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 Mechanics

Published on behalf of The Society of Theoretical and Applied Mechanics, R.O.C.

Ediror-in-Chief K. C. Wu, National Taiwan University, Taiwan

The objective of the *Journal of Mechanics* is to provide an international forum to foster exchange of ideas among mechanics communities in different parts of world. The Journal publishes original research in all fields of theoretical and applied mechanics.

The Journal of Mechanics especially welcomes papers that are related to recent technological advances, such as micro/nanomechanics, medical and biological systems, and microscale heat transfer. The contributions, which may be analytical, experimental or numerical, should be of significance to the progress of mechanics. Papers which are merely illustrations of established principles and procedures will generally not be accepted. Reports that are of technical interest are published as Short articles. Review articles are published only by invitation.

Price information

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

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

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



Journal of Mechanics is available online at: http://journals.cambridge.org/jom

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



- 570 A study of the turbulence within a spiralling vortex filament using proper orthogonal decompositionS. M. Mula & C. E. Tinney
- 590 An analytical consideration of steady-state forced convection within a nanofluid-saturated metal foam
 W. Zhang, W. Li & A. Nakayama
- 621 On three-dimensional internal gravity wave beams and induced large-scale mean flows
 T. Kataoka & T. R. Akylas
- 635 Diffusive boundary layers over varying topographyR. W. Dell & L. J. Pratt
- 654 Scaling of second- and higher-order structure functions in turbulent boundary layers
 C. M. de Silva, I. Marusic, J. D. Woodcock
 & C. Meneveau

JFM Rapids (online only)

- R1 Spatio-temporal spectra in the logarithmic layer of wall turbulence: large-eddy simulations and simple models
 M. Wilczek, R. J. A. M. Stevens & C. Meneveau
- S indicates supplementary data or movies available online.

- 687 Modelling for robust feedback control of fluid flows
 B. L. Jones, P. H. Heins, E. C. Kerrigan, J. F. Morrison & A. S. Sharma
- 723 Investigation of sheet-flow processes based on novel acoustic high-resolution velocity and concentration measurements – ERRATUM
 T. Revil-Baudard, J. Chauchat, D. Hurther & P.-A. Barraud
- 725 Stabilization of a hypersonic boundary layer using an ultrasonically absorptive coating – CORRIGENDUM
 A. Fedorov, A. Shiplyuk, A. Maslov,

E. Burov & N. Malmuth

- 729 Stabilization of a hypersonic boundary layer using a felt-metal porous coatingR. C. Tritarelli, S. K. Lele & A. Fedorov
- R2 The influence of a small upstream wire on transition in a rotating cylinder wake
 A. Rao, A. Radi, J. S. Leontini,
 M. C. Thompson, J. Sheridan &
 K. Hourigan

ISSN 0022-1120

Journal of Fluid Mechanics

- Adaptive stochastic trajectory modelling in the chaotic advection regime
 J. G. Esler
- 26 Centrifugal instability in non-axisymmetric vortices

D. Nagarathinam, A. Sameen & M. Mathur

46 Rotating Taylor–Green flow A. Alexakis

69

- 79 Particle segregation in falling polydisperse suspension droplets
 M. Faletra, J. S. Marshall, M. Yang & S. Li
- 103 The internal wavefield generated by a towed sphere at low Froude numberA. Brandt & J. R. Rottier
- 130 Joint probabilities and mixing of isolated scalars emitted from parallel jets
 M. A. Soltys & J. P. Crimaldi
- 154 Verified and validated calculation of unsteady dynamics of viscous hydrogen–air detonations C. M. Romick, T. D. Aslam & J. M. Powers
- 182 Unsteady lift for the Wagner problem in the presence of additional leading/trailing edge vortices J. Li & Z.-N. Wu
- S 218 New patterns in high-speed granular flows N. Brodu, R. Delannay, A. Valance & P. Richard
 - 229 Multiple steady states in exchange flows across faults and the dissolution of CO₂
 A. W. Woods, M. Hesse, R. Berkowitz & K. W. Chang
- S 242 Microstructure and rheology relationships for shear thickening colloidal dispersionsA. K. Gurnon & N. J. Wagner

Contents continued on inside back cover.

- 277 Rogue waves in opposing currents: an experimental study on deterministic and stochastic wave trains
 A. Toffoli, T. Waseda, H. Houtani,
 L. Cavaleri, D. Greaves & M. Onorato
- 298 Oscillatory flow regimes around four cylinders in a square arrangement under small *KC* and *Re* conditionsF. Tong, L. Cheng, M. Zhao & H. An
- 337 Pressure and work analysis of unsteady, deformable, axisymmetric, jet producing cavity bodies
 M. Krieg & K. Mohseni
- 369 An accurate method to include lubrication forces in numerical simulations of dense Stokesian suspensions
 A. Lefebvre-Lepot, B. Merlet & T. N. Nguyen
- 387 Transport and buckling dynamics of an elastic fibre in a viscous cellular flow
 N. Quennouz, M. Shelley, O. du Roure & A. Lindner
- 403 Stratified turbulence forced with columnar dipoles: numerical studyP. Augier, P. Billant & J.-M. Chomaz
- 444 Air entrainment in dynamic wetting: Knudsen effects and the influence of ambient air pressureJ. E. Sprittles
- 482 Macro-size drop encapsulation A. Maleki, S. Hormozi, A. Roustaei & I. A. Frigaard
- 522 A balloon bursting underwaterA. R. Vasel-Be-Hagh, R. Carriveau &D. S.-K. Ting
- 541 Capillary effects on wave breaking L. Deike, S. Popinet & W. K. Melville

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

