PHYSICAL REVIEW LETTERS

Contents

VOLUME 84, NUMBER 3 17 January 2000

PRL 84 (3), 399–579 (17 January 2000)

General Physics

Modulated Optical Lattice as an Atomic Fabry-Perot Interferometer 399
I. Carusotto and G. C. La Rocca

Enhancement of Stochastic Resonance in Distributed Systems due to a Selective Coupling 404
B. von Haeften, R. Deza, and H. S. Wio

Elementary Particles and Fields

Observation of CP Violation in $K_L \to \pi^+\pi^- e^+ e^-$ Decays 408
A. Alavi-Harati et al. (KTeV Collaboration)

Nuclear Physics

Shell Correction Energy for Bubble Nuclei 412
Yongle Yu, Aurel Bulgac, and Piotr Magierski

Stringent Tests of Shell Model Calculations in fp Shell Nuclei ^{46,48}Ti and ^{50,52}Cr from Measurements of g Factors and $B(E2)$ Values 416
R. Ernst, K.-H. Speidel, O. Kenn, U. Nachum, J. Gerber, P. Maier-Komor, N. Benczer-Koller, G. Jakob, G. Kumbartzki, L. Zamick, and F. Nowacki

Band Structure from Random Interactions 420
R. Bijker and A. Frank

Sensitivity of Nucleus-Nucleus Cross Sections and Atomic-Electron Effects in Dissipative Heavy-Ion Collisions 423
Sergey Yu. Kun

Atomic, Molecular, and Optical Physics

Observation of the Continuous Stern-Gerlach Effect on an Electron Bound in an Atomic Ion 427
N. Hermanspahn, H. Häffner, H.-J. Kluge, W. Quint, S. Stahl, J. Verdú, and G. Werth

Observation and Characterization of the Fluorescence Decay of the $2s2p^6np\ ^1P^o$ Excited States of Ne 431
P. Lablanquie, F. Penent, R. I. Hall, J. H. D. Eland, P. Bolognesi, D. Cooper, G. C. King, L. Avaldi, R. Camilloni, S. Stranges, M. Coreno, K. C. Prince, A. Müehleisen, and M. Žitnik

Photoionization of Highly Charged Ions Using an ECR Ion Source and Undulator Radiation 435
J.-M. Bizau, J.-M. Esteva, D. Cubaynes, F. J. Wuilleumier, C. Blancard, A. Compant La Fontaine, C. Couillaud, J. Lachkar, R. Marmoret, C. Rémond, J. Bruneau, D. Hitz, P. Ludwig, and M. Delaunay

Beyond Optical Molasses: 3D Raman Sideband Cooling of Atomic Cesium to High Phase-Space Density 439
Andrew J. Kerman, Vladan Vuletić, Cheng Chin, and Steven Chu

Recoil-Ion Momentum Distributions for Single and Double Ionization of Helium in Strong Laser Fields 443
Th. Weber, M. Weckenbrock, A. Staudte, L. Spielberger, O. Jagutzki, V. Mergel, F. Afaneh, G. Urbasch, M. Vollmer, H. Giessen, and R. Dörner

Momentum Distributions of Ne^{n+} Ions Created by an Intense Ultrashort Laser Pulse 447
R. Moshammer, B. Feuerstein, W. Schmitt, A. Dorn, C. D. Schröter, J. Ullrich, H. Rottke, C. Trump, M. Wittmann, G. Korn, K. Hoffmann, and W. Sandner

(Continued on Third Cover)

Copyright 2000 by The American Physical Society

Contents (Continued)

New Summation Rules for Coulomb Wave Functions 451
M. Chibisov, A. M. Ermolaev, F. Brouillard, and M. H. Cherkani
Dynamics of Solvation-Induced Structural Transitions in Mesoscopic Binary Clusters 455
Valeria Molinero, Daniel Laria, and Raymond Kapral
Focusing Virtual Photons: Casimir Energies for Some Pairs of Conductors 459
Martin Schaden and Larry Spruch

Nonlinear Dynamics, Fluid Dynamics, Classical Optics, etc.
Frequency Selection by Soliton Excitation in Nondegenerate Intracavity Down-conversion 463
Dmitry V. Skryabin, Alan R. Champneys, and William J. Firth
Modulation Instability of Incoherent Beams in Noninstantaneous Nonlinear Media 467
Marin Soljacic, Mordechai Segev, Tamer Coskun, Demetrios N. Christodoulides, and Ashvin Vishwanath
Simple Model of Intermittent Passive Scalar Turbulence 471
Jaan Kalda
Scaling Properties of Three-Dimensional Magnetohydrodynamic Turbulence 475
Wolf-Christian Müller and Dieter Biskamp
Rotating Spiral Edge Flames in von Karman Swirling Flows 479
V. Nayagam and F. A. Williams

Plasma and Beam Physics
Spectral Distribution of Infrared Synchrotron Radiation by an Insertion Device and Its Edges: A Comparison Between Experimental and Simulated Spectra 483
P. Roy, M. Cestelli Guidi, A. Nucara, O. Marcouille, P. Calvani, P. Giura, A. Paolone, Y.-L. Mathis, and A. Gerschel
Neoclassical Radial Current Balance in Tokamaks and Transition to the H Mode 487
J. A. Heikkinen, T. P. Kiviniemi, and A. G. Peeters
Coherent Structure Phenomena in Drift Wave–Zonal Flow Turbulence 491
A. I. Smolyakov, P. H. Diamond, and M. Malkov
H-Mode Operation in the START Spherical Tokamak 495
A. Sykes, R. J. Akers, L. C. Appel, P. G. Carolan, J. W. Connor, N. J. Conway, G. F. Counsell, A. Dnestrovskij, Yu. N. Dnestrovskij, M. Gryaznevich, P. Helander, M. P. S. Nightingale, C. Ribeiro, C. M. Roach, M. Tournianski, M. J. Walsh, H. R. Wilson, The START Team, and The NBI Team

Condensed Matter: Structure, etc.
Chain Segment Order in Polymer Thin Films on a Nonadsorbing Surface: A NMR Study 499
S. Rivillon, P. Auroy, and B. Deloche
Stability of Si-Interstitial Defects: From Point to Extended Defects 503
Jeongnim Kim, Florian Kirchhoff, John W. Wilkins, and Furrukh S. Khan
Effect of Defects on the Elastic Properties of Wüstite 507
Jianzhong Zhang
Stokes Formula and Density Perturbances for Driven Tracer Diffusion in an Adsorbed Monolayer 511
O. Bénichou, A. M. Cazabat, J. De Coninck, M. Moreau, and G. Oshanin
Strongly Temperature Dependent Sliding Friction for a Superconducting Interface 515
J. B. Sokoloff, M. S. Tomassone, and A. Widom
Direct Measurement of Interfacial Curvature Distributions in a Bicontinuous Block Copolymer Morphology 518
Hiroshi Jinnai, Yukihiro Nishikawa, Richard J. Spontak, Steven D. Smith, David A. Agard, and Takeji Hashimoto

Condensed Matter: Electronic Properties, etc.
Spectral Weight of the Hubbard Model through Cluster Perturbation Theory 522
D. Sénéchal, D. Perez, and M. Pioro-Ladrière
Enhanced Susceptibility in $L\mathrm{NiO_3}$ Perovskites ($L = \mathrm{La, Pr, Nd, Nd_{0.5}Sm_{0.5}}$) 526
J.-S. Zhou, J. B. Goodenough, B. Dabrowski, P. W. Klamut, and Z. Bukowski

(Continued on Preceding Page)

Contents (Continued)

Formation of Electron Strings in Narrow Band Polar Semiconductors 530
F. V. Kusmartsev
Tunable Charge-Density Wave Transport in a Current-Effect Transistor 534
N. Marković, M. A. H. Dohmen, and H. S. J. van der Zant
Charge-Density-Wave Current Conversion in Submicron $NbSe_3$ Wires 538
O. C. Mantel, F. Chalin, C. Dekker, H. S. J. van der Zant, Yu. I. Latyshev, B. Pannetier, and P. Monceau
Weak Localization in Antidot Arrays: Signature of Classical Chaos 542
Oleg Yevtushenko, Gerd Lütjering, Dieter Weiss, and Klaus Richter
Inelastic Light Scattering by Gap Excitations of Fractional Quantum Hall States at $1/3 \leq \nu \leq 2/3$ 546
Moonsoo Kang, A. Pinczuk, B. S. Dennis, M. A. Eriksson, L. N. Pfeiffer, and K. W. West
Re-Entrant Spin Susceptibility of a Superconducting Grain 550
A. Di Lorenzo, Rosario Fazio, F. W. J. Hekking, G. Falci, A. Mastellone, and G. Giaquinta
Quasiparticles in the Vortex Lattice of Unconventional Superconductors: Bloch Waves or Landau Levels? 554
M. Franz and Z. Tešanović
^{63}Cu NQR Evidence of Dimensional Crossover to Anisotropic 2D Regime in $S = \frac{1}{2}$ Three-Leg Ladder $Sr_2Cu_3O_5$ 558
K. R. Thurber, T. Imai, T. Saitoh, M. Azuma, M. Takano, and F. C. Chou
Low Temperature Magnetic Instabilities in Triply Charged Fulleride Polymers 562
Denis Arčon, Kosmas Prassides, Anna-Lisa Maniero, and Louis C. Brunel
Nuclear Resonance Scattering of Synchrotron Radiation by ^{40}K 566
M. Seto, S. Kitao, Y. Kobayashi, R. Haruki, T. Mitsui, Y. Yoda, X. W. Zhang, and Yu. Maeda

Interdisciplinary Physics: Biological Physics, Quantum Information, etc.
Shape Effects in Random Sequential Adsorption of Zero-Area Angled Objects on a Continuum Substrate 570
M. D. Khandkar, A. V. Limaye, and S. B. Ogale
Origin of the Native Driving Force for Protein Folding 574
Zi-Hao Wang and H. C. Lee

Errata
Erratum: Centrality Dependence of Neutral Pion Production in 158*A* GeV $^{208}Pb + ^{208}Pb$ Collisions [Phys. Rev. Lett. **81**, 4087 (1998)] 578
M. M. Aggarwal et al. (WA98 Collaboration)