

- 540 Turbulence laws in natural bed flows
D. Ferraro, S. Servidio, V. Carbone, S. Dey & R. Gaudio
- 572 Turbulent heat exchange between water and ice at an evolving ice–water interface
E. Ramudu, B. H. Hirsh, P. Olson & A. Gnanadesikan
- 598 On the topology of the eigenframe of the subgrid-scale stress tensor
Z. Yang & B.-C. Wang
- S 628 Flow reversals in Rayleigh–Bénard convection with non-Oberbeck–Boussinesq effects
S.-N. Xia, Z.-H. Wan, S. Liu, Q. Wang & D.-J. Sun
- 643 A multilayer shallow model for dry granular flows with the $\mu(I)$ -rheology: application to granular collapse on erodible beds
E. D. Fernández-Nieto, J. Garres-Díaz, A. Mangeney & G. Narbona-Reina
- 682 Forcing-dependent dynamics and emergence of helicity in rotating turbulence
V. Dallas & S. M. Tobias
- 696 Moffatt-drift-driven large-scale dynamo due to α fluctuations with non-zero correlation times
N. K. Singh
- 717 Modal energy flow analysis of a highly modulated wake behind a wall-mounted pyramid
Z. Hosseini, R. J. Martinuzzi & B. R. Noack
- 751 Combined influence of coating permeability and roughness on supersonic boundary layer stability and transition
V. I. Lysenko, S. A. Gaponov, B. V. Smorodsky, Yu. G. Yermolaev, A. D. Kosinov & N. V. Semionov
- 774 Evaporation of water: evaporation rate and collective effects
O. Carrier, N. Shahidzadeh-Bonn, R. Zargar, M. Aytouna, M. Habibi, J. Eggers & D. Bonn
- 787 Dissolution and growth of a multicomponent drop in an immiscible liquid
S. Chu & A. Prosperetti
- S 812 Effect of endothelial glycocalyx layer redistribution upon microvessel poroelastohydrodynamics
T. C. Lee, D. S. Long & R. J. Clarke
- 853 Sustained gravity currents in a channel
A. J. Hogg, M. M. Nasr-Azadani, M. Ungarish & E. Meiburg
- 889 Linear stability analysis and direct numerical simulation of two-layer channel flow
K. C. Sahu & R. Govindarajan
- 910 Pair interaction of catalytically active colloids: from assembly to escape
N. Sharifi-Mood, A. Mozaffari & U. M. Córdova-Figueroa
- 955 A pancake droplet translating in a Hele-Shaw cell: lubrication film and flow field
L. Zhu & F. Gallaire
- 970 A Green's function approach to the rapid prediction of thermoacoustic instabilities in combustors
A. Bigongiari & M. A. Heckl
- 997 Diffusion-flame flickering as a hydrodynamic global mode
D. Moreno-Boza, W. Coenen, A. Sevilla, J. Carpio, A. L. Sánchez & A. Liñán

JFM Rapids (online only)

- R1 On the flux Richardson number in stably stratified turbulence
S. K. Venayagamoorthy & J. R. Koseff
- S R2 A reduced-order model of three-dimensional unsteady flow in a cavity based on the resolvent operator
F. Gómez, H. M. Blackburn, M. Rudman, A. S. Sharma & B. J. McKeon
- S R3 Drag cancellation by added-mass pumping
F. Giorgio-Serchi & G. D. Weymouth

S indicates supplementary data or movies available online.

- 1 Predictions for the northern coast of the shear rheology map: XXLAOS
R. H. Ewoldt
- 5 Instability and low-frequency unsteadiness in a shock-induced laminar separation bubble
A. Sansica, N. D. Sandham & Z. Hu
- 27 Characterisation of drag and wake properties of canopy patches immersed in turbulent boundary layers
S. Taddei, C. Manes & B. Ganapathisubramani
- 50 A nonlinear model for rotationally constrained convection with Ekman pumping
K. Julien, J. M. Aurnou, M. A. Calkins, E. Knobloch, P. Marti, S. Stellmach & G. M. Vasil
- 88 On the boundary layer structure near a highly permeable porous interface
M. P. Dalwadi, S. J. Chapman, S. L. Waters & J. M. Oliver
- 140 Relationship between the energy dissipation function and the skin friction law in a turbulent channel flow
H. Abe & R. A. Antonia
- S* 165 Squirmers with swirl: a model for *Volvox* swimming
T. J. Pedley, D. R. Brumley & R. E. Goldstein
- 187 Inertial-particle accelerations in turbulence: a Lagrangian closure
S. Vajedi, K. Gustavsson, B. Mehlig & L. Biferale
- S* 201 Oscillating line source in a shear flow with a free surface: critical layer-like contributions
S. Å. Ellingsen & P. A. Tyvand
- S* 232 Waves from an oscillating point source with a free surface in the presence of a shear current
S. Å. Ellingsen & P. A. Tyvand
- 256 New singularities for Stokes waves
S. C. Crew & P. H. Trinh
- 284 Simulation of convection at a vertical ice face dissolving into saline water
B. Gayen, R. W. Griffiths & R. C. Kerr
- 299 Pseudo-turbulent heat flux and average gas-phase conduction during gas–solid heat transfer: flow past random fixed particle assemblies
B. Sun, S. Tenneti, S. Subramaniam & D. L. Koch
- 350 The effect of shear-thinning behaviour on rod orientation in filled fluids
J. Férec, E. Bertelais, B. C. Khoo, G. Ausias & N. Phan-Thien
- 371 Three-dimensional instabilities in oscillatory flow past elliptic cylinders
J. P. Gallardo, H. I. Andersson & B. Pettersen
- 398 Experiments on low-Reynolds-number turbulent flow through a square duct
B. E. Owolabi, R. J. Poole & D. J. C. Dennis
- 411 Drag reduction in numerical two-phase Taylor–Couette turbulence using an Euler–Lagrange approach
V. Spandan, R. Ostilla-Mónico, R. Verzicco & D. Lohse
- 436 Interaction of turbulence with the leading-edge stagnation point of a thin aerofoil
L. J. Ayton & N. Peake
- S* 457 Long wave propagation and run-up in converging bays
T. Shimozono
- 485 Conditions for validity of mean flow stability analysis
S. Beneddine, D. Sipp, A. Arnault, J. Dandois & L. Lesshaftt
- 505 Surface manifestation of internal waves emitted by submerged localized stratified turbulence
Q. Zhou & P. J. Diamessis

Contents continued on inside back cover.