PHYSICAL REVIEW E **THIRD SERIES, VOLUME 101, NUMBER 2** **FEBRUARY 2020**

Axisymmetric lattice Boltzmann model for simulating the freezing process of a sessile water droplet with volume change *(12 pages)* 023314
Chaoyang Zhang, Hui Zhang, Wenzhen Fang, Yugang Zhao, and Chun Yang

High-resolution Monte Carlo study of the order-parameter distribution of the three-dimensional Ising model *(6 pages)* 023315
Jiahao Xu, Alan M. Ferrenberg, and David P. Landau

Computational hardness of spin-glass problems with tile-planted solutions *(16 pages)* 023316
Dilina Perera, Firas Hamze, Jack Raymond, Martin Weigel, and Helmut G. Katzgraber

ERRATA

Erratum: Bifurcation threshold of the delayed van der Pol oscillator under stochastic modulation [Phys. Rev. E **85**, 056214 (2012)] *(2 pages)* . . . . . 029901(E)
Mathieu Gaudreault, François Drolet, and Jorge Viñals

Erratum: Configurational temperature in dusty plasmas [Phys. Rev. E **99**, 063203 (2019)] *(2 pages)* . . . . . 029902(E)
Michael Himpel and André Melzer

Erratum: Effects of chiral dopants on double-twist configurations of lyotropic chromonic liquid crystals in a cylindrical cavity [Phys. Rev. E **100**, 012702 (2019)] *(1 page)* . . . . . 029903(E)
Jonghee Eun, Sung-Jo Kim, and Joonwoo Jeong

Erratum: Subdiffusive continuous-time random walks with stochastic resetting [Phys. Rev. E **99**, 052116 (2019)] *(1 page)* . . . . . 029904(E)
Łukasz Kuśmierz and Ewa Gudowska-Nowak

This paper was highlighted in the APS publication *Physics* (physics.aps.org).

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 101, NUMBER 2** **FEBRUARY 2020**

Towards megajoule x-ray lasers via relativistic four-photon cascade in plasma *(6 pages)* 023211
V. M. Malkin and N. J. Fisch

Computational Physics

Using numerical methods from nonlocal optics to simulate the dynamics of N-body systems in alternative theories of gravity *(5 pages)* 023301
Tiago D. Ferreira, Nuno A. Silva, O. Bertolami, C. Gomes, and A. Guerreiro

Benchmarking the effective one-component plasma model for warm dense neon and krypton within quantum molecular dynamics simulation *(12 pages)* 023302
Zhao-Qi Wang, Jun Tang, Yong Hou, Qi-Feng Chen, Xiang-Rong Chen, Jia-Yu Dai, Xu-Jun Meng, Yun-Jun Gu, Lei Liu, Guo-Jun Li, Yang-Shun Lan, and Zhi-Guo Li

Construction of invariant compact finite-difference schemes *(20 pages)* 023303
E. Ozbenli and P. Vedula

Asymptotically unbiased estimation of physical observables with neural samplers *(10 pages)* 023304
Kim A. Nicoli, Shinichi Nakajima, Nils Strodthoff, Wojciech Samek, Klaus-Robert Müller, and Pan Kessel

Super-resolution of real-world rock microcomputed tomography images using cycle-consistent generative adversarial networks *(15 pages)* 023305
Honggang Chen, Xiaohai He, Qizhi Teng, Raymond E. Sheriff, Junxi Feng, and Shuhua Xiong

Discrete unified gas kinetic scheme for nonlinear convection-diffusion equations *(14 pages)* 023306
Jinlong Shang, Zhenhua Chai, Huili Wang, and Baochang Shi

Random walk to describe diffusion phenomena in three-dimensional discontinuous media: Extension to anisotropic phases and nonplane interfaces *(6 pages)* 023307
Yutaka Maruyama

Arbitrary Lagrangian-Eulerian unstructured finite-volume lattice-Boltzmann method for computing two-dimensional compressible inviscid flows over moving bodies *(17 pages)* 023308
Kazem Hejranfar, Hossein Hashemi Nasab, and Mohammad Hadi Azampour

Multigrid dual-time-stepping lattice Boltzmann method *(16 pages)* 023309
Simon Gsell, Umberto D'Ortona, and Julien Favier

Covariant Bethe-Salpeter approximation in models of strongly correlated electron systems *(13 pages)* 023310
Zhenhao Fan, Zhipeng Sun, Dingping Li, Itzhak Berenstein, Guy Leshem, and Baruch Rosenstein

Semi-Lagrangian lattice Boltzmann model for compressible flows on unstructured meshes *(10 pages)* 023311
M. H. Saadat, F. Bösch, and I. V. Karlin

Analysis and assessment of the no-slip and slip boundary conditions for the discrete unified gas kinetic scheme *(13 pages)* 023312
Liuming Yang, Yang Yu, Liming Yang, and Guoxiang Hou

Simulation of a hydrogen atom in a laser field using the time-dependent variational principle *(11 pages)* 023313
Keefer Rowan, Louis Schatzki, Timothy Zaklama, Yasumitsu Suzuki, Kazuyuki Watanabe, and Kálmán Varga

(Continued)

This paper was highlighted in the APS publication *Physics* (physics.aps.org).

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 101, NUMBER 2** **FEBRUARY 2020**

General power-law temporal scaling for unequal-size microbubble coalescence *(9 pages)* 023106
Rou Chen, Huidan (Whitney) Yu, Jianhuan Zeng, and Likun Zhu

Theory of acoustic trapping of microparticles in capillary tubes *(12 pages)* 023107
Jacob S. Bach and Henrik Bruus

Coupling effects and thin-shell corrections for surface instabilities of cylindrical fluid shells *(9 pages)* 023108
Shuai Zhang, Hao Liu, Wei Kang, Zuoli Xiao, Jianjun Tao, Ping Zhang, Weiyan Zhang, and X. T. He

Bicritical states in a vertical layer of fluid under two-frequency temperature modulation *(10 pages)* 023109
Jitender Singh, Puneet Kaur, and Renu Bajaj

Local details versus effective medium approximation: A study of diffusion in microfluidic random networks made from Voronoi tessellations *(10 pages)* 023110
Washington Ponce and María Luisa Cordero

Plasma Physics

Structure of multicomponent Coulomb crystals *(10 pages)* 023201
M. E. Caplan

Studies of equation of state properties of high-energy-density matter generated by intense ion beams at the facility for antiprotons and ion research *(15 pages)* 023202
N. A. Tahir, P. Neumayer, I. V. Lomonosov, A. Shutov, V. Bagnoud, A. R. Piriz, S. A. Piriz, and C. Deutsch

Third-order transport coefficient tensor of charged-particle swarms in electric and magnetic fields *(22 pages)* 023203
I. Simonović, D. Bošnjaković, Z. Lj. Petrović, P. Stokes, R. D. White, and S. Dujko

Measurements of pressure-induced $K\beta$ line shifts in ramp compressed cobalt up to 8 Mbar *(7 pages)* 023204
S. Jiang, A. E. Lazicki, S. B. Hansen, P. A. Sterne, P. Grabowski, R. Shepherd, H. A. Scott, R. F. Smith, J. H. Eggert, and Y. Ping

Role of collisionality and radiative cooling in supersonic plasma jet collisions of different materials *(8 pages)* 023205
G. W. Collins, IV, J. C. Valenzuela, C. A. Speliotopoulos, N. Aybar, F. Conti, F. N. Beg, P. Tzeferacos, B. Khiar, A. F. A. Bott, and G. Gregori

Electron-ion coupling factor for temperature relaxation in dense plasmas *(5 pages)* 023206
Gérald Faussurier

Sculpted ultracold neutral plasmas *(14 pages)* 023207
Vikram S. Dharodi and Michael S. Murillo

Diagnostic signature of the compressibility of the inertial-confinement-fusion pusher *(6 pages)* 023208
K. D. Meaney, Y. H. Kim, H. Geppert-Kleinrath, H. W. Herrmann, L. Berzak Hopkins, and N. M. Hoffman

Nonlinear plasma wavelength scalings in a laser wakefield accelerator *(9 pages)* 023209
H. Ding, A. Döpp, M. Gilljohann, J. Götzfried, S. Schindler, L. Wildgruber, G. Cheung, S. M. Hooker, and S. Karsch

Single to multiple acoustic vortex excitations in the transition to defect-mediated dust acoustic wave turbulence *(7 pages)* 023210
Jun-Yi Tsai, Po-Cheng Lin, and Lin I

(Continued)

This paper was highlighted in the APS publication *Physics* (physics.aps.org).

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 101, NUMBER 2** **FEBRUARY 2020**

Films and Interfaces

Interaction of advancing contact lines with defects on heated substrates *(10 pages)* 022801
Vladimir S. Ajaev, Elizaveta Ya. Gatapova, and Oleg A. Kabov

Phase-field model of oxidation: Kinetics *(16 pages)* 022802
Kyoungdoc Kim, Quentin C. Sherman, Larry K. Aagesen, and Peter W. Voorhees

Extended families of critical and stationary droplets for nonequilibrium phase transitions in spatially discrete bistable systems *(9 pages)* 022803
Chi-Jen Wang, Da-Jiang Liu, and James W. Evans

Granular Materials

Granular flow through an aperture: Influence of obstacles near the outlet *(11 pages)* 022901
M. G. Areán, A. Boschan, M. A. Cachile, and M. A. Aguirre

Dynamic behavior of humid granular avalanches: Optical measurements to characterize the precursor activity *(12 pages)* 022902
Luc Oger, Claude el Tannoury, Renaud Delannay, Yves Le Gonidec, Irene Ippolito, Yanina Lucrecia Roht, and Iñaki Gómez-Arriaran

Size-polydisperse dust in molecular gas: Energy equipartition versus nonequipartition *(7 pages)* 022903
Alexander Osinsky, Anna S. Bodrova, and Nikolai V. Brilliantov

Optical method for measuring the volume fraction of granular media: Application to faced-centered cubic lattices of monodisperse spheres *(12 pages)* 022904
L. Sarno, L. Carleo, M. N. Papa, and A. Armanini

Solid Mechanics

Influence of the microstructure of two-dimensional random heterogeneous media on propagation of acoustic coherent waves *(11 pages)* 023001
Adrien Rohfritsch, Jean-Marc Conoir, Tony Valier-Brasier, and Régis Marchiano

Generation of fine fragments during dynamic propagation of pressurized cracks *(9 pages)* 023002
A. Iravani, F. Ouchterlony, I. Kukolj, and J. A. Åström

Fluid Dynamics

Knudsen number effects on the nonlinear acoustic spectral energy cascade *(16 pages)* 023101
Shubham Thirani, Prateek Gupta, and Carlo Scalo

Behavior of charged and uncharged drops in high alternating tangential electric fields *(12 pages)* 023102
Jens-Michael Löwe, Volker Hinrichsen, Ilia V. Roisman, and Cameron Tropea

Transition to turbulence in driven active matter *(12 pages)* 023103
Aritra Das, J. K. Bhattacharjee, and T. R. Kirkpatrick

Flexible fibers in shear flow approach attracting periodic solutions *(14 pages)* 023104
Agnieszka M. Słowicka, Howard A. Stone, and Maria L. Ekiel-Jeżewska

Numerical simulation of dissolved air flotation using a lattice Boltzmann method *(15 pages)* 023105
Amirabbas Ghorbanpour-Arani, Mohammad-Hassan Rahimian, and Reza Haghani-Hassan-Abadi

(Continued)

This paper was highlighted in the APS publication *Physics* (physics.aps.org).

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 101, NUMBER 2** **FEBRUARY 2020**

Robust boundary flow in chiral active fluid *(6 pages)* 022603
Xiang Yang, Chenyang Ren, Kangjun Cheng, and H. P. Zhang

Dynamics of a ratchet gear powered by an active granular bath *(5 pages)* 022604
Michael Jade Y. Jerez, Mike A. Bonachita, and Mark Nolan P. Confesor

Response of glassy liquids to thermal gradients *(8 pages)* 022605
Vinay Vaibhav, Jürgen Horbach, and Pinaki Chaudhuri

Phase separation in a two-dimensional binary colloidal mixture by quorum sensing activity *(12 pages)* 022606
Jalim Singh and A. V. Anil Kumar

Depletion force between disordered linear macromolecules *(10 pages)* 022607
Nathaniel Rupprecht and Dervis Can Vural

Two-dimensional active motion *(14 pages)* 022608
Francisco J. Sevilla

Condensate formation and multiscale dynamics in two-dimensional active suspensions *(16 pages)* 022609
Moritz Linkmann, M. Cristina Marchetti, Guido Boffetta, and Bruno Eckhardt

Steady state of an active Brownian particle in a two-dimensional harmonic trap *(10 pages)* 022610
Kanaya Malakar, Arghya Das, Anupam Kundu, K. Vijay Kumar, and Abhishek Dhar

Seeding approach to nucleation in the NVT ensemble: The case of bubble cavitation in overstretched Lennard Jones fluids *(10 pages)* 022611
P. Rosales-Pelaez, I. Sanchez-Burgos, C. Valeriani, C. Vega, and E. Sanz

Clustering of bacteria with heterogeneous motility *(6 pages)* 022612
T. Vourc'h, J. Léopoldès, and H. Peerhossaini

Synchronization of active rotators interacting with environment *(7 pages)* 022613
Taegeun Song, Heetae Kim, Seung-Woo Son, and Junghyo Jo

Liquid Crystals

Spontaneous helical flows in active nematics lying on a cylindrical surface *(6 pages)* 022701
Gaetano Napoli and Stefano Turzi

Negative viscosity of liquid crystals in the presence of turbulence: Conductivity dependence, phase diagram, and self-oscillation *(9 pages)* 022702
Fumiaki Kobayashi, Yuji Sasaki, Shuji Fujii, Hiroshi Orihara, and Tomoyuki Nagaya

Fine structure of viral dsDNA encapsidation *(10 pages)* 022703
Shawn Walker, Javier Arsuaga, Lindsey Hiltner, M. Carme Calderer, and Mariel Vázquez

Q-tensor model of twist-bend and splay nematic phases *(6 pages)* 022704
Martin Čopič and Alenka Mertelj

Free volume in the smectic-E phase of 4-hexyl-4′ isothiocyanatobiphenyl studied by positron annihilation spectroscopy *(9 pages)* 022705
E. Dryzek, E. Juszyńska-Gałązka, R. Zaleski, B. Jasińska, and M. E. S. Eusébio

Tailored morphologies in two-dimensional ferronematic wells *(7 pages)* 022706
Konark Bisht, Yiwei Wang, Varsha Banerjee, and Apala Majumdar

(Continued)

This paper was highlighted in the APS publication *Physics* (physics.aps.org).

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 101, NUMBER 2** **FEBRUARY 2020**

Brain-wave equation incorporating axodendritic connectivity *(9 pages)* 022411
James Ross, Michelle Margetts, Ingo Bojak, Rachel Nicks, Daniele Avitabile, and Stephen Coombes

Modeling the impacts of a simple meiotic gene drive on small, homeostatic populations *(11 pages)* 022412
Kevin R. Pilkiewicz and Michael L. Mayo

Finite-size scaling analysis of protein droplet formation *(8 pages)* 022413
Daniel Nilsson and Anders Irbäck

Pattern localization to a domain edge *(19 pages)* 022414
Manon C. Wigbers, Fridtjof Brauns, Tobias Hermann, and Erwin Frey

Kinetic proofreading and the limits of thermodynamic uncertainty *(8 pages)* 022415
William D. Piñeros and Tsvi Tlusty

Motility and phototaxis of *Gonium*, the simplest differentiated colonial alga *(15 pages)* 022416
Hélène de Maleprade, Frédéric Moisy, Takuji Ishikawa, and Raymond E. Goldstein

Symmetry of membrane protein polyhedra with heterogeneous protein size *(13 pages)* 022417
Mingyuan Ma, Di Li, Osman Kahraman, and Christoph A. Haselwandter

Timing effciency in small-RNA-regulated post-transcriptional processes *(8 pages)* 022418
Kuheli Biswas and Anandamohan Ghosh

One-dimensional model for chemotaxis with hard-core interactions *(19 pages)* 022419
Tertius Ralph, Stephen W. Taylor, and Maria Bruna

Intrinsically disordered nuclear pore proteins show ideal-polymer morphologies and dynamics *(9 pages)* 022420
Luke K. Davis, Ian J. Ford, Anđela Šarić, and Bart W. Hoogenboom

Polymers

Kinetic model of two-monomer polymerization *(12 pages)* 022501
Anna C. Nelson, James P. Keener, and Aaron L. Fogelson

Identifying knot types of polymer conformations by machine learning *(10 pages)* 022502
Olafs Vandans, Kaiyuan Yang, Zhongtao Wu, and Liang Dai

Characterization of entanglements in glassy polymeric ensembles using the Gaussian linking number *(15 pages)* 022503
Rasool Ahmad, Saptarshi Paul, and Sumit Basu

Molecular chains under tension: Thermal and mechanical activation of statistically interacting extension and contraction particles *(17 pages)* 022504
Aaron C. Meyer, Yahya Öz, Norman Gundlach, Michael Karbach, Ping Lu, and Gerhard Müller

Colloids, Complex Fluids, and Active Matter

Controlling the transport of active matter in disordered lattices of asymmetrical obstacles *(7 pages)* 022601
A. D. Borba, Jorge L. C. Domingos, E. C. B. Moraes, F. Q. Potiguar, and W. P. Ferreira

From scalar to polar active matter: Connecting simulations with mean-field theory *(7 pages)* 022602
Ashreya Jayaram, Andreas Fischer, and Thomas Speck

(Continued)

This paper was highlighted in the APS publication *Physics* (physics.aps.org).

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 101, NUMBER 2** **FEBRUARY 2020**

Nonmassive immunization to contain spreading on complex networks *(10 pages)* 022311
Guilherme S. Costa and Silvio C. Ferreira

Model for phonetic changes driven by social interactions *(9 pages)* 022312
A. Chacoma, N. Almeira, J. I. Perotti, and O. V. Billoni

Distance distribution in extreme modular networks *(10 pages)* 022313
Eitan E. Asher, Hillel Sanhedrai, Nagendra K. Panduranga, Reuven Cohen, and Shlomo Havlin

Asymmetric interdependent networks with multiple-dependence relation *(15 pages)* 022314
Hang Zhang, Jie Zhou, Yong Zou, Ming Tang, Gaoxi Xiao, and H. Eugene Stanley

Scale-free networks with invariable diameter and density feature: Counterexamples *(8 pages)* 022315
Fei Ma, Xiaomin Wang, and Ping Wang

Interconnections between networks acting like an external field in a first-order percolation transition *(10 pages)* 022316
Bnaya Gross, Hillel Sanhedrai, Louis Shekhtman, and Shlomo Havlin

PART B

Biological Physics

Unification of cell division control strategies through continuous rate models *(9 pages)* 022401
César Nieto, Juan Arias-Castro, Carlos Sánchez, César Vargas-García, and Juan Manuel Pedraza

Mechanosensitive self-assembly of myosin II minifilaments *(11 pages)* 022402
Justin Grewe and Ulrich S. Schwarz

Mechanics of human brain organoids *(8 pages)* 022403
Valentina Balbi, Michel Destrade, and Alain Goriely

Motility and morphodynamics of confined cells *(20 pages)* 022404
Ido Lavi, Nicolas Meunier, Raphael Voituriez, and Jaume Casademunt

Translational nucleosome positioning: A computational study *(16 pages)* 022405
J. Neipel, G. Brandani, and H. Schiessel

Heat of nervous conduction: A thermodynamic framework *(13 pages)* 022406
Aymar C. L. de Lichtervelde, J. Pedro de Souza, and Martin Z. Bazant

Coherent feed-forward loop acts as an efficient information transmitting motif *(10 pages)* 022407
Md Sorique Aziz Momin, Ayan Biswas, and Suman K. Banik

Columnar grouping preserves synchronization in neuronal networks with distance-dependent time delays *(12 pages)* 022408
Joseph S. Tumulty, Michael Royster, and Luis Cruz

Molecular-memory-driven phenotypic switching in a genetic toggle switch without cooperative binding *(12 pages)* 022409
Baohua Qiu, Tianshou Zhou, and Jiajun Zhang

Selectivity mechanism of magnesium and calcium in cation-binding pocket structures of phosphotyrosine *(9 pages)* 022410
Yusong Tu, Huadong Liu, Guosheng Shi, Fengmin Zhang, Tian Su, Yuanyan Wu, Jiajia Sun, Lei Zhang, Shengli Zhang, and Haiping Fang

(Continued)

This paper was highlighted in the APS publication *Physics* (physics.aps.org).

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 101, NUMBER 2** **FEBRUARY 2020**

Finite-range Coulomb gas models. II. Applications to quantum kicked rotors and banded random matrices *(13 pages)* 022218
Avanish Kumar, Akhilesh Pandey, and Sanjay Puri

Neural network approach for the dynamics on the normally hyperbolic invariant manifold of periodically driven systems *(9 pages)* 022219
Martin Tschöpe, Matthias Feldmaier, Jörg Main, and Rigoberto Hernandez

Phase-amplitude reduction far beyond the weakly perturbed paradigm *(21 pages)* 022220
Dan Wilson

Entanglement in coupled kicked tops with chaotic dynamics *(17 pages)* 022221
Tabea Herrmann, Maximilian F. I. Kieler, Felix Fritzsch, and Arnd Bäcker

Distribution of the ratio of consecutive level spacings for different symmetries and degrees of chaos *(10 pages)* 022222
Ángel L. Corps and Armando Relaño

Uncertainty quantification of sensitivities of time-average quantities in chaotic systems *(10 pages)* 022223
Kyriakos D. Kantarakias, Karim Shawki, and George Papadakis

Networks and Complex Systems

Description of spreading dynamics by microscopic network models and macroscopic branching processes can differ due to coalescence *(13 pages)* 022301
Johannes Zierenberg, Jens Wilting, Viola Priesemann, and Anna Levina

Reduction of oscillator dynamics on complex networks to dynamics on complete graphs through virtual frequencies *(6 pages)* 022302
Jian Gao and Konstantinos Efstathiou

Dynamic regulation of resource transport induces criticality in interdependent networks of excitable units *(6 pages)* 022303
Yogesh S. Virkar, Juan G. Restrepo, Woodrow L. Shew, and Edward Ott

Resilience centrality in complex networks *(10 pages)* 022304
Yongtao Zhang, Cunqi Shao, Shibo He, and Jianxi Gao

Adaptive voter model on simplicial complexes *(10 pages)* 022305
Leonhard Horstmeyer and Christian Kuehn

Norm violation versus punishment risk in a social model of corruption *(14 pages)* 022306
Dan Lu, F. Bauza, D. Soriano-Paños, J. Gómez-Gardeñes, and L. M. Floría

Noncooperative dynamics in election interference *(25 pages)* 022307
David Rushing Dewhurst, Christopher M. Danforth, and Peter Sheridan Dodds

Random walks on hypergraphs *(19 pages)* 022308
Timoteo Carletti, Federico Battiston, Giulia Cencetti, and Duccio Fanelli

Time-invariant degree growth in preferential attachment network models *(9 pages)* 022309
Jun Sun (孙骏), Matúš Medo, and Steffen Staab

Effect of repulsive links on frustration in attractively coupled networks *(10 pages)* 022310
Sayantan Nag Chowdhury, Dibakar Ghosh, and Chittaranjan Hens

(Continued)

This paper was highlighted in the APS publication *Physics* (physics.aps.org).

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 101, NUMBER 2** **FEBRUARY 2020**

Nonlinear Dynamics and Chaos

Wave scattering properties of multiple weakly coupled complex systems *(12 pages)* 022201
Shukai Ma, Bo Xiao, Zachary Drikas, Bisrat Addissie, Ronald Hong, Thomas M. Antonsen, Edward Ott, and Steven M. Anlage

Slow diffusive structure in Nikolaevskii turbulence *(7 pages)* 022202
Takayuki Narumi and Yoshiki Hidaka

Turing patterns in a network-reduced FitzHugh-Nagumo model *(12 pages)* 022203
Timoteo Carletti and Hiroya Nakao

Dynamical complexity measure to distinguish organized from disorganized dynamics *(11 pages)* 022204
Christophe Letellier, I. Leyva, and I. Sendiña-Nadal

Positive and negative couplings perform complementary roles in the signal amplification of globally coupled bistable oscillators *(7 pages)* 022205
Xiaoming Liang, Cong Liu, and Xiyun Zhang

Evidence for crisis-induced intermittency during geomagnetic superchron transitions *(8 pages)* 022206
Breno Raphaldini, David Ciro, Everton S. Medeiros, Lucas Massaroppe, and Ricardo I. F. Trindade

Nonchaotic laser pulse dissociation through deformed tori *(8 pages)* 022207
Emanuel F. de Lima, R. Egydio de Carvalho, and M. D. Forlevesi

Lagrangian descriptors for open maps *(7 pages)* 022208
Gabriel G. Carlo and F. Borondo

Solitons in fluctuating hydrodynamics of diffusive processes *(10 pages)* 022209
Alexios P. Polychronakos

Origin of amplitude synchronization in coupled nonidentical oscillators *(7 pages)* 022210
Qi Qiu, Benzheng Zhou, Pai Wang, Ligang He, Yunhao Xiao, Zhenyu Yang, and Meng Zhan

Diversity of dynamical behaviors due to initial conditions: Extension of the Ott-Antonsen ansatz for identical Kuramoto-Sakaguchi phase oscillators *(8 pages)* 022211
Akihisa Ichiki and Keiji Okumura

Bose-Einstein condensate confined in a one-dimensional ring stirred with a rotating delta link *(11 pages)* 022212
Axel Pérez-Obiol and Taksu Cheon

Excitable solitons: Annihilation, crossover, and nucleation of pulses in mass-conserving activator-inhibitor media *(6 pages)* 022213
Arik Yochelis, Carsten Beta, and Nir S. Gov

Acoustic response for nonlinear, coupled multiscale model containing subwavelength designed microstructure instabilities *(12 pages)* 022215
Stephanie G. Konarski, Michael R. Haberman, and Mark F. Hamilton

Echo in complex networks *(9 pages)* 022216
Richa Phogat, Sudeshna Sinha, and P. Parmananda

Finite-range Coulomb gas models. I. Some analytical results *(15 pages)* 022217
Akhilesh Pandey, Avanish Kumar, and Sanjay Puri

(Continued)

This paper was highlighted in the APS publication *Physics* (physics.aps.org).

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 101, NUMBER 2** **FEBRUARY 2020**

Designing bistability or multistability in macroscopic diffusive systems *(8 pages)* 022119
Jun Wang, Gaole Dai, Fubao Yang, and Jiping Huang

Approach to equilibrium and nonequilibrium stationary distributions of interacting many-particle systems that are coupled to different heat baths *(23 pages)* 022120
Roland R. Netz

Tricritical directed percolation with long-range interaction in one and two dimensions *(16 pages)* 022121
Minjae Jo and B. Kahng

Statistical analysis of stochastic magnetic fields *(16 pages)* 022122
Amir Jafari, Ethan Vishniac, and Vignesh Vaikundaraman

Defining velocities for accurate kinetic statistics in the Grønbech-Jensen Farago thermostat *(9 pages)* 022123
Niels Grønbech-Jensen and Oded Farago

Critical properties of the Ising model in hyperbolic space *(13 pages)* 022124
Nikolas P. Breuckmann, Benedikt Placke, and Ananda Roy

Aging effects on thermal conductivity of glass-forming liquids *(13 pages)* 022125
Pranab Jyoti Bhuyan, Rituparno Mandal, Pinaki Chaudhuri, Abhishek Dhar, and Chandan Dasgupta

Dynamic critical exponent z of the three-dimensional Ising universality class: Monte Carlo simulations of the improved Blume-Capel model *(14 pages)* 022126
Martin Hasenbusch

Finite-time quantum Otto engine: Surpassing the quasistatic efficiency due to friction *(8 pages)* 022127
Sangyun Lee, Meesoon Ha, Jong-Min Park, and Hawoong Jeong

Dynamic phase transition in the contact process with spatial disorder: Griffiths phase and complex persistence exponents *(7 pages)* 022128
Priyanka D. Bhoyar and Prashant M. Gade

Unified formalism for entropy production and fluctuation relations *(16 pages)* 022129
Ying-Jen Yang and Hong Qian

Efficiency of one-dimensional active transport conditioned on motility *(10 pages)* 022130
F. Cagnetta and E. Mallmin

Monte Carlo static and dynamic simulations of a three-dimensional Ising critical model *(8 pages)* 022131
Frédéric Livet

Fluctuations and self-averaging in random trapping transport: The diffusion coefficient *(11 pages)* 022132
K. A. Pronin

Monitoring anharmonic phonon transport across interfaces in one-dimensional lattice chains *(10 pages)* 022133
Jun Fang, Xin Qian, C. Y. Zhao, Baowen Li, and Xiaokun Gu

Point processes with Gaussian boson sampling *(13 pages)* 022134
Soran Jahangiri, Juan Miguel Arrazola, Nicolás Quesada, and Nathan Killoran

Quenched and annealed disorder mechanisms in comb models with fractional operators *(11 pages)* 022135
A. A. Tateishi, H. V. Ribeiro, T. Sandev, I. Petreska, and E. K. Lenzi

(Continued)

This paper was highlighted in the APS publication *Physics* (physics.aps.org).

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 101, NUMBER 2** **FEBRUARY 2020**

Prediction in a driven-dissipative system displaying a continuous phase transition using machine learning *(6 pages)* 022102
Chon-Kit Pun, Sakib Matin, W. Klein, and Harvey Gould

Effective ergodicity breaking phase transition in a driven-dissipative system *(6 pages)* 022103
Sakib Matin, Chon-Kit Pun, Harvey Gould, and W. Klein

Alternative characterization of the nematic transition in deposition of rods on two-dimensional lattices *(12 pages)* 022104
E. E. Vogel, G. Saravia, A. J. Ramirez-Pastor, and Marcelo Pasinetti

Spatial organization of active particles with field-mediated interactions *(17 pages)* 022105
Ruben Zakine, Jean-Baptiste Fournier, and Frédéric van Wijland

Finite-temperature many-body perturbation theory in the canonical ensemble *(8 pages)* 022106
Punit K. Jha and So Hirata

Time-dependent classification of protein diffusion types: A statistical detection of mean-squared-displacement exponent transitions *(13 pages)* 022107
Katarzyna Hubicka and Joanna Janczura

Percolation thresholds for discorectangles: Numerical estimation for a range of aspect ratios *(5 pages)* 022108
Yuri Yu. Tarasevich and Andrei V. Eserkepov

Population switching under a time-varying environment *(10 pages)* 022109
Tom Israeli and Michael Assaf

Information geometry aspects of minimum entropy production paths from quantum mechanical evolutions *(10 pages)* 022110
Carlo Cafaro and Paul M. Alsing

Partial equivalence of statistical ensembles in a simple spin model with discontinuous phase transitions *(7 pages)* 022111
Agata Fronczak, Piotr Fronczak, and Grzegorz Siudem

Discontinuous transitions can survive to quenched disorder in a two-dimensional nonequilibrium system *(5 pages)* 022112
Minos A. Neto and E. Brigatti

Fluctuation theorem in cavity quantum electrodynamics systems *(10 pages)* 022113
Tatsuro Yuge and Makoto Yamaguchi

Thermodynamics of Markov processes with nonextensive entropy and free energy *(14 pages)* 022114
Liangrong Peng, Hong Qian, and Liu Hong

Mean-field control for efficient mixing of energy loads *(7 pages)* 022115
David Métivier and Michael Chertkov

Effective thermodynamics of two interacting underdamped Brownian particles *(15 pages)* 022116
Tim Herpich, Kamran Shayanfard, and Massimiliano Esposito

Three-terminal refrigerator based on resonant-tunneling quantum wells *(9 pages)* 022117
Zebin Lin, Yun Yun Yang, Wei Li, Jianghui Wang, and Jizhou He

Optimal control of protein copy number *(10 pages)* 022118
Steven Blaber and David A. Sivak

(Continued)

This paper was highlighted in the APS publication *Physics* (physics.aps.org).

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 101, NUMBER 2 PARTS A AND B — ***CONTENTS*** — **FEBRUARY 2020**

The Table of Contents is a total listing of Parts A and B.
Part A consists of pages 020101(R)–022316, and Part B pages 022401–029904(E).

PART A

RAPID COMMUNICATIONS

Statistical Physics

Manifolds in a high-dimensional random landscape: Complexity of stationary points and depinning *(6 pages)* . . . . 020101(R)
Yan V. Fyodorov and Pierre Le Doussal

Nonlinear Dynamics and Chaos

Quantum synchronization in nanoscale heat engines *(5 pages)* . . . . . 020201(R)
Noufal Jaseem, Michal Hajdušek, Vlatko Vedral, Rosario Fazio, Leong-Chuan Kwek, and Sai Vinjanampathy

Networks and Complex Systems

Cascading failures in networks of heterogeneous node behavior *(5 pages)* . . . . . 020301(R)
O. Smith, J. Crowe, E. Farcot, R. D. O'Dea, and K. I. Hopcraft

Colloids, Complex Fluids, and Active Matter

Colloidal particle gel models using many-body potential interactions *(6 pages)* . . . . . 020601(R)
Hamed Hatami-Marbini and Jibril B. Coulibaly

Plasma Physics

Turbulent pinch in whole-plasma simulations of a dipole-confined plasma *(6 pages)* . . . . . 021201(R)
Weike Ou, Lipeng Wang, Bo Li, and B. N. Rogers

Computational Physics

Multicanonical Monte Carlo ensemble growth algorithm *(4 pages)* . . . . . 021301(R)
Graziano Vernizzi, Trung Dac Nguyen, Henri Orland, and Monica Olvera de la Cruz

ARTICLES

Statistical Physics

Feedback control of surface roughness in a one-dimensional Kardar-Parisi-Zhang growth process *(8 pages)* 022101
Priyanka, Uwe C. Täuber, and Michel Pleimling

Copyright 2020 by American Physical Society

(Continued)

2470-0045(202002)101:2:A;1-E

This paper was highlighted in the APS publication *Physics* (physics.aps.org).

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).