

Cambridge Core

The new home of
Cambridge Journals
cambridge.org/core

Cambridge Core



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

cotg u

tg u

sin u

T'

- 592 Parametric study and scaling of jet manipulation using an unsteady minijet
A. K. Perumal & Y. Zhou
- 631 Transition to turbulence in the rotating disk boundary layer of a rotor–stator cavity
E. Yim, J.-M. Chomaz, D. Martinand & E. Serre
- 648 Two-scalar turbulent Rayleigh–Bénard convection: numerical simulations and unifying theory
Y. Yang, R. Verzicco & D. Lohse
- 660 Spatial distribution of pressure resonance in compressible cavity flow
K. M. Casper, J. L. Wagner, S. J. Beresh, R. W. Spillers, J. F. Henfling & L. J. Dechant
- 676 ‘Unforced’ Navier–Stokes solutions derived from convection in a curved channel
R. H. Vaz, F. A. T. Boshier & A. J. Mestel
- 696 Clustering and increased settling speed of oblate particles at finite Reynolds number
W. Fornari, M. N. Ardekani & L. Brandt
- S 722 A multiscale model for the rupture of linear polymers in strong flows
E. Rognin, N. Willis-Fox, T. A. Aljohani & R. Daly
- 743 Viscous superlayer in a reacting compressible turbulent mixing layer
R. Jahanbakhshi & C. K. Madnia
- 756 Steady small-disturbance transonic dense gas flow past two-dimensional compression/expansion ramps
A. Kluwick & E. A. Cox
- 788 Weakly sheared turbulent flows generated by multiscale inhomogeneous grids
S. Zheng, P. J. K. Bruce, J. M. R. Graham & J. C. Vassilicos
- S 821 Early azimuthal instability during drop impact
E. Q. Li, M.-J. Thoraval, J. O. Marston & S. T. Thoroddsen
- S 836 The kinematics of bidisperse granular roll waves
S. Viroulet, J. L. Baker, F. M. Rocha, C. G. Johnson, B. P. Kokelaar & J. M. N. T. Gray
- 876 The Schur decomposition of the velocity gradient tensor for turbulent flows
C. J. Keylock
- 906 Faraday instability and subthreshold Faraday waves: surface waves emitted by walkers
L. Tadrist, J.-B. Shim, T. Gilet & P. Schlagheck
- 946 Unsteady sheet fragmentation: droplet sizes and speeds
Y. Wang & L. Bourouiba
- S 968 An information-theoretic approach to study fluid–structure interactions
P. Zhang, M. Rosen, S. D. Peterson & M. Porfiri
- 987 Analytical solution for two-phase flow within and outside a sphere under pure shear
S. Hier-Majumder
- 1013 Numerical simulation of flow past two circular cylinders in cruciform arrangement
M. Zhao & L. Lu
- 1040 Axial flow in a two-dimensional microchannel induced by a travelling temperature wave imposed at the bottom wall
C. Zhang, H. Wong & K. Nandakumar
- 1073 On shoaling of solitary waves
J. Knowles & H. Yeh
- 1098 Onset of convection in a near-critical binary fluid mixture driven by concentration gradient
Z.-C. Hu & X.-R. Zhang
- 1127 Fluid–structure coupling mechanism and its aerodynamic effect on membrane aerofoils
S. Serrano-Galiano, N. D. Sandham & R. D. Sandberg
- 1157 Control of circular cylinder flow using distributed passive jets
B. L. Clapperton & P. W. Bearman

JFM Rapids (online only)

- S R1 Rayleigh–Taylor stability in an evaporating binary mixture
D. S. Pillai & R. Narayanan
- R2 Predicting the breaking strength of gravity water waves in deep and intermediate depth
M. Derakhti, M. L. Banner & J. T. Kirby

- S R3 Singular jets during the collapse of drop-impact craters
S. T. Thoroddsen, K. Takehara, H. D. Nguyen & T. G. Etoh

S indicates supplementary data or movies available online.

- 1 Polymer turbulence with Reynolds and Riemann
M. D. Graham
- 5 Hampering Görtler vortices via optimal control in the framework of nonlinear boundary region equations
A. Sescu & M. Z. Afsar
- 42 An experimental decomposition of nonlinear forces on a surface-piercing column: Stokes-type expansions of the force harmonics
L. F. Chen, J. Zang, P. H. Taylor, L. Sun, G. C. J. Morgan, J. Grice, J. Orszaghova & M. Tello Ruiz
- 78 Spatially localized multi-scale energy transfer in turbulent premixed combustion
J. Kim, M. Bassenne, C. A. Z. Towery, P. E. Hamlington, A. Y. Poludnenko & J. Urtzay
- 117 On universal features of the turbulent cascade in terms of non-equilibrium thermodynamics
N. Reinke, A. Fuchs, D. Nickelsen & J. Peinke
- S 154 Separated shear layer effect on shock-wave/turbulent-boundary-layer interaction unsteadiness
D. Estruch-Samper & G. Chandola
- 193 Analysis of the flame–wall interaction in premixed turbulent combustion
P. Zhao, L. Wang & N. Chakraborty
- S 219 A hydrodynamic analysis of self-similar radiative ablation flows
J.-M. Clarisse, J.-L. Pfister, S. Gauthier & C. Boudesocque-Dubois
- 256 Experimental study of the stability and dynamics of a two-dimensional ideal vortex under external strain
N. C. Hurst, J. R. Danielson, D. H. E. Dubin & C. M. Surko
- 288 Contribution of large-scale motions to the skin friction in a moderate adverse pressure gradient turbulent boundary layer
M. Yoon, J. Hwang & H. J. Sung
- 312 Flow of buoyant granular materials along a free surface
Z. Zheng, H. E. Huppert, N. M. Vriend, J. A. Neufeld & P. F. Linden
- 340 Eulerian modelling of gas–solid flows with triboelectric charging
J. Kolehmainen, A. Ozel & S. Sundaresan
- S 370 Unsteady wave pattern generation by water striders
T. Steinmann, M. Arutkin, P. Cochard, E. Raphaël, J. Casas & M. Benzaquen
- 388 The merger of geophysical vortices at finite Rossby and Froude number
J. N. Reinaud & D. G. Dritschel
- 411 Buoyancy-driven flow in a confined aquifer with a vertical gradient of permeability
E. M. Hinton & A. W. Woods
- S 430 Experimental investigation of flow-induced vibration of a sinusoidally rotating circular cylinder
K. W. L. Wong, J. Zhao, D. Lo Jacono, M. C. Thompson & J. Sheridan
- 467 Partially filled pipes: experiments in laminar and turbulent flow
H. C.-H. Ng, H. L. F. Cregan, J. M. Dodds, R. J. Poole & D. J. C. Dennis
- S 508 The structure and origin of confined Holmboe waves
A. Lefauve, J. L. Partridge, Q. Zhou, S. B. Dalziel, C. P. Caulfield & P. F. Linden
- 545 Frequency–wavenumber spectral analysis of spatio-temporal flows
C. J. Geoga, C. L. Haley, A. Siegel & M. Anitescu
- 560 Noise reduction mechanisms of sawtooth and combed-sawtooth trailing-edge serrations
F. Avallone, W. C. P. van der Velden, D. Ragni & D. Casalino

Contents continued on inside back cover.