



Video image showing the micro-manipulation of flow in a thin liquid film by intense light. Absorption of light in the underlying substrate produces temperature variations which in turn create gradients in the film's surface tension. Modulating the light intensity allows the dynamics of the fluid to be both probed and controlled. See article 054501.

PHYSICAL REVIEW LETTERS

Contents

Articles published 26 July–1 August 2003

VOLUME 91, NUMBER 5

1 AUGUST 2003

General Physics

- Superfluid Fermi Gases with Large Scattering Length 050401
 J. Carlson, S.-Y. Chang, V.R. Pandharipande, and K.E. Schmidt
 Measurement of the Casimir Force between Dissimilar Metals 050402
 R.S. Decca, D. López, E. Fischbach, and D.E. Krause
 Exact Nonstationary Probabilities in the Asymmetric Exclusion Process on a Ring 050601
 V.B. Priezzhev

Gravitation and Astrophysics

- Stress-Energy Tensor for a Massless Spin 1/2 Field in Static Black Hole Spacetimes 051301
 Eric D. Carlson, William H. Hirsch, Benedikt Obermayer, Paul R. Anderson, and Peter B. Groves

Elementary Particles and Fields

- Measurements of the Branching Fractions and Bounds on the Charge Asymmetries of Charmless Three-Body Charged B Decays 051801
 B. Aubert *et al.* (BABAR Collaboration)
 Lattice Calculation of the Lowest-Order Hadronic Contribution to the Muon Anomalous Magnetic Moment 052001
 T. Blum

Nuclear Physics

- Polarization Transfer in the $^4\text{He}(\vec{e}, e'\vec{p})^3\text{H}$ Reaction up to $Q^2 = 2.6 \text{ (GeV}/c)^2$ 052301
 S. Strauch *et al.*
 Net Baryon Density in Au + Au Collisions at the Relativistic Heavy Ion Collider 052302
 Steffen A. Bass, Berndt Müller, and Dinesh K. Srivastava
 Significance of the Fragmentation Region in Ultrarelativistic Heavy-Ion Collisions 052303
 B.B. Back *et al.*

Atomic, Molecular, and Optical Physics

- Recoil-Free Spectroscopy of Neutral Sr Atoms in the Lamb-Dicke Regime 053001
 Tetsuya Ido and Hidetoshi Katori
 Dramatic Nondipole Effects in Low-Energy Photoionization: Experimental and Theoretical Study of Xe 5s 053002
 O. Hemmers, R. Guillemin, E.P. Kanter, B. Krässig, D.W. Lindle, S.H. Southworth, R. Wehlitz, J. Baker, A. Hudson, M. Lotrakul, D. Rolles, W.C. Stolte, I.C. Tran, A. Wolska, S.W. Yu, M. Ya. Amusia, K.T. Cheng, L.V. Chernysheva, W.R. Johnson, and S.T. Manson
 Model-Independent Quantum Approach for Intense Laser Detachment of a Weakly Bound Electron 053003
 M.V. Frolov, N.L. Manakov, E.A. Pronin, and Anthony F. Starace

(Continued on Third Cover)



Contents (Continued)

Charge Driven Fragmentation of Nucleobases	053401
J. de Vries, R. Hoekstra, R. Morgenstern, and T. Schlathöller	
Theory of an Entanglement Laser	053601
Christoph Simon and Dik Bouwmeester	
Nonlinear Dynamics, Fluid Dynamics, Classical Optics, etc.	
Midband Dissipative Spatial Solitons	053901
Kestutis Staliunas	
Optical Manipulation of Microscale Fluid Flow	054501
Nicolas Garnier, Roman O. Grigoriev, and Michael F. Schatz	
Suspension and Fall of Heavy Particles in Random Two-Dimensional Flow	054502
Claudia Pasquero, Antonello Provenzale, and Edward A. Spiegel	
Plasma and Beam Physics	
Positron Plasma Diagnostics and Temperature Control for Antihydrogen Production	055001
M. Amoretti, C. Amsler, G. Bonomi, A. Bouchta, P.D. Bowe, C. Carraro, C.L. Cesar, M. Charlton, M. Doser, V. Filippini, A. Fontana, M.C. Fujiwara, R. Funakoshi, P. Genova, J.S. Hangst, R.S. Hayano, L.V. Jørgensen, V. Lagomarsino, R. Landua, D. Lindelöf, E. Lodi Rizzini, M. Macrí, N. Madsen, G. Manuzio, P. Montagna, H. Pruys, C. Regenfus, A. Rotondi, G. Testera, A. Variola, and D.P. van der Werf (ATHENA Collaboration)	
Kolmogorov-Kraichnan Scaling in the Inverse Energy Cascade of Two-Dimensional Plasma Turbulence	055002
G. Y. Antar	
Condensed Matter: Structure, etc.	
Spin Precession Waves in Superfluid $^3\text{He-B}$	055301
E. Gažo, M. Kupka, M. Medeová, and P. Skyba	
Elastic Deformation of Polycrystals	055501
Rajeev Ahluwalia, Turab Lookman, and Avadh Saxena	
Griffiths Singularities in Unbinding of Strongly Disordered Polymers	055502
Y. Kafri and D. Mukamel	
Thermal Motion and Energetics of Self-Assembled Domain Structures: Pb on Cu(111)	055503
R. van Gastel, R. Plass, N.C. Bartelt, and G.L. Kellogg	
Finite-Size Scaling Analysis of the Glass Transition	055701
Ludovic Berthier	
Field-Induced Formation of Nanometer-Sized Water Bridges	056101
Sacha Gómez-Moñivas, Juan José Sáenz, Montserrat Calleja, and Ricardo García	
Identification of Step Atoms by High Resolution Core Level Spectroscopy	056102
J. Gustafson, M. Borg, A. Mikkelsen, S. Gorovikov, E. Lundgren, and J.N. Andersen	
Stacking-Fault Nucleation on Ir(111)	056103
Carsten Busse, Celia Polop, Michael Müller, Karsten Albe, Udo Linke, and Thomas Michely	
Curvature-Dependent Surface Tension of a Growing Droplet	056104
Michael P. Moody and Phil Attard	
Condensed Matter: Electronic Properties, etc.	
Coexistence of s -Wave Superconductivity and Antiferromagnetism	056401
M. Feldbacher, F.F. Assaad, F. Hébert, and G.G. Batrouni	
Parameter-Free Calculation of Response Functions in Time-Dependent Density-Functional Theory	056402
Francesco Sottile, Valerio Olevano, and Lucia Reining	
Change of Electronic Structure in Ca_2RuO_4 Induced by Orbital Ordering	056403
J.H. Jung, Z. Fang, J.P. He, Y. Kaneko, Y. Okimoto, and Y. Tokura	
Pseudopotential Theory of Auger Processes in CdSe Quantum Dots	056404
Lin-Wang Wang, Marco Califano, Alex Zunger, and Alberto Franceschetti	
Nonperturbative Solution for Bloch Electrons in Constant Magnetic Fields	056405
A. Trellakis	

(Continued on Preceding Page)

Contents (Continued)

Giant Nernst Effect and Lock-In Currents at Magic Angles in (TMTSF) ₂ PF ₆	056601
W. Wu, I.J. Lee, and P.M. Chaikin	
Direct Measurement of the Spin Polarization of the Magnetic Semiconductor (Ga,Mn)As	056602
J.G. Braden, J.S. Parker, P. Xiong, S.H. Chun, and N. Samarth	
Variable-Range Hopping and Quantum Creep in One Dimension	056603
Thomas Nattermann, Thierry Giamarchi, and Pierre Le Doussal	
Charge Transport in the Insulating State of (DMe-DCNQI) ₂ Li above T_{SP} : A Possible Fractional Charge Soliton Conduction with $\pm\frac{1}{2}e$	056604
Maki Hiraoka, Hirokazu Sakamoto, Kenji Mizoguchi, Tatsuhisa Kato, and Reizo Kato	
Effects of Spin and Exchange Interaction on the Coulomb-Blockade Peak Statistics in Quantum Dots	056801
Y. Alhassid and T. Rupp	
Quantum Interference in Carbon-Nanotube Electron Resonators	056802
Jie Jiang, Jinming Dong, and D.Y. Xing	
Dynamical Symmetry Breaking as the Origin of the Zero-dc-Resistance State in an ac-Driven System	056803
A.V. Andreev, I.L. Aleiner, and A.J. Millis	
Low-Energy Spectra in t - J -Type Models at Low Doping Levels	057001
Wei-Cheng Lee, T.K. Lee, Chang-Ming Ho, and P.W. Leung	
Strain and High Temperature Superconductivity: Unexpected Results from Direct Electronic Structure Measurements in Thin Films	057002
M. Abrecht, D. Ariosa, D. Cloetta, S. Mitrovic, M. Onellion, X.X. Xi, G. Margaritondo, and D. Pavuna	
Variable Electrostatic Transformer: Controllable Coupling of Two Charge Qubits	057003
D.V. Averin and C. Bruder	
Elasticity-Driven Nanoscale Electronic Structure in Superconductors	057004
Jian-Xin Zhu, K.H. Ahn, Z. Nussinov, T. Lookman, A.V. Balatsky, and A.R. Bishop	
Multiple Andreev Reflections in a Carbon Nanotube Quantum Dot	057005
M.R. Buitelaar, W. Belzig, T. Nussbaumer, B. Babić, C. Bruder, and C. Schönenberger	
Sound Attenuation Study on the Bose-Einstein Condensation of Magnons in TiCuCl ₃	057201
E. Ya. Sherman, P. Lemmens, B. Busse, A. Oosawa, and H. Tanaka	
Anomalous Hall Effect in Ferromagnetic Semiconductors in the Hopping Transport Regime	057202
A.A. Burkov and Leon Balents	
Ultrafast Optical Switching to a Metallic State by Photoinduced Mott Transition in a Halogen-Bridged Nickel-Chain Compound	057401
S. Iwai, M. Ono, A. Maeda, H. Matsuzaki, H. Kishida, H. Okamoto, and Y. Tokura	
Polaritonic Stop-Band Transparency via Exciton-Biexciton Coupling in CuCl	057402
S. Chesi, M. Artoni, G.C. La Rocca, F. Bassani, and A. Mysyrowicz	
Comparison of Electron and Neutron Compton Scattering from Entangled Protons in a Solid Polymer	057403
C.A. Chatzidimitriou-Dreismann, M. Vos, C. Kleiner, and T. Abdul-Redah	
First-Principles Determination of Electromechanical Responses of Solids under Finite Electric Fields	057601
Huaxiang Fu and L. Bellaiche	
Interdisciplinary Physics: Biological Physics, Quantum Information, etc.	
Quantum Key Distribution with High Loss: Toward Global Secure Communication	057901
Won-Young Hwang	
Majorization Criterion for Distillability of a Bipartite Quantum State	057902
Tohya Hiroshima	
Condensed Matter: Electronic Properties, etc.	
Lateral Scaling in Carbon-Nanotube Field-Effect Transistors	058301
S.J. Wind, J. Appenzeller, and Ph. Avouris	
Interdisciplinary Physics: Biological Physics, Quantum Information, etc.	
Superlattice Turing Structures in a Photosensitive Reaction-Diffusion System	058302
Igal Berenstein, Lingfa Yang, Milos Dolnik, Anatol M. Zhabotinsky, and Irving R. Epstein	

(Continued on Preceding Page)

Contents (Continued)

Defect-Mediated Turbulence in Systems with Local Deterministic Chaos	058303
Jörn Davidsen and Raymond Kapral	
Geometric Theory of Diblock Copolymer Phases	058304
Gregory M. Grason, B.A. DiDonna, and Randall D. Kamien	
Replica-Exchange Method Using the Generalized Effective Potential	058305
Soonmin Jang, Seokmin Shin, and Youngshang Pak	
Is Earthquake Triggering Driven by Small Earthquakes?	058501
Agnès Helmstetter	
Impact of Cosmic Rays on Stratospheric Chlorine Chemistry and Ozone Depletion	058502
Rolf Müller	
Probabilistic Prediction in Scale-Free Networks: Diameter Changes	058701
J.-H. Kim, K.-I. Goh, B. Kahng, and D. Kim	
Comments	
Comment on “Vibrational Recognition of Hydrogen-Bonded Water Networks on a Metal Surface”	059601
Peter J. Feibelman	
Meng <i>et al.</i> Reply	059602
Sheng Meng, L.F. Xu, E.G. Wang, and Shiwu Gao	
Cumulative Author Index	i