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 114, NUMBER 3
PARTS A AND B

CONTENTS

SEPTEMBER 2026

The Table of Contents is a total listing of Parts A and B.
Part A consists of pages L032101–034316, and Part B pages 034401–037201.

PART A

LETTERS

Statistical Physics

Evolving ergodic flows in confined geometry *(6 pages)* L032101
Akshay Seethamraju, R. Aravinda Narayanan, and V. Meenakshi

Strong-coupling phases of conserved growth models are crumpled *(7 pages)* L032102
Debayan Jana and Abhik Basu

Scaling law for subdiffusive-to-diffusive transition time in heterogeneous nonequilibrium systems *(7 pages)* L032103
Ming-Gen Li, He-Chuan Liu, Ling-Ling Du, Peng-Cheng Li, and Li-Ming Fan

Optimizing quantum transport via the quantum Doob transform *(7 pages)* L032104
Dolores Esteve, Carlos Pérez-Espigares, Ricardo Gutiérrez, and Daniel Manzano

Nonlinear Dynamics and Chaos

Resonant fragility and nonresonant robustness of Floquet eigenstates in kicked spin systems *(8 pages)* L032201
Jesús A. Segura-Landa, Meenu Kumari, Daniel J. Nader, Sercan Hüsnügil,
Ali SaraerToosi, and Sergio Lerma-Hernández

Frequency extraction from invariant flows *(6 pages)* L032202
Derong Xu, Yongjun Li, Yue Hao, and Sergei Nagaitsev

Soft Matter including Polymers, Liquid Crystals, and Granular Materials

Nonequilibrium scaling of drag forces in counterdriven fluid mixtures *(7 pages)* L033401
Jonas Köglmayr, Florian Sammüller, and Matthias Schmidt

Absorbing states govern the charging of vibrated grains *(5 pages)* L033402
Michael R. Swift and Mike I. Smith

ARTICLES

Statistical Physics

Eigenstate thermalization hypothesis and random-matrix-theory universality in few-body systems *(13 pages)* 034101
Jiaozi Wang, Hua Yan, Robin Steinigeweg, and Jochen Gemmer

(Continued)

2470-0045(202609)114:3:B;1-U

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

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

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 114, NUMBER 3** **SEPTEMBER 2026**

Dynamical critical properties of the random-bond three-state Potts model *(8 pages)* 034102
Zeynep Demir Vatansever, Ulvi Kanbur, Mohammad Sadra Najafi, Muktish Acharyya, and Erol Vatansever

Equivalent-neighbor k-core percolation in two dimensions *(13 pages)* 034103
Qiyuan Shi, Ming Li, and Youjin Deng

Factorization of solutions to generalized Feynman-Kac equations for jump-diffusion models *(19 pages)* 034104
Victor E. Gluzberg and Yuri A. Katz

Staggering dominolike blast front motion in a one-dimensional cold gas *(15 pages)* 034105
Taras Holovatch, Yuri Kozitsky, Krzysztof Pilorz, and Yurij Holovatch

Nonequilibrium distribution for stochastic thermodynamics *(15 pages)* 034106
Jean-Luc Garden

Anomalous diffusion and ergodicity breaking of subordinated random diffusivity processes in harmonic potential *(13 pages)* 034107
Xudong Wang, Zhenhai Wang, and Yao Chen

Universal correlations in local measurements directly probe effective diffusivity *(10 pages)* 034108
Omer Granek

Waiting-time-based entropy estimators in continuous space without Markovian events *(10 pages)* 034109
Jonas H. Fritz and Udo Seifert

Taming nonlinear energy diffusion: The case of time-crystal energy condensates *(10 pages)* 034110
P. I. Hurtado and G. Cortés-Guillén

Quantum field theory approach for multistage chemical kinetics in liquids *(26 pages)* 034111
Roman V. Li, Oleg A. Igoshin, Evgeny B. Krissinel, and Pavel A. Frantsuzov

Diffusion disorder in the contact process *(12 pages)* 034112
Valentin Anfray, Manisha Dhayal, Hong-Yan Shih, and Thomas Vojta

Anisotropy can make a moving active fluid membrane rough or crumpled *(13 pages)* 034113
Debayan Jana, Astik Haldar, and Abhik Basu

Emergent heavy-tailed distributions from a Markovian random walk *(7 pages)* 034114
Henrique S. Lima and Evaldo M. F. Curado

Stability and breakdown of chiral motion in nonreciprocal flocking *(15 pages)* 034115
Aditya Kumar Dutta, Swarnajit Chatterjee, Matthieu Mangeat, and Raja Paul

Correlation enhanced autonomous quantum battery charging via structured reservoirs *(19 pages)* 034116
A. Khoudiri, A. El Allati, Y. Khlifi, K. El Anouz, and Ö. E. Müstecaplıoğlu

Kinetic theory of pattern formation in a generalized multispecies Vicsek model *(22 pages)* 034117
Eloise Lardet, Letian Chen, and Thibault Bertrand

Canonical criterion for third-order transitions identified by microcanonical inflection-point analysis *(8 pages)* 034118
Fangfang Wang, Wei Liu, Kai Qi, Zidong Cui, Ying Tang, and Zengru Di

Non-Hermitian symmetry breaking and Lee-Yang theory for quantum XYZ and clock models *(9 pages)* 034119
Tian-Yi Gu and Gaoyong Sun

(Continued)

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

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

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 114, NUMBER 3** **SEPTEMBER 2026**

Hierarchy in Gilbert's tessellation: Multifractal behavior *(6 pages)* 034120
E. Consolini, B. Bonanni, and M. Fanfoni

Stationary densities in a weakly nonconserving asymmetric exclusion process with finite resources *(13 pages)* . . . 034121
Sourav Pal and Abhik Basu

Arbitrary approximations of first-passage-time distributions in general time-continuous stochastic processes *(12 pages)* 034122
Haowen Chen, Liying Zhou, Jiaqi Teng, Aimin Chen, and Tianshou Zhou

Gauge anomaly and visible dissipation bounds in active matter *(17 pages)* 034123
Hai Pham-Van

Emergence of Tsallis statistics in Thomas-Fermi theory *(8 pages)* 034124
Jean H. Y. Passos, Anna L. F. Lucchi, Max Jauregui, and Renio S. Mendes

Statistical mechanics of the N-queens problem *(9 pages)* 034125
Zong-Yue Liu, Hai-Jun Liao, and Lei Wang

Slow mixing and emergent one-form symmetries in three-dimensional $\mathbb{Z}_2$ gauge theory *(19 pages)* 034126
Charles Stahl, Benedikt Placke, Vedika Khemani, and Yaodong Li

Thermal melting of finite-time bonds *(10 pages)* 034127
Debbie Zhuang and Dimitrios Fraggedakis

Dynamical blockade in SU(1,1) quantum batteries via a neural network *(11 pages)* 034128
M. Y. Abd-Rabbou, Ahmed A. Zahia, Amr M. Abdallah, and Cong-Feng Qiao

Diffusion with conserved marginal distributions and information theory in fracton hydrodynamics *(14 pages)* 034129
Vaibhav Mohanty and Sunghan Ro

Stochastic thermodynamics of quantum-induced stochastic dynamics *(11 pages)* 034130
Pedro Ventura Paraguassú

Group-theoretic upper bounds on reconstructability in inverse problems *(9 pages)* 034131
Isshin Arai and Tomoaki Itano

Exact interpolation between Fick and Cattaneo diffusion in relativistic kinetic theory *(10 pages)* 034132
L. Gavassino

Phase correlations of a strongly scintillating light wave propagating through a turbulent medium *(8 pages)* 034133
V. A. Bogachev, I. V. Kolokolov, V. V. Lebedev, A. V. Nemtseva, and F. A. Starikov

Emergent correlations in the selected link times along optimal paths *(12 pages)* 034134
Iván Álvarez Domenech, Javier Rodríguez-Laguna, Pedro Córdoba-Torres, and Silvia N. Santalla

Evolutionary design of thermodynamic logic gates and their heat emission *(7 pages)* 034135
Stephen Whitelam

Beyond dynamic scaling: Rare events break universality *(9 pages)* 034136
Ulysse Marquis, Riccardo Gallotti, and Marc Barthelemy

Evidence of the de Almeida–Thouless transition in three-dimensional spin glasses *(10 pages)* 034137
L. H. Miranda-Filho and Yuliang Jin

(Continued)

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

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

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 114, NUMBER 3** **SEPTEMBER 2026**

Lindbladian spectral statistics beyond no-jump Hamiltonians: Roles of recycling and Liouville-space structure *(12 pages)* 034138
Dingzu Wang, Hao Zhu, Guo-Feng Zhang, and Dario Poletti

Extended-range percolation for neighborhoods of rectangular shape on square lattice *(13 pages)* 034139
Zhipeng Xun, Dapeng Hao, and Robert M. Ziff

Universal classical and quantum fluctuations in the large deviations of current of noisy quantum systems: Quantum symmetric simple exclusion and inclusion processes *(25 pages)* 034140
Mathias Albert, Denis Bernard, Tony Jin, Stefano Scopa, and Shiyi Wei

Breakdown of linear response induced by velocity-dependent stochastic resetting *(13 pages)* 034141
Yuto Takeishi and Takuma Akimoto

Kinetic temperatures and inertial effects in a nonequilibrium bead-spring model *(12 pages)* 034142
Jetin E. Thomas and Ramandeep S. Johal

Finite-time observability of oscillatory instabilities in synchronous p-bit dynamics *(8 pages)* 034143
Naoya Onizawa, Shunsuke Koshita, and Takahiro Hanyu

Optimal control of a mesoscopic information engine *(12 pages)* 034144
Emanuele Panizon

Exploring the role of connectivity in disordered system *(6 pages)* 034145
Anjan Daimari, Shivanee Borah, and Diana Thongjaomayum

Velocity and force autocorrelations in Brownian dynamics with a Lorentz force *(10 pages)* 034146
Filippo Faedi and Abhinav Sharma

Grand-canonical-like thermalization of quantum many-body scars in kinetically constrained systems *(15 pages)* 034147
Jia-Wei Wang, Xiang-Fa Zhou, Guang-Can Guo, and Zheng-Wei Zhou

Nonlinear Dynamics and Chaos

Thermalization in a nonlinear variant of the discrete nonlinear Schrödinger equation *(14 pages)* 034201
Yagmur Kati, Aleksandra Maluckov, Ana Mancic, and Panayotis Kevrekidis

Solvable model of noisy coupled oscillators with fully random interactions *(9 pages)* 034202
Harukuni Ikeda

Area-law entanglement in quantum chaotic systems *(7 pages)* 034203
Chunyin Chen (陈椿尹), Sizhe Yan (闫思哲), and Biao Wu (吴飙)

Optimal control of the generalized Kuramoto-Sivashinsky equation with energy- and entropy-based objectives *(7 pages)* 034204
Hiroya Mamori, Yusuke Nabae, and Hiroshi Gotoda

Spatial coevolutionary dynamics in population games with environmental feedbacks *(16 pages)* 034205
Yi Zhong, Chuan Ding, and Xiaojie Chen

Coexistence of explosive and driven forms of remote synchronization in star networks *(16 pages)* 034206
Siyu Huo

(Continued)

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

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

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 114, NUMBER 3** **SEPTEMBER 2026**

Kinetic energy in random recurrent neural networks *(15 pages)* 034207
Li-Ru Zhang and Haiping Huang

From clustering to global synchrony: Higher-order interactions reshape ecological network dynamics *(9 pages)* 034208
Arzoo Narang and Partha Sharathi Dutta

Robust method to identify chimera states *(21 pages)* 034209
S. Nirmala Jenifer, Riccardo Muolo, Paulsamy Muruganandam, and Timoteo Carletti

Synchronization enhancement by dissipative coupling *(11 pages)* 034210
Xiangshan Zeng (曾祥山), Jiongjie Wang (王炯杰), and Jiang Xiao (萧江)

Spectral form factor and power spectrum for trapped interacting rotating bosons: Crossover from integrability to quantum chaos *(12 pages)* 034211
Mohd Talib and M. A. H. Ahsan

Perturbation and asymptotic coefficient of restitution for the Hunt-Crossley collision under an external potential field *(9 pages)* 034212
Zijian Liang and Hanbin Wang

Scrambling at the genesis of chaos *(17 pages)* 034213
Thomas R. Michel, Mathias Steinhuber, Juan Diego Urbina, and Peter Schlagheck

Emergent Wigner-Dyson statistics and self-attention-inspired prediction in driven Bose-Hubbard chains *(19 pages)* 034214
Chen-Huan Wu

Prolonged chaotic transients for parametric noise-induced critical transitions: Formation mechanism and scaling law *(9 pages)* 034215
Han Su and Yuan Yue

Phase-locked excitations in Klein-Gordon systems *(9 pages)* 034216
L. Friedland and A. G. Shagalov

Interaction process of exploding dissipative solitons *(13 pages)* 034217
Orazio Descalzi and Helmut R. Brand

Computation of slow manifolds using the isostable coordinate system *(18 pages)* 034218
Dan Wilson

Finite-size effects in nonlinear mean-field coupled Kuramoto oscillators *(9 pages)* 034219
Aman Mishra, V. K. Chandrasekar, and D. V. Senthilkumar

Manifold dimension identification for the Kuramoto-Sivashinsky equation via a spectral convolutional autoencoder *(13 pages)* 034220
Zi-Fei Meng, Yuquan Wang, Peng-Nan Sun, Boo Cheong Khoo, and A-Man Zhang

Phase transitions in three-dimensional Kuramoto model under nonlinear mean-field coupling *(11 pages)* 034221
Aman Mishra, V. K. Chandrasekar, and D. V. Senthilkumar

Sticky eigenstates in systems with sharply divided phase space *(14 pages)* 034222
Hua Yan

(Continued)

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

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

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 114, NUMBER 3** **SEPTEMBER 2026**

Self-propulsion in the one-dimensional swarmalator model *(10 pages)* 034223
Kevin P. O'Keeffe

Role of asymmetric time delay and its structure in one-dimensional swarmalators *(15 pages)* 034224
Rommel Tchinda Djeudjo, Gourab Kumar Sar, and Timoteo Carletti

Instability of solutions in a mass-conserving reaction diffusion system *(22 pages)* 034225
R. Marangell, J. J. Wylie, and B. H. Bradshaw-Hajek

Networks and Complex Systems

Quantum system reliability: A phase-encoded interference framework for interdependent and interconnected systems *(24 pages)* 034301
S. Hooman Ghasemi

Community detection with the canonical ensemble *(15 pages)* 034302
Rudy Arthur

Nonlinear model reduction of complex networks via spectral submanifolds *(12 pages)* 034303
Kaviya Bhaskaran, Shobhit Jain, and Mingwu Li

Hidden higher-order vulnerabilities in simplicial complexes revealed by fixed-index spectral robustness *(9 pages)* 034304
Kaiming Luo

Order parameter for morphodynamic transitions in braided rivers: A stochastic compositional framework *(10 pages)* 034305
Samuele De Bartolo and Carlo De Michele

Efficiency-fragility discontinuity: Dual thresholds and the deceptive safety zone in critical infrastructure networks *(7 pages)* 034306
Paul F. Magoulick

Introduction to random rule-based chemical networks *(17 pages)* 034307
Jérémie Unterberger

Inertial synchronization of networked oscillators in arbitrary dimensions *(6 pages)* 034308
Kirill Kovalenko, Xiangfeng Dai, Fanshu Fang, Zerong Guo, Haoran Liu, Federico Botta, Charo I. del Genio, Stefano Boccaletti, and Simona Olmi

Emergence of contagious cooperation in community-structured networks *(14 pages)* 034309
Vicente Vargas-Panesso, Nicanor Quijano, and Luis Felipe Giraldo

Multivariate stochastic coupling in unknown complex systems: Informative randomness in deterministic brain-body communication *(18 pages)* 034310
Andrea Scarciglia, Vincenzo Catrambone, Claudio Bonanno, and Gaetano Valenza

Emergence of generic first-passage-time distributions for large Markovian networks *(15 pages)* 034311
Julian B. Voits and Ulrich S. Schwarz

Curvature in infectious disease network: A metric for vaccination and control *(10 pages)* 034312
Sara Najem

(Continued)

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

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

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 114, NUMBER 3** **SEPTEMBER 2026**

Analytical framework for the approximate master equation *(10 pages)* 034313
Yu Takiguchi and Takehisa Hasegawa

Anomalous scaling in redirection networks *(13 pages)* 034314
Harrison Hartle, P. L. Krapivsky, S. Redner, and Yuanzhao Zhang

Articulation points in multiplex networks *(12 pages)* 034315
Artem Vergazov, Saeed Osat, and Vladimir V. Palyulin

Emergence of cooperation in nonlinear higher-order public goods games *(10 pages)* 034316
Jaume Llabrés, Onkar Sadekar, Federico Malizia, and Federico Battiston

PART B

Biological Physics

Frenet frame analysis of protein geometry: Hints for secondary structure assignments *(11 pages)* 034401
M. Prados, M. D. Hernández, and F. de Soto

Reduced finite-dimensional model of two-dimensional protein cluster formation *(9 pages)* 034402
Kevin Chen and Paul C. Bressloff

Thin active nematohydrodynamic layers: Asymptotic theories and instabilities *(19 pages)* 034403
Mehrana R. Nejad and L. Mahadevan

Game played by tandem-running ants: Hint of procedural rationality *(11 pages)* 034404
Joy Das Bairagya, Udipta Chakraborti, Sumana Annagiri, and Sagar Chakraborty

Information retention by synaptic learning rules in stochastic spiking neural networks *(14 pages)* 034405
Rich Pang

Dominance switching between substrate adhesion and curvature in directional collective cell migration *(6 pages)* 034406
Bing Qi, Jianwen Li, Xinxin Lv, Xi-Qiao Feng, and Jing Du

Limits of optimal decoding under synaptic coarse-tuning *(16 pages)* 034407
Ori Hendler, Ronen Segev, and Maoz Shamir

Context-dependent adaptation in a neural computation *(14 pages)* 034408
Charles J. Edelson, Sima Setayeshgar, William Bialek, and Rob R. de Ruyter van Steveninck

Force-extension model of cellular membrane extrusion *(22 pages)* 034409
Fabio Manca and Stefano Giordano

Cell-cell adhesion as a double-edged sword in tissue fluidity *(18 pages)* 034410
Anh Q. Nguyen, Pradip K. Bera, Jacob Notbohm, and Dapeng Bi

Growth bistability in small bacterial populations exposed to antibiotics *(19 pages)* 034411
B. Ledoux and D. Lacoste

MesoMem: A mesoscale membrane model based on an additive potential *(11 pages)* 034412
Pietro Sillano, Siewert J. Marrink, and Timon Idema

(Continued)

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

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

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 114, NUMBER 3** **SEPTEMBER 2026**

Polarized neutrons for the study of individual and collective fast dynamics in proteins *(16 pages)* 034413
Agathe Nidriche, Jacques Ollivier, J. Ross Stewart, and Judith Peters

Avalanche assemblies in arbitrary connection topologies *(13 pages)* 034414
Maik Schünemann, Marc Kesseböhmer, and Udo Ernst

Fluid Dynamics

Strong wave turbulence in strongly local large-*N* theories *(11 pages)* 035101
Vladimir Rosenhaus and Daniel Schubring

Formation of magnetic particle clusters in shear thinning fluids: A first approach *(15 pages)* 035102
Daniela Dávalos Ruedas, R. E. Moctezuma, and J. Rodrigo Vélez-Cordero

Diode effect of a rarefied binary gas mixture flowing through a long conical capillary *(20 pages)* 035103
Mingming Gu, Zilong Deng, and Yongping Chen

Time-dependent pore-network modeling of Ostwald ripening in porous media *(14 pages)* 035104
Ademola Isaac Adebimpe, Sajjad Foroughi, Branko Bijeljic, and Martin J. Blunt

Optimizing injection protocols in Hele-Shaw displacements: A trade-off between swept area and injection time *(12 pages)* 035105
Anna Luiza M. B. Mattos, Rafael M. Oliveira, Pedro H. A. Anjos, and Eduardo O. Dias

Quantum reconnection of an inclined vortex ring with a straight vortex line: Energy distribution and geometric analysis *(12 pages)* 035106
Martina Luise, Nicola Sansonetto, and Simone Zuccher

Plasma Physics

Laser induced fluorescence of singly ionized atomic iodine: Measurements in the plasma source of an electric propulsion device *(8 pages)* 035201
Romain Pioch, Marie-Alix Sagnimorte, Benjamin Esteves, and Cyril Drag

Finite dissipation anomaly in collisionless plasma turbulence *(4 pages)* 035202
Riddhi Bandyopadhyay, Subash Adhikari, Yan Yang, and William H. Matthaeus

Configuration path integral Monte Carlo with atomic orbitals *(25 pages)* 035203
Jingwei Xing and Jianmin Yuan

Nonlinear sensitivity and kinetic breakdown of dust-acoustic rogue waves in binary dusty plasmas *(8 pages)* 035204
Fei-Yun Ding, Fei-Fei Li, Juan-Fang Han, and Wen-Shan Duan

Effects of nonideal conditions on resonantly enhanced betatron radiation in a plasma undulator *(11 pages)* 035205
Xinyang Liu, Yuhui Xia, Letian Liu, Zhiyan Yang, Zewei Xu, Zhuo Pan, Xuezhi Wu, Xueqing Yan, Chen Lin, and Xinlu Xu

Characterizing the temporal evolution of Biermann-battery-driven magnetic reconnection in laser-ablated plasmas *(11 pages)* 035206
T. Morita, Y. Muramoto, S. Isayama, M. Edamoto, M. Hanano, R. Ishikawa, Y. Kanesada, K. Koba, H. Kondo, S. Kurimaru, K. Maeda, Y. Maenosono, S. Matsukiyo, A. Morita, Y. Nagamatsu, G. Nakayama, T. Ogawa, K. Oshida, Y. Pan, K. Sakai, T. Sano, Y. Sato, N. Shimoda, J. Shiota, Y. Sudo, Y. Suzuki, T. Takezaki, S. J. Tanaka, K. Tomita, S. Ueno, S. Yakura, R. Yamazaki, and Y. Sakawa

(Continued)

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

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

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 114, NUMBER 3** **SEPTEMBER 2026**

Acceleration and deceleration of ion beam due to Cherenkov interaction with ion-acoustic waves *(6 pages)* 035207
A. A. Shelkovoy and S. A. Uryupin

Faster-than-adiabatic cooling of non-neutral plasmas *(12 pages)* 035208
Jan Bartsch, Alfio Borzì, Paul-Antoine Hervieux, and Giovanni Manfredi

Kinetic gating of a rheological inversion in a dusty-plasma vortex-lobe pair *(9 pages)* 035209
Adrian Scurtu

Plasmon-enhanced proton acceleration by extended planar resonant nanoantennas *(16 pages)* 035210
K. Zsukovszki, I. Papp, and L. P. Csernai

Near-wall pathways of anomalous electron transport in Hall thrusters revealed by three-dimensional particle-in-cell simulations *(32 pages)* 035211
Zhe Liu, Zhongping Zhao, and Yinjian Zhao

Cone-guided phase-space control of laser-driven proton beams *(10 pages)* 035212
S. Chintalwad and David J. Stark

Nonthermal electron acceleration and transition probability density in turbulent wakefields driven by an intense laser pulse *(11 pages)* 035213
Yao-Li Liu and Yasuhiro Kuramitsu

Leveling of MHD turbulence imbalance in shear flows *(11 pages)* 035214
Mariami Kavtaradze, George Mamatsashvili, George Chagelishvili, and Elene Uchava

Impact of ion-electron collisions on nonlocal ion heat conduction, viscous stress, and diffusion *(9 pages)* 035215
Nicholas Mitchell, David Chapman, and Grigory Kagan

Inference of thermodynamic conditions in convergent high-energy-density-physics experiments *(24 pages)* 035216
E. A. Smith, J. J. Ruby, D. A. Chin, D. T. Bishel, M. E. Signor, T. E. Evans, K. N. Lofton, N. V. Kabadi, J. R. Rygg, and G. W. Collins

Computational Physics, Machine Learning, and Artificial Intelligence

Learnability window in gated recurrent neural networks *(33 pages)* 035301
Lorenzo Livi

Semidefinite programming for quantum channel learning *(19 pages)* 035302
Mikhail Gennadievich Belov, Victor Victorovich Dubov, Vadim Konstantinovich Ivanov, Alexander Yurievich Maslov, Olga Vladimirovna Proshina, and Vladislav Gennadievich Malyshkin

GPU-accelerated sequential Monte Carlo for Bayesian spectral analysis *(21 pages)* 035303
Tomohiro Nabika, Yui Hayashi, and Masato Okada

Stabilizing generative adversarial networks with adaptive noise injection *(16 pages)* 035304
Yamin Zhang, Fabing Duan, François Chapeau-Blondeau, and Derek Abbott

Better together: Cross and joint covariances enhance signal detectability in undersampled data *(15 pages)* 035305
Arabind Swain, Sean Alexander Ridout, and Ilya Nemenman

Digital-analog concept for superconducting perceptron-like neural networks *(15 pages)* 035306
Andrey E. Schegolev, Vsevolod I. Ruzhickiy, Georgy I. Gubochkin, Alexander S. Ionin, Ivan A. Nazhestkin, Mikhail Y. Fominskii, Lyudmila V. Filippenko, Igor I. Soloviev, Maxim V. Tereshonok, and Nikolay V. Klenov

(Continued)

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

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

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 114, NUMBER 3** **SEPTEMBER 2026**

Lattice Boltzmann methods with anisotropic equilibrium distributions *(12 pages)* 035307
Benjamin Kellers, Julius Weinmiller, Arnulf Latz, and Timo Danner

Discovering interpretable low-dimensional dynamics using maximum entropy *(24 pages)* 035308
Michael C. Chung, Tarran Mohan, Purushottam D. Dixit, and Juan Guan

Liquid and solid layers in a thermal deep-learning machine *(13 pages)* 035309
Gang Huang, Lai Shun Chan, Hajime Yoshino, Ge Zhang, and Yuliang Jin

Time-nonlocal internal-variable LB-PF model for continuous nucleation during dendritic solidification *(17 pages)* 035310
Borui Zhao and Dongke Sun

Soft Matter including Polymers, Liquid Crystals, and Granular Materials

Collective turns in spinless flocks *(11 pages)* 035401
Joao Lizárraga and Marcus A. M. de Aguiar

Mechanisms leading to axial segregation of bidisperse particles in rotating tumblers *(15 pages)* 035402
Umberto D'Ortona, Richard M. Lueptow, and Nathalie Thomas

Diffuse-interface theory of active nematic interfaces: Transport mechanisms and modal structure *(20 pages)* 035403
Rodrigo C. V. Coelho, Mykola Tasinkevych, and Margarida M. Telo da Gama

Evolutionary chemical learning in dimerization networks *(13 pages)* 035404
Alexei V. Tkachenko, Bortolo Matteo Mognetti, and Sergei Maslov

Granular clogging across gravities: A unified scaling *(13 pages)* 035405
Oliver Gaida, Olfa D'Angelo, and Jonathan E. Kollmer

Correlated disorder suppresses solitary-wave attenuation in Hertzian chains *(11 pages)* 035406
Leopoldo R. Gómez

Phase separation kinetics of two-temperature induced phase transition at low density: Cluster growth by ballistic agglomeration *(11 pages)* 035407
Nayana Venkatareddy, Partha Sarathi Mondal, Shradha Mishra, and Prabal K. Maiti

Intruder dynamics in granular media under localized surface loading *(10 pages)* 035408
E. M. Franklin, B. Darbois Texier, A. Seguin, D. D. Carvalho, and Y. Bertho

Pattern formation and stick-slip dynamics in binary particle assemblies with rotating drives *(17 pages)* 035409
C. Reichhardt and C. J. O. Reichhardt

Physical signatures of supercritical fluid boundaries *(14 pages)* 035410
Sha Jin, Xinyang Li, Xue Fan, Matteo Baggioli, and Yuliang Jin

Theory of β relaxation beyond mode-coupling theory: A microscopic treatment *(32 pages)* 035411
Corentin C. L. Laudicina, Liesbeth M. C. Janssen, and Grzegorz Szamel

Critical scaling for dense granular flow between parallel plates near jamming *(9 pages)* 035412
Michio Otsuki, Kenta Hayashi, and Kiwamu Yoshii

Inferring surface slip in active colloids from flow fields using physics-informed neural networks *(10 pages)* 035413
Parvin Bayati and Stewart A. Mallory

(Continued)

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

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

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 114, NUMBER 3** **SEPTEMBER 2026**

Attraction-induced cluster fragmentation and local alignment in active particle systems *(8 pages)* 035414
Sota Shimamura, Nen Saito, and Shuji Ishihara

Shear-induced pressure localization in granular materials of nonspherical particles *(9 pages)* 035415
Huzaif Rahim, Sudeshna Roy, and Thorsten Pöschel

Slow glassy dynamics and fragile-to-strong crossover in supercooled aqueous magnesium perchlorate solutions: The effect of Martian solutes *(13 pages)* 035416
P. La Francesca, L. Lupi, and P. Gallo

Polar chiral active matter as a motile, disordered Josephson array: Information supercurrents and Goldstone spin waves *(18 pages)* 035417
Magnus F Ivarsen

Activity-enhanced ordering in fluctuation-induced first-order transitions *(9 pages)* 035418
Suvendra K. Sahoo

Stochastic model and optimal controls of an active tracking particle with information processing *(8 pages)* 035419
Tai Han and Fanlong Meng

Inertial and crowding influence of drift reversal in chiral fluids *(11 pages)* 035420
Ze-long Gao, Rui-xue Guo, Jia-jian Li, and Bao-quan Ai

Growth-driven avalanche behavior in bacterial monolayers *(9 pages)* 035421
Blake Langeslay, Ethan A. Mullen, Gabriel Juarez, and Karin A. Dahmen

Local elastic perturbation of colloidal suspensions near the colloidal glass transition *(9 pages)* 035422
Piotr Habdas, Rachel E. Courtland, and Eric R. Weeks

Flexible simulation framework for polymer-attenuated Coulombic self-assembly *(15 pages)* 035423
Philipp Höllmer, Nicole Smina, John P. Marquardt, Michael S. Chen, Steven van Kesteren, Stefano Sacanna, and Glen M. Hocky

Permeability of deforming soft particle packs *(11 pages)* 035424
Jérémie Vasseur, Fabian B. Wadsworth, Jingwei Zhang, and Yan Lavallée

Asymmetry-induced chiral dynamics in coupled self-propelled robots: Spinning and circular motion *(10 pages)* 035425
Priyanka, Nitin Kumar, and Harsh Soni

Experimental evidence of grain size-shape correlation effects on the critical-state shear strength of granular media *(10 pages)* 035426
Quyen Le Van, Carlos Ovalle, Emilien Azéma, Mathieu Renouf, Jonathan Barés, Sylvain Buonomo, and Arcesio Lizcano

Ordered interfacial assembly of rough microellipsoids *(8 pages)* 035427
Md Anisur Rahman and Peter J. Beltramo

Mechanical desorption of a multiblock copolymer chain end-grafted to an impenetrable flat surface *(20 pages)* . . . 035428
Alexey A. Polotsky

Melting of colloidal crystal in a two-dimensional periodic substrate: Switch from a single crossover to two-stage melting *(10 pages)* 035429
Akhilesh M P and Toby Joseph

(Continued)

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

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

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 114, NUMBER 3** **SEPTEMBER 2026**

Inert polymer crowders drive phase separation of polyampholyte-like proteins by enhancing electrostatic correlation *(7 pages)* 035430
Haoke Zhou, Zongpei Wu, and Shensheng Chen

Structural crossovers of quasi-one-dimensional patchy hard superellipses *(15 pages)* 035431
Sakineh Mizani, Martin Oettel, Péter Gurin, and Szabolcs Varga

Localization of defect modes in cholesteric liquid crystals with disordered defect layers *(9 pages)* 035432
Yang Li, Shaohua Gao, Jie Dang, and Mingjiang Zhang

Origins and predictability of the hydrostatic limit of molecular liquids *(13 pages)* 035433
Cecilia M. S. Alvares, Cameron J. G. Wilson, Nicholas P. Funnell, Mark S. Senn, and Gabriele C. Sosso

Collective behavior in the nonreciprocal multispecies Vicsek model *(17 pages)* 035434
Chul-Ung Woo, Heiko Rieger, and Jae Dong Noh

Mechanics, Interfaces, and Films

Scattering of waves in locally resonant woodpile structures with impurities *(13 pages)* 035503
Yeongtae Jang, Eunho Kim, and Junsuk Rho

Surface correlation functions of dead-leaves models *(18 pages)* 035504
Cedric J. Gommes

Exact transport theory of dendritic competition and arrest *(33 pages)* 035505
Beñat Gurrutxaga-Lerma, Matthew Hughes, and Nils Warnken

Wall-enhanced dendritic growth: An exact Wiener-Hopf-Hankel solution for oblique reflection *(45 pages)* 035506
Beñat Gurrutxaga-Lerma, Matthew Hughes, and Nils Warnken

Transmembrane potential across a charged nanochannel subjected to a salinity gradient *(14 pages)* 035507
Ramadan Abu-Rjal and Yoav Green

State space navigation using geometrically symmetric inflatables *(7 pages)* 035508
Brent Michiels, Elias De Smet, and Benjamin Gorissen

COMMENTS

Comment on “Lightning as a natural source of synchrotron radiation of x-ray and gamma-ray photons” *(2 pages)* 037201
M. L. Shmatov

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).