PHYSICAL REVIEW E **THIRD SERIES, VOLUME 90, NUMBER 5** **NOVEMBER 2014**

Sign problem of the fermionic shadow wave function *(10 pages)* 053304
Francesco Calcavecchia, Francesco Pederiva, Malvin H. Kalos, and Thomas D. Kühne

Iterative method for generating correlated binary sequences *(9 pages)* 053305
O. V. Usatenko, S. S. Melnik, S. S. Apostolov, N. M. Makarov, and A. A. Krokhin

Changes in pore geometry and relative permeability caused by carbonate precipitation in porous media *(10 pages)* 053306
Fei Jiang and Takeshi Tsuji

Variational solution of Poisson's equation using plane waves in adaptive coordinates *(6 pages)* 053307
José M. Pérez-Jordá

Dean instability in double-curved channels *(10 pages)* 053308
J.-D. Debus, M. Mendoza, and H. J. Herrmann

Systematic bias in the calculation of spectral density from a three-dimensional spatial grid *(4 pages)* 053309
Rodion Stepanov, Franck Plunian, Mouloud Kessar, and Guillaume Balarac

Consistent lattice Boltzmann equations for phase transitions *(15 pages)* 053310
D. N. Siebert, P. C. Philippi, and K. K. Mattila

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 90, NUMBER 5** **NOVEMBER 2014**

Effect of ambient pressure on Leidenfrost temperature *(6 pages)* 053012
Daniel Orejon, Khellil Sefiane, and Yasuyuki Takata

Collinear swimmer propelling a cargo sphere at low Reynolds number *(8 pages)* 053013
B. U. Felderhof

Two-dimensional simulation of red blood cell motion near a wall under a lateral force *(7 pages)* 053014
Daniel S. Hariprasad and Timothy W. Secomb

Exploring the Klinkenberg effect at different scales *(9 pages)* 053015
Boujema Izrar and Jean-Louis Rouet

Effect of first-order chemical reaction on gravitational instability in a porous medium *(15 pages)* 053016
Min Chan Kim and Chang Kyun Choi

Plasma Physics

Soft mean spherical approximation for dusty plasma liquids: One-component Yukawa systems with plasma shielding *(17 pages)* 053101
P. Tolias, S. Ratynskaia, and U. de Angelis

Dielectric function of dense plasmas, their stopping power, and sum rules *(20 pages)* 053102
Yu. V. Arkhipov, A. B. Ashikbayeva, A. Askaruly, A. E. Davletov, and I. M. Tkachenko

Connecting the wakefield instabilities in dusty plasmas *(7 pages)* 053103
André Melzer

Classical Physics

Wave transmission in time- and space-variant helicoidal phononic crystals *(9 pages)* 053201
F. Li, C. Chong, J. Yang, P. G. Kevrekidis, and C. Daraio

Resonances and circuit theory for the interaction of metallic disks and annuli with an electromagnetic field *(8 pages)* 053202
S. T. Chui, J. J. Du, and S. T. Yau

State-transition-matrix method for inverse scattering in one-dimensional inhomogeneous media *(8 pages)* 053203
Davoud Zarifi, Mohammad Soleimani, and Ali Abdolali

Generalization of the extended optical theorem for scalar arbitrary-shape acoustical beams in spherical coordinates *(6 pages)* 053204
F. G. Mitri and G. T. Silva

Computational Physics

Contact angles in the pseudopotential lattice Boltzmann modeling of wetting *(9 pages)* 053301
Qing Li, K. H. Luo, Q. J. Kang, and Q. Chen

Integral method for the calculation of Hawking radiation in dispersive media. I. Symmetric asymptotics *(14 pages)* 053302
Scott Robertson and Ulf Leonhardt

Integral method for the calculation of Hawking radiation in dispersive media. II. Asymmetric asymptotics *(16 pages)* 053303
Scott Robertson

(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 90, NUMBER 5** **NOVEMBER 2014**

Influence of excitability on unpinning and termination of spiral waves *(7 pages)* 052919
Jiraporn Luengviriya, Malee Sutthiopad, Metinee Phantu, Porramain Porjai, Jarin Kanchanawarin, Stefan C. Müller, and Chaiya Luengviriya

Cyclic motifs as the governing topological factor in time-delayed oscillator networks *(5 pages)* 052920
Anders Nordenfelt, Alexandre Wagemakers, and Miguel A. F. Sanjuán

Transverse compactlike pulse signals in a two-dimensional nonlinear electrical network *(11 pages)* 052921
Fabien Kenmogne, David Yemélé, Jacques Kengne, and Désiré Ndjanfang

Localized lasing modes of triangular organic microlasers *(17 pages)* 052922
C. Lafargue, M. Lebental, A. Grigis, C. Ulysse, I. Gozhyk, N. Djellali, J. Zyss, and S. Bittner

Escape dynamics of many hard disks *(12 pages)* 052923
Tooru Taniguchi, Hiroki Murata, and Shin-ichi Sawada

Fluid Dynamics

Turbulent diffusion of chemically reacting gaseous admixtures *(9 pages)* 053001
T. Elperin, N. Kleeorin, M. Liberman, and I. Rogachevskii

Convective stability of turbulent Boussinesq flow in the dissipative range and flow around small particles *(14 pages)* 053002
Itzhak Fouxon and Alexander Leshansky

Suppression of viscous fingering in nonflat Hele-Shaw cells *(9 pages)* 053003
Rodolfo Brandão, João V. Fontana, and José A. Miranda

Chemical convection in the methylene-blue–glucose system: Optimal perturbations and three-dimensional simulations *(22 pages)* 053004
Thomas Köllner, Maurice Rossi, Frauke Broer, and Thomas Boeck

Effective surface dilatational viscosity of highly concentrated particle-laden interfaces *(5 pages)* 053005
S. V. Lishchuk

Versatile low-Reynolds-number swimmer with three-dimensional maneuverability *(9 pages)* 053006
Mir Abbas Jalali, Mohammad-Reza Alam, and SeyyedHossein Mousavi

Analytical asymptotic velocities in linear Richtmyer-Meshkov-like flows *(16 pages)* 053007
F. Cobos Campos and J. G. Wouchuk

Control of flow around a circular cylinder for minimizing energy dissipation *(10 pages)* 053008
Hiroshi Naito and Koji Fukagata

Gravity-driven instability of a thin liquid film underneath a soft solid *(9 pages)* 053009
S. H. Lee, K. L. Maki, D. Flath, S. J. Weinstein, C. Kealey, W. Li, C. Talbot, and S. Kumar

Spectral analysis of structure functions and their scaling exponents in forced isotropic turbulence *(12 pages)* 053010
W. D. McComb, S. R. Yoffe, M. F. Linkmann, and A. Berera

Leidenfrost effect: Accurate drop shape modeling and refined scaling laws *(12 pages)* 053011
B. Sobac, A. Rednikov, S. Dorbolo, and P. Colinet

(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 90, NUMBER 5** **NOVEMBER 2014**

Interaction of sine-Gordon kinks and breathers with a parity-time-symmetric defect *(10 pages)* 052902
Danial Saadatmand, Sergey V. Dmitriev, Denis I. Borisov, and Panayotis G. Kevrekidis

Homogeneous delays in the Kuramoto model with time-variable parameters *(8 pages)* 052903
Miraslau L. Barabash, Spase Petkoski, and Aneta Stefanovska

Synchronization in a semiclassical Kuramoto model *(12 pages)* 052904
Ignacio Hermoso de Mendoza, Leonardo A. Pachón, Jesús Gómez-Gardeñes, and David Zueco

Effect of delay mismatch in Pyragas feedback control *(10 pages)* 052905
A. S. Purewal, C. M. Postlethwaite, and B. Krauskopf

Integrable approximation of regular regions with a nonlinear resonance chain *(9 pages)* 052906
Julius Kullig, Clemens Löbner, Normann Mertig, Arnd Bäcker, and Roland Ketzmerick

Backward and covariant Lyapunov vectors and exponents for hard-disk systems with a steady heat current *(19 pages)* 052907
Daniel P. Truant and Gary P. Morriss

Delay-induced Turing instability in reaction-diffusion equations *(6 pages)* 052908
Tonghua Zhang and Hong Zang

Dielectric square resonator investigated with microwave experiments *(18 pages)* 052909
S. Bittner, E. Bogomolny, B. Dietz, M. Miski-Oglu, and A. Richter

Model-free quantification of time-series predictability *(15 pages)* 052910
Joshua Garland, Ryan James, and Elizabeth Bradley

Autocorrelation properties of chaotic delay dynamical systems: A study on semiconductor lasers *(10 pages)* 052911
Xavier Porte, Otti D'Huys, Thomas Jüngling, Daniel Brunner, Miguel C. Soriano, and Ingo Fischer

Multicomponent long-wave–short-wave resonance interaction system: Bright solitons, energy-sharing collisions, and resonant solitons *(13 pages)* 052912
K. Sakkaravarthi, T. Kanna, M. Vijayajayanthi, and M. Lakshmanan

Traveling waves and global oscillations triggered by attractive molecular interactions in an excitable system *(7 pages)* 052913
Karin John, Sergio Alonso, and Markus Bär

Self-sustained pulsations in a quantum-dot laser *(4 pages)* 052914
E. A. Viktorov and T. Erneux

Donor-acceptor electron transport mediated by solitons *(12 pages)* 052915
L. S. Brizhik, B. M. A. G. Piette, and W. J. Zakrzewski

Efficiency of Monte Carlo sampling in chaotic systems *(7 pages)* 052916
Jorge C. Leitão, J. M. Viana Parente Lopes, and Eduardo G. Altmann

Dynamics and statistics of wave-particle interactions in a confined geometry *(9 pages)* 052917
Tristan Gilet

Stable radiating gap solitons and their resonant interactions with dispersive waves in systems with a parametric pump *(10 pages)* 052918
Alexey V. Yulin, Leonardo R. Gorjão, and Kestutis Staliunas

(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 90, NUMBER 5** **NOVEMBER 2014**

Multilayer weighted social network model *(8 pages)* 052810
Yohsuke Murase, János Török, Hang-Hyun Jo, Kimmo Kaski, and János Kertész

Nonconsensus opinion model on directed networks *(10 pages)* 052811
Bo Qu, Qian Li, Shlomo Havlin, H. Eugene Stanley, and Huijuan Wang

Growing networks with superjoiners *(8 pages)* 052812
Ameerah Jabr-Hamdan, Jie Sun, and Daniel ben-Avraham

Origin of the computational hardness for learning with binary synapses *(7 pages)* 052813
Haiping Huang and Yoshiyuki Kabashima

Blind and myopic ants in heterogeneous networks *(9 pages)* 052814
S. Hwang, D.-S. Lee, and B. Kahng

Imitation versus payoff: Duality of the decision-making process demonstrates criticality and consensus formation *(7 pages)* 052815
M. Turalska and B. J. West

Properties of interaction networks underlying the minority game *(12 pages)* 052816
Inés Caridi

Epidemic spreading and risk perception in multiplex networks: A self-organized percolation method *(8 pages)* . . . 052817
Emanuele Massaro and Franco Bagnoli

Repeated-drive adaptive feedback identification of network topologies *(6 pages)* 052818
Pu Yang and Zhigang Zheng

Phase transitions in a coevolving snowdrift game with costly rewiring *(7 pages)* 052819
W. Zhang, Y. S. Li, P. Du, C. Xu, and P. M. Hui

Self-avoiding walk on fractal complex networks: Exactly solvable cases *(10 pages)* 052821
Yoshihito Hotta

Evolution of regulatory networks towards adaptability and stability in a changing environment *(10 pages)* 052822
Deok-Sun Lee

Solving the collective-risk social dilemma with risky assets in well-mixed and structured populations *(10 pages)* 052823
Xiaojie Chen, Yanling Zhang, Ting-Zhu Huang, and Matjaž Perc

Equitable random graphs *(5 pages)* 052824
M. E. J. Newman and Travis Martin

Evolutionary dynamics of time-resolved social interactions *(11 pages)* 052825
Alessio Cardillo, Giovanni Petri, Vincenzo Nicosia, Roberta Sinatra, Jesús Gómez-Gardeñes, and Vito Latora

Nonlinear Dynamics and Chaos

Experimental observation of the generation of cutoff solitons in a discrete LC nonlinear electrical line *(6 pages)* 052901
K. Tse Ve Koon, P. Marquié, and P. Tchofo Dinda

(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 90, NUMBER 5** **NOVEMBER 2014**

Voltage dependence of Hodgkin-Huxley rate functions for a multistage K^+ channel voltage sensor within a membrane *(12 pages)* 052713
S. R. Vaccaro

Bias reduction in the estimation of mutual information *(5 pages)* 052714
Jie Zhu, Jean-Jacques Bellanger, Huazhong Shu, Chunfeng Yang, and Régine Le Bouquin Jeannès

Simple measurement of the apparent viscosity of a cell from only one picture: Application to cardiac stem cells *(7 pages)* 052715
G. R. Plaza, N. Marí, B. G. Gálvez, A. Bernal, G. V. Guinea, R. Daza, J. Pérez-Rigueiro, C. Solanas, and M. Elices

Breakout character of islet amyloid polypeptide hydrophobic mutations at the onset of type-2 diabetes *(7 pages)* 052716
Rafael B. Frigori

Dynamical DNA accessibility induced by chromatin remodeling and protein binding *(6 pages)* 052717
F. Montel, C. Faivre-Moskalenko, and M. Castelnovo

Buckling of a beam extruded into highly viscous fluid *(6 pages)* 052718
F. P. Gosselin, P. Neetzow, and M. Paak

PART B

Networks and Interdisciplinary Physics

Evolution of a fracture network in an elastic medium with internal fluid generation and expulsion *(9 pages)* 052801
Maya Kobchenko, Andreas Hafver, Espen Jettestuen, François Renard, Olivier Galland, Bjørn Jamtveit, Paul Meakin, and Dag Kristian Dysthe

Phase transitions in semisupervised clustering of sparse networks *(8 pages)* 052802
Pan Zhang, Cristopher Moore, and Lenka Zdeborová

Effective degree Markov-chain approach for discrete-time epidemic processes on uncorrelated networks *(9 pages)* 052803
Chao-Ran Cai, Zhi-Xi Wu, and Jian-Yue Guan

Simple model for multiple-choice collective decision making *(23 pages)* 052804
Ching Hua Lee and Andrew Lucas

Role of long cycles in excitable dynamics on graphs *(11 pages)* 052805
Guadalupe C. Garcia, Annick Lesne, Claus C. Hilgetag, and Marc-Thorsten Hütt

Impact of constrained rewiring on network structure and node dynamics *(11 pages)* 052806
P. Rattana, L. Berthouze, and I. Z. Kiss

Supramolecular x-ray signature of susceptibility amplification in hydrogen-bonded liquids *(5 pages)* 052807
S. P. Bierwirth, T. Büning, C. Gainaru, C. Sternemann, M. Tolan, and R. Böhmer

Localization and centrality in networks *(7 pages)* 052808
Travis Martin, Xiao Zhang, and M. E. J. Newman

Giant components in directed multiplex networks *(7 pages)* 052809
N. Azimi-Tafreshi, S. N. Dorogovtsev, and J. F. F. Mendes

(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 90, NUMBER 5 NOVEMBER 2014

Polymers

Cyclization kinetics of Gaussian semiflexible polymer chains *(10 pages)* 052601
T. Guérin, M. Dolgushev, O. Bénichou, R. Voituriez, and A. Blumen

Self-avoiding wormlike chain model for double-stranded-DNA loop formation *(14 pages)* 052602
Yaroslav Pollak, Sarah Goldberg, and Roee Amit

Molecular-scale simulation of cross-flow migration in polymer melts *(10 pages)* 052603
Nicholas A. Rorrer and John R. Dorgan

Biological Physics

How hydrophobic nanoparticles aggregate in the interior of membranes: A computer simulation *(8 pages)* 052701
Falin Tian, Xianren Zhang, and Wei Dong

Feedback-induced counterintuitive correlations of gene expression noise with bursting kinetics *(14 pages)* 052702
Lifang Huang, Zhanjiang Yuan, Peijiang Liu, and Tianshou Zhou

Generation of stationary and moving vortices in active polar fluids in the planar Taylor-Couette geometry *(8 pages)* 052703
M. Neef and K. Kruse

Effect of bidirectional mechanoelectrical coupling on spontaneous oscillations and sensitivity in a model of hair cells *(13 pages)* 052704
Rami M. Amro and Alexander B. Neiman

Lattice solution model for order-disorder transitions in membranes and Langmuir monolayers *(13 pages)* 052705
Henrique S. Guidi and Vera B. Henriques

Spontaneous polarization in an interfacial growth model for actin filament networks with a rigorous mechanochemical coupling *(7 pages)* 052706
Karin John, Denis Caillerie, and Chaouqi Misbah

Modeling the dynamics of dendritic actin waves in living cells *(9 pages)* 052707
Vaibhav Wasnik and Ranjan Mukhopadhyay

Cavity approach for modeling and fitting polymer stretching *(11 pages)* 052708
Francesco Alessandro Massucci, Isaac Pérez Castillo, and Conrad J. Pérez Vicente

Noise-enhanced nonlinear response and the role of modular structure for signal detection in neuronal networks *(9 pages)* 052709
M. A. Lopes, K.-E. Lee, A. V. Goltsev, and J. F. F. Mendes

Rupture of lipid vesicles near solid surfaces *(6 pages)* 052710
Annamária Takáts-Nyeste and Imre Derényi

Bubbly vertex dynamics: A dynamical and geometrical model for epithelial tissues with curved cell shapes *(23 pages)* 052711
Yukitaka Ishimoto and Yoshihiro Morishita

Mixed Poisson distributions in exact solutions of stochastic autoregulation models *(5 pages)* 052712
Srividya Iyer-Biswas and C. Jayaprakash

(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 90, NUMBER 5** **NOVEMBER 2014**

Rheological properties of a vesicle suspension *(11 pages)* 052302
M. Guedda, M. Benlahsen, and C. Misbah

Crowding-based rheological model for suspensions of rigid bimodal-sized particles with interfering size ratios *(5 pages)* 052303
Salah Aldin Faroughi and Christian Huber

Density scaling and quasiuniversality of flow-event statistics for athermal plastic flows *(7 pages)* 052304
Edan Lerner, Nicholas P. Bailey, and Jeppe C. Dyre

Nonlinear dynamic response of glass-forming liquids to random pinning *(7 pages)* 052305
Walter Kob and Daniele Coslovich

Relaxation patterns in supercooled liquids from generalized mode-coupling theory *(8 pages)* 052306
Liesbeth M. C. Janssen, Peter Mayer, and David R. Reichman

Local energy landscape in a simple liquid *(10 pages)* 052307
T. Iwashita and T. Egami

Films, Interfaces, and Solids

Acceleration and localization of subcritical crack growth in a natural composite material *(9 pages)* 052401
S. Lennartz-Sassinek, I. G. Main, M. Zaiser, and C. C. Graham

Mechanical properties and plasticity of a model glass loaded under stress control *(11 pages)* 052402
Vladimir Dailidonis, Valery Ilyin, Pankaj Mishra, and Itamar Procaccia

Theoretical calculation of the melting curve of Cu-Zr binary alloys *(8 pages)* 052403
K. G. S. H. Gunawardana, S. R. Wilson, M. I. Mendelev, and Xueyu Song

Kinetic roughening of a soft dewetting line under quenched disorder: A numerical study *(9 pages)* 052404
B. Tyukodi, Y. Bréchet, and Z. Néda

Origins of scaling corrections in ballistic growth models *(8 pages)* 052405
Sidiney G. Alves, Tiago J. Oliveira, and Silvio C. Ferreira

Comparative study of approaches based on the differential critical region and correlation functions in modeling phase-transformation kinetics *(15 pages)* 052406
Massimo Tomellini and Massimo Fanfoni

Direct simulations of homogeneous bubble nucleation: Agreement with classical nucleation theory and no local hot spots *(14 pages)* 052407
Jürg Diemand, Raymond Angélil, Kyoko K. Tanaka, and Hidekazu Tanaka

Liquid Crystals

Creating arbitrary arrays of two-dimensional topological defects *(6 pages)* 052501
Bryce S. Murray, Robert A. Pelcovits, and Charles Rosenblatt

Anisotropy of electrostatic interaction in smectic-C^* liquid crystals *(6 pages)* 052502
V. P. Romanov and S. V. Ulyanov

Locomotion and transport in a hexatic liquid crystal *(11 pages)* 052503
Madison S. Krieger, Saverio E. Spagnolie, and Thomas R. Powers

(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 90, NUMBER 5** **NOVEMBER 2014**

Weakly nonequilibrium properties of a symmetric inclusion process with open boundaries *(11 pages)* 052143
Kiamars Vafayi and Manh Hong Duong

Dynamical theory of spin noise and relaxation: Prospects for real-time NMR measurements *(6 pages)* 052144
Timothy R. Field

Universal theory of efficiency fluctuations *(10 pages)* 052145
Gatien Verley, Tim Willaert, Christian Van den Broeck, and Massimiliano Esposito

Detection of weak signals in memory thermal baths *(8 pages)* 052146
J. I. Jiménez-Aquino, R. M. Velasco, and M. Romero-Bastida

Virial coefficients in the $(\tilde{\mu},q)$-deformed Bose gas model related to compositeness of particles and their interaction: Temperature-dependence problem *(8 pages)* 052147
A. M. Gavrilik and Yu. A. Mishchenko

Improving extreme value statistics *(5 pages)* 052148
Ashivni Shekhawat

Nonadditive entropy maximization is inconsistent with Bayesian updating *(4 pages)* 052149
Steve Pressé

Unraveling the cause-effect relation between time series *(11 pages)* 052150
X. San Liang

Coefficient of performance under maximum χ criterion in a two-level atomic system as a refrigerator *(7 pages)* 052151
Yuan Yuan, Rui Wang, Jizhou He, Yongli Ma, and Jianhui Wang

Size effects on thermal rectification in mass-graded anharmonic lattices *(6 pages)* 052152
M. Romero-Bastida and Armando González-Alarcón

Granular Materials

Influence of fine particles on the stability of a humid granular pile *(5 pages)* 052201
Xixi Huang, Sandrine Bec, and Jean Colombani

Effects of grain shape on the response of a two-dimensional granular material under constant shear rate *(9 pages)* 052202
Nelson Sepúlveda, Francisco Melo, and Francisco Vivanco

Evolution of force networks in dense particulate media *(12 pages)* 052203
Miroslav Kramár, Arnaud Goullet, Lou Kondic, and Konstantin Mischaikow

Coefficient of restitution of aspherical particles *(7 pages)* 052204
Aldo Glielmo, Nina Gunkelmann, and Thorsten Pöschel

Granular segregation in a thin drum rotating with periodic modulation *(6 pages)* 052205
Richard D. P. East, Philippa McGuinness, Finn Box, Tom Mullin, and Iker Zuriguel

Colloids and Complex Fluids

Self-consistent generalized Langevin-equation theory for liquids of nonspherically interacting particles *(13 pages)* 052301
L. F. Elizondo-Aguilera, P. F. Zubieta Rico, H. Ruiz-Estrada, and O. Alarcón-Waess

(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 90, NUMBER 5** **NOVEMBER 2014**

Universal free-energy distribution in the critical point of a random Ising ferromagnet *(4 pages)* 052126
Victor Dotsenko and Yurij Holovatch

Temperature gradients in equilibrium: Small microcanonical systems in an external field *(7 pages)* 052127
Alberto Salazar, Hernán Larralde, and François Leyvraz

Multiplicative jump processes and applications to leaching of salt and contaminants in the soil *(8 pages)* 052128
Yair Mau, Xue Feng, and Amilcare Porporato

Stability of fixed points and generalized critical behavior in multifield models *(13 pages)* 052129
A. Eichhorn, D. Mesterházy, and M. M. Scherer

Dynamics of a homogeneous active dumbbell system *(18 pages)* 052130
Antonio Suma, Giuseppe Gonnella, Gianluca Laghezza, Antonio Lamura, Alessandro Mossa, and Leticia F. Cugliandolo

Role of interference in the photosynthetic heat engine *(7 pages)* 052131
Y. Y. Xu and J. Liu

Suppression of work fluctuations by optimal control: An approach based on Jarzynski's equality *(10 pages)* 052132
Gaoyang Xiao and Jiangbin Gong

Eigenstate thermalization and representative states on subsystems *(6 pages)* 052133
Vedika Khemani, Anushya Chandran, Hyungwon Kim, and S. L. Sondhi

Restoring the consistency with the contact density theorem of a classical density functional theory of ions at a planar electrical double layer *(4 pages)* 052134
Dirk Gillespie

Stochastic resonance in bistable spin-crossover compounds with light-induced transitions *(8 pages)* 052135
Iurii Gudyma, Artur Maksymov, and Mihai Dimian

Reexamination of pure qubit work extraction *(13 pages)* 052136
Max F. Frenzel, David Jennings, and Terry Rudolph

Statistical properties of spectral fluctuations of N interacting bosons in a harmonic trap *(8 pages)* 052137
Kamalika Roy, Barnali Chakrabarti, and V. K. B. Kota

Noncontractible loops in the dense O(n) loop model on the cylinder *(10 pages)* 052138
F. C. Alcaraz, J. G. Brankov, V. B. Priezzhev, V. Rittenberg, and A. M. Rogozhnikov

Diffusion of interacting particles in discrete geometries: Equilibrium and dynamical properties *(16 pages)* 052139
T. Becker, K. Nelissen, B. Cleuren, B. Partoens, and C. Van den Broeck

Ground-state energy of the q-state Potts model: The minimum modularity *(14 pages)* 052140
J. S. Lee, S. Hwang, J. Yeo, D. Kim, and B. Kahng

Fick-Jacobs equation for channels over three-dimensional curves *(11 pages)* 052141
Carlos Valero Valdes and Rafael Herrera Guzman

Re-examining the self-contained quantum refrigerator in the strong-coupling regime *(5 pages)* 052142
Chang-shui Yu and Qing-yao Zhu

(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 90, NUMBER 5** **NOVEMBER 2014**

Generalized exclusion processes: Transport coefficients *(9 pages)* 052108
Chikashi Arita, P. L. Krapivsky, and Kirone Mallick

Finite-size corrections to the spectrum of regular random graphs: An analytical solution *(11 pages)* 052109
F. L. Metz, G. Parisi, and L. Leuzzi

Effective models of membranes from symmetry breaking *(8 pages)* 052110
Omar Zanusso

Arrays of stochastic oscillators: Nonlocal coupling, clustering, and wave formation *(14 pages)* 052111
Daniel Escaff, Italo'Ivo Lima Dias Pinto, and Katja Lindenberg

Annealed Ising model with site dilution on self-similar structures *(8 pages)* 052112
V. S. T. Silva, R. F. S. Andrade, and S. R. Salinas

Generic transport coefficients of a confined electrolyte solution *(5 pages)* 052113
Hiroaki Yoshida, Hideyuki Mizuno, Tomoyuki Kinjo, Hitoshi Washizu, and Jean-Louis Barrat

Signatures of Lévy flights with annealed disorder *(11 pages)* 052114
Q. Baudouin, R. Pierrat, A. Eloy, E. J. Nunes-Pereira, P.-A. Cuniasse, N. Mercadier, and R. Kaiser

Critical decay exponent of the pair contact process with diffusion *(10 pages)* 052115
Su-Chan Park (박수찬)

Work fluctuations for a Brownian particle driven by a correlated external random force *(10 pages)* 052116
Arnab Pal and Sanjib Sabhapandit

Quantum Szilard engines with arbitrary spin *(11 pages)* 052117
Zekun Zhuang and Shi-Dong Liang

Universality classes in Coulomb blockade conductance peak-height statistics *(16 pages)* 052118
Dayasindhu Dey and Pragya Shukla

From explosive to infinite-order transitions on a hyperbolic network *(6 pages)* 052119
Vijay Singh, C. T. Brunson, and Stefan Boettcher

Characterization of maximally random jammed sphere packings: Voronoi correlation functions *(12 pages)* 052120
Michael A. Klatt and Salvatore Torquato

Controlling symmetry-breaking states by a hidden quantity in multiplicative noise *(5 pages)* 052121
Ying Tang, Ruoshi Yuan, Jianhong Chen, and Ping Ao

Ground-state structures in Ising magnets on the Shastry-Sutherland lattice with long-range interactions and fractional magnetization plateaus in TmB_4 *(18 pages)* 052123
Yu. I. Dublenych

Noise-benefit forbidden-interval theorems for threshold signal detectors based on cross correlations *(13 pages)* 052124
Sanya Mitaim and Bart Kosko

General achievable bound of extractable work under feedback control *(8 pages)* 052125
Yuto Ashida, Ken Funo, Yûto Murashita, and Masahito Ueda

(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 90, NUMBER 5 NOVEMBER 2014

Scaling and correlation of human movements in cyberspace and physical space *(5 pages)* . . . . . 050802(R)
Zhi-Dan Zhao, Zi-Gang Huang, Liang Huang, Huan Liu, and Ying-Cheng Lai

Fluid Dynamics

Predicting the enhancement of mixing-driven reactions in nonuniform flows using measures of flow topology *(5 pages)* . . . . . 051001(R)
Nicholas B. Engdahl, David A. Benson, and Diogo Bolster

Induced-charge electro-osmosis around metal and Janus spheres in water: Patterns of flow and breaking symmetries *(5 pages)* . . . . . 051002(R)
Chenhui Peng, Israel Lazo, Sergij V. Shiyanovskii, and Oleg D. Lavrentovich

On the edge of an inverse cascade *(5 pages)* . . . . . 051003(R)
Kannabiran Seshasayanan, Santiago Jose Benavides, and Alexandros Alexakis

Elevation of the temperature of liquid films caused by rapid rupturing *(5 pages)* . . . . . 051004(R)
Susumu Kono (高野晋), Toshihiro Kaneko (金子敏宏), and Ichiro Ueno (上野一郎)

Plasma Physics

Mechanism of formation of subnanosecond current front in high-voltage pulse open discharge *(4 pages)* . . . . . 051101(R)
I. V. Schweigert, A. L. Alexandrov, Dm. E. Zakrevsky, and P. A. Bokhan

Kinetic effects and nonlinear heating in intense x-ray-laser-produced carbon plasmas *(4 pages)* . . . . . 051102(R)
Y. Sentoku, I. Paraschiv, R. Royle, R. C. Mancini, and T. Johzaki

ARTICLES

Statistical Physics

Aging of orientation fluctuations in stripe phases *(8 pages)* 052101
Christian Riesch, Günter Radons, and Robert Magerle

Quench echo and work statistics in integrable quantum field theories *(13 pages)* 052102
T. Pálmai and S. Sotiriadis

Mixed-state fidelity susceptibility through iterated commutator series expansion *(7 pages)* 052103
N. S. Tonchev

Kosterlitz-Thouless transitions and phase diagrams of the interacting monomer-dimer model on a checkerboard lattice *(8 pages)* 052104
Sazi Li, Wei Li, and Ziyu Chen

Testing whether all eigenstates obey the eigenstate thermalization hypothesis *(8 pages)* 052105
Hyungwon Kim, Tatsuhiko N. Ikeda, and David A. Huse

Entropy of finite random binary sequences with weak long-range correlations *(8 pages)* 052106
S. S. Melnik and O. V. Usatenko

Matter, energy, and heat transfer in a classical ballistic atom pump *(5 pages)* 052107
Tommy A. Byrd, Kunal K. Das, Kevin A. Mitchell, Seth Aubin, and John B. Delos

(Continued)

The editors and referees of PRE find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. E 89, 010001 (2014).

PHYSICAL REVIEW E™

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

PERIODICALS
Postmaster send address changes to:

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

THIRD SERIES, VOLUME 90, NUMBER 5
PARTS A AND B

CONTENTS

NOVEMBER 2014

The Table of Contents is a total listing of Parts A and B.
Part A consists of pages 050101(R)–052718, and Part B pages 052801–053310.

PART A

RAPID COMMUNICATIONS

Statistical Physics

Locality, entanglement, and thermalization of isolated quantum systems *(4 pages)* . . . . . 050101(R)
S. Khlebnikov and M. Kruczenski

Machta-Zwanzig regime of anomalous diffusion in infinite-horizon billiards *(5 pages)* . . . . . 050102(R)
Giampaolo Cristadoro, Thomas Gilbert, Marco Lenci, and David P. Sanders

Phase transitions in the condition-number distribution of Gaussian random matrices *(5 pages)* . . . . . 050103(R)
Isaac Pérez Castillo, Eytan Katzav, and Pierpaolo Vivo

Colloids and Complex Fluids

Comparison of the physical aging behavior of a colloidal glass after shear melting and concentration jumps *(6 pages)* . . . . . 050301(R)
Xiaoguang Peng and Gregory B. McKenna

Films, Interfaces, and Solids

Kinetic origin of grain boundary migration, grain coalescence, and defect reduction in the crystallization of quenched two-dimensional Yukawa liquids *(5 pages)* . . . . . 050401(R)
Meng-Chun Chen, Chi Yang, and Lin I

Biological Physics

Minimal model of transcriptional elongation processes with pauses *(4 pages)* . . . . . 050701(R)
Jingkui Wang, Benjamin Pfeuty, Quentin Thommen, M. Carmen Romano, and Marc Lefranc

Path-integral calculation for the emergence of rapid evolution from demographic stochasticity *(5 pages)* . . . . . 050702(R)
Hong-Yan Shih and Nigel Goldenfeld

Networks and Interdisciplinary Physics

Underestimating extreme events in power-law behavior due to machine-dependent cutoffs *(5 pages)* . . . . . 050801(R)
Filippo Radicchi

Copyright 2014 by American Physical Society

(Continued)

1539-3755(201411)90:5:A;1-L

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).