PHYSICAL REVIEW LETTERS

Contents

VOLUME 82, NUMBER 12 22 March 1999

General Physics

Dynamical Decoupling of Open Quantum Systems 2417
Lorenza Viola, Emanuel Knill, and Seth Lloyd

Strongly Enhanced Inelastic Collisions in a Bose-Einstein Condensate near Feshbach Resonances 2422
J. Stenger, S. Inouye, M. R. Andrews, H.-J. Miesner, D. M. Stamper-Kurn, and W. Ketterle

Quantized Röntgen Effect in Bose-Einstein Condensates 2426
U. Leonhardt and P. Piwnicki

Gravitation and Astrophysics

Measurement of the Solar Neutrino Energy Spectrum Using Neutrino-Electron Scattering 2430
Y. Fukuda *et al.* (Super-Kamiokande Collaboration)

Elementary Particles and Fields

Counterterms and M-Theory Corrections to $D = 11$ Supergravity 2435
S. Deser and D. Seminara

Search for an Axionlike Spin Coupling Using a Paramagnetic Salt with a dc SQUID 2439
Wei-Tou Ni, Sheau-shi Pan, Hsien-Chi Yeh, Li-Shing Hou, and Juling Wan

New String Excitations in the Two-Higgs-Doublet Standard Model 2443
C. Bachas, B. Rai, and T. N. Tomaras

Fully Supersymmetric CP Violation in K and B Systems 2447
D. A. Demir, A. Masiero, and O. Vives

Inclusive Jet Cross Section in $\overline{p}p$ Collisions at $\sqrt{s} = 1.8$ TeV 2451
B. Abbott *et al.* (D0 Collaboration)

Dijet Mass Spectrum and a Search for Quark Compositeness in $\overline{p}p$ Collisions at $\sqrt{s} = 1.8$ TeV 2457
B. Abbott *et al.* (D0 Collaboration)

Anomalous Chiral Symmetry Breaking above the QCD Phase Transition 2463
Shailesh Chandrasekharan, Dong Chen, Norman Christ, Weonjong Lee, Robert Mawhinney, and Pavlos Vranas

Parton Distributions, d/u, and Higher Twist Effects at High x 2467
U. K. Yang and A. Bodek

Nuclear Physics

Baryon Stopping and Charged Particle Distributions in Central Pb + Pb Collisions at 158 GeV per Nucleon 2471
H. Appelshäuser *et al.* (NA49 Collaboration)

First On-Line Laser Spectroscopy of Radioisotopes of a Refractory Element 2476
J. M. G. Levins, D. M. Benton, J. Billowes, P. Campbell, T. G. Cooper, P. Dendooven, D. E. Evans, D. H. Forest, I. S. Grant, J. A. R. Griffith, J. Huikari, A. Jokinen, K. Peräjärvi, G. Tungate, G. Yeandle, and J. Äystö

Atomic, Molecular, and Optical Physics

Complete Description of the Xe 4d Photoionization by Spin-Resolved Photoelectron and Auger Spectroscopy 2480
G. Snell, B. Langer, M. Drescher, N. Müller, B. Zimmermann, U. Hergenhahn, J. Viefhaus, U. Heinzmann, and U. Becker

(Continued on Third Cover)

Copyright 1999 by The American Physical Society

CODEN: PRLTAO 82 (12), 2417–2622 (22 March 1999)

Measurement of the $6S \rightarrow 7S$ Transition Polarizability in Atomic Cesium and an Improved Test of the Standard Model 2484
S. C. Bennett and C. E. Wieman
Interferometric Line Shape Modulation in Alkali-Halide Photoabsorption 2488
S. T. Cornett, H. R. Sadeghpour, and M. J. Cavagnero
Charge Asymmetric Dissociation Induced by Sequential and Nonsequential Strong Field Ionization 2492
Chunlei Guo, Ming Li, and George N. Gibson
Double Ionization of Helium by Fast Electron Impact 2496
A. Dorn, R. Moshammer, C. D. Schröter, T. J. M. Zouros, W. Schmitt, H. Kollmus, R. Mann, and J. Ullrich
Phase-Dependent Spectra in a Driven Two-Level Atom 2500
Peng Zhou and S. Swain

Nonlinear Dynamics, Fluid Dynamics, Classical Optics, etc.
Control of Unstable High-Period Orbits in Complex Systems 2504
Yu. L. Bolotin, V. Yu. Gonchar, A. A. Krokhin, A. Tur, and V. V. Yanovsky

Condensed Matter: Structure, etc.
Anticlinic Smectic-*C* Surfaces on Smectic-*A* Freely Suspended Liquid-Crystal Films 2508
D. R. Link, G. Natale, N. A. Clark, J. E. Maclennan, M. Walsh, S. S. Keast, and M. E. Neubert
Hydrogen Flip Model for Light-Induced Changes of Amorphous Silicon 2512
R. Biswas and Y.-P. Li
Impurity Effects in the Premelting of Ice 2516
J. S. Wettlaufer
Mesoscopic Mean-Field Theory for Supercooled Liquids and the Glass Transition 2520
R. V. Chamberlin
Nature of the Low-Temperature 3×3 Surface Phase of Pb/Ge(111) 2524
A. Mascaraque, J. Avila, J. Alvarez, M. C. Asensio, S. Ferrer, and E. G. Michel
Self-Organized Replication of 3D Coherent Island Size and Shape in Multilayer Heteroepitaxial Films 2528
Feng Liu, Sarah E. Davenport, Heather M. Evans, and M. G. Lagally

Condensed Matter: Electronic Properties, etc.
Stable Vacancy Clusters in Neutron-Irradiated Graphite: Evidence for Aggregations with a Magic Number 2532
Z. Tang, M. Hasegawa, T. Shimamura, Y. Nagai, T. Chiba, Y. Kawazoe, M. Takenaka, E. Kuramoto, and T. Iwata
Fermion-Boson Duality of One-Dimensional Quantum Particles with Generalized Contact Interactions 2536
Taksu Cheon and T. Shigehara
Non-Fermi-Liquid Single Particle Line Shape of the Quasi-One-Dimensional Non-CDW Metal $Li_{0.9}Mo_6O_{17}$: Comparison to the Luttinger Liquid 2540
J. D. Denlinger, G.-H. Gweon, J. W. Allen, C. G. Olson, J. Marcus, C. Schlenker, and L.-S. Hsu
Accurate Density Functional with Correct Formal Properties: A Step Beyond the Generalized Gradient Approximation 2544
John P. Perdew, Stefan Kurth, Aleš Zupan, and Peter Blaha
Electronic Structure and Optical Limiting Behavior of Carbon Nanotubes 2548
P. Chen, X. Wu, X. Sun, J. Lin, W. Ji, and K. L. Tan
Residual Native Shallow Donor in ZnO 2552
D. C. Look, J. W. Hemsky, and J. R. Sizelove
Primary Decay Pathway of a Local Mode of a Photoexcited Ion into a Dielectric Crystal Host Lattice 2556
S. G. Demos, Dana M. Calistru, Scot Owen, A. B. Bykov, V. Petricevic, and R. R. Alfano
Quantum Mechanical Position Operator and Localization in Extended Systems 2560
A. A. Aligia and G. Ortiz
Self-Gating Effect in the Electron Y-Branch Switch 2564
Jan-Olof J. Wesström
Phase Diagram of a Superconducting and Antiferromagnetic System with SO(5) Symmetry 2568
Xiao Hu, Tomio Koyama, and Masashi Tachiki

(Continued on Preceding Page)

Contents (Continued)

Strongly Asymmetric Tricriticality of Quenched Random-Field Systems 2572
Alkan Kabakçıoğlu and A. Nihat Berker
Small Energy Scale for Mixed-Valent Uranium Materials 2575
Mikito Koga and Daniel L. Cox
Spin Wave Signature in the Spin Polarized Electron Energy Loss Spectrum of Ultrathin Fe Films: Theory and Experiment 2579
M. Plihal, D. L. Mills, and J. Kirschner
Generation of Spin-Wave Envelope Dark Solitons 2583
Andrei N. Slavin, Yuri S. Kivshar, Elena A. Ostrovskaya, and Hartmut Benner
Two-Dimensional Zeeman Polarization Spectroscopy of Tunneling Atomic Groups in Solids 2587
J. Peternelj, A. Damyanovich, and M. M. Pintar
Squeezing the Optical Near-Field Zone by Plasmon Coupling of Metallic Nanoparticles 2590
J. R. Krenn, A. Dereux, J. C. Weeber, E. Bourillot, Y. Lacroute, J. P. Goudonnet, G. Schider, W. Gotschy, A. Leitner, F. R. Aussenegg, and C. Girard

Interdisciplinary Physics: Biological Physics, Quantum Information, etc.

Pulsed Energy-Time Entangled Twin-Photon Source for Quantum Communication 2594
J. Brendel, N. Gisin, W. Tittel, and H. Zbinden
Reversing Measurement and Probabilistic Quantum Error Correction 2598
Masato Koashi and Masahito Ueda
Polymers on Nanoperiodic, Heterogeneous Surfaces 2602
L. Rockford, Y. Liu, P. Mansky, T. P. Russell, M. Yoon, and S. G. J. Mochrie
Smooth-Filamental Transition of Active Tracer Fields Stirred by Chaotic Advection 2606
Zoltán Neufeld, Cristóbal López, and Peter H. Haynes
Shear-Induced Changes in Two-Dimensional Foam 2610
A. Abd el Kader and J. C. Earnshaw
Two-Dimensional Mapping of the Electrostatic Potential in Transistors by Electron Holography 2614
W. D. Rau, P. Schwander, F. H. Baumann, W. Höppner, and A. Ourmazd

Comments

Hot Spots on the Fermi Surface of $Bi_2Sr_2CaCu_2O_{8+\delta}$: Stripes versus Superstructure 2618
J. Mesot, M. R. Norman, H. Ding, and J. C. Campuzano
Saini *et al.* Reply 2619
N. L. Saini, A. Bianconi, A. Lanzara, J. Avila, M. C. Asensio, S. Tajima, G. D. Gu, and N. Koshizuka
Comment on "Experimental and Theoretical Constraints of Bipolaronic Superconductivity in High T_c Materials: An Impossibility" 2620
A. S. Alexandrov
Chakraverty *et al.* Reply 2621
B. K. Chakraverty, J. Ranninger, and D. Feinberg

Errata

Erratum: Coulomb Charging Effect in Self-Assembled Ge Quantum Dots Studied by Admittance Spectroscopy [Phys. Rev. Lett. **80**, 3340 (1998)] 2622
S. K. Zhang, H. J. Zhu, F. Lu, Z. M. Jiang, and Xun Wang