

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 103, NUMBER 6
PARTS A AND B

CONTENTS

JUNE 2021

*The Table of Contents is a total listing of Parts A and B.
Part A consists of pages L060101–062310, and Part B pages 062401–066302.*

PART A

LETTERS

Statistical Physics

- Phase amplification in spinodal decomposition of immiscible fluids with interconversion of species (6 pages) L060101
Nikolay A. Shumovsky, Thomas J. Longo, Sergey V. Buldyrev, and Mikhail A. Anisimov
- Electrolyte structure near electrodes with molecular-size roughness (6 pages) L060102
Timur Aslyamov, Konstantin Sinkov, and Iskander Akhatov
- Bounds on fluctuations for finite-time quantum Otto cycle (6 pages) L060103
Sushant Saryal and Bijay Kumar Agarwalla

Nonlinear Dynamics and Chaos

- Connecting minimal chimeras and fully asymmetric chaotic attractors through equivariant pitchfork bifurcations (5 pages) L060201
Sindre W. Haugland and Katharina Krischer

Networks and Complex Systems

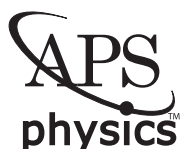
- Divergence and consensus in majority rule (5 pages) L060301
P. L. Krapivsky and S. Redner

Biological Physics

- Recognition capabilities of a Hopfield model with auxiliary hidden neurons (6 pages) L060401
Marco Benedetti, Victor Dotsenko, Giulia Fischetti, Enzo Marinari, and Gleb Oshanin
- Generalized Euler-Lotka equation for correlated cell divisions (5 pages) L060402
Simone Pigolotti

Solid Mechanics

- Low-frequency spectra of bending wave turbulence (5 pages) L061001
Benjamin Miquel, Antoine Naert, and Sébastien Aumaître



Copyright 2021 by American Physical Society

(Continued)



2470-0045(202106)103:6:B;1-2

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

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

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 103, NUMBER 6

JUNE 2021

Fluid Dynamics

- Spontaneous generation and reversal of helicity in anisotropic turbulence (*6 pages*) L061101
Wesley Agoua, Benjamin Favier, Alexandre Delache, Antoine Briard, and Wouter J. T. Bos

Plasma Physics

- Response tensor for a spin-dependent electron gas: Dependence on the choice of spin operator (*6 pages*) L061201
V. M. Demcsak and D. B. Melrose

Computational Physics

- Validity of the compressibility equation and Kirkwood-Buff theory for crystalline matter (*5 pages*) L061301
Peter Krüger
- Long-loop feedback vertex set and dismantling on bipartite factor graphs (*6 pages*) L061302
Tianyi Li, Pan Zhang, and Hai-Jun Zhou
-  Monte Carlo simulations in the unconstrained ensemble (*5 pages*) L061303
Ivan Latella, Alessandro Campa, Lapo Casetti, Pierfrancesco Di Cintio, J. Miguel Rubi, and Stefano Ruffo

ARTICLES

Statistical Physics

- Fractional Brownian motion of worms in worm algorithms for frustrated Ising magnets (*15 pages*) 062101
Geet Rakala, Kedar Damle, and Deepak Dhar
- Antiresonant driven systems for particle manipulation (*8 pages*) 062102
M. Florencia Carusela, Paolo Malgaretti, and J. Miguel Rubi
- Underdamped stochastic thermodynamic engines in contact with a heat bath with arbitrary temperature profile (*7 pages*) 062103
Olga Movilla Miangolarra, Rui Fu, Amirhossein Taghvaei, Yongxin Chen, and Tryphon T. Georgiou
- Multivariate binary probability distribution in the Grassmann formalism (*16 pages*) 062104
Takashi Arai
- Doi-Peliti field theory of free active Ornstein-Uhlenbeck particles (*7 pages*) 062105
Marius Bothe and Gunnar Pruessner
- Effective diffusivity of a Brownian particle in a two-dimensional periodic channel of abruptly alternating width (*7 pages*) 062106
Leonardo Dagdug, Alexander M. Berezhkovskii, Vladimir Yu. Zitserman, and Sergey M. Bezrukov
- Unconventional low-temperature features in the one-dimensional frustrated q -state Potts model (*13 pages*) 062107
Yury Panov and Onofre Rojas
- Analytic approach for the number statistics of non-Hermitian random matrices (*11 pages*) 062108
Isaac Pérez Castillo, Edgar Guzmán-González, Antonio Tonatiúh Ramos Sánchez, and Fernando L. Metz
- Temperature-dependent maximization of work and efficiency in a degeneracy-assisted quantum Stirling heat engine (*12 pages*) 062109
Sarbani Chatterjee, Arghadip Koner, Sohini Chatterjee, and Chandan Kumar

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 103, NUMBER 6

JUNE 2021

Kinetic model for the phase transition of the van der Waals fluid (<i>18 pages</i>)	062110
Shigeru Takata, Takuya Matsumoto, and Masanari Hattori	
Droplet-scaling versus replica symmetry breaking debate in spin glasses revisited (<i>8 pages</i>)	062111
M. A. Moore	
Nonuniversal power-law dynamics of susceptible infected recovered models on hierarchical modular networks (<i>9 pages</i>)	062112
Géza Ódor	
Nonreciprocity of a micromachine driven by a catalytic chemical reaction (<i>11 pages</i>)	062113
Kento Yasuda and Shigeyuki Komura	
Effects of external noise on threshold-induced correlations in ferromagnetic systems (<i>12 pages</i>)	062114
Dragutin Jovković, Sanja Janičević, Svetislav Mijatović, Lasse Laurson, and Djordje Spasojević	
Percolation thresholds on high-dimensional D_n and E_8 -related lattices (<i>8 pages</i>)	062115
Yi Hu and Patrick Charbonneau	
Upscaling of transport through discrete fracture networks via random walk: A comparison of models (<i>17 pages</i>)	062116
Nicole L. Sund, Rishi Parashar, and Hai V. Pham	
Chaotic renormalization flow in the Potts model induced by long-range competition (<i>9 pages</i>)	062117
Kejin Jiang, Jianyong Qiao, and Yueheng Lan	
Fluctuations of the critical Casimir force (<i>25 pages</i>)	062118
Markus Gross, Andrea Gambassi, and S. Dietrich	
Universality classes of the domain-wall creep motion driven by spin-transfer torques (<i>8 pages</i>)	062119
M. H. Jin, L. Xiong, N. J. Zhou, B. Zheng, and T. J. Zhou	
Effects of interplay between disorder and anharmonicity on heat conduction (<i>6 pages</i>)	062121
Jinyuan Zhu, Yue Liu, and Dahai He	
Finite-time fluctuation theorem for oscillatory lattices driven by a temperature gradient (<i>8 pages</i>)	062122
Jinhong Li and Dahai He	
Mechanism of subcritical avalanche propagation in three-dimensional disordered systems (<i>10 pages</i>)	062123
Stefan Graovac, Svetislav Mijatović, and Djordje Spasojević	
Monte Carlo examination of first-order phase transitions in a system with many independent order parameters: Three-dimensional Ashkin-Teller model (<i>7 pages</i>)	062124
Grzegorz Musiał, Dorota Jeziorek-Knioła, and Zbigniew Wojtkowiak	
 Thermal noise of a cryocooled silicon cantilever locally heated up to its melting point (<i>9 pages</i>)	062125
Alex Fontana, Richard Pedurand, Vincent Dolique, Ghaouti Hansali, and Ludovic Bellon	
Diffusive transport on networks with stochastic resetting to multiple nodes (<i>16 pages</i>)	062126
Fernanda H. González, Alejandro P. Riascos, and Denis Boyer	
Scaled geometric Brownian motion features sub- or superexponential ensemble-averaged, but linear time-averaged mean-squared displacements (<i>11 pages</i>)	062127
Andrey G. Cherstvy, Deepak Vinod, Erez Aghion, Igor M. Sokolov, and Ralf Metzler	

(Continued)

Generalized energy-conserving dissipative particle dynamics revisited: Insight from the thermodynamics of the mesoparticle leading to an alternative heat flow model (<i>17 pages</i>)	062128
Josep Bonet Avalos, Martin Lísal, James P. Larentzos, Allan D. Mackie, and John K. Brennan	
Stochastic order parameter dynamics for phase coexistence in heat conduction (<i>29 pages</i>)	062129
Shin-ichi Sasa, Naoko Nakagawa, Masato Itami, and Yohei Nakayama	
Self-organizing three-dimensional Ising model of financial markets (<i>8 pages</i>)	062130
W. R. S. Guimaraes and L. S. Lima	
Percolation of the two-dimensional <i>XY</i> model in the flow representation (<i>13 pages</i>)	062131
Bao-Zong Wang, Pengcheng Hou, Chun-Jiong Huang, and Youjin Deng	
Random walks on complex networks with first-passage resetting (<i>10 pages</i>)	062132
Feng Huang and Hanshuang Chen	
Eigenstate thermalization in dual-unitary quantum circuits: Asymptotics of spectral functions (<i>14 pages</i>)	062133
Felix Fritzsche and Tomaž Prosen	
Condensation transition in the late-time position of a run-and-tumble particle (<i>31 pages</i>)	062134
Francesco Mori, Pierre Le Doussal, Satya N. Majumdar, and Grégory Schehr	
Physics of free climbing (<i>6 pages</i>)	062135
Bartłomiej Dybiec, Karol Capała, and Jakub Barbasz	
Quantum photocells as nonequilibrium systems (<i>7 pages</i>)	062136
Jingyi Chen, Tong Fu, Shanhe Su, Jincheng Zheng, and Jincan Chen	
Multifractality breaking from bounded random measures (<i>7 pages</i>)	062137
L. Moriconi	
Kinetics of phase separation in thermally isolated critical binary fluids (<i>18 pages</i>)	062138
James P. Donley	
Stiffness of probability distributions of work and Jarzynski relation for initial microcanonical and energy eigenstates (<i>10 pages</i>)	062139
Lars Knipschild, Andreas Engel, and Jochen Gemmer	
Extreme case of density scaling: The Weeks-Chandler-Andersen system at low temperatures (<i>15 pages</i>)	062140
Eman Attia, Jeppe C. Dyre, and Ulf R. Pedersen	
Vicsek model by time-interlaced compression: A dynamical computable information density (<i>10 pages</i>)	062141
A. Cavagna, P. M. Chaikin, D. Levine, S. Martiniani, A. Puglisi, and M. Viale	
Role of current fluctuations in nonreversible samplers (<i>13 pages</i>)	062142
Francesco Coghi, Raphaël Chetrite, and Hugo Touchette	
Oscillating states of periodically driven anharmonic Langevin systems (<i>10 pages</i>)	062143
Shakul Awasthi and Sreedhar B. Dutta	
 Optimal sampling of dynamical large deviations via matrix product states (<i>12 pages</i>)	062144
Luke Causer, Mari Carmen Bañuls, and Juan P. Garrahan	

(Continued)

Random nanowire networks: Identification of a current-carrying subset of wires using a modified wall follower algorithm (<i>9 pages</i>)	062145
Yuri Yu. Tarasevich, Renat K. Akhunzhanov, Andrei V. Eserkepov, and Mikhail V. Ulyanov	
Nonlinear Dynamics and Chaos	
Statistical moments of the interspike intervals for a neuron model driven by trichotomous noise (<i>16 pages</i>)	062201
Romi Mankin, Astrid Rekker, and Sander Paekivi	
Critical soliton speed for quantum reflection by a reflectionless potential well (<i>10 pages</i>)	062202
U. Al Khawaja	
Nearly integrable turbulence and rogue waves in disordered nonlinear Schrödinger systems (<i>8 pages</i>)	062203
Zhi-Yuan Sun and Xin Yu	
Chaos on compact manifolds: Differentiable synchronizations beyond the Takens theorem (<i>12 pages</i>)	062204
Lyudmila Grigoryeva, Allen Hart, and Juan-Pablo Ortega	
Dynamical aspects of a bouncing ball in a nonhomogeneous field (<i>13 pages</i>)	062205
Felipe Augusto O. Silveira, Sidney G. Alves, Edson D. Leonel, and Denis G. Ladeira	
Rogue waves on the background of periodic standing waves in the derivative nonlinear Schrödinger equation (<i>25 pages</i>)	062206
Jinbing Chen and Dmitry E. Pelinovsky	
Correspondence between classical and quantum resonances (<i>10 pages</i>)	062207
F. J. Arranz, R. M. Benito, and F. Borondo	
Numerical analysis of grasshopper escapement (<i>11 pages</i>)	062208
David Ziemkiewicz	
Amplitude-mediated spiral chimera pattern in a nonlinear reaction-diffusion system (<i>14 pages</i>)	062209
Srileena Kundu, Paulsamy Muruganandam, Dibakar Ghosh, and M. Lakshmanan	
Connections between the modes of a nonlinear dynamical system on a manifold (<i>10 pages</i>)	062210
Shintaro Sato, Hiroki Sakamoto, and Naofumi Ohnishi	
Observation of Wigner-Dyson level statistics in a classically integrable system (<i>8 pages</i>)	062211
Ahmed A. Elkamshishy and Chris H. Greene	
Flux-augmented bifurcation analysis in chemical reaction network systems (<i>17 pages</i>)	062212
Takashi Okada, Atsushi Mochizuki, Mikio Furuta, and Je-Chiang Tsai	
Harmonic cross-correlation decomposition for multivariate time series (<i>21 pages</i>)	062213
Tanja Zerenner, Marc Goodfellow, and Peter Ashwin	
Multiple double-pole bright-bright and bright-dark solitons and energy-exchanging collision in the M -component nonlinear Schrödinger equations (<i>23 pages</i>)	062214
Jiguang Rao, T. Kanna, K. Sakkaravarthi, and Jingsong He	
Discrete and periodic complex Ginzburg-Landau equation for a hydrodynamic active lattice (<i>19 pages</i>)	062215
Stuart J. Thomson, Matthew Durey, and Rodolfo R. Rosales	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 103, NUMBER 6

JUNE 2021

Extracting dynamical frequencies from invariants of motion in finite-dimensional nonlinear integrable systems (<i>13 pages</i>)	062216
Chad E. Mitchell, Robert D. Ryne, Kilean Hwang, Sergei Nagaitsev, and Timofey Zolkin	
Feedback-induced desynchronization and oscillation quenching in a population of globally coupled oscillators (<i>22 pages</i>)	062217
Ayumi Ozawa and Hiroshi Kori	
Networks and Complex Systems	
Emergent dynamics in excitable flow systems (<i>13 pages</i>)	062301
Miguel Ruiz-García and Eleni Katifori	
Effects of hidden nodes on noisy network dynamics (<i>13 pages</i>)	062302
Beverly Gemao and Pik-Yin Lai (黎璧賢)	
Self-driven criticality in a stochastic epidemic model (<i>10 pages</i>)	062303
Gil Ariel and Yoram Louzoun	
Chimera states in a neuronal network under the action of an electric field (<i>11 pages</i>)	062304
Gaël R. Simo, Thierry Njougouo, R. P. Aristides, Patrick Louodop, Robert Tchitnga, and Hilda A. Cerdeira	
Twofold effect of self-interest in pedestrian room evacuation (<i>9 pages</i>)	062305
Ze-Hao Chen, Zhi-Xi Wu, and Jian-Yue Guan	
Polarization inhibits the phase transition of Axelrod's model (<i>8 pages</i>)	062306
Carlos Gracia-Lázaro, Edgardo Brigatti, Alexis R. Hernández, and Yamir Moreno	
Assortativity-induced explosive synchronization in a complex neuronal network (<i>9 pages</i>)	062307
Mousumi Roy, Swarup Poria, and Chittaranjan Hens	
Two-pathogen model with competition on clustered networks (<i>8 pages</i>)	062308
Peter Mann, V. Anne Smith, John B. O. Mitchell, and Simon Dobson	
Mean-field theory of superradiant phase transition in complex networks (<i>15 pages</i>)	062309
Andrei Yu. Bazhenov, Dmitriy V. Tsarev, and Alexander P. Alodjants	
Lorentzian geometry and variability reduction in airplane boarding: Slow passengers first outperforms random boarding (<i>20 pages</i>)	062310
Sveinung Erland, Jevgenijs Kaupužs, Albert Steiner, and Eitan Bachmat	

PART B

Biological Physics

Immune phase transition under steroid treatment (<i>16 pages</i>)	062401
Sonali Priyadarshini Nayak and Susmita Roy	
Improve it or lose it: Evolvability cost of competition for expression (<i>6 pages</i>)	062402
Jacob Moran, Devon Finlay, and Mikhail Tikhonov	
Theory and simulation for equilibrium glassy dynamics in cellular Potts model of confluent biological tissue (<i>12 pages</i>)	062403
Souvik Sadhukhan and Saroj Kumar Nandi	

(Continued)

CONTENTS - Continued

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 103, NUMBER 6

JUNE 2021

Reconstructing an epigenetic landscape using a genetic pulling approach (13 pages)	062404
Michael Assaf, Shay Be'er, and Elijah Roberts	
Derivation of evolutionary entropy in the steady-state thermodynamics of evolutionary dynamics (10 pages)	062405
Sungchul Kwon and Jeong-Man Park	
Life and death saddles in the heart (9 pages)	062406
Zhaoyang Zhang and Zhilin Qu	
 Air spread through a wetted deformable membrane: Implications for the mechanism of soft valves in plants (7 pages)	062407
Jooyoung Park, Jeongeun Ryu, Sung Ho Park, and Sang Joon Lee	
Crowder and surface effects on self-organization of microtubules (20 pages)	062408
Sumon Sahu, Lena Herbst, Ryan Quinn, and Jennifer L. Ross	
Contact-mediated cellular communication supplements positional information to regulate spatial patterning during development (5 pages)	062409
Chandrashekar Kuyyamudi, Shakti N. Menon, and Sitabhra Sinha	
Effect of loop sequence on unzipping of short DNA hairpins (8 pages)	062411
Anurag Upadhyaya and Sanjay Kumar	
Translational autoregulation of RF2 protein in <i>E. coli</i> through programmed frameshifting (9 pages)	062412
Ajeet K. Sharma	
Sex as information processing: Optimality and evolution (20 pages)	062413
Anton S. Zadorin and Olivier Rivoire	
Exact results for queuing models of stochastic transcription with memory and crosstalk (13 pages)	062414
Zhenquan Zhang, Qiqi Deng, Zihao Wang, Yiren Chen, and Tianshou Zhou	
Emergence of effective temperatures in an out-of-equilibrium model of biopolymer folding (15 pages)	062415
Marco Ancona, Alessandro Bentivoglio, Michele Caraglio, Giuseppe Gonnella, and Alessandro Pelizzola	

Polymers

Measuring structural parameters of crosslinked and entangled semiflexible polymer networks with single-filament tracing (11 pages)	062501
Tina Händler, Cary Tutmarc, Martin Glaser, Jessica S. Freitag, David M. Smith, and Jörg Schnauß	

Colloids, Complex Fluids, and Active Matter

 Polarization-density patterns of active particles in motility gradients (20 pages)	062601
Sven Auschra, Viktor Holubec, Nicola Andreas Söker, Frank Cichos, and Klaus Kroy	
Critical transition for colliding swarms (9 pages)	062602
Jason Hindes, Victoria Edwards, M. Ani Hsieh, and Ira B. Schwartz	
Clogging, dynamics, and reentrant fluid for active matter on periodic substrates (15 pages)	062603
C. Reichhardt and C. J. O. Reichhardt	
Density and polarization of active Brownian particles in curved activity landscapes (10 pages)	062604
Sven Auschra and Viktor Holubec	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 103, NUMBER 6

JUNE 2021

Particle-covered droplet and a particle shell under compressive electric stress (<i>12 pages</i>)	062605
Khobaib Khobaib, Tomasz Hornowski, and Zbigniew Rozynek	
Theory of structural relaxation in glass from the thermodynamics of irreversible processes (<i>17 pages</i>)	062606
Karan Doss and John C. Mauro	
Reverse order-disorder transition of Janus particles confined in two dimensions (<i>11 pages</i>)	062607
Yihao Liang, Boran Ma, and Monica Olvera de la Cruz	
Induced permittivity increment of electrorheological fluids in an applied electric field in association with chain formation: A Brownian dynamics simulation study (<i>9 pages</i>)	062608
Dávid Fertig, Dezső Boda, and István Szalai	
Quantifying the long-range structure of foams and other cellular patterns with hyperuniformity disorder length spectroscopy (<i>11 pages</i>)	062609
A. T. Chieco and D. J. Durian	
Unifying disparate rate-dependent rheological regimes in non-Brownian suspensions (<i>12 pages</i>)	062610
R. V. More and A. M. Ardekani	
How chains and rings affect the dynamic magnetic susceptibility of a highly clustered ferrofluid (<i>9 pages</i>)	062611
Philip J. Camp, Alexey O. Ivanov, and Julien O. Sindt	
Structural transition in two-dimensional Hertzian spheres in the presence of random pinning (<i>12 pages</i>)	062612
E. N. Tsiok, Yu. D. Fomin, E. A. Gaiduk, and V. N. Ryzhov	
Permeability of packs of polydisperse hard spheres (<i>9 pages</i>)	062613
Jérémy Vasseur, Fabian B. Wadsworth, Jason P. Coumans, and Donald B. Dingwell	
Topology of the energy landscape of sheared amorphous solids and the irreversibility transition (<i>13 pages</i>)	062614
Ido Regev, Ido Attia, Karin Dahmen, Srikanth Sastry, and Muhittin Mungan	
Liquid Crystals	
Reentrant prewavy instability in competition between rising and twist modes in ac field-driven electroconvection (<i>11 pages</i>)	062701
Jong-Hoon Huh and Naoto Miyagawa	
Microfluidics of liquid crystals induced by laser radiation (<i>10 pages</i>)	062702
Izabela Šliwa, Pavel V. Maslennikov, and Alex V. Zakharov	
Effect of electric fields on the director field and shape of nematic tactoids (<i>15 pages</i>)	062703
Mohammadamin Safdari, Roya Zandi, and Paul van der Schoot	
Granular Materials	
Large-deviation quantification of boundary conditions on the Brazil nut effect (<i>8 pages</i>)	062901
Gustavo H. B. Martins, Welles A. M. Morgado, Sílvia M. Duarte Queirós, and Allbens P. F. Atman	
Micromechanical description of the compaction of soft pentagon assemblies (<i>10 pages</i>)	062902
Manuel Cárdenas-Barrantes, David Cantor, Jonathan Barés, Mathieu Renouf, and Emilien Azéma	
Accurate buoyancy and drag force models to predict particle segregation in vibrofluidized beds (<i>10 pages</i>)	062903
Mehrdad Kiani Oshtorjani, Liu Meng, and Christoph R. Müller	

(Continued)

Enhanced flow rate by the concentration mechanism of Tetris particles when discharged from a hopper with an obstacle (<i>13 pages</i>)	062904
Guo-Jie Jason Gao, Fu-Ling Yang, Michael C. Holcomb, and Jerzy Blawdziewicz	
Discharge of elongated grains from silo with rotating bottom (<i>9 pages</i>)	062905
Kiwing To, Yi-Kai Mo, Tivadar Pongó, and Tamás Börzsönyi	
Memory in three-dimensional cyclically driven granular material (<i>7 pages</i>)	062906
Zackery A. Benson, Anton Peshkov, Derek C. Richardson, and Wolfgang Losert	
Solid Mechanics	
Controllable wrinkling in a prestretched dielectric elastomer sheet with striped electrodes (<i>12 pages</i>)	063001
Peibao Xu, Jielin Jin, and Kai Li	
Coupled Scholte modes supported by soft elastic plates in water (<i>8 pages</i>)	063002
B. M. Staples, T. J. Graham, A. P. Hibbins, and J. R. Sambles	
Calibrating surface hyperelastic constitutive models in soft solids (<i>14 pages</i>)	063003
M. Rashid Zafar and Sumit Basu	
Fracture toughness of crystalline solids (<i>12 pages</i>)	063004
J. S. Langer	
Simple holistic solution to Archie's-law puzzle in porous media (<i>20 pages</i>)	063005
Isaac Balberg	
Fluid Dynamics	
Mass flux of dispersed particles in turbulence: Representations and the influence of correlation structure in gravitational settling (<i>13 pages</i>)	063101
C. P. Stafford and D. C. Swailes	
Mode-coupling approach to near-cuspidal patterns in planar fluid flows (<i>16 pages</i>)	063102
Rodolfo Brandão, Gabriel D. Carvalho, and José A. Miranda	
Bubble cascade may form not only in stout beers (<i>9 pages</i>)	063103
Tomoaki Watamura, Kazuyasu Sugiyama, Yuko Yotsumoto, Mihoko Suzuki, and Hideyuki Wakabayashi	
Nonlinear dynamics of flame fronts with large-scale stabilizing effects (<i>11 pages</i>)	063104
Basile Radisson, Bruno Denet, and Christophe Almarcha	
Controlling fingering instabilities in Hele-Shaw flows in the presence of wetting film effects (<i>16 pages</i>)	063105
Pedro H. A. Anjos, Meng Zhao, John Lowengrub, Weizhu Bao, and Shuwang Li	
Capillary and viscous fracturing during drainage in porous media (<i>10 pages</i>)	063106
Francisco J. Carrillo and Ian C. Bourg	
Extraction of invariant manifolds and application to turbulence with a passive scalar (<i>6 pages</i>)	063107
N. E. Sujovolsky and P. D. Mininni	
Weakened energy cascade in elastoinertial turbulence (<i>6 pages</i>)	063108
J. J. J. Gillissen	

(Continued)

Plasma Physics

Streamer self-focusing in an external longitudinal magnetic field (<i>15 pages</i>)	063201
A. Yu. Starikovskiy, N. L. Aleksandrov, and M. N. Shneider	
Spectrum of kinetic plasma turbulence at 0.3–0.9 astronomical units from the Sun (<i>9 pages</i>)	063202
Olga Alexandrova, Vamsee Krishna Jagarlamudi, Petr Hellinger, Milan Maksimovic, Yuri Shprits, and Andre Mangeney	
Ionization and transport in partially ionized multicomponent plasmas: Application to atmospheres of hot Jupiters (<i>12 pages</i>)	063203
Sandeep Kumar, Anna Julia Poser, Manuel Schöttler, Uwe Kleinschmidt, Wieland Dietrich, Johannes Wicht, Martin French, and Ronald Redmer	
Hydrodynamic-dissipation relation for characterizing flow stagnation (<i>8 pages</i>)	063204
Seth Davidovits, E. Kroupp, E. Stambulchik, and Y. Maron	
Structure and thermodynamics of two-dimensional Yukawa liquids (<i>12 pages</i>)	063205
F. Lucco Castello and P. Tolias	
Kinetic model for electron-ion transport in warm dense matter (<i>11 pages</i>)	063206
Shane Rightley and Scott D. Baalrud	
Studies of spectral line merging in a laser-induced hydrogen plasma diagnosed with two-color Thomson scattering (<i>10 pages</i>)	063207
Krzysztof Dzierżęga, Franciszek Sobczuk, Evgeny Stambulchik, and Bartłomiej Pokrzywka	
Pump-depletion dynamics and saturation of stimulated Brillouin scattering in shock ignition relevant experiments (<i>6 pages</i>)	063208
S. Zhang, J. Li, C. M. Krauland, F. N. Beg, S. Muller, W. Theobald, J. Palastro, T. Filkins, D. Turnbull, D. Haberberger, C. Ren, R. Betti, C. Stoeckl, E. M. Campbell, J. Trela, D. Batani, R. H. H. Scott, and M. S. Wei	
Saturation of the ion drift instability in collisional complex plasmas by ion trapping (<i>6 pages</i>)	063209
Victoria V. Yaroshenko	
Influence of dissipation and effective interaction on the dense plasma dynamic structure factor (<i>6 pages</i>)	063210
Yongjun Choi and Michael S. Murillo	
Collisional excitation kinetics for $O(3s\ ^5S^o)$ and $O(3p\ ^5P_3)$ states using laser absorption spectroscopy in shock-heated weakly ionized O_2 -Ar mixture (<i>15 pages</i>)	063211
Yang Li, Yu Wang, David F. Davidson, and Ronald K. Hanson	
Long-term evolution of the three-dimensional structure of string-fluid complex plasmas in the PK-4 experiment (<i>7 pages</i>)	063212
S. Mitic, M. Y. Pustyl'nik, D. Erdle, A. M. Lipaev, A. D. Usachev, A. V. Zobnin, M. H. Thoma, H. M. Thomas, O. F. Petrov, V. E. Fortov, and O. Kononenko	
Stochastic electron motion in colliding plane waves (<i>6 pages</i>)	063213
A. R. Knyazev and S. I. Krasheninnikov	
Plastic strain rate quantified from dislocation dynamics in dusty plasma shear flows (<i>7 pages</i>)	063214
Shaoyu Lu, Dong Huang, and Yan Feng	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 103, NUMBER 6

JUNE 2021

Molecular dynamics investigation of the stopping power of warm dense hydrogen for electrons (<i>12 pages</i>)	063215
Yun Liu, Xing Liu, Shen Zhang, Hao Liu, Chongjie Mo, Zhenguo Fu, and Jiayu Dai	
Collective energy-spectrum broadening of a proton beam in a gas-discharge plasma (<i>5 pages</i>)	063216
Rui Cheng, Zhang-Hu Hu, De-Xuan Hui, Yong-Tao Zhao, Yan-Hong Chen, Fei Gao, Yu Lei, Yu-Yu Wang, Bing-Li Zhu, Yang Yang, Zhao Wang, Ze-Xian Zhou, You-Nian Wang, and Jie Yang	
Proof of the zeroth law of turbulence in one-dimensional compressible magnetohydrodynamics and shock heating (<i>7 pages</i>)	063217
Vincent David and Sébastien Galtier	
Computational Physics	
Generalized source term multiflux method coupled with Runge-Kutta ray tracing technique for arbitrary radiative intensity of graded-index media (<i>9 pages</i>)	063301
Linyang Wei, Hong Qi, Guojun Li, and Weijun Zhang	
No quantum speedup with Grover-Rudolph state preparation for quantum Monte Carlo integration (<i>6 pages</i>)	063302
Steven Herbert	
Lattice Boltzmann model with generalized wall boundary conditions for arbitrary catalytic reactivity (<i>13 pages</i>)	063303
Meysam Khatoonabadi, Nikolaos I. Prasianakis, and John Mantzaras	
Generative neural samplers for the quantum Heisenberg chain (<i>12 pages</i>)	063304
Johanna Vielhaben and Nils Strodthoff	
Multiscale semi-Lagrangian lattice Boltzmann method (<i>18 pages</i>)	063305
N. G. Kallikounis, B. Dorschner, and I. V. Karlin	
Graph transformation and shortest paths algorithms for finite Markov chains (<i>12 pages</i>)	063306
Daniel J. Sharpe and David J. Wales	
Calculation of elastic constants of embedded-atom-model potentials in the <i>NVT</i> ensemble (<i>11 pages</i>)	063307
Menahem Krief and Yinon Ashkenazy	
Algorithms to generate saturated random sequential adsorption packings built of rounded polygons (<i>10 pages</i>)	063308
Michał Cieřła, Piotr Kubala, and Konrad Kozubek	
Structure and isotropy of lattice pressure tensors for multirange potentials (<i>22 pages</i>)	063309
Matteo Lulli, Luca Biferale, Giacomo Falcucci, Mauro Sbragaglia, and Xiaowen Shan	

COMMENTS

Comment on “Phase transition in a network model of social balance with Glauber dynamics” (<i>4 pages</i>)	066301
Krzysztof Malarz and Krzysztof Kućakowski	
Reply to “Comment on ‘Phase transition in a network model of social balance with Glauber dynamics’ ” (<i>3 pages</i>)	066302
Pouya Manshour and Afshin Montakhab	