NEWSPAPER 78

PHYSICAL REVIEW LETTERS

Contents

VOLUME 78, NUMBER 13 31 March 1997

General Physics

Dynamical Hysteresis in Bistable Quantum Systems 2503
M. Thorwart and P. Jung

Nonadiabatic Geometrical Phase during Cyclic Evolution of a Gaussian Wave Packet 2507
Y. C. Ge and M. S. Child

Inhibition of Coherence in Trapped Bose-Einstein Condensates 2511
A. Imamoğlu, M. Lewenstein, and L. You

Quantum Fluctuations and Dynamical Chaos 2515
Sergei G. Matinyan and Berndt Müller

Density of Kinks after a Quench: When Symmetry Breaks, How Big are the Pieces? 2519
Pablo Laguna and Wojciech Hubert Zurek

Gravitation and Astrophysics

Short-Range Test of the Equivalence Principle 2523
J. H. Gundlach, G. L. Smith, E. G. Adelberger, B. R. Heckel, and H. E. Swanson

Static Axially Symmetric Solutions of Einstein–Yang-Mills-Dilaton Theory 2527
Burkhard Kleihaus and Jutta Kunz

Effective Spatial Dimension of Extremal Nondilatonic Black p-Branes and the Description on the World Volume 2531
Rong-Gen Cai

Nuclear Physics

The Energy Dependence of Flow in Ni Induced Collisions from 400A to 1970A MeV 2535
J. Chance *et al.* (The EOS Collaboration)

Atomic, Molecular, and Optical Physics

Rotational Frequency Shift 2539
Iwo Bialynicki-Birula and Zofia Bialynicka-Birula

Observation of a Highly Excited Long-Lived Valence State in H_2 2543
E. Reinhold, W. Hogervorst, and W. Ubachs

Method for Direct Measurement of the Wigner Function in Cavity QED and Ion Traps 2547
L. G. Lutterbach and L. Davidovich

Nonlinear Dynamics, Fluid Dynamics, Classical Optics, Etc.

Three-Dimensional Spiraling of Interacting Spatial Solitons 2551
Ming-feng Shih, Mordechai Segev, and Greg Salamo

Pearling and Pinching: Propagation of Rayleigh Instabilities 2555
Thomas R. Powers and Raymond E. Goldstein

Nature of the Vorticity Field Generated by Instabilities of Chaotic Fluid Flows 2559
Charles Reyl, Thomas M. Antonsen, Jr., and Edward Ott

Turbulence Fluctuations and New Universal Realizability Conditions in Modeling 2563
Gregory L. Eyink and Francis J. Alexander

(Continued on Third Cover)

CODEN: PRLTAO 78 (13), 2503–2680 (31 March 1997)

13

Contents (Continued)

Three-Dimensional Temporal Spectrum of Stretched Vortices 2567
Maurice Rossi and Stéphane Le Dizès

Condensed Matter: Structure, Etc.

Scanning Tunnel Microscopy Surface State Electron Scattering: Two-Tip Results from One-Tip Data 2570
Yick Stella Chan and E. J. Heller

NMR Study of Water Structure in Super- and Subcritical Conditions 2573
Nobuyuki Matubayasi, Chihiro Wakai, and Masaru Nakahara

Stability of Ordered Phases in Weakly Segregated Diblock Copolymer Systems 2577
Mohamed Laradji, An-Chang Shi, Rashmi C. Desai, and Jaan Noolandi

Surface-Freezing Transitions and Novel Tilted Hexatic Phases in Smectic Liquid-Crystal Films 2581
C. Y. Chao, S. W. Hui, J. E. Maclennan, C. F. Chou, and J. T. Ho

Correlated Orientations in Nanocrystal Fluctuations 2585
T. Ben-David, Y. Lereah, G. Deutscher, J. M. Penisson, A. Bourret, R. Kofman, and P. Cheyssac

Disorder-Order Ripening of C_{60} Islands 2588
Y-R. Ma, P. Moriarty, and P. H. Beton

Study of Atomic Motion in Oriented EuO Single Crystals Using Neutrino Induced Doppler Broadening 2592
N. Stritt, J. Jolie, M. Jentschel, and H. G. Börner

Specific Heat and Scaling of ^{4}He Confined in a Planar Geometry 2596
Sarabjit Mehta and Francis M. Gasparini

Frustration by Multiple Spin Exchange in 2D Solid ^{3}He Films 2600
Marcio Siqueira, Jan Nyéki, Brian Cowan, and John Saunders

Direct Determination of Multiple Adsorption Sites Using Chemical-Shift Photoelectron Diffraction: Sb/GaAs(110) 2604
H. Ascolani, J. Avila, N. Franco, and M. C. Asensio

Control of Si(100) Sublimation with Dopants 2608
C. M. Roland, M. G. Wensell, Y. Hong, and I. S. T. Tsong

Simulations of Ripple Formation on Ion-Bombarded Solid Surfaces 2612
I. Koponen, M. Hautala, and O.-P. Sievänen

Scaling Laws for Microemulsions Governed by Spontaneous Curvature 2616
T. Tlusty, S. A. Safran, R. Menes, and R. Strey

Condensed Matter: Electronic Properties, Etc.

Monte Carlo Calculation of the Linear Resistance of a Three Dimensional Lattice superconductor Model in the London Limit 2620
Hans Weber and Henrik Jeldtoft Jensen

Angular Position of Nodes in the Superconducting Gap of YBCO 2624
H. Aubin, K. Behnia, M. Ribault, R. Gagnon, and L. Taillefer

Evolution of the Fermi Surface with Carrier Concentration in $Bi_2Sr_2CaCu_2O_{8+\delta}$ 2628
H. Ding, M. R. Norman, T. Yokoya, T. Takeuchi, M. Randeria, J. C. Campuzano, T. Takahashi, T. Mochiku, and K. Kadowaki

Dissipation-Driven Superconductor-Insulator Transition in a Two-Dimensional Josephson-Junction Array 2632
A. J. Rimberg, T. R. Ho, Ç. Kurdak, John Clarke, K. L. Campman, and A. C. Gossard

Phase Conjugated Andreev Backscattering in Two-Dimensional Ballistic Cavities 2636
A. F. Morpurgo, S. Holl, B. J. van Wees, T. M. Klapwijk, and G. Borghs

Anomalous Flux-Flow Dynamics in Layered Type-II Superconductors at Low Temperatures 2640
M. V. Feigel'man and M. A. Skvortsov

First-Order Melting of a Moving Vortex Lattice: Effects of Disorder 2644
Daniel Domínguez, Niels Grønbech-Jensen, and A. R. Bishop

Dynamic Phases of Vortices in Superconductors with Periodic Pinning 2648
C. Reichhardt, C. J. Olson, and Franco Nori

Towards a Unified Picture of Spin Dependent Transport in and Perpendicular Giant Magnetoresistance and Bulk Alloys 2652
S. Y. Hsu, A. Barthélémy, P. Holody, R. Loloee, P. A. Schroeder, and A. Fert

(Continued on Preceding Page)

Contents (Continued)

Cross-Disciplinary Physics

Eikonal Relation in Highly Dispersive Excitable Media 2656
A. M. Pertsov, M. Wellner, and J. Jalife

Amorphous Clustering in Highly Charged Dilute Poly(chlorostyrene-styrene sulfonate) Colloids 2660
B. V. R. Tata, Eiji Yamahara, P. V. Rajamani, and Norio Ise

Shear-Induced "Homogenization" of a Diluted Polymer Blend 2664
J.-W. Yu, J. F. Douglas, E. K. Hobbie, S. Kim, and C. C. Han

Variational Approach to Relaxation in Complex Free Energy Landscapes: The Polymer Folding Problem 2668
Ariel Fernández and Gustavo Appignanesi

Kardar-Parisi-Zhang Scaling of the Height of the Convective Boundary Layer and Fractal Structure of Cumulus Cloud Fields 2672
Jon D. Pelletier

Comments

Comment on "Observation of Temporal Behavior of an Atomic Wave Packet Localized in an Optical Potential" 2676
W. D. Phillips and C. I. Westbrook

Kozuma *et al.* Reply 2677
M. Kozuma, K. Nakagawa, W. Jhe, and M. Ohtsu

Absence of Shapiro-Like Steps in Certain Mesoscopic *S-N-S* junctions 2678
J. G. E. Harris, N. Argaman, and S. J. Allen

Volkov and Takayamagi Reply 2679
Anatoly F. Volkov and Hideaki Takayanagi

Errata

Two-Dimensional Child-Langmuir Law [Phys. Rev. Lett. **77**, 4668 (1996)] 2680
J. W. Luginsland, Y. Y. Lau, and R. M. Gilgenbach