CAMBRIDGE

JOURNALS

JFM ARCHIVE



Journal of Fluid Mechanics Digital Archive 1956–1996

Vital research from the definitive source

The JFM Digital Archive contains every article from the first 40 years of the journal, scanned and digitised to the highest standards.

Please speak to your librarian about gaining access.

journals.cambridge.org/jfm

CAMBRIDGE

JOURNALS



JFM RAPIDS

- Faster publication
- Greater visibility for papers
- Freely available to all for the first year

For more information visit **journals.cambridge.org/rapids**



JFM FAST

EVOLVED

TRACK HAS

JOURNALS

Journal of Plasma Physics

Editors

Bill Dorland, University of Maryland Honors College, USA Alex Schekochihin, University of Oxford, UK

With two new Editors and seven new Associate Editors joining the editorial team *Journal of Plasma Physics* aspires to be the intellectual home of those who think of plasma physics as a fundamental discipline. The journal will particularly focus on publishing research on laboratory plasmas, space physics and plasma astrophysics that takes advantage of the rapid ongoing progress in instrumentation and computing to advance fundamental understanding of multiscale plasma dynamics.



Journal of Plasma Physics is available online at: http://journals.cambridge.org/pla

To subscribe contact Customer Services

in Cambridge: Phone +44 (0)1223 326070 Fax +44 (0)1223 325150 Email journals@cambridge.org

in New York: Phone +1 (845) 353 7500 Fax +1 (845) 353 4141 Email subscriptions_newyork@cambridge.org

Price information

is available at: http://journals.cambridge.org/pla

Free email alerts

Keep up-to-date with new material – sign up at http://journals.cambridge.org/pla-alerts

For free online content visit: http://journals.cambridge.org/pla



JOURNALS

The ANZIAM Journal

Published for the Australian Mathematical Society

Editors-in-Chief

A. Bassom, The University of Western Australia, Australia G. C. Hocking, Murdoch University, Australia

The ANZIAM Journal considers papers in any field of applied mathematics and related mathematical sciences with the aim of rapid publication in print and electronic formats. Novel applications of mathematics in real situations are especially welcomed. All papers should include some indication of applicability, and an introduction that can be understood by non-specialist readers from the whole applied mathematical community.



ANZIAM Journal is available online at: http://journals.cambridge.org/anz

To subscribe contact Customer Services

in Cambridge: Phone +44 (0)1223 326070 Fax +44 (0)1223 325150 Email journals@cambridge.org

in New York: Phone +1 (845) 353 7500 Fax +1 (845) 353 4141 Email subscriptions_newyork@cambridge.org

Free email alerts

Keep up-to-date with new material – sign up at journals.cambridge.org/register

For free online content visit: http://journals.cambridge.org/anz



JOURNALS

Proceedings of the Edinburgh Mathematical Society

Published for The Edinburgh Mathematical Society

Editorial Management The Secretary, ICMS, Edinburgh, UK

The Edinburgh Mathematical Society was founded in 1883 and over the years, has evolved into the principal society for the promotion of mathematics research in Scotland. The Society has published its Proceedings since 1884. This journal contains research papers on topics in a broad range of pure and applied mathematics, together with a number of topical book reviews.

Price information

is available at: http://journals.cambridge.org/pem

Free email alerts

Keep up-to-date with new material – sign up at http://journals.cambridge.org/pem-alerts

> For free online content visit: http://journals.cambridge.org/pem

VOLUME 47 (SERIES II) PART ; JUNE 2004

Proceedings of the Edinburgh Mathematical Society

CAMBRIDGE UNIVERSITY PRESS

Proceedings of the Edinburgh Mathematical Society is available online at: http://journals.cambridge.org/pem

To subscribe contact Customer Services

in Cambridge: Phone +44 (0)1223 326070 Fax +44 (0)1223 325150 Email journals@cambridge.org

in New York: Phone +1 (845) 353 7500 Fax +1 (845) 353 4141 Email subscriptions_newyork@cambridge.org



- 552 Stirring by multiple cylinders in potential flow **Z. Lin & Y. Zhang**
- 565 Lock-in in vortex-induced vibration Navrose & S. Mittal
- 595 Unsteady turbulent buoyant plumes M. J. Woodhouse, J. C. Phillips & A. J. Hogg
- 639 Effects of geometric confinement in quasi-2-D turbulent Rayleigh–Bénard convectionS.-D. Huang & K.-Q. Xia
- 655 Simultaneous temperature and velocity Lagrangian measurements in turbulent thermal convection
 O. Liot, F. Seychelles, F. Zonta,
 S. Chibbaro, T. Coudarchet, Y. Gasteuil,
 J.-F. Pinton, J. Salort & F. Chillà
- 676 Drop deformation by laser-pulse impact
 H. Gelderblom, H. Lhuissier, A. L. Klein,
 W. Bouwhuis, D. Lohse, E. Villermaux & J. H. Snoeijer

JFM Rapids (online only)

- R1 Stochastic fluid structure interaction of three-dimensional plates facing a uniform flow **O. Cadot**
- R2 Transitional structures in annular Poiseuille flow depending on radius ratio
 T. Ishida, Y. Duguet & T. Tsukahara
- R3 Mixing efficiency in stratified turbulence A. Maffioli, G. Brethouwer & E. Lindborg

S indicates supplementary data or movies available online.

- 700 Linear waves in two-layer fluids over periodic bottoms
 J. Yu & L. R. M. Maas
- 719 Spatio-temporal patterns in inclined layer convection
 P. Subramanian, O. Brausch, K. E. Daniels,
 E. Bodenschatz, T. M. Schneider & W. Pesch
- 746 Direct numerical simulation of Taylor–Couette flow with grooved walls: torque scaling and flow structure
 X. Zhu, R. Ostilla-Mónico, R. Verzicco & D. Lohse
- 775 Rossby wave propagation on potential vorticity fronts with finite widthB. J. Harvey, J. Methven &M. H. P. Ambaum
- 798 Large-eddy simulation and parameterization of buoyant plume dynamics in stratified flow
 D. Yang, B. Chen, S. A. Socolofsky,
 M. Chamecki & C. Meneveau
- R4 Transient growth of perturbations in Stokes oscillatory flows **D. Biau**
- R5 Turbulent drag in a rotating frameA. Campagne, N. Machicoane, B. Gallet,P.-P. Cortet & F. Moisy

ISSN 0022-1120

Journal of Fluid Mechanics

- Exact coherent structures at extreme Reynolds number
 G. P. Chini
- 5 On the use of the Reynolds decomposition in the intermittent region of turbulent boundary layers
 - Y. S. Kwon, N. Hutchins & J. P. Monty
- 17 Long ring waves in a stratified fluid over a shear flowK. R. Khusnutdinova & X. Zhang
- S 45 Role of natural convection in the dissolution of sessile droplets
 E. Dietrich, S. Wildeman, C. W. Visser,
 K. Hofhuis, E. S. Kooij, H. J. W. Zandvliet
 & D. Lohse
 - 68 A local scattering theory for the effects of isolated roughness on boundary-layer instability and transition: transmission coefficient as an eigenvalue X. Wu & M. Dong
- 109 Sphere oscillating in a rarefied gasY. W. Yap & J. E. Sader
- 154 The impact of imperfect heat transfer on the convective instability of a thermal boundary layer in a porous mediaJ. Hitchen & A. J. Wells
- 175 On the steady-state nearly resonant waves S. Liao, D. Xu & M. Stiassnie
- S 200 Thin, binary liquid droplets, containing polymer: an investigation of the parameters controlling film shape
 A. D. Eales, N. Dartnell, S. Goddard & A. F. Routh
 - 233 Generalised higher-order Kolmogorov scales
 J. Boschung, F. Hennig, M. Gauding, H. Pitsch & N. Peters

Contents continued on inside back cover.

- 252 Non-equilibrium dynamics of dense gas under tight confinementL. Wu, H. Liu, J. M. Reese & Y. Zhang
- 267 Droplet-turbulence interaction in a confined polydispersed spray: effect of turbulence on droplet dispersion
 S. Sahu, Y. Hardalupas &
 A. M. K. P. Taylor
- 310 Consistent nonlinear stochastic evolution equations for deep to shallow water wave shoaling
 T. Vrecica & Y. Toledo
- 343 Sensitivity of Saffman–Taylor fingers to channel-depth perturbations
 A. Franco-Gómez, A. B. Thompson,
 A. L. Hazel & A. Juel
- 369 A dissipative random velocity field for fully developed fluid turbulenceR. M. Pereira, C. Garban & L. Chevillard
- 409 The interaction between two oppositely travelling, horizontally offset, antisymmetric quasi-geostrophic hetonsJ. N. Reinaud & X. Carton
- 444 A local analysis of the axisymmetric Navier–Stokes flow near a saddle point and no-slip flat boundaryP.-Y. Hsu, H. Notsu & T. Yoneda
- 460 Asymmetric breaking size-segregation waves in dense granular free-surface flows
 P. Gajjar, K. van der Vaart, A. R. Thornton, C. G. Johnson, C. Ancey & J. M. N. T. Gray
- S 506 Crown sealing and buckling instability during water entry of spheres
 J. O. Marston, T. T. Truscott, N. B. Speirs,
 M. M. Mansoor & S. T. Thoroddsen
 - 530 Homoclinic snaking in plane Couette flow: bending, skewing and finite-size effectsJ. F. Gibson & T. M. Schneider

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



MIX Paper from responsible sources FSC® C007785

