PHYSICAL REVIEW E **THIRD SERIES, VOLUME 94, NUMBER 6** **DECEMBER 2016**

Mass-flow-rate-controlled fluid flow in nanochannels by particle insertion and deletion *(7 pages)* 063303
Paul L. Barclay and Jennifer R. Lukes

Estimation of Reynolds number for flows around cylinders with lattice Boltzmann methods and artificial neural networks *(8 pages)* 063304
Mauricio Carrillo, Ulices Que, and José A. González

Chebyshev-polynomial expansion of the localization length of Hermitian and non-Hermitian random chains *(18 pages)* 063305
Naomichi Hatano and Joshua Feinberg

Numerical stabilization of entanglement computation in auxiliary-field quantum Monte Carlo simulations of interacting many-fermion systems *(13 pages)* 063306
Peter Broecker and Simon Trebst

Gaseous microflow modeling using the Fokker-Planck equation *(12 pages)* 063307
S. K. Singh, Chakradhar Thantanapally, and Santosh Ansumali

Constrained sampling method for analytic continuation *(5 pages)* 063308
Anders W. Sandvik

COMMENTS

Comment on "Finite-size scaling of survival probability in branching processes" *(2 pages)* 066101
Nanxin Wei and Gunnar Pruessner

Comment on "Critical wind speed at which trees break" *(2 pages)* 067001
Axel Albrecht, Eric Badel, Vivien Bonnesoeur, Yves Brunet, Thiéry Constant, Pauline Défossez, Emmanuel de Langre, Sylvain Dupont, Meriem Fournier, Barry Gardiner, Stephen J. Mitchell, John R. Moore, Bruno Moulia, Bruce C. Nicoll, Karl J. Niklas, Mart-Jan Schelhaas, Hans-Christof Spatz, and Frank W. Telewski

Reply to "Comment on 'Critical wind speed at which trees break' " *(1 page)* 067002
E. Virot, A. Ponomarenko, É. Dehandschoewercker, D. Quéré, and C. Clanet

ERRATA

Publisher's Note: Cascading failures in interdependent networks with finite functional components [Phys. Rev. E **94**, 042304 (2016)] *(1 page)* . . . . . 069901(E)
M. A. Di Muro, S. V. Buldyrev, H. E. Stanley, and L. A. Braunstein

Erratum: Numerical computations of the dynamics of fluidic membranes and vesicles [Phys. Rev. E **92**, 052704 (2015)] *(1 page)* . . . . . 069902(E)
John W. Barrett, Harald Garcke, and Robert Nürnberg

Publisher's Note: Laser propagation in dense magnetized plasma [Phys. Rev. E **94**, 053207 (2016)] *(1 page)* . . . . . 069903(E)
S. X. Luan, W. Yu, F. Y. Li, Dong Wu, Z. M. Sheng, M. Y. Yu, and J. Zhang

Erratum: Collective dynamics of soft active particles [Phys. Rev. E **91**, 032706 (2015)] *(1 page)* . . . . . 069904(E)
Ruben van Drongelen, Anshuman Pal, Carl P. Goodrich, and Timon Idema

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 94, NUMBER 6** **DECEMBER 2016**

Deviation-angle and trajectory statistics for inertial particles in turbulence *(4 pages)* 063112
Akshay Bhatnagar, Anupam Gupta, Dhrubaditya Mitra, Prasad Perlekar, Michael Wilkinson, and Rahul Pandit

Application of the dissipative particle dynamics method to the instability problem of a liquid thread *(12 pages)* 063113
Chao-jie Mo, Li-zi Qin, Fei Zhao, and Li-jun Yang

Effect of fluid inertia on the motion of a collinear swimmer *(7 pages)* 063114
B. U. Felderhof

Effective slip for flow in a rotating channel bounded by stick-slip walls *(14 pages)* 063115
Chiu-On Ng

Passive swimming in viscous oscillatory flows *(9 pages)* 063116
Ikhee Jo, Yangyang Huang, Walter Zimmermann, and Eva Kanso

Droplet impact on soft viscoelastic surfaces *(9 pages)* 063117
Longquan Chen, Elmar Bonaccurso, Peigang Deng, and Haibo Zhang

Thermal convection in a cylinder and the problem of planform selection in an internally heated fluid layer *(9 pages)* 063118
V. V. Kolmychkov, O. V. Shcheritsa, and O. S. Mazhorova

Plasma Physics

Finger evolution of a gas bubble driven by atmospheric pressure plasma *(5 pages)* 063201
Jia-Hau Shiu and Hong-Yu Chu

Theory of terahertz emission from femtosecond-laser-induced microplasmas *(17 pages)* 063202
I. Thiele, R. Nuter, B. Bousquet, V. Tikhonchuk, S. Skupin, X. Davoine, L. Gremillet, and L. Bergé

Dynamic properties of the energy loss of multi-MeV charged particles traveling in two-component warm dense plasmas *(10 pages)* 063203
Zhen-Guo Fu, Zhigang Wang, Meng-Lei Li, Da-Fang Li, Wei Kang, and Ping Zhang

Influence of e^-e^+ creation on the radiative trapping in ultraintense fields of colliding laser pulses *(6 pages)* 063204
C. Baumann and A. Pukhov

Decomposition of powerful axisymmetrically polarized laser pulses in underdense plasma *(6 pages)* 063205
Nobuhiko Nakanii, Tomonao Hosokai, Naveen C. Pathak, Shinichi Masuda, Alexei G. Zhidkov, Hiroki Nakahara, Kenta Iwasa, Yoshio Mizuta, Naoki Takeguchi, Takamitsu P. Otsuka, Keiichi Sueda, Jumpei Ogino, Hirotaka Nakamura, Michiaki Mori, Masaki Kando, and Ryosuke Kodama

Exact scaling laws for helical three-dimensional two-fluid turbulent plasmas *(7 pages)* 063206
N. Andrés, S. Galtier, and F. Sahraoui

Computational Physics

Direct numerical simulation of gas-solid-liquid flows with capillary effects: An application to liquid bridge forces between spherical particles *(22 pages)* 063301
Xiaosong Sun and Mikio Sakai

Lattice Boltzmann simulations of droplet formation in confined channels with thermocapillary flows *(14 pages)* 063302
A. Gupta, M. Sbragaglia, D. Belardinelli, and K. Sugiyama

(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 6** **DECEMBER 2016**

Solid Mechanics

Structure of curved crystals in the thermodynamic limit and the perfect screening condition *(6 pages)* 063001
Alex Travesset

Inverted cones and their elastic creases *(9 pages)* 063002
Keith A. Seffen

Static and dynamic friction of hierarchical surfaces *(10 pages)* 063003
Gianluca Costagliola, Federico Bosia, and Nicola M. Pugno

Thermal effects in dislocation theory *(7 pages)* 063004
J. S. Langer

Asymptotic self-restabilization of a continuous elastic structure *(10 pages)* 063005
F. Bosi, D. Misseroni, F. Dal Corso, S. Neukirch, and D. Bigoni

Fluid Dynamics

Lagrangian statistics of mesoscale turbulence in a natural environment: The Agulhas return current *(6 pages)* 063101
Francesco Carbone, Christian N. Gencarelli, and Ian M. Hedgecock

Anisotropic macroturbulence and diffusion associated with a westward zonal jet: From laboratory to planetary atmospheres and oceans *(13 pages)* 063102
Boris Galperin, Jesse Hoemann, Stefania Espa, Gabriella Di Nitto, and Guglielmo Lacorata

Regularity criterion for solutions of the three-dimensional Cahn-Hilliard-Navier-Stokes equations and associated computations *(9 pages)* 063103
John D. Gibbon, Nairita Pal, Anupam Gupta, and Rahul Pandit

Alternative mechanism for coffee-ring deposition based on active role of free surface *(8 pages)* 063104
Saeed Jafari Kang, Vahid Vandadi, James D. Felske, and Hassan Masoud

Spectral energy cascade of body rotations and oscillations under turbulence *(5 pages)* 063105
Yaqing Jin, Sheng Ji, and Leonardo P. Chamorro

Modes of electrokinetic instability for imperfect electric membranes *(8 pages)* 063106
G. S. Ganchenko, E. N. Kalaydin, J. Schiffbauer, and E. A. Demekhin

Numerical simulations of the Princeton magnetorotational instability experiment with conducting axial boundaries *(7 pages)* 063107
Xing Wei, Hantao Ji, Jeremy Goodman, Fatima Ebrahimi, Erik Gilson, Frank Jenko, and Karl Lackner

Effect of long-range electrostatic repulsion on pore clogging during microfiltration *(11 pages)* 063108
Sheng Chen, Wenwei Liu, and Shuiqing Li

Oscillation-induced sand dunes in a liquid-filled rotating cylinder *(9 pages)* 063109
Veronika Dyakova, Victor Kozlov, and Denis Polezhaev

Turbulent Rayleigh-Bénard convection with polymers: Understanding how heat flux is modified *(7 pages)* 063110
Roberto Benzi, Emily S. C. Ching, and Elisabetta De Angelis

Dilatational viscosity of dilute particle-laden fluid interface at different contact angles *(8 pages)* 063111
Sergey V. Lishchuk

(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 6** **DECEMBER 2016**

Mechanics and stability of vesicles and droplets in confined spaces *(12 pages)* 062613
Eduard Benet and Franck J. Vernerey

Negative pressure in shear thickening band of a dilatant fluid *(6 pages)* 062614
Shin-ichiro Nagahiro and Hiizu Nakanishi

Liquid Crystals

Elastic interactions between topological defects in chiral nematic shells *(5 pages)* 062701
Alexandre Darmon, Olivier Dauchot, Teresa Lopez-Leon, and Michael Benzaquen

Rotational diffusion of shape switching particles in nematic liquid crystals *(10 pages)* 062702
R. F. de Souza and C. Zannoni

Nonsingular defects and self-assembly of colloidal particles in cholesteric liquid crystals *(11 pages)* 062703
Rahul P. Trivedi, Mykola Tasinkevych, and Ivan I. Smalyukh

Empty smectic liquid crystals of hard nanorings: Insights from a second-virial theory *(7 pages)* 062704
H. H. Wensink and C. Avendaño

Viscoelastic nematodynamics *(9 pages)* 062705
Stefano S. Turzi

Films and Interfaces

Stabilizing effect of tip splitting on the interface motion *(9 pages)* 062801
Michal Pecelerowicz and Piotr Szymczak

Capillary waves and the decay of density correlations at liquid surfaces *(8 pages)* 062802
Jose Hernández-Muñoz, Enrique Chacón, and Pedro Tarazona

Monte Carlo simulation of evaporation-driven self-assembly in suspensions of colloidal rods *(10 pages)* 062803
Nikolai I. Lebovka, Nikolai V. Vygornitskii, Volodymyr A. Gigiberiya, and Yuri Yu. Tarasevich

Granular Materials

Packing of nonoverlapping cubic particles: Computational algorithms and microstructural characteristics *(10 pages)* 062901
Hessam Malmir, Muhammad Sahimi, and M. Reza Rahimi Tabar

Nonvibrating granular model for a glass-forming liquid: Equilibration and aging *(11 pages)* 062902
C. Tapia-Ignacio, J. Garcia-Serrano, and F. Donado

Effects of grain size distribution on the packing fraction and shear strength of frictionless disk packings *(7 pages)* 062903
Nicolas Estrada

Strength of anisotropy in a granular material: Linear versus nonlinear contact model *(7 pages)* 062904
Luigi La Ragione, Marica Gammariello, and Giuseppina Recchia

Contact changes of sheared systems: Scaling, correlations, and mechanisms *(18 pages)* 062905
Merlijn S. van Deen, Brian P. Tighe, and Martin van Hecke

Vertical dynamics of a horizontally oscillating active object in a two-dimensional granular medium *(7 pages)* 062906
Ling Huang, Xianwen Ran, and Raphael Blumenfeld

(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 6 DECEMBER 2016

Solitonlike attractor for blood vessel tip density in angiogenesis *(15 pages)* 062415
L. L. Bonilla, M. Carretero, and F. Terragni

Polymers

Origin of two maxima in specific heat in enthalpy relaxation under thermal history composed of cooling, annealing, and heating *(10 pages)* 062501
Waki Sakatsuji, Takashi Konishi, and Yoshihisa Miyamoto

Correlated and cooperative motions in segmental relaxation: Influence of constitutive unit weight and intermolecular interactions *(5 pages)* 062502
Bidur Rijal, Jorge Arturo Soto Puente, Bienvenu Atawa, Laurent Delbreilh, Kateryna Fatyeyeva, Allisson Saiter, and Eric Dargent

Dynamics of comb-of-comb-network polymers in random layered flows *(11 pages)* 062503
Divya Katyal and Rama Kant

Colloids, Complex Fluids, and Active Matter

Probing heterogeneous dynamics from spatial density correlation in glass-forming liquids *(6 pages)* 062601
Yan-Wei Li, You-Liang Zhu, and Zhao-Yan Sun

Depletion forces on circular and elliptical obstacles induced by active matter *(8 pages)* 062602
L. R. Leite, D. Lucena, F. Q. Potiguar, and W. P. Ferreira

Gaussian theory for spatially distributed self-propelled particles *(12 pages)* 062603
Hamid Seyed-Allaei, Lutz Schimansky-Geier, and Mohammad Reza Ejtehadi

Effects of confinement between attractive and repulsive walls on the thermodynamics of an anomalous fluid *(11 pages)* 062604
Fabio Leoni and Giancarlo Franzese

Depinning and heterogeneous dynamics of colloidal crystal layers under shear flow *(12 pages)* 062605
Sascha Gerloff and Sabine H. L. Klapp

Can phoretic particles swim in two dimensions? *(9 pages)* 062606
David Sondak, Cory Hawley, Siyu Heng, Rebecca Vinsonhaler, Eric Lauga, and Jean-Luc Thiffeault

Tuning the phase diagram of colloid-polymer mixtures via Yukawa interactions *(15 pages)* 062607
Álvaro González García and Remco Tuinier

Shear-induced solidification of athermal systems with weak attraction *(7 pages)* 062608
Wen Zheng, Hao Liu, and Ning Xu

Rheology of sediment transported by a laminar flow *(10 pages)* 062609
M. Houssais, C. P. Ortiz, D. J. Durian, and D. J. Jerolmack

Discontinuous thinning in active microrheology of soft complex matter *(8 pages)* 062610
R. Wulfert, U. Seifert, and T. Speck

Single-particle dynamics near the glass transition of a metallic glass *(9 pages)* 062611
Y. J. Lü and W. H. Wang

Order-disorder transition in repulsive self-propelled particle systems *(8 pages)* 062612
Takayuki Hiraoka, Takashi Shimada, and Nobuyasu Ito

(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 6** **DECEMBER 2016**

Infrequent social interaction can accelerate the spread of a persuasive idea *(11 pages)* 062319
James Burridge and Michał Gnacik

PART B

Biological Physics

How to connect time-lapse recorded trajectories of motile microorganisms with dynamical models in continuous time *(29 pages)* 062401
Jonas N. Pedersen, Liang Li, Cristian Grădinaru, Robert H. Austin, Edward C. Cox, and Henrik Flyvbjerg

Rotational tumbling of *Escherichia coli* aggregates under shear *(5 pages)* 062402
R. Portela, P. Patrício, P. L. Almeida, R. G. Sobral, J. M. Franco, and C. R. Leal

Electronic structure and carrier transfer in B-DNA monomer polymers and dimer polymers: Stationary and time-dependent aspects of a wire model versus an extended ladder model *(22 pages)* 062403
K. Lambropoulos, M. Chatzieleftheriou, A. Morphis, K. Kaklamanis, R. Lopp, M. Theodorakou, M. Tassi, and C. Simserides

Shape transitions during clathrin-induced endocytosis *(7 pages)* 062404
Gaurav Kumar and Anirban Sain

Thermal unfolding of myoglobin in the Landau-Ginzburg-Wilson approach *(16 pages)* 062405
Xubiao Peng, Adam K. Sieradzan, and Antti J. Niemi

Scaling, crumpled wires, and genome packing in virions *(7 pages)* 062406
V. H. de Holanda and M. A. F. Gomes

Stiffer double-stranded DNA in two-dimensional confinement due to bending anisotropy *(11 pages)* 062407
H. Salari, B. Eslami-Mossallam, H. F. Ranjbar, and M. R. Ejtehadi

Stochastic epidemic dynamics on extremely heterogeneous networks *(17 pages)* 062408
César Parra-Rojas, Thomas House, and Alan J. McKane

Complete coverage of space favors modularity of the grid system in the brain *(9 pages)* 062409
A. Sanzeni, V. Balasubramanian, G. Tiana, and M. Vergassola

Spatial dispersal of bacterial colonies induces a dynamical transition from local to global quorum sensing *(9 pages)* 062410
Tahir I. Yusufaly and James Q. Boedicker

Critical dynamics on a large human Open Connectome network *(7 pages)* 062411
Géza Ódor

Intermediate regime and a phase diagram of red blood cell dynamics in a linear flow *(14 pages)* 062412
Michael Levant and Victor Steinberg

Analytic framework for a stochastic binary biological switch *(9 pages)* 062413
Guilherme C. P. Innocentini, Sarah Guiziou, Jerome Bonnet, and Ovidiu Radulescu

Relaxation dynamics of a compressible bilayer vesicle containing highly viscous fluid *(14 pages)* 062414
T. V. Sachin Krishnan, Ryuichi Okamoto, and Shigeyuki Komura

(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 6** **DECEMBER 2016**

Densification and structural transitions in networks that grow by node copying *(14 pages)* 062302
U. Bhat, P. L. Krapivsky, R. Lambiotte, and S. Redner

Inducing isolated-desynchronization states in complex network of coupled chaotic oscillators *(9 pages)* 062303
Weijie Lin, Huiyan Li, Heping Ying, and Xingang Wang

Ring correlations in random networks *(7 pages)* 062304
Mahdi Sadjadi and M. F. Thorpe

Metastable localization of diseases in complex networks *(6 pages)* 062305
R. S. Ferreira, R. A. da Costa, S. N. Dorogovtsev, and J. F. F. Mendes

Parsimonious modeling with information filtering networks *(12 pages)* 062306
Wolfram Barfuss, Guido Previde Massara, T. Di Matteo, and Tomaso Aste

Critical behavior of k-core percolation: Numerical studies *(6 pages)* 062307
Deokjae Lee, Minjae Jo, and B. Kahng

Cycles and clustering in multiplex networks *(8 pages)* 062308
Gareth J. Baxter, Davide Cellai, Sergey N. Dorogovtsev, and José F. F. Mendes

Inhibitory neurons promote robust critical firing dynamics in networks of integrate-and-fire neurons *(9 pages)* . . . 062309
Zhixin Lu, Shane Squires, Edward Ott, and Michelle Girvan

Unsupervised feature learning from finite data by message passing: Discontinuous versus continuous phase transition *(8 pages)* 062310
Haiping Huang and Taro Toyoizumi

Delocalization of disturbances and the stability of ac electricity grids *(5 pages)* 062311
Stefan Kettemann

Braess paradox in a network of totally asymmetric exclusion processes *(13 pages)* 062312
Stefan Bittihn and Andreas Schadschneider

Eigenvalue tunneling and decay of quenched random network *(6 pages)* 062313
V. Avetisov, M. Hovhannisyan, A. Gorsky, S. Nechaev, M. Tamm, and O. Valba

Control of epidemics via social partnership adjustment *(11 pages)* 062314
Bin Wu, Shanjun Mao, Jiazeng Wang, and Da Zhou

From degree-correlated to payoff-correlated activity for an optimal resolution of social dilemmas *(8 pages)* 062315
Alberto Aleta, Sandro Meloni, Matjaž Perc, and Yamir Moreno

Compensatory interactions to stabilize multiple steady states or mitigate the effects of multiple deregulations in biological networks *(14 pages)* 062316
Gang Yang, Colin Campbell, and Réka Albert

Disorder-induced phase transition in an opinion dynamics model: Results in two and three dimensions *(5 pages)* 062317
Sudip Mukherjee and Arnab Chatterjee

Hysteresis loop of nonperiodic outbreaks of recurrent epidemics *(10 pages)* 062318
Hengcong Liu, Muhua Zheng, Dayu Wu, Zhenhua Wang, Jinming Liu, and Zonghua Liu

(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 6** **DECEMBER 2016**

Interaction between Liénard and Ikeda dynamics in a nonlinear electro-optical oscillator with delayed bandpass feedback *(6 pages)* 062208
Bicky A. Marquez, Laurent Larger, Daniel Brunner, Yanne K. Chembo, and Maxime Jacquot

Lagrangian coherent structures during combustion instability in a premixed-flame backward-step combustor *(10 pages)* 062209
Ramgopal Sampath, Manikandan Mathur, and Satyanarayanan R. Chakravarthy

Controlling ratchet transport via a finite kicked environment *(7 pages)* 062210
S. A. Abdulack, M. W. Beims, and S. R. Lopes

Thermodynamics of a time-dependent and dissipative oval billiard: A heat transfer and billiard approach *(10 pages)* 062211
Edson D. Leonel, Marcus Vinícius Camillo Galia, Luiz Antonio Barreiro, and Diego F. M. Oliveira

Emergence and analysis of Kuramoto-Sakaguchi-like models as an effective description for the dynamics of coupled Wien-bridge oscillators *(12 pages)* 062212
L. Q. English, David Mertens, Saidou Abdoulkary, C. B. Fritz, K. Skowronski, and P. G. Kevrekidis

Optimal waveform for the entrainment of oscillators perturbed by an amplitude-modulated high-frequency force *(7 pages)* 062213
Viktor Novičenko and Irmantas Ratas

Gaussian orthogonal ensemble statistics in graphene billiards with the shape of classically integrable billiards *(12 pages)* 062214
Pei Yu, Zi-Yuan Li, Hong-Ya Xu, Liang Huang, Barbara Dietz, Celso Grebogi, and Ying-Cheng Lai

Effects of Landau-Lifshitz-Gilbert damping on domain growth *(5 pages)* 062215
Kazue Kudo

Stationary waves on nonlinear quantum graphs. II. Application of canonical perturbation theory in basic graph structures *(19 pages)* 062216
Sven Gnutzmann and Daniel Waltner

Noisy-flow-induced instability in a reaction-diffusion system *(9 pages)* 062217
Shibashis Paul, Shyamolina Ghosh, and Deb Shankar Ray

Phase-flip and oscillation-quenching-state transitions through environmental diffusive coupling *(7 pages)* 062218
Amit Sharma, Umesh Kumar Verma, and Manish Dev Shrimali

Coupled-mode-theory framework for nonlinear resonators comprising graphene *(8 pages)* 062219
Thomas Christopoulos, Odysseas Tsilipakos, Nikolaos Grivas, and Emmanouil E. Kriezis

Perturbation-free prediction of resonance-assisted tunneling in mixed regular-chaotic systems *(18 pages)* 062220
Normann Mertig, Julius Kullig, Clemens Löbner, Arnd Bäcker, and Roland Ketzmerick

Death and revival of chaos *(10 pages)* 062221
Bálint Kaszás, Ulrike Feudel, and Tamás Tél

Networks and Complex Systems

Competition of simple and complex adoption on interdependent networks *(10 pages)* 062301
Agnieszka Czaplicka, Raul Toral, and Maxi San Miguel

(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 6** **DECEMBER 2016**

Random-fractal *Ansatz* for the configurations of two-dimensional critical systems *(11 pages)* 062144
Ching Hua Lee, Dai Ozaki, and Hiroaki Matsueda

Comparison between thermodynamic work and heat in autonomous quantum systems *(7 pages)* 062145
Y. Y. Xu

Quench dynamics of the three-dimensional U(1) complex field theory: Geometric and scaling characterizations of the vortex tangle *(41 pages)* 062146
Michikazu Kobayashi and Leticia F. Cugliandolo

Statistical entropy of open quantum systems *(8 pages)* 062147
L. M. M. Durão and A. O. Caldeira

Overdamped stochastic thermodynamics with multiple reservoirs *(16 pages)* 062148
Yûto Murashita and Massimiliano Esposito

Zero-temperature directed polymer in random potential in $4 + 1$ dimensions *(4 pages)* 062149
Jin Min Kim

Non-Boltzmann stationary distributions and nonequilibrium relations in active baths *(9 pages)* 062150
Aykut Argun, Ali-Reza Moradi, Erçağ Pinçe, Gokhan Baris Bagci, Alberto Imparato, and Giovanni Volpe

Energy spectrum of a Langevin oscillator *(12 pages)* 062151
Y. Mishin and J. Hickman

Percolation in finite matching lattices *(7 pages)* 062152
Stephan Mertens and Robert M. Ziff

Nonlinear Dynamics and Chaos

Multifractals embedded in short time series: An unbiased estimation of probability moment *(18 pages)* 062201
Lu Qiu, Tianguang Yang, Yanhua Yin, Changgui Gu, and Huijie Yang

Interplay of degree correlations and cluster synchronization *(6 pages)* 062202
Sarika Jalan, Anil Kumar, Alexey Zaikin, and Jürgen Kurths

Comparing the locking threshold for rings and chains of oscillators *(8 pages)* 062203
Bertrand Ottino-Löffler and Steven H. Strogatz

Dynamics of phase oscillators with generalized frequency-weighted coupling *(8 pages)* 062204
Can Xu, Jian Gao, Hairong Xiang, Wenjing Jia, Shuguang Guan, and Zhigang Zheng

Harvesting wind energy to detect weak signals using mechanical stochastic resonance *(4 pages)* 062205
Barbara J. Breen, Jillian G. Rix, Samuel J. Ross, Yue Yu (俞越), John F. Lindner, Nathan Mathewson, Elliot R. Wainwright, and Ian Wilson

Impulse-induced generation of stationary and moving discrete breathers in nonlinear oscillator networks *(7 pages)* 062206
J. Cuevas-Maraver, R. Chacón, and F. Palmero

Instability to a heterogeneous oscillatory state in randomly connected recurrent networks with delayed interactions *(6 pages)* 062207
Célian Bimbard, Erwan Ledoux, and Srdjan Ostojic

(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 6** **DECEMBER 2016**

Fragmentation properties of two-dimensional proximity graphs considering random failures and targeted attacks *(11 pages)* 062125
C. Norrenbrock, O. Melchert, and A. K. Hartmann

Phase transitions of the random-bond Potts chain with long-range interactions *(9 pages)* 062126
Jean-Christian Anglès d'Auriac and Ferenc Iglói

Fluctuation relation for qubit calorimetry *(6 pages)* 062127
Antti Kupiainen, Paolo Muratore-Ginanneschi, Jukka Pekola, and Kay Schwieger

Free-energy functional of the Debye-Hückel model of simple fluids *(5 pages)* 062128
R. Piron and T. Blenski

Equilibrium dynamical correlations in the Toda chain and other integrable models *(13 pages)* 062130
Aritra Kundu and Abhishek Dhar

Exact distributions of cover times for N independent random walkers in one dimension *(6 pages)* 062131
Satya N. Majumdar, Sanjib Sabhapandit, and Grégory Schehr

Characteristic functions based on a quantum jump trajectory *(11 pages)* 062133
Fei Liu and Jingyi Xi

Linear perturbation renormalization group for the two-dimensional Ising model with nearest- and next-nearest-neighbor interactions in a field *(10 pages)* 062134
J. Sznajd

Discontinuous transitions in globally coupled potential systems with additive noise *(14 pages)* 062135
Rüdiger Kürsten and Ulrich Behn

Phase diagram of matrix compressed sensing *(16 pages)* 062136
Christophe Schülke, Philip Schniter, and Lenka Zdeborová

Phase separation transition in a nonconserved two-species model *(8 pages)* 062137
Urna Basu

Dissipative stochastic sandpile model on small-world networks: Properties of nondissipative and dissipative avalanches *(8 pages)* 062138
Himangsu Bhaumik and S. B. Santra

Interacting Brownian dynamics in a nonequilibrium particle bath *(8 pages)* 062139
Stefano Steffenoni, Klaus Kroy, and Gianmaria Falasco

Master equation approach to reversible and conservative discrete systems *(9 pages)* 062140
Felipe Urbina and Sergio Rica

Multicritical absorbing phase transition in a class of exactly solvable models *(6 pages)* 062141
Arijit Chatterjee and P. K. Mohanty

Relaxational processes in the one-dimensional Ising model with long-range interactions *(12 pages)* 062142
Yusuke Tomita

Microscopic theory of a nonequilibrium open bosonic chain *(8 pages)* 062143
Jader P. Santos and Gabriel T. Landi

(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 6** **DECEMBER 2016**

Minimum relative entropy distributions with a large mean are Gaussian *(5 pages)* 062107
Matteo Smerlak

Why patchy diffusion-limited aggregation belongs to the directed-percolation universality class *(6 pages)* 062108
Moses J. Kartha and Arun G. Banpurkar

Speed and efficiency limits of multilevel incoherent heat engines *(9 pages)* 062109
V. Mukherjee, W. Niedenzu, A. G. Kofman, and G. Kurizki

Experimental study of energy exchanges between two coupled granular gases *(6 pages)* 062110
J.-Y. Chastaing, J.-C. Géminard, and A. Naert

Extracting work from a single reservoir in the non-Markovian underdamped regime *(10 pages)* 062111
Oscar Paredes-Altuve, Ernesto Medina, and Pedro J. Colmenares

Work fluctuation and total entropy production in nonequilibrium processes *(12 pages)* 062112
Ken Funo, Tomohiro Shitara, and Masahito Ueda

Ensemble-free configurational temperature for spin systems *(8 pages)* 062113
G. Palma, G. Gutiérrez, and S. Davis

Shift in membrane miscibility transition temperature upon addition of short-chain alcohols *(6 pages)* 062114
M. Schick

Quantum statistics of classical particles derived from the condition of a free diffusion coefficient *(6 pages)* 062115
M. Hoyuelos and P. Sisterna

Entropy production and thermalization in the one-atom maser *(7 pages)* 062116
E. Solano-Carrillo

Nonlinear inhomogeneous Fokker-Planck equations: Entropy and free-energy time evolution *(7 pages)* 062117
Gabriele Sicuro, Peter Rapčan, and Constantino Tsallis

Perturbative thermodynamic geometry of nonextensive ideal classical, Bose, and Fermi gases *(8 pages)* 062118
Hosein Mohammadzadeh, Fereshteh Adli, and Sahereh Nouri

Kinetics of aggregation with choice *(12 pages)* 062119
E. Ben-Naim and P. L. Krapivsky

Diffusion of active chiral particles *(18 pages)* 062120
Francisco J. Sevilla

Numerical analysis of long-range spatial correlations in surface growth *(10 pages)* 062121
Hui Xia, Gang Tang, and Yueheng Lan

Calorimetric measurement of work for a driven harmonic oscillator *(9 pages)* 062122
Rui Sampaio, Samu Suomela, and Tapio Ala-Nissila

Numerical study of the tight-binding approach to overdamped Brownian motion on a tilted periodic potential *(10 pages)* 062123
K. J. Challis

Second-order fluctuation theory and time autocorrelation function for currents *(9 pages)* 062124
Roman Belousov and E. G. D. Cohen

(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 6 DECEMBER 2016

Correlation between temperature variations of static and dynamic properties in glass-forming liquids *(6 pages)* . . . 060603(R)
D. N. Voylov, P. J. Griffin, B. Mercado, J. K. Keum, M. Nakanishi, V. N. Novikov, and A. P. Sokolov

Liquid Crystals

X-ray and Raman scattering study of orientational order in nematic and heliconical nematic liquid crystals *(6 pages)* . . . 060701(R)
Gautam Singh, Jinxin Fu, Dena M. Agra-Kooijman, Jang-Kun Song, M. R. Vengatesan, Mohan Srinivasarao, Michael R. Fisch, and Satyendra Kumar

Fluid Dynamics

Statistical theory of reversals in two-dimensional confined turbulent flows *(5 pages)* . . . 061101(R)
Vishwanath Shukla, Stephan Fauve, and Marc Brachet

Coupled continuous-time random walks for fluid stretching in two-dimensional heterogeneous media *(6 pages)* . . . 061102(R)
Marco Dentz, Daniel R. Lester, Tanguy Le Borgne, and Felipe P. J. de Barros

Plasma Physics

Experimental observation of phase-flip transitions in two inductively coupled glow discharge plasmas *(6 pages)* . . . 061201(R)
Neeraj Chaubey, S. Mukherjee, A. Sen, and A. N. Sekar Iyengar

Bayesian inference of x-ray diffraction spectra from warm dense matter with the one-component-plasma model *(5 pages)* . . . 061202(R)
Jean Clérouin, Nicolas Desbiens, Vincent Dubois, and Philippe Arnault

ARTICLES

Statistical Physics

Time-dependent cavitation in a viscous fluid *(11 pages)* . . . 062101
Vitaly A. Shneidman

Portfolio optimization problem with nonidentical variances of asset returns using statistical mechanical informatics *(11 pages)* . . . 062102
Takashi Shinzato

Response to a periodic stimulus in a perfect integrate-and-fire neuron model driven by colored noise *(13 pages)* . . . 062103
Romi Mankin and Astrid Rekker

Thermalization of oscillator chains with onsite anharmonicity and comparison with kinetic theory *(9 pages)* . . . 062104
Christian B. Mendl, Jianfeng Lu, and Jani Lukkarinen

Curl forces and the nonlinear Fokker-Planck equation *(10 pages)* . . . 062105
R. S. Wedemann, A. R. Plastino, and C. Tsallis

Stability of quantum statistical ensembles with respect to local measurements *(12 pages)* . . . 062106
Walter Hahn and Boris V. Fine

(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 6
PARTS A AND B

CONTENTS

DECEMBER 2016

The Table of Contents is a total listing of Parts A and B.
Part A consists of pages 060101(R)–062319, and Part B pages 062401–069904(E).

PART A

RAPID COMMUNICATIONS

Statistical Physics

Weak universality in sensory tradeoffs *(7 pages)* . . . . . 060101(R)
Sarah Marzen and Simon DeDeo

Exact probability distribution functions for Parrondo's games *(5 pages)* . . . . . 060102(R)
Rubina Zadourian, David B. Saakian, and Andreas Klümper

Stochastic Laplacian growth *(6 pages)* . . . . . 060103(R)
Oleg Alekseev and Mark Mineev-Weinstein

Nonlinear Dynamics and Chaos

Oscillation structure of localized perturbations in modulationally unstable media *(6 pages)* . . . . . 060201(R)
Gino Biondini, Sitai Li, and Dionyssios Mantzavinos

Networks and Complex Systems

Percolation in real multiplex networks *(5 pages)* . . . . . 060301(R)
Ginestra Bianconi and Filippo Radicchi

Biological Physics

Fronts under arrest: Nonlocal boundary dynamics in biology *(5 pages)* . . . . . 060401(R)
Scott G. McCalla and James H. von Brecht

Colloids, Complex Fluids, and Active Matter

Velocity autocorrelation function in supercooled liquids: Long-time tails and anomalous shear-wave propagation *(5 pages)* . . . . . 060601(R)
H. L. Peng, H. R. Schober, and Th. Voigtmann

Probing the shear viscosity of an active nematic film *(5 pages)* . . . . . 060602(R)
Pau Guillamat, Jordi Ignés-Mullol, Suraj Shankar, M. Cristina Marchetti, and Francesc Sagués

Copyright 2016 by American Physical Society

(Continued)

2470-0045(201612)94:6:A;1-E

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).