

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 90, NUMBER 4
PARTS A AND B

CONTENTS

OCTOBER 2014

The Table of Contents is a total listing of Parts A and B.
Part A consists of pages 040001–042602, and Part B pages 042701–049905(E).

PART A

EDITORIALS AND ANNOUNCEMENTS

Editorial: PRX Takes on a New Role (2 pages) 040001

RAPID COMMUNICATIONS

Statistical Physics

Unusual eigenvalue spectrum and relaxation in the Lévy–Ornstein–Uhlenbeck process (5 pages) 040101(R)
Deepika Janakiraman and K. L. Sebastian

Spectral order statistics of Gaussian random matrices: Large deviations for trapped fermions and associated phase transitions (5 pages) 040102(R)
Isaac Pérez Castillo

Colloids and Complex Fluids

Poiseuille flow of soft glasses in narrow channels: From quiescence to steady state (5 pages) 040301(R)
Pinaki Chaudhuri and Jürgen Horbach

Phase separation of fluids in porous media: A molecular dynamics study (5 pages) 040302(R)
Shaista Ahmad, Sanjay Puri, and Subir K. Das

Liquid Crystals

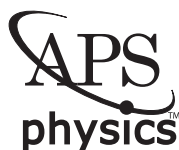
Single-molecule diffusion in freely suspended smectic films (5 pages) 040501(R)
Benjamin Schulz, Marco G. Mazza, and Christian Bahr

Networks and Interdisciplinary Physics

Reaction-diffusion-advection equation in binary tree networks and optimal size ratio (5 pages) 040801(R)
Hidetsugu Sakaguchi

Fluid Dynamics

Transition from dissipative to conservative dynamics in equations of hydrodynamics (5 pages) 041001(R)
Debaghya Banerjee and Samriddhi Sankar Ray



Copyright 2014 by American Physical Society



1539-3755(201410)90:4:A;1-P

(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 90, NUMBER 4

OCTOBER 2014

Bathtub vortex induced by instability (<i>4 pages</i>)	041002(R)
Jiro Mizushima, Kazuki Abe, and Naoto Yokoyama	
Magnetic helicity and the evolution of decaying magnetohydrodynamic turbulence (<i>5 pages</i>)	041003(R)
Arjun Berera and Moritz Linkmann	
Frequency spectra of turbulent thermal convection with uniform rotation (<i>5 pages</i>)	041004(R)
Hirdesh K. Pharasi, Krishna Kumar, and Jayanta K. Bhattacharjee	
Plasma Physics	
Enhanced collisionless shock formation in a magnetized plasma containing a density gradient (<i>5 pages</i>)	041101(R)
S. E. Clark, E. T. Everson, D. B. Schaeffer, A. S. Bondarenko, C. G. Constantin, C. Niemann, and D. Winske	
Dynamics of charge clouds ejected from laser-induced warm dense gold nanofilms (<i>5 pages</i>)	041102(R)
Jun Zhou, Alfredo A. Correa, Junjie Li, Shao Tang, Yuan Ping, Tadashi Ogitsu, Dong Li, Qiong Zhou, and Jianming Cao	

ARTICLES

Statistical Physics

Nonequilibrium scaling explorations on a two-dimensional $Z(5)$ -symmetric model (<i>10 pages</i>)	042101
Roberto da Silva, Henrique A. Fernandes, and J. R. Drugowich de Felício	
Large-deviation properties of Brownian motion with dry friction (<i>14 pages</i>)	042102
Yaming Chen and Wolfram Just	
Avalanches and hysteresis in frustrated superconductors and XY spin glasses (<i>15 pages</i>)	042103
Auditya Sharma, Alexei Andreanov, and Markus Müller	
Generalized dynamic scaling for quantum critical relaxation in imaginary time (<i>11 pages</i>)	042104
Shuyi Zhang, Shuai Yin, and Fan Zhong	
Non-Gaussian rotational diffusion in heterogeneous media (<i>7 pages</i>)	042105
Heejin Jeon, Hyun Woo Cho, Jeongmin Kim, and Bong June Sung	
Short-range correlations in percolation at criticality (<i>11 pages</i>)	042106
Hao Hu, Henk W. J. Blöte, Robert M. Ziff, and Youjin Deng	
Possibility of adiabatic transport of a Majorana edge state through an extended gapless region (<i>8 pages</i>)	042107
Atanu Rajak, Tanay Nag, and Amit Dutta	
Simulating non-Markovian stochastic processes (<i>9 pages</i>)	042108
Marian Boguñá, Luis F. Lafuerza, Raúl Toral, and M. Ángeles Serrano	
Spectral domain of large nonsymmetric correlated Wishart matrices (<i>10 pages</i>)	042109
Vinayak and Luis Benet	
Nonequilibrium equalities in absolutely irreversible processes (<i>12 pages</i>)	042110
Yûto Murashita, Ken Funo, and Masahito Ueda	
Anomalous mean-field behavior of the fully connected Ising model (<i>8 pages</i>)	042111
Louis Colonna-Romano, Harvey Gould, and W. Klein	

(Continued)

One-dimensional Euclidean matching problem: Exact solutions, correlation functions, and universality (<i>8 pages</i>)	042112
Sergio Caracciolo and Gabriele Sicuro	
Steepest entropy ascent model for far-nonequilibrium thermodynamics: Unified implementation of the maximum entropy production principle (<i>14 pages</i>)	042113
Gian Paolo Beretta	
Growth and dispersal with inertia: Hyperbolic reaction-transport systems (<i>14 pages</i>)	042114
Vicenç Méndez, Daniel Campos, and Werner Horsthemke	
Transport through quasi-one-dimensional wires with correlated disorder (<i>9 pages</i>)	042115
I. F. Herrera-González, J. A. Méndez-Bermúdez, and F. M. Izrailev	
Kardar-Parisi-Zhang universality class and the anchored Toom interface (<i>8 pages</i>)	042116
G. T. Barkema, P. L. Ferrari, J. L. Lebowitz, and H. Spohn	
Dealing with correlated choices: How a spin-glass model can help political parties select their policies (<i>7 pages</i>)	042117
M. A. Moore and Helmut G. Katzgraber	
Clustering of branching Brownian motions in confined geometries (<i>12 pages</i>)	042118
A. Zoia, E. Dumonteil, A. Mazzolo, C. de Mulatier, and A. Rosso	
Maximum work extraction and implementation costs for nonequilibrium Maxwell's demons (<i>14 pages</i>)	042119
Henrik Sandberg, Jean-Charles Delvenne, Nigel J. Newton, and Sanjoy K. Mitter	
Growing spin model in deterministic and stochastic trees (<i>6 pages</i>)	042120
Julian Sienkiewicz	
Irreversible dynamics, Onsager-Casimir symmetry, and an application to turbulence (<i>9 pages</i>)	042121
Hans Christian Öttinger	
Complete spectral scaling of time series: Towards a classification of $1/f$ noise (<i>8 pages</i>)	042122
Miguel A. Rodríguez	
Heterogeneity-induced large deviations in activity and (in some cases) entropy production (<i>10 pages</i>)	042123
Todd R. Gingrich, Suriyanarayanan Vaikuntanathan, and Phillip L. Geissler	
Phase transition properties of the Bell-Lavis model (<i>10 pages</i>)	042124
M. Šimėnas, A. Ibenskas, and E. E. Tornau	
Derivation of the Lifshitz-Matsubara sum formula for the Casimir pressure between metallic plane mirrors (<i>8 pages</i>)	042125
R. Guérout, A. Lambrecht, K. A. Milton, and S. Reynaud	
Thermodynamic bounds and general properties of optimal efficiency and power in linear responses (<i>14 pages</i>) . . .	042126
Jian-Hua Jiang	
Cage effect for the velocity correlation functions of a Brownian particle in viscoelastic shear flows (<i>10 pages</i>) . . .	042127
Romi Mankin, Katrin Laas, Neeme Lumi, and Astrid Rekker	
Analytic solution for heat flow through a general harmonic network (<i>10 pages</i>)	042128
Nahuel Freitas and Juan Pablo Paz	

(Continued)

Aftershock production rate of driven viscoelastic interfaces (<i>8 pages</i>)	042129
E. A. Jagla	
Approach to approximating the pair distribution function of inhomogeneous hard-sphere fluids (<i>7 pages</i>)	042130
Paho Lurie-Gregg, Jeff B. Schulte, and David Roundy	
Deriving fundamental measure theory from the virial series: Consistency with the zero-dimensional limit (<i>15 pages</i>)	042131
Matthieu Marechal, Stephan Korden, and Klaus Mecke	
Enhanced rare-region effects in the contact process with long-range correlated disorder (<i>10 pages</i>)	042132
Ahmed K. Ibrahim, Hatem Barghathi, and Thomas Vojta	
Quantum distance and the Euler number index of the Bloch band in a one-dimensional spin model (<i>9 pages</i>)	042133
Yu-Quan Ma	
Evolutionary dynamics of the traveler's dilemma and minimum-effort coordination games on complex networks (<i>10 pages</i>)	042134
Swami Iyer and Timothy Killingback	
Exact dynamics of stochastic linear delayed systems: Application to spatiotemporal coordination of comoving agents (<i>18 pages</i>)	042135
Thomas John McKetterick and Luca Giuggioli	
Solvable random-walk model with memory and its relations with Markovian models of anomalous diffusion (<i>12 pages</i>)	042136
D. Boyer and J. C. R. Romo-Cruz	
Markov-random-field modeling for linear seismic tomography (<i>7 pages</i>)	042137
Tatsu Kuwatani, Kenji Nagata, Masato Okada, and Mitsuhiro Toriumi	
Two-dimensional nonlinear map characterized by tunable Lévy flights (<i>5 pages</i>)	042138
J. A. Méndez-Bermúdez, Juliano A. de Oliveira, and Edson D. Leonel	
Quantum phase transitions of atom-molecule Bose mixtures in a double-well potential (<i>11 pages</i>)	042139
A. Relaño, J. Dukelsky, P. Pérez-Fernández, and J. M. Arias	
Dynamics and quantumness of excitation energy transfer through a complex quantum network (<i>13 pages</i>)	042140
M. Qin, H. Z. Shen, X. L. Zhao, and X. X. Yi	
Quantum phase transitions in networks of Lipkin-Meshkov-Glick models (<i>10 pages</i>)	042141
A. V. Sorokin, V. M. Bastidas, and T. Brandes	
Flux rectification in the quantum XXZ chain (<i>11 pages</i>)	042142
Gabriel T. Landi, E. Novais, Mário J. de Oliveira, and Dragi Karevski	
Phenomenological picture of fluctuations in branching random walks (<i>17 pages</i>)	042143
A. H. Mueller and S. Munier	
Spectral density of the noncentral correlated Wishart ensembles (<i>8 pages</i>)	042144
Vinayak	
Geometric critical exponents in classical and quantum phase transitions (<i>8 pages</i>)	042145
Prashant Kumar and Tapobrata Sarkar	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 90, NUMBER 4

OCTOBER 2014

Single-particle stochastic heat engine (<i>12 pages</i>)	042146
Shubhashis Rana, P. S. Pal, Arnab Saha, and A. M. Jayannavar	
Out-of-equilibrium evolution of kinetically constrained many-body quantum systems under purely dissipative dynamics (<i>6 pages</i>)	042147
Beatriz Olmos, Igor Lesanovsky, and Juan P. Garrahan	
Usage leading to an abrupt collapse of connectivity (<i>8 pages</i>)	042148
D. V. Stäger, N. A. M. Araújo, and H. J. Herrmann	
Two-strain competition in quasineutral stochastic disease dynamics (<i>17 pages</i>)	042149
Oleg Kogan, Michael Khasin, Baruch Meerson, David Schneider, and Christopher R. Myers	
Stochastic thermodynamics with information reservoirs (<i>11 pages</i>)	042150
Andre C. Barato and Udo Seifert	
Cattaneo-type subdiffusion-reaction equation (<i>11 pages</i>)	042151
Tadeusz Kosztolowicz	
Granular Materials	
Extreme power law in a driven many-particle system without threshold dynamics (<i>11 pages</i>)	042201
Roman Mani, Lucas Böttcher, Hans J. Herrmann, and Dirk Helbing	
Avalanche contribution to shear modulus of granular materials (<i>9 pages</i>)	042202
Michio Otsuki and Hisao Hayakawa	
Force chains in monodisperse spherical particle assemblies: Three-dimensional measurements using neutrons (<i>13 pages</i>)	042203
C. M. Wensrich, E. H. Kisi, V. Luzin, U. Garbe, O. Kirstein, A. L. Smith, and J. F. Zhang	
Wave tailoring by precompression in confined granular systems (<i>9 pages</i>)	042204
Raj Kumar Pal and Philippe H. Geubelle	
Kinetics of gravity-driven water channels under steady rainfall (<i>14 pages</i>)	042205
Cesare M. Cejas, Yuli Wei, Remi Barrois, Christian Frétygny, Douglas J. Durian, and Rémi Dreyfus	
Colloids and Complex Fluids	
Collective excitations in soft-sphere fluids (<i>10 pages</i>)	042301
Taras Bryk, Federico Gorelli, Giancarlo Ruocco, Mario Santoro, and Tullio Scopigno	
☞ Collective excitations of hydrodynamically coupled driven colloidal particles (<i>7 pages</i>)	042302
Harel Nagar and Yael Roichman	
Evolution of atomic rearrangements in deformation in metallic glasses (<i>9 pages</i>)	042303
B. S. Shang, M. Z. Li, Y. G. Yao, Y. J. Lu, and W. H. Wang	
Phase separation and emergent structures in an active nematic fluid (<i>9 pages</i>)	042304
Elias Putzig and Aparna Baskaran	
Local shear transformations in deformed and quiescent hard-sphere colloidal glasses (<i>10 pages</i>)	042305
K. E. Jensen, D. A. Weitz, and F. Spaepen	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 90, NUMBER 4

OCTOBER 2014

Cluster phases of penetrable rods on a line (<i>13 pages</i>)	042306
Santi Prestipino	
Domain and droplet sizes in emulsions stabilized by colloidal particles (<i>8 pages</i>)	042307
Stefan Frijters, Florian Günther, and Jens Harting	
Segregation and phase inversion of strongly and weakly fluctuating Brownian particle mixtures and a chain of such particle mixtures in spherical containers (<i>4 pages</i>)	042308
Akinori Awazu	
Long-term influence of fluid inertia on the diffusion of a Brownian particle (<i>5 pages</i>)	042309
Giuseppe Pesce, Giorgio Volpe, Giovanni Volpe, and Antonio Sasso	
Variation of the dynamic susceptibility along an isochrone (<i>9 pages</i>)	042310
Nicholas P. Bailey, Thomas B. Schröder, and Jeppe C. Dyre	
Tunable dynamic response of magnetic gels: Impact of structural properties and magnetic fields (<i>9 pages</i>)	042311
Mitsusuke Tarama, Peet Cremer, Dmitry Y. Borin, Stefan Odenbach, Hartmut Löwen, and Andreas M. Menzel	
Probing cooperative liquid dynamics with the mean square displacement (<i>7 pages</i>)	042312
U. Buchenau, R. Zorn, and M. A. Ramos	
Microscopic description of flow defects and relaxation in metallic glasses (<i>6 pages</i>)	042313
M. Atzmon and J. D. Ju	
Potential energy landscape and inherent dynamics of a hard-sphere fluid (<i>13 pages</i>)	042314
Qingqing Ma and Richard M. Stratt	
Elasticity and plasticity in stiff and flexible oligomeric glasses (<i>14 pages</i>)	042315
Oleg Gendelman, H. George E. Hentschel, Pankaj K. Mishra, Itamar Procaccia, and Jacques Zylberg	
Structure and interaction in the polymer-dependent reentrant phase behavior of a charged nanoparticle solution (<i>10 pages</i>)	042316
Sugam Kumar, D. Ray, V. K. Aswal, and J. Kohlbrecher	
Films, Interfaces, and Solids	
Mechanics of large folds in thin interfacial films (<i>5 pages</i>)	042401
Vincent Démery, Benny Davidovitch, and Christian D. Santangelo	
Evaporation-driven growth of large crystallized salt structures in a porous medium (<i>6 pages</i>)	042402
N. Sghaier, S. Geoffroy, M. Prat, H. Eloukabi, and S. Ben Nasrallah	
Tuned Mullins-Sekerka instability: Exact results (<i>5 pages</i>)	042403
Michael I. Tribelsky and Sergei I. Anisimov	
Solidification in soft-core fluids: Disordered solids from fast solidification fronts (<i>16 pages</i>)	042404
A. J. Archer, M. C. Walters, U. Thiele, and E. Knobloch	
Morphological study of elastic-plastic-brittle transitions in disordered media (<i>15 pages</i>)	042405
Sohan Kale and Martin Ostoja-Starzewski	

(Continued)

Liquid Crystals

Theoretical predictions of disclination loop growth for nematic liquid crystals under capillary confinement (<i>12 pages</i>)	042501
Alireza Shams, Xuxia Yao, Jung Ok Park, Mohan Srinivasarao, and Alejandro D. Rey	
Theory of skyrmion states in liquid crystals (<i>6 pages</i>)	042502
A. O. Leonov, I. E. Dragunov, U. K. Röbler, and A. N. Bogdanov	
Beam-splitter switches based on zenithal bistable liquid-crystal gratings (<i>8 pages</i>)	042503
Dimitrios C. Zografopoulos, Romeo Beccherelli, and Emmanouil E. Kriezis	
Optics of short-pitch deformed-helix ferroelectric liquid crystals: Symmetries, exceptional points, and polarization-resolved angular patterns (<i>19 pages</i>)	042504
Alexei D. Kiselev and Vladimir G. Chigrinov	
Ionic-content dependence of viscoelasticity of the lyotropic chromonic liquid crystal sunset yellow (<i>7 pages</i>)	042505
Shuang Zhou, Adam J. Cervenka, and Oleg D. Lavrentovich	
Structure-sensitive bend elastic constants between piconewton and subnanonewton in diphenylacetylene-core-based liquid crystals (<i>6 pages</i>)	042506
Satoshi Aya, Shohei Ogino, Yoshihiro Hayashi, Kunihiro Okano, Damian Pociecha, Khoa V. Le, Fumito Araoka, Susumu Kawauchi, Ewa Gorecka, Nataša Vaupotič, Hideo Takezoe, and Ken Ishikawa	

Polymers

Understanding the role of grafted polystyrene chain conformation in assembly of magnetic nanoparticles (<i>9 pages</i>)	042601
Yang Jiao and Pinar Akcora	
Pulling-force-induced elongation and alignment effects on entanglement and knotting characteristics of linear polymers in a melt (<i>15 pages</i>)	042602
E. Panagiotou and M. Kröger	

PART B

Biological Physics

Simplified lattice model for polypeptide fibrillar transitions (<i>13 pages</i>)	042701
Xuhui Xiao and Ming-Chya Wu	
Criteria for minimal model of driven polymer translocation (<i>8 pages</i>)	042702
P. M. Suhonen, K. Kaski, and R. P. Linna	
Quantifying the degree of persistence in random amoeboid motion based on the Hurst exponent of fractional Brownian motion (<i>6 pages</i>)	042703
Natalia Makarava, Stephan Menz, Matthias Theves, Wilhelm Huisinga, Carsten Beta, and Matthias Holschneider	
☞ Diffusion and bulk flow in phloem loading: A theoretical analysis of the polymer trap mechanism for sugar transport in plants (<i>11 pages</i>)	042704
Julia Dölger, Hanna Rademaker, Johannes Liesche, Alexander Schulz, and Tomas Bohr	
Hydration-dependent dynamic crossover phenomenon in protein hydration water (<i>5 pages</i>)	042705
Zhe Wang, Emiliano Fratini, Mingda Li, Peisi Le, Eugene Mamontov, Piero Baglioni, and Sow-Hsin Chen	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 90, NUMBER 4

OCTOBER 2014

Contact time periods in immunological synapse (<i>6 pages</i>)	042706
Daniel R. Bush and Amit K. Chattopadhyay	
Sensitivity and entanglement in the avian chemical compass (<i>6 pages</i>)	042707
Yiteng Zhang, Gennady P. Berman, and Sabre Kais	
Polymer translocation through a nanopore driven by binding particles: Influence of chain rigidity (<i>6 pages</i>)	042708
Wancheng Yu and Kaifu Luo	
Calibrated Langevin-dynamics simulations of intrinsically disordered proteins (<i>9 pages</i>)	042709
W. Wendell Smith, Po-Yi Ho, and Corey S. O'Hern	
Quantum dynamics of the avian compass (<i>11 pages</i>)	042710
Zachary B. Walters	
Effect of radio frequency fields on the radical pair magnetoreception model (<i>10 pages</i>)	042711
Bao-Ming Xu, Jian Zou, Hai Li, Jun-Gang Li, and Bin Shao	
Determination of effective brain connectivity from functional connectivity using propagator-based interferometry and neural field theory with application to the corticothalamic system (<i>11 pages</i>)	042712
P. A. Robinson	
Cryogenic x-ray diffraction microscopy utilizing high-pressure cryopreservation (<i>6 pages</i>)	042713
Enju Lima, Yuriy Chushkin, Peter van der Linden, Chae Un Kim, Federico Zontone, Philippe Carpentier, Sol M. Gruner, and Petra Pernot	
Entropy production of a steady-growth cell with catalytic reactions (<i>8 pages</i>)	042714
Yusuke Himeoka and Kunihiko Kaneko	
Wang-Landau sampling in face-centered-cubic hydrophobic-hydrophilic lattice model proteins (<i>8 pages</i>)	042715
Jingfa Liu, Beibei Song, Yonglei Yao, Yu Xue, Wenjie Liu, and Zhaoxia Liu	
Simple analytical model of evapotranspiration in the presence of roots (<i>9 pages</i>)	042716
Cesare M. Cejas, L. A. Hough, Jean-Christophe Castaing, Christian Frétygny, and Rémi Dreyfus	
Muscle activation described with a differential equation model for large ensembles of locally coupled molecular motors (<i>14 pages</i>)	042717
Sam Walcott	
Noise, transient dynamics, and the generation of realistic interspike interval variation in square-wave burster neurons (<i>8 pages</i>)	042718
Bóris Marin, Reynaldo Daniel Pinto, Robert C. Elson, and Eduardo Colli	
Retrodictive derivation of the radical-ion-pair master equation and Monte Carlo simulation with single-molecule quantum trajectories (<i>11 pages</i>)	042719
M. Kritsotakis and I. K. Kominis	
Geometrical model for malaria parasite migration in structured environments (<i>12 pages</i>)	042720
Anna Battista, Friedrich Frischknecht, and Ulrich S. Schwarz	
Viral capsids: Kinetics of assembly under transient conditions and kinetics of disassembly (<i>6 pages</i>)	042721
Vladimir P. Zhdanov	

(Continued)

Junctional angle of a bihanded helix (<i>11 pages</i>)	042722
Jing Yang, Charles W. Wolgemuth, and Greg Huber	
Generalized cable formalism to calculate the magnetic field of single neurons and neuronal populations (<i>17 pages</i>)	042723
Claude Bedard and Alain Destexhe	
Energetics of active fluctuations in living cells (<i>11 pages</i>)	042724
É. Fodor, K. Kanazawa, H. Hayakawa, P. Visco, and F. van Wijland	
High-pressure dynamics of hydrated protein in bioprotective trehalose environment (<i>9 pages</i>)	042725
S. O. Diallo, Q. Zhang, H. O'Neill, and E. Mamontov	
Nonequivalence of updating rules in evolutionary games under high mutation rates (<i>12 pages</i>)	042726
G. A. Kaiping, G. S. Jacobs, S. J. Cox, and T. J. Sluckin	
Networks and Interdisciplinary Physics	
Effect of individual behavior on epidemic spreading in activity-driven networks (<i>8 pages</i>)	042801
Alessandro Rizzo, Mattia Frasca, and Maurizio Porfiri	
Walk-based measure of balance in signed networks: Detecting lack of balance in social networks (<i>10 pages</i>)	042802
Ernesto Estrada and Michele Benzi	
Epidemic spreading on complex networks with general degree and weight distributions (<i>8 pages</i>)	042803
Wei Wang, Ming Tang, Hai-Feng Zhang, Hui Gao, Younghae Do, and Zong-Hua Liu	
Edge orientation for optimizing controllability of complex networks (<i>8 pages</i>)	042804
Yan-Dong Xiao, Song-Yang Lao, Lv-Lin Hou, and Liang Bai	
 How memory generates heterogeneous dynamics in temporal networks (<i>11 pages</i>)	042805
Christian L. Vestergaard, Mathieu Génois, and Alain Barrat	
Triadic closure as a basic generating mechanism of communities in complex networks (<i>10 pages</i>)	042806
Ginestra Bianconi, Richard K. Darst, Jacopo Iacovacci, and Santo Fortunato	
Nonlinear growth and condensation in multiplex networks (<i>13 pages</i>)	042807
V. Nicosia, G. Bianconi, V. Latora, and M. Barthelemy	
Intergroup information exchange drives cooperation in the public goods game (<i>7 pages</i>)	042808
C. Gracia-Lázaro, J. Gómez-Gardeñes, L. M. Floría, and Y. Moreno	
Propensity and stickiness in the naming game: Tipping fractions of minorities (<i>9 pages</i>)	042809
Andrew M. Thompson, Boleslaw K. Szymanski, and Chjan C. Lim	
Coherence index and curvelet transformation for denoising geophysical data (<i>11 pages</i>)	042810
Hassan Dashtian and Muhammad Sahimi	
Fourier decomposition of payoff matrix for symmetric three-strategy games (<i>9 pages</i>)	042811
György Szabó, Kinga S. Bodó, Benjamin Allen, and Martin A. Nowak	
Collision-free nonuniform dynamics within continuous optimal velocity models (<i>8 pages</i>)	042812
Antoine Tordeux and Armin Seyfried	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 90, NUMBER 4

OCTOBER 2014

Local and global epidemic outbreaks in populations moving in inhomogeneous environments (7 pages)	042813
Arturo Buscarino, Luigi Fortuna, Mattia Frasca, and Alessandro Rizzo	
Turing patterns in multiplex networks (5 pages)	042814
Malbor Asllani, Daniel M. Busiello, Timoteo Carletti, Duccio Fanelli, and Gwendoline Planchon	
Zipf's law in city size from a resource utilization model (7 pages)	042815
Asim Ghosh, Arnab Chatterjee, Anindya S. Chakrabarti, and Bikas K. Chakrabarti	
Continuum modeling of crowd turbulence (9 pages)	042816
Abhinav Golas, Rahul Narain, and Ming C. Lin	
Mesoscopic analysis of online social networks: The role of negative ties (11 pages)	042817
Pouya Esmailian, Seyed Ebrahim Abtahi, and Mahdi Jalili	
Modeling spatial patterns in the visual cortex (6 pages)	042818
Yudy Carolina Daza C., Carolina B. Tauro, Francisco A. Tamarit, and Pablo M. Gleiser	
Nonlinear Dynamics and Chaos	
Mixed solitons in a (2+1)-dimensional multicomponent long-wave–short-wave system (15 pages)	042901
T. Kanna, M. Vijayajayanthi, and M. Lakshmanan	
Sound synchronization of bubble trains in a viscous fluid: Experiment and modeling (8 pages)	042902
Felipe Augusto Cardoso Pereira, Murilo da Silva Baptista, and José Carlos Sartorelli	
Solitary waves in a nonintegrable Fermi-Pasta-Ulam chain (8 pages)	042903
Lev Truskinovsky and Anna Vainchtein	
Time-delay effects on the aging transition in a population of coupled oscillators (8 pages)	042904
Bhumika Thakur, Devendra Sharma, and Abhijit Sen	
Hysteretic transitions in the Kuramoto model with inertia (16 pages)	042905
Simona Olmi, Adrian Navas, Stefano Boccaletti, and Alessandro Torcini	
Influence of intrapulse Raman scattering on stationary pulses in the presence of linear and nonlinear gain as well as spectral filtering (7 pages)	042906
Ivan M. Uzunov, Zhivko D. Georgiev, and Todor N. Arabadzhiev	
Impact of heterogeneous delays on cluster synchronization (9 pages)	042907
Sarika Jalan and Aradhana Singh	
Network dynamics for optimal compressive-sensing input-signal recovery (12 pages)	042908
Victor J. Barranca, Gregor Kovačič, Douglas Zhou, and David Cai	
Dynamical scaling of fragment distribution in drying paste (7 pages)	042909
Shin-ichi Ito and Satoshi Yukawa	
Influence of self-steepening and intrapulse Raman scattering on modulation instability in oppositely directed coupler (7 pages)	042910
A. K. Shafeeque Ali, K. Porsezian, and T. Uthayakumar	
Two-cluster solutions in an ensemble of generic limit-cycle oscillators with periodic self-forcing via the mean-field (7 pages)	042911
Lennart Schmidt and Katharina Krischer	

(Continued)

CONTENTS - Continued

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 90, NUMBER 4

OCTOBER 2014

Vector rogue waves and dark-bright boomeronic solitons in autonomous and nonautonomous settings (9 pages)	042912
R. Babu Mareeswaran, E. G. Charalampidis, T. Kanna, P. G. Kevrekidis, and D. J. Frantzeskakis	
Symmetries and transport in site-dependent driven quantum lattices (12 pages)	042913
Thomas Wulf, Christoph Petri, Benno Liebchen, and Peter Schmelcher	
Controlling cluster synchronization by adapting the topology (8 pages)	042914
Judith Lehnert, Philipp Hövel, Anton Selivanov, Alexander Fradkov, and Eckehard Schöll	
Universal Braess paradox in open quantum dots (5 pages)	042915
A. L. R. Barbosa, D. Bazeia, and J. G. G. S. Ramos	
Kink topology control by high-frequency external forces in nonlinear Klein-Gordon models (9 pages)	042916
R. Alvarez-Nodarse, N. R. Quintero, and F. G. Mertens	
Number of first-passage times as a measurement of information for weakly chaotic systems (7 pages)	042917
Pierre Nazé and Roberto Venegeroles	
Microscopic mechanism for self-organized quasiperiodicity in random networks of nonlinear oscillators (8 pages)	042918
Raffaella Burioni, Serena di Santo, Matteo di Volo, and Alessandro Vezzani	
Entropy of weighted recurrence plots (7 pages)	042919
Deniz Eroglu, Thomas K. DM. Peron, Nobert Marwan, Francisco A. Rodrigues, Luciano da F. Costa, Michael Sebek, István Z. Kiss, and Jürgen Kurths	
Self-organizing patterns in an evolutionary rock-paper-scissors game for stochastic synchronized strategy updates (7 pages)	042920
Levente Varga, Jeromos Vukov, and György Szabó	
Instability dynamics and breather formation in a horizontally shaken pendulum chain (11 pages)	042921
Y. Xu, T. J. Alexander, H. Sidhu, and P. G. Kevrekidis	
Collective coordinates theory for discrete soliton ratchets in the sine-Gordon model (9 pages)	042922
Bernardo Sánchez-Rey, Niurka R. Quintero, Jesús Cuevas-Maraver, and Miguel A. Alejo	
Cross-frequency synchronization of oscillators with time-delayed coupling (8 pages)	042923
Vladimir V. Klinshov, Dmitry S. Shchapin, and Vladimir I. Nekorkin	
Vibrational higher-order resonances in an overdamped bistable system with biharmonic excitation (5 pages)	042924
V. N. Chizhevsky	
Interface and vortex motion in the two-component complex dissipative Ginzburg-Landau equation in two-dimensional space (10 pages)	042925
Shunsuke Yabunaka	
Locking of periodic patterns in Cahn-Hilliard models for Langmuir-Blodgett transfer (8 pages)	042926
Markus Wilczek and Svetlana V. Gurevich	
Collision dynamics of traveling bands in systems of deformable self-propelled particles (10 pages)	042927
Sadato Yamanaka and Takao Ohta	

(Continued)

Fluid Dynamics

Topologies of velocity-field stagnation points generated by a single pair of magnets in free-surface electromagnetic experiments (<i>7 pages</i>)	043001
J. M. García de la Cruz, J. C. Vassilicos, and L. Rossi	
Locomotion of microorganisms near a no-slip boundary in a viscoelastic fluid (<i>11 pages</i>)	043002
Shahrazad Yazdi, Arezoo M. Ardekani, and Ali Borhan	
Wave-vortex mode coupling in neutrally stable baroclinic flows (<i>15 pages</i>)	043003
Abdelaziz Salhi and Alexandre B. Pieri	
Instability of viscous flow over a deformable two-layered gel: Experiments and theory (<i>13 pages</i>)	043004
R. Neelamegam, D. Giribabu, and V. Shankar	
Mechanisms of particle clustering in Gaussian and non-Gaussian synthetic turbulence (<i>9 pages</i>)	043005
Christopher Nilsen and Helge I. Andersson	
Class of periodic and quasiperiodic trajectories of particles settling under gravity in a viscous fluid (<i>10 pages</i>)	043007
Maria L. Ekiel-Jezewska	
Electroviscous resistance of nanofluidic bends (<i>12 pages</i>)	043008
J. D. Berry, A. E. Foong, C. E. Lade, C. J. C. Biscombe, M. R. Davidson, and D. J. E. Harvie	
Lateral migration of a spherical capsule near a plane wall in Stokes flow (<i>11 pages</i>)	043009
S. Nix, Y. Imai, D. Matsunaga, T. Yamaguchi, and T. Ishikawa	
Magnetic field reversals and long-time memory in conducting flows (<i>7 pages</i>)	043010
P. Dmitruk, P. D. Mininni, A. Pouquet, S. Servidio, and W. H. Matthaeus	
Filling of charged cylindrical capillaries (<i>11 pages</i>)	043011
Siddhartha Das, Sourayon Chanda, J. C. T. Eijkel, N. R. Tas, Suman Chakraborty, and Sushanta K. Mitra	
Local dissipation scales in two-dimensional Rayleigh-Taylor turbulence (<i>7 pages</i>)	043012
Xiang Qiu (邱翔), Yu-Lu Liu (刘宇陆), and Quan Zhou (周全)	
External front instabilities induced by a shocked particle ring (<i>5 pages</i>)	043013
V. Rodriguez, R. Saurel, G. Jourdan, and L. Houas	
Active control of vortex shedding: An explanation of the gain window (<i>9 pages</i>)	043014
Simon J. Illingworth, Hiroshi Naito, and Koji Fukagata	
Deformation and breakup of a liquid droplet past a solid circular cylinder: A lattice Boltzmann study (<i>10 pages</i>)	043015
Qiuxiang Li, Zhenhua Chai, Baochang Shi, and Hong Liang	
Numerical study of thermoviscous effects in ultrasound-induced acoustic streaming in microchannels (<i>12 pages</i>)	043016
Peter Barkholt Muller and Henrik Bruus	
Gas cushion model and hydrodynamic boundary conditions for superhydrophobic textures (<i>8 pages</i>)	043017
Tatiana V. Nizkaya, Evgeny S. Asmolov, and Olga I. Vinogradova	
Magnetic induction and diffusion mechanisms in a liquid sodium spherical Couette experiment (<i>16 pages</i>)	043018
Simon Cabanes, Nathanaël Schaeffer, and Henri-Claude Nataf	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 90, NUMBER 4

OCTOBER 2014

Reynolds number of transition and self-organized criticality of strong turbulence (<i>8 pages</i>)	043019
Victor Yakhot	
Concentration polarization, surface currents, and bulk advection in a microchannel (<i>14 pages</i>)	043020
Christoffer P. Nielsen and Henrik Bruus	
Swimming fluctuations of micro-organisms due to heterogeneous microstructure (<i>8 pages</i>)	043021
Mehdi Jabbarzadeh, YunKyong Hyon, and Henry C. Fu	
Plasma Physics	
Effect of correlation on viscosity and diffusion in molecular-dynamics simulations (<i>12 pages</i>)	043101
Edmund R. Meyer, Joel D. Kress, Lee A. Collins, and Christopher Ticknor	
Field theory and weak Euler-Lagrange equation for classical particle-field systems (<i>8 pages</i>)	043102
Hong Qin, Joshua W. Burby, and Ronald C. Davidson	
Time-resolved measurement of global synchronization in the dust acoustic wave (<i>7 pages</i>)	043103
J. D. Williams	
Radially polarized, half-cycle, attosecond pulses from laser wakefields through coherent synchrotronlike radiation (<i>7 pages</i>)	043104
F. Y. Li, Z. M. Sheng, M. Chen, L. L. Yu, J. Meyer-ter-Vehn, W. B. Mori, and J. Zhang	
Classical Physics	
Controllable parabolic-cylinder optical rogue wave (<i>9 pages</i>)	043201
Wei-Ping Zhong, Lang Chen, Milivoj Belić, and Nikola Petrović	
Emulation of lossless exciton-polariton condensates by dual-core optical waveguides: Stability, collective modes, and dark solitons (<i>10 pages</i>)	043202
Luca Salasnich, Boris A. Malomed, and Flavio Toigo	
Mobility of discrete multibreathers in the exciton dynamics of the Davydov model with saturable nonlinearities (<i>9 pages</i>)	043203
J. D. Tchianang Tchameu, A. B. Togueu Motcheyo, and C. Tchawoua	
Theory of self-oscillation and mode locking in a longitudinal photoacoustic resonator (<i>5 pages</i>)	043204
Ziyao Tang, Han Jung Park, Roger M. Diebold, and Gerald J. Diebold	
Depolarization coefficients of light in multiply scattering media (<i>14 pages</i>)	043205
E. E. Gorodnichev, A. I. Kuzovlev, and D. B. Rogozkin	
Computational Physics	
Improving self-calibration (<i>15 pages</i>)	043301
Torsten A. Enßlin, Henrik Junklewitz, Lars Winderling, Maksim Greiner, and Marco Selig	
Boundary-controlled barostats for slab geometries in molecular dynamics simulations (<i>13 pages</i>)	043302
C. Gattinoni, Sz. Maćkowiak, D. M. Heyes, A. C. Brańka, and D. Dini	
Fast algorithm for relaxation processes in big-data systems (<i>10 pages</i>)	043303
S. Hwang, D.-S. Lee, and B. Kahng	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 90, NUMBER 4

OCTOBER 2014

Nonergodicity of the Nose-Hoover chain thermostat in computationally achievable time (<i>7 pages</i>)	043304
Puneet Kumar Patra and Baidurya Bhattacharya	
Accuracy of lattice Monte Carlo simulation of biased diffusion models (<i>8 pages</i>)	043305
Gang Guo and Xiaogang Qiu	
Multispeed entropic lattice Boltzmann model for thermal flows (<i>13 pages</i>)	043306
N. Frapolli, S. S. Chikatamarla, and I. V. Karlin	
Exhibiting cross-diffusion-induced patterns for reaction-diffusion systems on evolving domains and surfaces (<i>14 pages</i>)	043307
A. Madzvamuse and R. Barreira	

COMMENTS

Comment on “Dependence of asymptotic decay exponents on initial condition and the resulting scaling violation” (<i>2 pages</i>)	046101
Sungchul Kwon and Jin Min Kim	

ERRATA

Erratum: Corepressive interaction and clustering of degrade-and-fire oscillators [Phys. Rev. E 84 , 051916 (2011)] (<i>1 page</i>)	049901(E)
Bastien Fernandez and Lev S. Tsimring	
Publisher’s Note: Subcritical Turing bifurcation and the morphogenesis of localized patterns [Phys. Rev. E 90 , 032923 (2014)] (<i>1 page</i>)	049902(E)
V́ctor Breña-Medina and Alan Champneys	
Erratum: Saturation of shape instabilities in single-bubble sonoluminescence [Phys. Rev. E 90 , 013026 (2014)] (<i>1 page</i>)	049903(E)
Mogens T. Levinsen	
Publisher’s Note: Experimental signatures of a nonequilibrium phase transition governing the yielding of a soft glass [Phys. Rev. E 89 , 062308 (2014)] (<i>1 page</i>)	049904(E)
K. Hima Nagamanasa, Shreyas Gokhale, A. K. Sood, and Rajesh Ganapathy	
Publisher’s Note: Stability of Boolean networks: The joint effects of topology and update rules [Phys. Rev. E 90 , 022814 (2014)] (<i>1 page</i>)	049905(E)
Shane Squires, Andrew Pomerance, Michelle Girvan, and Edward Ott	