PHYSICAL REVIEW LETTERS

Contents

VOLUME 79, NUMBER 18 3 November 1997

General Physics

Stochastic Interpretation of Quantum Mechanics in Complex Space 3319
M. S. Wang

Phase-Space Approach to the Tunnel Effect: A New Semiclassical Traversal Time 3323
A. L. Xavier, Jr. and M. A. M. de Aguiar

Tailored Complex Potentials and Friedel's Law in Atom Optics 3327
Claudia Keller, Markus K. Oberthaler, Roland Abfalterer, Stefan Bernet, Jörg Schmiedmayer, and Anton Zeilinger

Evolution of Correlation Properties and Appearance of Broken Symmetry in the Process of Bose-Einstein Condensation 3331
Yu. Kagan and B. V. Svistunov

Flux of Particles in Sawtooth Media 3335
Lutz Schimansky-Geier, Maik Kschischo, and Thomas Fricke

Stationary Properties of a Randomly Driven Ising Ferromagnet 3339
Johannes Hausmann and Pál Ruján

Gravitation and Astrophysics

Non-Abelian Bogomol'nyi-Prasad-Sommerfield Monopoles in $N = 4$ Gauged Supergravity 3343
Ali H. Chamseddine and Mikhail S. Volkov

Vortex-Nucleus Interaction and Pinning Forces in Neutron Stars 3347
P. M. Pizzochero, L. Viverit, and R. A. Broglia

Nuclear Physics

Antiproton Production in 11.5A GeV/c Au + Pb Nucleus-Nucleus Collisions 3351
T. A. Armstrong, *et al.* (The E864 Collaboration)

Anomalies in the Nuclear Dissociation Cross Sections of ^{208}Pb at 33 TeV 3355
S. Datz, J. R. Beene, P. Grafström, H. Knudsen, H. F. Krause, R. H. Schuch, and C. R. Vane

Atomic, Molecular, and Optical Physics

$E1$-$M1$ Damping Interference in the Electric Field Quenching of Metastable Ar^{17+} Ions 3359
R. W. Dunford, D. S. Gemmell, M. Jung, E. P. Kanter, H. G. Berry, A. E. Livingston, S. Cheng, and L. J. Curtis

Quasiperiodic Optical Lattices 3363
L. Guidoni, C. Triché, P. Verkerk, and G. Grynberg

Controlling the Branching Ratio of Photoionization Products under Two-Color Excitation: Competition between ac Stark Splitting and Two-Path Interference 3367
Takashi Nakajima, Jian Zhang, and P. Lambropoulos

Correlation between Core-Hole Polarization and Localized Bond Rupture Probed by Anisotropy in the Photofragmentation of F 1s Excited SF_6 3371
K. Ueda, Y. Shimizu, H. Chiba, M. Okunishi, K. Ohmori, J. B. West, Y. Sato, T. Hayaishi, H. Nakamatsu, and T. Mukoyama

Complete Determination of Excitation Amplitudes and Phases for the 3^1D State of Helium 3375
A. G. Mikosza, J. F. Williams, and J. B. Wang

(Continued on Third Cover)

CODEN: PRLTAO 79 (18), 3319–3544 (3 November 1997)

Contents (Continued)

Energies and Relativistic Corrections for the Metastable States of Antiprotonic Helium Atoms 3379
V. I. Korobov and D. D. Bakalov

Calculation of the Positronium Hyperfine Interval 3383
Gregory S. Adkins, Richard N. Fell, and Plamen M. Mitrikov

Single Photon Annihilation Contributions to the Positronium Hyperfine Splitting to Order $m_e\alpha^6$ 3387
A. H. Hoang, P. Labelle, and S. M. Zebarjad

Bound Delocalized Excited States in I^-Xe_n Clusters 3391
Israela Becker, Gil Markovich, and Ori Cheshnovsky

Surface Channeling Experiments at 20 MeV and Resonant Coherent Excitation of N^{6+} Ions 3395
N. Hatke, M. Dirska, M. Grether, E. Luderer, A. Robin, A. Närmann, and W. Heiland

Nonlinear Dynamics, Fluid Dynamics, Classical Optics, Etc.

Experimental Observation of Fluidlike Motion of Optical Vortices 3399
D. Rozas, Z. S. Sacks, and G. A. Swartzlander, Jr.

Charge Carrier Photoexcitation and Two-Wave Mixing in Dichroic Materials 3403
Germano Montemezzani, Carolina Medrano, Peter Günter, and Marko Zgonik

Particle Motions in a Gas-Fluidized Bed of Sand 3407
Narayanan Menon and Douglas J. Durian

Predictability of Small-Scale Motion in Isotropic Fluid Turbulence 3411
L. Machiels

Plasma and Beam Physics

Radiation Emission and Its Influence on the Motion of Multi-GeV Electrons and Positrons in Strong Crystalline Fields 3415
A. Baurichter, K. Kirsebom, Yu. V. Kononets, R. Medenwaldt, U. Mikkelsen, S. P. Møller, E. Uggerhøj, T. Worm, K. Elsener, S. Ballestrero, P. Sona, J. Romano, S. H. Connell, J. P. F. Sellschop, R. O. Avakian, A. E. Avetisian, and S. P. Taroian

Nonlinear Kinetic Fluid Equations 3419
Nathan Mattor and Scott E. Parker

Relaxation of a Two-Specie Magnetofluid 3423
L. C. Steinhauer and A. Ishida

Condensed Matter: Structure, Etc.

Pattern Formation in an Oscillatory Medium with Memory Effects: Reversible Roughening in a Surface Reaction 3427
K. C. Rose, B. Berton, R. Imbihl, W. Engel, and A. M. Bradshaw

Inherent Structures and Two-Stage Melting in Two Dimensions 3431
Frank L. Somer, Jr., G. S. Canright, Theodore Kaplan, Kun Chen, and Mark Mostoller

Nonlocal Dielectric Saturation in Liquid Water 3435
Alexei A. Kornyshev and Godehard Sutmann

Thermal Fluctuations of Freely Suspended Smectic-A Films from Mesoscopic to Molecular Length Scales 3439
E. A. L. Mol, G. C. L. Wong, J. M. Petit, F. Rieutord, and W. H. de Jeu

Confocal Microscopy Study of Texture Transitions in a Polymer Stabilized Cholesteric Liquid Crystal 3443
G. A. Held, L. L. Kosbar, I. Dierking, A. C. Lowe, G. Grinstein, V. Lee, and R. D. Miller

Universality of Finite-Size Corrections to the Number of Critical Percolation Clusters 3447
Robert M. Ziff, Steven R. Finch, and Victor S. Adamchik

Low Temperature Heat-Capacity Anomalies in Two-Dimensional Solid ^{3}He 3451
K. Ishida, M. Morishita, K. Yawata, and Hiroshi Fukuyama

Gold Nanobridge Stabilized by Surface Structure 3455
Yukihito Kondo and Kunio Takayanagi

Physisorbed Template for Spatial Patterning of Adsorbates 3459
P. A. Williams, G. A. Reider, Leping Li, U. Höfer, T. Suzuki, and T. F. Heinz

(Continued on Preceding Page)

Condensed Matter: Electronic Properties, Etc.

Electroneutrality and the Friedel Sum Rule in a Luttinger Liquid 3463
Reinhold Egger and Hermann Grabert
Topology of the Pseudogap and Shadow Bands in $Bi_2Sr_2CaCu_2O_{8+\delta}$ at Optimum Doping 3467
N. L. Saini, J. Avila, A. Bianconi, A. Lanzara, M. C. Asensio, S. Tajima, G. D. Gu, and N. Koshizuka
Hysteretic Depinning of Anisotropic Charge Density Waves 3471
Valerii M. Vinokur and Thomas Nattermann
Large Regions of Stability in the Phase Diagrams of Quantum Dots and the Associated Filling Factors 3475
C. G. Bao
Resonant Scattering in a Strong Magnetic Field: Exact Density of States 3478
T. V. Shahbazyan and S. E. Ulloa
Effect of Screening on Shot Noise in Diffusive Mesoscopic Conductors 3482
Y. Naveh, D. V. Averin, and K. K. Likharev
Observation of Andreev Reflection Enhanced Shot Noise 3486
P. Dieleman, H. G. Bukkems, T. M. Klapwijk, M. Schicke, and K. H. Gundlach
Energy Distribution Function of Quasiparticles in Mesoscopic Wires 3490
H. Pothier, S. Guéron, Norman O. Birge, D. Esteve, and M. H. Devoret
Reflection of THz Radiation by a Superlattice 3494
Avik W. Ghosh, Alex V. Kuznetsov, and John W. Wilkins
δ-Function Peak in the Specific Heat of High-T_c Superconductors: Monte Carlo Simulation 3498
Xiao Hu, Seiji Miyashita, and Masashi Tachiki
Dual Superfluid-Bose-Glass Critical Point in Two Dimensions and the Universal Conductivity 3502
Igor F. Herbut
Unusual Dispersion and Line Shape of the Superconducting State Spectra of $Bi_2Sr_2CaCu_2O_{8+\delta}$ 3506
M. R. Norman, H. Ding, J. C. Campuzano, T. Takeuchi, M. Randeria, T. Yokoya, T. Takahashi, T. Mochiku, and K. Kadowaki
Local Electronic and Magnetic Structure of Ni below and above T_C: A Spin-Resolved Circularly Polarized Resonant Photoemission Study 3510
B. Sinkovic, L. H. Tjeng, N. B. Brookes, J. B. Goedkoop, R. Hesper, E. Pellegrin, F. M. F. de Groot, S. Altieri, S. L. Hulbert, E. Shekel, and G. A. Sawatzky
Instability of Anisotropic Fermi Surfaces in Two Dimensions 3514
J. González, F. Guinea, and M. A. H. Vozmediano
Atomic Resolution γ-ray Holography Using the Mössbauer Effect 3518
P. Korecki, J. Korecki, and T. Ślęzak
Biexciton and Triexciton States in Quantum Dots in the Weak Confinement Regime 3522
Michio Ikezawa, Yasuaki Masumoto, Toshihide Takagahara, and Selvakumar V. Nair
Electron Capture and Loss Processes in the Interaction of Hydrogen, Oxygen, and Fluorine Atoms and Negative Ions with a MgO(100) Surface 3526
S. Ustaze, R. Verucchi, S. Lacombe, L. Guillemot, and V. A. Esaulov

Cross-Disciplinary Physics

Thermodynamic Stability of Folded Proteins against Mutations 3530
H. J. Bussemaker, D. Thirumalai, and J. K. Bhattacharjee
Symmetry and Kinetic Optimization of Proteinlike Heteropolymers 3534
Erik D. Nelson, Lynn F. Teneyck, and José N. Onuchic

Comments

Comment on "Circumstantial Evidence for Critical Behavior in Peripheral Au + Au Collisions at 35 MeV/nucleon" 3538
L. Phair, Th. Rubehn, L. G. Moretto, and G. J. Wozniak

(Continued on Preceding Page)

Contents (Continued)

Comment on "Spontaneous Fission: A Kinetic Approach" 3539
George F. Bertsch and Aurel Bulgac
Bonasera and Iwamoto Reply 3540
Aldo Bonasera and Akira Iwamoto
Comment on "New States of Hydrogen in a Circularly Polarized Electromagnetic Field" 3541
Dominique Delande, Jakub Zakrzewski, and Andreas Buchleitner
Kalinski and Eberly Reply 3542
Maciej Kalinski and J. H. Eberly
Comment on "Exact Results for the Lower Critical Solution in the Asymmetric Model of an Interacting Binary Mixture" 3543
José M. Romero-Enrique, Inmaculada Rodríguez-Ponce, Luis F. Rull, and Umberto Marini Bettolo Marconi

Errata

Probing the QCD Pomeron in e^+e^- Collisions [Phys. Rev. Lett. **78**, 803 (1997)] 3544
S. J. Brodsky, F. Hautmann, and D. E. Soper
Observation of Standing Acoustic Waves by Resonant Raman Scattering [Phys. Rev. Lett. **78**, 4119 (1997)] 3544
A. Mlayah, R. Grac, G. Armelles, R. Carles, A. Zwick, and F. Briones

Cumulative Author Index i