PHYSICAL REVIEW E **THIRD SERIES, VOLUME 89, NUMBER 6** **JUNE 2014**

ERRATA

Erratum: Dynamics of defects in an active nematic layer [Phys. Rev. E **88**, 050502(R) (2013)] *(1 page)* . . . . . 069901(E)
L. M. Pismen

Publisher's Note: Disentangling different types of El Niño episodes by evolving climate network analysis [Phys. Rev. E **88**, 052807 (2013)] *(1 page)* . . . . . 069902(E)
Alexander Radebach, Reik V. Donner, Jakob Runge, Jonathan F. Donges, and Jürgen Kurths

Publisher's Note: Analytical investigation of the faster-is-slower effect with a simplified phenomenological model [Phys. Rev. E **88**, 052813 (2013)] *(1 page)* . . . . . 069903(E)
K. Suzuno, A. Tomoeda, and D. Ueyama

Publisher's Note: Stabilization of cholesteric blue phases using polymerized nanoparticles [Phys. Rev. E **89**, 042502 (2014)] *(1 page)* . . . . . 069904(E)
Emine Kemiklioglu, Jeoung-Yeon Hwang, and Liang-Chy Chien

Publisher's Note: Loop-erased random walk on a percolation cluster: Crossover from Euclidean to fractal geometry [Phys. Rev. E **89**, 062101 (2014)] *(1 page)* . . . . . 069905(E)
E. Daryaei and S. Rouhani

Publisher's Note: Kelvin-Helmholtz versus Hall magnetoshear instability in astrophysical flows [Phys. Rev. E **89**, 053105 (2014)] *(1 page)* . . . . . 069906(E)
Daniel O. Gómez, Cecilia Bejarano, and Pablo D. Mininni

Erratum: Bond and site percolation in three dimensions [Phys. Rev. E **87**, 052107 (2013)] *(1 page)* . . . . . 069907(E)
Junfeng Wang, Zongzheng Zhou, Wei Zhang, Timothy M. Garoni, and Youjin Deng

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 6** **JUNE 2014**

Anisotropic diffusive transport: Connecting microscopic scattering and macroscopic transport properties *(10 pages)* 063202
Erik Alerstam

Thermoelastic damping in optical waveguide resonators with the bolometric effect *(9 pages)* 063203
Zuo-Yang Zhong, Wen-Ming Zhang, Guang Meng, and Ming-Yang Wang

Computational Physics

Linked-cluster expansion for the Green's function of the infinite-U Hubbard model *(13 pages)* 063301
Ehsan Khatami, Edward Perepelitsky, Marcos Rigol, and B. Sriram Shastry

Higher-order dielectrophoresis of nonspherical particles *(11 pages)* 063302
Hossein Nili and Nicolas G. Green

Pattern formation in liquid-vapor systems under periodic potential and shear *(12 pages)* 063303
A. Coclite, G. Gonnella, and A. Lamura

Mass-conserved volumetric lattice Boltzmann method for complex flows with willfully moving boundaries *(12 pages)* 063304
Huidan Yu, Xi Chen, Zhiqiang Wang, Debanjan Deep, Everton Lima, Ye Zhao, and Shawn D. Teague

Breakdown parameter for kinetic modeling of multiscale gas flows *(9 pages)* 063305
Jianping Meng, Nishanth Dongari, Jason M. Reese, and Yonghao Zhang

Efficient retrieval of landscape Hessian: Forced optimal covariance adaptive learning *(16 pages)* 063306
Ofer M. Shir, Jonathan Roslund, Darrell Whitley, and Herschel Rabitz

Boundary conditions for surface reactions in lattice Boltzmann simulations *(7 pages)* 063307
J. J. J. Gillissen and N. Looije

Sublattice parallel replica dynamics *(7 pages)* 063308
Enrique Martínez, Blas P. Uberuaga, and Arthur F. Voter

High-performance solution of the transport problem in a graphene armchair structure with a generic potential *(11 pages)* 063309
Demetrio Logoteta, Paolo Marconcini, Claudio Bonati, Maurizio Fagotti, and Massimo Macucci

Thermal multicomponent lattice Boltzmann model for catalytic reactive flows *(13 pages)* 063310
Jinfen Kang, Nikolaos I. Prasianakis, and John Mantzaras

COMMENTS

Comment on "How to obtain extreme multistability in coupled dynamical systems" *(2 pages)* 066901
J. C. Sprott and Chunbiao Li

Reply to "Comment on 'How to obtain extreme multistability in coupled dynamical systems' " *(3 pages)* 066902
C. R. Hens, R. Banerjee, U. Feudel, and S. K. Dana

Comment on "Probability distribution of power fluctuations in turbulence" *(3 pages)* 067001
Saralees Nadarajah and Zuonaki Ongodiebi

(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 6** **JUNE 2014**

Capillary filling under electro-osmotic effects in the presence of electromagneto-hydrodynamic effects *(13 pages)* 063017
Nikhil Desai, Uddipta Ghosh, and Suman Chakraborty

Breakage of non-Newtonian character in flow through a porous medium: Evidence from numerical simulation *(9 pages)* 063018
J. Bleyer and P. Coussot

Length effects of a built-in flapping flat plate on the flow over a traveling wavy foil *(12 pages)* 063019
Nansheng Liu, Yan Peng, and Xiyun Lu

Linearized-moment analysis of the temperature jump and temperature defect in the Knudsen layer of a rarefied gas *(8 pages)* 063020
Xiao-Jun Gu and David. R. Emerson

Anomalous diffusion for inertial particles under gravity in parallel flows *(8 pages)* 063021
Marco Martins Afonso

Rayleigh-Taylor linear growth at an interface between an elastoplastic solid and a viscous liquid *(7 pages)* 063022
A. R. Piriz, Y. B. Sun, and N. A. Tahir

Dynamo efficiency controlled by hydrodynamic bistability *(5 pages)* 063023
Sophie Miralles, Johann Hérault, Stephan Fauve, Christophe Gissinger, François Pétrélis, François Daviaud, Bérengère Dubrulle, Jean Boisson, Mickaël Bourgoin, Gautier Verhille, Philippe Odier, Jean-François Pinton, and Nicolas Plihon

Mass flux in extended and classical hydrodynamics *(13 pages)* 063024
Miroslav Grmela

Wave turbulence in shallow water models *(15 pages)* 063025
P. Clark di Leoni, P. J. Cobelli, and P. D. Mininni

Plasma Physics

Collision of counterpropagating laser-excited wake bubbles *(5 pages)* 063101
Z. G. Deng, L. Yang, C. T. Zhou, M. Y. Yu, H. P. Ying, and X. G. Wang

Ab initio transport coefficients of Ar^+ ions in Ar for cold plasma jet modeling *(14 pages)* 063102
A. Chicheportiche, B. Lepetit, F. X. Gadéa, M. Benhenni, M. Yousfi, and R. Kalus

Measurement of the laser-pulse group velocity in plasma waveguides *(5 pages)* 063103
J. van Tilborg, J. Daniels, A. J. Gonsalves, C. B. Schroeder, E. Esarey, and W. P. Leemans

Properties of warm dense polystyrene plasmas along the principal Hugoniot *(6 pages)* 063104
S. X. Hu (胡素兴), T. R. Boehly, and L. A. Collins

Glass-transition properties of Yukawa potentials: From charged point particles to hard spheres *(7 pages)* 063105
Anoosheh Yazdi, Alexei Ivlev, Sergey Khrapak, Hubertus Thomas, Gregor E. Morfill, Hartmut Löwen, Adam Wysocki, and Matthias Sperl

Classical Physics

Soliton interactions between multivalued localized waveguide channels within ferrites *(14 pages)* 063201
Francis T. Nguepjouo, Victor K. Kuetche, and Timoleon C. Kofane

(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 6** **JUNE 2014**

Mechanism of unpinning spirals by a series of stimuli *(5 pages)* 062928
Xiang Gao and Hong Zhang

Fluid Dynamics

Shapes and speeds of steady forced premixed flames *(12 pages)* 063001
Guy Joulin and Bruno Denet

Single-bubble dynamics in pool boiling of one-component fluids *(14 pages)* 063002
Xinpeng Xu and Tiezheng Qian

Dynamic equilibrium under vibrations of H_2 liquid-vapor interface at various gravity levels *(7 pages)* 063003
G. Gandikota, D. Chatain, T. Lyubimova, and D. Beysens

Scaling of far-field wake angle of nonaxisymmetric pressure disturbance *(5 pages)* 063004
F. Moisy and M. Rabaud

Electro-osmotic flow along superhydrophobic surfaces with embedded electrodes *(6 pages)* 063005
Clarissa Schönecker and Steffen Hardt

Comparison of splashing in high- and low-viscosity liquids *(3 pages)* 063006
Cacey S. Stevens, Andrzej Latka, and Sidney R. Nagel

Dynamical pattern formation in two-dimensional fluids and Landau pole bifurcation *(8 pages)* 063007
Shun Ogawa, Julien Barré, Hidetoshi Morita, and Yoshiyuki Y. Yamaguchi

Dynamics of liquid drops coalescing in the inertial regime *(6 pages)* 063008
James E. Sprittles and Yulii D. Shikhmurzaev

Ultrafast magnetic-resonance-imaging velocimetry of liquid-liquid systems: Overcoming chemical-shift artifacts using compressed sensing *(9 pages)* 063009
Alexander B. Tayler, Martin Benning, Andrew J. Sederman, Daniel J. Holland, and Lynn F. Gladden

Boundary streaming with Navier boundary condition *(5 pages)* 063010
Jin-Han Xie and Jacques Vanneste

Vortex-mediated bouncing drops on an oscillating liquid *(5 pages)* 063011
Hong-Yu Chu and Hsiang-Ting Fei

Production of microbubbles from axisymmetric flow focusing in the jetting regime for moderate Reynolds numbers *(8 pages)* 063012
E. J. Vega, A. J. Acero, J. M. Montanero, M. A. Herrada, and A. M. Gañán-Calvo

Geometry effects on Rayleigh-Bénard convection in rotating annular layers *(6 pages)* 063013
J. J. Sánchez-Álvarez, E. Serre, E. Crespo del Arco, and F. H. Busse

Trapping and instability of directional gravity waves in localized water currents *(7 pages)* 063014
B. Eliasson and F. Haas

Subfilter scalar-flux vector orientation in homogeneous isotropic turbulence *(10 pages)* 063015
Siddhartha Verma and G. Blanquart

Saturation of nonaxisymmetric instabilities of magnetized spherical Couette flow *(8 pages)* 063016
E. J. Kaplan

(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 6** **JUNE 2014**

Reconstruction of ensembles of coupled time-delay systems from time series *(9 pages)* 062911
I. V. Sysoev, M. D. Prokhorov, V. I. Ponomarenko, and B. P. Bezruchko

Synchronization in a mechanical resonator array coupled quadratically to a common electromagnetic field mode *(9 pages)* 062912
G. León Aveleyra, C. A. Holmes, and G. J. Milburn

Stochastic resonance with a mesoscopic reaction-diffusion system *(7 pages)* 062913
Hitoshi Mahara, Tomohiko Yamaguchi, and P. Parmananda

Experimental evidence of vibrational resonance in a multistable system *(5 pages)* 062914
V. N. Chizhevsky

Nonautonomous matter waves in a spin-1 Bose-Einstein condensate *(12 pages)* 062915
Yu-Jia Shen, Yi-Tian Gao, Da-Wei Zuo, Yu-Hao Sun, Yu-Jie Feng, and Long Xue

Theoretical analysis of vibrational resonance in a neuron model near a bifurcation point *(6 pages)* 062916
Bin Deng, Jiang Wang, Xile Wei, Haitao Yu, and Huiyan Li

Few-cycle optical rogue waves: Complex modified Korteweg–de Vries equation *(19 pages)* 062917
Jingsong He, Lihong Wang, Linjing Li, K. Porsezian, and R. Erdélyi

Network approach to the pinning control of drift-wave turbulence *(8 pages)* 062918
Panpan Liu, Zhigang Deng, Lei Yang, Meng Zhan, and Xingang Wang

Assessing the performance of dynamical trajectory estimates *(6 pages)* 062919
Jochen Bröcker

Spiral defect chaos in an advection-reaction-diffusion system *(8 pages)* 062920
H. Affan and R. Friedrich

Topological approximation of the nonlinear Anderson model *(19 pages)* 062921
Alexander V. Milovanov and Alexander Iomin

Regular transport dynamics produce chaotic travel times *(6 pages)* 062922
Jorge Villalobos, Víctor Muñoz, José Rogan, Roberto Zarama, Neil F. Johnson, Benjamín Toledo, and Juan Alejandro Valdivia

Synchronization and amplitude death in hypernetworks *(6 pages)* 062923
Shakir Bilal and Ramakrishna Ramaswamy

Periodic synchronization and chimera in conformist and contrarian oscillators *(6 pages)* 062924
Hyunsuk Hong

Role of dissipation in flexural wave turbulence: From experimental spectrum to Kolmogorov-Zakharov spectrum *(10 pages)* 062925
Benjamin Miquel, Alexandros Alexakis, and Nicolas Mordant

Multisoliton Newton's cradles and supersolitons in regular and parity-time-symmetric nonlinear couplers *(7 pages)* 062926
Pengfei Li, Lu Li, and Boris A. Malomed

Statistical properties of one-dimensional parametrically kicked Hamilton systems *(14 pages)* 062927
Dimitris Andresas, Benjamin Batistić, and Marko Robnik

(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 6** **JUNE 2014**

Criterion for condensation in kinetically constrained one-dimensional transport models *(8 pages)* 062812
D. M. Miedema, A. S. de Wijn, and P. Schall

Traffic congestion in interconnected complex networks *(8 pages)* 062813
Fei Tan, Jiajing Wu, Yongxiang Xia, and Chi K. Tse

Multiple percolation transitions in a configuration model of a network of networks *(10 pages)* 062814
Ginestra Bianconi and Sergey N. Dorogovtsev

Effects of temporal correlations on cascades: Threshold models on temporal networks *(8 pages)* 062815
Ville-Pekka Backlund, Jari Saramäki, and Raj Kumar Pan

Degree-ordered percolation on a hierarchical scale-free network *(6 pages)* 062816
Hyun Keun Lee, Pyoung-Seop Shim, and Jae Dong Noh

Competitive epidemic spreading over arbitrary multilayer networks *(15 pages)* 062817
Faryad Darabi Sahneh and Caterina Scoglio

Absorbing and shattered fragmentation transitions in multilayer coevolution *(8 pages)* 062818
Marina Diakonova, Maxi San Miguel, and Víctor M. Eguíluz

Nonlinear Dynamics and Chaos

Dark solitons, breathers, and rogue wave solutions of the coupled generalized nonlinear Schrödinger equations *(13 pages)* 062901
N. Vishnu Priya, M. Senthilvelan, and M. Lakshmanan

Experimental observation of a transition from amplitude to oscillation death in coupled oscillators *(4 pages)* 062902
Tanmoy Banerjee and Debarati Ghosh

Phase-modulated solitary waves controlled by a boundary condition at the bottom *(8 pages)* 062903
Abhik Mukherjee and M. S. Janaki

Stability of position control of traveling waves in reaction-diffusion systems *(12 pages)* 062904
Jakob Löber

Thermal enhancement and stochastic resonance of polaron ratchets *(11 pages)* 062905
L. S. Brizhik, A. A. Eremko, B. M. A. G. Piette, and W. J. Zakrzewski

Clustering in globally coupled oscillators near a Hopf bifurcation: Theory and experiments *(11 pages)* 062906
Hiroshi Kori, Yoshiki Kuramoto, Swati Jain, István Z. Kiss, and John L. Hudson

Empirical Fokker-Planck-based test of stationarity for time series *(8 pages)* 062907
Cahit Erkal and Aydin A. Cecen

Fluctuation of similarity to detect transitions between distinct dynamical regimes in short time series *(14 pages)* 062908
Nishant Malik, Norbert Marwan, Yong Zou, Peter J. Mucha, and Jürgen Kurths

Dynamical inference: Where phase synchronization and generalized synchronization meet *(11 pages)* 062909
Tomislav Stankovski, Peter V. E. McClintock, and Aneta Stefanovska

Wave transport and statistical properties of an open non-Hermitian quantum dot with parity-time symmetry *(9 pages)* 062910
B. Wahlstrand, I. I. Yakimenko, and K.-F. Berggren

(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 6** **JUNE 2014**

Estimating the biophysical properties of neurons with intracellular calcium dynamics *(11 pages)* 062714
Jingxin Ye, Paul J. Rozdeba, Uriel I. Morone, Arij Daou, and Henry D. I. Abarbanel

Anisotropic spontaneous curvatures in lipid membranes *(8 pages)* 062715
Nikhil Walani, Jennifer Torres, and Ashutosh Agrawal

Rate in template-directed polymer synthesis *(8 pages)* 062716
Takuya Saito

Excitability in a stochastic differential equation model for calcium puffs *(6 pages)* 062717
S. Rüdiger

Extreme-value statistics of brain networks: Importance of balanced condition *(8 pages)* 062718
Sarika Jalan and Sanjiv K. Dwivedi

Motif statistics of artificially evolved and biological networks *(9 pages)* 062719
Burçin Danacı, Mehmet Ali Anıl, and Ayşe Erzan

Networks and Interdisciplinary Physics

Gradient navigation model for pedestrian dynamics *(8 pages)* 062801
Felix Dietrich and Gerta Köster

Fragmentation transition in a coevolving network with link-state dynamics *(10 pages)* 062802
A. Carro, F. Vazquez, R. Toral, and M. San Miguel

Two-exponent Lavalette function: A generalization for the case of adherents to a religious movement *(4 pages)* 062803
Marcel Ausloos

Axelrod's model with surface tension *(7 pages)* 062804
Bruno Pace and Carmen P. C. Prado

Coverage versus supply cost in facility location: Physics of frustrated spin systems *(14 pages)* 062805
Chi Ho Yeung, K. Y. Michael Wong, and Bo Li

Structural and functional properties of spatially embedded scale-free networks *(7 pages)* 062806
Thorsten Emmerich, Armin Bunde, and Shlomo Havlin

Entropy distribution and condensation in random networks with a given degree distribution *(8 pages)* 062807
Kartik Anand, Dmitri Krioukov, and Ginestra Bianconi

Origin of Gibrat law in Internet: Asymmetric distribution of the correlation *(6 pages)* 062808
Jiang-Hai Qian, Qu Chen, Ding-Ding Han, Yu-Gang Ma, and Wen-Qing Shen

Hierarchy and polysynchrony in an adaptive network *(12 pages)* 062809
V. Botella-Soler and P. Glendinning

Information slows down hierarchy growth *(11 pages)* 062810
Agnieszka Czaplicka, Krzysztof Suchecki, Borja Miñano, Miquel Trias, and Janusz A. Hołyst

Disorder induces explosive synchronization *(8 pages)* 062811
Per Sebastian Skardal and Alex Arenas

(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 6** **JUNE 2014**

Designing highly tunable semiflexible filament networks *(6 pages)* 062602
Ronald J. Pandolfi, Lauren Edwards, David Johnston, Peter Becich, and Linda S. Hirst

Lateral phase separation in polymer-blend thin films: Surface bifurcation *(14 pages)* 062603
Sam Coveney and Nigel Clarke

Intrinsic viscoelasticity in thin high-molecular-weight polymer films *(5 pages)* 062604
Xiaoyuan Sheng, Frédéric Wintzenrieth, Katherine R. Thomas, and Ullrich Steiner

PART B

Biological Physics

Sisyphus effect in pulse-coupled excitatory neural networks with spike-timing-dependent plasticity *(15 pages)* . . . 062701
Kaare Mikkelsen, Alberto Imparato, and Alessandro Torcini

Evolution dynamics of a model for gene duplication under adaptive conflict *(9 pages)* 062702
Mark Ancliff and Jeong-Man Park

Suppression and enhancement of transcriptional noise by DNA looping *(6 pages)* 062703
Jose M. G. Vilar and Leonor Saiz

Relaxation and curvature-induced molecular flows within multicomponent membranes *(9 pages)* 062704
Richard G. Morris

Velocity alignment leads to high persistence in confined cells *(6 pages)* 062705
Brian A. Camley and Wouter-Jan Rappel

Torque correlation length and stochastic twist dynamics of DNA *(7 pages)* 062706
Edward J. Banigan and John F. Marko

Influence of molecular motors on the motion of particles in viscoelastic media *(14 pages)* 062707
Sebastián Bouzat

Ordering and stability in lipid droplets with applications to low-density lipoproteins *(14 pages)* 062708
Jarrett L. Lancaster, Todor Antonijevic, and Joseph M. Starobin

Mechanical signaling via nonlinear wavefront propagation in a mechanically excitable medium *(6 pages)* 062709
Timon Idema and Andrea J. Liu

Noise-induced organized slow fluctuations in networks of neural areas with interarea feed-forward excitation and inhibition *(10 pages)* 062710
Dongmyeong Lee, Seunghwan Kim, and Tae-Wook Ko

Self-consistent treatment of electrostatics in molecular DNA braiding through external forces *(15 pages)* 062711
Dominic J. Lee

Phase diagrams and morphological evolution in wrapping of rod-shaped elastic nanoparticles by cell membrane: A two-dimensional study *(9 pages)* 062712
Xin Yi and Huajian Gao

Chiral symmetry breaking of a double-stranded helical chain through bend-writhe coupling *(16 pages)* 062713
Tomohiro Yanao and Kenichi Yoshikawa

(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 6** **JUNE 2014**

Capillary adhesion at the nanometer scale *(14 pages)* 062402
Shengfeng Cheng and Mark O. Robbins

Dynamic evolution of initial instability during non-steady-state growth *(8 pages)* 062403
Zhibo Dong, Wenjian Zheng, Yanhong Wei, and Kuijing Song

Reorientation of a dipolar monolayer and dipolar solvent *(6 pages)* 062404
Taeil Yi and Seth Lichter

Relaxation after a change in the interface growth dynamics *(8 pages)* 062405
T. A. de Assis and F. D. A. Aarão Reis

Influence of adsorption or desorption and surface diffusion on the formation kinetics of open half-monolayer coverage *(11 pages)* 062406
E. P. Feldman, L. I. Stefanovich, and Yu. V. Terekhova

Thermal slip for liquids at rough solid surfaces *(8 pages)* 062407
Chengbin Zhang, Yongping Chen, and G. P. Peterson

Role of chemical potential in relaxation of faceted crystal structure *(12 pages)* 062408
Joshua P. Schneider, Kanna Nakamura, and Dionisios Margetis

Thickness-dependent attraction or repulsion between defects on a thin elastic film *(5 pages)* 062409
L. H. He

Freezing of Lennard-Jones fluid on a patterned substrate *(8 pages)* 062410
Huijun Zhang, Shuming Peng, Li Mao, Xiaosong Zhou, Jianhua Liang, Chubin Wan, Jian Zheng, and Xin Ju

Cooperative sequential-adsorption model in two dimensions with experimental applications for ionic self-assembly of nanoparticles *(6 pages)* 062411
L. Jonathan Cook, D. A. Mazilu, I. Mazilu, B. M. Simpson, E. M. Schwen, V. O. Kim, and A. M. Seredinski

Liquid Crystals

Paranematic-to-nematic ordering of a binary mixture of rodlike liquid crystals confined in cylindrical nanochannels *(12 pages)* 062501
Sylwia Całus, Beata Jabłońska, Mark Busch, Daniel Rau, Patrick Huber, and Andriy V. Kityk

Chiral bipolar colloids from nonchiral chromonic liquid crystals *(10 pages)* 062502
A. Nych, U. Ognysta, I. Muševič, D. Seč, M. Ravnik, and S. Žumer

Model of hard spheroplatelets near a hard wall *(9 pages)* 062503
A. Kapanowski and M. Abram

Columnar molecular aggregation in the aqueous solutions of disodium cromoglycate *(6 pages)* 062504
Dena M. Agra-Kooijman, Gautam Singh, Alexander Lorenz, Peter J. Collings, Heinz-S. Kitzerow, and Satyendra Kumar

Tilt orientationally disordered hexagonal columnar phase of phthalocyanine discotic liquid crystals *(8 pages)* 062505
Makoto Yoneya, Takayoshi Makabe, Ayano Miyamoto, Yo Shimizu, Yasuo Miyake, Hiroyuki Yoshida, Akihiko Fujii, and Masanori Ozaki

Polymers

Interacting elastic lattice polymers: A study of the free energy of globular rings *(7 pages)* 062601
M. Baiesi and E. Orlandini

(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 6** **JUNE 2014**

Kinematic matrix theory and universalities in self-propellers and active swimmers *(7 pages)* 062304
Amir Nourhani, Paul E. Lammert, Ali Borhan, and Vincent H. Crespi

Anisotropic diffusion of spherical particles in closely confining microchannels *(6 pages)* 062305
Simon L. Dettmer, Stefano Pagliara, Karolis Misiunas, and Ulrich F. Keyser

Electro-orientation of a metal nanowire counterbalanced by thermal torques *(9 pages)* 062306
Juan J. Arcenegui, Pablo García-Sánchez, Hywel Morgan, and Antonio Ramos

Variable-amplitude oscillatory shear response of amorphous materials *(11 pages)* 062307
Nathan Perchikov and Eran Bouchbinder

Experimental signatures of a nonequilibrium phase transition governing the yielding of a soft glass *(7 pages)* 062308
K. Hima Nagamanasa, Shreyas Gokhale, A. K. Sood, and Rajesh Ganapathy

Statistical mechanics of two-dimensional shuffled foams: Geometry-topology correlation in small or large disorder limits *(10 pages)* 062309
Marc Durand, Andrew M. Kraynik, Frank van Swol, Jos Käfer, Catherine Quilliet, Simon Cox, Shirin Ataei Talebi, and François Graner

Mesoscopic simulation of phase behaviors and structures in an amphiphile-solvent system *(7 pages)* 062310
Kohtaro Yamada, Emiko Yasuno, Youhei Kawabata, Tohru Okuzono, and Tadashi Kato

Short-time diffusivity of dicolloids *(7 pages)* 062311
Mark M. Panczyk, Norman J. Wagner, and Eric M. Furst

Characterization of sheared colloidal aggregation using Langevin dynamics simulation *(12 pages)* 062312
Sergiy Markutsya, Rodney O. Fox, and Shankar Subramaniam

Evolution of elastic heterogeneity during aging in metallic glasses *(7 pages)* 062313
Yue Fan, Takuya Iwashita, and Takeshi Egami

Nonlinear viscoelasticity of entangled wormlike micellar fluid under large-amplitude oscillatory shear: Role of elastic Taylor-Couette instability *(9 pages)* 062314
Sayantan Majumdar and A. K. Sood

Structural evolution in the aging process of supercooled colloidal liquids *(9 pages)* 062315
Takeshi Kawasaki and Hajime Tanaka

Clusters, asters, and collective oscillations in chemotactic colloids *(7 pages)* 062316
Suropriya Saha, Ramin Golestanian, and Sriram Ramaswamy

Dynamic electrophoresis of charged colloids in an oscillating electric field *(11 pages)* 062317
Chunyu Shih and Ryoichi Yamamoto

Structural properties of anisotropically confined binary Coulomb balls *(12 pages)* 062318
F. C. O. Silva and S. W. S. Apolinario

Films, Interfaces, and Solids

Metastable states and activated dynamics in thin-film adhesion to patterned surfaces *(11 pages)* 062401
Stefan B. Lindström, Lars Johansson, and Nils R. Karlsson

(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 6** **JUNE 2014**

Retention capacity of correlated surfaces *(6 pages)* 062141
K. J. Schrenk, N. A. M. Araújo, R. M. Ziff, and H. J. Herrmann

Degenerate ground states and multiple bifurcations in a two-dimensional q-state quantum Potts model *(7 pages)* 062142
Yan-Wei Dai, Sam Young Cho, Murray T. Batchelor, and Huan-Qiang Zhou

Gas-liquid phase coexistence and crossover behavior of binary ionic fluids with screened Coulomb interactions *(8 pages)* 062143
O. Patsahan

Correntropy-based partial directed coherence for testing multivariate Granger causality in nonlinear processes *(15 pages)* 062144
Rohit Kannan and Arun K. Tangirala

Driven surface diffusion with detailed balance and elastic phase transitions *(13 pages)* 062145
Hans-Karl Janssen and Olaf Stenull

Singular-potential random-matrix model arising in mean-field glassy systems *(16 pages)* 062146
Gernot Akemann, Dario Villamaina, and Pierpaolo Vivo

Granular Materials

Higher-order effects on orientational correlation and relaxation dynamics in homogeneous cooling of a rough granular gas *(13 pages)* 062201
Ramakrishna Rongali and Meheboob Alam

Stress-dependent normal-mode frequencies from the effective mass of granular matter *(11 pages)* 062202
Yanqing Hu, David L. Johnson, John J. Valenza, Francisco Santibanez, and Hernán A. Makse

Hypocoordinated solids in particulate media *(9 pages)* 062203
Thibault Bertrand, Carl F. Schreck, Corey S. O'Hern, and Mark D. Shattuck

Density-driven spontaneous streak segregation patterns in a thin rotating drum *(7 pages)* 062204
C. C. Liao, S. S. Hsiau, and H. C. Nien

Interstitial gas effect on vibrated granular columns *(6 pages)* 062205
Javier C. Pastenes, Jean-Christophe Géminard, and Francisco Melo

Center of mass scaling in three-dimensional binary granular systems *(8 pages)* 062206
C. R. K. Windows-Yule and D. J. Parker

Colloids and Complex Fluids

Clustering and heterogeneous dynamics in a kinetic Monte Carlo model of self-propelled hard disks *(16 pages)* 062301
Demian Levis and Ludovic Berthier

Numerical study of density functional theory with mean spherical approximation for ionic condensation in highly charged confined electrolytes *(12 pages)* 062302
R. Joubaud, O. Bernard, A. Delville, A. Ern, B. Rotenberg, and P. Turq

Phase-field-crystal modeling of glass-forming liquids: Spanning time scales during vitrification, aging, and deformation *(10 pages)* 062303
Joel Berry and Martin Grant

(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 6** **JUNE 2014**

Stochastic functionals and fluctuation theorem for multikangaroo processes *(7 pages)* 062124
C. Van den Broeck and R. Toral

From pairwise to group interactions in games of cyclic dominance *(7 pages)* 062125
Attila Szolnoki, Jeromos Vukov, and Matjaž Perc

Crossover from anomalous to normal diffusion in porous media *(10 pages)* 062126
F. D. A. Aarão Reis and Dung di Caprio

Effects of intrinsic noise on a cubic autocatalytic reaction-diffusion system *(11 pages)* 062127
Fred Cooper, Gourab Ghoshal, and Juan Pérez-Mercader

Mean cover time of one-dimensional persistent random walks *(4 pages)* 062129
Marie Chupeau, Olivier Bénichou, and Raphaël Voituriez

Planck radiation law and Einstein coefficients reexamined in Kaniadakis κ statistics *(5 pages)* 062130
Kamel Ourabah and Mouloud Tribeche

Exchange symmetry, fluctuation-compressibility relation, and thermodynamic potentials of quantum liquids *(12 pages)* 062131
Yu Rim Lim, Seong Jun Park, Sanggeun Song, Gil-Suk Yang, Young-Gui Yoon, Ji-Hyun Kim, and Jaeyoung Sung

Universal scaling effects of a temperature gradient at first-order transitions *(8 pages)* 062132
Claudio Bonati, Massimo D'Elia, and Ettore Vicari

Critical behavior of absorbing phase transitions for models in the Manna class with natural initial states *(7 pages)* 062133
Sang Bub Lee

Maximum efficiency of ideal heat engines based on a small system: Correction to the Carnot efficiency at the nanoscale *(8 pages)* 062134
H. T. Quan

Estimation of quenched random fields in the inverse Ising problem using a diagonal matching method *(10 pages)* 062135
Hirohito Kiwata

Baxter-Wu model in a transverse magnetic field *(11 pages)* 062136
Sylvain Capponi, Saeed S. Jahromi, Fabien Alet, and Kai Phillip Schmidt

Bethe free-energy approximations for disordered quantum systems *(10 pages)* 062137
I. Biazzo and A. Ramezanpour

Binding polynomial in molecular self-assembly *(4 pages)* 062138
Andrew A. Mosunov, Kristina A. Rybakova, Olga V. Rogova, and Maxim P. Evstigneev

Minimum vertex cover problems on random hypergraphs: Replica symmetric solution and a leaf removal algorithm *(8 pages)* 062139
Satoshi Takabe and Koji Hukushima

Thermodynamic description of the Ising antiferromagnet on a triangular lattice with selective dilution by a modified pair-approximation method *(11 pages)* 062140
T. Balcerzak, K. Szałowski, M. Jaščur, M. Žukovič, A. Bobák, and M. Borovský

(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 6** **JUNE 2014**

Grassmannian representation of the two-dimensional monomer-dimer model *(6 pages)* 062107
Nicolas Allegra and Jean-Yves Fortin

Dynamic phase transitions in simple driven kinetic networks *(5 pages)* 062108
Suriyanarayanan Vaikuntanathan, Todd R. Gingrich, and Phillip L. Geissler

Optimal rectification in the ultrastrong coupling regime *(7 pages)* 062109
T. Werlang, M. A. Marchiori, M. F. Cornelio, and D. Valente

Local quenches with global effects in interacting quantum systems *(10 pages)* 062110
E. J. Torres-Herrera and Lea F. Santos

Boltzmann distribution in a nonequilibrium steady state: Measuring local potential by granular Brownian particles *(5 pages)* 062111
Kiwing To

Nonequilibrium work relation beyond the Boltzmann-Gibbs distribution *(5 pages)* 062112
Ying Tang, Ruoshi Yuan, and Ping Ao

Emergence of patterns in random processes. II. Stochastic structure in random events *(6 pages)* 062113
William I. Newman

Universality classes for unstable crystal growth *(13 pages)* 062114
Sofia Biagi, Chaouqi Misbah, and Paolo Politi

Giant negative mobility of Janus particles in a corrugated channel *(5 pages)* 062115
Pulak K. Ghosh, Peter Hänggi, Fabio Marchesoni, and Franco Nori

Control of quantum thermodynamic behavior of a charged magneto-oscillator with momentum dissipation *(8 pages)* 062116
Asam Rajesh and Malay Bandyopadhyay

Correlated cluster mean-field theory for spin-glass systems *(7 pages)* 062117
F. M. Zimmer, M. Schmidt, and S. G. Magalhaes

Efficiency at maximum power of motor traffic on networks *(9 pages)* 062118
N. Golubeva and A. Imparato

Performance optimization of minimally nonlinear irreversible heat engines and refrigerators under a trade-off figure of merit *(6 pages)* 062119
Rui Long, Zhichun Liu, and Wei Liu

Relations between short-range and long-range Ising models *(11 pages)* 062120
Maria Chiara Angelini, Giorgio Parisi, and Federico Ricci-Tersenghi

Model to interpret pulsed-field-gradient NMR data including memory and superdispersion effects *(10 pages)* 062121
Marie-Christine Néel, Daniela Bauer, and Marc Fleury

Tagged-particle motion in a dense confined liquid *(12 pages)* 062122
Simon Lang and Thomas Franosch

Large-n approach to thermodynamic Casimir effects in slabs with free surfaces *(21 pages)* 062123
H. W. Diehl, Daniel Grüneberg, Martin Hasenbusch, Alfred Hucht, Sergei B. Rutkevich, and Felix M. Schmidt

(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 6** **JUNE 2014**

Rapid geometrical chaotization in slow-fast Hamiltonian systems *(4 pages)* . . . . . 060902(R)
A. V. Artemyev, A. I. Neishtadt, and L. M. Zelenyi

Multiplicative-cascade dynamics in pole balancing *(5 pages)* . . . . . 060903(R)
Henry S. Harrison, Damian G. Kelty-Stephen, Daniela V. Vaz, and Claire F. Michaels

Fluid Dynamics

Consecutive turbulence transition delay with reinforced passive control *(5 pages)* . . . . . 061001(R)
Sohrab S. Sattarzadeh, Jens H. M. Fransson, Alessandro Talamelli, and Bengt E. G. Fallenius

Response function of turbulence computed via fluctuation-response relation of a Langevin system with vanishing noise *(5 pages)* . . . . . 061002(R)
Takeshi Matsumoto, Michio Otsuki, Ooshida Takeshi, Susumu Goto, and Akio Nakahara

Selection of the Taylor-Saffman bubble does not require surface tension *(5 pages)* . . . . . 061003(R)
Giovani L. Vasconcelos and Mark Mineev-Weinstein

Gravity-driven clustering of inertial particles in turbulence *(5 pages)* . . . . . 061004(R)
Yongnam Park and Changhoon Lee

Plasma Physics

Comparisons of dense-plasma-focus kinetic simulations with experimental measurements *(5 pages)* . . . . . 061101(R)
A. Schmidt, A. Link, D. Welch, J. Ellsworth, S. Falabella, and V. Tang

Computational Physics

Symplectic integrators for spin systems *(4 pages)* . . . . . 061301(R)
Robert I. McLachlan, Klas Modin, and Olivier Verdier

ARTICLES

Statistical Physics

Loop-erased random walk on a percolation cluster: Crossover from Euclidean to fractal geometry *(5 pages)* 062101
E. Daryaei and S. Rouhani

Effective field theory of thermal Casimir interactions between anisotropic particles *(19 pages)* 062102
Robert C. Haussman and Markus Deserno

Work and quantum phase transitions: Quantum latency *(5 pages)* 062103
E. Mascarenhas, H. Bragança, R. Dorner, M. França Santos, V. Vedral, K. Modi, and J. Goold

Multicritical behavior of two coupled Ising models in the presence of a random field *(10 pages)* 062104
Octavio D. Rodriguez Salmon and Fernando D. Nobre

Scaling analysis of stationary probability distributions of random walks on one-dimensional lattices with aperiodic disorder *(8 pages)* 062105
Hiroshi Miki

Generalized extensive entropies for studying dynamical systems in highly anisotropic phase spaces *(8 pages)* 062106
Giorgio Sonnino and György Steinbrecher

(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 89, NUMBER 6 PARTS A AND B — ***CONTENTS*** — **JUNE 2014**

The Table of Contents is a total listing of Parts A and B.
Part A consists of pages 060001–062604, and Part B pages 062701–069907(E).

PART A

EDITORIALS AND ANNOUNCEMENTS

Announcement: In Memory of Irwin Oppenheim *(1 page)* 060001

RAPID COMMUNICATIONS

Statistical Physics

Universality class of the conserved Manna model in one dimension *(5 pages)* . . . . . 060101(R)
Sang Bub Lee

Films, Interfaces, and Solids

Indirect measurement of interfacial melting from macroscopic ice observations *(5 pages)* . . . . . 060401(R)
Tomotaka Saruya, Kei Kurita, and Alan W. Rempel

Achieving realistic interface kinetics in phase-field models with a diffusional contrast *(5 pages)* . . . . . 060402(R)
G. Boussinot and Efim A. Brener

Liquid Crystals

Twist-bend nematic liquid crystals in high magnetic fields *(5 pages)* . . . . . 060501(R)
P. K. Challa, V. Borshch, O. Parri, C. T. Imrie, S. N. Sprunt, J. T. Gleeson, O. D. Lavrentovich, and A. Jákli

Self-assembly of skyrmion-dressed chiral nematic colloids with tangential anchoring *(5 pages)* . . . . . 060502(R)
M. B. Pandey, T. Porenta, J. Brewer, A. Burkart, S. Čopar, S. Žumer, and Ivan I. Smalyukh

Biological Physics

Optimal swimming of a sheet *(6 pages)* . . . . . 060701(R)
Thomas D. Montenegro-Johnson and Eric Lauga

Nonlinear Dynamics and Chaos

Solitary state at the edge of synchrony in ensembles with attractive and repulsive interactions *(5 pages)* . . . . . 060901(R)
Yuri Maistrenko, Bogdan Penkovsky, and Michael Rosenblum

Copyright 2014 by American Physical Society

1539-3755(201406)89:6: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).