- *Worked sample problems are inserted throughout to assist students, and exercises are included at the end of each chapter to facilitate use in classes*

*Instructors may request examination copies at*  
**[cambridge.org/us/fluidmechanics](http://cambridge.org/us/fluidmechanics)**

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



**CAMBRIDGE**  
UNIVERSITY PRESS



- 1 Cloud-top entrainment instability?  
**B. Stevens**
- 5 The evaporatively driven cloud-top mixing layer  
**J. P. Mellado**
- 37 Mean flow deformation in a laminar separation bubble: separation and stability characteristics  
**O. Marxen & U. Rist**
- 55 Synoptic velocity and pressure fields at the water–sediment interface of streambeds  
**M. Detert, V. Nikora & G. H. Jirka**
- 87 Experimental study of a tip leakage flow: wavelet analysis of pressure fluctuations  
**R. Camussi, J. Grilliat, G. Caputi-Gennaro & M. C. Jacob**
- 114 A study on boundary-layer transition induced by free-stream turbulence  
**A. C. Mandal, L. Venkatakrisnan & J. Dey**
- 147 The strato-rotational instability of Taylor–Couette and Keplerian flows  
**S. Le Dizès & X. Riedinger**
- 162 Short- to long-wave resonance and soliton formation in boundary-layer interaction with a liquid film  
**M. Vlachomitrou & N. Pelekasis**
- 197 Aeromechanics of passive rotation in flapping flight  
**J. P. Whitney & R. J. Wood**
- 221 On Lagrangian drift in shallow-water waves on moderate shear  
**W. R. C. Phillips, A. Dai & K. K. Tjan**
- 240 Elliptic instability of a stratified fluid in a rotating cylinder  
**D. Guimbard, S. Le Dizès, M. Le Bars, P. Le Gal & S. Leblanc**
- 258 Particle focusing in a suspension flow through a corrugated tube  
**G. F. Hewitt & J. S. Marshall**
- 282 Investigation of the subgrid-scale fluxes and their production rates in a convective atmospheric surface layer using measurement data  
**Q. Chen, S. Liu & C. Tong**
- 316 Weakly nonlinear dynamics of thermoconvective instability involving viscoplastic fluids  
**C. Métivier, C. Nouar & J.-P. Brancher**
- 354 Zigzag instability of vortex pairs in stratified and rotating fluids. Part 1. General stability equations.  
**P. Billant**
- 396 Zigzag instability of vortex pairs in stratified and rotating fluids. Part 2. Analytical and numerical analyses.  
**P. Billant, A. Deloncle, J.-M. Chomaz & P. Otheguy**
- 430 Numerical study of a vortex ring impacting a flat wall  
**M. Cheng, J. Lou & L.-S. Luo**
- 456 The unidirectional emptying box  
**C. J. Coffey & G. R. Hunt**
- 475 Dynamics of sheared inelastic dumbbells  
**K. A. Reddy, J. Talbot & V. Kumaran**
- 499 Effect of compressibility on the global stability of axisymmetric wake flows  
**P. Meliga, D. Sipp & J.-M. Chomaz**
- 527 Pressure-driven radial flow in a Taylor–Couette cell  
**N. Tilton, D. Martinand, E. Serre & R. M. Lueptow**
- 538 BOOK REVIEW
- 540 INDEX TO VOLUME 660

## Cambridge Journals Online

For further information about this journal  
please go to the journal web site at  
[journals.cambridge.org/flm](http://journals.cambridge.org/flm)



**Mixed Sources**  
Product group from well-managed  
forests and other controlled sources

Cert no. SA-COC-1527  
[www.fsc.org](http://www.fsc.org)  
© 1996 Forest Stewardship Council

**CAMBRIDGE**  
UNIVERSITY PRESS