PHYSICAL REVIEW LETTERS

Contents

VOLUME 79, NUMBER 11 15 September 1997

General Physics

What Determines the Spreading of a Wave Packet? 1959
R. Ketzmerick, K. Kruse, S. Kraut, and T. Geisel

Reversible Decoherence of a Mesoscopic Superposition of Field States 1964
J. M. Raimond, M. Brune, and S. Haroche

Gravitation and Astrophysics

Gravitational Lensing Signature of Long Cosmic Strings 1968
Andrew A. de Laix, Lawrence M. Krauss, and Tanmay Vachaspati

Selection Rules for Splitting Strings 1972
Ana Achúcarro and Ruth Gregory

Elementary Particles and Fields

Gauge Invariance, Finite Temperature, and Parity Anomaly in $D = 3$ 1976
S. Deser, L. Griguolo, and D. Seminara

Induced Parity-Breaking Term at Finite Temperature 1980
C. D. Fosco, G. L. Rossini, and F. A. Schaposnik

Creation of Fundamental Strings by Crossing Dirichlet Branes 1984
Ulf Danielsson, Gabriele Ferretti, and Igor R. Klebanov

Electron Electric Dipole Moment from CP Violation in the Charged Higgs Sector 1988
David Bowser-Chao, Darwin Chang, and Wai-Yee Keung

First Observation of the All-Hadronic Decay of $t\bar{t}$ Pairs 1992
F. Abe *et al.* (CDF Collaboration)

Unquenching the Scalar Glueball 1998
M. Boglione and M. R. Pennington

Nuclear Physics

g Factor of a Magnetic-Rotational Band Head in ^{193}Pb 2002
S. Chmel, F. Brandolini, R. V. Ribas, G. Baldsiefen, A. Görgen, M. De Poli, P. Pavan, and H. Hübel

$\Delta I = 4$ Bifurcation in Ground Bands of Even-Even Nuclei and the Interacting Boson Model 2006
Hiroshi Toki and Lian-Ao Wu

Where is the Scissors Mode Strength in Odd-Mass Nuclei? 2010
J. Enders, N. Huxel, P. von Neumann-Cosel, and A. Richter

Adiabatic Quantum Tunneling in Heavy-Ion Sub-barrier Fusion 2014
K. Hagino, N. Takigawa, M. Dasgupta, D. J. Hinde, and J. R. Leigh

Atomic, Molecular, and Optical Physics

Ionization of Na Rydberg Atoms by Subpicosecond Quarter-Cycle Circularly Polarized Pulses 2018
T. J. Bensky, G. Haeffler, and R. R. Jones

Strong-Field Dissociation and Ionization of H_2^+ Using Ultrashort Laser Pulses 2022
G. N. Gibson, M. Li, C. Guo, and J. Neira

(Continued on Third Cover)

CODEN: PRLTAO 79 (11), 1959–2157 (15 September 1997)

Siegert Pseudo-States as a Universal Tool: Resonances, *S* Matrix, Green Function 2026
Oleg I. Tolstikhin, Valentin N. Ostrovsky, and Hiroki Nakamura
Charge State Dependent Energy Loss of Slow Heavy Ions in Solids 2030
T. Schenkel, M. A. Briere, A. V. Barnes, A. V. Hamza, K. Bethge, H. Schmidt-Böcking, and D. H. Schneider
Intra-atomic Double Scattering of Binary Encounter Electrons in Collisions of Fast Heavy Ions with Atoms and Molecules 2034
U. Bechthold, S. Hagmann, J. Ullrich, B. Bathelt, A. Bohris, R. Moshammer, U. Ramm, C. Bhalla, G. Kraft, and H. Schmidt-Böcking
Novel Structures for the Excess Electron State of the Water Hexamer and the Interaction Forces Governing the Structures 2038
Sik Lee, Jongseob Kim, Sang Joo Lee, and Kwang S. Kim
Spatial Soliton Pixels in Semiconductor Devices 2042
M. Brambilla, L. A. Lugiato, F. Prati, L. Spinelli, and W. J. Firth

Nonlinear Dynamics, Fluid Dynamics, Classical Optics, Etc.
Infrared Seeded Parametric Four-Wave Mixing for Sensitive Detection of Molecules 2046
Mark J. Fernée, Peter F. Barker, Alan. E. W. Knight, and Halina Rubinsztein-Dunlop
Invariants for Correlations of Velocity Differences in Turbulent Fields 2050
Victor S. L'vov, Evgenii Podivilov, and Itamar Procaccia

Plasma and Beam Physics
Suprathermal Electron Generation and Channel Formation by an Ultrarelativistic Laser Pulse in an Underdense Preformed Plasma 2053
G. Malka, J. Fuchs, F. Amiranoff, S. D. Baton, R. Gaillard, J. L. Miquel, H. Pépin, C. Rousseaux, G. Bonnaud, M. Busquet, and L. Lours
Influence of Plasma Shape on Transport in the TCV Tokamak 2057
J.-M. Moret, S. Franke, H. Weisen, M. Anton, R. Behn, B. P. Duval, F. Hofmann, B. Joye, Y. Martin, C. Nieswand, Z. A. Pietrzyk, and W. van Toledo

Condensed Matter: Structure, Etc.
Nanoclusters in Zeolite 2061
Pascale Armand, Marie-Louise Saboungi, D. L. Price, L. Iton, Cornelia Cramer, and M. Grimsditch
Morphology and Stability of Growing Multiwall Carbon Nanotubes 2065
Young-Kyun Kwon, Young Hee Lee, Seong-Gon Kim, Philippe Jund, David Tománek, and Richard E. Smalley
Direct Evidence for Tetrahedral Interstitial Er in Si 2069
U. Wahl, A. Vantomme, J. De Wachter, R. Moons, G. Langouche, and J. G. Marques
Phonon Instabilities in fcc and bcc Tungsten 2073
K. Einarsdotter, B. Sadigh, G. Grimvall, and V. Ozoliņš
Length Scale of Cooperativity in the Dynamic Glass Transition 2077
M. Arndt, R. Stannarius, H. Groothues, E. Hempel, and F. Kremer
Possible Chiral Phase Transition in Two-Dimensional Solid ^{3}He 2081
Tsutomu Momoi, Kenn Kubo, and Koji Niki
Interface Structures of Ordered Fe and Gd Overlayers on W(110) from Photoelectron Diffraction 2085
E. D. Tober, R. X. Ynzunza, F. J. Palomares, Z. Wang, Z. Hussain, M. A. Van Hove, and C. S. Fadley

Condensed Matter: Electronic Properties, Etc.
Exact Kohn-Sham Exchange Potential in Semiconductors 2089
M. Städele, J. A. Majewski, P. Vogl, and A. Görling
In Situ Band Gap Engineering of Carbon Nanotubes 2093
Vincent H. Crespi, Marvin L. Cohen, and Angel Rubio
Kondo Insulator: *p*-wave Bose Condensate of Excitons 2097
Ji-Min Duan, Daniel P. Arovas, and L. J. Sham

(Continued on Preceding Page)

Contents (Continued)

Chemical Potential Shift in Overdoped and Underdoped $La_{2-x}Sr_xCuO_4$ 2101
A. Ino, T. Mizokawa, A. Fujimori, K. Tamasaku, H. Eisaki, S. Uchida, T. Kimura, T. Sasagawa, and K. Kishio
Finite Bias Anomaly in the Subgap Conductance of Superconductor-GaAs Junctions 2105
W. Poirier, D. Mailly, and M. Sanquer
Massless Dirac Fermions, Gauge Fields, and Underdoped Cuprates 2109
Don H. Kim, Patrick A. Lee, and Xiao-Gang Wen
Anisotropic Resistivities of Precisely Oxygen Controlled Single-Crystal $Bi_2Sr_2CaCu_2O_{8+\delta}$: Systematic Study on ''Spin Gap'' Effect 2113
T. Watanabe, T. Fujii, and A. Matsuda
Using Ni Substitution and ^{17}O NMR to Probe the Susceptibility $\chi'(q)$ in Cuprates 2117
J. Bobroff, H. Alloul, Y. Yoshinari, A. Keren, P. Mendels, N. Blanchard, G. Collin, and J.-F. Marucco
New Features in the Vortex Phase Diagram of $YBa_2Cu_3O_{7-\delta}$ 2121
K. Deligiannis, P. A. J. de Groot, M. Oussena, S. Pinfold, R. Langan, R. Gagnon, and L. Taillefer
Thermal Conductivity of Superconducting $(TMTSF)_2ClO_4$: Evidence for a Nodeless Gap 2125
Stéphane Belin and Kamran Behnia
Dissipative Dynamics of Solitons in Planar Ferromagnets 2129
Jacek Dziarmaga
Spin Dynamics in an Ordered Stripe Phase 2133
J. M. Tranquada, P. Wochner, and D. J. Buttrey
Parametric Interaction of Dipolar Spin Wave Solitons with Localized Electromagnetic Pumping 2137
A. V. Bagada, G. A. Melkov, A. A. Serga, and A. N. Slavin
Measurements of Radiation Pressure Effect in Cryogenic Sapphire Dielectric Resonators 2141
S. Chang, A. G. Mann, A. N. Luiten, and D. G. Blair
Real-Space Transfer and Trapping of Carriers into Single GaAs Quantum Wires Studied by Near-Field Optical Spectroscopy 2145
A. Richter, G. Behme, M. Süptitz, Ch. Lienau, T. Elsaesser, M. Ramsteiner, R. Nötzel, and K. H. Ploog

Cross-Disciplinary Physics

Self-Sorting of White Blood Cells in a Lattice 2149
Robert H. Carlson, Christopher V. Gabel, Shirley S. Chan, Robert H. Austin, James P. Brody, and James W. Winkelman, M.D.
Optimal Quantum Cloning Machines 2153
N. Gisin and S. Massar

Comments

Do Histograms Constitute a Proof for Conductance Quantization? 2157
A. I. Yanson and J. M. van Ruitenbeek