NEWSPAPER 81

PHYSICAL REVIEW LETTERS

Contents

VOLUME 81, NUMBER 11 14 September 1998

General Physics

Transitions in Quantum Networks 2185
Päivi Törmä

Quantum Limitations on Superluminal Propagation 2190
Yakir Aharonov, Benni Reznik, and Ady Stern

Reversible Formation of a Bose-Einstein Condensate 2194
D. M. Stamper-Kurn, H.-J. Miesner, A. P. Chikkatur, S. Inouye, J. Stenger, and W. Ketterle

Gapless Finite-T Theory of Collective Modes of a Trapped Gas 2198
D. A. W. Hutchinson, R. J. Dodd, and K. Burnett

Gravitation and Astrophysics

Thermodynamics of Black Holes: An Analogy with Glasses 2201
Th. M. Nieuwenhuizen

Nuclear Physics

Observation of Partial $U_A(1)$ Restoration from Two-Pion Bose-Einstein Correlations 2205
S. E. Vance, T. Csörgö, and D. Kharzeev

Measurement of $E2$ Transitions in the Coulomb Dissociation of ^{8}B 2209
B. Davids, D. W. Anthony, Sam M. Austin, D. Bazin, B. Blank, J. A. Caggiano, M. Chartier, H. Esbensen, P. Hui, C. F. Powell, H. Scheit, B. M. Sherrill, M. Steiner, P. Thirolf, J. Yurkon, and A. Zeller

Signatures for Short-Range Correlations in ^{16}O Observed in the Reaction $^{16}O(e, e'pp)^{14}C$ 2213
C. J. G. Onderwater, K. Allaart, E. C. Aschenauer, Th. S. Bauer, D. J. Boersma, E. Cisbani, W. H. Dickhoff, S. Frullani, F. Garibaldi, W. J. W. Geurts, C. Giusti, D. L. Groep, W. H. A. Hesselink, M. Iodice, E. Jans, N. Kalantar-Nayestanaki, W.-J. Kasdorp, C. Kormanyos, L. Lapikás, J. J. van Leeuwe, R. De Leo, A. Misiejuk, H. Müther, F. D. Pacati, A. R. Pellegrino, R. Perrino, R. Starink, M. Steenbakkers, G. van der Steenhoven, J. J. M. Steijger, M. A. van Uden, G. M. Urciuoli, L. B. Weinstein, and H. W. Willering

Atomic, Molecular, and Optical Physics

Metastable Triply Charged Diatomic Molecules Produced with Femtosecond Pulses 2217
Hirofumi Sakai, H. Stapelfeldt, E. Constant, M. Yu. Ivanov, Daniel R. Matusek, James S. Wright, and P. B. Corkum

Fingerprints of Broad Overlapping Resonances in the $e + H_2$ Cross Section 2221
Edvardas Narevicius and Nimrod Moiseyev

Photoelectron Imaging Spectroscopy of Small Clusters: Evidence for Non-Boltzmannian Kinetic-Energy Distribution in Thermionic Emission 2225
J. C. Pinaré, B. Baguenard, C. Bordas, and M. Broyer

Nonlinear Dynamics, Fluid Dynamics, Classical Optics, etc.

Adaptive Frequency Model for Phase-Frequency Synchronization in Large Populations of Globally Coupled Nonlinear Oscillators 2229
J. A. Acebrón and R. Spigler

(Continued on Third Cover)

Copyright 1998 by The American Physical Society

CODEN: PRLTAO 81 (11) 2185–2305 (14 September 1998)

11

Contents (Continued)

Observation of the Goos-Hänchen Effect in a Phase-Conjugate Mirror 2233
Bradley M. Jost, Abdul-Azeez R. Al-Rashed, and Bahaa E. A. Saleh

Pattern Formation and Localized Structures in Degenerate Optical Parametric Mixing 2236
V. B. Taranenko, K. Staliunas, and C. O. Weiss

Power-Law Spectra of Incipient Gas-Curtain Turbulence 2240
Peter Vorobieff, Paul M. Rightley, and Robert F. Benjamin

Forced 2D Turbulence: Experimental Evidence of Simultaneous Inverse Energy and Forward Enstrophy Cascades 2244
Maarten A. Rutgers

Plasma and Beam Physics

Observation of Energy Transfer between Identical-Frequency Laser Beams in a Flowing Plasma 2248
K. B. Wharton, R. K. Kirkwood, S. H. Glenzer, K. G. Estabrook, B. B. Afeyan, B. I. Cohen, J. D. Moody, and C. Joshi

Increased Saturated Levels of Stimulated Brillouin Scattering of a Laser by Seeding a Plasma with an External Light Source 2252
Juan C. Fernández, B. S. Bauer, K. S. Bradley, J. A. Cobble, D. S. Montgomery, R. G. Watt, B. Bezzerides, K. G. Estabrook, R. Focia, S. R. Goldman, D. B. Harris, E. L. Lindman, H. A. Rose, J. Wallace, and B. H. Wilde

Discovery of Electric Pulsation in a Toroidal Helical Plasma 2256
A. Fujisawa, H. Iguchi, H. Idei, S. Kubo, K. Matsuoka, S. Okamura, K. Tanaka, T. Minami, S. Ohdachi, S. Morita, H. Zushi, S. Lee, M. Osakabe, R. Akiyama, Y. Yoshimura, K. Toi, H. Sanuki, K. Itoh, A. Shimizu, S. Takagi, A. Ejiri, C. Takahashi, M. Kojima, S. Hidekuma, K. Ida, S. Nishimura, M. Isobe, N. Inoue, R. Sakamoto, S.-I. Itoh, Y. Hamada, and M. Fujiwara

Condensed Matter: Structure, etc.

Interactions of Carbon-Nanotubule Proximal Probe Tips with Diamond and Graphene 2260
Ajay Garg, Jie Han, and Susan B. Sinnott

Structure Analysis of a Graphitic Boron Layer at the $TaB_2(0001)$ Surface 2264
H. Kawanowa, R. Souda, S. Otani, and Y. Gotoh

Phase Behavior and Structure of Binary Hard-Sphere Mixtures 2268
Marjolein Dijkstra, René van Roij, and Robert Evans

Critical Behavior of Antiphase Boundaries in Fe_3Al close to the $DO_3 \rightarrow B2$ Phase Transition 2272
D. Le Floc'h, A. Loiseau, Ch. Ricolleau, C. Barreteau, R. Caudron, F. Ducastelle, and J. M. Pénisson

Two Length Scales and Crossover Behavior in the Critical Diffuse Scattering from V_2H 2276
J. Trenkler, P. C. Chow, P. Wochner, H. Abe, K. E. Bassler, R. Paniago, H. Reichert, D. Scarfe, T. H. Metzger, J. Peisl, J. Bai, and S. C. Moss

Exact Partition Functions for the Primitive Droplet Nucleation Model in Two and Three Dimensions 2280
H. A. Kastrup

Membranes with Fluctuating Topology: Monte Carlo Simulations 2284
G. Gompper and D. M. Kroll

Modification of Si(100) Substrate Bonding by Adsorbed Ge or Si Dimer Islands 2288
X. R. Qin, Feng Liu, B. S. Swartzentruber, and M. G. Lagally

Missing-Row Asymmetric-Dimer Reconstruction of $SiC(001)$-$c(4 \times 2)$ 2292
Wenchang Lu, Peter Krüger, and Johannes Pollmann

Theory of the "Honeycomb Chain-Channel" Reconstruction of $M/Si(111)$-(3×1) 2296
Steven C. Erwin and Hanno H. Weitering

Fluids Against Hard Walls and Surface Critical Behavior 2300
P. J. Upton

Condensed Matter: Electronic Properties, etc.

Transport through a 1D Mott-Hubbard Insulator of Finite Length 2304
V. V. Ponomarenko and N. Nagaosa

(Continued on Preceding Page)

Contents (Continued)

From the Fermi Glass towards the Mott Insulator in One Dimension: Delocalization and Strongly Enhanced Persistent Currents 2308
Peter Schmitteckert, Rodolfo A. Jalabert, Dietmar Weinmann, and Jean-Louis Pichard
Electron-Hole Excitations in Semiconductors and Insulators 2312
Michael Rohlfing and Steven G. Louie
Large Enhancement of Boron Carbides' Seebeck Coefficients through Vibrational Softening 2316
T. L. Aselage, D. Emin, S. S. McCready, and R. V. Duncan
Identification of the Si $2p$ Surface Core Level Shifts on the Sb/Si(001)-(2×1) Interface 2320
P. De Padova, R. Larciprete, C. Quaresima, C. Ottaviani, B. Ressel, and P. Perfetti
Effect of Tunneling Conductance on the Coulomb Staircase 2324
Georg Göppert, Hermann Grabert, Nikolai V. Prokof'ev, and Boris V. Svistunov
Magnetic Anisotropy in Quantum Hall Ferromagnets 2328
T. Jungwirth, S. P. Shukla, L. Smrčka, M. Shayegan, and A. H. MacDonald
Effects of Nanodomain Formation on the Electronic Structure of Doped Carbon Nanotubes 2332
D. L. Carroll, Ph. Redlich, X. Blase, J.-C. Charlier, S. Curran, P. M. Ajayan, S. Roth, and M. Rühle
Relationship between the Superconducting Energy Gap and the Critical Temperature in High-T_c Superconductors 2336
Christos Panagopoulos and Tao Xiang
Measurement of Indirect Nuclear Spin-Spin Coupling Frequencies in $YBa_2Cu_3O_7$ 2340
K. R. Gorny, O. M. Vyaselev, S. Yu, C. H. Pennington, W. L. Hults, and J. L. Smith
Magnetization Controlled Superconductivity in a Film with Magnetic Dots 2344
Igor F. Lyuksyutov and Valery Pokrovsky
Bose-Glass Phase in Twinned $YBa_2Cu_3O_{7-\delta}$ 2348
S. A. Grigera, E. Morré, E. Osquiguil, C. Balseiro, G. Nieva, and F. de la Cruz
Plastic Motion of a Vortex Lattice Driven by Alternating Current 2352
W. Henderson, E. Y. Andrei, and M. J. Higgins
Low-Energy Sector of the $S = 1/2$ Kagome Antiferromagnet 2356
F. Mila
Observation of a Ferromagnetic-to-Paramagnetic Phase Transition on a Ferromagnetic Surface Using Spin-Polarized Photoelectron Diffraction: Gd(0001) 2360
E. D. Tober, F. J. Palomares, R. X. Ynzunza, R. Denecke, J. Morais, Z. Wang, G. Bino, J. Liesegang, Z. Hussain, and C. S. Fadley
Anisotropic Spin Correlations in the Zn-Mg-Ho Icosahedral Quasicrystal 2364
Taku J. Sato, Hiroyuki Takakura, An Pang Tsai, and Kaoru Shibata
Two Susceptibility Maxima and Element Specific Magnetizations in Indirectly Coupled Ferromagnetic Layers 2368
U. Bovensiepen, F. Wilhelm, P. Srivastava, P. Poulopoulos, M. Farle, A. Ney, and K. Baberschke
Femtosecond Spectral Interferometry of Resonant Secondary Emission from Quantum Wells: Resonance Rayleigh Scattering in the Nonergodic Regime 2372
D. Birkedal and J. Shah
The Role of Molecular State and Orientation in Harpooning Reactions: N_2O on Cs/Pt(111) 2376
M. Brandt, T. Greber, N. Böwering, and U. Heinzmann

Interdisciplinary Physics: Biological Physics, Quantum Information, etc.

Evolution of Random Networks 2380
Kim Christensen, Raul Donangelo, Belita Koiller, and Kim Sneppen
Spike Train Dynamics Underlying Pattern Formation in Integrate-and-Fire Oscillator Networks 2384
P. C. Bressloff and S. Coombes
Scale-Independent Measures and Pathologic Cardiac Dynamics 2388
Luís A. Nunes Amaral, Ary L. Goldberger, Plamen Ch. Ivanov, and H. Eugene Stanley

(Continued on Preceding Page)

Contents (Continued)

Comments

Comment on "Quantum Statistical Mechanics of an Ideal Gas with Fractional Exclusion Statistics in Arbitrary Dimension" 2392
Wung-Hong Huang
Iguchi Replies 2393
Kazumoto Iguchi

Errata

Erratum: Stringent New Bounds on Supersymmetric Higgs Bosons from Existing Tevatron Data [Phys. Rev. Lett. **80**, 2047 (1998)] 2394
Manuel Drees, Monoranjan Guchait, and Probir Roy
Erratum: Dephasing Rate in Dielectric Glasses at Ultralow Temperatures [Phys. Rev. Lett. **80**, 2945 (1998)] 2395
A. L. Burin, Yu. Kagan, L. A. Maksimov, and I. Ya. Polishchuk