PHYSICAL REVIEW E™

For editorial and subscription correspondence, please see inside front cover
(ISSN: 1539-3755)

PERIODICALS
Postmaster send address changes to:

APS Subscription Services
P.O. Box 41
Annapolis Junction, MD 20701

THIRD SERIES, VOLUME 88, NUMBER 3
PARTS A AND B

CONTENTS

SEPTEMBER 2013

The Table of Contents is a total listing of Parts A and B.
Part A consists of pages 030101(R)-032602, and Part B pages 032701-039904(E).

PART A

RAPID COMMUNICATIONS

Statistical Physics

Integrability of zero-dimensional replica field theories at $\beta = 1$ *(5 pages)* . . . . . 030101(R)
Pedro Vidal and Eugene Kanzieper

Consensus time and conformity in the adaptive voter model *(5 pages)* . . . . . 030102(R)
Tim Rogers and Thilo Gross

Arrow-arrow correlations for the six-vertex model *(5 pages)* . . . . . 030103(R)
P. Falco

Granular Materials

Drag on intruders in granular beds: A boundary layer approach *(4 pages)* . . . . . 030201(R)
Jonathan Goldsmith, Hong Guo, Shelby N. Hunt, Mingjiang Tao, and Stephan Koehler

Films, Interfaces, and Crystal Growth

Non-mean-field behavior of critical wetting transition for short-range forces *(4 pages)* . . . . . 030401(R)
Paweł Bryk and Kurt Binder

Biological Physics

Localizing epileptic seizure onsets with Granger causality *(5 pages)* . . . . . 030701(R)
Bhim M. Adhikari, Charles M. Epstein, and Mukesh Dhamala

Fluid Dynamics

Growth rate degeneracies in kinematic dynamos *(5 pages)* . . . . . 031001(R)
B. Favier and M. R. E. Proctor

Plasma Physics

Thermal energy density of dust in dusty plasmas: Experiment and theory *(5 pages)* . . . . . 031101(R)
R. Fisher, K. Avinash, E. Thomas, R. Merlino, and V. Gupta

Copyright 2013 by American Physical Society

(Continued)

1539-3755(201309)88:3:A;1-Z

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 88, NUMBER 3** **SEPTEMBER 2013**

Classical Physics

Multiple flat photonic bands with finite Chern numbers *(4 pages)* . . . . . 031201(R)
S. T. Chui, Shiyang Liu, and Zhifang Lin

ARTICLES

Statistical Physics

Generalized extended Navier-Stokes theory: Multiscale spin relaxation in molecular fluids *(5 pages)* 032101
J. S. Hansen

Stochastic thermodynamics of active Brownian particles *(7 pages)* 032102
Chandrima Ganguly and Debasish Chaudhuri

Quest for absolute zero in the presence of external noise *(6 pages)* 032103
E. Torrontegui and R. Kosloff

Nonlinear subdiffusive fractional equations and the aggregation phenomenon *(9 pages)* 032104
Sergei Fedotov

Nonequilibrium work and entropy production by quantum projective measurements *(6 pages)* 032105
Juyeon Yi and Yong Woon Kim

Statistics of avalanches with relaxation and Barkhausen noise: A solvable model *(35 pages)* 032106
Alexander Dobrinevski, Pierre Le Doussal, and Kay Jörg Wiese

Everlasting effect of initial conditions on single-file diffusion *(11 pages)* 032107
N. Leibovich and E. Barkai

Density-independent model of self-propelled particles *(10 pages)* 032108
Daniel Schubring and Paul R. Ohmann

Spectral analysis and slow spreading dynamics on complex networks *(7 pages)* 032109
Géza Ódor

Quantum fidelity for degenerate ground states in quantum phase transitions *(10 pages)* 032110
Yao Heng Su, Bing-Quan Hu, Sheng-Hao Li, and Sam Young Cho

Quantum spin-1 anisotropic ferromagnetic Heisenberg model in a crystal field: A variational approach *(10 pages)* 032111
D. C. Carvalho, J. A. Plascak, and L. M. Castro

Collisional relaxation of two-dimensional self-gravitating systems *(9 pages)* 032112
Bruno Marcos

Beyond the Young-Laplace model for cluster growth during dewetting of thin films: Effective coarsening exponents and the role of long range dewetting interactions *(29 pages)* 032113
Adi Constantinescu, Leonardo Golubović, and Artem Levandovsky

Distributions of time averages for weakly chaotic systems: The role of infinite invariant density *(10 pages)* 032114
Nickolay Korabel and Eli Barkai

Emerging spectra of singular correlation matrices under small power-map deformations *(9 pages)* 032115
Vinayak, Rudi Schäfer, and Thomas H. Seligman

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 88, NUMBER 3** **SEPTEMBER 2013**

Disrupted coarsening in complex Cahn-Hilliard dynamics *(5 pages)* 032116
David Simeone, Gilles Demange, and Laurence Luneville

Nonequilibrium identities and response theory for dissipative particles *(9 pages)* 032117
Hisao Hayakawa and Michio Otsuki

Vortex distribution in a confining potential *(5 pages)* 032118
Matheus Girotto, Alexandre P. dos Santos, and Yan Levin

Ergodic crossover in partially self-avoiding stochastic walks *(8 pages)* 032119
Juliana M. Berbert, Rodrigo Silva González, and Alexandre Souto Martinez

Rerouting excitation transfers in the Fenna-Matthews-Olson complex *(6 pages)* 032120
Guang-Yin Chen, Neill Lambert, Che-Ming Li, Yueh-Nan Chen, and Franco Nori

Influence of long-range interactions on charge ordering phenomena on a square lattice *(8 pages)* 032121
Louk Rademaker, Yohanes Pramudya, Jan Zaanen, and Vladimir Dobrosavljević

Control of logic gates by dichotomous noise in energetic and entropic systems *(14 pages)* 032122
Moupriya Das and Deb Shankar Ray

Thermodynamic curvature for attractive and repulsive intermolecular forces *(8 pages)* 032123
Helge-Otmar May, Peter Mausbach, and George Ruppeiner

Crossover behavior in driven cascades *(10 pages)* 032124
James Burridge

Nonequilibrium heterogeneous catalysis in the long mean-free-path regime *(12 pages)* 032125
D. P. Sheehan

Extended finite-size scaling of synchronized coupled oscillators *(7 pages)* 032126
Chulho Choi, Meesoon Ha, and Byungnam Kahng

Fence-sitters protect cooperation in complex networks *(5 pages)* 032127
Yichao Zhang, M. A. Aziz-Alaoui, Cyrille Bertelle, Shi Zhou, and Wenting Wang

Theta-point polymers in the plane and Schramm-Loewner evolution *(7 pages)* 032128
M. Gherardi

Minimal spanning trees at the percolation threshold: A numerical calculation *(14 pages)* 032129
Sean M. Sweeney and A. Alan Middleton

Frieden wave-function representations via an Einstein-Podolsky-Rosen-Bohm experiment *(23 pages)* 032130
J. Syska

Frozen into stripes: Fate of the critical Ising model after a quench *(4 pages)* 032131
T. Blanchard and M. Picco

Self-sustained clusters and ergodicity breaking in spin models *(4 pages)* 032132
Chi Ho Yeung and David Saad

Excited-state quantum phase transitions in Dicke superradiance models *(12 pages)* 032133
Tobias Brandes

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 88, NUMBER 3** **SEPTEMBER 2013**

Electrical percolation in quasi-two-dimensional metal nanowire networks for transparent conductors *(8 pages)* . . . 032134
Rose M. Mutiso and Karen I. Winey

Replica-symmetry-breaking transitions and off-equilibrium dynamics *(12 pages)* 032135
Tommaso Rizzo

Transport and collision dynamics in periodic asymmetric obstacle arrays: Rational design of microfluidic rare-cell immunocapture devices *(9 pages)* 032136
Jason P. Gleghorn, James P. Smith, and Brian J. Kirby

Modulated two-level system: Exact work statistics *(6 pages)* 032137
Gatien Verley, Christian Van den Broeck, and Massimiliano Esposito

Relativistic Langevin dynamics in expanding media *(8 pages)* 032138
Min He, Hendrik van Hees, Pol B. Gossiaux, Rainer J. Fries, and Ralf Rapp

Increasing thermal rectification: Effects of long-range interactions *(6 pages)* 032139
Emmanuel Pereira and Ricardo R. Ávila

Optimal and suboptimal quadratic forms for noncentered Gaussian processes *(10 pages)* 032140
Denis S. Grebenkov

Growth dominates choice in network percolation *(8 pages)* 032141
Vikram S. Vijayaraghavan, Pierre-André Noël, Alex Waagen, and Raissa M. D'Souza

Scaling functions for systems with finite range of interaction *(5 pages)* 032142
C. I. N. Sampaio-Filho and F. G. B. Moreira

Relative stability of dynamical states and stochastic resonance in a sinusoidal potential *(6 pages)* 032143
W. L. Reenbohn and Mangal C. Mahato

Perpetual extraction of work from a nonequilibrium dynamical system under Markovian feedback control *(15 pages)* 032144
Taichi Kosugi

Temperature-driven irreversible generalized Langevin equation can capture the nonequilibrium dynamics of two dissipated coupled oscillators *(9 pages)* 032145
Alexander V. Popov and Rigoberto Hernandez

Fluctuation theorems for quantum processes *(14 pages)* 032146
Tameem Albash, Daniel A. Lidar, Milad Marvian, and Paolo Zanardi

Criticality in alternating layered Ising models. I. Effects of connectivity and proximity *(12 pages)* 032147
Helen Au-Yang and Michael E Fisher

Criticality in alternating layered Ising models. II. Exact scaling theory *(8 pages)* 032148
Helen Au-Yang

Granular Materials

Intruder-induced asymmetry in compartmentalized granular gases *(6 pages)* 032201
Kuo-Ching Chen, Wen-Chin Li, and Wan-Lin Hsieh

Characterizing the rheology of fluidized granular matter *(4 pages)* 032202
Kenneth W. Desmond, Umberto Villa, Mike Newey, and Wolfgang Losert

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 88, NUMBER 3** **SEPTEMBER 2013**

Regime transitions of granular flow in a shear cell: A micromechanical study *(11 pages)* 032203
X. Wang, H. P. Zhu, S. Luding, and A. B. Yu

Packing fraction of trimodal spheres with small size ratio: An analytical expression *(6 pages)* 032204
H. J. H. Brouwers

Erosion dynamics of a wet granular medium *(9 pages)* 032205
Gautier Lefebvre and Pierre Jop

Flow-mediated coupling on projectiles falling within a superlight granular medium *(14 pages)* 032206
J. M. Solano-Altamirano, G. A. Caballero-Robledo, F. Pacheco-Vázquez, V. Kamphorst, and J. C. Ruiz-Suárez

Evolution of grain contacts in a granular sample under creep and stress relaxation *(7 pages)* 032207
A. Miksic and M. J. Alava

Colloids and Complex Fluids

Spinodal decomposition of a binary magnetic fluid confined to a surface *(11 pages)* 032301
K. Lichtner and S. H. L. Klapp

Influence of nanoparticle size on the nonlinear optical properties of magnetite ferrofluids *(7 pages)* 032302
D. Espinosa, L. B. Carlsson, A. M. Figueiredo Neto, and S. Alves

Shear thickening of dense suspensions due to energy dissipation in lubrication layers between particles *(6 pages)* 032303
L. Yu. Iskakova and A. Yu. Zubarev

Non-Gaussian statistics for the motion of self-propelled Janus particles: Experiment versus theory *(11 pages)* 032304
Xu Zheng, Borge ten Hagen, Andreas Kaiser, Meiling Wu, Haihang Cui, Zhanhua Silber-Li, and Hartmut Löwen

Lateral aggregation induced by magnetic perturbations in a magnetorheological fluid based on non-Brownian particles *(10 pages)* 032305
R. E. Moctezuma, F. Donado, and J. L. Arauz-Lara

Multiple transient memories in sheared suspensions: Robustness, structure, and routes to plasticity *(8 pages)* 032306
Nathan C. Keim, Joseph D. Paulsen, and Sidney R. Nagel

Collective stringlike motion of semiflexible filamentous particles in columnar liquid crystalline phases *(8 pages)* 032307
Saber Naderi and Paul van der Schoot

Restricted diffusion of small probe particles in a laponite dispersion *(8 pages)* 032308
P. Klajner, S. Kaloun, J.-P. Münch, and P. Hébraud

Films, Interfaces, and Crystal Growth

Shear localization in three-dimensional amorphous solids *(16 pages)* 032401
Ratul Dasgupta, Oleg Gendelman, Pankaj Mishra, Itamar Procaccia, and Carmel A. B. Z. Shor

Statistics of energy dissipation and stress relaxation in a crumpling network of randomly folded aluminum foils *(7 pages)* 032402
Alexander S. Balankin, Orlando Susarrey Huerta, and Viktor Tapia

Relaxation of a family of broken-bond crystal-surface models *(15 pages)* 032403
Jeremy L. Marzuola and Jonathan Weare

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 88, NUMBER 3** **SEPTEMBER 2013**

Pore-scale dynamics of salt precipitation in drying porous media *(5 pages)* 032404
Mansoureh Norouzi Rad, Nima Shokri, and Muhammad Sahimi

Tearing of free-standing graphene *(10 pages)* 032405
M. J. B. Moura and M. Marder

Modeling of electrode polarization for electrolytic cells with a limited ionic adsorption *(10 pages)* 032406
Atsushi Sawada

Phase-field-crystal model for magnetocrystalline interactions in isotropic ferromagnetic solids *(8 pages)* 032407
Niloufar Faghihi, Nikolas Provatas, K. R. Elder, Martin Grant, and Mikko Karttunen

Partial slip in mesoscale contacts: Dependence on contact size *(14 pages)* 032408
Sylvia Hanke, Judith Petri, and Diethelm Johannsmann

Localization and length-scale doubling in disordered films on soft substrates *(7 pages)* 032409
Matthew R. Semler, John M. Harris, Andrew B. Croll, and Erik K. Hobbie

Liquid Crystals

Acousto-optic effect in nematic liquid crystals: Experimental evidence of an elastic regime *(5 pages)* 032501
Carlindo Vitoriano

Calamitic and antinematic orientational order produced by the generalized Straley lattice model *(14 pages)* 032502
Fulvio Bisi, Giovanni De Matteis, and Silvano Romano

Effect of cybotactic clusters on the elastic and flexoelectric properties of bent-core liquid crystals belonging to the same homologous series *(11 pages)* 032503
R. Balachandran, V. P. Panov, J. K. Vij, A. Lehmann, and C. Tschierske

CdSe nanoparticles dispersed in ferroelectric smectic liquid crystals: Effects upon the smectic order and the smectic-*A* to chiral smectic-*C* phase transition *(8 pages)* 032504
Angelos Thanassoulas, Eva Karatairi, George Cordoyiannis, Zdravko Kutnjak, Vassilios Tzitzios, Ioannis Lelidis, and George Nounesis

Cholesteric-nematic transition in an asymmetric strong-weak anchoring cell *(9 pages)* 032505
G. Barbero and A. M. Scarfone

Liquid-crystal patterns of rectangular particles in a square nanocavity *(13 pages)* 032506
Miguel González-Pinto, Yuri Martínez-Ratón, and Enrique Velasco

Octupolar approximation for the excluded volume of axially symmetric convex bodies *(21 pages)* 032507
Marco Piastra and Epifanio G. Virga

Polymers

Distribution of glass transition temperature in multilayered poly(methyl methacrylate) thin film supported on a Si substrate as studied by neutron reflectivity *(6 pages)* 032601
Rintaro Inoue, Makoto Nakamura, Kazuya Matsui, Toshiji Kanaya, Koji Nishida, and Masahiro Hino

Dynamical crossover between hyperdiffusion and subdiffusion of polymer-grafted nanoparticles in a polymer matrix *(7 pages)* 032602
Taiki Hoshino, Daiki Murakami, Yoshihito Tanaka, Masaki Takata, Hiroshi Jinnai, and Atsushi Takahara

(Continued)

PHYSICAL REVIEW E THIRD SERIES, VOLUME 88, NUMBER 3 SEPTEMBER 2013

PART B

Biological Physics

Elasticity of cross-linked semiflexible biopolymers under tension *(11 pages)* 032701
Alice von der Heydt, Daniel Wilkin, Panayotis Benetatos, and Annette Zippelius

Linear surface roughness growth and flow smoothening in a three-dimensional biofilm model *(10 pages)* 032702
D. A. Head

Estimating the hyperfine coupling parameters of the avian compass by comprehensively considering the available experimental results *(10 pages)* 032703
Bao-Ming Xu, Jian Zou, Jun-Gang Li, and Bin Shao

Modeling biological tissue growth: Discrete to continuum representations *(9 pages)* 032704
Jack D. Hywood, Emily J. Hackett-Jones, and Kerry A. Landman

Anomalous diffusion of proteins in sheared lipid membranes *(7 pages)* 032705
Atefeh Khoshnood and Mir Abbas Jalali

Genus distribution and thermodynamics of a random matrix model of RNA with Penner interaction *(14 pages)* . . . 032706
Pradeep Bhadola and N. Deo

Energetic pulses in exciton-phonon molecular chains and conservative numerical methods for quasilinear Hamiltonian systems *(10 pages)* 032707
Brenton LeMesurier

Hybrid lipids increase nanoscale fluctuation lifetimes in mixed membranes *(8 pages)* 032708
Benoit Palmieri and Samuel A. Safran

Cellular polarization: Interaction between extrinsic bounded noises and the wave-pinning mechanism *(11 pages)* 032709
Sebastiano de Franciscis and Alberto d'Onofrio

Nonicosahedral pathways for capsid expansion *(10 pages)* 032710
Paolo Cermelli, Giuliana Indelicato, and Reidun Twarock

Stable and flexible system for glucose homeostasis *(6 pages)* 032711
Hyunsuk Hong, Junghyo Jo, and Sang-Jin Sin

Critical bending torque of DNA is a materials parameter independent of local base sequence *(7 pages)* 032712
Juan Wang, Hao Qu, and Giovanni Zocchi

Perturbative solution to susceptible-infected-susceptible epidemics on networks *(8 pages)* 032713
Lloyd P. Sanders, Bo Söderberg, Dirk Brockmann, and Tobias Ambjörnsson

Bistability in a stochastic RNA-mediated gene network *(8 pages)* 032714
Jason Lloyd-Price and Andre S. Ribeiro

Conformational change induced by electron transfer in a monolayer of cytochrome P450 reductase adsorbed at the Au(110)–phosphate buffer interface *(8 pages)* 032715
P. Weightman, C. I. Smith, J. H. Convery, P. Harrison, B. Khara, and N. S. Scrutton

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 88, NUMBER 3** **SEPTEMBER 2013**

Quantification of noise in bifunctionality-induced post-translational modification *(7 pages)* 032716
Alok Kumar Maity, Arnab Bandyopadhyay, Sudip Chattopadhyay, Jyotipratim Ray Chaudhuri, Ralf Metzler, Pinaki Chaudhury, and Suman K. Banik

Microtubule catastrophe from protofilament dynamics *(15 pages)* 032717
V. Jemseena and Manoj Gopalakrishnan

Minimal model for stem-cell differentiation *(9 pages)* 032718
Yusuke Goto and Kunihiko Kaneko

Networks and Interdisciplinary Physics

Symmetry breaking in optimal timing of traffic signals on an idealized two-way street *(5 pages)* 032801
Mark J. Panaggio, Bertand J. Ottino-Löffler, Peiguang Hu, and Daniel M. Abrams

Time evolution of damage due to environmentally assisted aging in a fiber bundle model *(9 pages)* 032802
S. Lennartz-Sassinek, I. G. Main, Z. Danku, and F. Kun

Evolutionary vaccination dilemma in complex networks *(7 pages)* 032803
Alessio Cardillo, Catalina Reyes-Suárez, Fernando Naranjo, and Jesús Gómez-Gardeñes

Solitons and kinks in a general car-following model *(11 pages)* 032804
Douglas A. Kurtze

Quantitative modeling of degree-degree correlation in complex networks *(9 pages)* 032805
A. Niño and C. Muñoz-Caro

Characterizing graph symmetries through quantum Jensen-Shannon divergence *(9 pages)* 032806
Luca Rossi, Andrea Torsello, Edwin R. Hancock, and Richard C. Wilson

Spectral properties of the Laplacian of multiplex networks *(6 pages)* 032807
A. Solé-Ribalta, M. De Domenico, N. E. Kouvaris, A. Díaz-Guilera, S. Gómez, and A. Arenas

Link-based formalism for time evolution of adaptive networks *(10 pages)* 032808
Jie Zhou, Gaoxi Xiao, and Guanrong Chen

Fokker-Planck description for the queue dynamics of large tick stocks *(11 pages)* 032809
A. Garèche, G. Disdier, J. Kockelkoren, and J.-P. Bouchaud

Exponential random graph models for networks with community structure *(8 pages)* 032810
Piotr Fronczak, Agata Fronczak, and Maksymilian Bujok

Universal properties of magnetization dynamics in polycrystalline ferromagnetic films *(8 pages)* 032811
Felipe Bohn, Marcio Assolin Corrêa, Alexandre Da Cas Viegas, Stefanos Papanikolaou, Gianfranco Durin, and Rubem Luis Sommer

Robust synchronization of spin-torque oscillators with an LCR load *(8 pages)* 032812
Arkady Pikovsky

Modeling two-dimensional magnetic resonance measurements in coupled pore systems *(13 pages)* 032813
L. M. Schwartz, D. L. Johnson, J. Mitchell, T. C. Chandrasekera, and E. J. Fordham

(Continued)

PHYSICAL REVIEW E THIRD SERIES, VOLUME 88, NUMBER 3 SEPTEMBER 2013

Nonlinear Dynamics and Chaos

Symmetry breaking in binary chains with nonlinear sites *(8 pages)* 032901
Dmitrii N. Maksimov and Almas F. Sadreev

Chimeras with multiple coherent regions *(6 pages)* 032902
Sangeeta Rani Ujjwal and Ramakrishna Ramaswamy

Rotation of the trajectories of bright solitons and realignment of intensity distribution in the coupled nonlinear Schrödinger equation *(5 pages)* 032903
R. Radha, P. S. Vinayagam, and K. Porsezian

Enhanced control of saddle steady states of dynamical systems *(7 pages)* 032904
Arūnas Tamaševičius, Elena Tamaševičiūtė, Gytis Mykolaitis, and Skaidra Bumelienė

Discrete localized modes supported by an inhomogeneous defocusing nonlinearity *(10 pages)* 032905
Goran Gligorić, Aleksandra Maluckov, Ljupčo Hadžievski, and Boris A. Malomed

Measure synchronization in a two-species bosonic Josephson junction *(8 pages)* 032906
Jing Tian, Haibo Qiu, Guanfang Wang, Yong Chen, and Li-bin Fu

Nonlinear dynamics of an injected quantum cascade laser *(8 pages)* 032907
Thomas Erneux, Vassilios Kovanis, and Athanasios Gavrielides

Hopf bifurcation and multistability in a system of phase oscillators *(8 pages)* 032908
Sergey Astakhov, Naoya Fujiwara, Artem Gulay, Naofumi Tsukamoto, and Jürgen Kurths

Efficient recovery of dynamic behavior in coupled oscillator networks *(9 pages)* 032909
Kai Morino, Gouhei Tanaka, and Kazuyuki Aihara

Multivariate recurrence network analysis for characterizing horizontal oil-water two-phase flow *(12 pages)* 032910
Zhong-Ke Gao, Xin-Wang Zhang, Ning-De Jin, Norbert Marwan, and Jürgen Kurths

Time-delay autosynchronization control of defect turbulence in the cubic-quintic complex Ginzburg-Landau equation *(8 pages)* 032911
J. B. Gonpe Tafo, L. Nana, and T. C. Kofane

Delayed feedback control of unstable steady states with high-frequency modulation of the delay *(14 pages)* 032912
Aleksandar Gjurchinovski, Thomas Jüngling, Viktor Urumov, and Eckehard Schöll

Time fluctuations in isolated quantum systems of interacting particles *(11 pages)* 032913
Pablo R. Zangara, Axel D. Dente, E. J. Torres-Herrera, Horacio M. Pastawski, Aníbal Iucci, and Lea F. Santos

Weakly noisy chaotic scattering *(8 pages)* 032914
Juan D. Bernal, Jesús M. Seoane, and Miguel A. F. Sanjuán

Three-body interactions with time delay *(7 pages)* 032915
Rajat Karnatak

Amplitude death in nonlinear oscillators with mixed time-delayed coupling *(8 pages)* 032916
Wei Zou, D. V. Senthilkumar, Yang Tang, Ye Wu, Jianquan Lu, and Jürgen Kurths

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 88, NUMBER 3** **SEPTEMBER 2013**

Competing resonances in spatially forced pattern-forming systems *(9 pages)* 032917
Yair Mau, Lev Haim, Aric Hagberg, and Ehud Meron

Analysis of a solvable model of a phase oscillator network on a circle with infinite-range Mexican-hat-type interaction *(20 pages)* 032918
Tatsuya Uezu, Tomoyuki Kimoto, and Masato Okada

Deformation of a Peregrine soliton by fluctuating backgrounds *(5 pages)* 032919
H. J. Shin

Fluid Dynamics

Electrokinetics over charge-modulated surfaces in the presence of patterned wettability: Role of the anisotropic streaming potential *(18 pages)* 033001
Uddipta Ghosh and Suman Chakraborty

Pore-scale micro-computed-tomography imaging: Nonwetting-phase cluster-size distribution during drainage and imbibition *(9 pages)* 033002
A. Georgiadis, S. Berg, A. Makurat, G. Maitland, and H. Ott

Time persistence of floating-particle clusters in free-surface turbulence *(6 pages)* 033003
Salvatore Lovecchio, Cristian Marchioli, and Alfredo Soldati

Bacterial turbulence reduction by passive magnetic particle chains *(7 pages)* 033004
Kuo-An Liu and Lin I

Scaling of turbulent flame speed for expanding flames with Markstein diffusion considerations *(13 pages)* 033005
Swetaprovo Chaudhuri, Fujia Wu, and Chung K. Law

Orbital trajectory of an acoustic bubble in a cylindrical resonator *(5 pages)* 033006
Cyril Desjouy, Pauline Labelle, Bruno Gilles, Jean-Christophe Bera, and Claude Inserra

Minimal model for zero-inertia instabilities in shear-dominated non-Newtonian flows *(7 pages)* 033007
S. Boi, A. Mazzino, and J. O. Pralits

Control of centrifugal fingering via a variable interfacial tension approach *(6 pages)* 033008
Francisco M. Rocha and José A. Miranda

Thermal effects on the diffusive layer convection instability of an exothermic acid-base reaction front *(11 pages)* 033009
C. Almarcha, P. M. J. Trevelyan, P. Grosfils, and A. De Wit

Dynamic wetting at the nanoscale *(10 pages)* 033010
Yoshinori Nakamura, Andreas Carlson, Gustav Amberg, and Junichiro Shiomi

Dynamical-systems analysis and unstable periodic orbits in reacting flows behind symmetric bluff bodies *(17 pages)* 033011
Jia-Chen Hua, Gemunu H. Gunaratne, Stanislav Kostka, Naibo Jiang, Barry V. Kiel, James R. Gord, and Sukesh Roy

Electrohydrodynamics of a compound drop *(23 pages)* 033012
Ali Behjatian and Asghar Esmaeeli

Fluctuations of a passive scalar in a turbulent mixing layer *(10 pages)* 033013
Antonio Attili and Fabrizio Bisetti

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 88, NUMBER 3** **SEPTEMBER 2013**

Effects of solvent-mediated nonelectrostatic ion-ion interactions on a streaming potential in microchannels and nanochannels *(10 pages)* 033014
Aditya Bandopadhyay, Jayabrata Dhar, and Suman Chakraborty

Interaction between a fracture network and a cubic cavity *(10 pages)* 033015
D. Sangaré, V. V. Mourzenko, J.-F. Thovert, and P. M. Adler

Instability of a rotating liquid ring *(6 pages)* 033016
Sicheng Zhao and Jianjun Tao

Scaling and unified characterization of flow instabilities in layered heterogeneous porous media *(12 pages)* 033017
M. Sajjadi and J. Azaiez

Experimental study of oblique impact between dry spheres and liquid layers *(9 pages)* 033018
Jiliang Ma, Daoyin Liu, and Xiaoping Chen

Experimental investigation of the stability of the floating water bridge *(6 pages)* 033019
Reza Montazeri Namin, Shiva Azizpour Lindi, Ahmad Amjadi, Nima Jafari, and Peyman Irajizad

Shape-dependent orientation of thermophoretic forces in microsystems *(8 pages)* 033020
Qi Li, Tengfei Liang, and Wenjing Ye

Electric double-layer interactions in a wedge geometry: Change in contact angle for drops and bubbles *(8 pages)* 033021
Siddhartha Das and Sushanta K. Mitra

Interface dynamics of immiscible two-phase lattice-gas cellular automata: A model with random dynamic scatterers and quenched disorder in two dimensions *(13 pages)* 033022
R. M. Azevedo, R. R. Montenegro-Filho, and M. D. Coutinho-Filho

Relation between shape of liquid-gas interface and evolution of buoyantly unstable three-dimensional chemical fronts *(7 pages)* 033023
L. Šebestíková

Model of dynamic self-assembly in ferromagnetic suspensions at liquid interfaces *(9 pages)* 033024
D. L. Piet, A. V. Straube, A. Snezhko, and I. S. Aranson

Electric-field-induced rotation of Brownian metal nanowires *(8 pages)* 033025
Juan J. Arcenegui, Pablo García-Sánchez, Hywel Morgan, and Antonio Ramos

Energy concentration and positional stability of sonoluminescent bubbles in sulfuric acid for different static pressures *(9 pages)* 033026
Juan Manuel Rosselló, Damián Dellavale, and Fabián José Bonetto

Theoretical investigation of a technique to produce microbubbles by a microfluidic T junction *(10 pages)* 033027
M. A. Herrada, A. M. Gañán-Calvo, and J. M. Montanero

Plasma Physics

Counterexample of the magnetorotational instability in two-dimensional axial symmetry *(6 pages)* 033101
Giovanni Montani and Daniela Pugliese

Evaluation of slowing down of proton and deuteron beams in CH_2, LiH, and Al partially ionized plasmas *(6 pages)* 033102
David Casas, Manuel D. Barriga-Carrasco, and Juan Rubio

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 88, NUMBER 3** **SEPTEMBER 2013**

Negative plasma potential relative to electron-emitting surfaces *(10 pages)* 033103
M. D. Campanell

Demonstration of a 13-keV Kr *K*-shell x-ray source at the National Ignition Facility *(5 pages)* 033104
K. B. Fournier, M. J. May, J. D. Colvin, M. A. Barrios, J. R. Patterson, and S. P. Regan

Collisionless energy-independent kinetic equilibria in axisymmetric magnetized plasmas *(14 pages)* 033105
Claudio Cremaschini, Zdeněk Stuchlík, and Massimo Tessarotto

Thermophysical properties of hydrogen-helium mixtures: Re-examination of the mixing rules via quantum molecular dynamics simulations *(7 pages)* 033106
Cong Wang, Xian-Tu He, and Ping Zhang

Sum rules for electron-hole bilayer and two-dimensional point dipole systems *(7 pages)* 033107
Kenneth I. Golden and Gabor J. Kalman

Experimental study of fusion neutron and proton yields produced by petawatt-laser-irradiated D_2-^{3}He or CD_4-^{3}He clustering gases *(6 pages)* 033108
W. Bang, M. Barbui, A. Bonasera, H. J. Quevedo, G. Dyer, A. C. Bernstein, K. Hagel, K. Schmidt, E. Gaul, M. E. Donovan, F. Consoli, R. De Angelis, P. Andreoli, M. Barbarino, S. Kimura, M. Mazzocco, J. B. Natowitz, and T. Ditmire

Effects of ion mobility and positron fraction on solitary waves in weak relativistic electron-positron-ion plasma *(7 pages)* 033109
Ding Lu, Zi-Liang Li, and Bai-Song Xie

Classical Physics

Thermal transparency with the concept of neutral inclusion *(9 pages)* 033201
Xiao He and Linzhi Wu

Fracture path in an anisotropic material in the light of a friction experiment *(6 pages)* 033202
D. Chateau and J.-C. Géminard

Radiation reaction on a classical charged particle: A modified form of the equation of motion *(15 pages)* 033203
Guillermo García Alcaine and Felipe J. Llanes-Estrada

Nonlinear phasing and dephasing of three-wave mixing of acoustic guided waves *(5 pages)* 033204
Christoph Klieber and David Linton Johnson

Beating the Rayleigh limit: Orbital-angular-momentum-based super-resolution diffraction tomography *(6 pages)* 033205
Lianlin Li and Fang Li

Computational Physics

Filtering schemes in the quantum-classical Liouville approach to nonadiabatic dynamics *(7 pages)* 033301
Daniel A. Uken, Alessandro Sergi, and Francesco Petruccione

Lattice-Boltzmann-based two-phase thermal model for simulating phase change *(8 pages)* 033302
M. R. Kamali, J. J. J. Gillissen, H. E. A. van den Akker, and Sankaran Sundaresan

Efficient simulation of the random-cluster model *(12 pages)* 033303
Eren Metin Elçi and Martin Weigel

(Continued)

PHYSICAL REVIEW E THIRD SERIES, VOLUME 88, NUMBER 3 SEPTEMBER 2013

Improved treatments for general boundary conditions in the lattice Boltzmann method for convection-diffusion and heat transfer processes *(12 pages)* 033304
Qing Chen, Xiaobing Zhang, and Junfeng Zhang

Discrete unified gas kinetic scheme for all Knudsen number flows: Low-speed isothermal case *(11 pages)* 033305
Zhaoli Guo, Kun Xu, and Ruijie Wang

Force-moment line element method for flexible slender bodies in Stokes flow *(12 pages)* 033306
H. Jiang and B. Yang

BRIEF REPORTS

Statistical Physics

Order-disorder quantum phase transition in the quasi-one-dimensional spin-1/2 collinear antiferromagnetic Heisenberg model *(4 pages)* 034101
Sabrina Rufo, Griffith Mendonça, J. A. Plascak, and J. Ricardo de Sousa

Restricted solid-on-solid model with a proper restriction parameter N in $4 + 1$ dimensions *(4 pages)* 034102
Jin Min Kim and Sang-Woo Kim

Biological Physics

Elastic models of the fast traps of carnivorous *Dionaea* and *Aldrovanda (5 pages)* 034701
Marc Joyeux

Phase-field approach to chemotactic driving of neutrophil morphodynamics *(4 pages)* 034702
Sara Najem and Martin Grant

Nonlinear Dynamics and Chaos

Dynamical tunneling of a Bose-Einstein condensate in periodically driven systems *(4 pages)* 034901
R. K. Shrestha, J. Ni, W. K. Lam, G. S. Summy, and S. Wimberger

Oscillation death in diffusively coupled oscillators by local repulsive link *(5 pages)* 034902
C. R. Hens, Olasunkanmi I. Olusola, Pinaki Pal, and Syamal K. Dana

Fluid Dynamics

Relaxation and intermediate asymptotics of a rectangular trench in a viscous film *(5 pages)* 035001
Oliver Bäumchen, Michael Benzaquen, Thomas Salez, Joshua D. McGraw, Matilda Backholm, Paul Fowler, Elie Raphaël, and Kari Dalnoki-Veress

Plasma Physics

Divergence of the Stark collision operator at large impact parameters in plasma spectroscopy models *(3 pages)* 035101
J. Rosato, H. Capes, and R. Stamm

Classical Physics

Finite-depth capillary-gravity dromions *(5 pages)* 035201
Yong Liang and Mohammad-Reza Alam

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 88, NUMBER 3** **SEPTEMBER 2013**

Initial value problems of cylindrical electromagnetic waves propagation in a nonlinear nondispersive medium *(4 pages)* 035202
Si-Yun Chen, Tong Li, Jun-Bin Xie, Hui Xie, Ping Zhou, Yang-Fan Tian, Hao Xiong, and Liu-Gang Si

COMMENTS

Comment on "Constructing quantum games from nonfactorizable joint probabilities" *(3 pages)* 036101
Piotr Frąckiewicz

ERRATA

Erratum: Mean-field approximation to a spatial host-pathogen model [Phys. Rev. E **67**, 047102 (2003)] *(1 page)* . . . . . 039901(E)
M. A. M. de Aguiar, E. M. Rauch, B. C. Stacey, and Y. Bar-Yam

Erratum: Fundamental issues in nonlinear wideband-vibration energy harvesting [Phys. Rev. E **87**, 042129 (2013)] *(1 page)* . . . . . 039902(E)
Einar Halvorsen

Publisher's Note: Antinematic orientational order produced by an extreme case of the generalized Straley lattice model [Phys. Rev. E **86**, 020702(R) (2012)] *(1 page)* . . . . . 039903(E)
Fulvio Bisi, Giovanni De Matteis, and Silvano Romano

Publisher's Note: Spectral analysis and slow spreading dynamics on complex networks [Phys. Rev. E **88**, 032109 (2013)] *(1 page)* . . . . . 039904(E)
Géza Ódor