PHYSICAL REVIEW E **THIRD SERIES, VOLUME 94, NUMBER 5** **NOVEMBER 2016**

Publisher's Note: Imaging grain boundary grooves in hard-sphere colloidal bicrystals [Phys. Rev. E **94**, 042604 (2016)] *(1 page)* . . . . . 059902(E)
Eric Maire, Emily Redston, Maria Persson Gulda, David A. Weitz, and Frans Spaepen

Erratum: Microstructure identification via detrended fluctuation analysis of ultrasound signals [Phys. Rev. E **87**, 043304 (2013)] *(1 page)* . . . . . 059903(E)
Paulo G. Normando, Romão S. Nascimento, Elineudo P. Moura, and André P. Vieira

Publisher's Note: Generalized Gaussian wave packet dynamics: Integrable and chaotic systems [Phys. Rev. E **93**, 012213 (2016)] *(1 page)* . . . . . 059904(E)
Harinder Pal, Manan Vyas, and Steven Tomsovic

Erratum: Spatiotemporal bounded noises and transitions induced by them in solutions of the real Ginzburg-Landau model [Phys. Rev. E **86**, 021118 (2012)] *(1 page)* . . . . . 059905(E)
Sebastiano de Franciscis and Alberto d'Onofrio

Publisher's Note: Breathers and rogue waves excited by all-magnonic spin-transfer torque [Phys. Rev. E **94**, 042220 (2016)] *(1 page)* . . . . . 059906(E)
Zai-Dong Li, Qiu-Yan Li, Tian-Fu Xu, and Peng-Bin He

Publisher's Note: Critical wind speed at which trees break [Phys. Rev. E **93**, 023001 (2016)] *(1 page)* . . . . . 059907(E)
E. Virot, A. Ponomarenko, É. Dehandschoewercker, D. Quéré, and C. Clanet

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 94, NUMBER 5** **NOVEMBER 2016**

Direct numerical solution of the Lippmann-Schwinger equation in coordinate space without partial-wave decomposition *(10 pages)* 053303
Zeki C. Kuruoğlu

Nonuniqueness of local stress of three-body potentials in molecular simulations *(11 pages)* 053304
Koh M. Nakagawa and Hiroshi Noguchi

Elimination of numerical Cherenkov instability in flowing-plasma particle-in-cell simulations by using Galilean coordinates *(16 pages)* 053305
Remi Lehe, Manuel Kirchen, Brendan B. Godfrey, Andreas R. Maier, and Jean-Luc Vay

Operator calculus for information field theory *(8 pages)* 053306
Reimar H. Leike and Torsten A. Enßlin

Boundary scheme for linear heterogeneous surface reactions in the lattice Boltzmann method *(12 pages)* 053307
Xuhui Meng and Zhaoli Guo

Spectral functions with the density matrix renormalization group: Krylov-space approach for correction vectors *(8 pages)* 053308
A. Nocera and G. Alvarez

Local momentum and heat fluxes in transient transport processes and inhomogeneous systems *(9 pages)* 053309
Youping Chen and Adrian Diaz

Efficient time-sampling method in Coulomb-corrected strong-field approximation *(9 pages)* 053310
Xiang-Ru Xiao, Mu-Xue Wang, Wei-Hao Xiong, and Liang-You Peng

Grid refinement for entropic lattice Boltzmann models *(14 pages)* 053311
B. Dorschner, N. Frapolli, S. S. Chikatamarla, and I. V. Karlin

Hybrid Monte Carlo and continuum modeling of electrolytes with concentration-induced dielectric variations *(13 pages)* 053312
Xiaofei Guan, Manman Ma, Zecheng Gan, Zhenli Xu, and Bo Li

Cascaded lattice Boltzmann method with improved forcing scheme for large-density-ratio multiphase flow at high Reynolds and Weber numbers *(20 pages)* 053313
Daniel Lycett-Brown and Kai H. Luo

COMMENTS

Comment on “Locomotion of a microorganism in weakly viscoelastic liquids” *(3 pages)* 057101
Ivan C. Christov and P. M. Jordan

Reply to “Comment on ‘Locomotion of a microorganism in weakly viscoelastic liquids’ ” *(3 pages)* 057102
M. De Corato, F. Greco, and P. L. Maffettone

ERRATA

Erratum: Frequency effects on the scale and behavior of acoustic streaming [Phys. Rev. E **89**, 013203 (2014)] *(1 page)* . . . . . 059901(E)
Michael B. Dentry, Leslie Y. Yeo, and James R. Friend

(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 94, NUMBER 5 NOVEMBER 2016

One-dimensional model and solutions for creeping gas flows in the approximation of uniform pressure *(21 pages)* 053121
A. Vedernikov and D. Balapanov

Monosized dripping mode of axisymmetric flow focusing *(5 pages)* 053122
Francisco Cruz-Mazo, J. M. Montanero, and A. M. Gañán-Calvo

Plasma Physics

Electron heating in subpicosecond laser interaction with overdense and near-critical plasmas *(9 pages)* 053201
L. Cialfi, L. Fedeli, and M. Passoni

Multispecies plasma expansion into vacuum: The role of secondary ions and suprathermal electrons *(15 pages)* 053202
I. S. Elkamash and I. Kourakis

Influence of Xe and Kr impurities on x-ray yield from debris-free plasma x-ray sources with an Ar supersonic gas jet irradiated by femtosecond near-infrared-wavelength laser pulses *(9 pages)* 053203
V. L. Kantsyrev, K. A. Schultz, V. V. Shlyaptseva, G. M. Petrov, A. S. Safronova, E. E. Petkov, J. J. Moschella, I. Shrestha, W. Cline, P. Wiewior, and O. Chalyy

Vlasov simulations of thermal plasma waves with relativistic phase velocity in a Lorentz boosted frame *(11 pages)* 053204
A. G. R. Thomas

Head-on collision of dust acoustic solitons in a nonextensive plasma with variable size dust grains of arbitrary charge *(7 pages)* 053205
E. E. Behery

Compressing turbulence and sudden viscous dissipation with compression-dependent ionization state *(9 pages)* 053206
Seth Davidovits and Nathaniel J. Fisch

Laser propagation in dense magnetized plasma *(5 pages)* 053207
S. X. Luan, W. Yu, F. Y. Li, Dong Wu, Z. M. Sheng, M. Y. Yu, and J. Zhang

Finite-temperature quantum effects on confined charges *(12 pages)* 053208
Jeffrey Wrighton, James Dufty, and Sandipan Dutta

Large-scale dynamics of magnetic helicity *(5 pages)* 053209
Moritz Linkmann and Vassilios Dallas

Summation of the spectra of all partially resolved transition arrays in a supertransition array *(10 pages)* 053210
Y. Kurzweil and G. Hazak

Pair potentials for warm dense matter and their application to x-ray Thomson scattering in aluminum and beryllium *(11 pages)* 053211
L. Harbour, M. W. C. Dharma-wardana, D. D. Klug, and L. J. Lewis

Computational Physics

Gray free-energy multiphase lattice Boltzmann model with effective transport and wetting properties *(13 pages)* 053301
Mohamad Zalzale, M. Ramaioli, K. L. Scrivener, and P. J. McDonald

Self-adjoint integral operator for bounded nonlocal transport *(15 pages)* 053302
J. E. Maggs and G. J. Morales

(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 94, NUMBER 5** **NOVEMBER 2016**

Hydrodynamic interaction of swimming organisms in an inertial regime *(8 pages)* 053104
Gaojin Li, Anca Ostace, and Arezoo M. Ardekani

Rotationally induced fingering patterns in a two-dimensional heterogeneous porous medium *(10 pages)* 053105
Ching-Yao Chen, Ting-Shiang Lin, and José A. Miranda

Dynamics of large-scale quantities in Rayleigh-Bénard convection *(7 pages)* 053106
Ambrish Pandey, Abhishek Kumar, Anando G. Chatterjee, and Mahendra K. Verma

Magnetic resonance imaging measurements evidence weak dispersion in homogeneous porous media *(9 pages)* 053107
A. P. Lehoux, S. Rodts, P. Faure, E. Michel, D. Courtier-Murias, and P. Coussot

Unsteady turbulence cascades *(11 pages)* 053108
Susumu Goto and J. C. Vassilicos

Fast algorithm for a three-dimensional synthetic model of intermittent turbulence *(16 pages)* 053109
Francesco Malara, Francesca Di Mare, Giuseppina Nigro, and Luca Sorriso-Valvo

Sound propagation through a rarefied gas in rectangular channels *(9 pages)* 053110
Lei Wu (吴雷)

Hydraulic droplet coarsening in open-channel capillaries *(9 pages)* 053111
Patrick B. Warren

Two-frequency forcing of droplet rebounds on a liquid bath *(9 pages)* 053112
Naresh Sampara and Tristan Gilet

Helical turbulent Prandtl number in the *A* model of passive vector advection *(19 pages)* 053113
M. Hnatič and P. Zalom

Numerical investigation of initial condition effects on Rayleigh-Taylor instability with acceleration reversals *(16 pages)* 053114
Denis Aslangil, Arindam Banerjee, and Andrew G. W. Lawrie

Experimental evidence of nonlinear mode coupling between spherical and nonspherical oscillations of microbubbles *(5 pages)* 053115
Matthieu Guédra, Claude Inserra, Cyril Mauger, and Bruno Gilles

Irreversibility of the two-dimensional enstrophy cascade *(5 pages)* 053116
E. Piretto, S. Musacchio, F. De Lillo, and G. Boffetta

Drag reductions and the air-water interface stability of superhydrophobic surfaces in rectangular channel flow *(7 pages)* 053117
Jingxian Zhang, Zhaohui Yao, and Pengfei Hao

Recirculation zones induce non-Fickian transport in three-dimensional periodic porous media *(12 pages)* 053118
Eleonora Crevacore, Tiziana Tosco, Rajandrea Sethi, Gianluca Boccardo, and Daniele L. Marchisio

How long do particles spend in vortical regions in turbulent flows? *(8 pages)* 053119
Akshay Bhatnagar, Anupam Gupta, Dhrubaditya Mitra, Rahul Pandit, and Prasad Perlekar

Log law of the wall revisited in Taylor-Couette flows at intermediate Reynolds numbers *(8 pages)* 053120
Harminder Singh, Claudio Alberto Torres Suazo, and Alain Liné

(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 94, NUMBER 5** **NOVEMBER 2016**

Solidification of supercooled water in the vicinity of a solid wall *(6 pages)* 052804
Markus Schremb and Cameron Tropea

Granular Materials

Characterization of base roughness for granular chute flows *(11 pages)* 052901
L. Jing, C. Y. Kwok, Y. F. Leung, and Y. D. Sobral

Penetration in bimodal, polydisperse granular material *(8 pages)* 052902
N. Kouraytem, S. T. Thoroddsen, and J. O. Marston

Formation of localized sand patterns downstream from a vertical cylinder under steady flows: Experimental and theoretical study *(7 pages)* 052903
Anthony Auzerais, Armelle Jarno, Alexander Ezersky, and François Marin

Erosion and deposition in depth-averaged models of dense, dry, inclined, granular flows *(7 pages)* 052904
James T. Jenkins and Diego Berzi

Localized fluidization in granular materials: Theoretical and numerical study *(14 pages)* 052905
E. P. Montellà, M. Toraldo, B. Chareyre, and L. Sibille

Shock wave in a one-dimensional granular chain under Hertz contact *(5 pages)* 052906
Wen-Shan Duan, Zhen-Bin Zhang, and Lei Yang

Wave propagation in one-dimensional microscopic granular chains *(6 pages)* 052907
Wei-Hsun Lin and Chiara Daraio

Solid Mechanics

Markov state modeling of sliding friction *(6 pages)* 053001
F. Pellegrini, François P. Landes, A. Laio, S. Prestipino, and E. Tosatti

Effect of stress nonhomogeneity on the shear melting of a thin boundary lubrication layer *(8 pages)* 053002
Iakov A. Lyashenko, Alexander E. Filippov, Mikhail Popov, and Valentin L. Popov

Fragmentation and shear band formation by slow compression of brittle porous media *(8 pages)* 053003
Gergő Pál, Zoltán Jánosi, Ferenc Kun, and Ian G. Main

Formation of high-order acoustic Bessel beams by spiral diffraction gratings *(9 pages)* 053004
Noé Jiménez, R. Picó, V. Sánchez-Morcillo, V. Romero-García, L. M. García-Raffi, and K. Staliunas

Radiative transfer of acoustic waves in continuous complex media: Beyond the Helmholtz equation *(15 pages)* . . . 053005
Ibrahim Baydoun, Diego Baresch, Romain Pierrat, and Arnaud Derode

Fluid Dynamics

Dynamic multiscaling in magnetohydrodynamic turbulence *(7 pages)* 053101
Samriddhi Sankar Ray, Ganapati Sahoo, and Rahul Pandit

Interplay of Darrieus-Landau instability and weak turbulence in premixed flame propagation *(12 pages)* 053102
Francesco Creta, Rachele Lamioni, Pasquale Eduardo Lapenna, and Guido Troiani

Viscoacoustic model for near-field ultrasonic levitation *(11 pages)* 053103
Ivan Melikhov, Sergey Chivilikhin, Alexey Amosov, and Romain Jeanson

(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 94, NUMBER 5 NOVEMBER 2016

Colloids, Complex Fluids, and Active Matter

Phase behavior of a binary fluid mixture of quadrupolar molecules *(16 pages)* 052601
Masatoshi Toda, Shinji Kajimoto, Shuichi Toyouchi, Toshihiro Kawakatsu, Yohji Akama, Motoko Kotani, and Hiroshi Fukumura

Critical phenomena in active matter *(6 pages)* 052602
M. Paoluzzi, C. Maggi, U. Marini Bettolo Marconi, and N. Gnan

Lane formation in a driven attractive fluid *(10 pages)* 052603
C. W. Wächtler, F. Kogler, and S. H. L. Klapp

Enhanced diffusion in finite-size simulations of a fragile diatomic glass former *(10 pages)* 052604
Sonia Taamalli, Julia Hinds, Samuel Migirditch, and Victor Teboul

Assembly of the most topologically regular two-dimensional micro and nanocrystals with spherical, conical, and tubular shapes *(9 pages)* 052605
D. S. Roshal, O. V. Konevtsova, A. E. Myasnikova, and S. B. Rochal

Symmetry breaking in clogging for oppositely driven particles *(7 pages)* 052606
Tobias Glanz, Raphael Wittkowski, and Hartmut Löwen

Significant difference in the dynamics between strong and fragile glass formers *(8 pages)* 052607
Akira Furukawa and Hajime Tanaka

Athermal rheology of weakly attractive soft particles *(13 pages)* 052608
Ehsan Irani, Pinaki Chaudhuri, and Claus Heussinger

Liquid Crystals

Hydrodynamic interactions in freely suspended liquid crystal films *(14 pages)* 052701
Tatiana Kuriabova, Thomas R. Powers, Zhiyuan Qi, Aaron Goldfain, Cheol Soo Park, Matthew A. Glaser, Joseph E. Maclennan, and Noel A. Clark

Inverse stochastic resonance in electroconvection by multiplicative colored noise *(7 pages)* 052702
Jong-Hoon Huh

Transitional subphases near the electric-field-induced phase transition to the ferroelectric phase in Se-containing chiral smectic liquid crystals observed by resonant x-ray scattering *(12 pages)* 052703
Atsuo Iida, Yoichi Takanishi, Atsuo Fukuda, and Jagdish K. Vij

Dynamics of disk pairs in a nematic liquid crystal *(15 pages)* 052704
Alena Antipova and Colin Denniston

Films and Interfaces

Effects of thin film and Stokes drift on the generation of vorticity by surface waves *(5 pages)* 052801
V. M. Parfenyev, S. S. Vergeles, and V. V. Lebedev

Noise-driven interfaces and their macroscopic representation *(6 pages)* 052802
Marco Dentz, Insa Neuweiler, Yves Méheust, and Daniel M. Tartakovsky

Thermal fluctuations of an interface near a contact line *(28 pages)* 052803
D. Belardinelli, M. Sbragaglia, M. Gross, and B. Andreotti

(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 94, NUMBER 5** **NOVEMBER 2016**

Locking induced by distance-dependent delay in neuronal networks *(6 pages)* 052405
Jinjie Zhu and Xianbin Liu

Properties of low-dimensional collective variables in the molecular dynamics of biopolymers *(13 pages)* 052406
Roberto Meloni, Carlo Camilloni, and Guido Tiana

Derivation of Hodgkin-Huxley equations for a Na^+ channel from a master equation for coupled activation and inactivation *(15 pages)* 052407
S. R. Vaccaro

Relaxation of a simulated lipid bilayer vesicle compressed by an atomic force microscope *(10 pages)* 052408
Ben M. Barlow, Martine Bertrand, and Béla Joós

Network model of human aging: Frailty limits and information measures *(11 pages)* 052409
Spencer G. Farrell, Arnold B. Mitnitski, Kenneth Rockwood, and Andrew D. Rutenberg

Optimal counter-current exchange networks *(6 pages)* 052410
Robert S. Farr and Yong Mao

Random matrix theory for analyzing the brain functional network in attention deficit hyperactivity disorder *(10 pages)* 052411
Rong Wang, Li Wang, Yong Yang, Jiajia Li, Ying Wu, and Pan Lin

Systems-level approach to uncovering diffusive states and their transitions from single-particle trajectories *(15 pages)* 052412
Peter K. Koo and Simon G. J. Mochrie

Impact of time delays on oscillatory dynamics of interlinked positive and negative feedback loops *(12 pages)* 052413
Bo Huang, Xinyu Tian, Feng Liu, and Wei Wang

Suppressing membrane height fluctuations leads to a membrane-mediated interaction among proteins *(10 pages)* 052414
Kayla Sapp and Lutz Maibaum

Polymers

Extended Vicsek fractals: Laplacian spectra and their applications *(7 pages)* 052501
Maxim Dolgushev, Hongxiao Liu, and Zhongzhi Zhang

Effect of chain stiffness and temperature on the dynamics and microstructure of crystallizable bead-spring polymer melts *(11 pages)* 052502
Hong T. Nguyen and Robert S. Hoy

Thickness-dependent glass transition temperature and charge mobility in cross-linked polyfluorene thin films *(8 pages)* 052503
Dan Liu, Hui Qin, Jinghui Zhang, and Tao Wang

Cooperativity at the glass transition: A perspective from facilitation on the analysis of relaxation in modulated calorimetry *(11 pages)* 052504
Elpidio Tombari and Marco Pieruccini

(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 94, NUMBER 5** **NOVEMBER 2016**

Sequential motif profile of natural visibility graphs *(12 pages)* 052309
Jacopo Iacovacci and Lucas Lacasa

Robustness of controlling edge dynamics in complex networks against node failure *(12 pages)* 052310
Shao-Peng Pang, Fei Hao, and Wen-Xu Wang

Spectral properties of the hierarchical product of graphs *(7 pages)* 052311
Per Sebastian Skardal and Kirsti Wash

Bias, belief, and consensus: Collective opinion formation on fluctuating networks *(6 pages)* 052312
Vudtiwat Ngampruetikorn and Greg J. Stephens

Robustness of persistent spiking to partial synchronization in a minimal model of synaptically driven self-sustained activity *(13 pages)* 052313
Nikita Novikov and Boris Gutkin

Anisotropic invasion and its consequences in two-strategy evolutionary games on a square lattice *(7 pages)* 052314
György Szabó, Levente Varga, and Mátyás Szabó

Equivalence between modularity optimization and maximum likelihood methods for community detection *(8 pages)* 052315
M. E. J. Newman

Epidemic spreading in random rectangular networks *(9 pages)* 052316
Ernesto Estrada, Sandro Meloni, Matthew Sheerin, and Yamir Moreno

Statistical properties of fluctuations of time series representing appearances of words in nationwide blog data and their applications: An example of modeling fluctuation scalings of nonstationary time series *(26 pages)* 052317
Hayafumi Watanabe, Yukie Sano, Hideki Takayasu, and Misako Takayasu

Characterization of multiple topological scales in multiplex networks through supra-Laplacian eigengaps *(6 pages)* 052318
Emanuele Cozzo and Yamir Moreno

What Big Data tells: Sampling the social network by communication channels *(11 pages)* 052319
János Török, Yohsuke Murase, Hang-Hyun Jo, János Kertész, and Kimmo Kaski

PART B

Biological Physics

Filter-feeding, near-field flows, and the morphologies of colonial choanoflagellates *(7 pages)* 052401
Julius B. Kirkegaard and Raymond E. Goldstein

Statistical mechanics of consciousness: Maximization of information content of network is associated with conscious awareness *(9 pages)* 052402
R. Guevara Erra, D. M. Mateos, R. Wennberg, and J. L. Perez Velazquez

Sensitivity of small myosin II ensembles from different isoforms to mechanical load and ATP concentration *(9 pages)* 052403
Thorsten Erdmann, Kathrin Bartelheimer, and Ulrich S. Schwarz

Splitting nodes and linking channels: A method for assembling biocircuits from stochastic elementary units *(15 pages)* 052404
Cameron Ferwerda and Ovidiu Lipan

(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 94, NUMBER 5** **NOVEMBER 2016**

Quantum signatures of charge flipping vortices in the Bose-Hubbard trimer *(13 pages)* 052215
Peter Jason and Magnus Johansson

Generalized synchrony of coupled stochastic processes with multiplicative noise *(8 pages)* 052216
Haider Hasan Jafri, R. K. Brojen Singh, and Ramakrishna Ramaswamy

Flaming 2π kinks in parametrically driven systems *(6 pages)* 052217
E. Berrios-Caro, M. G. Clerc, and A. O. Leon

Statistics of the stochastically forced Lorenz attractor by the Fokker-Planck equation and cumulant expansions *(9 pages)* 052218
Altan Allawala and J. B. Marston

Synchronization of coupled noisy oscillators: Coarse graining from continuous to discrete phases *(10 pages)* 052219
Daniel Escaff, Alexandre Rosas, Raúl Toral, and Katja Lindenberg

Optical wall dynamics induced by coexistence of monostable and bistable spatial regions *(11 pages)* 052220
V. Odent, E. Louvergneaux, M. G. Clerc, and I. Andrade-Silva

Energetics of synchronization in coupled oscillators rotating on circular trajectories *(10 pages)* 052221
Yuki Izumida, Hiroshi Kori, and Udo Seifert

Anomalous dynamics and the choice of Poincaré recurrence set *(10 pages)* 052222
Matteo Sala, Roberto Artuso, and Cesar Manchein

Memory states in small arrays of Josephson junctions *(13 pages)* 052223
Y. Braiman, B. Neschke, N. Nair, N. Imam, and R. Glowinski

Networks and Complex Systems

Phase transition of social learning collectives and the echo chamber *(9 pages)* 052301
Shintaro Mori, Kazuaki Nakayama, and Masato Hisakado

Probability distribution of intersymbol distances in random symbolic sequences: Applications to improving detection of keywords in texts and of amino acid clustering in proteins *(13 pages)* 052302
Pedro Carpena, Pedro A. Bernaola-Galván, Concepción Carretero-Campos, and Ana V. Coronado

Roles of mixing patterns in the network reconstruction *(4 pages)* 052303
Qiang Guo, Guang Liang, Jia-Qi Fu, Jing-Ti Han, and Jian-Guo Liu

Inducing self-organized criticality in a network toy model by neighborhood assortativity *(7 pages)* 052304
Alfonso Allen-Perkins, Javier Galeano, and Juan Manuel Pastor

Random holographic "large worlds" with emergent dimensions *(12 pages)* 052305
Carlo A. Trugenberger

Interdependent lattice networks in high dimensions *(9 pages)* 052306
Steven Lowinger, Gabriel A. Cwilich, and Sergey V. Buldyrev

Replica analysis for the duality of the portfolio optimization problem *(11 pages)* 052307
Takashi Shinzato

Finite-size scaling analysis of a nonequilibrium phase transition in the naming game model *(5 pages)* 052308
E. Brigatti and A. Hernández

(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 94, NUMBER 5** **NOVEMBER 2016**

Effect of long-range interactions on the phase transition of Axelrod's model *(7 pages)* 052149
Sandro M. Reia and José F. Fontanari

Mesoscopic kinetic basis of macroscopic chemical thermodynamics: A mathematical theory *(4 pages)* 052150
Hao Ge and Hong Qian

Nonlinear Dynamics and Chaos

Information flow and causality as rigorous notions *ab initio (28 pages)* 052201
X. San Liang

Instability in reaction-superdiffusion systems *(11 pages)* 052202
Reza Torabi and Zahra Rezaei

Testing for causality in reconstructed state spaces by an optimized mixed prediction method *(9 pages)* 052203
Anna Krakovská and Filip Hanzely

Spatial splay states and splay chimera states in coupled map lattices *(16 pages)* 052204
Joydeep Singha and Neelima Gupte

Excitation and suppression of chimera states by multiplexing *(9 pages)* 052205
Vladimir A. Maksimenko, Vladimir V. Makarov, Bidesh K. Bera, Dibakar Ghosh, Syamal Kumar Dana, Mikhail V. Goremyko, Nikita S. Frolov, Alexey A. Koronovskii, and Alexander E. Hramov

Broadband and tunable one-dimensional strongly nonlinear acoustic metamaterials: Theoretical study *(10 pages)* 052206
Xin Fang, Jihong Wen, Jianfei Yin, Dianlong Yu, and Yong Xiao

Recovery of couplings and parameters of elements in networks of time-delay systems from time series *(10 pages)* 052207
I. V. Sysoev, V. I. Ponomarenko, D. D. Kulminskiy, and M. D. Prokhorov

Slow passage through thresholds in quantum dot lasers *(6 pages)* 052208
E. A. Viktorov, T. Erneux, E. D. Kolykhalova, V. V. Dudelev, J. Danckaert, K. K. Soboleva, A. G. Deryagin, I. I. Novikov, M. V. Maximov, A. E. Zhukov, V. M. Ustinov, V. I. Kuchinskii, W. Sibbett, E. U. Rafailov, and G. S. Sokolovskii

Field measurement analysis to validate lane-changing behavior in a cellular automaton model *(7 pages)* 052209
Eriko Fukuda, Jun Tanimoto, Yoshiro Iwamura, Kosuke Nakamura, and Mitsuhiro Akimoto

Incomplete phase-space method to reveal time delay from scalar time series *(13 pages)* 052210
Shengli Zhu and Lu Gan

Equivalence of coupled networks and networks with multimodal frequency distributions: Conditions for the bimodal and trimodal case *(11 pages)* 052211
Bastian Pietras, Nicolás Deschle, and Andreas Daffertshofer

Spatial instabilities in a cloud of cold atoms *(6 pages)* 052212
Rudy Romain, Antoine Jallageas, Philippe Verkerk, and Daniel Hennequin

Isostable reduction of periodic orbits *(7 pages)* 052213
Dan Wilson and Jeff Moehlis

Stochastic resonance subject to multiplicative and additive noise: The influence of potential asymmetries *(13 pages)* 052214
Zijian Qiao, Yaguo Lei, Jing Lin, and Shantao Niu

(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 94, NUMBER 5** **NOVEMBER 2016**

Thermal conductance of one-dimensional materials calculated with typical lattice models *(6 pages)* 052131
Chunyi Zhang, Wei Kang, and Jianxiang Wang

Metastability in an open quantum Ising model *(11 pages)* 052132
Dominic C. Rose, Katarzyna Macieszczak, Igor Lesanovsky, and Juan P. Garrahan

Suppressing escape events in maps of the unit interval with demographic noise *(13 pages)* 052133
César Parra-Rojas, Joseph D. Challenger, Duccio Fanelli, and Alan J. McKane

Elephant random walks and their connection to Pólya-type urns *(6 pages)* 052134
Erich Baur and Jean Bertoin

Avalanche statistics from data with low time resolution *(11 pages)* 052135
Michael LeBlanc, Aya Nawano, Wendelin J. Wright, Xiaojun Gu, J. T. Uhl, and Karin A. Dahmen

Identifying ergodicity breaking for fractional anomalous diffusion: Criteria for minimal trajectory length *(8 pages)* 052136
Hanna Loch-Olszewska, Grzegorz Sikora, Joanna Janczura, and Aleksander Weron

Heat conduction in a chain of colliding particles with a stiff repulsive potential *(5 pages)* 052137
Oleg V. Gendelman and Alexander V. Savin

Temporal disorder does not forbid discontinuous absorbing phase transitions in low-dimensional systems *(7 pages)* 052138
M. M. de Oliveira and C. E. Fiore

Pinning-depinning transition in a stochastic growth model for the evolution of cell colony fronts in a disordered medium *(13 pages)* 052139
Belén Moglia, Ezequiel V. Albano, and Nara Guisoni

High-temperature ratchets with sawtooth potentials *(8 pages)* 052140
Viktor M. Rozenbaum, Irina V. Shapochkina, Sheh-Yi Sheu, Dah-Yen Yang, and Sheng Hsien Lin

Finite-size corrections and scaling for the dimer model on the checkerboard lattice *(10 pages)* 052141
Nickolay Sh. Izmailian, Ming-Chya Wu, and Chin-Kun Hu

Inhomogeneous diffusion and ergodicity breaking induced by global memory effects *(10 pages)* 052142
Adrián A. Budini

Metastable minima of the Heisenberg spin glass in a random magnetic field *(14 pages)* 052143
Auditya Sharma, Joonhyun Yeo, and M. A. Moore

Noisy oscillator: Random mass and random damping *(9 pages)* 052144
Stanislav Burov and Moshe Gitterman

Maximum caliber inference and the stochastic Ising model *(10 pages)* 052145
Carlo Cafaro and Sean Alan Ali

Two-dimensional photon echoes reveal non-Markovian energy transfer in an excitonic dimer *(6 pages)* 052146
Hong-Guang Duan, Moritz Frey, Michael Thorwart, and Peter Nalbach

Fractional kinetics emerging from ergodicity breaking in random media *(7 pages)* 052147
Daniel Molina-García, Tuan Minh Pham, Paolo Paradisi, Carlo Manzo, and Gianni Pagnini

Theoretical description of effective heat transfer between two viscously coupled beads *(8 pages)* 052148
A. Bérut, A. Imparato, A. Petrosyan, and S. Ciliberto

(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 94, NUMBER 5** **NOVEMBER 2016**

☞ Solvent-mediated forces in critical fluids *(14 pages)* 052113
Pietro Anzini and Alberto Parola

Efficiency and its bounds of minimally nonlinear irreversible heat engines at arbitrary power *(6 pages)* 052114
Rui Long and Wei Liu

Ergostatting and thermostatting at a fixed point *(10 pages)* 052115
Helmuth Hüffel and Saša Ilijić

Network inference in the nonequilibrium steady state *(6 pages)* 052116
Simon L. Dettmer, H. Chau Nguyen, and Johannes Berg

Conservation laws and symmetries in stochastic thermodynamics *(8 pages)* 052117
Matteo Polettini, Gregory Bulnes-Cuetara, and Massimiliano Esposito

Time-dependent probability density function in cubic stochastic processes *(13 pages)* 052118
Eun-jin Kim and Rainer Hollerbach

Fidelity of the diagonal ensemble signals the many-body localization transition *(5 pages)* 052119
Taotao Hu, Kang Xue, Xiaodan Li, Yan Zhang, and Hang Ren

Convex hulls of multiple random walks: A large-deviation study *(11 pages)* 052120
Timo Dewenter, Gunnar Claussen, Alexander K. Hartmann, and Satya N. Majumdar

Linear irreversible thermodynamics and Onsager reciprocity for information-driven engines *(11 pages)* 052121
Shumpei Yamamoto, Sosuke Ito, Naoto Shiraishi, and Takahiro Sagawa

Work extraction and energy storage in the Dicke model *(8 pages)* 052122
Lorenzo Fusco, Mauro Paternostro, and Gabriele De Chiara

Phonon transport in a one-dimensional harmonic chain with long-range interaction and mass disorder *(7 pages)* 052123
Hangbo Zhou, Gang Zhang, Jian-Sheng Wang, and Yong-Wei Zhang

Scaling relations in the diffusive infiltration in fractals *(9 pages)* 052124
F. D. A. Aarão Reis

Limitations of discrete-time approaches to continuous-time contagion dynamics *(9 pages)* 052125
Peter G. Fennell, Sergey Melnik, and James P. Gleeson

Patterning in systems driven by nonlocal external forces *(6 pages)* 052126
L. Luneville, K. Mallick, V. Pontikis, and D. Simeone

Local discretization method for overdamped Brownian motion on a potential with multiple deep wells *(11 pages)* 052127
P. T. T. Nguyen, K. J. Challis, and M. W. Jack

☞ Work, work fluctuations, and the work distribution in a thermal nonequilibrium steady state *(9 pages)* 052128
T. R. Kirkpatrick, J. R. Dorfman, and J. V. Sengers

Onsager coefficients for systems with periodic potentials *(10 pages)* 052129
Alexandre Rosas, Christian Van den Broeck, and Katja Lindenberg

Aging Wiener-Khinchin theorem and critical exponents of $1/f^{\beta}$ noise *(18 pages)* 052130
N. Leibovich, A. Dechant, E. Lutz, and E. Barkai

(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 94, NUMBER 5 NOVEMBER 2016

Plasma Physics

Laser propagation measurements in long-scale-length underdense plasmas relevant to magnetized liner inertial fusion *(5 pages)* . . . . . 051201(R)
A. J. Harvey-Thompson, A. B. Sefkow, M. S. Wei, T. Nagayama, E. M. Campbell, B. E. Blue, R. F. Heeter, J. M. Koning, K. J. Peterson, and A. Schmitt

How mesoscopic staircases condense to macroscopic barriers in confined plasma turbulence *(5 pages)* . . . . . 051202(R)
Arash Ashourvan and P. H. Diamond

Linking dissipation-induced instabilities with nonmodal growth: The case of helical magnetorotational instability *(5 pages)* . . . . . 051203(R)
G. Mamatsashvili and F. Stefani

ARTICLES

Statistical Physics

Vibration-induced coherence enhancement of the performance of a biological quantum heat engine *(10 pages)* . . . 052101
Hong-Bin Chen, Pin-Yi Chiu, and Yueh-Nan Chen

High-precision estimate of the hydrodynamic radius for self-avoiding walks *(12 pages)* 052102
Nathan Clisby and Burkhard Dünweg

Equivalent-neighbor Potts models in two dimensions *(9 pages)* 052103
Xiaofeng Qian, Youjin Deng, Yuhai Liu, Wenan Guo, and Henk W. J. Blöte

Tightening the uncertainty principle for stochastic currents *(10 pages)* 052104
Matteo Polettini, Alexandre Lazarescu, and Massimiliano Esposito

Extreme-value statistics of fractional Brownian motion bridges *(15 pages)* 052105
Mathieu Delorme and Kay Jörg Wiese

Thermodynamic geometry of minimum-dissipation driven barrier crossing *(8 pages)* 052106
David A. Sivak and Gavin E. Crooks

Enantiodromic effective generators of a Markov jump process with Gallavotti-Cohen symmetry *(6 pages)* 052107
S. A. A. Terohid, P. Torkaman, and F. H. Jafarpour

Emergent kinetic constraints, ergodicity breaking, and cooperative dynamics in noisy quantum systems *(5 pages)* 052108
B. Everest, M. Marcuzzi, J. P. Garrahan, and I. Lesanovsky

Heat dissipation and information flow for delayed bistable Langevin systems near coherence resonance *(4 pages)* 052109
Tiejun Xiao

Excited-state quantum phase transitions in the two-spin elliptic Gaudin model *(10 pages)* 052110
Armando Relaño, Carlos Esebbag, and Jorge Dukelsky

Stochastic bifurcations in the nonlinear parallel Ising model *(10 pages)* 052111
Franco Bagnoli and Raúl Rechtman

Stochastic disks that roll *(12 pages)* 052112
Miranda Holmes-Cerfon

(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: 2470-0045)

PERIODICALS
Postmaster send address changes to:

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

THIRD SERIES, VOLUME 94, NUMBER 5
PARTS A AND B

CONTENTS

NOVEMBER 2016

The Table of Contents is a total listing of Parts A and B.
Part A consists of pages 050101(R)–052319, and Part B pages 052401–059907(E).

PART A

RAPID COMMUNICATIONS

Statistical Physics

Eigenvalue spectra of large correlated random matrices *(6 pages)* . . . . . 050101(R)
Alexander Kuczala and Tatyana O. Sharpee

Biological Physics

Determining conduction patterns on a sparse electrode grid: Implications for the analysis of clinical arrhythmias *(6 pages)* . . . . . 050401(R)
David Vidmar, Sanjiv M. Narayan, David E. Krummen, and Wouter-Jan Rappel

Characterizing folding funnels with replica exchange Wang-Landau simulation of lattice proteins *(5 pages)* . . . . . 050402(R)
Guangjie Shi, Thomas Wüst, and David P. Landau

Colloids, Complex Fluids, and Active Matter

Analysis of ionic conductance of carbon nanotubes *(4 pages)* . . . . . 050601(R)
P. M. Biesheuvel and M. Z. Bazant

Mesoscale pattern formation of self-propelled rods with velocity reversal *(7 pages)* . . . . . 050602(R)
Robert Großmann, Fernando Peruani, and Markus Bär

Anomalous structural transition of confined hard squares *(5 pages)* . . . . . 050603(R)
Péter Gurin, Szabolcs Varga, and Gerardo Odriozola

Films and Interfaces

Universality and dependence on initial conditions in the class of the nonlinear molecular beam epitaxy equation *(5 pages)* . . . . . 050801(R)
I. S. S. Carrasco and T. J. Oliveira

Solid Mechanics

Emergent interparticle interactions in thermal amorphous solids *(5 pages)* . . . . . 051001(R)
Oleg Gendelman, Edan Lerner, Yoav G. Pollack, Itamar Procaccia, Corrado Rainone, and Birte Riechers

Copyright 2016 by American Physical Society

(Continued)

2470-0045(201611)94:5:A;1-I

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).