NEWSPAPER 82

PHYSICAL REVIEW LETTERS

Contents

VOLUME 82, NUMBER 11 15 March 1999

General Physics

Cyclic Phases at an n-Fold Degeneracy 2223
David E. Manolopoulos and Mark S. Child

Observation of Metastable States in Spinor Bose-Einstein Condensates 2228
H.-J. Miesner, D. M. Stamper-Kurn, J. Stenger, S. Inouye, A. P. Chikkatur, and W. Ketterle

Directed Percolation and Generalized Friendly Random Walkers 2232
John Cardy and Francesca Colaiori

Elementary Particles and Fields

Collider Signatures of New Large Space Dimensions 2236
Eugene A. Mirabelli, Maxim Perelstein, and Michael E. Peskin

Electroweak Penguins, Final State Interaction Phases, and *CP* Violation in $B \longrightarrow K\pi$ Decays 2240
N. G. Deshpande, Xiao-Gang He, Wei-Shu Hou, and Sandip Pakvasa

Search for Nonstandard Higgs Bosons Using High Mass Photon Pairs in $p\overline{p} \rightarrow \gamma\gamma + 2$ Jets at $\sqrt{s} = 1.8$ TeV 2244
B. Abbott *et al.* (D0 Collaboration)

Quark Flavor Separation in Λ-Baryon Fragmentation 2250
Bo-Qiang Ma and Jacques Soffer

CPT and Lorentz Tests in Hydrogen and Antihydrogen 2254
Robert Bluhm, V. Alan Kostelecký, and Neil Russell

Nuclear Physics

Analyzing Powers and Partial Wave Decomposition of $pn \rightarrow pp(^1S_0)\pi^-$ at Low Energies 2258
H. Hahn, F. A. Duncan, J. Aclander, D. Ashery, E. G. Auld, D. R. Gill, D. A. Hutcheon, G. Jones, E. Korkmaz, S. Maytal-Beck, M. A. Moinester, J. A. Niskanen, D. Ottewell, A. Rahav, S. Ram, M. Sevior, P. L. Walden, and R. Weiss

Atomic, Molecular, and Optical Physics

Unity Occupation of Sites in a 3D Optical Lattice 2262
Marshall T. DePue, Colin McCormick, S. Lukman Winoto, Steven Oliver, and David S. Weiss

Origin of the Phase Lag in the Modulation of Photoabsorption Products under Two-Color Fields 2266
P. Lambropoulos and Takashi Nakajima

Geometric Size Effects in the Melting of Sodium Clusters 2270
F. Calvo and F. Spiegelmann

Nonlinear Dynamics, Fluid Dynamics, Classical Optics, etc.

Experimental Verification of Noise Induced Attractor Deformation 2274
Martin Diestelhorst, Rainer Hegger, Lars Jaeger, Holger Kantz, and Ralf-Peter Kapsch

Random Laser Action in Semiconductor Powder 2278
H. Cao, Y. G. Zhao, S. T. Ho, E. W. Seelig, Q. H. Wang, and R. P. H. Chang

Reduction of Large Dynamical Systems by Minimization of Evolution Rate 2282
Sharath S. Girimaji

(Continued on Third Cover)

Copyright 1999 by The American Physical Society

CODEN: PRLTAO 82 (11) 2223–2416 (15 March 1999) 11

Contents (Continued)

Plasma and Beam Physics

Suppression of Transverse Bunch Instabilities by Asymmetries in the Chamber Geometry 2286
A. Burov and V. Danilov

Condensed Matter: Structure, etc.

Time Scales for Viscous Flow, Atomic Transport, and Crystallization in the Liquid and Supercooled Liquid States of $Zr_{41.2}Ti_{13.8}Cu_{12.5}Ni_{10.0}Be_{22.5}$ 2290
A. Masuhr, T. A. Waniuk, R. Busch, and W. L. Johnson

Fast and Slow Dynamics of Hydrogen Bonds in Liquid Water 2294
Francis W. Starr, Johannes K. Nielsen, and H. Eugene Stanley

Coexistence of a Spin-Singlet Ground State with the 3D Magnetic Order in the CsC_{60} Polymerized Fulleride 2298
Barbara Simovič, Denis Jérome, Férid Rachdi, Gabriel Baumgartner, and László Forró

Deuterium Diffusion in Niobium: The Influence of Coherency Stresses 2302
U. Stuhr, Katja Cornell, and H. Wipf

Fingering Instability of Dislocations and Related Line Defects 2306
Ming Li, Brian B. Smith, and Robin L. B. Selinger

Peierls Energy of Dislocations: A Critical Assessment 2310
Gunther Schoeck

Dynamic Instability of Brittle Fracture 2314
Mokhtar Adda-Bedia, Rodrigo Arias, Martine Ben Amar, and Fernando Lund

Universal Amplitudes in the Finite-Size Scaling of Three-Dimensional Spin Models 2318
Martin Weigel and Wolfhard Janke

Precision Neutron Inferferometric Search for Evidence of Nuclear Quantum Entanglement in Liquid H_2O-D_2O Mixtures 2322
A. Ioffe, M Arif, D. L. Jacobson, and F. Mezei

Observation of Molecular Layering in Thin Liquid Films Using X-Ray Reflectivity 2326
C.-J. Yu, A. G. Richter, A. Datta, M. K. Durbin, and P. Dutta

Spontaneous Pattern Formation on Ion Bombarded Si(001) 2330
Jonah Erlebacher, Michael J. Aziz, Eric Chason, Michael B. Sinclair, and Jerrold A. Floro

Initial Oxidation of Si(100)-(2×1) as an Autocatalytic Reaction 2334
Maki Suemitsu, Yoshiharu Enta, Yasushi Miyanishi, and Nobuo Miyamoto

Condensed Matter: Electronic Properties, etc.

Molecular Dynamics in Confining Space: From the Single Molecule to the Liquid State 2338
A. Huwe, F. Kremer, P. Behrens, and W. Schwieger

Magnetic and Thermodynamic Properties of the Three-Dimensional Periodic Anderson Hamiltonian 2342
Carey Huscroft, A. K. McMahan, and R. T. Scalettar

Direct Observation of Excitonic Rabi Oscillations in Semiconductors 2346
A. Schülzgen, R. Binder, M. E. Donovan, M. Lindberg, K. Wundke, H. M. Gibbs, G. Khitrova, and N. Peyghambarian

Plasmon Lifetime in K: A Case Study of Correlated Electrons in Solids Amenable to *Ab Initio* Theory 2350
Wei Ku and Adolfo G. Eguiluz

Resistivity Saturation Revisited: Results from a Dynamical Mean Field Theory 2354
A. J. Millis, Jun Hu, and S. Das Sarma

Generic Transmission Zeros and In-Phase Resonances in Time-Reversal Symmetric Single Channel Transport 2358
H.-W. Lee

Ground State of a Two-Dimensional Coupled Electron-Hole Gas in InAs/GaSb Narrow Gap Heterostructures 2362
T. P. Marlow, L. J. Cooper, D. D. Arnone, N. K. Patel, D. M. Whittaker, E. H. Linfield, D. A. Ritchie, and M. Pepper

Frustrated Kinetic Energy, the Optical Sum Rule, and the Mechanism of Superconductivity 2366
Sudip Chakravarty, Hae-Young Kee, and Elihu Abrahams

(Continued on Preceding Page)

Contents (Continued)

New Scenario for High-T_c Cuprates: Electronic Topological Transition as a Motor for Anomalies in the Underdoped Regime 2370
F. Onufrieva, P. Pfeuty, and M. Kiselev
Moving Vortex States Studied by Current Flow in Single Crystal $Bi_2Sr_2CaCu_2O_{8+\delta}$ 2374
J. Mirković, K. Kimura, and K. Kadowaki
Anisotropic dc Magnetization of Superconducting UPt_3 and Antiferromagnetic Ordering Below 20 mK 2378
Stephan Schöttl, Erwin A. Schuberth, Karol Flachbart, Jan B. Kycia, J. I. Hong, D. N. Seidman, William P. Halperin, J. Hufnagl, and Ernst Bucher
Polarized-Neutron Observation of Longitudinal Haldane-Gap Excitations in Nd_2BaNiO_5 2382
S. Raymond, T. Yokoo, A. Zheludev, S. E. Nagler, A. Wildes, and J. Akimitsu
Direct Observation of Small-Polaron Ordering in Manganites 2386
J. Q. Li, M. Uehara, C. Tsuruta, Y. Matsui, and Z. X. Zhao
Orbital Magnetism and Magnetic Anisotropy Probed with Ferromagnetic Resonance 2390
A. N. Anisimov, M. Farle, P. Poulopoulos, W. Platow, K. Baberschke, P. Isberg, R. Wäppling, A. M. N. Niklasson, and O. Eriksson
Ultrafast Electron Dynamics in Femtosecond Optical Breakdown of Dielectrics 2394
Ming Li, Saipriya Menon, John P. Nibarger, and George N. Gibson
Electron Population Analysis by Full-Potential X-Ray Absorption Simulations 2398
Yves Joly, Delphine Cabaret, Hubert Renevier, and Calogero R. Natoli

Interdisciplinary Physics: Biological Physics, Quantum Information, etc.

Effects of Colored Noise on Stochastic Resonance in Sensory Neurons 2402
Daichi Nozaki, Douglas J. Mar, Peter Grigg, and James J. Collins

Comments

Comment on "Stabilization, Selection, and Tracking of Unstable Patterns by Weak Spatial Perturbations" 2406
G. K. Harkness, R. Martin, G.-L. Oppo, A. J. Scroggie, and W. J. Firth
Wang *et al.* Reply 2407
Peng-Ye Wang, Ping Xie, Jian-Hua Dai, and Hong-Jun Zhang
Comment on "Chain Motion in an Unentangled Polyethylene Melt: A Critical Test of the Rouse Model by Molecular Dynamics Simulations and Neutron Spin Echo Spectroscopy" 2408
Ludger Harnau, Roland G. Winkler, and Peter Reineker
Comment on "A New Class of Exactly Solvable Interacting Fermion Models in One Dimension" 2409
A. A. Zvyagin
Schulz and Shastry Reply 2410
H. J. Schulz and B. Sriram Shastry
Comment on "Wigner Crystal Type of Charge Ordering in an Organic Conductor with a Quarter-Filled Band: $(DI\text{-}DCNQI)_2Ag$" 2411
Sumit Mazumdar, David Campbell, R. Torsten Clay, and S. Ramasesha
Hiraki and Kanoda Reply 2412
K. Hiraki and K. Kanoda
Origin of Hall Anomaly in the Mixed State 2413
P. Ao
D'Anna *et al.* Reply 2414
G. D'Anna, V. Berseth, L. Forró, A. Erb, and E. Walker

Errata

Erratum: Why do Chaotic Orbits Converge under a Random Velocity Reset? [Phys. Rev. Lett. **77**, 4318 (1996)] 2415
Yih-Yuh Chen
Erratum: Neutral Fermions at Filling Factor $\nu = 1/2$ [Phys. Rev. Lett. **80**, 4745 (1998)] 2416
Dung-Hai Lee