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 89, NUMBER 4 PARTS A AND B — ***CONTENTS*** — **APRIL 2014**

The Table of Contents is a total listing of Parts A and B.
Part A consists of pages 040101(R)–042604, and Part B pages 042701–049903(E).

PART A

RAPID COMMUNICATIONS

Statistical Physics

First-passage statistics for aging diffusion in systems with annealed and quenched disorder *(5 pages)* . . . . . 040101(R)
Henning Krüsemann, Aljaž Godec, and Ralf Metzler

Colloids and Complex Fluids

Correlations of plasticity in sheared glasses *(5 pages)* . . . . . 040301(R)
Fathollah Varnik, Suvendu Mandal, Vijaykumar Chikkadi, Dmitry Denisov, Peter Olsson, Daniel Vågberg, Dierk Raabe, and Peter Schall

Simple effective rule to estimate the jamming packing fraction of polydisperse hard spheres *(5 pages)* . . . . . 040302(R)
Andrés Santos, Santos B. Yuste, Mariano López de Haro, Gerardo Odriozola, and Vitaliy Ogarko

Biological Physics

Morphological variation of a lipid vesicle confined in a spherical vesicle *(4 pages)* . . . . . 040701(R)
Ai Sakashita, Masayuki Imai, and Hiroshi Noguchi

Perfluorooctanoic acid rigidifies a model lipid membrane *(5 pages)* . . . . . 040702(R)
B. Brüning and B. Farago

Networks and Interdisciplinary Physics

Persistence of transition-state structure in chemical reactions driven by fields oscillating in time *(5 pages)* . . . . . 040801(R)
Galen T. Craven, Thomas Bartsch, and Rigoberto Hernandez

Multiple resource demands and viability in multiplex networks *(4 pages)* . . . . . 040802(R)
Byungjoon Min and K.-I. Goh

Nonlinear Dynamics and Chaos

Control of extreme events in the bubbling onset of wave turbulence *(5 pages)* . . . . . 040901(R)
P. P. Galuzio, R. L. Viana, and S. R. Lopes

Copyright 2014 by American Physical Society

1539-3755(201404)89:4:B;1-7

(Continued)

The editors and referees of PRE find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. E 89, 010001 (2014).

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 89, NUMBER 4** **APRIL 2014**

Fluid Dynamics

Theory for helical turbulence under fast rotation *(4 pages)* . . . . . 041001(R)
Sébastien Galtier

Nonlinear dynamics of trapped waves on jet currents and rogue waves *(5 pages)* . . . . . 041002(R)
V. I. Shrira and A. V. Slunyaev

Asymptotic results for backwards two-particle dispersion in a turbulent flow *(5 pages)* . . . . . 041003(R)
Damien Benveniste and Theodore D. Drivas

Strong pinning of propagation fronts in adverse flow *(4 pages)* . . . . . 041004(R)
Thomas Gueudré, Awadhesh Kumar Dubey, Laurent Talon, and Alberto Rosso

Relative dispersion of a passive scalar plume in turbulent shear flow *(4 pages)* . . . . . 041005(R)
Christina Vanderwel and Stavros Tavoularis

Plasma Physics

Elasticity in drift-wave–zonal-flow turbulence *(5 pages)* . . . . . 041101(R)
Z. B. Guo, P. H. Diamond, Y. Kosuga, and Ö. D. Gürcan

Stress-induced microcracking and cooperative motion of cold dusty plasma liquids *(5 pages)* . . . . . 041102(R)
Chi Yang and Lin I

Symbolic transfer entropy analysis of the dust interaction in the presence of wakefields in dusty plasmas *(4 pages)* . . . . . 041103(R)
André Melzer and André Schella

Classical Physics

High-order rogue waves in vector nonlinear Schrödinger equations *(5 pages)* . . . . . 041201(R)
Liming Ling, Boling Guo, and Li-Chen Zhao

Computational Physics

Implementation of diffuse-reflection boundary conditions using lattice Boltzmann models based on half-space Gauss-Laguerre quadratures *(5 pages)* . . . . . 041301(R)
Victor Eugen Ambruş and Victor Sofonea

ARTICLES

Statistical Physics

First-order phase transitions in polymerized phantom membranes *(5 pages)* 042101
K. Essafi, J.-P. Kownacki, and D. Mouhanna

Slow, bursty dynamics as a consequence of quenched network topologies *(5 pages)* 042102
Géza Ódor

Critical Binder cumulant and universality: Fortuin-Kasteleyn clusters and order-parameter fluctuations *(8 pages)* 042103
Anastasios Malakis, Nikolaos G. Fytas, and Gül Gülpinar

(Continued)

The editors and referees of PRE find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. E 89, 010001 (2014).

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 89, NUMBER 4** **APRIL 2014**

Generalized similarity, renormalization groups, and nonlinear clocks for multiscaling *(6 pages)* 042104
M. Park, D. O'Malley, and J. H. Cushman

Fluctuations in partitioning systems with few degrees of freedom *(9 pages)* 042105
L. Cerino, G. Gradenigo, A. Sarracino, D. Villamaina, and A. Vulpiani

Extreme values and the level-crossing problem: An application to the Feller process *(12 pages)* 042106
Jaume Masoliver

Variational truncated Wigner approximation *(4 pages)* 042107
Dries Sels and Fons Brosens

Outbreak statistics and scaling laws for externally driven epidemics *(10 pages)* 042108
Sarabjeet Singh and Christopher R. Myers

Occupation probabilities and fluctuations in the asymmetric simple inclusion process *(23 pages)* 042109
Shlomi Reuveni, Ori Hirschberg, Iddo Eliazar, and Uri Yechiali

Self-energy correction to dynamic polaron responses *(3 pages)* 042110
Dries Sels and Fons Brosens

Statistics of shocks in a toy model with heavy tails *(11 pages)* 042111
Thomas Gueudré and Pierre Le Doussal

Finite-size scaling of eigenstate thermalization *(9 pages)* 042112
W. Beugeling, R. Moessner, and Masudul Haque

Entropy increase in K-step Markovian and consistent dynamics of closed quantum systems *(10 pages)* 042113
Jochen Gemmer and Robin Steinigeweg

Cross-correlations between phonon modes in anharmonic oscillator chains: Role in heat transport *(10 pages)* 042114
Maxime Gill-Comeau and Laurent J. Lewis

Stochastic model of Zipf's law and the universality of the power-law exponent *(4 pages)* 042115
Ken Yamamoto

Casimir force in the O($n \to \infty$) model with free boundary conditions *(14 pages)* 042116
Daniel Dantchev, Jonathan Bergknoff, and Joseph Rudnick

Copulas and time series with long-ranged dependencies *(12 pages)* 042117
Rémy Chicheportiche and Anirban Chakraborti

^{4}He adsorption on a H_2-plated C_{20} molecular surface: The formation of helium buckyballs *(6 pages)* 042118
Sungjin Park and Yongkyung Kwon

Bayesian structural inference for hidden processes *(18 pages)* 042119
Christopher C. Strelioff and James P. Crutchfield

Accuracy of energy measurement and reversible operation of a microcanonical Szilard engine *(7 pages)* 042120
Joakim Bergli

Equation of state of sticky-hard-sphere fluids in the chemical-potential route *(12 pages)* 042121
René D. Rohrmann and Andrés Santos

(Continued)

The editors and referees of PRE find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. E 89, 010001 (2014).

CONTENTS - *Continued*

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 89, NUMBER 4** **APRIL 2014**

Equivalence of two Bochkov-Kuzovlev equalities in quantum two-level systems *(5 pages)* 042122
Fei Liu

Rectification of confined diffusion driven by a sinusoidal force *(10 pages)* 042123
Pavol Kalinay

Path integral Monte Carlo on a lattice: Extended states *(19 pages)* 042124
Mark O'Callaghan and Bruce N. Miller

Survival probability of an edge Majorana in a one-dimensional p-wave superconducting chain under sudden quenching of parameters *(8 pages)* 042125
Atanu Rajak and Amit Dutta

Dual structure of thermodynamics *(6 pages)* 042126
A. Porporato

Multistage quantum absorption heat pumps *(7 pages)* 042128
Luis A. Correa

Localization in space and time in disordered-lattice open quantum dynamics *(5 pages)* 042129
Sam Genway, Igor Lesanovsky, and Juan P. Garrahan

Universal shocks in the Wishart random-matrix ensemble. II. Nontrivial initial conditions *(7 pages)* 042130
Jean-Paul Blaizot, Maciej A. Nowak, and Piotr Warchoł

Typical, finite baths as a means of exact simulation of open quantum systems *(9 pages)* 042131
Luciano Silvestri, Kurt Jacobs, Vanja Dunjko, and Maxim Olshanii

Nonequilibrium Lyapunov function and a fluctuation relation for stochastic systems: Poisson-representation approach *(7 pages)* 042132
K. G. Petrosyan and Chin-Kun Hu

Abnormal grain growth in nonequilibrium systems: Effects of point defect patterning *(10 pages)* 042133
Vasyl O. Kharchenko and Dmitrii O. Kharchenko

Quantum effects improve the energy efficiency of feedback control *(6 pages)* 042134
Jordan M. Horowitz and Kurt Jacobs

Many roads to synchrony: Natural time scales and their algorithms *(13 pages)* 042135
Ryan G. James, John R. Mahoney, Christopher J. Ellison, and James P. Crutchfield

True Widom line for a square-well system *(6 pages)* 042136
V. V. Brazhkin, Yu. D. Fomin, V. N. Ryzhov, E. E. Tareyeva, and E. N. Tsiok

Overlap of two Brownian trajectories: Exact results for scaling functions *(4 pages)* 042137
M. V. Tamm, V. I. Stadnichuk, A. M. Ilyina, and D. S. Grebenkov

Quantifying a resonant-activation-like phenomenon in non-Markovian systems *(10 pages)* 042138
Krzysztof Szczepaniec and Bartłomiej Dybiec

Overfrustrated and underfrustrated spin glasses in $d = 3$ and 2: Evolution of phase diagrams and chaos including spin-glass order in $d = 2$ *(11 pages)* 042139
Efe Ilker and A. Nihat Berker

(Continued)

The editors and referees of PRE find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. E 89, 010001 (2014).

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 89, NUMBER 4** **APRIL 2014**

Large-deviation statistics of a diffusive quantum spin chain and the additivity principle *(10 pages)* 042140
Marko Žnidarič

Finite kicked environments and the fluctuation-dissipation relation *(8 pages)* 042141
S. A. Abdulack, W. T. Strunz, and M. W. Beims

Evolutionary prisoner's dilemma on evolving random networks *(6 pages)* 042142
Zhaojin Xu, Yun Le, and Lianzhong Zhang

Ballistic and diffusive dynamics in a two-dimensional ideal gas of macroscopic chaotic Faraday waves *(5 pages)* 042143
Kyle J. Welch, Isaac Hastings-Hauss, Raghuveer Parthasarathy, and Eric I. Corwin

Characterization of kinetic coarsening in a random-field Ising model *(5 pages)* 042144
Pradipta Kumar Mandal and Suman Sinha

Geometry-induced fluctuations of olfactory searches in bounded domains *(8 pages)* 042145
Juan Duque Rodríguez, David Gómez-Ullate, and Carlos Mejía-Monasterio

Critical exponents in two dimensions and pseudo-ϵ expansion *(6 pages)* 042146
M. A. Nikitina and A. I. Sokolov

Long-lived quantum coherence and non-Markovianity of photosynthetic complexes *(7 pages)* 042147
Hong-Bin Chen, Jiun-Yi Lien, Chi-Chuan Hwang, and Yueh-Nan Chen

Critical exponents of the explosive percolation transition *(6 pages)* 042148
R. A. da Costa, S. N. Dorogovtsev, A. V. Goltsev, and J. F. F. Mendes

Generalized Sherrington-Kirkpatrick glass without reflection symmetry *(5 pages)* 042149
T. I. Schelkacheva, E. E. Tareyeva, and N. M. Chtchelkatchev

Granular Materials

Impact dynamics of granular jets with noncircular cross sections *(9 pages)* 042201
Xiang Cheng, Leonardo Gordillo, Wendy W. Zhang, Heinrich M. Jaeger, and Sidney R. Nagel

Force and flow at the onset of drag in plowed granular media *(10 pages)* 042202
Nick Gravish, Paul B. Umbanhowar, and Daniel I. Goldman

Variable-cell method for stress-controlled jamming of athermal, frictionless grains *(9 pages)* 042203
Kyle C. Smith, Ishan Srivastava, Timothy S. Fisher, and Meheboob Alam

Three-dimensional discrete element modeling of triggered slip in sheared granular media *(12 pages)* 042204
Behrooz Ferdowsi, Michele Griffa, Robert A. Guyer, Paul A. Johnson, Chris Marone, and Jan Carmeliet

Role of driving force on the clogging of inert particles in a bottleneck *(5 pages)* 042205
Roberto Arévalo, Iker Zuriguel, Diego Maza, and Angel Garcimartín

Dynamics of a first-order transition to an absorbing state *(14 pages)* 042206
Baptiste Néel, Ignacio Rondini, Alex Turzillo, Nicolás Mujica, and Rodrigo Soto

Stick-slip and force chain evolution in a granular bed in response to a grain intruder *(13 pages)* 042207
Antoinette Tordesillas, James E. Hilton, and Steven T. Tobin

(Continued)

The editors and referees of PRE find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. E 89, 010001 (2014).

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 89, NUMBER 4** **APRIL 2014**

Local fluctuations and spatial correlations in granular flows under constant-volume quasistatic shear *(16 pages)* 042208
Ning Guo and Jidong Zhao

Active microrheology of driven granular particles *(5 pages)* 042209
Ting Wang, Matthias Grob, Annette Zippelius, and Matthias Sperl

Micro-macro correlations and anisotropy in granular assemblies under uniaxial loading and unloading *(23 pages)* 042210
Olukayode I. Imole, Mateusz Wojtkowski, Vanessa Magnanimo, and Stefan Luding

Colloids and Complex Fluids

Microstructural evolution of a model, shear-banding micellar solution during shear startup and cessation *(11 pages)* 042301
Carlos R. López-Barrón, A. Kate Gurnon, Aaron P. R. Eberle, Lionel Porcar, and Norman J. Wagner

Time-dependent elastic response to a local shear transformation in amorphous solids *(7 pages)* 042302
F. Puosi, J. Rottler, and J-L. Barrat

Polymer enrichment decelerates surfactant membranes near interfaces *(6 pages)* 042303
F. Lipfert, H. Frielinghaus, O. Holderer, S. Mattauch, M. Monkenbusch, N. Arend, and D. Richter

Predicting plasticity with soft vibrational modes: From dislocations to glasses *(6 pages)* 042304
Jörg Rottler, Samuel S. Schoenholz, and Andrea J. Liu

Phase segregation through transient network formation in a binary particle suspension in simple shear: Application to dough *(8 pages)* 042305
Joost H. J. van Opheusden and J. Molenaar

Dynamics of magnetic particles near a surface: Model and experiments on field-induced disaggregation *(10 pages)* 042306
A. van Reenen, Y. Gao, A. M. de Jong, M. A. Hulsen, J. M. J. den Toonder, and M. W. J. Prins

Theory of cylindrical dense packings of disks *(9 pages)* 042307
A. Mughal and D. Weaire

Controlling the dynamics of a bidimensional gel above and below its percolation transition *(11 pages)* 042308
D. Orsi, B. Ruta, Y. Chushkin, A. Pucci, G. Ruggeri, G. Baldi, T. Rimoldi, and L. Cristofolini

Random walks of colloidal probes in viscoelastic materials *(6 pages)* 042309
Manas Khan and Thomas G. Mason

Films, Interfaces, and Solids

Effect of container shape and walls on solidification of Brownian particles in a narrow system *(10 pages)* 042401
Mamoru Fujine, Masahide Sato, Hiroyasu Katsuno, and Yoshihisa Suzuki

Droplet evaporation on heated hydrophobic and superhydrophobic surfaces *(8 pages)* 042402
Susmita Dash and Suresh V. Garimella

Local kinetics and thermodynamics of rapid electrochemical reactions *(4 pages)* 042403
Michal Přibyl and Dalimil Šnita

Properties of random sequential adsorption of generalized dimers *(5 pages)* 042404
Michał Cieśla

(Continued)

The editors and referees of PRE find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. E 89, 010001 (2014).

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 89, NUMBER 4** **APRIL 2014**

Transport-limited water splitting at ion-selective interfaces during concentration polarization *(14 pages)* 042405
Christoffer P. Nielsen and Henrik Bruus

Effect of dispersion forces on the capillary-wave fluctuations of liquid surfaces *(9 pages)* 042406
Enrique Chacón, Eva M. Fernández, and Pedro Tarazona

Strong anisotropy in two-dimensional surfaces with generic scale invariance: Nonlinear effects *(21 pages)* 042407
Edoardo Vivo, Matteo Nicoli, and Rodolfo Cuerno

Capillarity of soft amorphous solids: A microscopic model for surface stress *(8 pages)* 042408
Joost H. Weijs, Jacco H. Snoeijer, and Bruno Andreotti

Density functional theory of electrowetting *(9 pages)* 042409
Markus Bier and Ingrid Ibagon

Liquid Crystals

Twist transition of nematic hyperbolic hedgehogs *(8 pages)* 042501
Richard James and Jun-ichi Fukuda (福田順一)

Stabilization of cholesteric blue phases using polymerized nanoparticles *(6 pages)* 042502
Emine Kemiklioglu, Jeoung-Yeon Hwang, and Liang-Chy Chien

Layer modulated smectic-*C* phase in liquid crystals with a terminal hydroxyl group *(6 pages)* 042503
Yasuhiro Kimoto, Ayumi Nishizawa, Yoichi Takanishi, Atsushi Yoshizawa, and Jun Yamamoto

Chiral symmetry breaking dictated by electric-field-driven shape transitions of nucleating conglomerate domains in a bent-core liquid crystal *(9 pages)* 042504
G. B. Deepa and R. Pratibha

Effect of an external magnetic field on the nematic-isotropic phase transition in mesogenic systems of uniaxial and biaxial molecules: A Monte Carlo study *(6 pages)* 042505
Nababrata Ghoshal, Kisor Mukhopadhyay, and Soumen Kumar Roy

Polymers

Simple geometric model to describe self-folding of polymer sheets *(8 pages)* 042601
Ying Liu, Russell Mailen, Yong Zhu, Michael D. Dickey, and Jan Genzer

Crosslink-induced shrinkage of grafted Gaussian chains *(5 pages)* 042602
Panayotis Benetatos

Continuous-time random-walk approach to supercooled liquids. I. Different definitions of particle jumps and their consequences *(10 pages)* 042603
J. Helfferich, F. Ziebert, S. Frey, H. Meyer, J. Farago, A. Blumen, and J. Baschnagel

Continuous-time random-walk approach to supercooled liquids. II. Mean-square displacements in polymer melts *(9 pages)* 042604
J. Helfferich, F. Ziebert, S. Frey, H. Meyer, J. Farago, A. Blumen, and J. Baschnagel

(Continued)

The editors and referees of PRE find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. E 89, 010001 (2014).

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 89, NUMBER 4** **APRIL 2014**

PART B

Biological Physics

Path integrals and large deviations in stochastic hybrid systems *(15 pages)* 042701
Paul C. Bressloff and Jay M. Newby

Geometric dependence of the conductance drop in a nanopore due to a particle *(9 pages)* 042702
Sung Cheol Kim, Sridhar Kumar Kannam, Stefan Harrer, Matthew T. Downton, Stephen Moore, and John M. Wagner

Amplitude death of coupled hair bundles with stochastic channel noise *(7 pages)* 042703
Kyung-Joong Kim and Kang-Hun Ahn

Fluid mechanics of swimming bacteria with multiple flagella *(8 pages)* 042704
Philipp Kanehl and Takuji Ishikawa

Modular network evolution under selection for robustness to noise *(11 pages)* 042705
Yusuke Ikemoto and Kosuke Sekiyama

Numerical evidence for robustness of environment-assisted quantum transport *(7 pages)* 042706
A. Shabani, M. Mohseni, H. Rabitz, and S. Lloyd

Dynamical maximum entropy approach to flocking *(10 pages)* 042707
Andrea Cavagna, Irene Giardina, Francesco Ginelli, Thierry Mora, Duccio Piovani, Raffaele Tavarone, and Aleksandra M. Walczak

Fluorescence tomography of targets in a turbid medium using non-negative matrix factorization *(9 pages)* 042708
Binlin Wu and S. K. Gayen

Symmetry breaking and cross-streamline migration of three-dimensional vesicles in an axial Poiseuille flow *(11 pages)* 042709
Alexander Farutin and Chaouqi Misbah

Interfaces with internal structures in generalized rock-paper-scissors models *(7 pages)* 042710
P. P. Avelino, D. Bazeia, L. Losano, J. Menezes, and B. F. de Oliveira

High-frequency affine mechanics and nonaffine relaxation in a model cytoskeleton *(5 pages)* 042711
David A. Head, Emi Ikebe, Akiko Nakamasu, Peijuan Zhang, Lara Gay Villaruz, Suguru Kinoshita, Shoji Ando, and Daisuke Mizuno

Error correction and fast detectors implemented by ultrafast neuronal plasticity *(6 pages)* 042712
Roni Vardi, Hagar Marmari, and Ido Kanter

Segregation of diffusible and directionally moving particles on a polar filament *(6 pages)* 042713
D. Johann, D. Goswami, and K. Kruse

Simultaneous coupling of phototaxis and electrotaxis in *Volvox algae (7 pages)* 042714
Yoshikatsu Hayashi and Ken Sugawara

Circular polarization induced by the three-dimensional chiral structure of human sweat ducts *(5 pages)* 042715
Itai Hayut, Paul Ben Ishai, Aharon J. Agranat, and Yuri Feldman

(Continued)

The editors and referees of PRE find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. E 89, 010001 (2014).

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 89, NUMBER 4** **APRIL 2014**

Networks and Interdisciplinary Physics

Weak percolation on multiplex networks *(13 pages)* 042801
Gareth J. Baxter, Sergey N. Dorogovtsev, José F. F. Mendes, and Davide Cellai

Facilitators on networks reveal optimal interplay between information exchange and reciprocity *(8 pages)* 042802
Attila Szolnoki, Matjaž Perc, and Mauro Mobilia

Transition-type change between an inverted Berezinskii-Kosterlitz-Thouless transition and an abrupt transition in bond percolation on a random hierarchical small-world network *(5 pages)* 042803
Tomoaki Nogawa and Takehisa Hasegawa

Kinetics of wealth and the Pareto law *(22 pages)* 042804
Bruce M. Boghosian

Agent-based models for latent liquidity and concave price impact *(17 pages)* 042805
Iacopo Mastromatteo, Bence Tóth, and Jean-Philippe Bouchaud

Impact fragmentation of model flocks *(5 pages)* 042806
Pearson W. Miller and Nicholas T. Ouellette

Network risk and forecasting power in phase-flipping dynamical networks *(7 pages)* 042807
B. Podobnik, A. Majdandzic, C. Curme, Z. Qiao, W.-X. Zhou, H. E. Stanley, and B. Li

Symmetry in critical random Boolean network dynamics *(11 pages)* 042808
Shabnam Hossein, Matthew D. Reichl, and Kevin E. Bassler

Overlapping-box-covering method for the fractal dimension of complex networks *(7 pages)* 042809
Yuanyuan Sun (孙媛媛) and Yujie Zhao (赵玉杰)

Condensation and topological phase transitions in a dynamical network model with rewiring of the links *(10 pages)* 042810
Luca Ferretti, Marcello Mamino, and Ginestra Bianconi

Network robustness of multiplex networks with interlayer degree correlations *(8 pages)* 042811
Byungjoon Min, Su Do Yi, Kyu-Min Lee, and K.-I. Goh

Intergroup networks as random threshold graphs *(11 pages)* 042812
Sudipta Saha, Niloy Ganguly, Animesh Mukherjee, and Tyll Krueger

Totally asymmetric simple exclusion process with a time-dependent boundary: Interaction between vehicles and pedestrians at intersections *(11 pages)* 042813
Hidetaka Ito and Katsuhiro Nishinari

Fitness-based network growth with dynamic feedback *(8 pages)* 042814
I. E. Smolyarenko

Degree-dependent network growth: From preferential attachment to explosive percolation *(19 pages)* 042815
Hans Hooyberghs, Bert Van Schaeybroeck, and Joseph O. Indekeu

Spectra of random graphs with community structure and arbitrary degrees *(8 pages)* 042816
Xiao Zhang, Raj Rao Nadakuditi, and M. E. J. Newman

Bursting transition in a linear self-exciting point process *(4 pages)* 042817
Tomokatsu Onaga and Shigeru Shinomoto

(Continued)

The editors and referees of PRE find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. E 89, 010001 (2014).

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 89, NUMBER 4** **APRIL 2014**

Domination-time dynamics in susceptible-infected-susceptible virus competition on networks *(11 pages)* 042818
Ruud van de Bovenkamp, Fernando Kuipers, and Piet Van Mieghem

Communicability reveals a transition to coordinated behavior in multiplex networks *(6 pages)* 042819
Ernesto Estrada and Jesús Gómez-Gardeñes

Evolutionary matching-pennies game on bipartite regular networks *(7 pages)* 042820
György Szabó, Levente Varga, and István Borsos

Nonlinear Dynamics and Chaos

Eliminating $1/f$ noise in oscillators *(7 pages)* 042901
Eyal Kenig and M. C. Cross

Analysis of anchor-size effects on pinned scroll waves and measurement of filament rigidity *(8 pages)* 042902
Elias Nakouzi, Zulma A. Jiménez, Vadim N. Biktashev, and Oliver Steinbock

Restricted feedback control in discrete-time dynamical systems with memory *(9 pages)* 042903
Kathryn G. Workman, Shuang Zhao, and John W. Cain

Exotic quantum holonomy and higher-order exceptional points in quantum kicked tops *(8 pages)* 042904
Atushi Tanaka, Sang Wook Kim, and Taksu Cheon

Dynamics of three noncorotating vortices in Bose-Einstein condensates *(14 pages)* 042905
V. Koukouloyannis, G. Voyatzis, and P. G. Kevrekidis

Analytical criterion for amplitude death in nonautonomous systems with piecewise nonlinear coupling *(8 pages)* 042906
D. L. Xu, H. C. Zhang, C. Lu, E. R. Qi, C. Tian, and Y. S. Wu

Synchronization of coupled Boolean phase oscillators *(7 pages)* 042907
David P. Rosin, Damien Rontani, and Daniel J. Gauthier

Tuning the period of square-wave oscillations for delay-coupled optoelectronic systems *(11 pages)* 042908
Jade Martínez-Llinàs, Pere Colet, and Thomas Erneux

Effects of periodic forcing in chaotic scattering *(9 pages)* 042909
Fernando Blesa, Jesús M. Seoane, Roberto Barrio, and Miguel A. F. Sanjuán

Information coding with frequency of oscillations in Belousov-Zhabotinsky encapsulated disks *(10 pages)* 042910
J. Gorecki, J. N. Gorecka, and Andrew Adamatzky

Sparse model from optimal nonuniform embedding of time series *(9 pages)* 042911
Chetan Nichkawde

Strongly localized moving discrete dissipative breather-solitons in Kerr nonlinear media supported by intrinsic gain *(9 pages)* 042912
Magnus Johansson, Jaroslaw E. Prilepsky, and Stanislav A. Derevyanko

Dynamics of matter-wave condensates with time-dependent two- and three-body interactions trapped by a linear potential in the presence of atom gain or loss *(15 pages)* 042913
D. Belobo Belobo, G. H. Ben-Bolie, and T. C. Kofane

Heat conduction, and the lack thereof, in time-reversible dynamical systems: Generalized Nosé-Hoover oscillators with a temperature gradient *(6 pages)* 042914
Julien Clinton Sprott, William Graham Hoover, and Carol Griswold Hoover

(Continued)

The editors and referees of PRE find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. E 89, 010001 (2014).

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 89, NUMBER 4** **APRIL 2014**

Analysis of adiabatic trapping for quasi-integrable area-preserving maps *(14 pages)* 042915
Armando Bazzani, Christopher Frye, Massimo Giovannozzi, and Cédric Hernalsteens

Interaction of streamers and stationary corrugated ionization waves in semiconductors *(11 pages)* 042916
A. S. Kyuregyan

Order and chaos in the rotation and revolution of two massive line segments *(9 pages)* 042917
Andrew Blaikie, Alex D. Saines, Matthew Schmitthenner, Maggie Lankford, R. Drew Pasteur, and John F. Lindner

Nonergodicity and localization of invariant measure for two colliding masses *(4 pages)* 042918
Jiao Wang, Giulio Casati, and Tomaž Prosen

Particle energization through time-periodic helical magnetic fields *(5 pages)* 042919
Dhrubaditya Mitra, Axel Brandenburg, Brahmananda Dasgupta, Eyvind Niklasson, and Abhay Ram

Fluid Dynamics

Instability of Poiseuille flow at extreme Mach numbers: Linear analysis and simulations *(8 pages)* 043001
Zhimin Xie and Sharath S. Girimaji

Turbulence comes in bursts in stably stratified flows *(8 pages)* 043002
C. Rorai, P. D. Mininni, and A. Pouquet

Effective surface-shear viscosity of an incompressible particle-laden fluid interface *(8 pages)* 043003
S. V. Lishchuk

Decay rates of magnetic modes below the threshold of a turbulent dynamo *(4 pages)* 043004
J. Herault, F. Pétrélis, and S. Fauve

Strong electro-osmotic flows about dielectric surfaces of zero surface charge *(10 pages)* 043005
Ory Schnitzer and Ehud Yariv

Bistability and metabistability scenario in the dynamics of an ellipsoidal particle in a sheared viscoelastic fluid *(8 pages)* 043006
G. D'Avino, M. A. Hulsen, F. Greco, and P. L. Maffettone

Effect of surfactants on single bubble sonoluminescence behavior and bubble surface stability *(12 pages)* 043007
Thomas Leong, Kyuichi Yasui, Kazumi Kato, Dalton Harvie, Muthupandian Ashokkumar, and Sandra Kentish

Long-wavelength instability of coherent structures in plane Couette flow *(8 pages)* 043008
Konstantin Melnikov, Tobias Kreilos, and Bruno Eckhardt

Parametric study of the vibration-induced repulsion or attraction force on a particle in a viscous fluid cell *(10 pages)* 043009
Mehrrad Saadatmand and Masahiro Kawaji

Final state of a perturbed liquid film inside a container under the effect of solid-liquid molecular forces and gravity *(8 pages)* 043010
Carlos Alberto Perazzo, J. R. Mac Intyre, and J. M. Gomba

Geometry and wetting of capillary folding *(13 pages)* 043011
Jean-Philippe Péraud and Eric Lauga

(Continued)

The editors and referees of PRE find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. E 89, 010001 (2014).

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 89, NUMBER 4** **APRIL 2014**

Heat-flux scaling in turbulent Rayleigh-Bénard convection with an imposed longitudinal wind *(5 pages)* 043012
Andrea Scagliarini, Ármann Gylfason, and Federico Toschi

Pore network model of electrokinetic transport through charged porous media *(10 pages)* 043013
Amaël Obliger, Marie Jardat, Daniel Coelho, Samir Bekri, and Benjamin Rotenberg

Rayleigh-Bénard convection in a vertical annular container near the convection threshold *(8 pages)* 043014
Bo-Fu Wang, Zhen-Hua Wan, Dong-Jun Ma, and De-Jun Sun

Effect of geometry on concentration polarization in realistic heterogeneous permselective systems *(9 pages)* 043015
Yoav Green, Shahar Shloush, and Gilad Yossifon

Steady flows above a quartz crystal resonator driven at elevated amplitude *(9 pages)* 043016
Rebekka König, Arne Langhoff, and Diethelm Johannsmann

Forced magnetohydrodynamic turbulence in three dimensions using Taylor-Green symmetries *(8 pages)* 043017
G. Krstulovic, M. E. Brachet, and A. Pouquet

Precursor of transition to turbulence: Spatiotemporal wave front *(13 pages)* 043018
S. Bhaumik and T. K. Sengupta

Swimming at low Reynolds number in fluids with odd, or Hall, viscosity *(13 pages)* 043019
Matthew F. Lapa and Taylor L. Hughes

Conduction-only transport phenomena in compressible bivelocity fluids: Diffuse interfaces and Korteweg stresses *(19 pages)* 043020
Howard Brenner

Joint-constraint model for large-eddy simulation of helical turbulence *(12 pages)* 043021
Changping Yu, Zuoli Xiao, Yipeng Shi, and Shiyi Chen

Evolution of a double-front Rayleigh-Taylor system using a graphics-processing-unit-based high-resolution thermal lattice-Boltzmann model *(9 pages)* 043022
P. Ripesi, L. Biferale, S. F. Schifano, and R. Tripiccione

Turbulent Prandtl number of a passively advected vector field in helical environment: Two-loop renormalization group result *(11 pages)* 043023
E. Jurčišinová, M. Jurčišin, and P. Zalom

Plasma Physics

Nonlinear transverse cascade and two-dimensional magnetohydrodynamic subcritical turbulence in plane shear flows *(17 pages)* 043101
G. R. Mamatsashvili, D. Z. Gogichaishvili, G. D. Chagelishvili, and W. Horton

Waves in two-dimensional superparamagnetic dusty plasma liquids *(9 pages)* 043102
Peter Hartmann, Zoltán Donkó, Marlene Rosenberg, and Gabor J. Kalman

Dust-acoustic shocks in strongly coupled dusty plasmas *(9 pages)* 043103
S. E. Cousens, V. V. Yaroshenko, S. Sultana, M. A. Hellberg, F. Verheest, and I. Kourakis

Constructing a class of topological solitons in magnetohydrodynamics *(5 pages)* 043104
Amy Thompson, Joe Swearngin, Alexander Wickes, and Dirk Bouwmeester

(Continued)

The editors and referees of PRE find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. E 89, 010001 (2014).

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 89, NUMBER 4** **APRIL 2014**

First-principles thermal conductivity of warm-dense deuterium plasmas for inertial confinement fusion applications *(10 pages)* 043105
S. X. Hu (胡素兴), L. A. Collins, T. R. Boehly, J. D. Kress, V. N. Goncharov, and S. Skupsky

Stability of relativistic surfatron acceleration *(11 pages)* 043106
Anton Artemyev, Dmitri Vainchtein, Anatoly Neishtadt, and Lev Zelenyi

Mobility in a strongly coupled dusty plasma with gas *(8 pages)* 043107
Bin Liu and J. Goree

Wakes in inhomogeneous plasmas *(11 pages)* 043108
Roman Kompaneets, Alexei V. Ivlev, Vladimir Nosenko, and Gregor E. Morfill

Classical Physics

Many-body interaction in fast soliton collisions *(9 pages)* 043201
Avner Peleg, Quan M. Nguyen, and Paul Glenn

Interactions between solitons and other nonlinear Schrödinger waves *(14 pages)* 043202
Xue-Ping Cheng, S. Y. Lou, Chun-li Chen, and Xiao-Yan Tang

Computational Physics

Wang-Landau sampling: A criterion for halting the simulations *(7 pages)* 043301
A. A. Caparica

Lattice Boltzmann method for bosons and fermions and the fourth-order Hermite polynomial expansion *(20 pages)* 043302
Rodrigo C. V. Coelho, Anderson Ilha, Mauro M. Doria, R. M. Pereira, and Valter Yoshihiko Aibe

Multiblock approach for the passive scalar thermal lattice Boltzmann method *(10 pages)* 043303
Rongzong Huang and Huiying Wu

Accurate solution of the Dirac equation on Lagrange meshes *(9 pages)* 043305
Daniel Baye, Livio Filippin, and Michel Godefroid

Numerical calculation of interaction forces between paramagnetic colloids in two-dimensional systems *(8 pages)* 043306
Di Du, Frank Toffoletto, and Sibani Lisa Biswal

Algorithm to enforce uniform density in liquid atomistic subdomains with specular boundaries *(8 pages)* 043307
K. M. Issa and P. Poesio

Conjugate heat and mass transfer in the lattice Boltzmann equation method *(21 pages)* 043308
Like Li, Chen Chen, Renwei Mei, and James F. Klausner

Modeling multiscale evolution of numerous voids in shocked brittle material *(8 pages)* 043309
Yin Yu, Wenqiang Wang, Hongliang He, and Tiecheng Lu

Computation of stress on the surface of a soft homogeneous arbitrarily shaped particle *(10 pages)* 043310
Minglin Yang, Kuan Fang Ren, Yueqian Wu, and Xinqing Sheng

COMMENTS

Comment on "Origin of tilted-phase generation in systems of ellipsoidal molecules with dipolar interactions" *(2 pages)* 046501
N. V. Madhusudana

(Continued)

The editors and referees of PRE find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. E 89, 010001 (2014).

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 89, NUMBER 4** **APRIL 2014**

Reply to "Comment on 'Origin of tilted-phase generation in systems of ellipsoidal molecules with dipolar interactions' " *(3 pages)* 046502
Tushar Kanti Bose and Jayashree Saha

ERRATA

Erratum: Extended hard-sphere model and collisions of cohesive particles [Phys. Rev. E **84**, 031303 (2011)] *(1 page)* . . . . . 049901(E)
Pawel Kosinski and Alex C. Hoffmann

Erratum: Community detection algorithms: A comparative analysis [Phys. Rev. E **80**, 056117 (2009)] *(1 page)* . . . 049902(E)
Andrea Lancichinetti and Santo Fortunato

Publisher's Note: Lattice statistical theory of random walks on a fractal-like geometry [Phys. Rev. E **89**, 032147 (2014)] *(1 page)* . . . . . 049903(E)
John J. Kozak, Roberto A. Garza-López, and Enrique Abad

The editors and referees of PRE find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. E 89, 010001 (2014).