Available online at www.sciencedirect.com
ScienceDirect
ELSEVIER
European Journal of Mechanics B/Fluids 25 (2006) 1025–1030
EUROPEAN JOURNAL OF MECHANICS B/FLUIDS

Keyword index

2D and 3D Stokes flows – Method of fundamental solutions for multi-dimensional Stokes equations by the dual-potential formulation, 877
47.20.Ky – Melnikov analysis and inverse spectral analysis of rogue waves in deep water, 602
47.35+i – Melnikov analysis and inverse spectral analysis of rogue waves in deep water, 602
92.10.Hm – Melnikov analysis and inverse spectral analysis of rogue waves in deep water, 602

A

Absolute/convective – The role of boundary conditions in the instability of one-dimensional systems, 948
Accelerations – Experimental velocities and accelerations in very steep wave events in deep water, 554
Aeroacoustics – Attenuation of cavity internal pressure oscillations by shear layer forcing with pulsed micro-jets, 939
Anisotropy of quantum tangle – Dynamics of superfluid ^{4}He: Two-scale approach, 435
Arterial flow – Wave propagation in a fluid flowing through a curved thin-walled elastic tube, 987
Asymmetric flow – Basic flow characteristics in three-dimensional branching channel with sudden expansion, 909
Asymptotic numerical method – A numerical method for the computation of bifurcation points in fluid mechanics, 234
Averaged fluid stretch-rate – Fluid stirrings in a circular cavity with various driven boundaries, 192

B

Benjamin–Feir instability – Extreme waves, modulational instability and second order theory: wave flume experiments on irregular waves, 586
Bi-harmonic equation – Method of fundamental solutions for multidimensional Stokes equations by the dual-potential formulation, 877
Bifurcation indicators – A numerical method for the computation of bifurcation points in fluid mechanics, 234
Bifurcation of travelling waves – Periodic wave patterns of two-dimensional Boussinesq systems, 393
Bimodal spectrum – Wave statistics in unimodal and bimodal seas from a second-order model, 649
Binary gas mixture – A Legendre expansion and some exact solutions basic to the McCormack model for binary gas mixtures, 130
Bioconvection – The onset of thermo-bioconvection in a shallow fluid saturated porous layer heated from below in a suspension of oxytactic microorganisms, 223
Boundary layer – Algebraic growth in a Blasius boundary layer: Nonlinear optimal disturbances, 1 – Evolution of a model dune in a shear flow, 348
Boundary-layer flow – On two-dimensional linear waves in Blasius boundary layer over viscoelastic layers, 33
Boundary perturbation – Stable, high-order computation of traveling water waves in three dimensions, 406
Boussinesq equations – Higher-order Boussinesq equations for two-way propagation of shallow water waves, 1008
Boussinesq model – Nonlinear wave amplification in front of reflective structures, 565
Boussinesq systems – Periodic wave patterns of two-dimensional Boussinesq systems, 393
Branch flow rate – Basic flow characteristics in three-dimensional branching channel with sudden expansion, 909
Bubble generation – Injection and coalescence of bubbles in a quiescent inviscid liquid, 164
Buoyancy – An experimental study of the bulk properties of vortex rings translating through a stratified fluid, 302

C

Camille wave – Experimental velocities and accelerations in very steep wave events in deep water, 554
Capillary-gravity waves – Stable, high-order computation of traveling water waves in three dimensions, 406
Cavity – Attenuation of cavity internal pressure oscillations by shear layer forcing with pulsed micro-jets, 939

0997-7546/2006 Published by Elsevier Masson SAS.
doi:10.1016/S0997-7546(06)00106-3

Centrifugal instability – A criterion for detection of the onset of Dean instability in Newtonian fluids, 505
Cercignani–Lampis kernel – Surface effects in rarefied gas dynamics: an analysis based on the Cercignani–Lampis boundary condition, 113
Circular cavity – Fluid stirrings in a circular cavity with various driven boundaries, 192
Classical solution – On existence and uniqueness of classical solutions to Euler equations in a rotating cylinder, 267
Coalescence – Injection and coalescence of bubbles in a quiescent inviscid liquid, 164
Compliant walls – On two-dimensional linear waves in Blasius boundary layer over viscoelastic layers, 33
Conditional sampling – A conditional sampling method based on fuzzy clustering for the analysis of large-scale dynamics in turbulent flows, 172
Control – Attenuation of cavity internal pressure oscillations by shear layer forcing with pulsed micro-jets, 939
Couette flow – The convective stability of circular Couette flow induced by a linearly accelerated inner cylinder, 74 – The Couette flow of dense and fluid-saturated granular media, 960
Curved channel – A criterion for detection of the onset of Dean instability in Newtonian fluids, 505
Curved elastic tubes – Wave propagation in a fluid flowing through a curved thin-walled elastic tube, 987

D

Dean instability – A criterion for detection of the onset of Dean instability in Newtonian fluids, 505
Direct numerical simulation – Separation control at hydrofoils using Lorentz forces, 137
Directional distribution – Wave statistics in unimodal and bimodal seas from a second-order model, 649
Discrete-ordinates method – Surface effects in rarefied gas dynamics: an analysis based on the Cercignani–Lampis boundary condition, 113
Distribution function – Numerical modeling of the KdV random wave field, 425
Draupner wave – Experimental velocities and accelerations in very steep wave events in deep water, 554
Dual-potential formulation – Method of fundamental solutions for multi-dimensional Stokes equations by the dual-potential formulation, 877
Dynamical systems – Dynamical system based optimal control of incompressible fluids. Boundary control, 153
Dynamics of ^{4}He – Dynamics of superfluid ^{4}He: Two-scale approach, 435
Dynamo experiments – Ambivalent effects of added layers on steady kinematic dynamos in cylindrical geometry: application to the VKS experiment, 894

E

EDL – Electrically-excited (electroosmotic) flows in microchannels for mixing applications, 491
Electrical excitation – Electrically-excited (electroosmotic) flows in microchannels for mixing applications, 491
Electrically-insulating solids – Electrically-excited (electroosmotic) flows in microchannels for mixing applications, 491
Electromagnetic flow control – Separation control at hydrofoils using Lorentz forces, 137
Electroosmosis – Electrically-excited (electroosmotic) flows in microchannels for mixing applications, 491
Erosion sedimentation – Evolution of a model dune in a shear flow, 348
Euler equations – On existence and uniqueness of classical solutions to Euler equations in a rotating cylinder, 267
Experimental freak waves – Experimental velocities and accelerations in very steep wave events in deep water, 554
Experimental study – A criterion for detection of the onset of Dean instability in Newtonian fluids, 505
Extreme waves – Weakly two-dimensional interaction of solitons in shallow water, 636

F

FEM – Electrically-excited (electroosmotic) flows in microchannels for mixing applications, 491
Finite water depth – Wave statistics in unimodal and bimodal seas from a second-order model, 649
Flexibility – Optimization of the rod chain model to simulate the motions of a long flexible fiber in simple shear flows, 337
Flow characteristic – Basic flow characteristics in three-dimensional branching channel with sudden expansion, 909
Flow separation – The effect of an insoluble surfactant on the skin friction of a bubble, 59
Fluid stirring – Fluid stirrings in a circular cavity with various driven boundaries, 192
Forces – Hydrodynamic forces acting on a rigid fixed sphere in early transitional regimes, 321
Freak wave – Three reasons for freak wave generation in the non-uniform current, 574 – Freak waves as nonlinear stage of Stokes wave modulation instability, 677
Freak waves – Melnikov analysis and inverse spectral analysis of rogue waves in deep water, 602 – Nonlinear analysis and simulations of measured freak wave time series, 621 – Freak waves under the action of wind: experiments and simulations, 662
Free surface – Freak waves as nonlinear stage of Stokes wave modulation instability, 677
Free-surface problem – The effect of an insoluble surfactant on the skin friction of a bubble, 59
Fuzzy clustering – A conditional sampling method based on fuzzy clustering for the analysis of large-scale dynamics in turbulent flows, 172

G

Geometry variations – Investigation of the impact of the geometry on the nose flow, 471
Gravitational instability – Transient growth in linearly stable gravity-driven flow in porous media, 83
Ground effects – Underbody and ground effects on rotating disc flow: a global scale inviscid study, 923

H

High-order methods – Stable, high-order computation of traveling water waves in three dimensions, 406
Homoclinic orbits – Melnikov analysis and inverse spectral analysis of rogue waves in deep water, 602
Hopf bifurcation – A numerical method for the computation of bifurcation points in fluid mechanics, 234
Hydrodynamic instability – The convective stability of circular Couette flow induced by a linearly accelerated inner cylinder, 74
Hydrodynamic stability – A criterion for detection of the onset of Dean instability in Newtonian fluids, 505

I

Ideal fluids – Stable, high-order computation of traveling water waves in three dimensions, 406
Incompressible flow – Dynamical system based optimal control of incompressible fluids. Boundary control, 153
Instabilities – On two-dimensional linear waves in Blasius boundary layer over viscoelastic layers, 33 – Hydrodynamic forces acting on a rigid fixed sphere in early transitional regimes, 321
Integral equations – Ambivalent effects of added layers on steady kinematic dynamos in cylindrical geometry: application to the VKS experiment, 894
Interface tracking – The effect of an insoluble surfactant on the skin friction of a bubble, 59
Intermediate asymptotics – Self-similar gravity currents in porous media: Linear stability of the Barenblatt–Pattle solution revisited, 360
Inverse scattering transform – Nonlinear analysis and simulations of measured freak wave time series, 621
Inviscid – Underbody and ground effects on rotating disc flow: a global scale inviscid study, 923
Ionic liquids – Electrically-excited (electroosmotic) flows in microchannels for mixing applications, 491

J

Jeffreys' sheltering mechanism – Freak waves under the action of wind: experiments and simulations, 662
Jets – Upstream nozzle shaping effects on near field flow in round turbulent free jets, 279

K

Kadomtsev–Petviashvili equation – Weakly two-dimensional interaction of solitons in shallow water, 636
KdV equation – Numerical modeling of the KdV random wave field, 425
Kinetic equations – Surface effects in rarefied gas dynamics: an analysis based on the Cercignani–Lampis boundary condition, 113

L

Laminar-turbulent transition – Experiments on the linear instability of flow in a wavy channel, 971
Langmuir state equation – The effect of an insoluble surfactant on the skin friction of a bubble, 59
Laplace equation – Method of fundamental solutions for multidimensional Stokes equations by the dual-potential formulation, 877
Linear acceleration – The convective stability of circular Couette flow induced by a linearly accelerated inner cylinder, 74
Linear stability analysis – Transient growth in linearly stable gravity-driven flow in porous media, 83 – Self-similar gravity currents in porous media: Linear stability of the Barenblatt–Pattle solution revisited, 360
Local/global instabilities – The role of boundary conditions in the instability of one-dimensional systems, 948
Long fiber – Optimization of the rod chain model to simulate the motions of a long flexible fiber in simple shear flows, 337

M

Magnetic field – Ambivalent effects of added layers on steady kinematic dynamos in cylindrical geometry: application to the VKS experiment, 894
Marangoni effect – The effect of an insoluble surfactant on the skin friction of a bubble, 59
Matched asymptotic solution – Electrically-excited (electroosmotic) flows in microchannels for mixing applications, 491
McCormack model – A Legendre expansion and some exact solutions basic to the McCormack model for binary gas mixtures, 130
Method of fundamental solutions – Method of fundamental solutions for multidimensional Stokes equations by the dual-potential formulation, 877
Microchannel – Electrically-excited (electroosmotic) flows in microchannels for mixing applications, 491
Microflow – Electrically-excited (electroosmotic) flows in microchannels for mixing applications, 491
Micromixer – Electrically-excited (electroosmotic) flows in microchannels for mixing applications, 491
Mixing – Upstream nozzle shaping effects on near field flow in round turbulent free jets, 279
Modulation instability – Freak waves as nonlinear stage of Stokes wave modulation instability, 677
Modulational instability – Extreme waves, modulational instability and second order theory: wave flume experiments on irregular waves, 586 –

Melnikov analysis and inverse spectral analysis of rogue waves in deep water, 602
Moving mesh method – The effect of an insoluble surfactant on the skin friction of a bubble, 59
Multiply connected – Analytical solutions for uniform potential flow past multiple cylinders, 459

N

Nasal cavity flow – Investigation of the impact of the geometry on the nose flow, 471
Non-linear waves – Three reasons for freak wave generation in the non-uniform current, 574
Non-uniform current – Three reasons for freak wave generation in the non-uniform current, 574
Nonlinear – Algebraic growth in a Blasius boundary layer: Nonlinear optimal disturbances, 1
Nonlinear focusing – Melnikov analysis and inverse spectral analysis of rogue waves in deep water, 602
Nonlinear Schrödinger equation – Melnikov analysis and inverse spectral analysis of rogue waves in deep water, 602
Nonlinear waves – Nonlinear wave amplification in front of reflective structures, 565 – Extreme waves, modulational instability and second order theory: wave flume experiments on irregular waves, 586 – Wave statistics in unimodal and bimodal seas from a second-order model, 649
Nozzles – Upstream nozzle shaping effects on near field flow in round turbulent free jets, 279
Numerical and experimental investigation – Investigation of the impact of the geometry on the nose flow, 471
Numerical methods – Wave propagation in a fluid flowing through a curved thin-walled elastic tube, 987
Numerical simulation – Optimization of the rod chain model to simulate the motions of a long flexible fiber in simple shear flows, 337 – Numerical simulation of unsteady blade row interactions induced by passing wakes, 379 – Stable, high-order computation of traveling water waves in three dimensions, 406
Numerical study – A criterion for detection of the onset of Dean instability in Newtonian fluids, 505

O

Oblique waves – Nonlinear wave amplification in front of reflective structures, 565
Obstacles – Analytical solutions for uniform potential flow past multiple cylinders, 459
Optimal control – Dynamical system based optimal control of incompressible fluids. Boundary control, 153
Optimal perturbation – Algebraic growth in a Blasius boundary layer: Nonlinear optimal disturbances, 1
Oxytactic microorganisms – The onset of thermo-bioconvection in a shallow fluid saturated porous layer heated from below in a suspension of oxytactic microorganisms, 223

P

Periodic two-dimensional pattern – Periodic wave patterns of two-dimensional Boussinesq systems, 393
Perturbation analysis – Higher-order Boussinesq equations for two-way propagation of shallow water waves, 1008
Perturbation methods – Wave propagation in a fluid flowing through a curved thin-walled elastic tube, 987
PIV – Experimental velocities and accelerations in very steep wave events in deep water, 554
Plane channel flow – Experiments on the linear instability of flow in a wavy channel, 971
Porous media – The onset of thermo-bioconvection in a shallow fluid saturated porous layer heated from below in a suspension of oxytactic microorganisms, 223
Porous media flow – Transient growth in linearly stable gravity-driven flow in porous media, 83
Porous medium equation – Self-similar gravity currents in porous media: Linear stability of the Barenblatt–Pattle solution revisited, 360
Potential flow – Injection and coalescence of bubbles in a quiescent inviscid liquid, 164
Propagation theory – The convective stability of circular Couette flow induced by a linearly accelerated inner cylinder, 74

Q

Quantum turbulence – Dynamics of superfluid ^{4}He: Two-scale approach, 435

R

Random waves – Numerical modeling of the KdV random wave field, 425
Rarefied gas dynamics – Surface effects in rarefied gas dynamics: an analysis based on the Cercignani–Lampis boundary condition, 113 – A Legendre expansion and some exact solutions basic to the McCormack model for binary gas mixtures, 130
Reynolds stress turbulence model – Observations on the predictions of fully developed rotating pipe flow using differential and explicit algebraic Reynolds stress models, 95
Rheology – The Couette flow of dense and fluid-saturated granular media, 960
Ring – An experimental study of the bulk properties of vortex rings translating through a stratified fluid, 302
Rod-chain – Optimization of the rod chain model to simulate the motions of a long flexible fiber in simple shear flows, 337
Rogue waves – Experimental velocities and accelerations in very steep wave events in deep water, 554 – Melnikov analysis and inverse spectral analysis of rogue waves in deep water, 602
Rotating disc – Underbody and ground effects on rotating disc flow: a global scale inviscid study, 923
Rotating fluids – On existence and uniqueness of classical solutions to

Euler equations in a rotating cylinder, 267
Rotating pipe flow – Observations on the predictions of fully developed rotating pipe flow using differential and explicit algebraic Reynolds stress models, 95
Rotating turbulence – Dynamics of superfluid ^{4}He: Two-scale approach, 435
Rotor–stator interaction – Numerical simulation of unsteady blade row interactions induced by passing wakes, 379
Roughness effects – Experiments on the linear instability of flow in a wavy channel, 971

S

Second order theory – Extreme waves, modulational instability and second order theory: wave flume experiments on irregular waves, 586
Second-order surface wave model – Wave statistics in unimodal and bimodal seas from a second-order model, 649
Secondary flow – Electrically-excited (electroosmotic) flows in microchannels for mixing applications, 491 – A criterion for detection of the onset of Dean instability in Newtonian fluids, 505
Self-similar solution – Self-similar gravity currents in porous media: Linear stability of the Barenblatt–Pattle solution revisited, 360
Separation control – Separation control at hydrofoils using Lorentz forces, 137
Shallow water waves – Weakly two-dimensional interaction of solitons in shallow water, 636 – Higher-order Boussinesq equations for two-way propagation of shallow water waves, 1008
Shallow-water approximation – Self-similar gravity currents in porous media: Linear stability of the Barenblatt–Pattle solution revisited, 360
Shear layer – Attenuation of cavity internal pressure oscillations by shear layer forcing with pulsed micro-jets, 939
Skin friction – The effect of an insoluble surfactant on the skin friction of a bubble, 59
Solitary wave – Free surface waves in equilibrium with a vortex, 255
Solitary waves – Higher-order Boussinesq equations for two-way propagation of shallow water waves, 1008
Soliton interaction – Weakly two-dimensional interaction of solitons in shallow water, 636
Spectral methods – Stable, high-order computation of traveling water waves in three dimensions, 406
Spectral solution – Nonlinear wave amplification in front of reflective structures, 565
Spectrum – Numerical modeling of the KdV random wave field, 425
Sphere – Hydrodynamic forces acting on a rigid fixed sphere in early transitional regimes, 321
Stability – Algebraic growth in a Blasius boundary layer: Nonlinear optimal disturbances, 1 – The onset of thermo-bioconvection in a shallow fluid saturated porous layer heated from below in a suspension of oxytactic microorganisms, 223
Steady and laminar flow field – Investigation of the impact of the geometry on the nose flow, 471
Stokes flow – Fluid stirrings in a circular cavity with various driven boundaries, 192
Stratified – An experimental study of the bulk properties of vortex rings translating through a stratified fluid, 302
Surface wave analysis – Nonlinear analysis and simulations of measured freak wave time series, 621
Surfactant – The effect of an insoluble surfactant on the skin friction of a bubble, 59
Swirling flow – Observations on the predictions of fully developed rotating pipe flow using differential and explicit algebraic Reynolds stress models, 95

T

Taylor–Görtler vortex – The convective stability of circular Couette flow induced by a linearly accelerated inner cylinder, 74
Three-components flows – On existence and uniqueness of classical solutions to Euler equations in a rotating cylinder, 267
Three-dimensional cylindrical branching channel – Basic flow characteristics in three-dimensional branching channel with sudden expansion, 909
Transient growth – Algebraic growth in a Blasius boundary layer: Nonlinear optimal disturbances, 1 – Transient growth in linearly stable gravity-driven flow in porous media, 83
Traveling waves – Stable, high-order computation of traveling water waves in three dimensions, 406
Turbulence – Upstream nozzle shaping effects on near field flow in round turbulent free jets, 279
Turbulent flow – A conditional sampling method based on fuzzy clustering for the analysis of large-scale dynamics in turbulent flows, 172
Two-dimensional – On existence and uniqueness of classical solutions to Euler equations in a rotating cylinder, 267
Two-way wave propagation – Higher-order Boussinesq equations for two-way propagation of shallow water waves, 1008

U

Underbody – Underbody and ground effects on rotating disc flow: a global scale inviscid study, 923
Uniform potential flow – Analytical solutions for uniform potential flow past multiple cylinders, 459

V

Velocities – Experimental velocities and accelerations in very steep wave events in deep water, 554
Velocity potential and stream function vector – Method of fundamental solutions for multidimensional Stokes equations by the dual-potential formulation, 877
Velocity scale – Experimental velocities and accelerations in very steep wave events in deep water, 554

Viscoelastic layer – On two-dimensional linear waves in Blasius boundary layer over viscoelastic layers, 33

Vortex – Free surface waves in equilibrium with a vortex, 255 – An experimental study of the bulk properties of vortex rings translating through a stratified fluid, 302

W

Wake – Hydrodynamic forces acting on a rigid fixed sphere in early transitional regimes, 321 – Numerical simulation of unsteady blade row interactions induced by passing wakes, 379

Water waves – Periodic wave patterns of two-dimensional Boussinesq systems, 393

Wave reflections – The role of boundary conditions in the instability of one-dimensional systems, 948

Wave statistics – Wave statistics in unimodal and bimodal seas from a second-order model, 649

Wave–structure interactions – Nonlinear wave amplification in front of reflective structures, 565

Wave-current interaction – Three reasons for freak wave generation in the non-uniform current, 574

Wet granular systems – The Couette flow of dense and fluid-saturated granular media, 960

Wind interaction – Freak waves under the action of wind: experiments and simulations, 662