CrossMark

The new home of
Cambridge Journals

cambridge.org/core

Cambridge Core

CAMBRIDGE
UNIVERSITY PRESS

https://doi.org/10.1017/jfm.2017.175 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.2017.175 Published online by Cambridge University Press

https://doi.org/10.1017/jfm.2017.175 Published online by Cambridge University Press

https://doi.org/10.1017/jfm.2017.175 Published online by Cambridge University Press

JFM Perspectives (online only)

P1 The engine behind (wall) turbulence: perspectives on scale interactions
B. J. McKeon

JFM Rapids (online only)

R1 Thermal convection with mixed thermal boundary conditions: effects of insulating lids at the top
F. Wang, S.-D. Huang & K.-Q. Xia

R2 Simulation and feedback control of the Ahmed body flow exhibiting symmetry breaking behaviour
O. Evstafyeva, A. S. Morgans & L. Dalla Longa

S R3 Sustaining processes from recurrent flows in body-forced turbulence
D. Lucas & R. Kerswell

S indicates supplementary data or movies available online.

https://doi.org/10.1017/jfm.2017.175 Published online by Cambridge University Press

817 ISSN 0022-1120
Journal of Fluid Mechanics 25 April 2017

1 Invariants of the velocity-gradient tensor in a spatially developing inhomogeneous turbulent flow
O. R. H. Buxton, M. Breda & X. Chen

21 Boundary-layer turbulence in experiments on quasi-Keplerian flows
J. M. Lopez & M. Avila

35 Optimal bursts in turbulent channel flow
M. Farano, S. Cherubini, J.-C. Robinet & P. De Palma

61 On the normalized dissipation parameter C_ϵ in decaying turbulence
L. Djenidi, N. Lefeuvre, M. Kamruzzaman & R. A. Antonia

80 Nonlinear unsteady streaks engendered by the interaction of free-stream vorticity with a compressible boundary layer
E. Marensi, P. Ricco & X. Wu

122 Bifurcation of a partially immersed plate between two parallel plates
X. Zhou & F. Zhang

138 Influence of localised smooth steps on the instability of a boundary layer
H. Xu, J.-E. W. Lombard & S. J. Sherwin

171 The discharge plume parameter Γ_d and its implications for an emptying–filling box
O. Vauquelin, E. M. Koutaiba, E. Blanchard & P. Fromy

183 Experimental investigation of the effects of mean shear and scalar initial length scale on three-scalar mixing in turbulent coaxial jets
W. Li, M. Yuan, C. D. Carter & C. Tong

217 Experiments on localized secondary instability in bypass boundary layer transition
G. Balamurugan & A. C. Mandal

S 264 Rayleigh–Bénard stability and the validity of quasi-Boussinesq or quasi-anelastic liquid approximations
T. Alboussière & Y. Ricard

Contents continued on inside back cover.

306 Effect of spatial discretization of energy on detonation wave propagation
X. Mi, E. V. Timofeev & A. J. Higgins

339 Influence of a wall on the three-dimensional dynamics of a vortex pair
D. J. Asselin & C. H. K. Williamson

374 Stokes' paradox: creeping flow past a two-dimensional cylinder in an infinite domain
A. Khalili & B. Liu

388 Dynamics of a macroscopic elastic fibre in a polymeric cellular flow
Q. Yang & L. Fauci

406 Near-inertial wave dispersion by geostrophic flows
J. Thomas, K. S. Smith & O. Bühler

439 The transition from sheet to cloud cavitation
P. F. Pelz, T. Keil & T. F. Groß

455 Ice formation within a thin film flowing over a flat plate
M. R. Moore, M. S. Mughal & D. T. Papageorgiou

490 Emptying filling boxes – free turbulent versus laminar porous media plumes
A. Moradi & M. R. Flynn

514 The influence of capillary effects on the drainage of a viscous gravity current into a deep porous medium
Y. Liu, Z. Zheng & H. A. Stone

560 Compressible starting jet: pinch-off and vortex ring–trailing jet interaction
J. J. Peña Fernández & J. Sesterhenn

590 Vortex-induced vibration and galloping of prisms with triangular cross-sections
B. Seyed-Aghazadeh, D. W. Carlson & Y. Modarres-Sadeghi

https://doi.org/10.1017/jfm.2017.175 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