

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 97, NUMBER 3
PARTS A AND B

CONTENTS

MARCH 2018

The Table of Contents is a total listing of Parts A and B.
Part A consists of pages 030001–032320, and Part B pages 032401–039901(E).

PART A

EDITORIALS AND ANNOUNCEMENTS

Announcement: The Irwin Oppenheim Award (*1 page*) 030001

RAPID COMMUNICATIONS

Statistical Physics

Efficient thermal diode with ballistic spacer (*5 pages*) 030101(R)
Shunda Chen, Davide Donadio, Giuliano Benenti, and Giulio Casati

Glassy phase in quenched disordered crystalline membranes (*5 pages*) 030102(R)
O. Coquand, K. Essafi, J.-P. Kownacki, and D. Mouhanna

Nonequilibrium two-dimensional Ising model with stationary uphill diffusion (*5 pages*) 030103(R)
Matteo Colangeli, Cristian Giardinà, Claudio Giberti, and Cecilia Vernia

Different approach to the modeling of nonfree particle diffusion (*5 pages*) 030104(R)
Niels Buhl

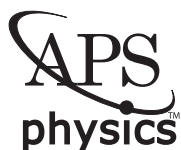
Nonlinear Dynamics and Chaos

Periodic sequence of stabilized wave segments in an excitable medium (*5 pages*) 030201(R)
V. S. Zykov and E. Bodenschatz

Local box-counting dimensions of discrete quantum eigenvalue spectra: Analytical connection to quantum spectral statistics (*5 pages*) 030202(R)
Jamal Sakhr and John M. Nieminen

Networks and Complex Systems

Inhibition delay increases neural network capacity through Stirling transform (*4 pages*) 030301(R)
Alain Nogaret and Alastair King



Copyright 2018 by American Physical Society



2470-0045(201803)97:3:B;1-5

(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).

ARTICLES

Statistical Physics

Shielding property for thermal equilibrium states in the quantum Ising model (<i>9 pages</i>).....	032101
N. S. Möller, A. L. de Paula Jr., and R. C. Drumond	
Heat transport in oscillator chains with long-range interactions coupled to thermal reservoirs (<i>9 pages</i>).....	032102
Stefano Iubini, Pierfrancesco Di Cintio, Stefano Lepri, Roberto Livi, and Lapo Casetti	
Size effects in finite systems with long-range interactions (<i>10 pages</i>).....	032103
E. S. Loscar and C. M. Horowitz	
Fractal dimension of interfaces in Edwards-Anderson spin glasses for up to six space dimensions (<i>6 pages</i>).....	032104
Wenlong Wang, M. A. Moore, and Helmut G. Katzgraber	
Absorbing phase transitions in deterministic fixed-energy sandpile models (<i>12 pages</i>).....	032105
Su-Chan Park (박수찬)	
Ferromagnetic Potts models with multisite interaction (<i>7 pages</i>).....	032106
Nir Schreiber, Reuven Cohen, and Simi Haber	
Thermal decay of a metastable state: Influence of rescattering on the quasistationary dynamical rate (<i>10 pages</i>)...	032107
M. V. Chushnyakova and I. I. Gontchar	
Statistical investigation of avalanches of three-dimensional small-world networks and their boundary and bulk cross-sections (<i>11 pages</i>).....	032108
M. N. Najafi and H. Dashti-Naserabadi	
Mapping of uncertainty relations between continuous and discrete time (<i>5 pages</i>).....	032109
Davide Chiuchì and Simone Pigolotti	
Derivation of Markov processes that violate detailed balance (<i>19 pages</i>).....	032110
Julian Lee	
Effect of multiplicative noise on stationary stochastic process (<i>9 pages</i>).....	032112
A. V. Kargovsky, A. Yu. Chikishev, and O. A. Chichigina	
Unifying model for random matrix theory in arbitrary space dimensions (<i>8 pages</i>).....	032113
Giovanni M. Cicuta, Johannes Krausser, Rico Milkus, and Alessio Zaccane	
Zero-crossing statistics for non-Markovian time series (<i>8 pages</i>).....	032114
Markus Nyberg, Ludvig Lizana, and Tobias Ambjörnsson	
Least-rattling feedback from strong time-scale separation (<i>14 pages</i>).....	032115
Pavel Chvykov and Jeremy England	
Cooperativity in plastic crystals (<i>9 pages</i>).....	032116
Marco Pieruccini and Elpidio Tombari	
Emergence of nonwhite noise in Langevin dynamics with magnetic Lorentz force (<i>7 pages</i>).....	032117
Hyun-Myung Chun, Xavier Durang, and Jae Dong Noh	
Statistical physics of medical diagnostics: Study of a probabilistic model (<i>11 pages</i>).....	032118
Alireza Mashaghi and Abolfazl Ramezanpour	

(Continued)

Deep neural networks for direct, featureless learning through observation: The case of two-dimensional spin models (<i>10 pages</i>)	032119
Kyle Mills and Isaac Tamblyn	
Jamming and condensation in one-dimensional driven flow (<i>10 pages</i>)	032120
Hyungjoon Soh, Meesoon Ha, and Hawoong Jeong	
Limits of the memory coefficient in measuring correlated bursts (<i>8 pages</i>)	032121
Hang-Hyun Jo and Takayuki Hiraoka	
Sampling rare fluctuations of discrete-time Markov chains (<i>10 pages</i>)	032122
Stephen Whitelam	
Rare behavior of growth processes via umbrella sampling of trajectories (<i>15 pages</i>)	032123
Katherine Klymko, Phillip L. Geissler, Juan P. Garrahan, and Stephen Whitelam	
Large-deviation theory for diluted Wishart random matrices (<i>9 pages</i>)	032124
Isaac Pérez Castillo and Fernando L. Metz	
Nonequilibrium forces following quenches in active and thermal matter (<i>13 pages</i>)	032125
Christian M. Rohwer, Alexandre Solon, Mehran Kardar, and Matthias Krüger	
Fractional superstatistics from a kinetic approach (<i>7 pages</i>)	032126
Kamel Ourabah and Mouloud Tribeche	
Brownian motion surviving in the unstable cubic potential and the role of Maxwell's demon (<i>12 pages</i>)	032127
Luca Ornigotti, Artem Ryabov, Viktor Holubec, and Radim Filip	
Distribution of diameters for Erdős-Rényi random graphs (<i>8 pages</i>)	032128
A. K. Hartmann and M. Mézard	
Diffusive instabilities in a hyperbolic activator-inhibitor system with superdiffusion (<i>13 pages</i>)	032129
Alain Mvogo, Jorge E. Macías-Díaz, and Timoléon Crépin Kofané	
Asymmetric simple exclusion process with position-dependent hopping rates: Phase diagram from boundary-layer analysis (<i>10 pages</i>)	032130
Sutapa Mukherji	
Phase transitions in a system of hard Y-shaped particles on the triangular lattice (<i>10 pages</i>)	032131
Dipanjan Mandal, Trisha Nath, and R. Rajesh	
Voronoi glass-forming liquids: A structural study (<i>13 pages</i>)	032132
C. Ruscher, J. Baschnagel, and J. Farago	
Random matrices and condensation into multiple states (<i>12 pages</i>)	032133
Sina Sadeghi and Andreas Engel	
Non-Markovian dynamics of fermionic and bosonic systems coupled to several heat baths (<i>12 pages</i>)	032134
A. A. Hovhannisyan, V. V. Sargsyan, G. G. Adamian, N. V. Antonenko, and D. Lacroix	
Relaxation dynamics of closed diffusive systems with infinitesimal Langmuir kinetics (<i>6 pages</i>)	032135
Jun Sato and Katsuhiro Nishinari	
On the number of Bose-selected modes in driven-dissipative ideal Bose gases (<i>13 pages</i>)	032136
Alexander Schnell, Roland Ketzmerick, and André Eckardt	

(Continued)

Analytical method for analysis of electromagnetic scattering from inhomogeneous spherical structures using duality principles (<i>9 pages</i>).....	032137
M. Kiani, A. Abdolali, and M. Safari	
Modeling long correlation times using additive binary Markov chains: Applications to wind generation time series (<i>13 pages</i>).....	032138
Juliane Weber, Christopher Zachow, and Dirk Witthaut	
Critical properties of unlimited gliding: Unexpected flocking behavior driven by the exchange of information (<i>7 pages</i>).....	032139
Marta Bigus-Kwiatkowska, Agata Fronczak, and Piotr Fronczak	
Frustration-induced internal stresses are responsible for quasilocalized modes in structural glasses (<i>4 pages</i>)	032140
Edan Lerner and Eran Bouchbinder	
Nonlinear Dynamics and Chaos	
Attractor hopping between polarization dynamical states in a vertical-cavity surface-emitting laser subject to parallel optical injection (<i>13 pages</i>)	032201
Florian Denis-le Coarer, Ana Quirce, Angel Valle, Luis Pesquera, Miguel A. Rodríguez, Krassimir Panajotov, and Marc Sciamanna	
Transition between inverse and direct energy cascades in multiscale optical turbulence (<i>7 pages</i>)	032202
V. M. Malkin and N. J. Fisch	
Investigation of a chaotic thermostat (<i>10 pages</i>).....	032203
G. J. Morales	
Spatial solitons and stability in the one-dimensional and the two-dimensional generalized nonlinear Schrödinger equation with fourth-order diffraction and parity-time-symmetric potentials (<i>6 pages</i>).....	032204
C. G. L. Tiofack, F. I. Ndzana, A. Mohamadou, and T. C. Kofane	
Transition from normal to ballistic diffusion in a one-dimensional impact system (<i>9 pages</i>).....	032205
André L. P. Livorati, Tiago Kroetz, Carl P. Dettmann, Iberê L. Caldas, and Edson D. Leonel	
Information-theoretic model selection for optimal prediction of stochastic dynamical systems from data (<i>12 pages</i>)	032206
David Darmon	
Distinct collective states due to trade-off between attractive and repulsive couplings (<i>10 pages</i>).....	032207
K. Sathiyadevi, V. K. Chandrasekar, D. V. Senthilkumar, and M. Lakshmanan	
Exponentially decaying interaction potential of cavity solitons (<i>5 pages</i>).....	032208
Shayesteh Rahmani Anbardan, Cristina Rimoldi, Reza Kheradmand, Giovanna Tissoni, and Franco Prati	
Amplitude-dependent topological edge states in nonlinear phononic lattices (<i>16 pages</i>).....	032209
Raj Kumar Pal, Javier Vila, Michael Leamy, and Massimo Ruzzene	
Autoresonant excitation of Bose-Einstein condensates (<i>9 pages</i>)	032210
S. V. Batalov, A. G. Shagalov, and L. Friedland	
Constructing Hopf bifurcation lines for the stability of nonlinear systems with two time delays (<i>7 pages</i>)	032211
Romain Modeste Nguimdo	
Dark gap solitons in exciton-polariton condensates in a periodic potential (<i>5 pages</i>).....	032212
Szu-Cheng Cheng and Ting-Wei Chen	

(Continued)

CONTENTS - Continued

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 97, NUMBER 3

MARCH 2018

Clusters in nonsmooth oscillator networks (<i>19 pages</i>)	032213
Rachel Nicks, Lucie Chambon, and Stephen Coombes	
Discretization-dependent model for weakly connected excitable media (<i>12 pages</i>)	032214
Pedro André Arroyo, Sergio Alonso, and Rodrigo Weber dos Santos	
Extreme events and single-pulse spatial patterns observed in a self-pulsing all-solid-state laser (<i>7 pages</i>)	032215
Carlos Bonazzola, Alejandro Hnilo, Marcelo Kovalsky, and Jorge Tredicce	
Spatiotemporal dynamics of the covariant Lyapunov vectors of chaotic convection (<i>11 pages</i>)	032216
M. Xu and M. R. Paul	
Floquet states of a kicked particle in a singular potential: Exponential and power-law profiles (<i>8 pages</i>)	032217
Sanku Paul and M. S. Santhanam	
Hydrodynamic optical soliton tunneling (<i>8 pages</i>)	032218
P. Sprenger, M. A. Hoefer, and G. A. El	
Directed motion of spheres induced by unbiased driving forces in viscous fluids beyond the Stokes' law regime (<i>8 pages</i>)	032219
Jesús Casado-Pascual	
Networks and Complex Systems	
Algorithmic detectability threshold of the stochastic block model (<i>14 pages</i>)	032301
Tatsuro Kawamoto	
Exact analytical solution of irreversible binary dynamics on networks (<i>9 pages</i>)	032302
Edward Laurence, Jean-Gabriel Young, Sergey Melnik, and Louis J. Dubé	
Tuning the overlap and the cross-layer correlations in two-layer networks: Application to a susceptible-infectious-recovered model with awareness dissemination (<i>13 pages</i>)	032303
David Juher and Joan Saldaña	
Collective conflict resolution in groups on the move (<i>17 pages</i>)	032304
Itai Pinkoviezky, Iain D. Couzin, and Nir S. Gov	
Optimal stabilization of Boolean networks through collective influence (<i>9 pages</i>)	032305
Jiannan Wang, Sen Pei, Wei Wei, Xiangnan Feng, and Zhiming Zheng	
Group percolation in interdependent networks (<i>11 pages</i>)	032306
Zexun Wang, Dong Zhou, and Yanqing Hu	
Master stability functions reveal diffusion-driven pattern formation in networks (<i>18 pages</i>)	032307
Andreas Brechtel, Philipp Gramlich, Daniel Ritterskamp, Barbara Drossel, and Thilo Gross	
Interplay between cost and benefits triggers nontrivial vaccination uptake (<i>6 pages</i>)	032308
Benjamin Steinegger, Alessio Cardillo, Paolo De Los Rios, Jesús Gómez-Gardeñes, and Alex Arenas	
Geometric evolution of complex networks with degree correlations (<i>10 pages</i>)	032309
Charles Murphy, Antoine Allard, Edward Laurence, Guillaume St-Onge, and Louis J. Dubé	
Transition to collective oscillations in finite Kuramoto ensembles (<i>10 pages</i>)	032310
Franziska Peter and Arkady Pikovsky	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 97, NUMBER 3

MARCH 2018

Individual heterogeneity generating explosive system network dynamics (<i>6 pages</i>).....	032311
Pedro D. Manrique and Neil F. Johnson	
Critical neural networks with short- and long-term plasticity (<i>7 pages</i>).....	032312
L. Michiels van Kessenich, M. Luković, L. de Arcangelis, and H. J. Herrmann	
Using persistent homology to reveal hidden covariates in systems governed by the kinetic Ising model (<i>14 pages</i>).....	032313
Gard Spreemann, Benjamin Dunn, Magnus Bakke Botnan, and Nils A. Baas	
Renormalization-group study of the Nagel-Schreckenberg model (<i>8 pages</i>).....	032314
Han Kheng Teoh and Ee Hou Yong	
Universality and correlations in individuals wandering through an online extremist space (<i>7 pages</i>).....	032315
Z. Cao, M. Zheng, Y. Vorobyeva, C. Song, and N. F. Johnson	
Complex network view of evolving manifolds (<i>13 pages</i>).....	032316
Diamantino C. da Silva, Ginestra Bianconi, Rui A. da Costa, Sergey N. Dorogovtsev, and José F. F. Mendes	
Sparse dynamical Boltzmann machine for reconstructing complex networks with binary dynamics (<i>21 pages</i>).....	032317
Yu-Zhong Chen and Ying-Cheng Lai	
Detection of intensity bursts using Hawkes processes: An application to high-frequency financial data (<i>14 pages</i>).....	032318
Marcello Rambaldi, Vladimir Filimonov, and Fabrizio Lillo	
Effect of form of obstacle on speed of crowd evacuation (<i>9 pages</i>).....	032319
Ryosuke Yano	
Universal principles governing multiple random searchers on complex networks: The logarithmic growth pattern and the harmonic law (<i>9 pages</i>).....	032320
Tongfeng Weng, Jie Zhang, Michael Small, Bahareh Harandizadeh, and Pan Hui	

PART B

Biological Physics

Post-transcriptional bursting in genes regulated by small RNA molecules (<i>9 pages</i>).....	032401
Guillermo Rodrigo	
 Impact of hydrodynamic interactions on protein folding rates depends on temperature (<i>17 pages</i>).....	032402
Fabio C. Zegarar, Dirar Homouz, Yossi Eliaz, Andrei G. Gasic, and Margaret S. Cheung	
Simple and universal model for electron-impact ionization of complex biomolecules (<i>7 pages</i>).....	032403
Hong Qi Tan, Zhaohong Mi, and Andrew A. Bettiol	
Effect of ac electric field on the dynamics of a vesicle under shear flow in the small deformation regime (<i>20 pages</i>).....	032404
Kumari Priti Sinha and Rochish M. Thaokar	
Optimal entrainment of circadian clocks in the presence of noise (<i>23 pages</i>).....	032405
Michele Monti, David K. Lubensky, and Pieter Rein ten Wolde	
Early-warning signals of critical transition: Effect of extrinsic noise (<i>8 pages</i>).....	032406
Shanshan Qin and Chao Tang	

(Continued)

Slowdown of surface diffusion during early stages of bacterial colonization (8 pages).....	032407
T. Vourc'h, H. Peerhossaini, J. Léopoldès, A. Méjean, F. Chauvat, and C. Cassier-Chauvat	
Actin filaments growing against an elastic membrane: Effect of membrane tension (13 pages).....	032408
Raj Kumar Sadhu and Sakuntala Chatterjee	
☞ Chemical event chain model of coupled genetic oscillators (11 pages).....	032409
David J. Jörg, Luis G. Morelli, and Frank Jülicher	
Assay based on electrical impedance spectroscopy to discriminate between normal and cancerous mammalian cells (10 pages).....	032410
Fabián Eduardo Giana, Fabián José Bonetto, and Mariela Inés Bellotti	
Asymmetry in cilia configuration induces hydrodynamic phase locking (10 pages).....	032411
Keiji Okumura, Seiya Nishikawa, Toshihiro Omori, Takuji Ishikawa, and Atsuko Takamatsu	
Energy required to pinch a DNA plectoneme (12 pages).....	032412
Céline Barde, Nicolas Destainville, and Manoel Manghi	
☞ How nonuniform contact profiles of T cell receptors modulate thymic selection outcomes (9 pages).....	032413
Hanrong Chen, Arup K. Chakraborty, and Mehran Kardar	
Determination of prestress and elastic properties of virus capsids (13 pages).....	032414
Ankush Aggarwal	
How directional mobility affects coexistence in rock-paper-scissors models (6 pages).....	032415
P. P. Avelino, D. Bazeia, L. Losano, J. Menezes, B. F. de Oliveira, and M. A. Santos	
Modeling persistence of motion in a crowded environment: The diffusive limit of excluding velocity-jump processes (18 pages).....	032416
Enrico Gavagnin and Christian A. Yates	
Encounter times of chromatin loci influenced by polymer decondensation (8 pages).....	032417
A. Amitai and D. Holcman	
☞ Normal stresses in semiflexible polymer hydrogels (11 pages).....	032418
M. Vahabi, Bart E. Vos, Henri C. G. de Cagny, Daniel Bonn, Gijsje H. Koenderink, and F. C. MacKintosh	
Reconstructing free-energy landscapes for nonequilibrium periodic potentials (6 pages).....	032419
N. J. López-Alamilla, Michael W. Jack, and K. J. Challis	
Optimal methylation noise for best chemotactic performance of <i>E. coli</i> (15 pages).....	032420
Subrata Dev and Sakuntala Chatterjee	
Evaluation of bending modulus of lipid bilayers using undulation and orientation analysis (12 pages).....	032421
Adarsh K. Chaurasia, Andrew M. Rukangu, Michael K. Philen, Gary D. Seidel, and Eric C. Freeman	
Effects of nucleosome stability on remodeler-catalyzed repositioning (19 pages).....	032422
Aaron M. Morgan, Sarah E. LeGresley, Koan Briggs, Gada Al-Ani, and Christopher J. Fischer	
Polymers	
Electrostatic stiffening and induced persistence length for coassembled molecular bottlebrushes (13 pages).....	032501
Ingeborg M. Storm, Martien A. Cohen Stuart, Renko de Vries, and Frans A. M. Leermakers	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 97, NUMBER 3

MARCH 2018

Universal size properties of a star-ring polymer structure in disordered environments (<i>10 pages</i>).....	032502
K. Haydukivska and V. Blavatska	
Polyelectrolyte brush bilayers in weak interpenetration regime: Scaling theory and molecular dynamics simulations (<i>8 pages</i>).....	032503
Parth Rakesh Desai, Shayandev Sinha, and Siddhartha Das	
Star polymers as unit cells for coarse-graining cross-linked networks (<i>9 pages</i>).....	032504
Taras Y. Molotilin, Salim R. Maduar, and Olga I. Vinogradova	
Engineering single-polymer micelle shape using nonuniform spontaneous surface curvature (<i>24 pages</i>).....	032505
Brian Moths and T. A. Witten	
Filamentary structures that self-organize due to adhesion (<i>7 pages</i>).....	032506
A. Sengab and R. C. Picu	
Tuning relaxation dynamics and mechanical properties of polymer films of identical thickness (<i>11 pages</i>).....	032507
Marwa Kchaou, Pierre Alcouffe, Sivasurender Chandran, Philippe Cassagnau, Günter Reiter, and Samer Al Akhrass	
Depletion interaction between colloids mediated by an athermal polymer blend (<i>10 pages</i>).....	032508
A. I. Chervanyov	
Colloids, Complex Fluids, and Active Matter	
Paramagnetic colloids: Chaotic routes to clusters and molecules (<i>8 pages</i>).....	032601
Hamed Abdi, Rasam Soheilian, Randall M. Erb, and Craig E. Maloney	
Soft inclusion in a confined fluctuating active gel (<i>14 pages</i>).....	032602
Amit Singh Vishen, J.-F. Rupprecht, G. V. Shivashankar, J. Prost, and Madan Rao	
Self-driven particles in linear flows and trapped in a harmonic potential (<i>7 pages</i>).....	032603
Mario Sandoval, Julio C. Hidalgo-Gonzalez, and Jose I. Jimenez-Aquino	
Active processes in one dimension (<i>10 pages</i>).....	032604
Thibaut Demaerel and Christian Maes	
Depletion zones and crystallography on pinched spheres (<i>6 pages</i>).....	032605
Jingyuan Chen, Xiangjun Xing, and Zhenwei Yao	
Active Brownian particles near straight or curved walls: Pressure and boundary layers (<i>9 pages</i>).....	032606
Ayhan Duzgun and Jonathan V. Selinger	
Fluctuating nonlinear hydrodynamics of flocking (<i>8 pages</i>).....	032607
Sunil Kumar Yadav and Shankar P. Das	
Temperature effects on drift of suspended single-domain particles induced by the Magnus force (<i>9 pages</i>).....	032608
S. I. Denisov, T. V. Lyutyy, V. V. Reva, and A. S. Yermolenko	
Yielding of a model glass former: An interpretation with an effective system of icosahedra (<i>12 pages</i>).....	032609
Rhianon Pinney, Tanniemola B. Liverpool, and C. Patrick Royall	
Magnetic susceptibility, nanorheology, and magnetoviscosity of magnetic nanoparticles in viscoelastic environments (<i>11 pages</i>).....	032610
Patrick Ilg and Apostolos E. A. S. Evangelopoulos	

(Continued)

Reynolds-number-dependent dynamical transitions on hydrodynamic synchronization modes of externally driven colloids (<i>12 pages</i>)	032611
---	--------

Norihiro Oyama, Kosuke Teshigawara, John Jairo Molina, Ryoichi Yamamoto, and Takashi Taniguchi

Liquid Crystals

Modeling deformation and chaining of flexible shells in a nematic solvent with finite elements on an adaptive moving mesh (<i>7 pages</i>).....	032701
---	--------

Andrew DeBenedictis, Timothy J. Atherton, Andrea L. Rodarte, and Linda S. Hirst

<i>N</i> -SmA-SmC phase transitions probed by a pair of elastically bound colloids (<i>6 pages</i>)	032702
---	--------

Muhammed Rasi M, K. P. Zuhail, Arun Roy, and Surajit Dhara

Tunable hybrid optical modes in a bounded cholesteric liquid crystal with a twist defect (<i>5 pages</i>).....	032703
--	--------

Maxim V. Pyatnov, Stepan Ya. Vetrov, and Ivan V. Timofeev

Director gliding in a nematic liquid crystal layer: Quantitative comparison with experiments (<i>11 pages</i>).....	032704
---	--------

E. Mema, L. Kondic, and L. J. Cummings

Electroclinic effect in the chiral lamellar α phase of a lyotropic liquid crystal (<i>8 pages</i>)	032705
---	--------

Marc D. Harjung and Frank Giesselmann

Films and Interfaces

Radial restricted solid-on-solid and etching interface-growth models (<i>5 pages</i>).....	032801
--	--------

Sidiney G. Alves

Granular Materials

Force-chain evolution in a two-dimensional granular packing compacted by vertical tappings (<i>10 pages</i>).....	032901
---	--------

Naoki Iikawa, M. M. Bandi, and Hiroaki Katsuragi

Dimension dependence of clustering dynamics in models of ballistic aggregation and freely cooling granular gas (<i>11 pages</i>).....	032902
---	--------

Subhajit Paul and Subir K. Das

Solid Mechanics

Local yield stress statistics in model amorphous solids (<i>13 pages</i>).....	033001
--	--------

Armand Barbot, Matthias Lerbinger, Anier Hernandez-Garcia, Reinaldo García-García, Michael L. Falk, Damien Vandembroucq, and Sylvain Patinet

Universal avalanche statistics and triggering close to failure in a mean-field model of rheological fracture (<i>14 pages</i>).....	033002
---	--------

Jordi Baró and Jörn Davidsen

Fluid Dynamics

Statistical symmetry restoration in fully developed turbulence: Renormalization group analysis of two models (<i>17 pages</i>)	033101
--	--------

N. V. Antonov, N. M. Gulitskiy, M. M. Kostenko, and A. V. Malyshev

Heavy inertial particles in turbulent flows gain energy slowly but lose it rapidly (<i>6 pages</i>)	033102
---	--------

Akshay Bhatnagar, Anupam Gupta, Dhrubaditya Mitra, and Rahul Pandit

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 97, NUMBER 3

MARCH 2018

Revised model for the radiation force exerted by standing surface acoustic waves on a rigid cylinder (<i>10 pages</i>)...	033103
Shen Liang and Wang Chaohui	
Relation between boundary slip mechanisms and waterlike fluid behavior (<i>8 pages</i>).....	033104
Patricia Ternes, Evy Salcedo, and Marcia C. Barbosa	
Modeling thermal inkjet and cell printing process using modified pseudopotential and thermal lattice Boltzmann methods (<i>16 pages</i>).....	033105
Salman Sohrabi and Yaling Liu	
Liquid phase stabilization versus bubble formation at a nanoscale curved interface (<i>6 pages</i>).....	033106
Jarrold Schiffbauer and Tengfei Luo	
Enhancement of the water flow velocity through carbon nanotubes resulting from the radius dependence of the friction due to electron excitations (<i>6 pages</i>).....	033107
J. B. Sokoloff	
Dynamic evolution of Rayleigh-Taylor bubbles from sinusoidal, W-shaped, and random perturbations (<i>10 pages</i>).....	033108
Zhi-Rui Zhou, You-Sheng Zhang, and Bao-Lin Tian	
Scale-similar clustering of heavy particles in the inertial range of turbulence (<i>7 pages</i>).....	033109
Taketo Arika, Kyo Yoshida, Keigo Matsuda, and Katsunori Yoshimatsu	
Torque scaling in small-gap Taylor-Couette flow with smooth or grooved wall (<i>6 pages</i>).....	033110
Bihai Zhu, Zengqi Ji, Zhengkun Lou, and Pengcheng Qian	
 Barriers to front propagation in laminar, three-dimensional fluid flows (<i>7 pages</i>).....	033111
Minh Doan, J. J. Simons, Katherine Lilienthal, Tom Solomon, and Kevin A. Mitchell	
Electrohydrodynamic coalescence of droplets using an embedded potential flow model (<i>20 pages</i>).....	033112
M. Garzon, L. J. Gray, and J. A. Sethian	
Plasma Physics	
Multifrequency Raman amplifiers (<i>6 pages</i>).....	033201
Ido Barth and Nathaniel J. Fisch	
Solvation suppression of ion recombination in gas discharge afterglow (<i>7 pages</i>).....	033202
R. Kh. Amirov, A. V. Lankin, and G. E. Norman	
Probing a dusty magnetized plasma with self-excited dust-density waves (<i>7 pages</i>).....	033203
Benjamin Tadsen, Franko Greiner, and Alexander Piel	
Fully kinetic Biermann battery and associated generation of pressure anisotropy (<i>5 pages</i>).....	033204
K. M. Schoeffler, N. F. Loureiro, and L. O. Silva	
Computational Physics	
Analysis and optimization of population annealing (<i>12 pages</i>).....	033301
Christopher Amey and Jonathan Machta	
Accelerating simulation for the multiple-point statistics algorithm using vector quantization (<i>16 pages</i>).....	033302
Chen Zuo, Zhibin Pan, and Hao Liang	

(Continued)

CONTENTS - Continued

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 97, NUMBER 3

MARCH 2018

Tensor network method for reversible classical computation (<i>13 pages</i>).....	033303
Zhi-Cheng Yang, Stefanos Kourtis, Claudio Chamon, Eduardo R. Mucciolo, and Andrei E. Ruckenstein	
Modeling flow and transport in fracture networks using graphs (<i>9 pages</i>).....	033304
S. Karra, D. O'Malley, J. D. Hyman, H. S. Viswanathan, and G. Srinivasan	
Applicability of Kerker preconditioning scheme to the self-consistent density functional theory calculations of inhomogeneous systems (<i>12 pages</i>).....	033305
Yuzhi Zhou, Han Wang, Yu Liu, Xingyu Gao, and Haifeng Song	
Sensitivity of electrospray molecular dynamics simulations to long-range Coulomb interaction models (<i>13 pages</i>).....	033306
Neil A. Mehta and Deborah A. Levin	
Regularized lattice Boltzmann model for immiscible two-phase flows with power-law rheology (<i>13 pages</i>).....	033307
Yan Ba, Ningning Wang, Haihu Liu, Qiang Li, and Guoqiang He	
Entropic lattice Boltzmann model for charged leaky dielectric multiphase fluids in electrified jets (<i>11 pages</i>).....	033308
Marco Lauricella, Simone Melchionna, Andrea Montessori, Dario Pisignano, Giuseppe Pontrelli, and Sauro Succi	
Phase-field-based lattice Boltzmann modeling of large-density-ratio two-phase flows (<i>14 pages</i>).....	033309
Hong Liang, Jiangrong Xu, Jiangxing Chen, Huili Wang, Zhenhua Chai, and Baochang Shi	
Tensor renormalization group with randomized singular value decomposition (<i>6 pages</i>).....	033310
Satoshi Morita, Ryo Igarashi, Hui-Hai Zhao, and Naoki Kawashima	
Realizations of highly heterogeneous collagen networks via stochastic reconstruction for micromechanical analysis of tumor cell invasion (<i>13 pages</i>).....	033311
Hanqing Nan, Long Liang, Guo Chen, Liyu Liu, Ruchuan Liu, and Yang Jiao	
Numerical simulation of three-component multiphase flows at high density and viscosity ratios using lattice Boltzmann methods (<i>15 pages</i>).....	033312
Reza Haghani Hassan Abadi, Abbas Fakhari, and Mohammad Hassan Rahimian	
Local lubrication model for spherical particles within incompressible Navier-Stokes flows (<i>16 pages</i>).....	033313
B. Lambert, L. Weynans, and M. Bergmann	
Towards information-optimal simulation of partial differential equations (<i>8 pages</i>).....	033314
Reimar H. Leike and Torsten A. Enßlin	

ERRATA

Publisher's Note: Negative pressure in shear thickening band of a dilatant fluid [Phys. Rev. E 94 , 062614 (2016)] (<i>1 page</i>).....	039901(E)
Shin-ichiro Nagahiro and Hiizu Nakanishi	