

CAMBRIDGE

JOURNALS

**JFM FAST
TRACK HAS
EVOLVED**

JFM RAPIDS

.....

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

For more information visit

journals.cambridge.org/rapids



**CAMBRIDGE
UNIVERSITY PRESS**

682 Mean force structure and its scaling in rough-wall turbulent boundary layers
F. Mehdi, J. C. Klewicki & C. M. White

713 Deformation and breakup of a leaky dielectric drop in a quadrupole electric field
S. D. Deshmukh & R. M. Thaokar

JFM Rapids (online only)

S R1 Turbulent spots in a channel: large-scale flow and self-sustainability
G. Lemoult, J.-L. Aider & J. E. Wesfreid

S R3 Generalization of the Rotne–Prager–Yamakawa mobility and shear disturbance tensors
E. Wajnryb, K. A. Mizerski, P. J. Zuk & P. Szymczak

S R2 Experimental verification of power-law non-Newtonian axisymmetric porous gravity currents
S. Longo, V. Di Federico, L. Chiapponi & R. Archetti

S R4 Coherent Lagrangian vortices: the black holes of turbulence
G. Haller & F. J. Beron-Vera

S indicates supplementary data or movies available online.

- 1 Global bifurcations to subcritical magnetorotational dynamo action in Keplerian shear flow
A. Riols, F. Rincon, C. Cossu, G. Lesur, P.-Y. Longaretti, G. I. Ogilvie & J. Herault
- 46 Turbulence spectra in smooth- and rough-wall pipe flow at extreme Reynolds numbers
B. J. Rosenberg, M. Hultmark, M. Vallikivi, S. C. C. Bailey & A. J. Smits
- 64 Diffusiophoresis of colloidal particles in neutral solute gradients at finite Péclet number
A. S. Khair
- 95 Effects of mean shear on the local turbulent entrainment process
M. Wolf, M. Holzner, B. Lüthi, D. Krug, W. Kinzelbach & A. Tsinober
- 117 Experiments on gravity currents propagating on different bottom slopes
A. Dai
- 142 Rise in optimized capillary channels
B. Figliuzzi & C. R. Buie
- 162 Modelling the suppression of viscous fingering in elastic-walled Hele-Shaw cells
D. Pihler-Puzović, R. Périllat, M. Russell, A. Juel & M. Heil
- 184 On the quest for a hyperbolic effective-field model of disperse flows
D. Lhuillier, C.-H. Chang & T. G. Theofanous
- 195 Mixing in a vortex breakdown flow
P. Meunier & K. Hourigan
- 223 Towards modular analysis of tropical-cyclone structure: the boundary layer
F. Fendell & P. Mokhasi
- 259 Turbulent transport of a high-Schmidt-number scalar near an air–water interface
E. A. Variano & E. A. Cowen
- 288 Transition delay in a boundary layer flow using active control
O. Semeraro, S. Bagheri, L. Brandt & D. S. Henningson
- 312 Role of coherent structures in multiple self-similar states of turbulent planar wakes
J.-P. Hickey, F. Hussain & X. Wu
- 364 Low-dimensional models for compressible temporally developing shear layers
B. R. Qawasmeh & M. Wei
- 394 Riccati-less approach for optimal control and estimation: an application to two-dimensional boundary layers
O. Semeraro, J. O. Pralits, C. W. Rowley & D. S. Henningson
- 418 Layering and turbulence surrounding an anticyclonic oceanic vortex: *in situ* observations and quasi-geostrophic numerical simulations
B. L. Hua, C. Ménesguen, S. Le Gentil, R. Schopp, B. Marsset & H. Aiki
- 443 On the nonlinear destabilization of stably stratified shear flow
N. Mkhinini, T. Dubos & P. Drobinski
- 461 The effect of small viscosity and diffusivity on the marginal stability of stably stratified shear flows
S. A. Thorpe, W. D. Smyth & L. Li
- 477 Entraining gravity currents
C. G. Johnson & A. J. Hogg
- S 509 A weighted residual method for two-layer non-Newtonian channel flows: steady-state results and their stability
K. Alba, S. M. Taghavi & I. A. Frigaard
- 545 Direct numerical simulations of instability and boundary layer turbulence under a solitary wave
C. E. Ozdemir, T.-J. Hsu & S. Balachandar
- 579 Intense bed-load due to a sudden dam-break
B. Spinewine & H. Capart
- 615 Conditional statistics of the turbulent/non-turbulent interface in a jet flow
M. Gampert, V. Narayanaswamy, P. Schaefer & N. Peters
- 639 Intercomponent energy transfer in incompressible homogeneous turbulence: multi-point physics and amenability to one-point closures
A. A. Mishra & S. S. Girimaji

Contents continued on inside back cover.