



The figure is a 2-dimensional slice of a chaotic 3-dimensional fluid flow showing the "temperature amplitude" of small neutral-buoyancy particles in the flow. See article 264501.

PHYSICAL REVIEW LETTERS

Contents

VOLUME 89, NUMBER 26

23 December 2002

Announcement

Change in Printing Schedule to Synchronize Online and Print Journals i

General Physics

Configuration of Separability and Tests for Multipartite Entanglement in Bell-Type Experiments 260401

Koji Nagata, Masato Koashi, and Nobuyuki Imoto

Nucleation, Growth, and Stabilization of Bose-Einstein Condensate Vortex Lattices 260402

A. A. Penckwitt, R. J. Ballagh, and C. W. Gardiner

Gravitation and Astrophysics

Dynamical Horizons: Energy, Angular Momentum, Fluxes, and Balance Laws 261101

Abhay Ashtekar and Badri Krishnan

Inflation from Quantum Geometry 261301

Martin Bojowald

Elementary Particles and Fields

Holography and String Dynamics in Time-Dependent Backgrounds 261601

Akikazu Hashimoto and Savdeep Sethi

Search for the Production of Single Sleptons through R -Parity Violation in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV 261801

V. M. Abazov *et al.* (D0 Collaboration)

Nuclear Physics

Strength of the $^{18}\text{F}(p, \alpha)^{15}\text{O}$ Resonance at $E_{\text{c.m.}} = 330$ keV 262501

D. W. Bardayan, J. C. Batchelder, J. C. Blackmon, A. E. Champagne, T. Davinson, R. Fitzgerald, W. R. Hix, C. Iliadis, R. L. Kozub, Z. Ma, S. Parete-Koon, P. D. Parker, N. Shu, M. S. Smith, and P. J. Woods

Exact Level Densities for the Harmonic Oscillator 262502

P. Van Isacker

Atomic, Molecular, and Optical Physics

Multiphoton π Pulses 263001

George N. Gibson

Low-Energy Monopole Modes of a Trapped Atomic Fermi Gas 263002

G. M. Bruun

Competition Among Molecular Fragmentation Channels Described with Siegert Channel Pseudostates 263003

Edward L. Hamilton and Chris H. Greene

Controlling the Angular Momentum Composition of a Rydberg Electron Wave Packet 263004

J. R. R. Verlet, V. G. Stavros, R. S. Minns, and H. H. Fielding

(Continued on Third Cover)

Contents (Continued)

Velocity Scaling of Ion Neutralization in Low Energy Ion Scattering	263201
M. Draxler, R. Gruber, H.H. Brongersma, and P. Bauer	
Decay Rates and Survival Probabilities in Open Quantum Systems	263601
Sandro Wimberger, Andreas Krug, and Andreas Buchleitner	
Superfluorescence-Stimulated Photon Echoes	263602
A.I. Lvovsky, S.R. Hartmann, and F. Moshary	
Nonlinear Dynamics, Fluid Dynamics, Classical Optics, etc.	
Chirped Femtosecond Solitonlike Laser Pulse Form with Self-Frequency Shift	263901
Zhonghao Li, Lu Li, Huiping Tian, Guosheng Zhou, and Karl H. Spatschek	
Optimal Identification of Hamiltonian Information by Closed-Loop Laser Control of Quantum Systems	263902
J.M. Geremia and Herschel Rabitz	
Harmonic Measure and Winding of Conformally Invariant Curves	264101
Bertrand Duplantier and Ilia A. Binder	
Locking-Based Frequency Measurement and Synchronization of Chaotic Oscillators with Complex Dynamics	264102
Michael G. Rosenblum, Arkady S. Pikovsky, Jürgen Kurths, Grigory V. Osipov, István Z. Kiss, and John L. Hudson	
Relevant Length Scale of Barchan Dunes	264301
Pascal Hersen, Stéphane Douady, and Bruno Andreotti	
Epitaxial Growth of Granular Single Crystals	264302
Y. Nahmad-Molinari and J.C. Ruiz-Suárez	
Bailout Embeddings and Neutrally Buoyant Particles in Three-Dimensional Flows	264501
Julyan H.E. Cartwright, Marcelo O. Magnasco, Oreste Piro, and Idan Tuval.	
Plasma and Beam Physics	
Heating of Thin Foils with a Relativistic-Intensity Short-Pulse Laser	265001
P. Audebert, R. Shepherd, K.B. Fournier, O. Peyrusse, D. Price, R. Lee, P. Springer, J.-C. Gauthier, and L. Klein	
Analytical Description of a Neutral-Induced Tripole Vortex in a Plasma	265002
J. Vranješ, A. Okamoto, S. Yoshimura, S. Poedts, M. Kono, and M.Y. Tanaka	
Observation of Coherent Sheared Turbulence Flows in the DIII-D Tokamak	265003
M. Jakubowski, R.J. Fonck, and G.R. McKee	
Comparison of a Low- to High-Confinement Transition Theory with Experimental Data from DIII-D	265004
P.N. Guzdar, R.G. Kleva, R.J. Groebner, and P. Gohil	
Generation of Noninductive Current by Electron-Bernstein Waves on the COMPASS-D Tokamak	265005
V. Shevchenko, Y. Baranov, M. O'Brien, and A. Saveliev	
Anomalous Capacitive Sheath with Deep Radio-Frequency Electric-Field Penetration	265006
Igor D. Kaganovich	
New Dynamical Mean-Field Dynamo Theory and Closure Approach	265007
Eric G. Blackman and George B. Field	
Condensed Matter: Structure, etc.	
Theoretical Evaluation of Zirconia and Hafnia as Gate Oxides for Si Microelectronics	266101
Vincenzo Fiorentini and Gianluca Gullerì	
Segregation in Strongly Ordering Compounds: A Key Role of Constitutional Defects	266102
V. Blum, L. Hammer, Ch. Schmidt, W. Meier, O. Wieckhorst, S. Müller, and K. Heinz	
Influence of Supersaturation on Surface Structure	266103
J.B. Hannon, J. Tersoff, M.C. Reuter, and R.M. Tromp	
Epitaxial Growth and Erosion on (110) Crystal Surfaces: Structure and Dynamics of Interfacial States	266104
Leonardo Golubović, Artem Levandovsky, and Dorel Moldovan	
High Resolution Atomic Force Microscopic Imaging of the Si(111)-(7 × 7) Surface: Contribution of Short-Range Force to the Images	266105
Toyoaki Eguchi and Y. Hasegawa	

(Continued on Preceding Page)

Contents (Continued)

Tunneling Electron Induced Bromine Hopping on Si(100)-(2 × 1)	266106
Koji S. Nakayama, E. Graugnard, and J.H. Weaver	
The Diffusion-Control Limit Revisited	266107
E. Yariv and I. Frankel	
Condensed Matter: Electronic Properties, etc.	
Exchange Monte Carlo for Molecular Simulations with Mono-electronic Hamiltonians	266401
F. Calvo and F. Spiegelman	
Hybrid Density-Functional Theory and the Insulating Gap of UO ₂	266402
Konstantin N. Kudin, Gustavo E. Scuseria, and Richard L. Martin	
Multifunctional Composites: Optimizing Microstructures for Simultaneous Transport of Heat and Electricity	266601
S. Torquato, S. Hyun, and A. Donev	
Detecting Spin-Polarized Currents in Ballistic Nanostructures	266602
R.M. Potok, J.A. Folk, C.M. Marcus, and V. Umansky	
Crossover from Symplectic to Orthogonal Class in a Two-Dimensional Honeycomb Lattice	266603
Hidekatsu Suzuura and Tsuneya Ando	
From Quantum Hall Ferromagnetism to Huge Longitudinal Resistance at the 2/3 Fractional Quantum Hall State ...	266801
S. Kraus, O. Stern, J.G.S. Lok, W. Dietsche, K. von Klitzing, M. Bichler, D. Schuh, and W. Wegscheider	
Ising Quantum Hall Ferromagnet in Magnetically Doped Quantum Wells	266802
J. Jaroszyński, T. Andrearczyk, G. Karczewski, J. Wróbel, T. Wojtowicz, E. Papis, E. Kamińska, A. Piotrowska, Dragana Popović, and T. Dietl	
Using Single Quantum States as Spin Filters to Study Spin Polarization in Ferromagnets	266803
Mandar M. Deshmukh and D.C. Ralph	
Anomalous Low-Field Classical Magnetoresistance in Two Dimensions	266804
Alexander Dmitriev, Michel Dyakonov, and Rémi Jullien	
Nanoscale Imaging of Electronic Surface Transport Probed by Atom Movements Induced by Scanning Tunneling Microscope Current	266805
Yoshiaki Nakamura, Yutaka Mera, and Koji Maeda	
Magnetization-Orientation Dependence of the Superconducting Transition Temperature in the Ferromagnet-Superconductor-Ferromagnet System: CuNi/Nb/CuNi	267001
J.Y. Gu, C.-Y. You, J.S. Jiang, J. Pearson, Ya.B. Bazaliy, and S.D. Bader	
LiV ₂ O ₄ : Frustration Induced Heavy Fermion Metal	267201
J. Hopkinson and P. Coleman	
Absence of an Equilibrium Ferromagnetic Spin-Glass Phase in Three Dimensions	267202
F. Krzakala and O.C. Martin	
Uniaxial Magnetocrystalline Anisotropy of Metal/Semiconductor Interfaces: Fe/ZnSe(001)	267203
Elisabeth Sjöstedt, Lars Nordström, Fredrik Gustavsson, and Olle Eriksson	
Stimulated Light Emission in Dense Fog Confined inside a Porous Glass Matrix	267401
E. Gross, D. Kovalev, N. Künzner, J. Diener, F. Koch, and M. Fujii	
Interdisciplinary Physics: Biological Physics, Quantum Information, etc.	
Experimental Demonstration of a Controlled-NOT Wave-Packet Gate	267901
B. DeMarco, A. Ben-Kish, D. Leibfried, V. Meyer, M. Rowe, B.M. Jelenković, W.M. Itano, J. Britton, C. Langer, T. Rosenband, and D.J. Wineland	
Organization in Lipid Membranes Containing Cholesterol	268101
Sarah L. Veatch and Sarah L. Keller	
Macroion-Induced Compositional Instability of Binary Fluid Membranes	268102
Sylvio May, Daniel Harries, and Avinoam Ben-Shaul	
Stretching and Collapse of Neutral Polymer Layers under Association with Ionic Surfactants	268301
John Philip, G. Gnana Prakash, T. Jaykumar, P. Kalyanasundaram, and Baldev Raj	
Efficient Eley-Rideal Reactions of H Atoms with Single Cl Adsorbates on Au(111)	268302
Didier Lemoine, Joseph G. Quattrucci, and Bret Jackson	
Linear and Time-Dependent Behavior of the Gyrotron Backward-Wave Oscillator	268303
S.H. Chen, T.H. Chang, K.F. Pao, C.T. Fan, and K.R. Chu	

(Continued on Preceding Page)

Contents (Continued)

Coloring Random Graphs	268701
R. Mulet, A. Pagnani, M. Weigt, and R. Zecchina	
Extreme Self-Organization in Networks Constructed from Gene Expression Data	268702
Himanshu Agrawal	
Extremum Statistics in Scale-Free Network Models	268703
André Auto Moreira, José S. Andrade, Jr., and Luís A. Nunes Amaral	
Comments	
Singularities of the Mixed State Phase	268901
Rajendra Bhandari	
Anandan <i>et al.</i> Reply	268902
Jeeva Anandan, Erik Sjöqvist, Arun K. Pati, Artur Ekert, Marie Ericsson, Daniel K.L. Oi, and Vlatko Vedral	