

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 90, NUMBER 6

DECEMBER 2014

Multiscale temporal integrators for fluctuating hydrodynamics (<i>23 pages</i>)	063312
Steven Delong, Yifei Sun, Boyce E. Griffith, Eric Vanden-Eijnden, and Aleksandar Donev	
Lattice-switching Monte Carlo method for crystals of flexible molecules (<i>7 pages</i>)	063313
Sally Bridgwater and David Quigley	
Combining Kohn-Sham and orbital-free density-functional theory for Hugoniot calculations to extreme pressures (<i>7 pages</i>)	063314
Daniel Sheppard, Joel D. Kress, Scott Crockett, Lee A. Collins, and Michael P. Desjarlais	
Tricritical points in a Vicsek model of self-propelled particles with bounded confidence (<i>19 pages</i>)	063315
Maksym Romensky, Vladimir Lobaskin, and Thomas Ihle	
Computing physical properties with quantum Monte Carlo methods with statistical fluctuations independent of system size (<i>6 pages</i>)	063317
Roland Assaraf	
Reexamination of the calculation of two-center, two-electron integrals over Slater-type orbitals. I. Coulomb and hybrid integrals (<i>13 pages</i>)	063318
Michał Lesiuk and Robert Moszynski	
Reexamination of the calculation of two-center, two-electron integrals over Slater-type orbitals. II. Neumann expansion of the exchange integrals (<i>17 pages</i>)	063319
Michał Lesiuk and Robert Moszynski	

ERRATA

Publisher's Note: Statistical properties of spectral fluctuations of N interacting bosons in a harmonic trap [Phys. Rev. E 90 , 052137 (2014)] (<i>1 page</i>)	069901(E)
Kamalika Roy, Barnali Chakrabarti, and V. K. B. Kota	
Publisher's Note: Control of flow around a circular cylinder for minimizing energy dissipation [Phys. Rev. E 90 , 053008 (2014)] (<i>1 page</i>)	069902(E)
Hirosi Naito and Koji Fukagata	
Erratum: Analytic solution for heat flow through a general harmonic network [Phys. Rev. E 90 , 042128 (2014)] (<i>2 pages</i>)	069903(E)
Nahuel Freitas and Juan Pablo Paz	
Publisher's Note: Bloch mode synthesis: Ultrafast methodology for elastic band-structure calculations [Phys. Rev. E 90 , 063306 (2014)] (<i>1 page</i>)	069904(E)
Dimitri Krattiger and Mahmoud I. Hussein	

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 90, NUMBER 6

DECEMBER 2014

Angular melting scenarios in binary dusty-plasma Coulomb balls: Magic versus normal clusters (<i>7 pages</i>)	063113
S. W. S. Apolinario, J. Albino Aguiar, and F. M. Peeters	
Classical Physics	
Elastodynamic Green's function retrieval through single-sided Marchenko inverse scattering (<i>9 pages</i>)	063201
Carlos Alberto da Costa Filho, Matteo Ravasi, Andrew Curtis, and Giovanni Angelo Meles	
Single-sided Marchenko focusing of compressional and shear waves (<i>12 pages</i>)	063202
Kees Wapenaar	
Ultrashort optical waveguide excitations in uniaxial silica fibers: Elastic collision scenarios (<i>14 pages</i>)	063203
Victor K. Kuetche, Saliou Youssoufa, and Timoleon C. Kofane	
Bright solitons in nonlinear media with a self-defocusing double-well nonlinearity (<i>5 pages</i>)	063204
Qiongtao Xie, Linmao Wang, Yizhen Wang, Zhenjiang Shen, and Jun Fu	
Computational Physics	
Bubble evolution and properties in homogeneous nucleation simulations (<i>13 pages</i>)	063301
Raymond Angéilil, Jürg Diemand, Kyoko K. Tanaka, and Hidekazu Tanaka	
Spectral-domain-based scattering analysis of fields radiated by distributed sources in planar-stratified environments with arbitrarily anisotropic layers (<i>17 pages</i>)	063302
Kamalesh Sainath and Fernando L. Teixeira	
Influence of electrical boundary conditions on molecular dynamics simulations of ionic liquid electrosprays (<i>10 pages</i>)	063303
Arnaud Borner, Pengxiang Wang, and Deborah A. Levin	
Computing the Coulomb interaction in inhomogeneous dielectric media via a local electrostatics lattice algorithm (<i>9 pages</i>)	063304
F. Fahrenberger and C. Holm	
Simulation of counterflow pedestrian dynamics using spheropolygons (<i>12 pages</i>)	063305
Fernando Alonso-Marroquín, Jonathan Busch, Coraline Chiew, Celia Lozano, and Álvaro Ramírez-Gómez	
Bloch mode synthesis: Ultrafast methodology for elastic band-structure calculations (<i>10 pages</i>)	063306
Dimitri Krattiger and Mahmoud I. Hussein	
Numerical optimization using flow equations (<i>6 pages</i>)	063307
Matthias Punk	
Rényi information flow in the Ising model with single-spin dynamics (<i>7 pages</i>)	063308
Zehui Deng, Jinshan Wu, and Wenan Guo	
Numerical solutions of the Schrödinger equation with source terms or time-dependent potentials (<i>12 pages</i>)	063309
W. van Dijk and F. M. Toyama	
Basis of symmetric polynomials for many-boson light-front wave functions (<i>6 pages</i>)	063310
Sophia S. Chabysheva and John R. Hiller	
Phase-field-based lattice Boltzmann model for axisymmetric multiphase flows (<i>14 pages</i>)	063311
H. Liang, Z. H. Chai, B. C. Shi, Z. L. Guo, and T. Zhang	

(Continued)

 Interaction of two walkers: Wave-mediated energy and force (<i>10 pages</i>)	063017
Christian Borghesi, Julien Moukhtar, Matthieu Labousse, Antonin Eddi, Emmanuel Fort, and Yves Couder	
Probing the energy cascade of convective turbulence (<i>8 pages</i>)	063018
R. P. J. Kunnen and H. J. H. Clercx	
Self-focusing and jet instability of a microswimmer suspension (<i>5 pages</i>)	063019
Levan Jibuti, Ling Qi, Chaouqi Misbah, Walter Zimmermann, Salima Rafai, and Philippe Peyla	
Plasma Physics	
Compact hohlraum configuration with parallel planar-wire-array x-ray sources at the 1.7-MA Zebra generator (<i>5 pages</i>)	063101
V. L. Kantsyrev, A. S. Chuvatin, L. I. Rudakov, A. L. Velikovich, I. K. Shrestha, A. A. Esaulov, A. S. Safronova, V. V. Shlyaptseva, G. C. Osborne, A. L. Astanovitsky, M. E. Weller, A. Stafford, K. A. Schultz, M. C. Cooper, M. E. Cuneo, B. Jones, and R. A. Vesey	
Charge on luminous bodies resembling natural ball lightning produced via electrical arcs through lump silicon (<i>5 pages</i>)	063102
Christina L. Porter, Galen P. Miley, David J. Griffiths, and Erik Sánchez	
Experimental confirmation of self-regulating turbulence paradigm in two-dimensional spectral condensation (<i>5 pages</i>)	063103
L. Bardóczi, A. Bencze, M. Berta, and L. Schmitz	
Modeling relativistic soliton interactions in overdense plasmas: A perturbed nonlinear Schrödinger equation framework (<i>15 pages</i>)	063104
E. Siminos, G. Sánchez-Arriaga, V. Saxena, and I. Kourakis	
Ion acoustic turbulence in a 100-A LaB ₆ hollow cathode (<i>10 pages</i>)	063106
Benjamin A. Jorns, Ioannis G. Mikellides, and Dan M. Goebel	
Ultrafast high-power microwave window breakdown: Nonlinear and postpulse effects (<i>5 pages</i>)	063107
C. Chang, J. Verboncoeur, M. N. Guo, M. Zhu, W. Song, S. Li, C. H. Chen, X. C. Bai, and J. L. Xie	
Controlling the fast electron divergence in a solid target with multiple laser pulses (<i>8 pages</i>)	063108
L. Volpe, J-L. Feugeas, Ph. Nicolai, J. J. Santos, M. Touati, J. Breil, D. Batani, and V. Tikhonchuk	
Characterization of deuterium clusters mixed with helium gas for an application in beam-target-fusion experiments (<i>8 pages</i>)	063109
W. Bang, H. J. Quevedo, A. C. Bernstein, G. Dyer, Y. S. Ihn, J. Cortez, F. Aymond, E. Gaul, M. E. Donovan, M. Barbui, A. Bonasera, J. B. Natowitz, B. J. Albright, J. C. Fernández, and T. Ditmire	
Exceeding the leading spike intensity and fluence limits in backward Raman amplifiers (<i>6 pages</i>)	063110
V. M. Malkin, Z. Toroker, and N. J. Fisch	
Nonlinear wave collapse, shock, and breather formation in an electron magnetohydrodynamic plasma (<i>7 pages</i>)	063111
Samiran Ghosh and Nikhil Chakrabarti	
Simulations of beam-matter interaction experiments at the CERN HiRadMat facility and prospects of high-energy-density physics research (<i>10 pages</i>)	063112
N. A. Tahir, F. Burkart, A. Shutov, R. Schmidt, D. Wollmann, and A. R. Piriz	

(Continued)

Fluid Dynamics

Evolution of length scales and statistics of Richtmyer-Meshkov instability from direct numerical simulations (<i>11 pages</i>)	063001
V. K. Tritschler, M. Zobel, S. Hickel, and N. A. Adams	
Comparative numerical-experimental analysis of the universal impact of arbitrary perturbations on transport in three-dimensional unsteady flows (<i>11 pages</i>)	063002
F. Wu, M. F. M. Speetjens, D. L. Vainchtein, R. R. Tieling, and H. J. H. Clercx	
Influence of container shape on scaling of turbulent fluctuations in convection (<i>4 pages</i>)	063003
N. Foroozani, J. J. Niemela, V. Armenio, and K. R. Sreenivasan	
Single-wave-number representation of nonlinear energy spectrum in elastic-wave turbulence of the Föppl–von Kármán equation: Energy decomposition analysis and energy budget (<i>9 pages</i>)	063004
Naoto Yokoyama and Masanori Takaoka	
Phenomenology of nonrelativistic parity-violating hydrodynamics in 2+1 dimensions (<i>18 pages</i>)	063005
Andrew Lucas and Piotr Surówka	
Modeling rigid magnetically rotated microswimmers: Rotation axes, bistability, and controllability (<i>11 pages</i>) . . .	063006
Farshad Meshkati and Henry Chien Fu	
Acoustic interaction forces between small particles in an ideal fluid (<i>11 pages</i>)	063007
Glauber T. Silva and Henrik Bruus	
Cospectral budget of turbulence explains the bulk properties of smooth pipe flow (<i>8 pages</i>)	063008
Gabriel G. Katul and Costantino Manes	
Stationary patterns in centrifugally driven interfacial elastic fingering (<i>8 pages</i>)	063009
Gabriel D. Carvalho, Hermes Gadêlha, and José A. Miranda	
Effect of direct bubble-bubble interactions on linear-wave propagation in bubbly liquids (<i>10 pages</i>)	063010
D. Fuster, J. M. Conoir, and T. Colonius	
Smoothed particle hydrodynamics and element bending group modeling of flexible fibers interacting with viscous fluids (<i>11 pages</i>)	063011
Xiufeng Yang, Moubin Liu, and Shiliu Peng	
Anomalous transport and chaotic advection in homogeneous porous media (<i>5 pages</i>)	063012
D. R. Lester, G. Metcalfe, and M. G. Trefry	
Spectral calculations in stably stratified turbulence (<i>10 pages</i>)	063013
Kishore Dutta and Malay K. Nandy	
Cross-correlation-aided transport in stochastically driven accretion flows (<i>10 pages</i>)	063014
Sujit Kumar Nath and Amit K. Chattopadhyay	
Self-similarity in the inertial region of wall turbulence (<i>14 pages</i>)	063015
J. Klewicki, J. Philip, I. Marusic, K. Chauhan, and C. Morrill-Winter	
Anomalous scaling of passive scalar fields advected by the Navier-Stokes velocity ensemble: Effects of strong compressibility and large-scale anisotropy (<i>21 pages</i>)	063016
N. V. Antonov and M. M. Kostenko	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 90, NUMBER 6

DECEMBER 2014

Effect of mixed coupling on relay-coupled Rössler and Lorenz oscillators (<i>6 pages</i>)	062907
Amit Sharma, Manish Dev Shrimali, and K. Aihara	
Transitions among the diverse oscillation quenching states induced by the interplay of direct and indirect coupling (<i>7 pages</i>)	062908
Debarati Ghosh and Tanmoy Banerjee	
Breatherlike solitons extracted from the Peregrine rogue wave (<i>7 pages</i>)	062909
Guangye Yang, Yan Wang, Zhenyun Qin, Boris A. Malomed, Dumitru Mihalache, and Lu Li	
Finite- <i>N</i> corrections to Vlasov dynamics and the range of pair interactions (<i>11 pages</i>)	062910
Andrea Gabrielli, Michael Joyce, and Jules Morand	
Shaping wave patterns in reaction-diffusion systems (<i>12 pages</i>)	062911
Jakob Löber, Steffen Martens, and Harald Engel	
Classification of wave regimes in excitable systems with linear cross diffusion (<i>14 pages</i>)	062912
M. A. Tsyganov and V. N. Biktashev	
Mechanism for intensity-induced chimera states in globally coupled oscillators (<i>9 pages</i>)	062913
V. K. Chandrasekar, R. Gopal, A. Venkatesan, and M. Lakshmanan	
Thermodynamic characterization of synchronization-optimized oscillator networks (<i>10 pages</i>)	062914
Tatsuo Yanagita and Takashi Ichinomiya	
Turing pattern dynamics in an activator-inhibitor system with superdiffusion (<i>8 pages</i>)	062915
Lai Zhang and Canrong Tian	
Using waveform information in nonlinear data assimilation (<i>23 pages</i>)	062916
Daniel Rey, Michael Eldridge, Uriel Morone, Henry D. I. Abarbanel, Ulrich Parlitz, and Jan Schumann-Bischoff	
Triple grouping and period-three oscillations in minority-game dynamics (<i>8 pages</i>)	062917
Jia-Qi Dong, Zi-Gang Huang, Liang Huang, and Ying-Cheng Lai	
Chaotic dynamics of one-dimensional systems with periodic boundary conditions (<i>13 pages</i>)	062918
Pankaj Kumar and Bruce N. Miller	
Nonlinear dynamics of atoms in a crossed optical dipole trap (<i>10 pages</i>)	062919
Rosario González-Férez, Manuel Iñarrea, J. Pablo Salas, and Peter Schmelcher	
Statistical properties of the maximum Lyapunov exponent calculated via the divergence rate method (<i>5 pages</i>)	062920
Matteo Franchi and Leonardo Ricci	
Quantification of causal couplings via dynamical effects: A unifying perspective (<i>15 pages</i>)	062921
Dmitry A. Smirnov	
Discrete and continuum composite solitons in Bose-Einstein condensates with the Rashba spin-orbit coupling in one and two dimensions (<i>12 pages</i>)	062922
Hidetsugu Sakaguchi and Boris A. Malomed	
Statistics of the island-around-island hierarchy in Hamiltonian phase space (<i>13 pages</i>)	062923
Or Alus, Shmuel Fishman, and James D. Meiss	

(Continued)

CONTENTS - Continued

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 90, NUMBER 6

DECEMBER 2014

Emergence of dynamical complexity related to human heart rate variability (5 pages)	062806
Mei-Chu Chang, C.-K. Peng, and H. Eugene Stanley	
Branching-ratio approximation for the self-exciting Hawkes process (6 pages)	062807
Stephen J. Hardiman and Jean-Philippe Bouchaud	
Scaling properties of urban facilities (8 pages)	062808
Liang Wu, Xin Yan, and Jiang Du	
Universal behavior of the interoccurrence times between losses in financial markets: Independence of the time resolution (6 pages)	062809
Josef Ludescher and Armin Bunde	
Analysis of cluster explosive synchronization in complex networks (10 pages)	062810
Peng Ji, Thomas K. DM. Peron, Francisco A. Rodrigues, and Jürgen Kurths	
Emergence of energy dependence in the fragmentation of heterogeneous materials (8 pages)	062811
Gergő Pál, Imre Varga, and Ferenc Kun	
Propagation of economic shocks in input-output networks: A cross-country analysis (9 pages)	062812
Martha G. Alatríste Contreras and Giorgio Fagiolo	
Local quality functions for graph clustering with non-negative matrix factorization (10 pages)	062813
Twan van Laarhoven and Elena Marchiori	
Influence of autocorrelation on the topology of the climate network (6 pages)	062814
Oded C. Guez, Avi Gozolchiani, and Shlomo Havlin	
Threshold cascades with response heterogeneity in multiplex networks (6 pages)	062816
Kyu-Min Lee, Charles D. Brummitt, and K.-I. Goh	
Correlations between weights and overlap in ensembles of weighted multiplex networks (17 pages)	062817
Giulia Menichetti, Daniel Remondini, and Ginestra Bianconi	
Nonlinear Dynamics and Chaos	
Understanding and controlling regime switching in molecular diffusion (7 pages)	062901
S. Hallerberg and A. S. de Wijn	
Asymptotic dynamics of reflecting spiral waves (13 pages)	062902
Jacob Langham, Irina Biktasheva, and Dwight Barkley	
Convergent cross-mapping and pairwise asymmetric inference (7 pages)	062903
James M. McCracken and Robert S. Weigel	
Localization of low-energy eigenfunctions in Šeba billiards (5 pages)	062904
Minjae Lee	
Manipulating matter rogue waves and breathers in Bose-Einstein condensates (15 pages)	062905
K. Manikandan, P. Muruganandam, M. Senthilvelan, and M. Lakshmanan	
Detecting determinism from point processes (5 pages)	062906
Ralph G. Andrzejak, Florian Mormann, and Thomas Kreuz	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 90, NUMBER 6

DECEMBER 2014

Multiple-time-scale framework for understanding the progression of Parkinson's disease (<i>8 pages</i>)	062709
D. S. Andres, F. Gomez, F. A. S. Ferrari, D. Cerquetti, M. Merello, R. Viana, and R. Stoop	
Dynamics of random neural networks with bistable units (<i>7 pages</i>)	062710
M. Stern, H. Sompolinsky, and L. F. Abbott	
Effective diffusion of confined active Brownian swimmers (<i>6 pages</i>)	062711
Mario Sandoval and Leonardo Dagdug	
Energy transfer in molecular devices (<i>6 pages</i>)	062712
M. Caraglio and A. Imparato	
Two-dimensional convex-molecule fluid model for surface adsorption of proteins: Effect of soft interaction on adsorption equilibria (<i>10 pages</i>)	062713
Paritosh Mahata and Sovan Lal Das	
Quasicritical brain dynamics on a nonequilibrium Widom line (<i>8 pages</i>)	062714
Rashid V. Williams-García, Mark Moore, John M. Beggs, and Gerardo Ortiz	
Structural evolution of proteinlike heteropolymers (<i>9 pages</i>)	062715
Erik D. Nelson and Nick V. Grishin	
Hybrid modeling of tumor-induced angiogenesis (<i>11 pages</i>)	062716
L. L. Bonilla, V. Capasso, M. Alvaro, and M. Carretero	
Peierls-Nabarro barrier and protein loop propagation (<i>9 pages</i>)	062717
Adam K. Sieradzan, Antti Niemi, and Xubiao Peng	
Branching influences force-velocity curves and length fluctuations in actin networks (<i>10 pages</i>)	062718
Deepak Kumar Hansda, Shamik Sen, and Ranjith Padinhateeri	
Unzipping DNA by a periodic force: Hysteresis loop area and its scaling (<i>8 pages</i>)	062719
Rajeev Kapri	

PART B

Networks and Interdisciplinary Physics

Simple, distance-dependent formulation of the Watts-Strogatz model for directed and undirected small-world networks (<i>5 pages</i>)	062801
H. Francis Song and Xiao-Jing Wang	
Spectrum-based estimators of the bivariate Hurst exponent (<i>6 pages</i>)	062802
Ladislav Kristoufek	
Diversity of multilayer networks and its impact on collaborating epidemics (<i>8 pages</i>)	062803
Yong Min, Jiaren Hu, Weihong Wang, Ying Ge, Jie Chang, and Xiaogang Jin	
Reconstructing the world trade multiplex: The role of intensive and extensive biases (<i>18 pages</i>)	062804
Rossana Mastrandrea, Tiziano Squartini, Giorgio Fagiolo, and Diego Garlaschelli	
Community detection in networks: Structural communities versus ground truth (<i>19 pages</i>)	062805
Darko Hric, Richard K. Darst, and Santo Fortunato	

(Continued)

CONTENTS - Continued

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 90, NUMBER 6

DECEMBER 2014

Director reorientation in a nematic liquid crystal with a photosensitive layer (8 pages)	062503
Laura O. Palomares, J. Adrián Reyes, and István Jánossy	
Nanosecond electro-optics of a nematic liquid crystal with negative dielectric anisotropy (16 pages)	062504
Volodymyr Borshch, Sergij V. Shiyankovskii, Bing-Xiang Li, and Oleg D. Lavrentovich	
Multiscale models of colloidal dispersion of particles in nematic liquid crystals (14 pages)	062505
T. P. Bennett, G. D'Alessandro, and K. R. Daly	
Calculation of the absolute free energy of a smectic-A phase (12 pages)	062506
Chien-Cheng Huang, Sanoop Ramachandran, and Jean-Paul Ryckaert	
Electrically induced deformation in chiral smectic elastomers with different domain structures (6 pages)	062507
Yang Ho Na, Yuki Aburaya, Hiroshi Orihara, Kazuyuki Hiraoka, and Youngbae Han	
Polymers	
Monte Carlo simulations on thermodynamic and conformational properties of catenated double-ring copolymers (7 pages)	062601
Dachuan Sun and Junhan Cho	
Confined polymers in the extended de Gennes regime (5 pages)	062602
E. Werner and B. Mehlig	
Accuracy of the blob model for single flexible polymers inside nanoslits that are a few monomer sizes wide (7 pages)	062603
Narges Nikoofard, S. Mohammad Hoseinpoor, and Mostafa Zahedifar	
Biological Physics	
Lagrangian approach to understanding the origin of the gill-kinematics switch in mayfly nymphs (8 pages)	062701
R. Chabreyrie, E. Balaras, K. Abdelaziz, and K. Kiger	
Spontaneous formation of large clusters in a lattice gas above the critical point (8 pages)	062702
Evgeniy Khain, Michael Khasin, and Leonard M. Sander	
Biphasic character of ribosomal translocation and non-Michaelis-Menten kinetics of translation (12 pages)	062703
Ping Xie	
Fluctuations and information filtering in coupled populations of spiking neurons with adaptation (10 pages)	062704
Moritz Deger, Tilo Schwalger, Richard Naud, and Wulfram Gerstner	
Early warning signals of desertification transitions in semiarid ecosystems (11 pages)	062705
Raffaele Corrado, Anna Maria Cherubini, and Cecilia Pennetta	
Identifying delayed directional couplings with symbolic transfer entropy (10 pages)	062706
Henning Dickten and Klaus Lehnertz	
Theoretical model for optical properties of porphyrin (4 pages)	062707
Anh D. Phan, Do T. Nga, The-Long Phan, Le T. M. Thanh, Chu T. Anh, Sophie Bernad, and N. A. Viet	
Time delay can facilitate coherence in self-driven interacting-particle systems (6 pages)	062708
Yongzheng Sun, Wei Lin, and Radek Erban	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 90, NUMBER 6

DECEMBER 2014

Signature of time-dependent hydrodynamic interactions on collective diffusion in colloidal monolayers (<i>10 pages</i>) Alvaro Domínguez	062314
Invariance of conductivity relaxation under pressure and temperature variations at constant conductivity relaxation time in $0.4\text{Ca}(\text{NO}_3)_2$ - 0.6KNO_3 (<i>5 pages</i>) Z. Wojnarowska, K. L. Ngai, and M. Paluch	062315
Cluster perturbation theory for the self-assembly of associating fluids into complex structures (<i>6 pages</i>) Bennett D. Marshall	062316
Local shear stress and its correlation with local volume fraction in concentrated non-Brownian suspensions: Lattice Boltzmann simulation (<i>16 pages</i>) Young Ki Lee, Kyung Hyun Ahn, and Seung Jong Lee	062317
☞ Dynamics of vacancies in two-dimensional Lennard-Jones crystals (<i>7 pages</i>) Zhenwei Yao and Monica Olvera de la Cruz	062318
Evaluation of x-ray Brillouin scattering data (<i>8 pages</i>) U. Buchenau	062319
Films, Interfaces, and Solids	
Nucleation phenomena in an annealed damage model: Statistics of times to failure (<i>12 pages</i>) S. G. Abaimov and J. P. Cusumano	062401
Skewness in $(1 + 1)$ -dimensional Kardar-Parisi-Zhang-type growth (<i>9 pages</i>) Tapas Singha and Malay K. Nandy	062402
☞ Edge effects on water droplet condensation (<i>12 pages</i>) Marie-Gabrielle Medici, Anne Mongruel, Laurent Royon, and Daniel Beysens	062403
Geometric control of failure behavior in perforated sheets (<i>8 pages</i>) Michelle M. Driscoll	062404
Effective temperature dynamics of shear bands in metallic glasses (<i>15 pages</i>) Eric G. Daub, David Klaumünzer, and Jörg F. Löffler	062405
Tearing of thin sheets: Cracks interacting through an elastic ridge (<i>7 pages</i>) Fabian Brau	062406
Buoyancy-induced on-the-spot mixing in droplets evaporating on nonwetting surfaces (<i>8 pages</i>) Susmita Dash, Aditya Chandramohan, Justin A. Weibel, and Suresh V. Garimella	062407
Liquid Crystals	
Manifold configurations of the director field formed by topological defects in free and confined geometry in smectic films (<i>5 pages</i>) P. V. Dolganov and P. Cluzeau	062501
Periodic dynamics, localization metastability, and elastic interaction of colloidal particles with confining surfaces and helicoidal structure of cholesteric liquid crystals (<i>12 pages</i>) Michael C. M. Varney, Qiaoxuan Zhang, Mykola Tasinkevych, Nuno M. Silvestre, Kris A. Bertness, and Ivan I. Smalyukh	062502

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 90, NUMBER 6

DECEMBER 2014

Flow of granular matter in a silo with multiple exit orifices: Jamming to mixing (<i>7 pages</i>)	062206
Sandesh Kamath, Amit Kunte, Pankaj Doshi, and Ashish V. Orpe	
Simulation of cohesive fine powders under a plane shear (<i>12 pages</i>)	062207
Satoshi Takada, Kuniyasu Saitoh, and Hisao Hayakawa	
Structural characterization of submerged granular packings (<i>9 pages</i>)	062208
Z. M. Jakšić, J. R. Šćepanović, I. Lončarević, Lj. Budinski-Petković, S. B. Vrhovac, and A. Belić	
Colloids and Complex Fluids	
Manipulating chiral microswimmers in a channel (<i>7 pages</i>)	062301
Yunyun Li, Pulak K. Ghosh, Fabio Marchesoni, and Baowen Li	
 Absence of red structural color in photonic glasses, bird feathers, and certain beetles (<i>8 pages</i>)	062302
Sofia Magkiriadou, Jin-Gyu Park, Young-Seok Kim, and Vinothan N. Manoharan	
Multifractality in dilute magnetorheological fluids under an oscillating magnetic field (<i>9 pages</i>)	062303
R. E. Moctezuma, J. L. Arauz-Lara, and F. Donado	
Gaussian memory in kinematic matrix theory for self-propellers (<i>8 pages</i>)	062304
Amir Nourhani, Vincent H. Crespi, and Paul E. Lammert	
Vibrational and structural signatures of the crossover between dense glassy and sparse gel-like attractive colloidal packings (<i>7 pages</i>)	062305
Matthew A. Lohr, Tim Still, Raman Ganti, Matthew D. Gratale, Zoey S. Davidson, Kevin B. Aptowicz, Carl P. Goodrich, Daniel M. Sussman, and A. G. Yodh	
Existence of a liquid-liquid phase transition in methanol (<i>7 pages</i>)	062306
Matej Huš and Tomaz Urbic	
Active nematic materials with substrate friction (<i>6 pages</i>)	062307
Sumesh P. Thampi, Ramin Golestanian, and Julia M. Yeomans	
Phase transitions and self-organization of Janus disks in two dimensions studied by Monte Carlo simulations (<i>13 pages</i>)	062308
M. Borówko and W. Rżysko	
Inferring elastic properties of an fcc crystal from displacement correlations: Subspace projection and statistical artifacts (<i>11 pages</i>)	062309
A. Hasan and C. E. Maloney	
Echoes in x-ray speckles track nanometer-scale plastic events in colloidal gels under shear (<i>7 pages</i>)	062310
Michael C. Rogers, Kui Chen, Lukasz Andrzejewski, Suresh Narayanan, Subramanian Ramakrishnan, Robert L. Leheny, and James L. Harden	
Dynamical properties and melting of binary two-dimensional colloidal alloys (<i>11 pages</i>)	062311
I. R. O. Ramos, W. P. Ferreira, F. F. Munarin, and F. M. Peeters	
Activity-induced collapse and reexpansion of rigid polymers (<i>4 pages</i>)	062312
J. Harder, C. Valeriani, and A. Cacciuto	
Theory of coherent van der Waals matter (<i>23 pages</i>)	062313
Igor M. Kulić and Miodrag L. Kulić	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 90, NUMBER 6

DECEMBER 2014

Time reversal in nonequilibrium thermodynamics (<i>19 pages</i>)	062131
Michal Pavelka, Václav Klika, and Miroslav Grmela	
Crossover from a Kosterlitz-Thouless phase transition to a discontinuous phase transition in two-dimensional liquid crystals (<i>7 pages</i>)	062132
Richard L. C. Vink	
Strong-coupling phases of the anisotropic Kardar-Parisi-Zhang equation (<i>13 pages</i>)	062133
Thomas Kloss, Léonie Canet, and Nicolás Wschebor	
Efficiency at maximum power of a quantum Otto cycle within finite-time or irreversible thermodynamics (<i>8 pages</i>)	062134
Feilong Wu, Jizhou He, Yongli Ma, and Jianhui Wang	
Infinite densities for Lévy walks (<i>13 pages</i>)	062135
A. Rebenshtok, S. Denisov, P. Hänggi, and E. Barkai	
Crossover from rotational to stochastic sandpile universality in the random rotational sandpile model (<i>8 pages</i>)	062136
Himansu Bhaumik, Jahir Abbas Ahmed, and S. B. Santra	
Finite-size scaling above the upper critical dimension (<i>10 pages</i>)	062137
Matthew Wittmann and A. P. Young	
First-passage times, mobile traps, and Hopf bifurcations (<i>10 pages</i>)	062138
Justin C. Tzou, Shuangquan Xie, and Theodore Kolokolnikov	
Mechanics of anisotropic spring networks (<i>8 pages</i>)	062139
T. Zhang, J. M. Schwarz, and Moumita Das	
Optimization in finite-reservoir finite-time thermodynamics (<i>7 pages</i>)	062140
Yan Wang	
Ensemble inequivalence in a mean-field XY model with ferromagnetic and nematic couplings (<i>5 pages</i>)	062141
Arkady Pikovsky, Shamik Gupta, Tarcisio N. Teles, Fernanda P. C. Benetti, Renato Pakter, Yan Levin, and Stefano Ruffo	
Granular Materials	
Angularly anisotropic correlation in granular packings (<i>7 pages</i>)	062201
Chengjie Xia, Yixin Cao, Binqun Kou, Jindong Li, Yujie Wang, Xianghui Xiao, and Kamel Fezzaa	
Drag-force regimes in granular impact (<i>5 pages</i>)	062202
Mukesh Tiwari, T. R. Krishna Mohan, and Surajit Sen	
Numerical investigation of the vertical plunging force of a spherical intruder into a prefluidized granular bed (<i>10 pages</i>)	062203
Y. Xu, J. T. Padding, and J. A. M. Kuipers	
Shear viscosity of a model for confined granular media (<i>9 pages</i>)	062204
Rodrigo Soto, Dino Risso, and Ricardo Brito	
Low-frequency oscillations and convective phenomena in a density-inverted vibrofluidized granular system (<i>6 pages</i>)	062205
C. R. K. Windows-Yule, N. Rivas, D. J. Parker, and A. R. Thornton	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 90, NUMBER 6

DECEMBER 2014

Approach to asymptotically diffusive behavior for Brownian particles in media with periodic diffusivities (<i>6 pages</i>)	062114
David S. Dean and Thomas Guérin	
Waiting time distribution for continuous stochastic systems (<i>11 pages</i>)	062115
Robert Gernert, Clive Emary, and Sabine H. L. Klapp	
 Thermodynamic laws in isolated systems (<i>23 pages</i>)	062116
Stefan Hilbert, Peter Hänggi, and Jörn Dunkel	
Anomalous cross-field diffusion in a magnetic trap (<i>5 pages</i>)	062117
Sergey E. Savel'ev and Fabio Marchesoni	
Aperiodic compression and reconstruction of real-world material systems based on Wang tiles (<i>8 pages</i>)	062118
Martin Doškář, Jan Novák, and Jan Zeman	
Nonequilibrium density matrix in quantum open systems: Generalization for simultaneous heat and charge steady-state transport (<i>10 pages</i>)	062119
H. Ness	
Capturing the Landauer bound through the application of a detailed Jarzynski equality for entropic memory erasure (<i>11 pages</i>)	062120
Moupriya Das	
Interference of identical particles and the quantum work distribution (<i>15 pages</i>)	062121
Zongping Gong, Sebastian Deffner, and H. T. Quan	
Temperature-dependent thermal conductivities of one-dimensional nonlinear Klein-Gordon lattices with a soft on-site potential (<i>6 pages</i>)	062122
Linlin Yang, Nianbei Li, and Baowen Li	
Failure of steady-state thermodynamics in nonuniform driven lattice gases (<i>10 pages</i>)	062123
Ronald Dickman	
Optimal performance of endoreversible quantum refrigerators (<i>7 pages</i>)	062124
Luis A. Correa, José P. Palao, Gerardo Adesso, and Daniel Alonso	
Noncanonical statistics of a finite quantum system with non-negligible system-bath coupling (<i>6 pages</i>)	062125
D. Z. Xu (徐大智), Sheng-Wen Li (李圣文), X. F. Liu (刘旭峰), and C. P. Sun (孙昌璞)	
Glassy dynamics in confinement: Planar and bulk limits of the mode-coupling theory (<i>10 pages</i>)	062126
Simon Lang, Rolf Schilling, and Thomas Franosch	
Effect of measurement noise on Granger causality (<i>9 pages</i>)	062127
Hariharan Nalatore, Sasikumar N, and Govindan Rangarajan	
Intermittency and dynamical Lee-Yang zeros of open quantum systems (<i>10 pages</i>)	062128
James M. Hickey, Christian Flindt, and Juan P. Garrahan	
Localization in covariance matrices of coupled heterogeneous Ornstein-Uhlenbeck processes (<i>5 pages</i>)	062129
Paolo Barucca	
Driven inelastic Maxwell gases (<i>9 pages</i>)	062130
V. V. Prasad, Sanjib Sabhapandit, and Abhishek Dhar	

(Continued)

Fluid Dynamics

- Probing turbulence intermittency via autoregressive moving-average models (*4 pages*) 061001(R)
Davide Faranda, B  reng  re Dubrulle, Fran  ois Daviaud, and Flavio Maria Emanuele Pons

ARTICLES

Statistical Physics

- Method for estimating critical exponents in percolation processes with low sampling (*5 pages*) 062101
N. Bastas, K. Kosmidis, P. Giazitzidis, and M. Maragakis
- Boosting cooperation by involving extortion in spatial prisoner's dilemma games (*7 pages*) 062102
Zhi-Xi Wu and Zhihai Rong
- Velocity autocorrelation of a free particle driven by a Mittag-Leffler noise: Fractional dynamics and temporal behaviors (*8 pages*) 062103
A. D. Vi  ales and G. H. Paissan
- Two-point correlation function of an exclusion process with hole-dependent rates (*10 pages*) 062104
Priyanka, Arvind Ay  er, and Kavita Jain
- Reexamination of the nonperturbative renormalization-group approach to the Kosterlitz-Thouless transition (*10 pages*) 062105
P. Jakubczyk, N. Dupuis, and B. Delamotte
- Anisotropic interfacial tension, contact angles, and line tensions: A graphics-processing-unit-based Monte Carlo study of the Ising model (*13 pages*) 062106
Benjamin J. Block, Suam Kim, Peter Virnau, and Kurt Binder
- Second laws for an information driven current through a spin valve (*12 pages*) 062107
Philipp Strasberg, Gernot Schaller, Tobias Brandes, and Christopher Jarzynski
- Pinning time statistics for vortex lines in disordered environments (*6 pages*) 062108
Ulrich Dobramysl, Michel Pleimling, and Uwe C. T  uber
- Feedback network models for quantum transport (*13 pages*) 062109
John Gough
- Transport and fluctuation-dissipation relations in asymptotic and preasymptotic diffusion across channels with variable section (*10 pages*) 062110
Giuseppe Forte, Fabio Cecconi, and Angelo Vulpiani
- Effects of junctional correlations in the totally asymmetric simple exclusion process on random regular networks (*6 pages*) 062111
Yongjoo Baek, Meesoon Ha, and Hawoong Jeong
- Odd q -state clock spin-glass models in three dimensions, asymmetric phase diagrams, and multiple algebraically ordered phases (*7 pages*) 062112
Efe Ilker and A. Nihat Berker
-  Nonequilibrium statistical mechanics of a two-temperature Ising ring with conserved dynamics (*11 pages*) 062113
Nicholas Borchers, Michel Pleimling, and R. K. P. Zia

(Continued)

PHYSICAL REVIEW E™

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

PERIODICALS
Postmaster send address changes to:
APS Subscription Services
P.O. Box 41
Annapolis Junction, MD 20701

THIRD SERIES, VOLUME 90, NUMBER 6
PARTS A AND B

CONTENTS

DECEMBER 2014

The Table of Contents is a total listing of Parts A and B.
Part A consists of pages 060001–062719, and Part B pages 062801–069904(E).

PART A

EDITORIALS AND ANNOUNCEMENTS

Announcement: Increased Length Limit for Rapid Communications in *Physical Review E* (1 page) 060001

RAPID COMMUNICATIONS

Statistical Physics

Excess free energy of supercooled liquids at disordered walls (4 pages) 060101(R)

Ronald Benjamin and Jürgen Horbach

How nanomechanical systems can minimize dissipation (5 pages) 060102(R)

Paolo Muratore-Ginanneschi and Kay Schwieger

Granular Materials

Forces encountered by a sphere during impact into sand (5 pages) 060201(R)

Sylvain Joubaud, Tess Homan, Y. Gasteuil, Detlef Lohse, and Devaraj van der Meer

Colloids and Complex Fluids

Accounting for inertia effects to access the high-frequency microrheology of viscoelastic fluids (5 pages) 060301(R)

P. Domínguez-García, Frédéric Cardinaux, Elena Bertseva, László Forró, Frank Scheffold, and Sylvia Jeney

Liquid Crystals

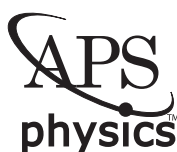
Metric theory of nematic elastic shells (5 pages) 060501(R)

L. M. Pismen

Polymers

Dynamics and limitations of spontaneous polyelectrolyte intrusion into a charged nanocavity (5 pages) 060601(R)

Qianqian Cao and Michael Bachmann



Copyright 2014 by American Physical Society

(Continued)



1539-3755(201412)90:6:A;1-H

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).