



Illustration of the failure of the semiclassical eigenfunction hypothesis, a cornerstone of quantum-chaos theory, for a spatially periodic, kicked Hamiltonian. The quantum eigenstate (red) ignores the classical phase-space structures of regular islands in a chaotic sea when the dynamics is such that the island chain is traversed sequentially in time. See article 154101.

PHYSICAL REVIEW LETTERS

Contents

VOLUME 89, NUMBER 15

7 October 2002

General Physics

Using Hysteresis for Optimization	150201
G. Zaránd, F. Pázmándi, K.F. Pál, and G.T. Zimányi	
Interferometry below the Standard Quantum Limit with Bose-Einstein Condensates	150401
J.A. Dunningham, K. Burnett, and Stephen M. Barnett	
Accidental Suppression of Landau Damping of the Transverse Breathing Mode in Elongated Bose-Einstein Condensates	150402
B. Jackson and E. Zaremba	
Fermi-Bose Quantum Degenerate ^{40}K - ^{87}Rb Mixture with Attractive Interaction	150403
G. Roati, F. Riboli, G. Modugno, and M. Inguscio	
Exact Asymptotics for One-Dimensional Diffusion with Mobile Traps	150601
Alan J. Bray and Richard A. Blythe	

Gravitation and Astrophysics

Constraints on Cosmological Parameters from the Analysis of the Cosmic Lens All Sky Survey Radio-Selected Gravitational Lens Statistics	151301
K.-H. Chae, A.D. Biggs, R.D. Blandford, I.W.A. Browne, A.G. de Bruyn, C.D. Fassnacht, P. Helbig, N.J. Jackson, L.J. King, L.V.E. Koopmans, S. Mao, D.R. Marlow, J.P. McKean, S.T. Myers, M. Norbury, T.J. Pearson, P.M. Phillips, A.C.S. Readhead, D. Rusin, C.M. Sykes, P.N. Wilkinson, E. Xanthopoulos, and T. York	
Black Hole as a Point Radiator and Recoil Effect on the Brane World	151302
Valeri Frolov and Dejan Stojković	

Elementary Particles and Fields

Measuring the Higgs Boson Self-Coupling at the Large Hadron Collider	151801
Ulrich Baur, Tilman Plehn, and David Rainwater	
Observation of $\bar{B}^0 \rightarrow D^{(*)0} p \bar{p}$	151802
K. Abe <i>et al.</i> (Belle Collaboration)	

Nuclear Physics

Partonic Effects on Pion Interferometry at the Relativistic Heavy-Ion Collider	152301
Zi-wei Lin, C.M. Ko, and Subrata Pal	
Luneburg Lens Approach to Nuclear Rainbow Scattering	152701
F. Michel, G. Reidemeister, and S. Ohkubo	

Atomic, Molecular, and Optical Physics

Phase-Dependent Effects of a Few-Cycle Laser Pulse	153001
D.B. Milošević, G.G. Paulus, and W. Becker	

(Continued on Third Cover)

Contents (Continued)

Electron-Spin-Resonance Instability in Two-Dimensional Atomic Hydrogen Gas	153002
S. Vasilyev, J. Järvinen, A.I. Safonov, A.A. Kharitonov, I.I. Lukashevich, and S. Jaakkola	
Quantum Dynamics of Ultracold Na + Na ₂ Collisions	153201
Pavel Soldán, Marko T. Cvitaš, Jeremy M. Hutson, Pascal Honvault, and Jean-Michel Launay	
Nonlinear Dynamics, Fluid Dynamics, Classical Optics, etc.	
Quantum Effects with an X-Ray Free-Electron Laser	153901
C.D. Roberts, S.M. Schmidt, and D.V. Vinnik	
Hyperbolic Shock Waves of the Optical Self-Focusing with Normal Group-Velocity Dispersion	153902
L. Bergé, K. Germaschewski, R. Grauer, and J. Juul Rasmussen	
Eigenstates Ignoring Regular and Chaotic Phase-Space Structures	154101
Lars Hufnagel, Roland Ketzmerick, Marc-Felix Otto, and Holger Schanz	
Collective Directed Transport of Symmetrically Coupled Lattices in Symmetric Periodic Potentials	154102
Zhigang Zheng, M.C. Cross, and Gang Hu	
Decay of the Loschmidt Echo for Quantum States with Sub-Planck-Scale Structures	154103
Ph. Jacquod, I. Adagideli, and C.W.J. Beenakker	
Time-Delayed Spatial Patterns in a Two-Dimensional Array of Coupled Oscillators	154104
Seong-Ok Jeong, Tae-Wook Ko, and Hie-Tae Moon	
Prevalence of Unstable Attractors in Networks of Pulse-Coupled Oscillators	154105
Marc Timme, Fred Wolf, and Theo Geisel	
Plasma and Beam Physics	
Self-Consistent Nonlinear Resonance and Hysteresis of a Charged Microparticle in a rf Sheath	155001
You-Nian Wang, Lu-Jing Hou, and Xiaogang Wang	
Avalanche Excitations of Fast Particles in Quasi-2D Cold Dusty-Plasma Liquids	155002
Ying-Ju Lai and Lin I	
Condensed Matter: Structure, etc.	
Shear Flow and Kelvin-Helmholtz Instability in Superfluids	155301
R. Blaauwgeers, V.B. Eltsov, G. Eska, A.P. Finne, R.P. Haley, M. Krusius, J.J. Ruohio, L. Skrbek, and G.E. Volovik	
Evaporation of a Packet of Quantized Vorticity	155302
Carlo F. Barenghi and David C. Samuels	
Linking Chiral Indices and Transport Properties of Double-Walled Carbon Nanotubes	155501
M. Kociak, K. Suenaga, K. Hirahara, Y. Saito, T. Nakahira, and S. Iijima	
Atomic Resolution Three-Dimensional Electron Diffraction Microscopy	155502
Jianwei Miao, Tetsu Ohsuna, Osamu Terasaki, Keith O. Hodgson, and Michael A. O'Keefe	
Entropically Driven Formation of Hierarchically Ordered Nanocomposites	155503
Jae-Youn Lee, Russell B. Thompson, David Jasnow, and Anna C. Balazs	
<i>Ab initio</i> Study of Misfit Dislocations at the SiC/Si(001) Interface	156101
Giancarlo Cicero, Laurent Pizzagalli, and Alessandra Catellani	
Disjoining Pressure of Discrete Surface Charges on Thin Aqueous Films	156102
Lionel Foret, Reimer Kühn, and Alois Würger	
Polymers near Metal Surfaces: Selective Adsorption and Global Conformations	156103
L. Delle Site, C.F. Abrams, A. Alavi, and K. Kremer	
Quasicrystalline Epitaxial Single Element Monolayers on Icosahedral Al-Pd-Mn and Decagonal Al-Ni-Co Quasicrystal Surfaces	156104
K.J. Franke, H.R. Sharma, W. Theis, P. Gille, Ph. Ebert, and K.H. Rieder	
Condensed Matter: Electronic Properties, etc.	
Degeneracy in Density Functional Theory: Topology in the v and n Spaces	156401
C.A. Ullrich and W. Kohn	
Very Large Purely Intralayer Critical Current Density in Ultrathin Cuprate Artificial Structures	156402
G. Balestrino, P.G. Medaglia, P. Orgiani, A. Tebano, C. Aruta, S. Lavanga, and A.A. Varlamov	

(Continued on Preceding Page)

Contents (Continued)

Spin Polarization of Semiconductor Carriers by Reflection off a Ferromagnet	156601
C. Ciuti, J.P. McGuire, and L.J. Sham	
Dynamical Symmetries in Kondo Tunneling through Complex Quantum Dots	156602
T. Kuzmenko, K. Kikoin, and Y. Avishai	
Anomalous Thermal Conductivity of Frustrated Heisenberg Spin Chains and Ladders	156603
J.V. Alvarez and Claudius Gros	
Out-of-Equilibrium Kondo Effect in a Mesoscopic Device	156801
S. De Franceschi, R. Hanson, W.G. van der Wiel, J.M. Elzerman, J.J. Wijkema, T. Fujisawa, S. Tarucha, and L.P. Kouwenhoven	
Measurements of Strongly Anisotropic g Factors for Spins in Single Quantum States	156802
J.R. Petta and D.C. Ralph	
Electromagnetic Coupling on an Atomic Scale	156803
J. Aizpurua, G. Hoffmann, S.P. Apell, and R. Berndt	
Muon Spin Relaxation and Isotropic Pairing in Superconducting $\text{PrOs}_4\text{Sb}_{12}$	157001
D.E. MacLaughlin, J.E. Sonier, R.H. Heffner, O.O. Bernal, Ben-Li Young, M.S. Rose, G.D. Morris, E.D. Bauer, T.D. Do, and M.B. Maple	
Absence of Static Phase Separation in the High T_c Cuprate $\text{YBa}_2\text{Cu}_3\text{O}_{6+y}$	157002
J. Bobroff, H. Alloul, S. Ouazi, P. Mendels, A. Mahajan, N. Blanchard, G. Collin, V. Guillen, and J.-F. Marucco	
Relativity Restored: Dirac Anisotropy in QED_3	157003
O. Vafek, Z. Tešanović, and M. Franz	
Superconductivity and Quantum Criticality in CeCoIn_5	157004
V.A. Sidorov, M. Nicklas, P.G. Pagliuso, J.L. Sarrao, Y. Bang, A.V. Balatsky, and J.D. Thompson	
Superradiance from Crystals of Molecular Nanomagnets	157201
E.M. Chudnovsky and D.A. Garanin	
Order Parameter Criticality of the $d = 3$ Random-Field Ising Antiferromagnet $\text{Fe}_{0.85}\text{Zn}_{0.15}\text{F}_2$	157202
F. Ye, L. Zhou, S. Larochelle, L. Lu, D.P. Belanger, M. Greven, and D. Lederman	
Enhanced Resonant Backscattering of Excitons in Disordered Quantum Wells	157401
W. Langbein, E. Runge, V. Savona, and R. Zimmermann	
Long-range Spatial Correlations in the Exciton Energy Distribution in $\text{GaAs}/\text{AlGaAs}$ Quantum Wells	157402
Y. Yaron, A. Esser, M. Rappaport, V. Umansky, H. Shtrikman, and I. Bar-Joseph	
Intrinsic Excitonic Luminescence in Odd and Even Numbered Oligothiophenes	157403
F. Meinardi, M. Cerminara, A. Sassella, A. Borghesi, P. Spearman, G. Bongiovanni, A. Mura, and R. Tubino	
Bulk Band Gaps in Divalent Hexaborides	157601
J.D. Denlinger, J.A. Clack, J.W. Allen, G.-H. Gweon, D.M. Poirier, C.G. Olson, J.L. Sarrao, A.D. Bianchi, and Z. Fisk	
<i>Ab initio</i> Molecular Dynamics in a Finite Homogeneous Electric Field	157602
P. Umari and Alfredo Pasquarello	
Spin-Wave Description of Nuclear Spin-Lattice Relaxation in $\text{Mn}_{12}\text{O}_{12}$ Acetate	157603
Shoji Yamamoto and Takashi Nakanishi	
Interdisciplinary Physics: Biological Physics, Quantum Information, etc.	
Quantum Computation with Vibrationally Excited Molecules	157901
Carmen M. Tesch and Regina de Vivie-Riedle	
Experimental Implementation of the Quantum Baker's Map	157902
Yaakov S. Weinstein, Seth Lloyd, Joseph Emerson, and David G. Cory	
Origin of $1/f^\alpha$ Noise in Membrane Channel Currents	158101
Z. Siwy and A. Fuliński	
Occurrence of Finite-Time Singularities in Epidemic Models of Rupture, Earthquakes, and Starquakes	158501
D. Sornette and A. Helmstetter	
Volatility Clustering and Scaling for Financial Time Series due to Attractor Bubbling	158701
A. Krawiecki, J.A. Holyst, and D. Helbing	
On-Off Intermittency in a Human Balancing Task	158702
Juan L. Cabrera and John G. Milton	

(Continued on Preceding Page)

Contents (Continued)

Errata

Erratum: Second Order Dissipative Fluid Dynamics for Ultrarelativistic Nuclear Collisions [Phys. Rev. Lett. 88 , 062302 (2002)]	159901
Azwinndini Muronga	

Cumulative Author Index	i
--------------------------------------	---