PHYSICAL REVIEW E **THIRD SERIES, VOLUME 90, NUMBER 3** **SEPTEMBER 2014**

Publisher's Note: Stripe patterns: Role of initial state and boundary conditions
[Phys. Rev. E **90**, 022915 (2014)] *(1 page)* . . . . . 039903(E)
Ashwani K. Tripathi and Deepak Kumar

Publisher's Note: Thermal enhancement and stochastic resonance of polaron ratchets
[Phys. Rev. E **89**, 062905 (2014)] *(1 page)* . . . . . 039904(E)
L. S. Brizhik, A. A. Eremko, B. M. A. G. Piette, and W. J. Zakrzewski

Erratum: Finite size induces crossover temperature in growing spin chains
[Phys. Rev. E **89**, 012105 (2014)] *(1 page)* . . . . . 039905(E)
Julian Sienkiewicz, Krzysztof Suchecki, and Janusz A. Hołyst

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 90, NUMBER 3** **SEPTEMBER 2014**

Multiscale simulation of thin-film lubrication: Free-energy-corrected coarse graining *(9 pages)* 033303
Z.-B. Wu and X. C. Zeng

Valence-bond quantum Monte Carlo algorithms defined on trees *(13 pages)* 033304
Andreas Deschner and Erik S. Sørensen

Consistent simulation of droplet evaporation based on the phase-field multiphase lattice Boltzmann method *(13 pages)* 033305
Hesameddin Safari, Mohammad Hassan Rahimian, and Manfred Krafczyk

Multidimensional Hamiltonian for tunneling with position-dependent mass *(7 pages)* 033306
Antonio Fernández-Ramos, Zorka Smedarchina, and Willem Siebrand

Effect of single-site mutations on hydrophobic-polar lattice proteins *(9 pages)* 033307
Guangjie Shi, Thomas Vogel, Thomas Wüst, Ying Wai Li, and David P. Landau

Pattern formation by phase-field relaxation of bending energy with fixed surface area and volume *(8 pages)* 033308
Timothy Banham, Bo Li, and Yanxiang Zhao

Numerical solution of the nonlinear Schrödinger equation with wave operator on unbounded domains *(7 pages)* 033309
Hongwei Li, Xiaonan Wu, and Jiwei Zhang

Micro-mutual-dipolar model for rapid calculation of forces between paramagnetic colloids *(5 pages)* 033310
Di Du and Sibani Lisa Biswal

Parametric study of particle sedimentation by dissipative particle dynamics simulation *(13 pages)* 033311
Lingqi Yang and Huiming Yin

Laminar, cellular, transverse, and multiheaded pulsating detonations in condensed phase energetic materials from molecular dynamics simulations *(10 pages)* 033312
Vasily V. Zhakhovsky, Mikalai M. Budzevich, Aaron C. Landerville, Ivan I. Oleynik, and Carter T. White

Calculation of drag and torque coefficients by time-independent lattice-Boltzmann method *(13 pages)* 033313
E. J. Ding

Hydrodynamics of discrete-particle models of spherical colloids: A multiparticle collision dynamics simulation study *(13 pages)* 033314
Simón Poblete, Adam Wysocki, Gerhard Gompper, and Roland G. Winkler

Faster identification of optimal contraction sequences for tensor networks *(18 pages)* 033315
Robert N. C. Pfeifer, Jutho Haegeman, and Frank Verstraete

ERRATA

Publisher's Note: Lattice Boltzmann method for linear oscillatory noncontinuum flows [Phys. Rev. E **89**, 033305 (2014)] *(1 page)* . . . . . 039901(E)
Yong Shi, Ying Wan Yap, and John E. Sader

Erratum: Hierarchy in directed random networks [Phys. Rev. E **87**, 022817 (2013)] *(1 page)* . . . . . 039902(E)
Enys Mones

(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 90, NUMBER 3** **SEPTEMBER 2014**

Kinetic theory molecular dynamics and hot dense matter: Theoretical foundations *(13 pages)* 033104
F. R. Graziani, J. D. Bauer, and M. S. Murillo

Determination of the shear viscosity of the one-component plasma *(11 pages)* 033105
Jérôme Daligault, Kim Ø. Rasmussen, and Scott D. Baalrud

Evidence of local power deposition and electron heating by a standing electromagnetic wave in electron-cyclotron-resonance plasma *(8 pages)* 033106
A. Durocher-Jean, L. Stafford, S. Dap, K. Makasheva, and R. Clergereaux

Temperature measurements of shocked silica aerogel foam *(8 pages)* 033107
K. Falk, C. A. McCoy, C. L. Fryer, C. W. Greeff, A. L. Hungerford, D. S. Montgomery, D. W. Schmidt, D. G. Sheppard, J. R. Williams, T. R. Boehly, and J. F. Benage

Quasilongitudinal soliton in a two-dimensional strongly coupled complex dusty plasma in the presence of an external magnetic field *(9 pages)* 033108
Samiran Ghosh

Mode coupling and resonance instabilities in quasi-two-dimensional dust clusters in complex plasmas *(6 pages)* 033109
Ke Qiao, Jie Kong, Jorge Carmona-Reyes, Lorin S. Matthews, and Truell W. Hyde

Integral equation model for warm and hot dense mixtures *(8 pages)* 033110
C. E. Starrett, D. Saumon, J. Daligault, and S. Hamel

First-principles opacity table of warm dense deuterium for inertial-confinement-fusion applications *(10 pages)* . . . 033111
S. X. Hu (胡素兴), L. A. Collins, V. N. Goncharov, T. R. Boehly, R. Epstein, R. L. McCrory, and S. Skupsky

Relativistic theory for localized electrostatic excitations in degenerate electron-ion plasmas *(10 pages)* 033112
Michael Mc Kerr, Fernando Haas, and Ioannis Kourakis

Classical Physics

Bistability and thermal coupling in elastic metamaterials with negative compressibility *(6 pages)* 033201
M. L. Chen and E. G. Karpov

Nonintegrable semidiscrete Hirota equation: Gauge-equivalent structures and dynamical properties *(16 pages)* . . . 033202
Li-Yuan Ma and Zuo-Nong Zhu

Coexisting rogue waves within the (2+1)-component long-wave–short-wave resonance *(5 pages)* 033203
Shihua Chen, Jose M. Soto-Crespo, and Philippe Grelu

Drag force in bimodal cubic-quintic nonlinear Schrödinger equation *(7 pages)* 033204
David Feijoo, Ismael Ordóñez, Angel Paredes, and Humberto Michinel

Transparent lattices and their solitary waves *(8 pages)* 033205
E. Sadurní

Computational Physics

Lattice Boltzmann modeling of permeability in porous materials with partially percolating voxels *(10 pages)* 033301
Ruru Li, Y. Sam Yang, Jinxiao Pan, Gerald G. Pereira, John A. Taylor, Ben Clennell, and Caineng Zou

Collective translational and rotational Monte Carlo cluster move for general pairwise interaction *(10 pages)* 033302
Štěpán Růžička and Michael P. Allen

(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 90, NUMBER 3** **SEPTEMBER 2014**

Thermocapillary effect on the dynamics of viscous beads on vertical fiber *(11 pages)* 033005
Rong Liu and Qiu Sheng Liu

Forced transport of deformable containers through narrow constrictions *(8 pages)* 033006
Remy Kusters, Thijs van der Heijden, Badr Kaoui, Jens Harting, and Cornelis Storm

Minimal geometric requirements for micropropulsion via magnetic rotation *(8 pages)* 033007
U Kei Cheang, Farshad Meshkati, Dalhyung Kim, Min Jun Kim, and Henry Chien Fu

Dispersion of model microorganisms swimming in a nonuniform suspension *(8 pages)* 033008
Takuji Ishikawa and T. J. Pedley

Knudsen torque: A rotational mechanism driven by thermal force *(7 pages)* 033009
Qi Li, Tengfei Liang, and Wenjing Ye

Hydrodynamic interaction of two deformable drops in confined shear flow *(11 pages)* 033010
Yongping Chen and Chengyao Wang

Vesicle dynamics in a confined Poiseuille flow: From steady state to chaos *(8 pages)* 033011
Othmane Aouane, Marine Thiébaud, Abdelilah Benyoussef, Christian Wagner, and Chaouqi Misbah

Nonlinear dynamics of a rotating elastic rod in a viscous fluid *(9 pages)* 033012
Wanho Lee, Yongsam Kim, Sarah D. Olson, and Sookkyung Lim

Reorientation of elongated particles at density interfaces *(10 pages)* 033013
A. Doostmohammadi and A. M. Ardekani

Modeling multiphase flow using fluctuating hydrodynamics *(18 pages)* 033014
Anuj Chaudhri, John B. Bell, Alejandro L. Garcia, and Aleksandar Donev

Optimum reduction of the dynamo threshold by a ferromagnetic layer located in the flow *(8 pages)* 033015
J. Herault and F. Pétrélis

Unsteady translation and repetitive jetting of acoustic cavitation bubbles *(6 pages)* 033016
Till Nowak and Robert Mettin

Nonlinear oscillations of a sessile drop on a hydrophobic surface induced by ac electrowetting *(10 pages)* 033017
Joohee Lee, Jun Kwon Park, Jiwoo Hong, Sang Joon Lee, Kwan Hyoung Kang, and Hyung Ju Hwang

Collective motion of macroscopic spheres floating on capillary ripples: Dynamic heterogeneity and dynamic criticality *(6 pages)* 033018
Ceyda Sanlı, Kuniyasu Saitoh, Stefan Luding, and Devaraj van der Meer

Plasma Physics

Measurement of net electric charge and dipole moment of dust aggregates in a complex plasma *(7 pages)* 033101
Razieh Yousefi, Allen B. Davis, Jorge Carmona-Reyes, Lorin S. Matthews, and Truell W. Hyde

Effective potential and interdiffusion in binary ionic mixtures *(9 pages)* 033102
M. V. Beznogov and D. G. Yakovlev

Kubo conductivity tensor for two- and three-dimensional magnetic nulls *(12 pages)* 033103
D. A. St-Onge and R. D. Sydora

(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 90, NUMBER 3** **SEPTEMBER 2014**

Controlling synchrony in oscillatory networks via an act-and-wait algorithm *(12 pages)* 032914
Irmantas Ratas and Kestutis Pyragas

Stability of solitary waves in the nonlinear Dirac equation with arbitrary nonlinearity *(15 pages)* 032915
Sihong Shao, Niurka R. Quintero, Franz G. Mertens, Fred Cooper, Avinash Khare, and Avadh Saxena

Interaction-based transition from passivity to excitability *(9 pages)* 032916
V. S. Petrov and G. V. Osipov

Kuramoto dynamics in Hamiltonian systems *(8 pages)* 032917
Dirk Witthaut and Marc Timme

Stochastic switching in delay-coupled oscillators *(9 pages)* 032918
Otti D'Huys, Thomas Jüngling, and Wolfgang Kinzel

Modulational instability and resonant wave modes act on the metastability of oscillator chains *(10 pages)* 032919
Torsten Gross, Dirk Hennig, and Lutz Schimansky-Geier

Different types of chimera states: An interplay between spatial and dynamical chaos *(5 pages)* 032920
Dawid Dudkowski, Yuri Maistrenko, and Tomasz Kapitaniak

Generalized chronotaxic systems: Time-dependent oscillatory dynamics stable under continuous perturbation *(10 pages)* 032921
Yevhen F. Suprunenko and Aneta Stefanovska

Soliton solutions of an integrable nonlinear Schrödinger equation with quintic terms *(9 pages)* 032922
A. Chowdury, D. J. Kedziora, A. Ankiewicz, and N. Akhmediev

Subcritical Turing bifurcation and the morphogenesis of localized patterns *(6 pages)* 032923
Víctor Breña-Medina and Alan Champneys

Nonlinear decay of random waves described by an integrodifferential equation *(7 pages)* 032924
Sergey N. Gurbatov and Oleg V. Rudenko

Renormalized dispersion relations of β-Fermi-Pasta-Ulam chains in equilibrium and nonequilibrium states *(10 pages)* 032925
Shi-xiao W. Jiang, Hai-hao Lu, Douglas Zhou, and David Cai

Fluid Dynamics

Rayleigh instability at small length scales *(8 pages)* 033001
Nandu Gopan and Sarith P. Sathian

Rayleigh-Bénard convection with uniform vertical magnetic field *(8 pages)* 033002
Arnab Basak, Rohit Raveendran, and Krishna Kumar

Flow and slip transition in nanochannels *(6 pages)* 033003
Long Li, Jingwen Mo, and Zhigang Li

Speed selection for traveling-wave solutions to the diffusion-reaction equation with cubic reaction term and Burgers nonlinear convection *(9 pages)* 033004
V. A. Sabelnikov and A. N. Lipatnikov

(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 90, NUMBER 3** **SEPTEMBER 2014**

Analytical solution for a class of network dynamics with mechanical and financial applications *(12 pages)* 032822
P. Krejčí, H. Lamba, S. Melnik, and D. Rachinskii

Analytical approach to the dynamics of facilitated spin models on random networks *(9 pages)* 032824
Peter G. Fennell, James P. Gleeson, and Davide Cellai

Nonlinear Dynamics and Chaos

Predictable nonwandering localization of covariant Lyapunov vectors and cluster synchronization in scale-free networks of chaotic maps *(11 pages)* 032901
Pavel V. Kuptsov and Anna V. Kuptsova

Rogue waves of the Sasa-Satsuma equation in a chaotic wave field *(7 pages)* 032902
J. M. Soto-Crespo, N. Devine, N. P. Hoffmann, and N. Akhmediev

Accurate control of hyperbolic trajectories in any dimension *(9 pages)* 032903
Sanjeeva Balasuriya and Kathrin Padberg-Gehle

Mechanical energy fluctuations in granular chains: The possibility of rogue fluctuations or waves *(5 pages)* 032904
Ding Han, Matthew Westley, and Surajit Sen

Experimental investigation of chimera states with quiescent and synchronous domains in coupled electronic oscillators *(8 pages)* 032905
Lucia Valentina Gambuzza, Arturo Buscarino, Sergio Chessari, Luigi Fortuna, Riccardo Meucci, and Mattia Frasca

Emergence of amplitude and oscillation death in identical coupled oscillators *(5 pages)* 032906
Wei Zou, D. V. Senthilkumar, Jinqiao Duan, and Jürgen Kurths

Deformable microswimmer in a swirl: Capturing and scattering dynamics *(11 pages)* 032907
Mitsusuke Tarama, Andreas M. Menzel, and Hartmut Löwen

Synchronization-desynchronization transitions in complex networks: An interplay of distributed time delay and inhibitory nodes *(10 pages)* 032908
Carolin Wille, Judith Lehnert, and Eckehard Schöll

Exponential Fermi acceleration in general time-dependent billiards *(10 pages)* 032909
Benjamin Batistić

Enhancement of chaotic subdiffusion in disordered ladders with synthetic gauge fields *(7 pages)* 032910
Xiaoquan Yu and Sergej Flach

Rogue wave train generation in a metamaterial induced by cubic-quintic nonlinearities and second-order dispersion *(12 pages)* 032911
Bedel Giscard Onana Essama, Jacques Atangana, Biya Motto Frederick, Bouchra Mokhtari, Noureddine Cherkaoui Eddeqaqi, and Timoleon Crepin Kofane

Integrable discrete PT symmetric model *(5 pages)* 032912
Mark J. Ablowitz and Ziad H. Musslimani

Detecting determinism with improved sensitivity in time series: Rank-based nonlinear predictability score *(9 pages)* 032913
Daniel Naro, Christian Rummel, Kaspar Schindler, and Ralph G. Andrzejak

(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 90, NUMBER 3** **SEPTEMBER 2014**

Tie strength distribution in scientific collaboration networks *(7 pages)* 032804
Qing Ke and Yong-Yeol Ahn

Soft bounds on diffusion produce skewed distributions and Gompertz growth *(8 pages)* 032805
Salvatore Mandrà, Marco Cosentino Lagomarsino, and Marco Gherardi

Epidemic spread on interconnected metapopulation networks *(12 pages)* 032806
Bing Wang, Gouhei Tanaka, Hideyuki Suzuki, and Kazuyuki Aihara

Emergence of self-sustained oscillations in excitable Erdös-Rényi random networks *(8 pages)* 032807
Yu Qian

Epidemic spreading through direct and indirect interactions *(12 pages)* 032808
Niloy Ganguly, Tyll Krueger, Animesh Mukherjee, and Sudipta Saha

Fractional dynamics on networks: Emergence of anomalous diffusion and Lévy flights *(7 pages)* 032809
A. P. Riascos and José L. Mateos

Empirical synchronized flow in oversaturated city traffic *(5 pages)* 032810
Boris S. Kerner, Peter Hemmerle, Micha Koller, Gerhard Hermanns, Sergey L. Klenov, Hubert Rehborn, and Michael Schreckenberg

Motif-based success scores in coauthorship networks are highly sensitive to author name disambiguation *(6 pages)* 032811
David F. Klosik, Stefan Bornholdt, and Marc-Thorsten Hütt

Role of centrality for the identification of influential spreaders in complex networks *(17 pages)* 032812
Guilherme Ferraz de Arruda, André Luiz Barbieri, Pablo Martín Rodríguez, Francisco A. Rodrigues, Yamir Moreno, and Luciano da Fontoura Costa

Different perceptions of social dilemmas: Evolutionary multigames in structured populations *(7 pages)* 032813
Zhen Wang, Attila Szolnoki, and Matjaž Perc

Generic criticality of community structure in random graphs *(7 pages)* 032815
Adam Lipowski and Dorota Lipowska

k-core percolation on multiplex networks *(9 pages)* 032816
N. Azimi-Tafreshi, J. Gómez-Gardeñes, and S. N. Dorogovtsev

Emergence of social structures via preferential selection *(5 pages)* 032817
Adam Lipowski, Dorota Lipowska, and Antonio Luis Ferreira

Synchronization of bursting Hodgkin-Huxley-type neurons in clustered networks *(13 pages)* 032818
T. de L. Prado, S. R. Lopes, C. A. S. Batista, J. Kurths, and R. L. Viana

Infinite-degree-corrected stochastic block model *(7 pages)* 032819
Tue Herlau, Mikkel N. Schmidt, and Morten Mørup

Unveiling robustness and heterogeneity through percolation triggered by random-link breakdown *(6 pages)* 032820
Yilun Shang

Statistical properties of Barkhausen noise in amorphous ferromagnetic films *(9 pages)* 032821
F. Bohn, M. A. Corrêa, M. Carara, S. Papanikolaou, G. Durin, and R. L. Sommer

(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 90, NUMBER 3** **SEPTEMBER 2014**

Dielectric and electro-optic studies of a bimesogenic liquid crystal composed of bent-core and calamitic units *(9 pages)* 032506
R. Balachandran, V. P. Panov, J. K. Vij, G. Shanker, C. Tschierske, K. Merkel, and A. Kocot

Modeling smectic layers in confined geometries: Order parameter and defects *(8 pages)* 032507
Mykhailo Y. Pevnyi, Jonathan V. Selinger, and Timothy J. Sluckin

Polymers

Kinetic mechanism of chain folding in polymer crystallization *(5 pages)* 032601
S. Stepanow

Biological Physics

Facilitated diffusion buffers noise in gene expression *(10 pages)* 032701
Armin P. Schoech and Nicolae Radu Zabet

How input noise limits biochemical sensing in ultrasensitive systems *(6 pages)* 032702
Bo Hu, Wouter-Jan Rappel, and Herbert Levine

Length of adaptive walk on uncorrelated and correlated fitness landscapes *(12 pages)* 032703
Sarada Seetharaman and Kavita Jain

Characterization of spiraling patterns in spatial rock-paper-scissors games *(14 pages)* 032704
Bartosz Szczesny, Mauro Mobilia, and Alastair M. Rucklidge

Brain clock driven by neuropeptides and second messengers *(7 pages)* 032705
Jesus Miro-Bueno and Petr Sosík

Top-level dynamics and the regulated gene response of feed-forward loop transcriptional motifs *(12 pages)* 032706
Michael Mayo, Ahmed Abdelzaher, Edward J. Perkins, and Preetam Ghosh

Active elastic dimers: Cells moving on rigid tracks *(10 pages)* 032707
J. H. Lopez, Moumita Das, and J. M. Schwarz

Lower bound on the precision of transcriptional regulation and why facilitated diffusion can reduce noise in gene expression *(14 pages)* 032708
Joris Paijmans and Pieter Rein ten Wolde

Slow synaptic dynamics in a network: From exponential to power-law forgetting *(11 pages)* 032709
J. M. Luck and A. Mehta

PART B

Networks and Interdisciplinary Physics

Attention competition with advertisement *(7 pages)* 032801
Uzay Cetin and Haluk O. Bingol

Accurate reactions open up the way for more cooperative societies *(6 pages)* 032802
Jeromos Vukov

Emergence of clustering: Role of inhibition *(6 pages)* 032803
Sanjiv K. Dwivedi and Sarika Jalan

(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 90, NUMBER 3** **SEPTEMBER 2014**

Connection between the packing efficiency of binary hard spheres and the glass-forming ability of bulk metallic glasses *(7 pages)* 032311
Kai Zhang, W. Wendell Smith, Minglei Wang, Yanhui Liu, Jan Schroers, Mark D. Shattuck, and Corey S. O'Hern

Films, Interfaces, and Solids

Electrocapillarity of an electrolyte solution in a nanoslit with overlapped electric double layer: Continuum approach *(9 pages)* 032401
Jung A. Lee and In Seok Kang

Extending the nonequilibrium square-gradient model with temperature-dependent influence parameters *(10 pages)* 032402
Elisa Magnanelli, Øivind Wilhelmsen, Dick Bedeaux, and Signe Kjelstrup

Aftershocks in a frictional earthquake model *(8 pages)* 032403
O. M. Braun and Erio Tosatti

Crystallization of Brownian particles in thin systems constrained by walls *(7 pages)* 032404
Mamoru Fujine, Masahide Sato, Tetsuya Toyooka, Hiroyasu Katsuno, Yoshihisa Suzuki, and Tsutomu Sawada

Minimal fragmentation of regular polygonal plates *(7 pages)* 032405
Laércio Dias and Fernando Parisio

Critical island size, scaling, and ordering in colloidal nanoparticle self-assembly *(12 pages)* 032406
Chakra P. Joshi, Yunsic Shim, Terry P. Bigioni, and Jacques G. Amar

Analytic theory of two-dimensional NMR in systems with coupled macro- and micropores *(7 pages)* 032407
David Linton Johnson and Lawrence M. Schwartz

Multiscale treatment of theoretical mechanisms for the protection of hydrogel surfaces from adhesive forces *(9 pages)* 032408
J. B. Sokoloff

Liquid Crystals

Nanoparticle-induced twist-grain boundary phase *(8 pages)* 032501
Maja Trček, George Cordoyiannis, Vassilios Tzitzios, Samo Kralj, George Nounesis, Ioannis Lelidis, and Zdravko Kutnjak

Fréedericksz transition in the director-density coupling theory *(7 pages)* 032502
Carlindo Vitoriano

Colloidal nanoparticles trapped by liquid-crystal defect lines: A lattice Monte Carlo simulation *(6 pages)* 032503
Regina Jose, Gregor Skačej, V. S. S. Sastry, and Slobodan Žumer

Nonequilibrium steady-state response of a nematic liquid crystal under simple shear flow and electric fields *(8 pages)* 032504
Jaka Fajar Fatriansyah, Yuji Sasaki, and Hiroshi Orihara

Photonic defect modes in a cholesteric liquid crystal with a resonant nanocomposite layer and a twist defect *(7 pages)* 032505
Stepan Ya. Vetrov, Maxim V. Pyatnov, and Ivan V. Timofeev

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 90, NUMBER 3** **SEPTEMBER 2014**

Shear flow of angular grains: Acoustic effects and nonmonotonic rate dependence of volume *(10 pages)* 032204
Charles K. C. Lieou, Ahmed E. Elbanna, J. S. Langer, and J. M. Carlson

Evolution of shear zones in granular materials *(10 pages)* 032205
Balázs Szabó, János Török, Ellák Somfai, Sandra Wegner, Ralf Stannarius, Axel Böse, Georg Rose, Frank Angenstein, and Tamás Börzsönyi

Rheology of cohesive granular materials across multiple dense-flow regimes *(13 pages)* 032206
Yile Gu, Sebastian Chialvo, and Sankaran Sundaresan

Memory effects in the relaxation of a confined granular gas *(12 pages)* 032207
J. Javier Brey, M. I. García de Soria, P. Maynar, and V. Buzón

Penetration of spherical projectiles into wet granular media *(8 pages)* 032208
S. P. D. Birch, M. Manga, B. Delbridge, and M. Chamberlain

Family of plane solitary waves in dimer granular crystals *(11 pages)* 032209
Mohith Manjunath, Amnaya P. Awasthi, and Philippe H. Geubelle

Colloids and Complex Fluids

Neutron diffraction study of aqueous Laponite suspensions at the NIMROD diffractometer *(9 pages)* 032301
V. Tudisca, F. Bruni, E. Scoppola, R. Angelini, B. Ruzicka, L. Zulian, A. K. Soper, and M. A. Ricci

Adsorbed films of three-patch colloids: Continuous and discontinuous transitions between thick and thin films *(6 pages)* 032302
C. S. Dias, N. A. M. Araújo, and M. M. Telo da Gama

Analytical theory of effective interactions in binary colloidal systems of soft particles *(14 pages)* 032303
M. Majka and P. F. Góra

Hydrodynamic suppression of phase separation in active suspensions *(9 pages)* 032304
Ricard Matas-Navarro, Ramin Golestanian, Tanniemola B. Liverpool, and Suzanne M. Fielding

Poiseuille flow of a Quincke suspension *(5 pages)* 032305
A. Cēbers

Field-dependent Brownian relaxation dynamics of a superparamagnetic clustered-particle suspension *(7 pages)* 032306
S. B. Trisnanto and Y. Kitamoto

Numerical model for the shear rheology of two-dimensional wet foams with deformable bubbles *(9 pages)* 032307
T. Kähärä, T. Tallinen, and J. Timonen

Transition from Arrhenius to non-Arrhenius temperature dependence of structural relaxation time in glass-forming liquids: Continuous versus discontinuous scenario *(8 pages)* 032308
V. A. Popova and N. V. Surovtsev

Curvature-induced activation of a passive tracer in an active bath *(6 pages)* 032309
S. A. Mallory, C. Valeriani, and A. Cacciuto

Dielectric-spectroscopy approach to ferrofluid nanoparticle clustering induced by an external electric field *(9 pages)* 032310
Michal Rajnak, Juraj Kurimsky, Bystrik Dolnik, Peter Kopcansky, Natalia Tomasovicova, Elena Alina Taculescu-Moaca, and Milan Timko

(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 90, NUMBER 3** **SEPTEMBER 2014**

Nonequilibrium version of the Einstein relation *(8 pages)* 032129
Daniel Hurowitz and Doron Cohen

Resistance between two nodes in general position on an $m \times n$ fan network *(5 pages)* 032130
J. W. Essam, Zhi-Zhong Tan, and F. Y. Wu

Effective temperatures of hot Brownian motion *(10 pages)* 032131
G. Falasco, M. V. Gnann, D. Rings, and K. Kroy

Kinetic theory for a mobile impurity in a degenerate Tonks-Girardeau gas *(12 pages)* 032132
O. Gamayun, O. Lychkovskiy, and V. Cheianov

Scaling of the dynamics of homogeneous states of one-dimensional long-range interacting systems *(8 pages)* 032133
T. M. Rocha Filho, A. E. Santana, M. A. Amato, and A. Figueiredo

Nonintegrability and the Fourier heat conduction law *(5 pages)* 032134
Shunda Chen, Jiao Wang, Giulio Casati, and Giuliano Benenti

Intrinsic noise and two-dimensional maps: Quasicycles, quasiperiodicity, and chaos *(16 pages)* 032135
César Parra-Rojas, Joseph D. Challenger, Duccio Fanelli, and Alan J. McKane

Subdiffusion-reaction processes with $A \to B$ reactions versus subdiffusion-reaction processes with $A + B \to B$ reactions *(15 pages)* 032136
Tadeusz Kosztołowicz and Katarzyna D. Lewandowska

Nonequilibrium quantum fluctuations of work *(9 pages)* 032137
A. E. Allahverdyan

Fate of Majorana fermions and Chern numbers after a quantum quench *(13 pages)* 032138
P. D. Sacramento

Large-order aspects of the δ expansion in low-dimensional Ising models *(13 pages)* 032139
Hirofumi Yamada

Ground-state morphologies in the random-field Ising model: Scaling properties and non-Porod behavior *(10 pages)* 032140
Gaurav P. Shrivastav, Manoj Kumar, Varsha Banerjee, and Sanjay Puri

Effective ergodicity in single-spin-flip dynamics *(4 pages)* 032141
Mehmet Süzen

Short-range Ising spin glasses: The metastate interpretation of replica symmetry breaking *(28 pages)* 032142
N. Read

Granular Materials

Discharge flow of a bidisperse granular media from a silo *(8 pages)* 032201
M. Benyamine, M. Djermane, B. Dalloz-Dubrujeaud, and P. Aussillous

Effect of volume fraction on granular avalanche dynamics *(7 pages)* 032202
Nick Gravish and Daniel I. Goldman

Epitaxial growth of ordered and disordered granular sphere packings *(7 pages)* 032203
Andreea Panaitescu and Arshad Kudrolli

(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 90, NUMBER 3** **SEPTEMBER 2014**

Transport properties of continuous-time quantum walks on Sierpinski fractals *(9 pages)* 032113
Zoltán Darázs, Anastasiia Anishchenko, Tamás Kiss, Alexander Blumen, and Oliver Mülken

Frozen states and order-disorder transition in the dynamics of confined membranes *(8 pages)* 032114
Thomas Le Goff, Paolo Politi, and Olivier Pierre-Louis

Ratcheting of Brownian swimmers in periodically corrugated channels: A reduced Fokker-Planck approach *(6 pages)* 032115
Ehud Yariv and Ory Schnitzer

Realization of nonequilibrium thermodynamic processes using external colored noise *(8 pages)* 032116
Pau Mestres, Ignacio A. Martinez, Antonio Ortiz-Ambriz, Raul A. Rica, and Edgar Roldan

Heat fluctuations and initial ensembles *(11 pages)* 032117
Kwangmoo Kim, Chulan Kwon, and Hyunggyu Park

Nonlinear inhomogeneous Fokker-Planck equation within a generalized Stratonovich prescription *(5 pages)* 032118
Zochil González Arenas, Daniel G. Barci, and Constantino Tsallis

Thermal noise of mechanical oscillators in steady states with a heat flux *(9 pages)* 032119
Livia Conti, Claudia Lazzaro, Gagik Karapetyan, Michele Bonaldi, Matteo Pegoraro, Ram-Krishna Thakur, Paolo De Gregorio, and Lamberto Rondoni

Phase diagram of the symbiotic two-species contact process *(8 pages)* 032120
Marcelo Martins de Oliveira and Ronald Dickman

Calculating work in adiabatic two-level quantum Markovian master equations: A characteristic function method *(8 pages)* 032121
Fei Liu

Intermolecular Casimir-Polder forces in water and near surfaces *(6 pages)* 032122
Priyadarshini Thiyam, Clas Persson, Bo E. Sernelius, Drew F. Parsons, Anders Malthe-Sørenssen, and Mathias Boström

Effect of diffusion in one-dimensional discontinuous absorbing phase transitions *(6 pages)* 032123
Carlos E. Fiore and Gabriel T. Landi

Critical temperature of noninteracting bosonic gases in cubic optical lattices at arbitrary integer fillings *(5 pages)* 032124
Abdulla Rakhimov and Iman N. Askerzade

Sharpening the second law of thermodynamics with the quantum Bayes theorem *(6 pages)* 032125
Hrant Gharibyan and Max Tegmark

Record statistics of financial time series and geometric random walks *(5 pages)* 032126
Behlool Sabir and M. S. Santhanam

Transport in tight-binding bond percolation models *(8 pages)* 032127
Daniel Schmidtke, Abdellah Khodja, and Jochen Gemmer

Stationary states in two-dimensional systems driven by bivariate Lévy noises *(9 pages)* 032128
Krzysztof Szczepaniec and Bartłomiej Dybiec

(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 90, NUMBER 3** **SEPTEMBER 2014**

Fluid Dynamics

Observations of highly localized oscillons with multiple crests and troughs *(5 pages)* . . . . . 031001(R)
Xiaochen Li, Dali Xu, and Shijun Liao

Computational Physics

Quantum quenches in the thermodynamic limit. II. Initial ground states *(5 pages)* . . . . . 031301(R)
Marcos Rigol

Gibbs' principle for the lattice-kinetic theory of fluid dynamics *(5 pages)* . . . . . 031302(R)
I. V. Karlin, F. Bösch, and S. S. Chikatamarla

ARTICLES

Statistical Physics

Quantum phase transitions in a chain with two- and four-spin interactions in a transverse field *(7 pages)* 032101
O. F. de Alcantara Bonfim, A. Saguia, B. Boechat, and J. Florencio

Quantum correlated heat engine with spin squeezing *(9 pages)* 032102
Ferdi Altintas, Ali Ü. C. Hardal, and Özgür E. Müstecaplıoğlu

Shannon entropic temperature and its lower and upper bounds for non-Markovian stochastic dynamics *(13 pages)* 032103
Somrita Ray and Bidhan Chandra Bag

Brownian motors in the microscale domain: Enhancement of efficiency by noise *(5 pages)* 032104
J. Spiechowicz, P. Hänggi, and J. Łuczka

Effective diffusion coefficient in tilted disordered potentials: Optimal relative diffusivity at a finite temperature *(13 pages)* 032105
R. Salgado-García

Exponential series expansion for correlation functions of many-body systems *(6 pages)* 032106
Fabrizio Barocchi, Eleonora Guarini, and Ubaldo Bafile

Exact results for a simple epidemic model on a directed network: Explorations of a system in a nonequilibrium steady state *(11 pages)* 032107
Maxim S. Shkarayev and R. K. P. Zia

Solution of the antiferromagnetic Ising model with multisite interaction on a zigzag ladder *(11 pages)* 032108
E. Jurčišinová and M. Jurčišin

Finite-size scaling analysis of pseudocritical region in two-dimensional continuous-spin systems *(6 pages)* 032109
Yusuke Tomita

Localization transition, Lifschitz tails, and rare-region effects in network models *(9 pages)* 032110
Géza Ódor

Nonequilibrium relaxation and aging scaling of the Coulomb and Bose glass *(10 pages)* 032111
Matthew T. Shimer, Uwe C. Täuber, and Michel Pleimling

Heat conduction in nanoscale materials: A statistical-mechanics derivation of the local heat flux *(10 pages)* 032112
Xiantao Li

(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™

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 3 PARTS A AND B — ***CONTENTS*** — **SEPTEMBER 2014**

The Table of Contents is a total listing of Parts A and B.
Part A consists of pages 030101(R)–032709, and Part B pages 032801–039905(E).

PART A

RAPID COMMUNICATIONS

Statistical Physics

Pronounced minimum of the thermodynamic Casimir forces of O(n) symmetric film systems: Analytic theory *(5 pages)* . . . . . 030101(R)
Volker Dohm

Granular Materials

Armoring a droplet: Soft jamming of a dense granular interface *(4 pages)* . . . . . 030201(R)
Guillaume Lagubeau, Antonella Rescaglio, and Francisco Melo

Colloids and Complex Fluids

Insertion and confinement of hydrophobic metallic powder in water: The bubble-marble effect *(4 pages)* . . . . . 030301(R)
Yehuda Meir and Eli Jerby

Films, Interfaces, and Solids

Stability of liquid films covered by a carpet of self-propelled surfactant particles *(5 pages)* . . . . . 030401(R)
Andrey Pototsky, Uwe Thiele, and Holger Stark

Directed self-organization of quantum dots *(5 pages)* . . . . . 030402(R)
Jean-Noël Aqua and Xianbin Xu

Biological Physics

Anomalous diffusion of self-propelled particles in directed random environments *(5 pages)* . . . . . 030701(R)
M. Reza Shaebani, Zeinab Sadjadi, Igor M. Sokolov, Heiko Rieger, and Ludger Santen

Nonlinear Dynamics and Chaos

Autonomous learning by simple dynamical systems with delayed feedback *(4 pages)* . . . . . 030901(R)
Pablo Kaluza and Alexander S. Mikhailov

Transient scaling and resurgence of chimera states in networks of Boolean phase oscillators *(5 pages)* . . . . . 030902(R)
David P. Rosin, Damien Rontani, Nicholas D. Haynes, Eckehard Schöll, and Daniel J. Gauthier

Copyright 2014 by American Physical Society

1539-3755(201409)90:3:B;1-#

(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).