



The image shows the residence times of small tracer particles (“bubbles”) in a fluid flowing past a cylinder (dark blue disk); the colors indicate the time taken to exit the wake by a bubble placed at that point. The presence of red regions, corresponding to long residence times, demonstrates that bubbles can be permanently trapped in the wake. See article 164501.

PHYSICAL REVIEW LETTERS

Contents

VOLUME 89, NUMBER 16

14 October 2002

General Physics

- Test of Local Realism with Entangled Kaon Pairs and without Inequalities 160401
 Albert Bramon and Gianni Garbarino
- Topologically Inequivalent Orbits Induced by Noise 160601
 Jorge M. Mendez, J. Aliaga, and G.B. Mindlin

Gravitation and Astrophysics

- Plasma Wakefield Acceleration for Ultrahigh-Energy Cosmic Rays 161101
 Pisin Chen, Toshiki Tajima, and Yoshiyuki Takahashi
- Determination of the Gravitational Constant with a Beam Balance 161102
 St. Schlamminger, E. Holzschuh, and W. Kündig

Elementary Particles and Fields

- New Supersymmetric Source of Neutrino Masses and Mixings 161801
 J. A. Casas, J. R. Espinosa, and I. Navarro
- Forward-Backward Asymmetries of Lepton Pairs in Events with a Large-Transverse-Momentum Jet at Hadron Colliders 161802
 F. del Aguila, Ll. Ametller, and P. Talavera
- Perturbative QCD Analysis of Local Duality in a Fixed W^2 Framework 162001
 S. Liuti, R. Ent, C. E. Keppel, and I. Niculescu
- B -Meson Gateways to Missing Charmonium Levels 162002
 Estia J. Eichten, Kenneth Lane, and Chris Quigg

Nuclear Physics

- Jet Tomography of Hot and Cold Nuclear Matter 162301
 Enke Wang and Xin-Nian Wang

Atomic, Molecular, and Optical Physics

- Double-to-Single Target Ionization Ratio for Electron Capture in Fast p -He Collisions 163201
 H. T. Schmidt, A. Fardi, R. Schuch, S. H. Schwartz, H. Zettergren, H. Cederquist, L. Bagge, H. Danared, A. Källberg, J. Jensen, K.-G. Rensfelt, V. Mergel, L. Schmidt, H. Schmidt-Böcking, and C. L. Cocke
- Double Photoionization and Transfer Ionization of He: Shakeoff Theory Revisited 163202
 T. Y. Shi and C. D. Lin
- Coulomb- and Antiferromagnetic-Induced Fission in Doubly Charged Cubelike Fe-S Clusters 163401
 Xin Yang, Xue-Bin Wang, Shuqiang Niu, Chris J. Pickett, Toshiko Ichiye, and Lai-Sheng Wang
- Formation of Atomic Tritium Clusters and Bose-Einstein Condensates 163402
 D. Blume, B. D. Esry, Chris H. Greene, N. N. Klausen, and G. J. Hanna
- Spontaneous-Emission Suppression on Arbitrary Atomic Transitions 163601
 Jörg Evers and Christoph H. Keitel

(Continued on Third Cover)

Contents (Continued)

High Efficiency Photon Counting Using Stored Light	163602
A. Imamoglu	
Nonlinear Dynamics, Fluid Dynamics, Classical Optics, etc.	
Hanle Effect in Coherent Backscattering	163901
G. Labeyrie, C. Miniatura, C.A. Müller, O. Sigwarth, D. Delande, and R. Kaiser	
Domain Walls and Ising-Bloch Transitions in Parametrically Driven Systems	164101
Germán J. de Valcárcel, Isabel Pérez-Arjona, and Eugenio Roldán	
Selective Sensitivity of Open Chaotic Flows on Inertial Tracer Advection: Catching Particles with a Stick	164501
I.J. Benczik, Z. Toroczkai, and T. Tél	
Steep Sharp-Crested Gravity Waves on Deep Water	164502
Vasyl' Lukomsky, Ivan Gandzha, and Dmytro Lukomsky	
Plasma and Beam Physics	
Hohlraum-Driven High-Convergence Implosion Experiments with Multiple Beam Cones on the Omega Laser Facility	165001
Peter Amendt, R.E. Turner, and O.L. Landen	
Effects of Fuel-Shell Mix upon Direct-Drive, Spherical Implosions on OMEGA	165002
C.K. Li, F.H. Séguin, J.A. Frenje, S. Kurebayashi, R.D. Petrasso, D.D. Meyerhofer, J.M. Soures, J.A. Delettrez, V.Yu. Glebov, P.B. Radha, S.P. Regan, S. Roberts, T.C. Sangster, and C. Stoeckl	
Observation of a Hydrodynamically Driven, Radiative-Precursor Shock	165003
P.A. Keiter, R.P. Drake, T.S. Perry, H.F. Robey, B.A. Remington, C.A. Iglesias, R.J. Wallace, and J. Knauer	
Ion Heating and Thermonuclear Neutron Production from High-Intensity Subpicosecond Laser Pulses Interacting with Underdense Plasmas	165004
S. Fritzler, Z. Najmudin, V. Malka, K. Krushelnick, C. Marle, B. Walton, M.S. Wei, R.J. Clarke, and A.E. Dangor	
Near-Threshold Reflectivity Fluctuations in the Independent-Convective-Hot-Spot-Model Limit of a Spatially Smoothed Laser Beam	165005
Philippe Mounaix and Laurent Divol	
Condensed Matter: Structure, etc.	
Dislocation Jamming and Andrade Creep	165501
M.-Carmen Miguel, Alessandro Vespignani, Michael Zaiser, and Stefano Zapperi	
Shock Compression of Deuterium near 100 GPa Pressures	165502
W.J. Nellis	
Interface Sharpening instead of Broadening by Diffusion in Ideal Binary Alloys	165901
Z. Erdélyi, I.A. Szabó, and D.L. Beke	
Complete Wetting on a Linear Wedge	166101
L. Bruschi, A. Carlin, and G. Mistura	
Quantum Monte Carlo Calculations of H ₂ Dissociation on Si(001)	166102
Claudia Filippi, Sorchia B. Healy, P. Kratzer, E. Pehlke, and M. Scheffler	
Chemical Surface Analysis by Raman Spectroscopy Utilizing Dimer Vibrations	166103
V. Wagner, J. Wagner, S. Gundel, L. Hansen, and J. Geurts	
Condensed Matter: Electronic Properties, etc.	
Confinement of Electrons in Layered Metals	166401
M.A.H. Vozmediano, M.P. López-Sancho, and F. Guinea	
Evolution of Fermi-Liquid Interactions in Sr ₂ RuO ₄ under Pressure	166402
D. Forsythe, S.R. Julian, C. Bergemann, E. Pugh, M.J. Steiner, P.L. Alireza, G.J. McMullan, F. Nakamura, R.K.W. Haselwimmer, I.R. Walker, S.S. Saxena, G.G. Lonzarich, A.P. Mackenzie, Z.Q. Mao, and Y. Maeno	
Electronic Ferroelectricity in the Falicov-Kimball Model	166403
C.D. Batista	

(Continued on Preceding Page)

Contents (Continued)

Quantum Origin of the Oxygen Storage Capability of Ceria	166601
N.V. Skorodumova, S.I. Simak, B.I. Lundqvist, I.A. Abrikosov, and B. Johansson	
Reduction of Spin Injection Efficiency by Interface Defect Spin Scattering in ZnMnSe/AlGaAs-GaAs	
Spin-Polarized Light-Emitting Diodes	166602
R.M. Stroud, A.T. Hanbicki, Y.D. Park, G. Kioseoglou, A.G. Petukhov, B.T. Jonker, G. Itskos, and A. Petrou	
Spin-Dependent Transparency of Ferromagnet/Superconductor Interfaces	166603
K. Xia, P.J. Kelly, G.E.W. Bauer, and I. Turek	
Giant Thermopower Effects from Molecular Physisorption on Carbon Nanotubes	166801
G.U. Sumanasekera, B.K. Pradhan, H.E. Romero, K.W. Adu, and P.C. Eklund	
Paramagnetic and Diamagnetic States in Two-Dimensional Josephson-Junction Arrays	167001
Cinzia De Leo and Giacomo Rotoli	
Anomalous Momentum Dependence of the Quasiparticle Scattering Rate in Overdoped Bi ₂ Sr ₂ CaCu ₂ O ₈	167002
P.V. Bogdanov, A. Lanzara, X.J. Zhou, W.L. Yang, H. Eisaki, Z. Hussain, and Z.X. Shen	
Percolative Superconductivity in Mg _{1-x} B ₂	167003
P.A. Sharma, N. Hur, Y. Horibe, C.H. Chen, B.G. Kim, S. Guha, Marta Z. Cieplak, and S-W. Cheong	
Quantum Behavior of Orbitals in Ferromagnetic Titanates: Novel Orderings and Excitations	167201
Giniyat Khaliullin and Satoshi Okamoto	
Magnetic Order and Dynamics in an Orbitaly Degenerate Ferromagnetic Insulator	167202
C. Ulrich, G. Khaliullin, S. Okamoto, M. Reehuis, A. Ivanov, H. He, Y. Taguchi, Y. Tokura, and B. Keimer	
Transverse and Lateral Structure of the Spin-Flop Phase in Fe/Cr Antiferromagnetic Superlattices	167203
V. Lauter-Pasyuk, H.J. Lauter, B.P. Toperverg, L. Romashev, and V. Ustinov	
Insulating Ferromagnetism in La ₄ Ba ₂ Cu ₂ O ₁₀ : An <i>Ab Initio</i> Wannier Function Analysis	167204
Wei Ku, H. Rosner, W.E. Pickett, and R.T. Scalettar	
Intrinsic Room-Temperature Electrophosphorescence from a π -Conjugated Polymer	167401
J.M. Lupton, A. Pogantsch, T. Piok, E.J.W. List, S. Patil, and U. Scherf	
Optical RKKY Interaction between Charged Semiconductor Quantum Dots	167402
C. Piermarocchi, Pochung Chen, L.J. Sham, and D.G. Steel	
Low-Energy Ion-Induced Electron Emission from a MgO(100) Thin Film: The Role of the MgO-Substrate Interface	167601
Y.T. Matulevich, T.J. Vink, and P.A. Zeijlmans van Emmichoven	
Interdisciplinary Physics: Biological Physics, Quantum Information, etc.	
Continuous Variable Quantum Cryptography: Beating the 3 dB Loss Limit	167901
Ch. Silberhorn, T.C. Ralph, N. Lütkenhaus, and G. Leuchs	
Glassy Dynamics of Side-Chain Ordering in a Simple Model of Protein Folding	168101
Edo Kussell and Eugene I. Shakhnovich	
Dissipation of the Excitation Wave Fronts	168102
V.N. Biktashev	
Polymorphism of Cross-Linked Actin Networks in Giant Vesicles	168103
Laurent Limozin and Erich Sackmann	
Scaling of Shear-Induced Transformations in Membrane Phases	168301
L. Porcar, W.A. Hamilton, P.D. Butler, and Gregory G. Warr	
Resonance of a Turbulent Flame in a High-Frequency Acoustic Wave	168302
Vitaliy Bychkov	
Spontaneous Partitioning of Particles into Cellar Structures in a Membrane System	168303
Hajime Tanaka, Mamoru Isobe, and Jun Yamamoto	
Comments	
Comment on “Nature of the Collapse Transition for Polymers”	169601
Marco Pretti	
Stilck, Serra, and Machado Reply	169602
Jürgen F. Stilck, Pablo Serra, and Kleber D. Machado	

(Continued on Preceding Page)

Contents (Continued)

Errata

Erratum: Branching Ratio and Asymmetry for $\Xi^0 \rightarrow \Lambda \gamma$ [Phys. Rev. Lett. 64 , 843 (1990)]	169901
C. James, K. Heller, P. Border, J. Dworkin, O.E. Overseth, R. Rameika, G. Valenti, R. Handler, B. Lundberg, L. Pondrom, M. Sheaff, C. Wilkinson, A. Beretvas, P. Cushman, T. Devlin, K.B. Luk, G.B. Thomson, and R. Whitman	
Erratum: Measurement of the $\Xi^0 \rightarrow \Sigma^0 \gamma$ Branching Ratio and Asymmetry Parameter [Phys. Rev. Lett. 63 , 2717 (1989)]	169902
S. Teige, A. Beretvas, A. Caracappa, T. Devlin, H.T. Diehl, K. Krueger, G.B. Thomson, P. Border, P.M. Ho, M.J. Longo, J. Duryea, N. Grossman, K. Heller, M. Shupe, and K. Thorne	
Publisher's Note: Measurement of the B^0 Lifetime with Partially Reconstructed $B^0 \rightarrow D^{*-} \ell^+ \nu_\ell$ Decays [Phys. Rev. Lett. 89 , 011802 (2002)]	169903
B. Aubert <i>et al.</i> (BABAR Collaboration)	
Erratum: Nonlocal Dynamics of Spontaneous Imbibition Fronts [Phys. Rev. Lett. 89 , 104503 (2002)]	169904
Dimitrios Geromichalos, Frieder Mugele, and Stephan Herminghaus	
Publisher's Note: Exact Asymptotics for One-Dimensional Diffusion with Mobile Traps [Phys. Rev. Lett. 89 , 150601 (2002)]	169905
Alan J. Bray and Richard A. Blythe	
Publisher's Note: Bifurcation Phenomenon in Spin Relaxation [Phys. Rev. Lett. 89 , 140403 (2002)]	169906
Gen Kimura, Kazuya Yuasa, and Kentaro Imafuku	
Publisher's Note: Phase-Dependent Effects of a Few-Cycle Laser Pulse [Phys. Rev. Lett. 89 , 153001 (2002)]	169907
D.B. Milošević, G.G. Paulus, and W. Becker	