

CONTENTS - Continued

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 77, NUMBER 4

APRIL 2008

Kinetic theory for neuronal networks with fast and slow excitatory conductances driven by the same spike train (<i>13 pages</i>)	041915
Aaditya V. Rangan, Gregor Kovačič, and David Cai	
Conditions for self-consistent aggregation by chemotactic particles (<i>4 pages</i>)	041916
Masayo Inoue and Kunihiko Kaneko	
Exact probabilistic solution of spatial-dependent stochastics and associated spatial potential landscape for the bicoid protein (<i>6 pages</i>)	041917
David Lepzelter and Jin Wang	
Class-II neurons display a higher degree of stochastic synchronization than class-I neurons (<i>12 pages</i>)	041918
Sashi Marella and G. Bard Ermentrout	
Self-organizing patterns maintained by competing associations in a six-species predator-prey model (<i>6 pages</i>)	041919
György Szabó, Attila Szolnoki, and István Borsos	

BRIEF REPORTS

Statistical physics

Application range of Jarzynski's equation for boundary-switching processes (<i>4 pages</i>)	042101
Jaeyoung Sung	
Dumbbell diffusion in a spatially periodic potential (<i>4 pages</i>)	042102
Jochen Bammert, Steffen Schreiber, and Walter Zimmermann	

Equilibrium and linear transport properties of fluids

Correspondence between phase diagrams of the TIP5P water model and a spherically symmetric repulsive ramp potential with two characteristic length scales (<i>4 pages</i>)	042201
Zhenyu Yan, Sergey V. Buldyrev, Pradeep Kumar, Nicolas Giovambattista, and H. Eugene Stanley	

Structured and complex fluids

Plastic flow in polycrystal states in a binary mixture (<i>4 pages</i>)	042501
Toshiyuki Hamanaka, Hayato Shiba, and Akira Onuki	

Films, interfaces, and crystal growth

Theory of depinning of monolayer films adsorbed on a quartz crystal microbalance (<i>4 pages</i>)	042601
J. B. Sokoloff and I. Webman	
Crystallization of medium-length 1-alcohols in mesoporous silicon: An x-ray diffraction study (<i>4 pages</i>)	042602
Anke Henschel, Patrick Huber, and Klaus Knorr	

Biological physics

Effect of mutators on adaptability in time-varying fitness landscapes (<i>4 pages</i>)	042901
Pavel Gorodetsky and Emmanuel Tannenbaum	
Chaotic pulse transmission and spiral formation in a calcium oscillation model (<i>4 pages</i>)	042902
H. Sakaguchi and P. Wofo	

Phase transitions in pressurized semiflexible polymer rings (<i>11 pages</i>)	041802
Mithun K. Mitra, Gautam I. Menon, and R. Rajesh	
Phase behavior and dynamics of a micelle-forming triblock copolymer system (<i>7 pages</i>)	041803
P. Harsha Mohan and Ranjini Bandyopadhyay	
Writhe distribution of stiff biopolymers (<i>6 pages</i>)	041804
Abhijit Ghosh	
Biological physics	
Two-state approach to stochastic hair bundle dynamics (<i>13 pages</i>)	041901
Diana Clausnitzer, Benjamin Lindner, Frank Jülicher, and Pascal Martin	
Modeling of the damage dynamics of nanospheres exposed to x-ray free-electron-laser radiation (<i>4 pages</i>)	041902
Stefan P. Hau-Riege and Henry N. Chapman	
Optimizing the readout of morphogen gradients (<i>5 pages</i>)	041903
Eldon Emberly	
Dynamic states of cells adhering in shear flow: From slipping to rolling (<i>17 pages</i>)	041904
C. B. Korn and U. S. Schwarz	
Contact-mediated cell-assisted cell proliferation in a model eukaryotic single-cell organism: An explanation for the lag phase in shaken cell culture (<i>8 pages</i>)	041905
Carl Franck, Wui Ip, Albert Bae, Nathan Franck, Elijah Bogart, and Thanhbinh Thi Le	
Anomalous diffusion of a tethered membrane: A Monte Carlo investigation (<i>6 pages</i>)	041906
Hristina Popova and Andrey Milchev	
Effects of kink and flexible hinge defects on mechanical responses of short double-stranded DNA molecules (<i>8 pages</i>)	041907
Hu Chen and Jie Yan	
Structural property of regulatory elements in human promoters (<i>7 pages</i>)	041908
Xiao-Qin Cao, Jia Zeng, and Hong Yan	
Optimal placement of multiple morphogen sources (<i>9 pages</i>)	041909
Y. Morishita and Y. Iwasa	
Interactions between comoving magnetic microswimmers (<i>9 pages</i>)	041910
Eric E. Keaveny and Martin R. Maxey	
Stochastic analysis of a pulse-type prey-predator model (<i>9 pages</i>)	041911
Y. Wu and W. Q. Zhu	
Tortuosity and anomalous diffusion in the neuromuscular junction (<i>8 pages</i>)	041912
Daniel J. Lacks	
Method to calculate the moments of the membrane voltage in a model neuron driven by multiplicative filtered shot noise (<i>12 pages</i>)	041913
Lars Wolff and Benjamin Lindner	
Measuring interdependences in dissipative dynamical systems with estimated Fokker-Planck coefficients (<i>10 pages</i>)	041914
Jens Prusseit and Klaus Lehnertz	

Gas adsorption on a C_{60} monolayer (5 pages)	041603
R. A. Trasca, M. W. Cole, T. Coffey, and J. Krim	
Nucleation and polymorph selection in a model colloidal fluid (6 pages)	041604
Andrea Robben Browning, Michael F. Doherty, and Glenn H. Fredrickson	
Maximal- and minimal-height distributions of fluctuating interfaces (6 pages)	041605
T. J. Oliveira and F. D. A. Aarão Reis	
Slip boundary conditions for shear flow of polymer melts past atomically flat surfaces (8 pages)	041606
Anoosheh Niavarani and Nikolai V. Priezjev	
Rate equations and scaling in pulsed laser deposition (8 pages)	041607
A. C. Barato, H. Hinrichsen, and D. E. Wolf	
Sintering behavior of two roughened crystals just after contact (6 pages)	041608
Robert S. Farr and Martin J. Izzard	

Liquid crystals

Bridging the gap between phenomenology and microscopic theory: Asymptotes in nematic colloids (10 pages)	041701
T. G. Sokolovska, R. O. Sokolovskii, and G. N. Patey	
Self-assembly of polymer droplets in a nematic liquid crystal at phase separation (4 pages)	041702
Kosuke Kita, Masatoshi Ichikawa, and Yasuyuki Kimura	
Stripe domains in a nearly homeotropic nematic liquid crystal: A bend escaped state at a nematic–smectic-A transition (8 pages)	041703
V. M. Pergamenschchik, I. Lelidis, and V. A. Uzunova	
Statics and dynamics of radial nematic liquid-crystal droplets manipulated by laser tweezers (7 pages)	041704
Etienne Brasselet, Naoki Murazawa, Saulius Juodkazis, and Hiroaki Misawa	
Defects in nematic membranes can buckle into pseudospheres (9 pages)	041705
John R. Frank and Mehran Kardar	
Pattern evolution of an edge-dislocation array in a lyotropic lamellar phase confined in a wedge-shaped cell: Defect formation, relaxation, and recombination (14 pages)	041706
Yasutaka Iwashita and Hajime Tanaka	
Electro-optic and dielectric study of the de Vries–type smectic- A^* phase exhibiting transitions to smectic- C_A^* and smectic- C^* phases (12 pages)	041707
U. Manna, Jang-Kun Song, Yu. P. Panarin, Atsuo Fukuda, and J. K. Vij	
Alternating twist structures formed by electroconvection in the nematic phase of an achiral bent-core molecule (5 pages)	041708
Shingo Tanaka, Surajit Dhara, B. K. Sadashiva, Yoshio Shimbo, Yoichi Takanishi, Fumito Araoka, Ken Ishikawa, and Hideo Takezoe	
Thermal diffusivity and the conformal transformation on nematic liquid crystals (5 pages)	041709
M. Simões, A. J. Palangana, A. Steudel, N. M. Kimura, and S. L. Gómez	

Polymers

Modifications in solvent clusters embedded along the fibers of a cellulose polymer network cause paper degradation (9 pages)	041801
Marco De Spirito, Mauro Messori, Massimiliano Papi, Giuseppe Maulucci, Jose Teixeira, Carlo Castellano, and Giuseppe Arcovito	

Energy dissipation of a Brownian particle in a viscoelastic fluid (<i>6 pages</i>)	041403
Shoichi Toyabe and Masaki Sano	
Thermophoresis of charged colloidal particles (<i>8 pages</i>)	041404
Sébastien Fayolle, Thomas Bickel, and Alois Würger	
Stripe formation in an immiscible polymer blend under electric and shear-flow fields (<i>4 pages</i>)	041405
Yang-Ho Na, Tetsunori Shibuya, Seiji Ujiie, Tomoyuki Nagaya, and Hiroshi Orihara	
Melting of two-dimensional tunable-diameter colloidal crystals (<i>7 pages</i>)	041406
Y. Han, N. Y. Ha, A. M. Alsayed, and A. G. Yodh	
Superparamagnetic colloids confined in narrow corrugated substrates (<i>10 pages</i>)	041407
S. Herrera-Velarde and R. Castañeda-Priego	
Response of a colloidal gel to a microscopic oscillatory strain (<i>9 pages</i>)	041408
Myung Han Lee and Eric M. Furst	
Structure development of resorcinol-formaldehyde gels: Microphase separation or colloid aggregation (<i>13 pages</i>)	041409
Cedric J. Gommès and Anthony P. Roberts	
Multiple-well invasion percolation (<i>7 pages</i>)	041410
A. D. Araújo, M. C. Romeu, A. A. Moreira, R. F. S. Andrade, and J. S. Andrade, Jr.	
Unusual features of coarsening when detachment rates decrease with cluster mass (<i>11 pages</i>)	041411
F. D. A. Aarão Reis and R. B. Stinchcombe	
Structured and complex fluids	
Anomalous temperature behavior of nonlinear dielectric effect in supercooled nitrobenzene (<i>8 pages</i>)	041501
Aleksandra Drozd-Rzoska, Sylwester J. Rzoska, and Jerzy Ziolo	
Molecular plasticity of polymeric glasses in the elastic regime (<i>6 pages</i>)	041502
George J. Papakonstantopoulos, Robert A. Riggleman, Jean-Louis Barrat, and Juan J. de Pablo	
Neutron spectroscopy of water dynamics in NaX and NaA zeolites (<i>10 pages</i>)	041503
William A. Kamitakahara and Noboru Wada	
Mechanical heterogeneity in nanoscale films of liquid silica (<i>6 pages</i>)	041504
Daniel J. Lacks and Michael-Paul Robinson	
Reversible plastic events in amorphous materials (<i>4 pages</i>)	041505
Micah Lundberg, Kapilanjani Krishan, Ning Xu, Corey S. O'Hern, and Michael Dennin	
Spherically averaged versus angle-dependent interactions in quadrupolar fluids (<i>12 pages</i>)	041506
B. M. Mognetti, M. Oettel, L. Yelash, P. Virnau, W. Paul, and K. Binder	
Shear banding and yield stress in soft glassy materials (<i>5 pages</i>)	041507
P. C. F. Møller, S. Rodts, M. A. J. Michels, and Daniel Bonn	
Films, interfaces, and crystal growth	
Alternating morphology transitions in crystallization of NH ₄ Cl on agar plates (<i>9 pages</i>)	041601
Ya-Fang Tu, Rong-Bin Wei, Jian-Ping Sang, Sheng-You Huang, and Xian-Wu Zou	
Fingered growth in channel geometry: A Loewner-equation approach (<i>12 pages</i>)	041602
T. Gubiec and P. Szymczak	

CONTENTS - Continued

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 77, NUMBER 4

APRIL 2008

Geometrical frustration in two dimensions: Idealizations and realizations of a hard-disk fluid in negative curvature (<i>14 pages</i>)	041125
Carl D. Modes and Randall D. Kamien	
Stochastic simulation of dissipation and non-Markovian effects in open quantum systems (<i>7 pages</i>)	041126
Denis Lacroix	
Coupled heat devices in linear irreversible thermodynamics (<i>12 pages</i>)	041127
B. Jiménez de Cisneros and A. Calvo Hernández	
Weak and strong coupling in a two-lane asymmetric exclusion process (<i>13 pages</i>)	041128
Rui Jiang, Mao-Bin Hu, Yong-Hong Wu, and Qing-Song Wu	
Nonequilibrium fluctuation theorems in the presence of local heating (<i>7 pages</i>)	041129
Punyabrata Pradhan, Yariv Kafri, and Dov Levine	
Jamming probabilities for a vacancy in the dimer model (<i>8 pages</i>)	041130
V. S. Poghosyan, V. B. Priezhev, and P. Ruelle	
Equilibrium and linear transport properties of fluids	
Structural anomalies of fluids: Origins in second and higher coordination shells (<i>10 pages</i>)	041201
William P. Krekelberg, Jeetain Mittal, Venkat Ganesan, and Thomas M. Truskett	
Viscosity of nitrogen measured to pressures of 7 GPa and temperatures of 573 K (<i>5 pages</i>)	041202
Evan H. Abramson and Hoku West-Foyle	
Granular materials	
Granular flow in rotating cylinders with noncircular cross sections (<i>9 pages</i>)	041301
D. V. N. Prasad and D. V. Khakhar	
Anomalous behavior of a single particle falling through a funnel (<i>9 pages</i>)	041302
Yuan Fang, Ming Gao, Jonathan J. Wylie, and Qiang Zhang	
Effects of friction and disorder on the quasistatic response of granular solids to a localized force (<i>19 pages</i>)	041303
C. Goldenberg and I. Goldhirsch	
Structural characterization and statistical properties of two-dimensional granular systems (<i>10 pages</i>)	041304
Gad Frenkel, Raphael Blumenfeld, Zdenek Grof, and Peter R. King	
Instabilities and patterns in horizontally oscillating particulate suspension (<i>13 pages</i>)	041305
Meheboob Alam and Arzhang Khalili	
Start and stop of an avalanche in a granular medium subjected to an inner water flow (<i>12 pages</i>)	041306
P. Philippe and T. Richard	
Evolving loop structure in gradually tilted two-dimensional granular packings (<i>8 pages</i>)	041307
Ashley G. Smart and Julio M. Ottino	
Colloidal dispersions, suspensions, and aggregates	
Disordering transitions and peak effect in polydisperse particle systems (<i>8 pages</i>)	041401
C. Reichhardt and C. J. Olson Reichhardt	
Shear-induced fluid-tracer diffusion in a semidilute suspension of spheres (<i>9 pages</i>)	041402
Takuji Ishikawa and Takami Yamaguchi	

(Continued)