

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
Suite 1N01
2 Huntington Quadrangle
Melville, NY 11747-4502

THIRD SERIES, VOLUME 74, NUMBER 6

CONTENTS

DECEMBER 2006

PART 1: STATISTICAL SOFT MATTER, AND BIOLOGICAL PHYSICS

RAPID COMMUNICATIONS

Statistical physics

- Asymmetric heat conduction through a weak link (*4 pages*) 060101(R)
B. Hu, D. He, L. Yang, and Y. Zhang
- Scanning the critical fluctuations: Application to the phenomenology of the two-dimensional XY model
(*4 pages*) 060102(R)
Ricardo Paredes V. and Robert Botet

Equilibrium and linear transport properties of fluids

- Thermal rectifying effect in macroscopic size (*4 pages*) 060201(R)
B. Hu, D. He, L. Yang, and Y. Zhang

Colloidal dispersions, suspensions, and aggregates

- Small changes in particle-size distribution dramatically delay and enhance nucleation in hard sphere colloidal
suspensions (*4 pages*) 060401(R)
Hans Joachim Schöpe, Gary Bryant, and William van Megen

ARTICLES

Statistical physics

- Partially asymmetric exclusion processes with sitewise disorder (*10 pages*) 061101
Róbert Juhász, Ludger Santen, and Ferenc Igloi
- Monomer-dimer model in two-dimensional rectangular lattices with fixed dimer density (*15 pages*) 061102
Yong Kong
- Generalized diffusion equation for anisotropic anomalous diffusion (*4 pages*) 061103
S. Sellers and J. A. Barker
- Detrended fluctuation analysis for fractals and multifractals in higher dimensions (*8 pages*) 061104
Gao-Feng Gu and Wei-Xing Zhou
- Memory effects on the convergence properties of the Jarzynski equality (*7 pages*) 061105
S. Pressé and R. J. Silbey



Copyright 2006 by The American Physical Society



1539-3755(200612)74:6;1-N

(Continued)

Freezing of two-dimensional hard disks (<i>4 pages</i>)	061106
Adrián Huerta, Douglas Henderson, and Andriy Trokhymchuk	
Betti number signatures of homogeneous Poisson point processes (<i>11 pages</i>)	061107
Vanessa Robins	
Equations-of-motion approach to the spin- $\frac{1}{2}$ Ising model on the Bethe lattice (<i>19 pages</i>)	061108
Ferdinando Mancini and Adele Naddeo	
Statics and dynamics of elastic manifolds in media with long-range correlated disorder (<i>16 pages</i>)	061109
Andrei A. Fedorenko, Pierre Le Doussal, and Kay Jörg Wiese	
Application of the microcanonical multifractal formalism to monofractal systems (<i>13 pages</i>)	061110
Oriol Pont, Antonio Turiel, and Conrad J. Pérez-Vicente	
Intermediate dynamics between Newton and Langevin (<i>6 pages</i>)	061111
Jing-Dong Bao, Yi-Zhong Zhuo, Fernando A. Oliveira, and Peter Hänggi	
Statistics of the number of minima in a random energy landscape (<i>13 pages</i>)	061112
Satya N. Majumdar and Olivier C. Martin	
Test of the fluctuation theorem for stochastic entropy production in a nonequilibrium steady state (<i>8 pages</i>)	061113
A. Gomez-Marin and I. Pagonabarraga	
Role of global warming on the statistics of record-breaking temperatures (<i>14 pages</i>)	061114
S. Redner and Mark R. Petersen	
Exactly solvable cellular automaton traffic jam model (<i>6 pages</i>)	061115
Michael J. Kearney	
Role of an intermediate state in homogeneous nucleation (<i>7 pages</i>)	061116
Takaaki Monnai, Ayumu Sugita, and Katsuhiko Nakamura	
Validation of the Jarzynski relation for a system with strong thermal coupling: An isothermal ideal gas model (<i>10 pages</i>)	061117
A. Baule, R. M. L. Evans, and P. D. Olmsted	
Resonant symmetry lifting in a parametrically modulated oscillator (<i>10 pages</i>)	061118
D. Ryvkine and M. I. Dykman	
Dynamics of a metastable state nonlinearly coupled to a heat bath driven by external noise (<i>12 pages</i>)	061119
Jyotipratim Ray Chaudhuri, Debashis Barik, and Suman Kumar Banik	
Free-energy reconstruction from experiments performed under different biasing programs (<i>4 pages</i>)	061120
David D. L. Minh	
Percolation of particles on recursive lattices using a nanoscale approach. I. Theoretical foundation at the atomic level (<i>13 pages</i>)	061121
Andrea Corsi and P. D. Gujrati	
Percolation of particles on recursive lattices using a nanoscale approach. II. The effect of size and shape disparities (<i>17 pages</i>)	061122
Andrea Corsi and P. D. Gujrati	
Percolation of particles on recursive lattices using a nanoscale approach. III. Percolation of polydisperse particles in the presence of a polymer matrix (<i>15 pages</i>)	061123
Andrea Corsi and P. D. Gujrati	

Equilibrium and linear transport properties of fluids

- Stationary temperature profiles in a liquid nanochannel: Comparisons between molecular-dynamics simulation and classical hydrostatics (*10 pages*) 061201
Hisashi Okumura and David M. Heyes

Granular materials

- Rapid granular flows on a rough incline: Phase diagram, gas transition, and effects of air drag (*9 pages*) 061301
Tamás Börzsönyi and Robert E. Ecke
- Simulation study of granular compaction dynamics under vertical tapping (*14 pages*) 061302
D. Arsenović, S. B. Vrhovac, Z. M. Jakšić, Lj. Budinski-Petković, and A. Belić
- Quasirigidity: Some uniqueness issues (*14 pages*) 061303
Sean C. McNamara and Hans J. Herrmann
- Frequency distribution of mechanically stable disk packings (*20 pages*) 061304
Guo-Jie Gao, Jerzy Bławzdziwicz, and Corey S. O'Hern
- Transport coefficients for dense hard-disk systems (*11 pages*) 061305
Ramón García-Rojo, Stefan Luding, and J. Javier Brey
- Relationship between the flow rate and the packing fraction in the choke area of the two-dimensional granular flow (*6 pages*) 061306
Decai Huang, Gang Sun, and Kunquan Lu
- Dynamics and structures of segregation in a dense, vibrating granular bed (*13 pages*) 061307
Jin Sun, Francine Battaglia, and Shankar Subramaniam
- Random sequential addition of hard spheres in high Euclidean dimensions (*16 pages*) 061308
S. Torquato, O. U. Uche, and F. H. Stillinger
- Stochastic dynamics of a rod bouncing upon a vibrating surface (*9 pages*) 061309
H. S. Wright, Michael R. Swift, and P. J. King
- Granular elasticity: General considerations and the stress dip in sand piles (*10 pages*) 061310
Dmitry O. Krimer, Michael Pfitzner, Kurt Bräuer, Yimin Jiang, and Mario Liu
- Granular elasticity: Stress distributions in silos and under point loads (*10 pages*) 061311
Kurt Bräuer, Michael Pfitzner, Dmitry O. Krimer, Michael Mayer, Yimin Jiang, and Mario Liu

Colloidal dispersions, suspensions, and aggregates

- Micrometer-sized particles in a two-dimensional self-assembly during drying of liquid film (*6 pages*) 061401
F. Lallet and N. Olivi-Tran
- Mechanism for clogging of microchannels (*4 pages*) 061402
Hans M. Wyss, Daniel L. Blair, Jeffrey F. Morris, Howard A. Stone, and David A. Weitz
- Stratification of colloidal aggregation coupled with sedimentation (*14 pages*) 061403
Agustín E. González
- Observation of exchange of micropore water in cement pastes by two-dimensional T_2 - T_2 nuclear magnetic resonance relaxometry (*9 pages*) 061404
L. Monteilhet, J.-P. Korb, J. Mitchell, and P. J. McDonald

Structured and complex fluids

- Non-Gaussian effects, space-time decoupling, and mobility bifurcation in glassy hard-sphere fluids and suspensions (*13 pages*) 061501
 Erica J. Saltzman and Kenneth S. Schweizer

Films, interfaces, and crystal growth

- Interfacial states and far-from-equilibrium transitions in the epitaxial growth and erosion on (110) crystal surfaces (*16 pages*) 061601
 Artem Levandovsky, Leonardo Golubović, and Dorel Moldovan
- Intrinsically anomalous roughness of randomly crumpled thin sheets (*7 pages*) 061602
 Alexander S. Balankin, Orlando Susarrey Huerta, Rolando Cortes Montes de Oca, Didier Samayoa Ochoa, José Martínez Trinidad, and Maribel A. Mendoza
- Self-assembled treelike patterns from an evaporating binary solution (*8 pages*) 061603
 Leonid V. Govor, Günter Reiter, Gottfried H. Bauer, and Jürgen Parisi
- Symmetry-based determination of space-time functions in nonequilibrium growth processes (*14 pages*) 061604
 Andreas Röthlein, Florian Baumann, and Michel Pleimling
- Computer simulations of two-dimensional and three-dimensional ideal grain growth (*14 pages*) 061605
 Seong Gyoon Kim, Dong Ik Kim, Won Tae Kim, and Yong Bum Park
- Electrostatic potential and double layer force in a semiconductor-electrolyte-semiconductor heterojunction (*12 pages*) 061606
 S. J. Miklavcic and E. Said

Liquid crystals

- Simulation and visualization of topological defects in nematic liquid crystals (*9 pages*) 061701
 A. C. Callan-Jones, Robert A. Pelcovits, V. A. Slavin, S. Zhang, D. H. Laidlaw, and G. B. Lorient
- Influence of flexibility on the biaxial nematic phase of bent core liquid crystals: A Monte Carlo simulation study (*11 pages*) 061702
 Martin A. Bates
- Elastic actions exchanged by eccentric cylinders in liquid crystals (*14 pages*) 061703
 Riccardo Rosso, Epifanio G. Virga, and Samo Kralj
- Deuterium nuclear-magnetic-resonance study of a chiral smectic- C^* phase (*8 pages*) 061704
 J. Zhang, A. Ferraz, A. C. Ribeiro, P. J. Sebastião, and Ronald Y. Dong
- Enhanced photonic band edge laser emission in a cholesteric liquid crystal resonator (*7 pages*) 061705
 Ying Zhou, Yuhua Huang, Zhibing Ge, Liang-Pin Chen, Qi Hong, Thomas X. Wu, and Shin-Tson Wu
- Stabilizing the blue phases (*9 pages*) 061706
 G. P. Alexander and J. M. Yeomans
- Electroclinic effect in a chiral smectic-A liquid crystal stabilized by an anisotropic polymer network (*8 pages*) 061707
 Mohamed Petit, Abdelylah Daoudi, Mimoun Ismaili, and Jean Marc Buisine
- Lattice Boltzmann scheme for modeling liquid-crystal dynamics: Zenithal bistable device in the presence of defect motion (*14 pages*) 061708
 T. J. Spencer and C. M. Care

Correlations between the performance characteristics of a liquid crystal laser and the macroscopic material properties (<i>5 pages</i>)	061709
S. M. Morris, A. D. Ford, M. N. Pivnenko, O. Hadeler, and H. J. Coles	

Polymers

Crossover from reptation to Rouse dynamics in the cage model (<i>8 pages</i>)	061801
A. Drzewiński and J. M. J. van Leeuwen	
Nonlocal model for nematic liquid-crystal elastomers (<i>8 pages</i>)	061802
R. Ennis, L. C. Malacarne, P. Palfy-Muhoray, and M. Shelley	
Glass transition of polymers: Atomistic simulation versus experiments (<i>6 pages</i>)	061803
Armand Soldera and Noureddine Metatla	

Biological physics

Equilibration of experimentally determined protein structures for molecular dynamics simulation (<i>8 pages</i>)	061901
Emily B. Walton and Krystyn J. VanVliet	
Transition from long- to short-lived transient pores in giant vesicles in an aqueous medium (<i>10 pages</i>)	061902
Nicolas Rodriguez, Sophie Cribier, and Frédéric Pincet	
Nonperturbative retrieval of the scattering strength in one-dimensional media (<i>9 pages</i>)	061903
K. D. Lamb, S. Menon, Q. Su, and R. Grobe	
Dynamics of spiral pairs induced by unidirectional propagating pulses (<i>5 pages</i>)	061904
A. Rabinovitch, M. Gutman, Y. Biton, I. Aviram, and D. S. Rosenbaum	
Calcium dynamics on a stochastic reaction-diffusion lattice model (<i>6 pages</i>)	061905
Nara Guisoni and Mário J. de Oliveira	
Periodicity and chaos in electrically coupled Hindmarsh-Rose neurons (<i>3 pages</i>)	061906
R. Erichsen, Jr., M. S. Mainieri, and L. G. Brunnet	
Effect of supercoiling on formation of protein-mediated DNA loops (<i>14 pages</i>)	061907
P. K. Purohit and P. C. Nelson	
Phase transition in the collective migration of tissue cells: Experiment and model (<i>5 pages</i>)	061908
B. Szabó, G. J. Szöllösi, B. Gönci, Zs. Jurányi, D. Selmeczi, and Tamás Vicsek	
Light scattering regimes along the optical axis in turbid media (<i>10 pages</i>)	061909
S. D. Campbell, A. K. O'Connell, S. Menon, Q. Su, and R. Grobe	
Episodic synchronization in dynamically driven neurons (<i>8 pages</i>)	061910
Pablo Balenzuela, Javier M. Buldú, Marcos Casanova, and Jordi García-Ojalvo	
Protein fluctuations and breakdown of time-scale separation in rate theories (<i>5 pages</i>)	061911
Jianhua Xing and K. S. Kim	
Internal protein dynamics shifts the distance to the mechanical transition state (<i>5 pages</i>)	061912
Daniel K. West, Emanuele Paci, and Peter D. Olmsted	
Hydrodynamics of isotropic and liquid crystalline active polymer solutions (<i>23 pages</i>)	061913
Aphrodite Ahmadi, M. C. Marchetti, and T. B. Liverpool	

How to determine local elastic properties of lipid bilayer membranes from atomic-force-microscope measurements: A theoretical analysis (<i>12 pages</i>)	061914
Davood Norouzi, Martin Michael Müller, and Markus Deserno	

BRIEF REPORTS**Statistical physics**

Dimensional crossover of heat conduction in low dimensions (<i>3 pages</i>)	062101
L. Yang, P. Grassberger, and B. Hu	
Tight coupling in thermal Brownian motors (<i>3 pages</i>)	062102
A. Gomez-Marin and J. M. Sancho	

Films, interfaces, and crystal growth

Square-well fluids in confined space with discretely attractive wall-fluid potentials: Critical point shift (<i>4 pages</i>)	062601
Xianren Zhang and Wenchuan Wang	

Liquid crystals

Nonlinear refractive index measurements of discotic and calamitic nematic lyotropic phases (<i>4 pages</i>)	062701
N. M. Kimura, P. A. Santoro, P. R. G. Fernandes, R. C. Viscovini, S. L. Gómez, and A. J. Palangana	

COMMENTS

Comment on “Heat fluctuations in Brownian transducers” (<i>2 pages</i>)	063101
F. van Wijland	
Reply to “Comment on ‘Heat fluctuations in Brownian transducers’ ” (<i>1 page</i>)	063102
A. Gomez-Marin and J. M. Sancho	

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
Suite 1N01
2 Huntington Quadrangle
Melville, NY 11747-4502

THIRD SERIES, VOLUME 74, NUMBER 6

CONTENTS

DECEMBER 2006

PART 2: NONLINEAR AND PLASMA PHYSICS, FLUID DYNAMICS, AND RELATED TOPICS

RAPID COMMUNICATIONS

Chaos and pattern formation

- Collisions of pulses can lead to holes via front interaction in the cubic-quintic complex Ginzburg-Landau equation in an annular geometry (*4 pages*) 065201(R)
Orazio Descalzi, Jaime Cisternas, and Helmut R. Brand

Fluid dynamics

- Shear driven solitary waves on a liquid film (*4 pages*) 065301(R)
A. M. Frank

Plasma physics

- Relativistic plasma control for single attosecond x-ray burst generation (*4 pages*) 065401(R)
T. Baeva, S. Gordienko, and A. Pukhov

Classical physics, including nonlinear media and photonic materials

- Formation and light guiding properties of dark solitons in one-dimensional waveguide arrays (*4 pages*) 065601(R)
Eugene Smirnov, Christian E. Rüter, Milutin Stepić, Detlef Kip, and Vladimir Shandarov
- Inelastic scattering and interactions of three-wave parametric solitons (*4 pages*) 065602(R)
Matteo Conforti, Fabio Baronio, Antonio Degasperis, and Stefan Wabnitz

ARTICLES

Interdisciplinary physics

- Statistical mechanics of two hard spheres in a box (*10 pages*) 066101
Masayuki Uranagase and Toyonori Munakata
- Networks with dispersed degrees save stable coexistence of species in cyclic competition (*6 pages*) 066102
Naoki Masuda and Norio Konno
- Successive splitting of autowaves in a nonlinear chemical reaction medium (*6 pages*) 066103
Taiji Okano, Yuki Matsuda, and Kenji Miyakawa
- Oscillations of complex networks (*5 pages*) 066104
Xingang Wang, Ying-Cheng Lai, and Choy Heng Lai



Copyright 2006 by The American Physical Society



1539-3755(200612)74:6;2;1-M

(Continued)

Network models of phage-bacteria coevolution (<i>7 pages</i>)	066105
Martin Rosvall, Ian B. Dodd, Sandeep Krishna, and Kim Sneppen	
$1/f$ noise and avalanche scaling in plastic deformation (<i>5 pages</i>)	066106
L. Laurson and M. J. Alava	
Degree mixing and the enhancement of synchronization in complex weighted networks (<i>5 pages</i>)	066107
M. Chavez, D.-U. Hwang, J. Martinerie, and S. Boccaletti	
Tomography of scale-free networks and shortest path trees (<i>10 pages</i>)	066108
Tomer Kalisky, Reuven Cohen, Osnat Mokryn, Danny Dolev, Yuval Shavitt, and Shlomo Havlin	
Transient and stationary behavior of the Olami-Feder-Christensen model (<i>9 pages</i>)	066109
Felix Wissel and Barbara Drossel	
Dry friction avalanches: Experiment and theory (<i>12 pages</i>)	066110
Sergey V. Buldyrev, John Ferrante, and Fredy R. Zypman	
Cascade and breakdown in scale-free networks with community structure (<i>5 pages</i>)	066111
Jian-jun Wu, Zi-you Gao, and Hui-jun Sun	
Fitness model for the Italian interbank money market (<i>5 pages</i>)	066112
G. De Masi, G. Iori, and G. Caldarelli	
Epidemic dynamics of two species of interacting particles on scale-free networks (<i>5 pages</i>)	066113
Yong-Yeol Ahn, Hawoong Jeong, Naoki Masuda, and Jae Dong Noh	
Spreading dynamics on heterogeneous populations: Multitype network approach (<i>11 pages</i>)	066114
Alexei Vazquez	
Strong effects of network architecture in the entrainment of coupled oscillator systems (<i>14 pages</i>)	066115
Hiroshi Kori and Alexander S. Mikhailov	
Statistical mechanics of scale-free networks at a critical point: Complexity without irreversibility? (<i>5 pages</i>)	066116
Christoly Biely and Stefan Thurner	
Robust emergent activity in dynamical networks (<i>5 pages</i>)	066117
Sitabhra Sinha and Sudeshna Sinha	
Kinetic equations for reaction-subdiffusion systems: Derivation and stability analysis (<i>10 pages</i>)	066118
A. Yadav and Werner Horsthemke	
Chaos and pattern formation	
Breathing dissipative solitons in three-component reaction-diffusion system (<i>7 pages</i>)	066201
S. V. Gurevich, Sh. Amiranashvili, and H.-G. Purwins	
Ordering dynamics in type-II superconductors (<i>8 pages</i>)	066202
Nicholas Guttenberg and Nigel Goldenfeld	
Evaluation of dynamical models: Dissipative synchronization and other techniques (<i>16 pages</i>)	066203
Luis Antonio Aguirre, Edgar Campos Furtado, and Leonardo A. B. Tôrres	
Distinguishing chaos from noise by scale-dependent Lyapunov exponent (<i>9 pages</i>)	066204
J. B. Gao, J. Hu, W. W. Tung, and Y. H. Cao	
Adaptation to the edge of chaos in one-dimensional chaotic maps (<i>5 pages</i>)	066205
Hiroyasu Ando and Kazuyuki Aihara	

Chaotic dynamics and synchronization in microchip solid-state lasers with optoelectronic feedback (6 pages)	066206
Atsushi Uchida, Keisuke Mizumura, and Shigeru Yoshimori	
Synchronization of spontaneous bursting in a CO ₂ laser (6 pages)	066207
Riccardo Meucci, Francesco Salvadori, Mikhail V. Ivanchenko, Kais Al Naimee, Chansong Zhou, F. Tito Arcelli, S. Boccaletti, and J. Kurths	
Spectral form factor near the Ehrenfest time (5 pages)	066208
Piet W. Brouwer, Saar Rahav, and Chushun Tian	
Spiral wave dynamics under feedback via an equilateral triangular sensory domain (7 pages)	066209
Somprasong Naknaimueang, Michael A. Allen, and Stefan C. Müller	
Fluid dynamics	
Lyapunov exponents for small aspect ratio Rayleigh-Bénard convection (10 pages)	066301
J. D. Scheel and M. C. Cross	
Cascade of circulations in fluid turbulence (11 pages)	066302
Gregory L. Eyink	
Analytical and numerical study on a vortex sheet in incompressible Richtmyer-Meshkov instability in cylindrical geometry (12 pages)	066303
Chihiro Matsuoka and Katsunobu Nishihara	
Spatial correlation of temperature in turbulent Rayleigh-Bénard convection (5 pages)	066304
T. Haramina and A. Tilgner	
Physical distinction between rolling-grain ripples and vortex ripples: An experimental study (7 pages)	066305
Germain Rousseaux	
Dynamics of liquid rope coiling (10 pages)	066306
Mehdi Habibi, Maniya Maleki, Ramin Golestanian, Neil M. Ribe, and Daniel Bonn	
Optic cavitation in an ultrasonic field (7 pages)	066307
Thomas Kurz, Dennis Kröninger, Reinhard Geisler, and Werner Lauterborn	
Limits of the potential flow approach to the single-mode Rayleigh-Taylor problem (10 pages)	066308
P. Ramaprabhu, Guy Dimonte, Yuan-Nan Young, A. C. Calder, and B. Fryxell	
Sub- and superdiffusive molecular displacement laws in disordered porous media probed by nuclear magnetic resonance (7 pages)	066309
Yujie Li, German Farrher, and Rainer Kimmich	
Large- and small-scale interactions and quenching in an α^2 -dynamo (12 pages)	066310
Peter Frick, Rodion Stepanov, and Dmitry Sokoloff	
Liquid flow in surface-nanostructured channels studied by molecular dynamics simulation (7 pages)	066311
Bing-Yang Cao, Min Chen, and Zeng-Yuan Guo	
Plasma physics	
Role of excited atoms in decaying low-pressure argon plasma (10 pages)	066401
Sergey Gorchakov, Detlef Loffhagen, and Dirk Uhrlandt	

Characteristics of multiple filaments generated by femtosecond laser pulses in air: Prefocused versus free propagation (5 pages)	066402
Zuoqiang Hao, Jie Zhang, Zhe Zhang, Xiaohui Yuan, Zhiyuan Zheng, Xin Lu, Zhan Jin, Zhaohua Wang, Jiayong Zhong, and Yunquan Liu	
Rotational motion of dusty structures in glow discharge in longitudinal magnetic field (12 pages)	066403
V. Yu Karasev, E. S. Dzlieva, A. Yu. Ivanov, and A. I. Eikhvald	
Classical physics, including nonlinear media and photonic materials	
Stability diagram of unilateral buckling patterns of strip-delaminated films (7 pages)	066601
G. Parry, A. Cimetière, C. Coupeau, J. Colin, and J. Grilhé	
Optimization of soliton ratchets in inhomogeneous sine-Gordon systems (8 pages)	066602
F. G. Mertens, L. Morales-Molina, A. R. Bishop, A. Sánchez, and P. Müller	
Near-field characterization of effective optical interfaces (6 pages)	066603
A. Apostol, D. Haefner, and A. Dogariu	
Localized states in a triangular set of linearly coupled complex Ginzburg-Landau equations (6 pages)	066604
Ariel Sigler, Boris A. Malomed, and Dmitry V. Skryabin	
Superconducting pipes and levitating magnets (7 pages)	066605
Yan Levin and Felipe B. Rizzato	
High-order-mode soliton structures in two-dimensional lattices with defocusing nonlinearity (9 pages)	066606
P. G. Kevrekidis, H. Susanto, and Z. Chen	
Bragg transmittance of <i>s</i> -polarized waves through finite-thickness photonic crystals with a periodically corrugated interface (13 pages)	066607
A. E. Serebryannikov, T. Magath, and K. Schuenemann	
Hole-vortex solitons (8 pages)	066608
Aleksandr N. Bugay and Sergey V. Sazonov	
Broadband diffraction management and self-collimation of white light in photonic lattices (4 pages)	066609
Ivan L. Garanovich, Andrey A. Sukhorukov, and Yuri S. Kivshar	
Geometrical aspects in optical wave-packet dynamics (29 pages)	066610
Masaru Onoda, Shuichi Murakami, and Naoto Nagaosa	
Bragg-soliton formation and pulse compression in a one-dimensional periodic structure (5 pages)	066611
Amir Rosenthal and Moshe Horowitz	
Helmholtz-Manakov solitons (5 pages)	066612
J. M. Christian, G. S. McDonald, and P. Chamorro-Posada	
Frozen light in photonic crystals with degenerate band edge (17 pages)	066613
Alex Figotin and Ilya Vitebskiy	
Stable solitons of even and odd parities supported by competing nonlocal nonlinearities (6 pages)	066614
D. Mihalache, D. Mazilu, F. Lederer, L.-C. Crasovan, Y. V. Kartashov, L. Torner, and B. A. Malomed	
Matter-wave solitons in radially periodic potentials (18 pages)	066615
Bakhtiyor B. Baizakov, Boris A. Malomed, and Mario Salerno	

Computational physics

Inhomogeneous backflow transformations in quantum Monte Carlo calculations (<i>15 pages</i>)	066701
P. López Ríos, A. Ma, N. D. Drummond, M. D. Towler, and R. J. Needs	
Computational method for the quantum Hamilton-Jacobi equation: One-dimensional scattering problems (<i>9 pages</i>)	066702
Chia-Chun Chou and Robert E. Wyatt	
Bayesian update method for adaptive weighted sampling (<i>12 pages</i>)	066703
Sanghyun Park, Daniel L. Ensign, and Vijay S. Pande	
Parallel self-consistent-field calculations via Chebyshev-filtered subspace acceleration (<i>8 pages</i>)	066704
Yunkai Zhou, Yousef Saad, Murilo L. Tiago, and James R. Chelikowsky	
Vibrations of adsorbates on metal surfaces from geometry optimizations (<i>8 pages</i>)	066705
A. P. J. Jansen, C. Popa, and W. K. Offermans	

BRIEF REPORTS

Classical physics, including nonlinear media and photonic materials

Stability of discrete solitons in the presence of parametric driving (<i>4 pages</i>)	067601
H. Susanto, Q. E. Hoq, and P. G. Kevrekidis	
Analytical calculation of the self-force on a part of a current loop using standard electrodynamics (<i>4 pages</i>)	067602
Geetha Ajoy	
Modulational instability of spatially broadband nonlinear optical pulses in four-state atomic systems (<i>4 pages</i>)	067603
M. Marklund, P. K. Shukla, B. Bingham, and J. T. Mendonça	

COMMENTS

Comment on “Electron acceleration by an intense short pulse laser in a static magnetic field in vacuum” (<i>2 pages</i>)	068401
Shihua Huang and Fengmin Wu	
Comment on “Numerical methods for stochastic differential equations” (<i>2 pages</i>)	068701
Kevin Burrage, Pamela Burrage, Desmond J. Higham, Peter E. Kloeden, and Eckhard Platen	

ERRATA

Erratum: Particle-size distribution and packing fraction of geometric random packings [Phys. Rev. E 74 , 031309 (2006)] (<i>1 page</i>)	069901(E)
H. J. H. Brouwers	
Erratum: Relativistic Brownian motion: From a microscopic binary collision model to the Langevin equation [Phys. Rev. E 74 , 051106 (2006)] (<i>1 page</i>)	069902(E)
Jörn Dunkel and Peter Hänggi	
Erratum: Phase diagram and structure of colloid-polymer mixtures confined between walls [Phys. Rev. E 74 , 031601 (2006)] (<i>1 page</i>)	069903(E)
R. L. C. Vink, A. De Virgiliis, J. Horbach, and K. Binder	

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 74, NUMBER 6

DECEMBER 2006

Publisher's Note: Optimization of soliton ratchets in inhomogeneous sine-Gordon systems [Phys. Rev. E 74 , 066602 (2006)] (<i>1 page</i>)	069904(E)
F. G. Mertens, L. Morales-Molina, A. R. Bishop, A. Sánchez, and P. Müller	