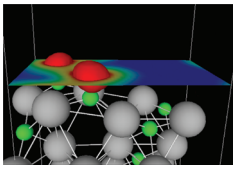

Visualization of the electron density at an aluminum-oxide surface, from density-functional calculations. These calculations predict that the surface Al atoms will form a 1D electron gas that remains metallic down to a lower temperature (<1 K) than other existing 1DEG systems. The large gray balls are O atoms; the small green ones are Al atoms. See article 236803.

PHYSICAL REVIEW LETTERS

Contents

Articles published 7 June–13 June 2003

VOLUME 90, NUMBER 23 13 JUNE 2003

General Physics

Feshbach Resonance Management for Bose-Einstein Condensates 230401
P. G. Kevrekidis, G. Theocharis, D. J. Frantzeskakis, and Boris A. Malomed

Adiabatic Dynamics of Periodic Waves in Bose-Einstein Condensates with Time Dependent Atomic Scattering Length 230402
F. Kh. Abdullaev, A. M. Kamchatnov, V. V. Konotop, and V. A. Brazhnyi

Topological Phase for Entangled Two-Qubit States 230403
Pérola Milman and Rémy Mosseri

Measurement of Positive and Negative Scattering Lengths in a Fermi Gas of Atoms 230404
C. A. Regal and D. S. Jin

Universal Scaling Behavior at the Upper Critical Dimension of Nonequilibrium Continuous Phase Transitions 230601
S. Lübeck and P. C. Heger

Diffusive-Ballistic Crossover in 1D Quantum Walks 230602
Daniel K. Wójcik and J. R. Dorfman

Gravitation and Astrophysics

On the Speed of Gravity and the v/c Corrections to the Shapiro Time Delay 231101
Stuart Samuel

Positivity of Quasilocal Mass 231102
Chiu-Chu Melissa Liu and Shing-Tung Yau

Radion-Induced Brane Preheating 231301
Hael Collins, R. Holman, and Matthew R. Martin

Conformal Fixed Point, Cosmological Constant, and Quintessence 231302
Christof Wetterich

Elementary Particles and Fields

Evidence for $B^+ \to J/\psi p\overline{\Lambda}$ and Search for $B^0 \to J/\psi p\overline{p}$ 231801
B. Aubert *et al.* (BABAR Collaboration)

Nuclear Physics

Coulomb Dissociation of ^{8}B and the Low-Energy Cross Section of the ^{7}Be$(p,\gamma)^8$B Solar Fusion Reaction 232501
F. Schümann, F. Hammache, S. Typel, F. Uhlig, K. Sümmerer, I. Böttcher, D. Cortina, A. Förster, M. Gai, H. Geissel, U. Greife, N. Iwasa, P. Koczoń, B. Kohlmeyer, R. Kulessa, H. Kumagai, N. Kurz, M. Menzel, T. Motobayashi, H. Oeschler, A. Ozawa, M. Płoskoń, W. Prokopowicz, E. Schwab, P. Senger, F. Strieder, C. Sturm, Zhi-Yu Sun, G. Surówka, A. Wagner, and W. Waluś

High Resolution Spectroscopy of the $^{12}_{\Lambda}$B Hypernucleus Produced by the $(e, e'K^+)$ Reaction 232502
T. Miyoshi *et al.* (HNSS Collaboration)

(Continued on Third Cover)

Copyright 2003 by The American Physical Society

PRL 90 (23), 230401–239902, 13 JUNE 2003 (248 total pages)

Contents (Continued)

Atomic, Molecular, and Optical Physics

Shape-Amplitude Representation of N-Particle Photofragmentation Processes 233001
M. Walter, A. Meremianin, and J. S. Briggs

Photoelectron-Photoion Momentum Spectroscopy as a Clock for Chemical Rearrangements: Isomerization of the Di-Cation of Acetylene to the Vinylidene Configuration 233002
T. Osipov, C. L. Cocke, M. H. Prior, A. Landers, Th. Weber, O. Jagutzki, L. Schmidt, H. Schmidt-Böcking, and R. Dörner

Alignment-Dependent Strong Field Ionization of Molecules 233003
I. V. Litvinyuk, Kevin F. Lee, P. W. Dooley, D. M. Rayner, D. M. Villeneuve, and P. B. Corkum

Fano Line Shapes Reconsidered: Symmetric Photoionization Peaks from Pure Continuum Excitation 233004
U. Eichmann, T. F. Gallagher, and R. M. Konik

Strong Field Tunnel Ionization by Real-Valued Classical Trajectories 233005
Michael Spanner

Anisotropic Ultrafast Dissociation Probed by the Doppler Effect in Resonant Photoemission from CF_4 233006
K. Ueda, M. Kitajima, A. De Fanis, T. Furuta, H. Shindo, H. Tanaka, K. Okada, R. Feifel, S. L. Sorensen, H. Yoshida, and Y. Senba

Nonlinear Dynamics, Fluid Dynamics, Classical Optics, etc.

Photonic Band Gaps Based on Tetragonal Lattices of Slanted Pores 233901
Ovidiu Toader, Mona Berciu, and Sajeev John

Scars on Quantum Networks Ignore the Lyapunov Exponent 234101
Holger Schanz and Tsampikos Kottos

Scattering of Sound by Sound in the Vicinity of the Liquid-Vapor Critical Point 234301
N. Mujica, R. Wunenburger, and S. Fauve

Cryogenic Microjet Source for Orthotropic Beams of Ultralarge Superfluid Helium Droplets 234501
Robert E. Grisenti and J. Peter Toennies

Subcritical Kelvin-Helmholtz Instability in a Hele-Shaw Cell 234502
L. Meignin, P. Gondret, C. Ruyer-Quil, and M. Rabaud

Quantized Turbulence Physics 234503
Demosthenes Kivotides and Anthony Leonard

Plasma and Beam Physics

Determination of the Charge State Distribution of a Highly Ionized Coronal Au Plasma 235001
K. L. Wong, M. J. May, P. Beiersdorfer, K. B. Fournier, B. Wilson, G. V. Brown, P. Springer, P. A. Neill, and C. L. Harris

Multibeam Effects on Fast-Electron Generation from Two-Plasmon-Decay Instability 235002
C. Stoeckl, R. E. Bahr, B. Yaakobi, W. Seka, S. P. Regan, R. S. Craxton, J. A. Delettrez, R. W. Short, J. Myatt, A. V. Maximov, and H. Baldis

X-Ray–Line Diagnostic of Magnetic Field Strength for High-Temperature Plasmas 235003
P. Beiersdorfer, J. H. Scofield, and A. L. Osterheld

Condensed Matter: Structure, etc.

Two Types of Quasiparticles Excited in a Bose Gas 235301
V. N. Minasyan and K. J. Touryan

Effect of Hydrostatic Pressure on Closed-Loop Phase Behavior of Block Copolymers 235501
Du Yeol Ryu, Dong Jun Lee, Jin Kon Kim, Kristopher A. Lavery, Thomas P. Russell, Young Soo Han, Baek Seok Seong, Chang Hee Lee, and P. Thiyagarajan

Self-Organized Superlattice Formation during Crystal Growth from Continuous Beam Fluxes 235502
Y. L. Foo, K. A. Bratland, B. Cho, C. W. Lim, J. Baker, J. G. Wen, D. W. Moon, and J. E. Greene

A Method for Tractable Dynamical Studies of Single and Double Shock Compression 235503
Evan J. Reed, Laurence E. Fried, and J. D. Joannopoulos

Possible New Phase of Antagonistic Nematogens in a Disorienting Field 235701
T. G. Sokolovska, M. E. Cates, and R. O. Sokolovskii

(Continued on Preceding Page)

Shearing or Compressing a Soft Glass in 2D: Time-Concentration Superposition 236101
Pietro Cicuta, Edward J. Stancik, and Gerald G. Fuller
Metal-Insulator Transitions in an Expanding Metallic Fluid: Particle Formation Kinetics 236102
T. E. Glover, G. D. Ackerman, A. Belkacem, P. A. Heimann, Z. Hussain, R. W. Lee, H. A. Padmore, C. Ray, R. W. Schoenlein, W. F. Steele, and D. A. Young

Condensed Matter: Electronic Properties, etc.

Insulator, Conductor, and Commensurability: A Topological Approach 236401
Masaki Oshikawa
Electrical-Thermal Switching in Carbon-Black–Polymer Composites as a Local Effect 236601
D. Azulay, M. Eylon, O. Eshkenazi, D. Toker, M. Balberg, N. Shimoni, O. Millo, and I. Balberg
Surface States of Cobalt Nanoislands on Cu(111) 236801
L. Diekhöner, M. A. Schneider, A. N. Baranov, V. S. Stepanyuk, P. Bruno, and K. Kern
Observation of Soft Magnetorotons in Bilayer Quantum Hall Ferromagnets 236802
Stefano Luin, Vittorio Pellegrini, Aron Pinczuk, Brian S. Dennis, Loren N. Pfeiffer, and Ken W. West
Self-Organized One-Dimensional Electron Systems on a Low-Symmetry Oxide Surface 236803
B. Razaznejad, C. Ruberto, P. Hyldgaard, and B. I. Lundqvist
Symmetry Locking and Commensurate Vortex Domain Formation in Periodic Pinning Arrays 237001
A. N. Grigorenko, S. J. Bending, M. J. Van Bael, M. Lange, V. V. Moshchalkov, H. Fangohr, and P. A. J. de Groot
Crystal-Lattice Coupling to the Vortex-Melting Transition in $YBa_2Cu_3O_{7-\delta}$ 237002
R. Lortz, C. Meingast, U. Welp, W. K. Kwok, and G. W. Crabtree
Proposal to Determine the Spectrum of Pairing Glue in High-Temperature Superconductors 237003
I. Vekhter and C. M. Varma
Ring-Shaped Vortex Domain in Type-II Superconductors 237004
A. Gröger, A. Böhm, U. Beyer, B. Ya. Shapiro, I. Shapiro, and P. Wyder
Observation of Weak-Limit Quasiparticle Scattering via Broadband Microwave Spectroscopy of a *d*-Wave Superconductor 237005
P. J. Turner, R. Harris, Saeid Kamal, M. E. Hayden, D. M. Broun, D. C. Morgan, A. Hosseini, P. Dosanjh, G. K. Mullins, J. S. Preston, Ruixing Liang, D. A. Bonn, and W. N. Hardy
Fluctuation-Dissipation Ratio of the Heisenberg Spin Glass 237201
Hikaru Kawamura
Anderson-Mott Transition Driven by Spin Disorder: Spin Glass Transition and Magnetotransport in Amorphous GdSi 237202
Pinaki Majumdar and Sanjeev Kumar
Orbital Kondo Effect in CrO_2: A Combined Local-Spin-Density-Approximation Dynamical-Mean-Field-Theory Study 237203
L. Craco, M. S. Laad, and E. Müller-Hartmann
Electric Field Tunability of Nuclear and Electronic Spin Dynamics due to the Hyperfine Interaction in Semiconductor Nanostructures 237601
Ionel Ţifrea and Michael E. Flatté

Interdisciplinary Physics: Biological Physics, Quantum Information, etc.

Quantum Bit String Commitment 237901
Adrian Kent
Unzipping Kinetics of Double-Stranded DNA in a Nanopore 238101
Alexis F. Sauer-Budge, Jacqueline A. Nyamwanda, David K. Lubensky, and Daniel Branton
Collapse and Revival of Glycolytic Oscillation 238102
Sandip Kar and Deb Shankar Ray
Structural Arrest in Dense Star-Polymer Solutions 238301
G. Foffi, F. Sciortino, P. Tartaglia, E. Zaccarelli, F. Lo Verso, L. Reatto, K. A. Dawson, and C. N. Likos
Efficient Exploration of Reactive Potential Energy Surfaces Using Car-Parrinello Molecular Dynamics 238302
Marcella Iannuzzi, Alessandro Laio, and Michele Parrinello
Interaction Dynamics of a Pair of Vortex Filament Rings 238303
Mark-Anthony Bray and John P. Wikswo

(Continued on Preceding Page)

One-Shot Quantum Measurement Using a Hysteretic dc SQUID 238304
O. Buisson, F. Balestro, J. P. Pekola, and F. W. J. Hekking
Single-Molecule Photon Counting Statistics via Generalized Optical Bloch Equations 238305
Yujun Zheng and Frank L. H. Brown
Fluctuation-Limited Noise in a Superconducting Transition-Edge Sensor 238306
A. Luukanen, K. M. Kinnunen, A. K. Nuottajärvi, H. F. C. Hoevers, W. M. Bergmann Tiest, and J. P. Pekola
Dynamics of Majority Rule in Two-State Interacting Spin Systems 238701
P. L. Krapivsky and S. Redner

Comments

Comment on "Linear Superposition in Nonlinear Equations" 239401
M. Jaworski and M. Lakshmanan
Khare and Sukhatme Reply 239402
A. Khare and U. Sukhatme

Errata

Erratum: *In Situ* X-Ray Study of Thermal Expansion and Phase Transition of Iron at Multimegabar Pressure [Phys. Rev. Lett. **84**, 001720 (2000)] 239901
L. S. Dubrovinsky, S. K. Saxena, F. Tutti, S. Rekhi, and T. LeBehan
Erratum: Precise Determination of Electroweak Parameters in Neutrino-Nucleon Scattering [Phys. Rev. Lett. **88**, 091802 (2002)] 239902
G. P. Zeller *et al.*

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.