



Mixing and interleaving of layers of particles in a viscoelastic fluid driven by a background force. Particles originating from different quadrants are colored blue, green, red, and yellow. See article 094501.

PHYSICAL REVIEW LETTERS

Contents

Articles published 22 August–28 August 2009

VOLUME 103, NUMBER 9

28 August 2009

General Physics: Statistical and Quantum Mechanics, Quantum Information, etc.

Laboratory Test of the Isotropy of Light Propagation at the 10^{-17} Level	090401
Ch. Eisele, A. Yu. Nevsky, and S. Schiller	
Integral Relations for Three-Body Continuum States with the Adiabatic Expansion	090402
P. Barletta, C. Romero-Redondo, A. Kievsky, M. Viviani, and E. Garrido	
Time-Resolved Measurement of Landau-Zener Tunneling in Periodic Potentials	090403
A. Zenesini, H. Lignier, G. Tayebirad, J. Radogostowicz, D. Ciampini, R. Mannella, S. Wimberger, O. Morsch, and E. Arimondo	
Error Threshold for Color Codes and Random Three-Body Ising Models	090501
Helmut G. Katzgraber, H. Bombin, and M. A. Martin-Delgado	
Holonomic Quantum Computation in Subsystems	090502
Ognyan Oreshkov	
Quantifying Multipartite Nonlocality	090503
Jean-Daniel Bancal, Cyril Branciard, Nicolas Gisin, and Stefano Pironio	
Quantum Walk of a Trapped Ion in Phase Space	090504
H. Schmitz, R. Matjeschk, Ch. Schneider, J. Glueckert, M. Enderlein, T. Huber, and T. Schaetz	
Generalized Fluctuation-Dissipation Theorem for Steady-State Systems	090601
J. Prost, J.-F. Joanny, and J.M. Parrondo	
Condensation in Temporally Correlated Zero-Range Dynamics	090602
Ori Hirschberg, David Mukamel, and Gunter M. Schütz	
Ratchet Effects Induced by Terahertz Radiation in Heterostructures with a Lateral Periodic Potential	090603
P. Olbrich, E.L. Ivchenko, R. Ravash, T. Feil, S.D. Danilov, J. Allerdings, D. Weiss, D. Schuh, W. Wegscheider, and S.D. Ganichev	
Collisional Losses, Decoherence, and Frequency Shifts in Optical Lattice Clocks with Bosons	090801
Ch. Lisdat, J.S. Winfred, T. Middelmann, F. Riehle, and U. Sterr	

Gravitation and Astrophysics

Solutions to Hořava Gravity	091301
H. Lü, Jianwei Mei, and C.N. Pope	
First Cosmological Constraints on Dark Energy from the Radial Baryon Acoustic Scale	091302
Enrique Gaztañaga, Ramon Miquel, and Eusebio Sánchez	
How to Suppress the Shot Noise in Galaxy Surveys	091303
Uroš Seljak, Nico Hamaus, and Vincent Desjacques	
Lenses in the Forest: Cross Correlation of the Lyman- α Flux with Cosmic Microwave Background Lensing	091304
Alberto Vallinotto, Sudeep Das, David N. Spergel, and Matteo Viel	

(Continued Inside)

Selected for a Viewpoint in *Physics*. Please visit <http://physics.aps.org/>.

By suggesting a few manuscripts each week, we hope to promote reading across fields. Please see our Announcement Phys. Rev. Lett. 98, 010001 (2007).



Elementary Particles and Fields

Holographic Superconductor Vortices	091601
Marc Montull, Alex Pomarol, and Pedro J. Silva	
Dynamics of Charged Events	091602
Constantin Bachas, Claudio Bunster, and Marc Henneaux	
Large Hadron Collider Probe of Supersymmetric Neutrinoless Double-Beta-Decay Mechanism	091801
B.C. Allanach, C.H. Kom, and H. Päs	
Pragmatic Approach to the Little Hierarchy Problem: The Case for Dark Matter and Neutrino Physics	091802
Bohdan Grzadkowski and José Wudka	
First Observation of Vector Boson Pairs in a Hadronic Final State at the Tevatron Collider	091803
T. Aaltonen <i>et al.</i> (CDF Collaboration)	
☞ Observation of Single Top-Quark Production	092001
V.M. Abazov <i>et al.</i> (D0 Collaboration)	
☞ Observation of Electroweak Single Top-Quark Production	092002
T. Aaltonen <i>et al.</i> (CDF Collaboration)	
Probing the Infrared Quark Mass from Highly Excited Baryons	092003
P. Bicudo, M. Cardoso, T. Van Cauteren, and Felipe J. Llanes-Estrada	
Two-Photon Exchange in Elastic Electron-Proton Scattering: A QCD Factorization Approach	092004
Nikolai Kivel and Marc Vanderhaeghen	

Nuclear Physics

K/π Fluctuations at Relativistic Energies	092301
B.I. Abelev <i>et al.</i> (STAR Collaboration)	
Search for Stable Strange Quark Matter in Lunar Soil	092302
K. Han, J. Ashenfelter, A. Chikanian, W. Emmet, L.E. Finch, A. Heinz, J. Madsen, R.D. Majka, B. Monreal, and J. Sandweiss	
Possible Stimulation of Nuclear α Decay by Superfluid Helium	092501
A.L. Barabanov	

Atomic, Molecular, and Optical Physics

Classical Aspects in Above-Threshold Ionization with a Midinfrared Strong Laser Field	093001
W. Quan, Z. Lin, M. Wu, H. Kang, H. Liu, X. Liu, J. Chen, J. Liu, X.T. He, S.G. Chen, H. Xiong, L. Guo, H. Xu, Y. Fu, Y. Cheng, and Z.Z. Xu	
Frequency Matching in Light-Storage Spectroscopy of Atomic Raman Transitions	093601
Leon Karpa, Gor Nikoghosyan, Frank Vewinger, Michael Fleischhauer, and Martin Weitz	
☞ Optical Precursors with Electromagnetically Induced Transparency in Cold Atoms	093602
Dong Wei, J.F. Chen, M.M. Loy, G.K. Wong, and Shengwang Du	

Nonlinear Dynamics, Fluid Dynamics, Classical Optics, etc.

Gyrotropy of a Metamolecule: Wire on a Torus	093901
N. Papasimakis, V.A. Fedotov, K. Marinov, and N.I. Zheludev	
Observation of $\mathcal{PT}$ -Symmetry Breaking in Complex Optical Potentials	093902
A. Guo, G.J. Salamo, D. Duchesne, R. Morandotti, M. Volatier-Ravat, V. Aimez, G.A. Siviloglou, and D.N. Christodoulides	
Time's Barbed Arrow: Irreversibility, Crypticity, and Stored Information	094101
James P. Crutchfield, Christopher J. Ellison, and John R. Mahoney	
Transition to Mixing and Oscillations in a Stokesian Viscoelastic Flow	094501
Becca Thomases and Michael Shelley	

Plasma and Beam Physics

Oblique Double Layers: A Comparison between Terrestrial and Auroral Measurements	095001
C. Charles, R.W. Boswell, and R. Hawkins	

(Continued on Preceding Page)



Selected for a Viewpoint in *Physics*. Please visit <http://physics.aps.org/>.

By suggesting a few manuscripts each week, we hope to promote reading across fields. Please see our Announcement Phys. Rev. Lett. 98, 010001 (2007).

Contents (Continued)

Characterizations of Low-Frequency Zonal Flow in the Edge Plasma of the HL-2A Tokamak	095002
A.D. Liu, T. Lan, C.X. Yu, H.L. Zhao, L.W. Yan, W.Y. Hong, J.Q. Dong, K.J. Zhao, J. Qian, J. Cheng, X.R. Duan, and Y. Liu	
Observation of Narrow-Band Terahertz Coherent Cherenkov Radiation from a Cylindrical Dielectric-Lined Waveguide	095003
A.M. Cook, R. Tikhoplav, S.Y. Tochitsky, G. Travish, O.B. Williams, and J.B. Rosenzweig	
Condensed Matter: Structure, etc.	
Enhanced Heat Flow in the Hydrodynamic Collisionless Regime	095301
R. Meppelink, R. van Rooij, J.M. Vogels, and P. van der Straten	
p -Wave Resonant Bose Gas: A Finite-Momentum Spinor Superfluid	095302
Leo Radzihovsky and Sungsoo Choi	
Structure of Amorphous Aluminum Oxide	095501
Sung Keun Lee, Sung Bo Lee, Sun Young Park, Yoo Soo Yi, and Chi Won Ahn	
Radiation-Induced Premelting of Ice at Silica Interfaces	095502
S. Schöder, H. Reichert, H. Schröder, M. Mezger, J.S. Okasinski, V. Honkimäki, J. Bilgram, and H. Dosch	
Nanoscale Pit Formation at 2D Ge Layers on Si: Influence of Energy and Entropy	096101
Konstantin Romanyuk, Jacek Brona, and Bert Voigtländer	
Efficient Implementation of a van der Waals Density Functional: Application to Double-Wall Carbon Nanotubes	096102
Guillermo Román-Pérez and José M. Soler	
Energetics and Dynamics of H_2 Adsorbed in a Nanoporous Material at Low Temperature	096103
Lingzhu Kong, Guillermo Román-Pérez, José M. Soler, and David C. Langreth	
Atom-By-Atom Quantum State Control in Adatom Chains on a Semiconductor	096104
Stefan Fölsch, Jianshu Yang, Christophe Nacci, and Kiyoshi Kanisawa	
Dispersed Forces from Measured Shape Anisotropy of Adatom Islands: Revelations from an Accelerated Simulation Scheme	096105
Frits Rabbering, Abdelkader Kara, Herbert Wormeester, Teun Warnaar, Oleg Trushin, Talat S. Rahman, and Bene Poelsema	
Condensed Matter: Electronic Properties, etc.	
Wave-Packet Dynamics in Chains with Delayed Electronic Nonlinear Response	096401
F.A. de Moura, Iram Gléria, I.F. dos Santos, and M.L. Lyra	
Large Violation of the Wiedemann-Franz Law in Luttinger Liquids	096402
Arti Garg, David Rasch, Efrat Shimshoni, and Achim Rosch	
First-Principles Simulations of Heavy Fermion Cerium Compounds Based on the Kondo Lattice	096403
Munehisa Matsumoto, Myung Joon Han, Junya Otsuki, and Sergey Y. Savrasov	
Dynamics of the Formation and Decay of Coherence in a Polariton Condensate	096404
E. del Valle, D. Sanvitto, A. Amo, F.P. Laussy, R. André, C. Tejedor, and L. Viña	
Acceptor Levels in p -Type Cu_2O : Rationalizing Theory and Experiment	096405
David O. Scanlon, Benjamin J. Morgan, Graeme W. Watson, and Aron Walsh	
Resonant Correlation-Induced Optical Bistability in an Electron System on Liquid Helium	096801
Denis Konstantinov, M.I. Dykman, M.J. Lea, Yuriy Monarkha, and Kimitoshi Kono	
Observation of a Novel Orbital Selective Mott Transition in $Ca_{1.8}Sr_{0.2}RuO_4$	097001
M. Neupane, P. Richard, Z.-H. Pan, Y.-M. Xu, R. Jin, D. Mandrus, X. Dai, Z. Fang, Z. Wang, and H. Ding	
Energy Decay in Superconducting Josephson-Junction Qubits from Nonequilibrium Quasiparticle Excitations	097002
John M. Martinis, M. Ansmann, and J. Aumentado	
Enhancement of Superconductivity near the Ferromagnetic Quantum Critical Point in UCoGe	097003
E. Slooten, T. Naka, A. Gasparini, Y.K. Huang, and A. de Visser	
Stabilization of Antiferromagnetic Order in FeO Nanolayers	097201
S. Couet, K. Schlage, R. Rüffer, S. Stankov, Th. Diederich, B. Laenens, and R. Röhlberger	
Direct Imaging of Nanoscale Phase Separation in $La_{0.55}Ca_{0.45}MnO_3$: Relationship to Colossal Magnetoresistance	097202
J. Tao, D. Niebieskikwiat, M. Varela, W. Luo, M.A. Schofield, Y. Zhu, M.B. Salamon, J.M. Zuo, S.T. Pantelides, and S.J. Pennycook	

(Continued on Preceding Page)



Selected for a Viewpoint in *Physics*. Please visit <http://physics.aps.org/>.

By suggesting a few manuscripts each week, we hope to promote reading across fields. Please see our Announcement Phys. Rev. Lett. 98, 010001 (2007).

Contents (Continued)

Orientation Dependence of the Intrinsic Anomalous Hall Effect in hcp Cobalt	097203
Eric Roman, Yuriy Mokrousov, and Ivo Souza	
Low Ordered Magnetic Moment by Off-Diagonal Frustration in Undoped Parent Compounds to Iron-Based High- T_c Superconductors	097204
J.P. Rodriguez and E.H. Rezayi	
Orbital Order at Mn and O Sites and Absence of Zener Polaron Formation in Manganites	097205
M. García-Fernández, U. Staub, Y. Bodenthin, V. Scagnoli, V. Pomjakushin, S.W. Lovesey, A. Mirone, J. Herrero-Martín, C. Piamonteze, and E. Pomjakushina	
Radiation Characteristics of Electromagnetic Eigenmodes at the Corrugated Interface of a Left-Handed Material	097401
Mauro Cuevas and Ricardo A. Depine	
Ultrafast Coupling between Light, Coherent Lattice Vibrations, and the Magnetic Structure of Semicovalent LaMnO_3	097402
S. Wall, D. Prabhakaran, A.T. Boothroyd, and A. Cavalleri	
Nonlocal Optical Response of Metal Nanostructures with Arbitrary Shape	097403
Jeffrey M. McMahon, Stephen K. Gray, and George C. Schatz	
Comments	
Comment on “Hypersharp Resonant Capture of Neutrinos as a Laboratory Probe of the Planck Length”	099101
W. Potzel and F.E. Wagner	
Comment on “Hypersharp Resonant Capture of Neutrinos as a Laboratory Probe of the Planck Length”	099102
J.P. Schiffer	
Raghavan Replies	099103
R. S. Raghavan	
Comment on “Self-Diffusion in 2D Dusty-Plasma Liquids: Numerical-Simulation Results”	099501
T. Ott, M. Bonitz, and P. Hartmann	
Hou, Piel, and Shukla Reply	099502
Lu-Jing Hou, Alexander Piel, and P.K. Shukla	
Errata	
Erratum: Quantum Jumps between Macroscopic Quantum States of a Superconducting Qubit Coupled to a Microscopic Two-Level System [Phys. Rev. Lett. 101 , 157001 (2008)]	099901
Yang Yu, Shi-Liang Zhu, Guozhu Sun, Xueda Wen, Ning Dong, Jian Chen, Peiheng Wu, and Siyuan Han	
Erratum: Why Does the Sun’s Torsional Oscillation Begin before the Sunspot Cycle? [Phys. Rev. Lett. 102 , 041102 (2009)]	099902
Sagar Chakraborty, Arnab Rai Choudhuri, and Piyali Chatterjee	
Publisher’s Note: Collective States of Interacting Anyons, Edge States, and the Nucleation of Topological Liquids [Phys. Rev. Lett. 103 , 070401 (2009)]	099903
Charlotte Gils, Eddy Ardonne, Simon Trebst, Andreas W. Ludwig, Matthias Troyer, and Zhenghan Wang	
Erratum: Impact of Impurities on the Thermal Conductivity of Semiconductor Nanostructures: First-Principles Theory [Phys. Rev. Lett. 102 , 255502 (2009)]	099904
T.M. Gibbons and S.K. Estreicher	
Erratum: Constraint on the Photino Mass from Cosmology [Phys. Rev. Lett. 50 , 1419 (1983)]	099905
H. Goldberg	



Selected for a Viewpoint in *Physics*. Please visit <http://physics.aps.org/>.

By suggesting a few manuscripts each week, we hope to promote reading across fields. Please see our Announcement Phys. Rev. Lett. **98**, 010001 (2007).

Physical Review
Focus

Brief explanations of selected papers from this and other APS journals appear regularly at the *Phys. Rev. Focus* web site (<http://focus.aps.org>). Readers can also sign up for weekly e-mail summaries of *Focus* stories.