PHYSICAL REVIEW E **THIRD SERIES, VOLUME 88, NUMBER 5** **NOVEMBER 2013**

Plasma Physics

Absolute measurement of the total ion-drag force on a single plasma-confined microparticle at the void edge under microgravity conditions *(4 pages)* 055101
J. Beckers, D. J. M. Trienekens, and G. M. W. Kroesen

COMMENTS

Comment on "Hydrodynamics of fractal continuum flow" and "Map of fluid flow in fractal porous medium into fractal continuum flow" *(4 pages)* 057001
Jun Li and Martin Ostoja-Starzewski

Reply to "Comment on 'Hydrodynamics of fractal continuum flow' and 'Map of fluid flow in fractal porous medium into fractal continuum flow' " *(6 pages)* 057002
Alexander S. Balankin and Benjamin Espinoza Elizarraraz

ERRATA

Erratum: Electronic and ionic structures of warm and hot dense matter [Phys. Rev. E **87**, 013104 (2013)] *(1 page)* 059901(E)
C. E. Starrett and D. Saumon

PHYSICAL REVIEW E THIRD SERIES, VOLUME 88, NUMBER 5 NOVEMBER 2013

Efficient parallelization of short-range molecular dynamics simulations on many-core systems *(10 pages)* 053309
R. Meyer

Multidimensional on-lattice higher-order models in the thermal lattice Boltzmann theory *(5 pages)* 053310
Jae Wan Shim

Filter-matrix lattice Boltzmann model for microchannel gas flows *(15 pages)* 053311
Congshan Zhuo and Chengwen Zhong

Precise algorithm to generate random sequential addition of hard hyperspheres at saturation *(9 pages)* 053312
G. Zhang and S. Torquato

BRIEF REPORTS

Statistical Physics

Effective diffusion coefficient of a Brownian particle in a periodically expanded conical tube *(4 pages)* 054101
Anatoly E. Antipov, Alexander V. Barzykin, Alexander M. Berezhkovskii, Yurii A. Makhnovskii, Vladimir Yu. Zitserman, and Sergei M. Aldoshin

Simplified approach for calculating moments of action for linear reaction-diffusion equations *(5 pages)* 054102
Adam J. Ellery, Matthew J. Simpson, Scott W. McCue, and Ruth E. Baker

Propagator for the Fokker-Planck equation with an arbitrary diffusion coefficient *(3 pages)* 054103
Chern Lee, Ka-Di Zhu, and Ji-Gen Chen

Liquid Crystals

Hydrodynamic effects in the measurement of interparticle forces in nematic colloids *(5 pages)* 054501
Kuniyoshi Izaki and Yasuyuki Kimura

Polymers

Single polymer gating of channels under a solvent gradient *(5 pages)* 054601
S. Nath, D. P. Foster, D. Giri, and S. Kumar

Biological Physics

Importance of the Voronoi domain partition for position-jump reaction-diffusion processes on nonuniform rectilinear lattices *(4 pages)* 054701
Christian A. Yates and Ruth E. Baker

Discrete-network versus modal representations of brain activity: Why a sparse regions-of-interest approach can work for analysis of continuous dynamics *(3 pages)* 054702
P. A. Robinson

Networks and Interdisciplinary Physics

Synchronized flow in oversaturated city traffic *(4 pages)* 054801
Boris S. Kerner, Sergey L. Klenov, Gerhard Hermanns, Peter Hemmerle, Hubert Rehborn, and Michael Schreckenberg

(Continued)

PHYSICAL REVIEW E THIRD SERIES, VOLUME 88, NUMBER 5 NOVEMBER 2013

Plasma Physics

Dislocation dynamics during plastic deformations of complex plasma crystals *(15 pages)* 053101
C. Durniak, D. Samsonov, J. F. Ralph, S. Zhdanov, and G. Morfill

Energy loss and Z oscillations of atomic beams in plasmas *(11 pages)* 053102
C. F. Clauser and N. R. Arista

Electron magnetohydrodynamics: Dynamics and turbulence *(14 pages)* 053103
Maxim Lyutikov

Classical Physics

Geometrical feature of the scaling behavior of the limit-point pressure of inflated hyperelastic membranes *(8 pages)* 053201
Ganesh Tamadapu, Nikhil Nandkumar Dhavale, and Anirvan DasGupta

Wide vector solitons in systems with time- and space-modulated nonlinearities *(11 pages)* 053202
L. E. Arroyo Meza, A. de Souza Dutra, and M. B. Hott

Modulational instability and breathing motion in the two-dimensional nonlinear Schrödinger equation with a one-dimensional harmonic potential *(7 pages)* 053203
Hidetsugu Sakaguchi and Yusuke Kageyama

Integrable aspects and soliton interaction for a generalized inhomogeneous Gardner model with external force in plasmas and fluids *(9 pages)* 053204
Yu-Ping Liu, Yi-Tian Gao, and Guang-Mei Wei

Computational Physics

Efficiency and time-dependent cross correlations in multivariable Monte Carlo updating *(6 pages)* 053301
Christopher C. J. Potter and Robert H. Swendsen

Dynamically optimized Wang-Landau sampling with adaptive trial moves and modification factors *(9 pages)* 053302
Yang Wei Koh, Hwee Kuan Lee, and Yutaka Okabe

Diagnostics for insufficiencies of posterior calculations in Bayesian signal inference *(7 pages)* 053303
Sebastian Dorn, Niels Oppermann, and Torsten A. Enßlin

Lattice Boltzmann method coupled with the Oldroyd-B constitutive model for a viscoelastic fluid *(13 pages)* 053304
Jin Su, Jie Ouyang, Xiaodong Wang, and Binxin Yang

Transfer-matrix approach for finite-difference time-domain simulation of periodic structures *(10 pages)* 053305
Alexei Deinega, Sergei Belousov, and Ilya Valuev

Generating true minima in constrained variational formulations via modified Lagrange multipliers *(14 pages)* 053306
Francisco J. Solis, Vikram Jadhao, and Monica Olvera de la Cruz

Achieving tunable surface tension in the pseudopotential lattice Boltzmann modeling of multiphase flows *(10 pages)* 053307
Qing Li and K. H. Luo

Exact transparent boundary condition for the three-dimensional Schrödinger equation in a rectangular cuboid computational domain *(11 pages)* 053308
R. M. Feshchenko and A. V. Popov

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 88, NUMBER 5** **NOVEMBER 2013**

Steady and transient thin-jet flow of a viscoelastic fluid *(15 pages)* 053005
Michael A. Hanyk and Roger E. Khayat

Interfacial elastic fingering in Hele-Shaw cells: A weakly nonlinear study *(8 pages)* 053006
Gabriel D. Carvalho, José A. Miranda, and Hermes Gadêlha

Bifurcation from stable holes to replicating holes in vibrated dense suspensions *(8 pages)* 053007
H. Ebata and M. Sano

Experimetal study of a freely falling plate with an inhomogeneous mass distribution *(7 pages)* 053008
Wentao Huang, Hong Liu, Fuxin Wang, Junqi Wu, and H. P. Zhang

Transition of the scaling law in inverse energy cascade range caused by a nonlocal excitation of coherent structures observed in two-dimensional turbulent fields *(11 pages)* 053009
Atsushi Mizuta, Takeshi Matsumoto, and Sadayoshi Toh

Effect of metallic walls on dynamos generated by laminar boundary-driven flow in a spherical domain *(13 pages)* 053010
Céline Guervilly, Toby S. Wood, and Nicholas H. Brummell

Kinematic dynamo action in square and hexagonal patterns *(13 pages)* 053011
B. Favier and M. R. E. Proctor

Information content of turbulence *(8 pages)* 053012
R. T. Cerbus and W. I. Goldburg

Temperature dependence of capillary dynamics: A multiphase and multicomponent adiabatic approach *(8 pages)* 053013
Federico Maggi and Fernando Alonso-Marroquin

Origins of the k^{-2} spectrum in decaying Taylor-Green magnetohydrodynamic turbulent flows *(7 pages)* 053014
V. Dallas and A. Alexakis

Electrowetting-driven oscillating drops sandwiched between two substrates *(8 pages)* 053015
Dileep Mampallil, H. Burak Eral, Adrian Staicu, Frieder Mugele, and Dirk van den Ende

Topology of hydrothermal waves in liquid bridges and dissipative structures of transported particles *(20 pages)* 053016
Roman V. Mukin and Hendrik C. Kuhlmann

Generalized vortex model for the inverse cascade of two-dimensional turbulence *(12 pages)* 053017
J. Friedrich and R. Friedrich

Onset of convection in a finite two-dimensional container due to unipolar injection of ions *(9 pages)* 053018
Jian Wu, Philippe Traoré, Pedro A. Vázquez, and Alberto T. Pérez

Experimental observations of Soret-driven convection in the transient diffusive boundary layer *(11 pages)* 053019
Stephan Messlinger, Christoph Kramer, Jürgen J. Schmied, Florian Winkel, Wolfgang Schöpf, and Ingo Rehberg

Electrohydrodynamics within the electrical double layer in the presence of finite temperature gradients *(12 pages)* 053020
Tanmay Ghonge, Jeevanjyoti Chakraborty, Ranabir Dey, and Suman Chakraborty

Three-dimensional dynamics of oblate and prolate capsules in shear flow *(12 pages)* 053021
Z. Wang, Y. Sui, P. D. M. Spelt, and W. Wang

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 88, NUMBER 5** **NOVEMBER 2013**

Infinite-dimensional Bayesian filtering for detection of quasiperiodic phenomena in spatiotemporal data *(8 pages)* 052909
Arno Solin and Simo Särkkä

Edge of chaos and genesis of turbulence *(7 pages)* 052910
Abraham C.-L. Chian, Pablo R. Muñoz, and Erico L. Rempel

Extreme events in excitable systems and mechanisms of their generation *(10 pages)* 052911
Gerrit Ansmann, Rajat Karnatak, Klaus Lehnertz, and Ulrike Feudel

Statistics of quantum transport in weakly nonideal chaotic cavities *(5 pages)* 052912
Sergio Rodríguez-Pérez, Ricardo Marino, Marcel Novaes, and Pierpaolo Vivo

Quantum localization of chaotic eigenstates and the level spacing distribution *(7 pages)* 052913
Benjamin Batistić and Marko Robnik

Rational solitons of wave resonant-interaction models *(16 pages)* 052914
Antonio Degasperis and Sara Lombardo

Particle current on flexible surfaces excited by harmonic waves *(9 pages)* 052915
Neeta Verma and Anirvan DasGupta

Quasiperiodicity route to spatiotemporal chaos in one-dimensional pattern-forming systems *(8 pages)* 052916
Marcel G. Clerc and Nicolas Verschueren

Predicting critical transitions in dynamical systems from time series using nonstationary probability density modeling *(10 pages)* 052917
Frank Kwasniok

Electric-field-controlled unpinning of scroll waves *(6 pages)* 052918
Zulma A. Jiménez, Zhihui Zhang, and Oliver Steinbock

Exponential quantum spreading in a class of kicked rotor systems near high-order resonances *(10 pages)* 052919
Hailong Wang, Jiao Wang, Italo Guarneri, Giulio Casati, and Jiangbin Gong

Kicked-Harper model versus on-resonance double-kicked rotor model: From spectral difference to topological equivalence *(15 pages)* 052920
Hailong Wang, Derek Y. H. Ho, Wayne Lawton, Jiao Wang, and Jiangbin Gong

Fluid Dynamics

Electro-osmosis of electrorheological fluids *(9 pages)* 053001
Jayabrata Dhar, Aditya Bandopadhyay, and Suman Chakraborty

Shear wave instability for electrified falling films *(7 pages)* 053002
Arghya Samanta

Radial viscous fingering: Wetting film effects on pattern-forming mechanisms *(7 pages)* 053003
Pedro H. A. Anjos and José A. Miranda

History independence of steady state in simultaneous two-phase flow through two-dimensional porous media *(12 pages)* 053004
Marion Erpelding, Santanu Sinha, Ken Tore Tallakstad, Alex Hansen, Eirik Grude Flekkøy, and Knut Jørgen Måløy

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 88, NUMBER 5** **NOVEMBER 2013**

Percolation of interdependent networks with intersimilarity *(7 pages)* 052805
Yanqing Hu, Dong Zhou, Rui Zhang, Zhangang Han, Céline Rozenblat, and Shlomo Havlin

Phase ordering in coupled noisy bistable systems on scale-free networks *(15 pages)* 052806
Yu Atsumi, Shigefumi Hata, and Hiroya Nakao

Disentangling different types of El Niño episodes by evolving climate network analysis *(19 pages)* 052807
A. Radebach, R. V. Donner, J. Runge, J. F. Donges, and J. Kurths

Robustness of cooperation on scale-free networks under continuous topological change *(6 pages)* 052808
Genki Ichinose, Yuto Tenguishi, and Toshihiro Tanizawa

Analytical solution of a stochastic model of risk spreading with global coupling *(5 pages)* 052809
Satoru Morita and Jin Yoshimura

Network reliability: The effect of local network structure on diffusive processes *(10 pages)* 052810
Mina Youssef, Yasamin Khorramzadeh, and Stephen Eubank

Percolation in multiplex networks with overlap *(9 pages)* 052811
Davide Cellai, Eduardo López, Jie Zhou, James P. Gleeson, and Ginestra Bianconi

Bootstrapping under constraint for the assessment of group behavior in human contact networks *(15 pages)* 052812
Nicolas Tremblay, Alain Barrat, Cary Forest, Mark Nornberg, Jean-François Pinton, and Pierre Borgnat

Analytical investigation of the faster-is-slower effect with a simplified phenomenological model *(5 pages)* 052813
K. Suzuno, A. Tomoeda, and D. Ueyama

Nonlinear Dynamics and Chaos

Mobility of solitons in one-dimensional lattices with the cubic-quintic nonlinearity *(11 pages)* 052901
C. Mejía-Cortés, Rodrigo A. Vicencio, and Boris A. Malomed

Extremal spacings between eigenphases of random unitary matrices and their tensor products *(8 pages)* 052902
Marek Smaczyński, Tomasz Tkocz, Marek Kuś, and Karol Życzkowski

Passive band-gap reconfiguration born from bifurcation asymmetry *(5 pages)* 052903
Brian P. Bernard and Brian P. Mann

Characterizing the deterministic nature of individual power dropouts in semiconductor lasers subject to delayed feedback *(6 pages)* 052904
K. Hicke, X. Porte, and I. Fischer

Chaotic dynamics of a microswimmer in Poiseuille flow *(6 pages)* 052905
Ricardo Chacón

Solitons and thermal fluctuations in strongly nonlinear solids *(8 pages)* 052906
N. Upadhyaya, A. M. Turner, and V. Vitelli

Onset of dynamic activity in globally coupled excitable and oscillatory units *(5 pages)* 052907
Hiroaki Daido, Akira Kasama, and Kazuho Nishio

Generalized synchronization in relay systems with instantaneous coupling *(5 pages)* 052908
R. Gutiérrez, R. Sevilla-Escoboza, P. Piedrahita, C. Finke, U. Feudel, J. M. Buldú, G. Huerta-Cuellar, R. Jaimes-Reátegui, Y. Moreno, and S. Boccaletti

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 88, NUMBER 5** **NOVEMBER 2013**

Indentation quantification for in-liquid nanomechanical measurement of soft material using an atomic force microscope: Rate-dependent elastic modulus of live cells *(12 pages)* 052711
Juan Ren, Shiyan Yu, Nan Gao, and Qingze Zou

Energetics of discrete selectivity bands and mutation-induced transitions in the calcium-sodium ion channels family *(16 pages)* 052712
I. Kaufman, D. G. Luchinsky, R. Tindjong, P. V. E. McClintock, and R. S. Eisenberg

Incorporating spatial correlations into multispecies mean-field models *(9 pages)* 052713
Deborah C. Markham, Matthew J. Simpson, Philip K. Maini, Eamonn A. Gaffney, and Ruth E. Baker

Total positive curvature of circular DNA *(4 pages)* 052714
Jakob Bohr and Kasper W. Olsen

Real-time tracking of neuronal network structure using data assimilation *(6 pages)* 052715
Franz Hamilton, Tyrus Berry, Nathalia Peixoto, and Timothy Sauer

Using dominant eigenvalue analysis to predict formation of alternans in the heart *(7 pages)* 052716
Virendra Kakade, Xiaopeng Zhao, and Elena G. Tolkacheva

Evolutionary advantage via common action of recombination and neutrality *(9 pages)* 052717
David B. Saakian and Chin-Kun Hu

Equilibrium electrodeformation of a spheroidal vesicle in an ac electric field *(11 pages)* 052718
H. Nganguia and Y.-N. Young

Spread of infectious diseases in a hyperbolic reaction-diffusion susceptible-infected-removed model *(13 pages)* 052719
Elvira Barbera, Giancarlo Consolo, and Giovanna Valenti

Adaptive grid generation in a patient-specific cerebral aneurysm *(8 pages)* 052720
Simona Hodis, David F. Kallmes, and Dan Dragomir-Daescu

Parallel logic gates in synthetic gene networks induced by non-Gaussian noise *(8 pages)* 052721
Yong Xu, Xiaoqin Jin, and Huiqing Zhang

Channel-noise-induced stochastic facilitation in an auditory brainstem neuron model *(13 pages)* 052722
Brett A. Schmerl and Mark D. McDonnell

Networks and Interdisciplinary Physics

Epidemic thresholds for bipartite networks *(6 pages)* 052801
D. G. Hernández and S. Risau-Gusman

Normalized modularity optimization method for community identification with degree adjustment *(10 pages)* 052802
Shuqin Zhang and Hongyu Zhao

Voter models with contrarian agents *(10 pages)* 052803
Naoki Masuda

Asymptotically inspired moment-closure approximation for adaptive networks *(10 pages)* 052804
Maxim S. Shkarayev and Leah B. Shaw

(Continued)

PHYSICAL REVIEW E THIRD SERIES, VOLUME 88, NUMBER 5 NOVEMBER 2013

Magnetically induced bistable behavior of ferronematic liquid crystals *(12 pages)* 052503
S. V. Burylov and A. N. Zakhlevnykh

Two-dimensional system of hard ellipses: A molecular dynamics study *(13 pages)* 052504
M. Ebrahim Foulaadvand and Mohsen Yarifard

Polymers

Normal stresses in elastic networks *(9 pages)* 052601
Adrian R. Cioroianu and Cornelis Storm

Superionic behavior in polyethylene-oxide–based single-ion conductors *(5 pages)* 052602
Kan-Ju Lin and Janna K. Maranas

Tensorial conservation law for nematic polymers *(7 pages)* 052603
Daniel Svenšek, Gregory M. Grason, and Rudolf Podgornik

Polymer model with long-range interactions: Analysis and applications to the chromatin structure *(8 pages)* 052604
A. Amitai and D. Holcman

PART B

Biological Physics

Kinetic Monte Carlo approach to RNA folding dynamics using structure-based models *(9 pages)* 052701
Michael Faber and Stefan Klumpp

Cellular senescence in the Penna model of aging *(5 pages)* 052702
Avikar Periwal

Effect of magnesium ions on dielectric relaxation in semidilute DNA aqueous solutions *(8 pages)* 052703
D. Grgičin, S. Dolanski Babić, T. Ivek, S. Tomić, and R. Podgornik

Energy-landscape paving for prediction of face-centered-cubic hydrophobic-hydrophilic lattice model proteins *(9 pages)* 052704
Jingfa Liu, Beibei Song, Zhaoxia Liu, Weibo Huang, Yuanyuan Sun, and Wenjie Liu

Elastic response of filamentous networks with compliant crosslinks *(9 pages)* 052705
A. Sharma, M. Sheinman, K. M. Heidemann, and F. C. MacKintosh

Long-time mean-square displacements in proteins *(12 pages)* 052706
Derya Vural, Liang Hong, Jeremy C. Smith, and Henry R. Glyde

Interplay between single-stranded binding proteins on RNA secondary structure *(23 pages)* 052707
Yi-Hsuan Lin and Ralf Bundschuh

Concentration-dependent like-charge pairing of guanidinium ions and effect of guanidinium chloride on the structure and dynamics of water from all-atom molecular dynamics simulation *(10 pages)* 052708
Manoj Mandal and Chaitali Mukhopadhyay

Global dynamics of a stochastic neuronal oscillator *(19 pages)* 052709
Takanobu Yamanobe

Reluctance of a neutral nanoparticle to enter a charged pore *(10 pages)* 052710
Sebastian Getfert, Thomas Töws, and Peter Reimann

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 88, NUMBER 5** **NOVEMBER 2013**

Computational study of the propagation of the longitudinal velocity in a polymer melt contained within a cylinder using a scale-bridging method *(11 pages)* 052311
Subhranil De

Impedance spectroscopy of ions at liquid-liquid interfaces *(15 pages)* 052312
Andreas Reindl and Markus Bier

Length-scale crossover of the hydrophobic interaction in a coarse-grained water model *(11 pages)* 052313
Aviel Chaimovich and M. Scott Shell

Effects of viscosity, surface tension, and evaporation rate of solvent on dry colloidal structures: A lattice Boltzmann study *(8 pages)* 052314
Toshihisa Munekata, Takahisa Suzuki, Shunsuke Yamakawa, and Ryoji Asahi

Limiting law excess sum rule for polyelectrolytes *(5 pages)* 052315
Jonathan Landy, YongJin Lee, and YongSeok Jho

Films, Interfaces, and Crystal Growth

Friction of viscoelastic elastomers with rough surfaces under torsional contact conditions *(11 pages)* 052401
Miguel Trejo, Christian Fretigny, and Antoine Chateauminois

Stability and roughness of tensile cracks in disordered materials *(13 pages)* 052402
E. Katzav and M. Adda-Bedia

Electrodynamic interaction between a nanoparticle and the surface of a solid *(12 pages)* 052403
Dmytro Kysylychyn, Volodymyr Piatnytsia, and Valeri Lozovski

Shape transitions in soft spheres regulated by elasticity *(11 pages)* 052404
Craig Fogle, Amy C. Rowat, Alex J. Levine, and Joseph Rudnick

Inclined fluid-film flow with bottom filtration *(10 pages)* 052405
H. N. Kandel and J. P. Pascal

Traction and nonequilibrium phase behavior of confined sheared liquids at high pressure *(10 pages)* 052406
Chiara Gattinoni, David M. Heyes, Christian D. Lorenz, and Daniele Dini

Influence of nonuniform surface magnetic fields in wetting transitions in a confined two-dimensional Ising ferromagnet *(11 pages)* 052407
Marta L. Trobo and Ezequiel V. Albano

Scaling and width distributions of parity-conserving interfaces *(9 pages)* 052408
M. Arlego and M. D. Grynberg

Phase-field modeling of two-dimensional crystal growth with anisotropic diffusion *(14 pages)* 052409
Esteban Meca, Vivek B. Shenoy, and John Lowengrub

Liquid Crystals

Structure transitions in oblate nematic droplets *(11 pages)* 052501
V. Yu. Rudyak, A. V. Emelyanenko, and V. A. Loiko

Peculiarity of the interaction of small particles in smectic liquid crystals *(7 pages)* 052502
O. M. Tovkach, Jun-ichi Fukuda, and B. I. Lev

(Continued)

PHYSICAL REVIEW E THIRD SERIES, VOLUME 88, NUMBER 5 NOVEMBER 2013

Granular Materials

Transport coefficients for driven granular mixtures at low density *(19 pages)* 052201
Nagi Khalil and Vicente Garzó

Directed ratchet transport in granular chains *(8 pages)* 052202
V. Berardi, J. Lydon, P. G. Kevrekidis, C. Daraio, and R. Carretero-González

Effect of aspect ratio on the development of order in vibrated granular rods *(7 pages)* 052203
Vikrant Yadav, Jean-Yonnel Chastaing, and Arshad Kudrolli

Hydrodynamics of granular gases with a two-peak distribution *(6 pages)* 052204
Yanpei Chen, Meiying Hou, Yimin Jiang, and Mario Liu

Particle-scale reversibility in athermal particulate media below jamming *(9 pages)* 052205
Carl F. Schreck, Robert S. Hoy, Mark D. Shattuck, and Corey S. O'Hern

Colloids and Complex Fluids

Sedimentation stability and aging of aqueous dispersions of Laponite in the presence of cetyltrimethylammonium bromide *(8 pages)* 052301
V. Savenko, L. Bulavin, M. Rawiso, M. Loginov, E. Vorobiev, and N. I. Lebovka

Intrinsic viscosity of a suspension of cubes *(5 pages)* 052302
Rajesh K. Mallavajula, Donald L. Koch, and Lynden A. Archer

Generalization of the Gouy-Chapman-Stern model of an electric double layer for a morphologically complex electrode: Deterministic and stochastic morphologies *(16 pages)* 052303
Rama Kant and Maibam Birla Singh

Nanometer-scale water droplet free from the constraint of reverse micelles at low temperatures *(8 pages)* 052304
H. Murakami, T. Sada, M. Yamada, and M. Harada

Yield stress in amorphous solids: A mode-coupling-theory analysis *(14 pages)* 052305
Atsushi Ikeda and Ludovic Berthier

Anisotropic dynamics of water ultraconfined in macroscopically oriented channels of single-crystal beryl: A multifrequency analysis *(16 pages)* 052306
Lawrence M. Anovitz, Eugene Mamontov, Paul ben Ishai, and Alexander I. Kolesnikov

Nonequilibrium dynamics of a confined colloidal bilayer in a planar shear flow *(10 pages)* 052307
Tarlan A. Vezirov and Sabine H. L. Klapp

Transient formation of bcc crystals in suspensions of poly(*N*-isopropylacrylamide)-based microgels *(8 pages)* 052308
U. Gasser, J.-J. Lietor-Santos, A. Scotti, O. Bunk, A. Menzel, and A. Fernandez-Nieves

Understanding collective dynamics of soft active colloids by binary scattering *(17 pages)* 052309
Timo Hanke, Christoph A. Weber, and Erwin Frey

Kinetics of anisotropic ordering in Laponite dispersions induced by a water-air interface *(8 pages)* 052310
Ravi Kumar Pujala and H. B. Bohidar

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 88, NUMBER 5** **NOVEMBER 2013**

Critical Casimir forces along the isofields *(8 pages)* 052129
M. Zubaszewska, A. Maciołek, and A. Drzewiński

Contact processes in crowded environments *(10 pages)* 052130
S.-L.-Y. Xu and J. M. Schwarz

Optimization of the monolayer growth in adsorption-desorption processes *(7 pages)* 052131
S. Živković, Z. M. Jakšić, I. Lončarević, Lj. Budinski-Petković, S. B. Vrhovac, and A. Belić

Transition state theory and the dynamics of hard disks *(5 pages)* 052132
M. Barnett-Jones, P. A. Dickinson, M. J. Godfrey, T. Grundy, and M. A. Moore

Thermal fluctuations and stability of a particle levitated by a repulsive Casimir force in a liquid *(7 pages)* 052133
Norio Inui and Kosuke Goto

Information exchange dynamics of the two-dimensional XY model *(6 pages)* 052134
Minsu Kim, Daun Jeong, H. W. Kwon, and M. Y. Choi

Thermal phase transitions in a honeycomb lattice gas with three-body interactions *(8 pages)* 052135
Maximilian Lohöfer, Lars Bonnes, and Stefan Wessel

Transport in a chain of asymmetric cavities: Effects of the concentration with hard-core interaction *(5 pages)* 052136
Gonzalo Suárez, Miguel Hoyuelos, and Héctor O. Mártin

Quasistationarity in a model of long-range interacting particles moving on a sphere *(8 pages)* 052137
Shamik Gupta and David Mukamel

Interlayer-interaction dependence of latent heat in the Heisenberg model on a stacked triangular lattice with competing interactions *(9 pages)* 052138
Ryo Tamura and Shu Tanaka

Analytic expression for the mean time to absorption for a random walker on the Sierpinski fractal. III. The effect of non-nearest-neighbor jumps *(6 pages)* 052139
V. Balakrishnan and John J. Kozak

Transport in weak dynamic disorder: A unified theory *(10 pages)* 052140
Bin Min and Tiejun Li

Scaling behavior for random walks with memory of the largest distance from the origin *(6 pages)* 052141
Maurizio Serva

Connection between maximum-work and maximum-power thermal cycles *(7 pages)* 052142
Julian Gonzalez-Ayala, L. A. Arias-Hernandez, and F. Angulo-Brown

Effects of nanoscale density inhomogeneities on shearing fluids *(15 pages)* 052143
Benjamin A. Dalton, Peter J. Daivis, J. S. Hansen, and B. D. Todd

Monte Carlo simulation of classical spin models with chaotic billiards *(8 pages)* 052144
Hideyuki Suzuki

Temperature-dependent defect dynamics in the network glass SiO_2 *(9 pages)* 052145
Katharina Vollmayr-Lee and Annette Zippelius

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 88, NUMBER 5** **NOVEMBER 2013**

Validity of Fourier's law in one-dimensional momentum-conserving lattices with asymmetric interparticle interactions *(4 pages)* 052112
Lei Wang (王雷), Bambi Hu (胡斑比), and Baowen Li (李保文)

Completeness of solutions of Bethe's equations *(8 pages)* 052113
Wenrui Hao, Rafael I. Nepomechie, and Andrew J. Sommese

Quantum versus classical foundation of statistical mechanics under experimentally realistic conditions *(11 pages)* 052114
Peter Reimann and Mykhaylo Evstigneev

Quasirelativistic Langevin equation *(10 pages)* 052115
A. V. Plyukhin

Kinetics of the dispersion transition and nonergodicity of a system consisting of a disordered porous medium and a nonwetting liquid *(18 pages)* 052116
Vladimir D. Borman, Anton A. Belogorlov, Victor A. Byrkin, and Vladimir N. Tronin

Phase transition in random planar diagrams and RNA-type matching *(7 pages)* 052117
Andrey Y. Lokhov, Olga V. Valba, Mikhail V. Tamm, and Sergei K. Nechaev

Products of rectangular random matrices: Singular values and progressive scattering *(13 pages)* 052118
Gernot Akemann, Jesper R. Ipsen, and Mario Kieburg

Phase transitions in number theory: From the birthday problem to Sidon sets *(5 pages)* 052119
Bartolo Luque, Iván G. Torre, and Lucas Lacasa

Postcritical behavior of a gelling system *(8 pages)* 052120
A. A. Lushnikov

Integral quantum fluctuation theorems under measurement and feedback control *(6 pages)* 052121
Ken Funo, Yu Watanabe, and Masahito Ueda

Three-site interacting spin chain in a staggered field: Fidelity versus Loschmidt echo *(7 pages)* 052122
Uma Divakaran

dc electric field effect on the anomalous exponent of the hopping conduction in the one-dimensional disorder model *(13 pages)* 052123
Takeshi Egami, Koshiro Suzuki, and Katsuhiro Watanabe

Time asymmetry of the Kramers equation with nonlinear friction: Fluctuation-dissipation relation and ratchet effect *(6 pages)* 052124
A. Sarracino

Ising-like phase transition of an n-component Eulerian face-cubic model *(5 pages)* 052125
Chengxiang Ding, Wenan Guo, and Youjin Deng

Occupation times on a comb with ramified teeth *(13 pages)* 052126
A. Rebenshtok and E. Barkai

Reduced density matrix for nonequilibrium steady states: A modified Redfield solution approach *(8 pages)* 052127
Juzar Thingna, Jian-Sheng Wang, and Peter Hänggi

Heat transport enhanced by optical phonons in one-dimensional anharmonic lattices with alternating bonds *(7 pages)* 052128
Daxing Xiong, Yong Zhang, and Hong Zhao

(Continued)

PHYSICAL REVIEW E THIRD SERIES, VOLUME 88, NUMBER 5 NOVEMBER 2013

Nonlinear Dynamics and Chaos

Generalizing the transition from amplitude to oscillation death in coupled oscillators *(5 pages)* . . . . . 050901(R)
Wei Zou, D. V. Senthilkumar, Aneta Koseska, and Jürgen Kurths

Fluid Dynamics

Initial microfluidic dissolution regime of CO_2 bubbles in viscous oils *(5 pages)* . . . . . 051001(R)
Martin Sauzade and Thomas Cubaud

Experimental realization of a water-wave metamaterial shifter *(5 pages)* . . . . . 051002(R)
C. P. Berraquero, A. Maurel, P. Petitjeans, and V. Pagneux

ARTICLES

Statistical Physics

Multistage structural evolution in simple monatomic supercritical fluids: Superstable tetrahedral local order *(9 pages)* 052101
R. E. Ryltsev and N. M. Chtchelkatchev

Percolation with long-range correlated disorder *(11 pages)* 052102
K. J. Schrenk, N. Posé, J. J. Kranz, L. V. M. van Kessenich, N. A. M. Araújo, and H. J. Herrmann

Weak-noise limit of a piecewise-smooth stochastic differential equation *(15 pages)* 052103
Yaming Chen, Adrian Baule, Hugo Touchette, and Wolfram Just

Topography of chance *(15 pages)* 052104
Iddo I. Eliazar and Morrel H. Cohen

Pulling alternating copolymers adsorbed on a striped surface *(9 pages)* 052105
G. K. Iliev and S. G. Whittington

Green function of the double-fractional Fokker-Planck equation: Path integral and stochastic differential equations *(7 pages)* 052106
H. Kleinert and V. Zatloukal

Probability distributions extremizing the nonadditive entropy S_δ and stationary states of the corresponding nonlinear Fokker-Planck equation *(9 pages)* 052107
Mauricio S. Ribeiro, Constantino Tsallis, and Fernando D. Nobre

Resonant enhancement of Anderson localization: Analytical approach *(10 pages)* 052108
I. F. Herrera-González, F. M. Izrailev, and N. M. Makarov

Frenetic origin of negative differential response *(11 pages)* 052109
Pieter Baerts, Urna Basu, Christian Maes, and Soghra Safaverdi

Critical Casimir forces between homogeneous and chemically striped surfaces *(28 pages)* 052110
Francesco Parisen Toldin, Matthias Tröndle, and S. Dietrich

Approximate solution to the stochastic Kuramoto model *(5 pages)* 052111
Bernard Sonnenschein and Lutz Schimansky-Geier

(Continued)

PHYSICAL REVIEW E™

For editorial and subscription correspondence, please see inside front cover
(ISSN: 1539-3755)

PERIODICALS
Postmaster send address changes to:

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

THIRD SERIES, VOLUME 88, NUMBER 5
PARTS A AND B

CONTENTS

NOVEMBER 2013

The Table of Contents is a total listing of Parts A and B.
Part A consists of pages 050201(R)-052604, and Part B pages 052701-059901(E).

PART A

RAPID COMMUNICATIONS

Granular Materials

Shear thickening in granular suspensions: Interparticle friction and dynamically correlated clusters *(4 pages)* . . . . 050201(R)
Claus Heussinger

Colloids and Complex Fluids

Brownian motion and the hydrodynamic friction tensor for colloidal particles of complex shape *(4 pages)* . . . . . 050301(R)
Daniela J. Kraft, Raphael Wittkowski, Borge ten Hagen, Kazem V. Edmond, David J. Pine, and Hartmut Löwen

Liquid Crystals

Hidden solidlike properties in the isotropic phase of the 8CB liquid crystal *(5 pages)* . . . . . 050501(R)
P. Kahl, P. Baroni, and L. Noirez

Dynamics of defects in an active nematic layer *(5 pages)* . . . . . 050502(R)
L. M. Pismen

Biological Physics

Apparent flexoelectricity in lipid bilayer membranes due to external charge and dipolar distributions *(5 pages)* . . . 050701(R)
F. Ahmadpoor, Q. Deng, L. P. Liu, and P. Sharma

Networks and Interdisciplinary Physics

Contact-based social contagion in multiplex networks *(5 pages)* . . . . . 050801(R)
Emanuele Cozzo, Raquel A. Baños, Sandro Meloni, and Yamir Moreno

Highly dispersed networks by enhanced redirection *(4 pages)* . . . . . 050802(R)
Alan Gabel, P. L. Krapivsky, and S. Redner

Triple point in correlated interdependent networks *(5 pages)* . . . . . 050803(R)
L. D. Valdez, P. A. Macri, H. E. Stanley, and L. A. Braunstein

Copyright 2013 by American Physical Society

(Continued)

1539-3755(201311)88:5:B;1-I