



Alternating layers of air and photonic crystal with 360-nm airholes. The negative refractive index of the material cancels that of the air and can be used to collimate a light beam. See article 133902.

PHYSICAL REVIEW LETTERS

Contents

Articles published 28 March–3 April 2009

VOLUME 102, NUMBER 13

3 April 2009

General Physics: Statistical and Quantum Mechanics, Quantum Information, etc.

	Bose-Einstein Condensate in a Uniform Light-Induced Vector Potential	130401
	Y.-J. Lin, R.L. Compton, A.R. Perry, W.D. Phillips, J.V. Porto, and I.B. Spielman	
	Continuous-Variable Quantum Key Distribution Protocols Over Noisy Channels	130501
	Raúl García-Patrón and Nicolas J. Cerf	
	Local Transformation of Two Einstein-Podolsky-Rosen Photon Pairs into a Three-Photon W State	130502
	Toshiyuki Tashima, Tetsuroh Wakatsuki, Şahin Kaya Özdemir, Takashi Yamamoto, Masato Koashi, and Nobuyuki Imoto	
	Preparing Ground States of Quantum Many-Body Systems on a Quantum Computer	130503
	David Poulin and Pawel Wocjan	
	Aging and Effective Temperatures Near a Critical Point	130601
	S. Joubaud, B. Percier, A. Petrosyan, and S. Ciliberto	
	Universality of Efficiency at Maximum Power	130602
	Massimiliano Esposito, Katja Lindenberg, and Christian Van den Broeck	
	Relaxation of Antiferromagnetic Order in Spin-1/2 Chains Following a Quantum Quench	130603
	Peter Barmettler, Matthias Punk, Vladimir Gritsev, Eugene Demler, and Ehud Altman	
	Steering Bose-Einstein Condensates despite Time Symmetry	130604
	Dario Poletti, Giuliano Benenti, Giulio Casati, Peter Hänggi, and Baowen Li	
	Statistics of Temperature Fluctuations in an Electron System out of Equilibrium	130605
	T.T. Heikkilä and Yuli V. Nazarov	

Gravitation and Astrophysics

	Dynamics of Quantum Vorticity in a Random Potential	131101
	Bennett Link	
	Model-Independent Test for Scale-Dependent Non-Gaussianities in the Cosmic Microwave Background	131301
	C. Räth, G.E. Morfill, G. Rossmannith, A.J. Bandy, and K.M. Górski	

Elementary Particles and Fields

	Can Stochastic Quantization Evade the Sign Problem? The Relativistic Bose Gas at Finite Chemical Potential	131601
	Gert Aarts	
	Evidence for $X(3872) \rightarrow \psi(2S)\gamma$ in $B^\pm \rightarrow X(3872)K^\pm$ Decays and a Study of $B \rightarrow c\bar{c}\gamma K$	132001
	B. Aubert <i>et al.</i> (The BABAR Collaboration)	
	Structure of Meson-Baryon Interaction Vertices	132002
	T. Melde, L. Canton, and W. Plessas	

Nuclear Physics

	rp Process and Masses of $N \approx Z \approx 34$ Nuclides	132501
	J. Savory, P. Schury, C. Bachelet, M. Block, G. Bollen, M. Facina, C.M. Folden III, C. Guénaut, E. Kwan, A.A. Kwiatkowski, D.J. Morrissey, G.K. Pang, A. Prinke, R. Ringle, H. Schatz, S. Schwarz, and C.S. Sumithrarachchi	

(Continued Inside)

 Selected for a Viewpoint in *Physics*. Please visit <http://physics.aps.org/>.

 By suggesting a few manuscripts each week, we hope to promote reading across fields. Please see our Announcement Phys. Rev. Lett. 98, 010001 (2007).



Two-Nucleon Knockout Spectroscopy at the Limits of Nuclear Stability	132502
E.C. Simpson, J.A. Tostevin, D. Bazin, B.A. Brown, and A. Gade	
Atomic, Molecular, and Optical Physics	
Efimov Trimer Formation via Ultracold Four-Body Recombination	133201
Yujun Wang and B.D. Esry	
Excited-State Positronium Formation from Helium, Argon, and Xenon	133202
D.J. Murtagh, D.A. Cooke, and G. Laricchia	
Nonlinear Dynamics, Fluid Dynamics, Classical Optics, etc.	
All-Dielectric Rod-Type Metamaterials at Optical Frequencies	133901
K. Vynck, D. Felbacq, E. Centeno, A.I. Căbuz, D. Cassagne, and B. Guizal	
Self-Collimation of Light over Millimeter-Scale Distance in a Quasi-Zero-Average-Index Metamaterial	133902
V. Mocella, S. Cabrini, A.S. Chang, P. Dardano, L. Moretti, I. Rendina, D. Olynick, B. Harteneck, and S. Dhuey	
Power-Dependent Reflection, Transmission, and Trapping Dynamics of Lattice Solitons at Interfaces	133903
Y. Kominis and K. Hizanidis	
Oscillatory Neck Instability of Spatial Bright Solitons in Hyperbolic Systems	134101
S.-P. Gorza, P. Kockaert, Ph. Emplit, and M. Haelterman	
Shifted Feedback Suppression of Turbulent Behavior in Advection-Diffusion Systems	134501
C. Evain, C. Szwaj, S. Bielawski, M. Hosaka, A. Mochihashi, M. Katoh, and M.-E. Couprie	
Precursors to Splashing of Liquid Droplets on a Solid Surface	134502
Shreyas Mandre, Madhav Mani, and Michael P. Brenner	
New Flow Regimes Generated by Mode Coupling in Buoyant-Thermocapillary Convection	134503
V. Shevtsova, D.E. Melnikov, and A. Nepomnyashchy	
Fluid Mixing in Stratified Gravity Currents: The Prandtl Mixing Length	134504
P. Odier, J. Chen, M.K. Rivera, and R.E. Ecke	
Dynamical Model for the Buoyancy-Driven Zigzag Motion of Oblate Bodies	134505
Patricia Ern, Frédéric Risso, Pedro C. Fernandes, and Jacques Magnaudet	
Plasma and Beam Physics	
Kinetic Effects of Energetic Particles on Resistive MHD Stability	135001
R. Takahashi, D.P. Brennan, and C.C. Kim	
Dissipative Dark Soliton in a Complex Plasma	135002
R. Heidemann, S. Zhdanov, R. Sütterlin, H.M. Thomas, and G.E. Morfill	
One-Dimensional Vlasov-Maxwell Equilibrium for the Force-Free Harris Sheet	135003
Michael G. Harrison and Thomas Neukirch	
Condensed Matter: Structure, etc.	
Polaritons and Pairing Phenomena in Bose-Hubbard Mixtures	135301
M.J. Bhaseen, M. Hohenadler, A.O. Silver, and B.D. Simons	
Discerning Incompressible and Compressible Phases of Cold Atoms in Optical Lattices	135302
V.W. Scarola, L. Pollet, J. Oitmaa, and M. Troyer	
Symmetry Breaking of Graphene Monolayers by Molecular Decoration	135501
Xiaochen Dong, Yumeng Shi, Yang Zhao, Dongmeng Chen, Jun Ye, Yugui Yao, Fang Gao, Zhenhua Ni, Ting Yu, Zexiang Shen, Yinxi Huang, Peng Chen, and Lain-Jong Li	
Resonant Interaction between Hydrogen Vibrational Modes in AlSb:Se	135502
M.D. McCluskey	
Fluctuation Dissipation Relations in Stationary States of Interacting Brownian Particles under Shear	135701
Matthias Krüger and Matthias Fuchs	
Topology-Induced Anomalous Defect Production by Crossing a Quantum Critical Point	135702
A. Bermudez, D. Patanè, L. Amico, and M.A. Martin-Delgado	
Observation of Surface Self-Diffusion on Ice	136101
S. Nie, N.C. Bartelt, and K. Thürmer	

(Continued on Preceding Page)



Selected for a Viewpoint in *Physics*. Please visit <http://physics.aps.org/>.

By suggesting a few manuscripts each week, we hope to promote reading across fields. Please see our Announcement Phys. Rev. Lett. 98, 010001 (2007).

Temperature-Induced Enhancement of Nanoscale Friction	136102
Z. Tshiprut, S. Zelner, and M. Urbakh	
Imaging of the Hydrogen Subsurface Site in Rutile TiO ₂	136103
Georg H. Enevoldsen, Henry P. Pinto, Adam S. Foster, Mona C. Jensen, Werner A. Hofer, Bjørk Hammer, Jeppe V. Lauritsen, and Flemming Besenbacher	
Magic-Sized Diamond Nanocrystals	136104
I.B. Altfeder, J.J. Hu, A.A. Voevodin, and J. Krim	
Interface Structures of Gold Nanoparticles on TiO ₂ (110)	136105
N. Shibata, A. Goto, K. Matsunaga, T. Mizoguchi, S.D. Findlay, T. Yamamoto, and Y. Ikuhara	
Condensed Matter: Electronic Properties, etc.	
Theoretical Description of Time-Resolved Photoemission Spectroscopy: Application to Pump-Probe Experiments	136401
J.K. Freericks, H.R. Krishnamurthy, and Th. Pruschke	
Large Electric Field Effect in Electrolyte-Gated Manganites	136402
Anoop Singh Dhoot, Casey Israel, Xavier Moya, Neil D. Mathur, and Richard Henry Friend	
Stimulated Scattering and Lasing of Intersubband Cavity Polaritons	136403
Simone De Liberato and Cristiano Ciuti	
Inhomogeneous Magnetic Phases: A Fulde-Ferrell-Larkin-Ovchinnikov-Like Phase in Sr ₃ Ru ₂ O ₇	136404
A.M. Berridge, A.G. Green, S.A. Grigera, and B.D. Simons	
Correlated Electrons in Fe-As Compounds: A Quantum Chemical Perspective	136405
L. Hozoi and P. Fulde	
Observation of Exciton-Phonon Sideband in Individual Metallic Single-Walled Carbon Nanotubes	136406
Hualing Zeng, Hongbo Zhao, Fu-Chun Zhang, and Xiaodong Cui	
Emergence of a Diffusive Metal State with No Magnetic Order near the Mott Transition in Frustrated Pyrochlore-Type Molybdates	136407
S. Iguchi, N. Hanasaki, M. Kinuhara, N. Takeshita, C. Terakura, Y. Taguchi, H. Takagi, and Y. Tokura	
Morphology of the Superconducting Vortex Lattice in Ultrapure Niobium	136408
S. Mühlbauer, C. Pfleiderer, P. Böni, M. Laver, E.M. Forgan, D. Fort, U. Keiderling, and G. Behr	
Bright and Grey States in CdSe-CdS Nanocrystals Exhibiting Strongly Reduced Blinking	136801
P. Spinicelli, S. Buil, X. Quélin, B. Mahler, B. Dubertret, and J.-P. Hermier	
Persistent Currents in Normal Metal Rings	136802
Hendrik Bluhm, Nicholas C. Koshnick, Julie A. Bert, Martin E. Huber, and Kathryn A. Moler	
Coherent Electronic Transport through Graphene Constrictions: Subwavelength Regime and Optical Analogy	136803
Pierre Darancet, Valerio Olevano, and Didier Mayou	
Pinning Mode Resonances of 2D Electron Stripe Phases: Effect of an In-Plane Magnetic Field	136804
Han Zhu, G. Sambandamurthy, L.W. Engel, D.C. Tsui, L.N. Pfeiffer, and K.W. West	
Quantum Criticality Perspective on the Charging of Narrow Quantum-Dot Levels	136805
V. Kashcheyevs, C. Karrasch, T. Hecht, A. Weichselbaum, V. Meden, and A. Schiller	
Topological Anderson Insulator	136806
Jian Li, Rui-Lin Chu, J.K. Jain, and Shun-Qing Shen	
Conservation of the Lateral Electron Momentum at a Metal-Semiconductor Interface Studied by Ballistic Electron Emission Microscopy	136807
C.A. Bobisch, A. Bannani, Yu.M. Koroteev, G. Bihlmayer, E.V. Chulkov, and R. Möller	
High-Mobility Few-Layer Graphene Field Effect Transistors Fabricated on Epitaxial Ferroelectric Gate Oxides	136808
X. Hong, A. Posadas, K. Zou, C.H. Ahn, and J. Zhu	
Chemical versus van der Waals Interaction: The Role of the Heteroatom in the Flat Absorption of Aromatic Molecules C ₆ H ₆ , C ₅ NH ₅ , and C ₄ N ₂ H ₄ on the Cu(110) Surface	136809
N. Atodiresei, V. Caciuc, P. Lazić, and S. Blügel	
Giant Magnetoresistance in Ultrasmall Graphene Based Devices	136810
F. Muñoz-Rojas, J. Fernández-Rossier, and J.J. Palacios	
Electron-Spin Dynamics in Strongly Correlated Metals	137001
Balázs Dóra and Ferenc Simon	
Superconductivity Induced by Phosphorus Doping and Its Coexistence with Ferromagnetism in EuFe ₂ (As _{0.7} P _{0.3}) ₂ ...	137002
Zhi Ren, Qian Tao, Shuai Jiang, Chunmu Feng, Cao Wang, Jianhui Dai, Guanghan Cao, and Zhu'an Xu	

(Continued on Preceding Page)



Selected for a Viewpoint in *Physics*. Please visit <http://physics.aps.org/>.

By suggesting a few manuscripts each week, we hope to promote reading across fields. Please see our Announcement Phys. Rev. Lett. 98, 010001 (2007).

Contents (Continued)

Formula for the Critical Temperature of Superconductors Based on the Electronic Density of States and the Effective Mass	137003
B.J. Taylor and M.B. Maple	
Quantum Stabilization of the 1/3-Magnetization Plateau in Cs_2CuBr_4	137201
Jason Alicea, Andrey V. Chubukov, and Oleg A. Starykh	
Domain Wall Spin Torquemeter	137202
I.M. Miron, P.-J. Zermatten, G. Gaudin, S. Auffret, B. Rodmacq, and A. Schuhl	
Scaling Theory of Magnetoresistance and Carrier Localization in $\text{Ga}_{1-x}\text{Mn}_x\text{As}$	137203
C.P. Moca, B.L. Sheu, N. Samarth, P. Schiffer, B. Janko, and G. Zarand	
Ferromagnetism and Electronic Structures of Nonstoichiometric Heusler-Alloy $\text{Fe}_{3-x}\text{Mn}_x\text{Si}$ Epilayers Grown on Ge(111)	137204
K. Hamaya, H. Itoh, O. Nakatsuka, K. Ueda, K. Yamamoto, M. Itakura, T. Taniyama, T. Ono, and M. Miyao	
Electron-Hole Asymmetry of Spin Injection and Transport in Single-Layer Graphene	137205
Wei Han, W.H. Wang, K. Pi, K.M. McCreary, W. Bao, Yan Li, F. Miao, C.N. Lau, and R.K. Kawakami	
Highly Sensitive Determination of the Polaron-Induced Optical Absorption of Organic Charge-Transport Materials	137401
T. Rabe, P. Görrn, M. Lehnhardt, M. Tilgner, T. Riedl, and W. Kowalsky	
 Origin of Intrinsic Gilbert Damping	137601
M.C. Hickey and J.S. Moodera	
Soft Matter, Biological, and Interdisciplinary Physics	
Critical Scaling and Aging in Cooling Systems Near the Jamming Transition	138001
David A. Head	
Prediction of Spatiotemporal Patterns of Neural Activity from Pairwise Correlations	138101
O. Marre, S. El Boustani, Y. Frégnac, and A. Destexhe	
Hybrid Elastic and Discrete-Particle Approach to Biomembrane Dynamics with Application to the Mobility of Curved Integral Membrane Proteins	138102
Ali Naji, Paul J. Atzberger, and Frank L. Brown	
Simulation of Elastic Rupture in Extension of Entangled Monodisperse Polymer Melts	138301
Anders Lyhne, Henrik Koblitz Rasmussen, and Ole Hassager	
Granular Character of Particle Rafts	138302
Pietro Cicuta and Dominic Vella	
Core-Hole Screening as a Probe for a Metal-to-Nonmetal Transition in Lead Clusters	138303
V. Senz, T. Fischer, P. Oelßner, J. Tiggesbäumker, J. Stanzel, C. Bostedt, H. Thomas, M. Schöffler, L. Foucar, M. Martins, J. Neville, M. Neeb, Th. Möller, W. Wurth, E. Rühl, R. Dörner, H. Schmidt-Böcking, W. Eberhardt, G. Ganteför, R. Treusch, P. Radcliffe, and K.-H. Meiwes-Broer	
Emergence and Size of the Giant Component in Clustered Random Graphs with a Given Degree Distribution	138701
Yakir Berchenko, Yael Artzy-Randrup, Mina Teicher, and Lewi Stone	
Comments	
Comment on “Violation of the Zeroth Law of Thermodynamics in Systems with Negative Specific Heat”	138901
K. Michaelian, I. Santamaría-Holek, and A. Pérez-Madrid	
Ramírez-Hernández, Larralde, and Leyvraz Reply	138902
A. Ramírez-Hernández, H. Larralde, and F. Leyvraz	
Comment on “Dynamic Scaling of Non-Euclidean Interfaces”	139601
Joachim Krug	
Escudero Replies	139602
Carlos Escudero	
Errata	
Erratum: Coordinated Chemomechanical Cycles: A Mechanism for Autonomous Molecular Motion [Phys. Rev. Lett. 101 , 238101 (2008)]	139901
S.J. Green, J. Bath, and A.J. Turberfield	

(Continued on Preceding Page)



Selected for a Viewpoint in *Physics*. Please visit <http://physics.aps.org/>.

By suggesting a few manuscripts each week, we hope to promote reading across fields. Please see our Announcement Phys. Rev. Lett. 98, 010001 (2007).

Contents (Continued)

Erratum: Current Noise through a Kondo Quantum Dot in a $SU(N)$ Fermi Liquid State [Phys. Rev. Lett. 100 , 036604 (2008)]	139902
Christophe Mora, Xavier Leyronas, and Nicolas Regnault	
Erratum: Resonant Sum Frequency Generation with Time-Energy Entangled Photons [Phys. Rev. Lett. 102 , 053602 (2009)]	139903
S. Sensarn, Irfan Ali-Khan, G. Y. Yin, and S. E. Harris	
Publisher's Note: Schottky Mass Measurement of the ^{208}Hg Isotope: Implication for the Proton-Neutron Interaction Strength around Doubly Magic ^{208}Pb [Phys. Rev. Lett. 102 , 122503 (2009)]	139904
L. Chen <i>et al.</i>	



Selected for a Viewpoint in *Physics*. Please visit <http://physics.aps.org/>.

By suggesting a few manuscripts each week, we hope to promote reading across fields. Please see our Announcement Phys. Rev. Lett. 98, 010001 (2007).

Physical Review
Focus

Brief explanations of selected papers from this and other APS journals appear regularly at the *Phys. Rev. Focus* web site (<http://focus.aps.org>). Readers can also sign up for weekly e-mail summaries of *Focus* stories.