CrossMark

The new home of
Cambridge Journals

cambridge.org/core

Cambridge Core

CAMBRIDGE
UNIVERSITY PRESS

https://doi.org/10.1017/jfm.2017.691 Published online by Cambridge University Press

Mathematics

Books and Journals from Cambridge University Press

Cambridge is a world leading publisher in pure and applied mathematics, with an extensive programme of high quality books and journals that reaches into every corner of the subject.

Our catalogue reflects not only the breadth of mathematics but also its depth, with titles for undergraduate students, for graduate students, for researchers and for users of mathematics.

We are proud to include world class researchers and influential educators amongst our authors, and also to publish in partnership with leading mathematical societies.

For further details visit:
cambridge.org/core-mathematics

Cambridge Core

CAMBRIDGE UNIVERSITY PRESS

https://doi.org/10.1017/jfm.2017.691 Published online by Cambridge University Press

https://doi.org/10.1017/jfm.2017.691 Published online by Cambridge University Press

https://doi.org/10.1017/jfm.2017.691 Published online by Cambridge University Press

https://doi.org/10.1017/jfm.2017.691 Published online by Cambridge University Press

https://doi.org/10.1017/jfm.2017.691 Published online by Cambridge University Press

551 Numerical study of variable density turbulence interaction with a normal shock wave
Y. Tian, F. A. Jaberi, Z. Li & D. Livescu

589 Direct numerical simulation of turbulent slope flows up to Grashof number $Gr = 2.1 \times 10^{11}$
M. G. Giometto, G. G. Katul, J. Fang & M. B. Parlange

621 Two tandem cylinders of different diameters in cross-flow: flow-induced vibration
B. Qin, M. M. Alam & Y. Zhou

659 Model of kinematic waves for gas–liquid segregation with phase transition in porous media
S. Zaleski & M. Panfilov

681 Nonlinear evolution and secondary instability of steady and unsteady Görtler vortices induced by free-stream vortical disturbances
D. Xu, Y. Zhang & X. Wu

731 Modelling of an actuated elastic swimmer
M. Piñeirua, B. Thiria & R. Godoy-Diana

751 Influence of large-scale motions on the frictional drag in a turbulent boundary layer
J. Hwang & H. J. Sung

780 Analytical and experimental investigation into the effects of leading-edge radius on gust–aerofoil interaction noise
L. J. Ayton & P. Chaitanya

JFM Rapids (online only)

R1 Forcing symmetry exchanges and flow reversals in turbulent wakes
D. Barros, J. Borée, O. Cadot, A. Spohn & B. R. Noack

S R2 Nonlinear stability in three-layer channel flows
E. S. Papaefthymiou & D. T. Papageorgiou

R3 Force moments of an active particle in a complex fluid
G. J. Elfring

R4 Experiments on transient growth of turbulent spots
L. Klotz & J. E. Wesfreid

S indicates supplementary data or movies available online.

https://doi.org/10.1017/jfm.2017.691 Published online by Cambridge University Press

829

ISSN 0022-1120

Journal of Fluid Mechanics

25 October 2017

1 A quantitative assessment of viscous asymmetric vortex pair interactions
P. J. R. Folz & K. K. Nomura

31 The scaling of straining motions in homogeneous isotropic turbulence
G. E. Elsinga, T. Ishihara, M. V. Goudar, C. B. da Silva & J. C. R. Hunt

S 65 Computational analysis of vortex dynamics and performance enhancement due to body–fin and fin–fin interactions in fish-like locomotion
G. Liu, Y. Ren, H. Dong, O. Akanyeti, J. C. Liao & G. V. Lauder

89 Stability of three-dimensional columnar convection in a porous medium
D. R. Hewitt & J. R. Lister

112 Algebraic disturbance growth by interaction of Orr and lift-up mechanisms
M. J. P. Hack & P. Moin

S 127 Electrohydrodynamics of viscous drops in strong electric fields: numerical simulations
D. Das & D. Saintillan

153 A Lagrangian fluctuation–dissipation relation for scalar turbulence. Part I. Flows with no bounding walls
T. D. Drivas & G. L. Eyink

190 The 'hanging flag' problem: on the heaving motion of a thin filament in the limit of small flexural stiffness
A. Manela & M. Weidenfeld

214 Control of viscous instability by variation of injection rate in a fluid with time-dependent rheology
T. H. Beeson-Jones & A. W. Woods

236 A Lagrangian fluctuation–dissipation relation for scalar turbulence. Part II. Wall-bounded flows
T. D. Drivas & G. L. Eyink

280 Radiation of internal waves from groups of surface gravity waves
S. Haney & W. R. Young

S 304 Film spreading from a miscible drop on a deep liquid layer
R. Dandekar, A. Pant & B. A. Puthenveettil

328 Circulation control in magnetohydrodynamic rotating flows
V. D. Borisevich, E. P. Potanin & J. Whichello

345 Interfacial pattern selection in defiance of linear growth
J. R. Picardo & R. Narayanan

364 Lagrangian transport by breaking surface waves
L. Deike, N. Pizzo & W. K. Melville

392 Direct numerical simulation of a self-similar adverse pressure gradient turbulent boundary layer at the verge of separation
V. Kitsios, A. Sekimoto, C. Atkinson, J. A. Sillero, G. Borrell, A. G. Gungor, J. Jiménez & J. Soria

S 420 The dynamics of partial cavity formation, shedding and the influence of dissolved and injected non-condensable gas
S. A. Mäkiharju, H. Ganesh & S. L. Ceccio

S 459 Experiments on, and discrete and continuum simulations of, the discharge of granular media from silos with a lateral orifice
Y. Zhou, P.-Y. Lagrée, S. Popinet, P. Ruyer & P. Aussillous

S 486 Experimental investigation of flow-induced vibration of a rotating circular cylinder
K. W. L. Wong, J. Zhao, D. Lo Jacono, M. C. Thompson & J. Sheridan

512 Vorticity transport mechanisms governing the development of leading-edge vortices
J. M. Akkala & J. H. J. Buchholz

S 538 Elastohydrodynamic wake and wave resistance
M. Arutkin, R. Ledesma-Alonso, T. Salez & É. Raphaël

Contents continued on inside back cover.

https://doi.org/10.1017/jfm.2017.691 Published online by Cambridge University Press

Cambridge Core
For further information about this journal please go to the journal web site at
cambridge.org/flm

FSC www.fsc.org MIX Paper from responsible sources FSC® C007785

CAMBRIDGE UNIVERSITY PRESS