PHYSICAL REVIEW E

For editorial and subscription correspondence, please see inside front cover
(ISSN: 1063-651X)

PERIODICALS
Postmaster send address changes to:
American Institute of Physics
Suite 1NO1
2 Huntington Quadrangle
Melville, NY 11747-4502

THIRD SERIES, VOLUME 61, NUMBER 5
PARTS A AND B

CONTENTS

MAY 2000

The Table of Contents is a total listing of Parts A and B.
Part A consists of pages R4675–5414, and Part B pages 5415–6044.

PART A

Note to Reader i

RAPID COMMUNICATIONS

General methods of statistical physics

Drift-controlled anomalous diffusion: A solvable Gaussian model R4675
Fabrizio Lillo and Rosario N. Mantegna
Fluctuation theorems for entropy production in open systems R4679
Lamberto Rondoni, Tamás Tél, and Jürgen Vollmer
Universality classes of driven lattice gases R4683
Pedro L. Garrido, Miguel A. Muñoz, and F. de los Santos
Driven tunneling dynamics: Bloch-Redfield theory versus path-integral approach R4687
Ludwig Hartmann, Igor Goychuk, Milena Grifoni, and Peter Hänggi

Chaos and nonlinear dynamical systems

Detection of fixed points in spatiotemporal signals by a clustering method R4691
A. Hutt, M. Svensén, F. Kruggel, and R. Friedrich
Experimental observation of localization in the spatial frequency domain of a kicked optical system R4694
Baruch Fischer, Amir Rosen, Alexander Bekker, and Shmuel Fishman

Classical fluids

Effect of wall deformations on a confined fluid R4698
J. Chakrabarti
Hysteresis at low Reynolds number: Onset of two-dimensional vortex shedding R4702
V. K. Horváth, J. R. Cressman, W. I. Goldburg, and X. L. Wu

Complex fluids, polymers, and granular materials

Steric interaction of an incoming particle with grafted rods: Exact solutions and unusual force profiles R4706
I. C. B. Miller and D. R. M. Williams
Genuine saddle point and nucleation potential for binary systems R4710
Jin-Song Li, Igor L. Maksimov, and Gerald Wilemski

Classical physics, including nonlinear media

A one- and two-dimensional nonlinear pulse interaction R4714
A. Ciattoni, A. Degasperis, and E. DelRe

Copyright 2000 by The American Physical Society

(Continued)

1063-651X(200005)61:5:A;1-1

PHYSICAL REVIEW E THIRD SERIES, VOLUME 61, NUMBER 5 MAY 2000

Method for determining antiphase dynamics in a multimode laser R4718
T. Hill, L. Stamatescu, and M. W. Hamilton
Noncollinear generation of optical spatiotemporal solitons and application to ultrafast digital logic R4722
Xiang Liu, Kale Beckwitt, and Frank Wise

ARTICLES

General methods of statistical physics

Stochastic resonance in one-dimensional diffusion with one reflecting and one absorbing end point 4726
M. Gitterman
Associative memory storing an extensive number of patterns based on a network of oscillators with distributed natural frequencies in the presence of external white noise 4732
Masahiko Yoshioka and Masatoshi Shiino
Quantum integrable system with two color components in two dimensions 4745
Mu-Lin Yan
Memory effects and macroscopic manifestation of randomness 4752
A. A. Stanislavsky
Effects of random fields in an antiferromagnetic Ising spin glass 4760
Selma R. Vieira, Fernando D. Nobre, and Carlos S. O. Yokoi
Nosé-Hoover chain method for nonequilibrium molecular dynamics simulation 4769
A. C. Brańka
Performance of discrete heat engines and heat pumps in finite time 4774
Tova Feldmann and Ronnie Kosloff
Analog of Planck's formula and effective temperature in classical statistical mechanics far from equilibrium 4791
Andrea Carati and Luigi Galgani
Analytical systematic approximate method of a two-state dissipative system 4795
Ke-lin Wang, Wei Jiang, Shao-long Wan, and Hai-jun Pan
Fluctuation-dissipation process without a time scale 4801
Mario Annunziato, Paolo Grigolini, and Juri Riccardi
Influence of additive noise on transitions in nonlinear systems 4809
P. S. Landa, A. A. Zaikin, V. G. Ushakov, and J. Kurths
Diluted networks of nonlinear resistors and fractal dimensions of percolation clusters 4821
H. K. Janssen and O. Stenull
Nonpotential effects in dynamics of fronts between convection patterns 4835
A. Hari and A. A. Nepomnyashchy
Detecting the onset of bifurcations and their precursors from noisy data 4848
Larsson Omberg, Kevin Dolan, Alexander Neiman, and Frank Moss
Corrections to scaling in the forest-fire model 4854
Romualdo Pastor-Satorras and Alessandro Vespignani
Categorization in a Hopfield network trained with weighted examples: Extensive number of concepts 4860
Rogério L. Costa and Alba Theumann
Wave fronts may move upstream in semiconductor superlattices 4866
A. Carpio, L. L. Bonilla, A. Wacker, and E. Schöll
Disturbances in a power transmission system 4877
M. L. Sachtjen, B. A. Carreras, and V. E. Lynch
Quasistationary distributions of dissipative nonlinear quantum oscillators in strong periodic driving fields 4883
Heinz-Peter Breuer, Wolfgang Huber, and Francesco Petruccione
Tunneling through a fluctuating barrier: Two-level model 4890
Jan Iwaniszewski

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 61, NUMBER 5** **MAY 2000**

Dynamics of zigzag destabilized solitary stripes in a dc-driven pattern-forming semiconductor gas-discharge system 4899
C. Strümpel, Yu. A. Astrov, E. Ammelt, and H.-G. Purwins

Rate processes in a delayed, stochastically driven, and overdamped system 4906
Steve Guillouzic, Ivan L'Heureux, and André Longtin

Cluster-variation–Padé-approximant method for the simple cubic Ising model 4915
Alessandro Pelizzola

Invasion percolation with long-range correlations: First-order phase transition and nonuniversal scaling properties 4920
Mark A. Knackstedt, Muhammad Sahimi, and Adrian P. Sheppard

Crossover from nonclassical to classical chemical kinetics in an initially separated $A+B\leftrightarrow C$ reaction-diffusion system with arbitrary diffusion constants 4935
Misha Sinder and Joshua Pelleg

Spiral wave dynamics in oscillatory inhomogeneous media 4943
Matthew Hendrey, Edward Ott, and Thomas M. Antonsen, Jr.

Noise sustained propagation: Local versus global noise 4954
M. Löcher, N. Chatterjee, F. Marchesoni, W. L. Ditto, and E. R. Hunt

Unequal intralayer coupling in a bilayer driven lattice gas 4962
Choon-Peng Chng and Jian-Sheng Wang

Impact of environmental noise on oscillatory pattern formation in crystal growth: Plagioclase feldspar 4972
Sergei Katsev and Ivan L'Heureux

One-dimensional partially asymmetric simple exclusion process on a ring with a defect particle 4980
Tomohiro Sasamoto

Integrated approach to the assessment of long range correlation in time series data 4991
Govindan Rangarajan and Mingzhou Ding

Percolation and spatial correlations in a two-dimensional continuum deposition model 5002
J. Asikainen and T. Ala-Nissila

Effect of bulk magnetic field on critical Ising films 5009
A. Drzewiński, A. Maciołek, and A. Ciach

Chaos and nonlinear dynamical systems

Topological scaling and gap filling at crisis 5019
K. Gábor Szabó, Ying-Cheng Lai, Tamás Tél, and Celso Grebogi

Extracting dynamics from threshold-crossing interspike intervals: Possibilities and limitations 5033
Alexey N. Pavlov, Olga V. Sosnovtseva, Erik Mosekilde, and Vadim S. Anishchenko

Influence of stable Floquet exponents on time-delayed feedback control 5045
Wolfram Just, Ekkehard Reibold, Krzysztof Kacperski, Piotr Fronczak, Janusz A. Hołyst, and Hartmut Benner

Quantum resonances and regularity islands in quantum maps 5057
V. V. Sokolov, O. V. Zhirov, D. Alonso, and G. Casati

Semiclassical inequivalence of polygonalized billiards 5073
Debabrata Biswas

Three coupled oscillators as a universal probe of synchronization stability in coupled oscillator arrays 5080
Kenneth S. Fink, Gregg Johnson, Tom Carroll, Doug Mar, and Lou Pecora

Learning-induced synchronization of a globally coupled excitable map system 5091
Yoshinori Hayakawa and Yasuji Sawada

Shape of attractors for three-dimensional dissipative dynamical systems 5098
S. Neukirch and H. Giacomini

Classical limit in terms of symbolic dynamics for the quantum baker's map 5108
Andrei N. Soklakov and Rüdiger Schack

(Continued)

PHYSICAL REVIEW E THIRD SERIES, VOLUME 61, NUMBER 5 MAY 2000

Anticipating chaotic synchronization 5115
Henning U. Voss
Eliminating spatiotemporal chaos and spiral waves by weak spatial perturbations 5120
Peng-Ye Wang and Ping Xie
Dynamical localization and partial-barrier localization in the Paul trap 5124
Sang Wook Kim and Hai-Woong Lee
Closed almost-periodic orbits in semiclassical quantization of generic polygons 5129
Debabrata Biswas
Stochastic resonance in noisy maps as dynamical threshold-crossing systems 5134
S. Matyjaśkiewicz, J. A. Hołyst, and A. Krawiecki
Learning driver-response relationships from synchronization patterns 5142
R. Quian Quiroga, J. Arnhold, and P. Grassberger
Adaptive estimation and control method for unstable periodic dynamics in spike trains 5149
David J. Christini and Daniel T. Kaplan
Synchronization plateaus in a lattice of coupled sine-circle maps 5154
Sandro E. de S. Pinto and Ricardo L. Viana
Noise-induced chaos in an optically injected semiconductor laser model 5162
S. K. Hwang, J. B. Gao, and J. M. Liu
Hamiltonian dynamics and geometry of phase transitions in classical XY models 5171
Monica Cerruti-Sola, Cecilia Clementi, and Marco Pettini

Classical fluids

Onset of convection in a binary mixture near the plait point 5191
Kausik S. Das and J. K. Bhattacharjee
Multiscale correlations and conditional averages in numerical turbulence 5195
Siegfried Grossmann, Detlef Lohse, and Achim Reeh
Electromotive force for an anisotropic turbulence: Intermediate nonlinearity 5202
Igor Rogachevskii and Nathan Kleeorin
Motion of hydrogen bonds in diluted HDO/D_2O solutions: Direct probing with 150 fs resolution 5211
S. Bratos, G. M. Gale, G. Gallot, F. Hache, N. Lascoux, and J.-Cl. Leicknam
Density-functional theory for vacancies in hard-sphere crystals 5218
Benito Groh
Influence of vacancies on the melting transition of hard disks in two dimensions 5223
Martin A. Bates and Daan Frenkel
Dissipation field asymmetry and intermittency in fully developed turbulence 5228
S. I. Vainshtein
Transition to turbulent thermal convection beyond $Ra=10^{10}$ detected in numerical simulations 5241
Alain P. Vincent and David A. Yuen
Bifurcation theory for three-dimensional flow in the wake of a circular cylinder 5247
Dwight Barkley, Laurette S. Tuckerman, and Martin Golubitsky
Mie scattering from a sonoluminescing bubble with high spatial and temporal resolution 5253
B. Gompf and R. Pecha
Contact line dynamics near the pinning threshold: A capillary rise and fall experiment 5257
Erik Schäffer and Po-zen Wong
Thermal noise and the stability of single sonoluminescing bubbles 5278
Ursula H. Augsdörfer, Allan K. Evans, and David P. Oxley
Toward a self-generating magnetic dynamo: The role of turbulence 5287
Nicholas L. Peffley, A. B. Cawthorne, and Daniel P. Lathrop
Lattice-Boltzmann algorithm for simulating thermal two-phase flow 5295
Bruce J. Palmer and David R. Rector

(Continued)

PHYSICAL REVIEW E THIRD SERIES, VOLUME 61, NUMBER 5 MAY 2000

Gravity in a lattice Boltzmann model 5307
J. M. Buick and C. A. Greated
Exact relationship for third-order structure functions in helical flows 5321
T. Gomez, H. Politano, and A. Pouquet
Bromomalonic-acid-induced transition from trigger wave to big wave in the Belousov-Zhabotinsky reaction 5326
Osamu Inomoto, Koji Abe, Takashi Amemiya, Tomohiko Yamaguchi, and Shoichi Kai
Structure and thermodynamic properties of a binary liquid in a porous matrix: The formalism 5330
Elisabeth Paschinger and Gerhard Kahl
Simple model for mixing at accelerated fluid interfaces with shear and compression 5339
John D. Ramshaw

Liquid crystals

Phonon self-energies and phase transitions in a prototype discotic liquid crystal 5345
M. Nöllmann and P. Etchegoin
Quasicritical behavior of dielectric permittivity in the isotropic phase of smectogenic *n*-cyanobiphenyls 5349
Aleksandra Drozd-Rzoska, Sylwester J. Rzoska, and Jerzy Zioło
Phase transitions from the isotropic liquid to liquid crystalline mesophases studied by linear and nonlinear static dielectric permittivity 5355
Aleksandra Drozd-Rzoska, Sylwester J. Rzoska, and Krzysztof Czupryñski
Pseudo-Casimir effect in nematic liquid crystals in frustrating geometries 5361
P. Ziherl, F. Karimi Pour Haddadan, R. Podgornik, and S. Žumer
Helix inversion in the chiral nematic and isotropic phases of a liquid crystal 5372
Benjamin P. Huff, Jacob J. Krich, and Peter J. Collings
Effect of photoisomerization of azobenzene dopants on the flexoelectric properties of short-pitch cholesteric liquid crystals 5379
Lachezar Komitov, Christian Ruslim, and Kunihiro Ichimura
Local field effects and the field-dependent dielectric response of polymer dispersed liquid crystals 5385
Ohad Levy
Dilution of nematic surface potentials: Statics 5401
André M. Sonnet and Epifanio G. Virga
Crystalline transitions in free-standing films of 4-*n*-heptyloxybenzylidene-4-*n*-heptylaniline 5407
Chih-Yu Chao, Chien-Rong Lo, and John T. Ho
Inversion in the change of the refractive index and memory effect near the nematic-isotropic phase transition in a lyotropic liquid crystal 5410
J. R. D. Pereira, A. J. Palangana, A. M. Mansanares, E. C. da Silva, A. C. Bento, and M. L. Baesso

PART B

Note to Reader i

Complex fluids, polymers, and granular materials

Effect of chainlike aggregates on dynamical properties of magnetic liquids 5415
Andrej Yu. Zubarev and Larisa Yu. Iskakova
Diffusion-limited aggregation: A revised mean-field approach 5422
Vladislav A. Bogoyavlenskiy and Natasha A. Chernova
Adsorption-desorption model and its application to vibrated granular materials 5429
J. Talbot, G. Tarjus, and P. Viot
Tip-splitting instabilities in the channel Saffman-Taylor flow of constant viscosity elastic fluids 5439
D. H. Vlad and J. V. Maher
Colloidal particles in emulsions 5445
Francisco L. Román, Matthias Schmidt, and Hartmut Löwen

(Continued)

PHYSICAL REVIEW E THIRD SERIES, VOLUME 61, NUMBER 5 MAY 2000

Internal structure of dense electrodeposits 5452
Christophe Léger, Juan Elezgaray, and Françoise Argoul
A two-time-scale, two-temperature scenario for nonlinear rheology 5464
Ludovic Berthier, Jean-Louis Barrat, and Jorge Kurchan
Replica-exchange molecular dynamics simulation for supercooled liquids 5473
Ryoichi Yamamoto and Walter Kob
Slow viscous flows in micropolar fluids 5477
Hisao Hayakawa
Independent ion migration in suspensions of strongly interacting charged colloidal spheres 5493
Dirk Hessinger, Martin Evers, and Thomas Palberg
Occurrence of coexisting dendrite morphologies: Immiscible fluid displacement in an anisotropic radial Hele-Shaw cell under a high flow rate regime 5507
A. G. Banpurkar, A. V. Limaye, and S. B. Ogale
Pattern selection induced by electroconvection in the electrodeposition of iron 5512
Ke-Qin Zhang, Mu Wang, Sheng Zhong, Guo-Xin Chen, and Nai-ben Ming
Semiflexible polymer on an anisotropic Bethe lattice 5520
J. F. Stilck, C. E. Cordeiro, and R. L. P. G. do Amaral
Wave number of maximal growth in viscous magnetic fluids of arbitrary depth 5528
Adrian Lange, Bert Reimann, and Reinhard Richter
Internal dynamics and elasticity of confined entropic gels 5540
E. K. Hobbie and A. D. Stewart
Tightness of random knotting 5545
Vsevolod Katritch, Wilma K. Olson, Alexander Vologodskii, Jacques Dubochet, and Andrzej Stasiak
Elasticity of Poissonian fiber networks 5550
J. A. Åström, J. P. Mäkinen, M. J. Alava, and J. Timonen
Mach cone shocks in a two-dimensional Yukawa solid using a complex plasma 5557
D. Samsonov, J. Goree, H. M. Thomas, and G. E. Morfill
Velocity distribution in granular gases of viscoelastic particles 5573
Nikolai V. Brilliantov and Thorsten Pöschel
Wavelength scaling of spiral patterns formed by granular media underneath a rotating fluid 5588
F. Zoueshtiagh and P. J. Thomas
Symmetric heaping in grains: A phenomenological model 5593
Pik-Yin Lai, L. C. Jia, and C. K. Chan
Patterns in thin vibrated granular layers: Interfaces, hexagons, and superoscillons 5600
D. Blair, I. S. Aranson, G. W. Crabtree, V. Vinokur, L. S. Tsimring, and C. Josserand

Biological physics

Enhancement of epidemic spread by noise and stochastic resonance in spatial network models with viral dynamics 5611
Henry C. Tuckwell, Laurent Toubiana, and Jean-Francois Vibert
Statistical analysis of genealogical trees for polygamic species 5620
Paolo De Los Rios and Oscar Pla
Species independence of mutual information in coding and noncoding DNA 5624
Ivo Grosse, Hanspeter Herzel, Sergey V. Buldyrev, and H. Eugene Stanley
Exact equations and scaling relations for $\overline{f}_0$ avalanche in the Bak-Sneppen evolution model 5630
W. Li and X. Cai
Critical swelling in single phospholipid bilayers 5634
P. C. Mason, B. D. Gaulin, R. M. Epand, and J. Katsaras
Base opening in RNA and DNA duplexes: Implication for RNA stability 5640
Y. Z. Chen, V. Mohan, and R. H. Griffey

(Continued)

PHYSICAL REVIEW E THIRD SERIES, VOLUME 61, NUMBER 5 MAY 2000

Microrheometry underestimates the values of the viscoelastic moduli in measurements on *F*-actin solutions compared to macrorheometry 5646
Frank G. Schmidt, Bernhard Hinner, and Erich Sackmann
Noise-induced memory in extended excitable systems 5654
Dante R. Chialvo, Guillermo A. Cecchi, and Marcelo O. Magnasco
Mean field theory for asymmetric neural networks 5658
H. J. Kappen and J. J. Spanjers
Time evolution of the Partridge-Barton model 5664
Roberto N. Onody and Nazareno G. F. de Medeiros
Clarification of the ripple phase of lecithin bilayers using fully hydrated, aligned samples 5668
J. Katsaras, S. Tristram-Nagle, Y. Liu, R. L. Headrick, E. Fontes, P. C. Mason, and J. F. Nagle
Epidemics and percolation in small-world networks 5678
Cristopher Moore and M. E. J. Newman
Enhanced coding in a cochlear-implant model using additive noise: Aperiodic stochastic resonance with tuning 5683
Robert P. Morse and Peter Roper

Plasma physics

Soft-x-ray laser scheme in a plasma created by optical-field-induced ionization of nitrogen 5693
S. Hulin, T. Auguste, P. D'Oliveira, P. Monot, S. Jacquemot, L. Bonnet, and E. Lefebvre
Temperature and impurity transport studies of heated tokamak plasmas by means of a collisional-radiative model of x-ray emission from Mo^{30+} to Mo^{39+} 5701
D. Pacella, K. B. Fournier, M. Zerbini, M. Finkenthal, M. Mattioli, M. J. May, and W. H. Goldstein
Nonlinear density wave theory for the spiral structure of galaxies 5710
S. Kondoh, R. Teramoto, and Z. Yoshida
Electron density separations in nonideal plasmas: Structure of Thomas-Fermi-like bound states and the Mott transition 5717
H. Lehmann
Explanations for the observed increase in fast electron penetration in laser shock compressed materials 5725
D. Batani, J. R. Davies, A. Bernardinello, F. Pisani, M. Koenig, T. A. Hall, S. Ellwi, P. Norreys, S. Rose, A. Djaoui, and D. Neely
Hydrogen dissociation in a H_2-N_2 pulsed dc glow discharge 5734
James M. Williamson and Biswa N. Ganguly

Physics of beams

Smith-Purcell radiation emission in aligned nanoparticles 5743
F. J. García de Abajo
Production of halo particles by excitation of collective modes in high-intensity charged particle beams 5753
Sean Strasburg and Ronald C. Davidson
Theory of Čerenkov and transition radiation from layered structures 5767
B. Lastdrager, A. Tip, and J. Verhoeven
Ultrashort free-electron laser pulse 5779
B. Hafizi, C. W. Roberson, and P. Sprangle

Classical physics, including nonlinear media

Manifestation of intrinsic defects in optical properties of self-organized opal photonic crystals 5784
Yu. A. Vlasov, V. N. Astratov, A. V. Baryshev, A. A. Kaplyanskii, O. Z. Karimov, and M. F. Limonov
Soliton formation from a pulse passing the zero-dispersion point in a nonlinear Schrödinger equation 5794
S. R. Clarke, R. H. J. Grimshaw, and Boris A. Malomed

(Continued)

PHYSICAL REVIEW E THIRD SERIES, VOLUME 61, NUMBER 5 MAY 2000

Density of states for a dielectric superlattice. II. TM polarization 5802
Jorge R. Zurita-Sánchez and P. Halevi
Compression of femtosecond light pulses by one-dimensional photonic crystals with two-component relaxing nonlinearity 5808
R. A. Vlasov and A. G. Smirnov
Effect of frequency detunings and finite relaxation rates on laser localized structures 5814
S. V. Fedorov, A. G. Vladimirov, G. V. Khodova, and N. N. Rosanov
Pulse-driven switching in one-dimensional nonlinear photonic band gap materials: a numerical study 5825
E. Lidorikis and C. M. Soukoulis
Stability analysis for extended models of gap solitary waves 5830
J. Schöllmann and A. P. Mayer
Perturbative study of classical Ablowitz-Ladik type soliton dynamics in relation to energy transport in α-helical proteins 5839
K. Kundu
Nonlinear Schrödinger flow in a periodic potential 5852
F. Barra, P. Gaspard, and S. Rica
Growth and decay of discrete nonlinear Schrödinger breathers interacting with internal modes or standing-wave phonons 5864
Magnus Johansson and Serge Aubry
Kink-breather solution in the weakly discrete Frenkel-Kontorova model 5880
S. V. Dmitriev, T. Miyauchi, K. Abe, and T. Shigenari
Instability of multiple pulses in coupled nonlinear Schrödinger equations 5886
Alice C. Yew, Björn Sandstede, and Christopher K. R. T. Jones
Multisoliton complexes on a background 5893
Andrey A. Sukhorukov and Nail N. Akhmediev
Coupling of near-grazing microwave photons to surface plasmon polaritons via a dielectric grating 5900
A. P. Hibbins, J. R. Sambles, and C. R. Lawrence
Interferometers and decoherence matrices 5907
D. Han, Y. S. Kim, and Marilyn E. Noz
Wave scattering from self-affine surfaces 5914
Ingve Simonsen, Damien Vandembroucq, and Stéphane Roux
Localization of light in disordered dielectrics: An approach based on spectral statistics 5918
Markus Saltzer and Hans A. Weidenmüller

Computational physics

Monte Carlo renormalization-group analysis of the lattice ϕ^4 model in $D=3,4$ 5924
M. Itakura
Criticality and crossover in accessible regimes 5930
G. Orkoulas, A. Z. Panagiotopoulos, and Michael E. Fisher
Generalized variational principle for the time-dependent Hartree-Fock equations for a Slater determinant 5940
H.-J. Kull and D. Pfirsch
Library design in combinatorial chemistry by Monte Carlo methods 5948
Marco Falcioni and Michael W. Deem
Nonsquare transfer-matrix technique applied to the simulation of electronic diffraction by a three-dimensional circular aperture 5953
A. Mayer and J.-P. Vigneron
Path-integral Monte Carlo simulations without the sign problem: Multilevel blocking approach for effective actions 5961
R. Egger, L. Mühlbacher, and C. H. Mak

(Continued)

PHYSICAL REVIEW E THIRD SERIES, VOLUME 61, NUMBER 5 MAY 2000

Solution of the quantum fluid dynamical equations with radial basis function interpolation 5967
Xu-Guang Hu, Tak-San Ho, Herschel Rabitz, and Attila Askar

BRIEF REPORTS

General methods of statistical physics

Viability of competing field theories for the driven lattice gas 5977
B. Schmittmann, H. K. Janssen, U. C. Täuber, R. K. P. Zia, K.-t. Leung, and J. L. Cardy
Model for correlations in stock markets 5981
Jae Dong Noh
$1/f^{\alpha}$ fluctuations in a ricepile model 5983
Shu-dong Zhang

Chaos and nonlinear dynamical systems

Noise-aided control of chaotic dynamics in a logistic map 5987
J. Escalona and P. Parmananda
Multiple short-term memories in coupled weakly nonlinear map lattices 5990
Antônio M. Batista, Ricardo L. Viana, and Sérgio R. Lopes
Momentum distributions for the quantum δ-kicked rotor with decoherence 5994
K. Vant, G. Ball, and N. Christensen
Critical signal strength for effective decoding in diode laser chaotic optical communications 5997
S. Sivaprakasam and K. A. Shore

Classical fluids

Long periodic waves on an even beach 6000
A. Shermenev and M. Shermeneva
Generalized Fourier law for heat flow in a fluid with a strong, nonuniform strain rate 6003
Peter. J. Daivis and J. L. Khayyam Coelho

Liquid crystals

Radial fluctuations and nonisotropic disclinations in nematic liquid crystals 6007
M. Simões, A. J. Palangana, and A. E. Gonçalves

Complex fluids, polymers, and granular materials

Force between two spherical inclusions in a nonlinear host medium 6011
L. Gao, Jones T. K. Wan, K. W. Yu, and Z. Y. Li
Finite resolution effects in the analysis of the scaling behavior of rough surfaces 6015
Javier Buceta, Juanma Pastor, Miguel A. Rubio, and F. Javier de la Rubia
Fluid-fluid transitions of hard spheres with a very-short-range attraction 6019
Richard P. Sear
Reinterpretation of a Kardar-Parisi-Zhang equation-based classification 6023
N. Neshkov

Biological physics

Correlated patterns in nonmonotonic graded-response perceptrons 6027
D. Bollé and T. Verbeiren

(Continued)

PHYSICAL REVIEW E **THIRD SERIES, VOLUME 61, NUMBER 5** **MAY 2000**

ERRATA

Erratum: Classical diffusion and quantum level velocities: Systematic deviations from random matrix theory [Phys. Rev. E **60**, 3992 (1999)] 6031

Arul Lakshminarayan, Nicholas R. Cerruti, and Steven Tomsovic

Selected Abstracts From Other Physical Review Journals 6032

Cumulative Author Index 6033