

PHYSICAL REVIEW B

For editorial and subscription correspondence,
please see inside front cover
(ISSN: 1098-0121)

PERIODICALS
Postmaster send address changes to:
American Institute of Physics
Suite 1NO1
2 Huntington Quadrangle
Melville, NY 11747-4502

THIRD SERIES, VOLUME 72, NUMBER 3

CONTENTS

JULY 2005-15(I)

Physical Review B Editorial Policies and Practices	iii
Physical Review B Information for Contributors	vi
Subject Matter Categories for Physical Review B	ix

BRIEF REPORTS

Electronic structure: wide-band, narrow-band, and strongly correlated systems

Phase diagram of the t - U - V_1 - V_2 model at quarter filling (4 pages)	033101
Satoshi Ejima, Florian Gebhard, Satoshi Nishimoto, and Yukinori Ohta	
Generalized-gradient-functional treatment of strain in density-functional perturbation theory (4 pages)	033102
D. R. Hamann, Karin M. Rabe, and David Vanderbilt	
Wave propagation and phase retrieval in Fresnel diffraction by a distorted-object approach (4 pages)	033103
Xianghui Xiao and Qun Shen	
Wave-vector dependent intensity variations of the Kondo peak in photoemission from CePd ₃ (4 pages)	033104
S. Danzenbächer, Yu. Kucherenko, M. Heber, D. V. Vyalikh, S. L. Molodtsov, V. D. P. Servedio, and C. Laubschat	
Statistical properties of the critical eigenstates in power-law random banded matrices across the band (4 pages)	033105
C. J. Paley, S. N. Taraskin, and S. R. Elliott	
Magnetic study of the electronic states of B -DNA and M -DNA doped with metal ions (4 pages)	033106
Kenji Mizoguchi, Shunsuke Tanaka, Tasuku Ogawa, Naofumi Shiobara, and Hirokazu Sakamoto	
Magnon and hole excitations in the two-dimensional half-filled Hubbard model (4 pages)	033107
Weihong Zheng, Rajiv R. P. Singh, Jaan Oitmaa, Oleg P. Sushkov, and Chris J. Hamer	
Negative refraction of acoustic waves in two-dimensional sonic crystals (4 pages)	033108
Liang Feng, Xiao-Ping Liu, Yan-Bin Chen, Zhi-Peng Huang, Yi-Wei Mao, Yan-Feng Chen, Jian Zi, and Yong-Yuan Zhu	
Long range van der Waals density functional: Dimers involving alkali-metal, alkaline-earth-metal, and noble-gas atoms (4 pages)	033109
N. A. Lima and M. J. Caldas	
Slow microwaves in left-handed materials (4 pages)	033110
E. Di Gennaro, P. V. Parimi, W. T. Lu, S. Sridhar, J. S. Derov, and B. Turchinets	



Copyright 2005 by The American Physical Society

(Continued)



1098-0121(20050715)72:3;1-2

Structural dichroism in the antiferromagnetic insulating phase of V_2O_3 (4 pages)	033111
C. Meneghini, S. Di Matteo, C. Monesi, T. Neisius, L. Paolasini, S. Mobilio, C. R. Natoli, P. A. Metcalf, and J. M. Honig	
Oxygen K -edge shift at the Verwey transition of magnetite (4 pages)	033112
E. Goering, S. Gold, M. Lafkioti, G. Schütz, and V. A. M. Brabers	
Semiconductors I: bulk	
Nature of charged muonium in GaAs with an applied electric field (4 pages)	033201
B. E. Schultz, K. H. Chow, B. Hitti, Z. Salman, S. R. Kreitzman, R. F. Kiefl, and R. L. Lichti	
Electron-nuclear double-resonance study of Mn^{2+} ions in $ZnGeP_2$ crystals (4 pages)	033202
N. Y. Garces, L. E. Halliburton, P. G. Schunemann, and S. D. Setzler	
Piezo-magnetoelectric effects in p -doped semiconductors (4 pages)	033203
B. Andrei Bernevig and Oskar Vafek	
Electronic structure and magnetic properties of Mn_3GaN precipitates in $Ga_{1-x}Mn_xN$ (4 pages)	033204
M. S. Miao, Aditi Herwadkar, and Walter R. L. Lambrecht	
Semiconductors II: surfaces, interfaces, microstructures, and related topics	
Coherent oscillations of current due to nuclear spins (4 pages)	033301
Sigurdur I. Erlingsson, Oleg N. Jouravlev, and Yuli V. Nazarov	
Atomic structure of the $Te/Si(100)-(2 \times 1)$ surface (4 pages)	033302
F. Wiame, J. Dumont, R. Sporken, M. Verstraete, and X. Gonze	
Formation of one-dimensional molecular chains on a solid surface: Pyrazine/ $Si(001)$ (4 pages)	033303
M. Shimomura, D. Ichikawa, Y. Fukuda, T. Abukawa, T. Aoyama, and S. Kono	
Photocarrier-induced spin heating and spin-lattice relaxation in diluted magnetic Stranski-Krastanov quantum dots (4 pages)	033304
A. Hundt, J. Puls, A. V. Akimov, Y. H. Fan, and F. Henneberger	
Effective S matrix from conductance data in a quantum waveguide (4 pages)	033305
Gursoy B. Akguc, Jorge Flores, and Sergey Yu. Kun	
Many-electron quantum dots in the fractional quantum Hall regime (4 pages)	033306
A. Emperador, E. Lipparini, and F. Pederiva	
Local electronic properties of adsorbed Li on hydrogen-terminated $Si(111)-(1 \times 1):H$ surfaces (4 pages)	033307
C. Weindel, H. J. Jänsch, G. Kirchner, J. J. Paggel, H. Winnefeld, and D. Fick	
Decoherence of localized spins interacting via RKKY interaction (4 pages)	033308
Yoshiaki Rikitake and Hiroshi Imamura	
Phenomenological model for the 0.7 conductance feature in quantum wires (4 pages)	033309
D. J. Reilly	
Negative differential conductivity and population inversion in the double-dot system connected to three terminals (4 pages)	033310
Lev G. Mourokh and Anatoly Yu. Smirnov	
Control of spin coherence in n -type GaAs quantum wells using strain (4 pages)	033311
L. Jiang and M. W. Wu	

Hot-electrons and negative differential conductance in $\text{GaAs}_{1-x}\text{N}_x$ (4 pages)	033312
A. Patanè, A. Ignatov, D. Fowler, O. Makarovskiy, L. Eaves, L. Geelhaar, and H. Riechert	
Quantum confinement in nanocorrugated semiconductor films (4 pages)	033313
V. M. Osadchii and V. Ya. Prinz	
Dynamic polarizability of two-dimensional D^- ions in the presence of magnetic fields (4 pages)	033314
J. J. De Groote, A. S. Santos, and Mauro Masili	
Electronic structure of identical metal cluster arrays on $\text{Si}(111)-7\times 7$ surfaces (4 pages)	033315
Lixin Zhang, S. B. Zhang, Qi-Kun Xue, Jin-Feng Jia, and E. G. Wang	
Electrical control of the uncertainty in the time of single photon emission events (4 pages)	033316
A. J. Bennett, D. C. Unitt, P. See, A. J. Shields, P. Atkinson, K. Cooper, and D. A. Ritchie	
Electron scattering between X and L indirect valleys in type-I GaAs/AlAs semiconductor superlattices (4 pages)	033317
M. Hosoda, J. Nohgi, and N. Ohtani	
Polarization control of quantum dot single-photon sources via a dipole-dependent Purcell effect (4 pages)	033318
D. C. Unitt, A. J. Bennett, P. Atkinson, D. A. Ritchie, and A. J. Shields	
Temperature-dependent 0.7 structure in the conductance of cleaved-edge-overgrowth one-dimensional wires (4 pages)	033319
R. de Picciotto, L. N. Pfeiffer, K. W. Baldwin, and K. W. West	
Optical spectrum of a spin-split two-dimensional electron gas (4 pages)	033320
D. W. Yuan, W. Xu, Z. Zeng, and F. Lu	
Surface physics, nanoscale physics, low-dimensional systems	
Interference and k -point sampling in the supercell approach to phase-coherent transport (4 pages)	033401
K. S. Thygesen and K. W. Jacobsen	
Transverse polarizabilities of carbon nanotubes: A Hartree-Fock and density functional study (4 pages)	033402
Edward N. Brothers, Konstantin N. Kudin, Gustavo E. Scuseria, and Charles W. Bauschlicher, Jr.	
Electron field emission from surfaces with steps (4 pages)	033403
I. Merrick, J. E. Inglesfield, and G. A. Attard	
Molecular motor constructed from a double-walled carbon nanotube driven by axially varying voltage (4 pages)	033404
Z. C. Tu and X. Hu	
First-principles investigation of the role of registry relaxations on stepped $\text{Cu}(100)$ surfaces (4 pages)	033405
Juarez L. F. Da Silva, Kurt Schroeder, and Stefan Blügel	
Potential visible light absorption in 3-Å-diam carbon nanotubes (4 pages)	033406
M.-F. Ng, S. L. Sun, and R. Q. Zhang	
Role of localized surface plasmons in surface-enhanced Raman scattering of shape-controlled metallic particles in regular arrays (4 pages)	033407
J. Grand, M. Lamy de la Chapelle, J.-L. Bijeon, P.-M. Adam, A. Vial, and P. Royer	
Modeling the inelastic electron tunneling spectra of molecular wire junctions (4 pages)	033408
Alessandro Troisi and Mark A. Ratner	
Tunable plasma response of a metal/ferromagnetic composite material (3 pages)	033409
L. E. Helseth	

Evaluation of the van der Waals force for atomic force microscopy (3 pages)	033410
L. W. Bruch	
RKKY range function of a one-dimensional noninteracting electron gas (2 pages)	033411
Gabriele F. Giuliani, Giovanni Vignale, and Trinanjan Datta	
Polarization-based identification of bulk contributions in surface nonlinear optics (4 pages)	033412
Stefano Cattaneo and Martti Kauranen	
Nanometer structural columns and frustration of magnetic ordering in Nb ₁₂ O ₂₉ (4 pages)	033413
E. N. Andersen, T. Klimczuk, V. L. Miller, H. W. Zandbergen, and R. J. Cava	
Proximity effect in a superconductor-metallofullerene-superconductor molecular junction (4 pages)	033414
A. Yu. Kasumov, K. Tsukagoshi, M. Kawamura, T. Kobayashi, Y. Aoyagi, K. Senba, T. Kodama, H. Nishikawa, I. Ikemoto, K. Kikuchi, V. T. Volkov, Yu. A. Kasumov, R. Deblock, S. Guéron, and H. Bouchiat	
Dependence of oxygen dissociative adsorption on platinum surface structures (4 pages)	033415
Satoshi Yotsuhashi, Yuka Yamada, Wilson Agerico Diño, Hiroshi Nakanishi, and Hideaki Kasai	

ARTICLES

Electronic structure: wide-band, narrow-band, and strongly correlated systems

Structures and electronic properties of platinum nitride by density functional theory (6 pages)	035101
Jamal Uddin and Gustavo E. Scuseria	
Effects of a nonlinear bath at low temperatures (14 pages)	035102
Hanno Gassmann and C. Bruder	
Evanescent-wave-assisted wideband continuous tunability in photonic crystal channel-drop filters (4 pages)	035103
Zhi-Yuan Li, Hong-Yi Sang, Lan-Lan Lin, and Kai-Ming Ho	
X-ray Raman scattering at the <i>L</i> edges of elemental Na, Si, and the <i>N</i> edge of Ba in Ba ₈ Si ₄₆ (5 pages)	035104
C. Sternemann, J. A. Soininen, S. Huotari, G. Vankó, M. Volmer, R. A. Secco, J. S. Tse, and M. Tolan	
Systematic treatment of displacements, strains, and electric fields in density-functional perturbation theory (13 pages)	035105
Xifan Wu, David Vanderbilt, and D. R. Hamann	
Generic Galilean-invariant exchange-correlation functionals with quantum memory (5 pages)	035106
Yair Kurzweil and Roi Baer	
Collective fields in the functional renormalization group for fermions, Ward identities, and the exact solution of the Tomonaga-Luttinger model (27 pages)	035107
Florian Schütz, Lorenz Bartosch, and Peter Kopietz	
Topological spin transport of photons: Magnetic monopole gauge field in Maxwell's equations and polarization splitting of rays in periodically inhomogeneous media (10 pages)	035108
K. Yu. Bliokh and V. D. Freilikher	
Deconfined quantum criticality of the <i>O</i> (3) nonlinear σ model in two spatial dimensions: A renormalization- group study (10 pages)	035109
Ki-Seok Kim	
Excitation spectrum of doped two-leg ladders: A field theory analysis (21 pages)	035110
D. Controzzi and A. M. Tsvelik	

Electronic self-energy and triplet pairing fluctuations in the vicinity of a ferromagnetic instability in two-dimensional systems: Quasistatic approach (10 pages)	035111
A. A. Katanin	
Electromagnetic wave localization using a left-handed transmission-line superlens (9 pages)	035112
Tie Jun Cui, Qiang Cheng, Zhi Zhong Huang, and Yijun Feng	
Resonant inelastic x-ray scattering at the Ce L_3 edge of CePO ₄ and CeO ₂ : Implications for the valence of CeO ₂ and related phenomena (6 pages)	035113
T. K. Sham, R. A. Gordon, and S. M. Heald	
Mean-field theory for symmetry-breaking Fermi surface deformations on a square lattice (11 pages)	035114
Hiroyuki Yamase, Vadim Oganessian, and Walter Metzner	
Charge-density-wave gap in the quasi-two-dimensional conductor Na _{0.9} Mo ₆ O ₁₇ measured by angle-resolved photoemission spectroscopy (4 pages)	035115
P.-A. Glans, T. Learmonth, K. E. Smith, T. Valla, P. D. Johnson, S. L. Hulbert, W. McCarroll, and M. Greenblatt	
Electronic properties of bulk γ -Al ₂ O ₃ (9 pages)	035116
E. Menéndez-Proupin and G. Gutiérrez	
Simple model of the static exchange-correlation kernel of a uniform electron gas with long-range electron-electron interaction (13 pages)	035117
Julien Toulouse	
Near-field characterization of low-loss photonic crystal waveguides (7 pages)	035118
V. S. Volkov, S. I. Bozhevolnyi, P. I. Borel, L. H. Frandsen, and M. Kristensen	
Thermodynamic and transport properties of single-crystalline UMGa ₅ (M =Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt) (7 pages)	035119
N. O. Moreno, E. D. Bauer, J. L. Sarrao, M. F. Hundley, J. D. Thompson, and Z. Fisk	
Optical transitions in the two-leg ladder compounds A _x V ₆ O ₁₅ (A =Sr, Na) (6 pages)	035120
V. Ta Phuoc, C. Sellier, and E. Janod	
Critical behavior of the single-particle spectral weight in the ionic Hubbard model (6 pages)	035121
M. C. Refolio, J. M. López Sancho, and J. Rubio	
Continuous-time quantum Monte Carlo method for fermions (9 pages)	035122
A. N. Rubtsov, V. V. Savkin, and A. I. Lichtenstein	
Two-dimensional magnetophotonic crystal: Exactly solvable model (9 pages)	035123
A. B. Khanikaev, A. V. Baryshev, M. Inoue, A. B. Granovsky, and A. P. Vinogradov	
Optical investigations on Y _{2-x} Bi _x Ru ₂ O ₇ : Electronic structure evolutions related to the metal-insulator transition (7 pages)	035124
J. S. Lee, S. J. Moon, T. W. Noh, T. Takeda, R. Kanno, S. Yoshii, and M. Sato	
Effects of finite bandwidth on spectroscopic characteristics of normal metals (21 pages)	035125
A. Knigavko and J. P. Carbotte	
Hidden one-dimensional electronic structure and non-Fermi-liquid angle-resolved photoemission line shapes of η -Mo ₄ O ₁₁ (4 pages)	035126
G.-H. Gweon, S.-K. Mo, J. W. Allen, C. R. Ast, H. Höchst, J. L. Sarrao, and Z. Fisk	
<i>Ab initio</i> many-body calculation of excitons in solid Ne and Ar (7 pages)	035127
S. Galamić-Mulaomerović and C. H. Patterson	

Coexistence of ionic and metallic bonding in noble-metal oxides (8 pages)	035128
Alessio Filippetti and Vincenzo Fiorentini	
Quantum critical behavior in a CePt ferromagnetic Kondo lattice (6 pages)	035129
J. Larrea J., M. B. Fontes, A. D. Alvarenga, E. M. Baggio-Saitovitch, T. Burghardt, A. Eichler, and M. A. Continentino	
Band transport model for discotic liquid crystals (11 pages)	035130
L. J. Lever, R. W. Kelsall, and R. J. Bushby	
Terahertz conductivity at the Verwey transition in magnetite (6 pages)	035131
A. Pimenov, S. Tachos, T. Rudolf, A. Loidl, D. Schrupp, M. Sing, R. Claessen, and V. A. M. Brabers	
Semiconductors I: bulk	
Terahertz radiation and second-harmonic generation from InAs: Bulk versus surface electric-field-induced contributions (9 pages)	035201
Matthew Reid, Igor V. Cravetchi, and Robert Fedosejevs	
Physical atomistic kinetic Monte Carlo modeling of Fermi-level effects of species diffusing in silicon (8 pages)	035202
I. Martin-Bragado, P. Castrillo, M. Jaraiz, R. Pinacho, J. E. Rubio, and J. Barbolla	
Optical detection of electron paramagnetic resonance for intrinsic defects produced in ZnO by 2.5-MeV electron irradiation <i>in situ</i> at 4.2 K (12 pages)	035203
L. S. Vlasenko and G. D. Watkins	
<i>Ab initio</i> calculations of excitons in GaN (8 pages)	035204
Robert Laskowski, Niels Egede Christensen, Gilles Santi, and Claudia Ambrosch-Draxl	
Screened exchange LDA determination of the ground and excited state properties of thermoelectrics: Bi ₂ Te ₃ (4 pages)	035205
Miyoun Kim, A. J. Freeman, and Clint B. Geller	
Thermodynamic basis of the concept of recombination resistance (9 pages)	035206
M. Salis, P. C. Ricci, and F. Raga	
Intrinsic excitonic luminescence in crystalline terthiophene (5 pages)	035207
F. Meinardi, S. Blumstengel, M. Cerminara, G. Macchi, and R. Tubino	
Structure and vibrational properties of N-H ₂ complexes in GaAs:N (4 pages)	035208
W. Beall Fowler, Kevin R. Martin, Kathryn Washer, and Michael Stavola	
Electron spin resonance studies in the doped polyaniline PANI-AMPSA: Evidence for local ordering from linewidth features (7 pages)	035209
V. Sitaram, Ajay Sharma, S. V. Bhat, K. Mizoguchi, and Reghu Menon	
Transport properties of diluted magnetic semiconductors: Dynamical mean-field theory and Boltzmann theory (15 pages)	035210
E. H. Hwang and S. Das Sarma	
<i>n</i> -type doping of CuInSe ₂ and CuGaSe ₂ (14 pages)	035211
Clas Persson, Yu-Jun Zhao, Stephan Lany, and Alex Zunger	
Jahn-Teller distortion and ferromagnetism in the dilute magnetic semiconductors GaAs:Mn and cubic GaN:Mn (6 pages)	035212
Xuan Luo and Richard M. Martin	

Analysis of the electronic properties of intermediate band materials as a function of impurity concentration (6 pages)	035213
C. Tablero	
Vacancy-impurity complexes and limitations for implantation doping of diamond (11 pages)	035214
J. P. Goss, P. R. Briddon, M. J. Rayson, S. J. Sque, and R. Jones	
Anion vacancies as a source of persistent photoconductivity in II-VI and chalcopyrite semiconductors (13 pages)	035215
Stephan Lany and Alex Zunger	
Theory of the spin EPR shift: Application to $\text{Pb}_{1-x}\text{Mn}_x\text{Te}$ (11 pages)	035216
R. K. Das, G. S. Tripathi, and P. K. Misra	
Time-dependent mobility and recombination of the photoinduced charge carriers in conjugated polymer/ fullerene bulk heterojunction solar cells (10 pages)	035217
A. J. Mozer, G. Dennler, N. S. Sariciftci, M. Westerling, A. Pivrikas, R. Österbacka, and G. Juška	
Semiconductors II: surfaces, interfaces, microstructures, and related topics	
Renormalization of impurity scattering in one-dimensional interacting electron systems in magnetic field (10 pages)	035301
T. Hikihara, A. Furusaki, and K. A. Matveev	
Optically detected measurement of the ground-state population of an ensemble of neutral donors in GaAs (5 pages)	035302
D. G. Allen, M. S. Sherwin, and C. R. Stanley	
Polarization entanglement visibility of photon pairs emitted by a quantum dot embedded in a microcavity (6 pages)	035303
J. I. Perea and C. Tejedor	
Microscopic tests of topological electron-vortex binding in the fractional Hall effect (7 pages)	035304
Gun Sang Jeon, Michael R. Peterson, and J. K. Jain	
Surface x-ray-diffraction study and quantum well analysis of the growth and atomic-layer structure of ultrathin $\text{Pb}/\text{Si}(111)$ films (11 pages)	035305
P. Czoschke, Hawoong Hong, L. Basile, and T.-C. Chiang	
Decoherence processes during optical manipulation of excitonic qubits in semiconductor quantum dots (5 pages)	035306
Q. Q. Wang, A. Muller, P. Bianucci, E. Rossi, Q. K. Xue, T. Takagahara, C. Piermarocchi, A. H. MacDonald, and C. K. Shih	
String and membrane condensation on three-dimensional lattices (10 pages)	035307
Alioscia Hamma, Paolo Zanardi, and Xiao-Gang Wen	
Time-dependent quantum transport: A practical scheme using density functional theory (13 pages)	035308
S. Kurth, G. Stefanucci, C.-O. Almbladh, A. Rubio, and E. K. U. Gross	
Controlling the electronic band structures in hydrogenated silicon nanocrystals by shallow impurity doping (6 pages)	035309
X. Y. Chen and W. Z. Shen	
Fermi edge singularities in the mesoscopic regime: Anderson orthogonality catastrophe (11 pages)	035310
Martina Hentschel, Denis Ullmo, and Harold U. Baranger	

Similarities and differences in two-dimensional metallicity induced by temperature and a parallel magnetic field: Effect of screening (6 pages)	035311
S. Das Sarma and E. H. Hwang	
Finite-bias charge detection in a quantum dot (6 pages)	035312
R. Schleser, E. Ruh, T. Ihn, K. Ensslin, D. C. Driscoll, and A. C. Gossard	
Spontaneous lateral modulation in short-period superlattices investigated by grazing-incidence x-ray diffraction (8 pages)	035313
O. Caha, P. Mikulík, J. Novák, V. Holý, S. C. Moss, A. Norman, A. Mascarenhas, J. L. Reno, and B. Krause	
Exciton lifetime in InAs/GaAs quantum dot molecules (7 pages)	035314
C. Bardot, M. Schwab, M. Bayer, S. Fafard, Z. Wasilewski, and P. Hawrylak	
Nuclear spin orientation by electrical spin injection in an $\text{Al}_x\text{Ga}_{1-x}\text{As}$ /GaAs spin-polarized light-emitting diode (11 pages)	035315
P. Van Dorpe, W. Van Roy, J. De Boeck, and G. Borghs	
T-shaped waveguides for quantum-wire intersubband lasers (7 pages)	035316
Thomas Herrle, Stefan Schmult, Markus Pindl, Ulrich T. Schwarz, and Werner Wegscheider	
Electronic structure of the GaAs(114)A-(2×1) and GaAs(114)B-(2×1) surfaces (7 pages)	035317
R. D. Sardon and G. P. Srivastava	
Thermal conductivity of interconnected silicon nanoparticles: Application to porous silicon nanostructures (5 pages)	035318
P. Chantrenne and V. Lysenko	
Commensurability effects in hexagonal antidot lattices with large antidot diameters (5 pages)	035319
S. Meckler, T. Heinzel, A. Cavanna, G. Faini, U. Gennser, and D. Mailly	
Interplay between impurities and correlations in superconducting nanorings (8 pages)	035320
Katarzyna Czajka, Maciej M. Maška, Marcin Mierzejewski, and Zaneta Śledź	
Band structure of semimagnetic $\text{Hg}_{1-y}\text{Mn}_y\text{Te}$ quantum wells (12 pages)	035321
E. G. Novik, A. Pfeuffer-Jeschke, T. Jungwirth, V. Latussek, C. R. Becker, G. Landwehr, H. Buhmann, and L. W. Molenkamp	
Interacting dimer rows on terraces: Reconstructed Si(001) surfaces (10 pages)	035322
R. A. Budiman	
Real-space investigation of the metal-insulator transition of Si(557)-Au (6 pages)	035323
H. W. Yeom, J. R. Ahn, H. S. Yoon, I.-W. Lyo, Hojin Jeong, and Sukmin Jeong	
Magnetic-field symmetry of pump currents of adiabatically driven mesoscopic structures (11 pages)	035324
M. Moskalets and M. Büttiker	
Theory of spin splitting in $\text{Ga}_{1-x}\text{Al}_x\text{As}$ parabolic quantum wells controlled by an electric field (6 pages)	035325
P. Pfeffer and W. Zawadzki	
Atomistic theory of electronic and optical properties of InAs/InP self-assembled quantum dots on patterned substrates (8 pages)	035326
Weidong Sheng and Pawel Hawrylak	
First-principles calculations of 2×2 reconstructions of GaN(0001) surfaces involving N, Al, Ga, In, and As atoms (7 pages)	035327
V. Timon, S. Brand, S. J. Clark, M. C. Gibson, and R. A. Abram	

Dephasing by a nonstationary classical intermittent noise (16 pages)	035328
J. Schrieffer, M. Clusel, D. Carpentier, and P. Degiovanni	
General topological features and instanton vacuum in quantum Hall and spin liquids (17 pages)	035329
A. M. M. Pruisken, R. Shankar, and Naveen Surendran	
Correlated sequential tunneling through a double barrier for interacting one-dimensional electrons (14 pages)	035330
M. Thorwart, R. Egger, and M. Grifoni	
Piezoelectric semiconductor acoustic cavities (5 pages)	035331
G. Rozas, M. F. Pascual Winter, A. Fainstein, B. Jusserand, P. O. Vaccaro, S. Saravanan, and N. Saito	
Binding energies of positive and negative trions: From quantum wells to quantum dots (6 pages)	035332
A. S. Bracker, E. A. Stinaff, D. Gammon, M. E. Ware, J. G. Tischler, D. Park, D. Gershoni, A. V. Filinov, M. Bonitz, F. Peeters, and C. Riva	
Measurements of the atomistic mechanics of single crystalline silicon wires of nanometer width (6 pages)	035333
Tokushi Kizuka, Yasuhiro Takatani, Koji Asaka, and Ryoza Yoshizaki	
Voltage and current distribution in a doubly connected two-dimensional quantum Hall system (7 pages)	035334
M. Oswald, J. Oswald, and R. G. Mani	
Mesoscopic threshold detectors: Telegraphing the size of a fluctuation (9 pages)	035335
Andrew N. Jordan and Eugene V. Sukhorukov	
Temperature tuning of two-dimensional photonic crystals in the presence of phonons and a plasma of electrons and holes (9 pages)	035336
J. Manzanares-Martínez, F. Ramos-Mendieta, and P. Halevi	
Theoretical investigation of electron-phonon interaction in one-dimensional silicon quantum dot array interconnected with silicon oxide layers (11 pages)	035337
Shigeyasu Uno, Nobuya Mori, Kazuo Nakazato, Nobuyoshi Koshida, and Hiroshi Mizuta	
Formation of thallium islands on the Si(111)- 7×7 surface (6 pages)	035338
N. D. Kim, C. G. Hwang, J. W. Chung, T. C. Kim, and D. Y. Noh	
Nonchiral edge states at the chiral metal-insulator transition in disordered quantum Hall wires (9 pages)	035339
Alexander Struck, Bernhard Kramer, Tomi Ohtsuki, and Stefan Kettemann	
Exciton-exciton interaction and biexcitons in the presence of spin-polarized carriers (7 pages)	035340
P. Kossacki, P. Plochocka, B. Piechal, W. Maślana, A. Golnik, J. Cibert, S. Tatarenko, and J. A. Gaj	
Spin-excitations of the quantum Hall ferromagnet of composite fermions (13 pages)	035341
R. L. Doretto, M. O. Goerbig, P. Lederer, A. O. Caldeira, and C. Morais Smith	
Approach to wetting-layer-assisted lateral coupling of InAs/InP quantum dots (5 pages)	035342
C. Cornet, C. Platz, P. Caroff, J. Even, C. Labbé, H. Folliot, A. Le Corre, and S. Loualiche	
Inducing electron spin coherence in GaAs quantum well waveguides: Spin coherence without spin precession (5 pages)	035343
Susanta Sarkar, Phedon Palinginis, Pei-Cheng Ku, Connie J. Chang-Hasnain, N. H. Kwong, R. Binder, and Hailin Wang	
Spin gap in the two-dimensional electron system of GaAs/Al _x Ga _{1-x} As single heterojunctions in weak magnetic fields (5 pages)	035344
V. S. Khrapai, A. A. Shashkin, E. L. Shangina, V. Pellegrini, F. Beltram, G. Biasiol, and L. Sorba	

Silicon interstitials at Si/SiO ₂ interfaces: Density functional calculations (<i>6 pages</i>)	035345
Taras A. Kirichenko, Decai Yu, Sanjay K. Banerjee, and Gyeong S. Hwang	
Surface physics, nanoscale physics, low-dimensional systems	
Quantum and classical dynamics of H ₂ scattering from Pd(111) at off-normal incidence (<i>10 pages</i>)	035401
C. Díaz, M. F. Somers, G. J. Kroes, H. F. Busnengo, A. Salin, and F. Martín	
Diamond nucleation by energetic pure carbon bombardment (<i>5 pages</i>)	035402
Y. Yao, M. Y. Liao, Th. Köhler, Th. Frauenheim, R. Q. Zhang, Z. G. Wang, Y. Lifshitz, and S. T. Lee	
Coherent electron transport in bent cylindrical surfaces (<i>10 pages</i>)	035403
Alex Marchi, Susanna Reggiani, Massimo Rudan, and Andrea Bertoni	
Surface electronic states in three-dimensional SnO ₂ nanostructures (<i>5 pages</i>)	035404
S. O. Kucheyev, T. F. Baumann, P. A. Sterne, Y. M. Wang, T. van Buuren, A. V. Hamza, L. J. Terminello, and T. M. Willey	
Self-consistent tight-binding study of low-index titanium surfaces (<i>11 pages</i>)	035405
Serkan Erdin, You Lin, and J. Woods Halley	
Atomic mobility in liquid gallium under nanoconfinement (<i>6 pages</i>)	035406
E. V. Charnaya, Cheng Tien, W. Wang, M. K. Lee, D. Michel, D. Yaskov, S. Y. Sun, and Yu. A. Kumzerov	
Time-dependent universal conductance fluctuations and coherence in AuPd and Ag (<i>10 pages</i>)	035407
A. Trionfi, S. Lee, and D. Natelson	
Effects of ion bombardment on the optical and electronic properties of Cu(110) (<i>8 pages</i>)	035408
D. S. Martin, R. J. Cole, and P. Weightman	
Resonant Raman spectroscopy of single-wall carbon nanotubes under pressure (<i>6 pages</i>)	035409
A. Merlen, N. Bendiab, P. Toulemonde, A. Aouizerat, A. San Miguel, J. L. Sauvajol, G. Montagnac, H. Cardon, and P. Petit	
Isotope effect on phonon spectra in single-walled carbon nanotubes (<i>8 pages</i>)	035410
Yong-qiang Cheng, Shu-yun Zhou, and Bang-fen Zhu	
Model for reflectance anisotropy spectra of molecular layered systems (<i>9 pages</i>)	035411
Bernardo S. Mendoza and R. A. Vázquez-Nava	
Nanoparticle size distribution estimation by a full-pattern powder diffraction analysis (<i>9 pages</i>)	035412
A. Cervellino, C. Giannini, A. Guagliardi, and M. Ladisa	
Selective growth of Co nanoislands on an oxygen-patterned Ru(0001) surface (<i>5 pages</i>)	035413
H. F. Ding, A. K. Schmid, D. J. Keavney, Dongqi Li, R. Cheng, J. E. Pearson, F. Y. Fradin, and S. D. Bader	
Perfectly matched multiscale simulations (<i>8 pages</i>)	035414
Albert C. To and Shaofan Li	
Heteroepitaxial growth of Co/Cu(001): An accelerated molecular dynamics simulation study (<i>7 pages</i>)	035415
Radu A. Miron and Kristen A. Fichthorn	
Continuum modeling of sputter erosion under normal incidence: Interplay between nonlocality and nonlinearity (<i>6 pages</i>)	035416
Sebastian Vogel and Stefan J. Linz	

Annealing-induced extension of the antiferromagnetic phase in epitaxial terbium metal films (8 pages)	035417
F. Heigl, J. E. Prieto, O. Krupin, K. Starke, G. Kaindl, and M. Bode	
Rate theory of yield in boron nitride nanotubes (5 pages)	035418
Traian Dumitrică and Boris I. Yakobson	
Magnetoresistance in ferromagnetically contacted single-wall carbon nanotubes (5 pages)	035419
Ane Jensen, Jonas R. Hauptmann, Jesper Nygård, and Poul Erik Lindelof	
Copper adsorption on the fivefold Al ₇₀ Pd ₂₁ Mn ₉ quasicrystal surface (6 pages)	035420
J. Ledieu, J. T. Hoeft, D. E. Reid, J. A. Smerdon, R. D. Diehl, N. Ferralis, T. A. Lograsso, A. R. Ross, and R. McGrath	
Atomistic simulation of Ag thin films on MgO(100) substrate: A template substrate for heterogeneous adsorption (10 pages)	035421
A. Ouahab, C. Mottet, and J. Goniakowski	
Effects of dangling ends on the conductance of side-contacted carbon nanotubes (4 pages)	035422
Tongcang Li, Q. W. Shi, Xiaoping Wang, Qin Chen, Jianguo Hou, and Jie Chen	
<i>Ab initio</i> investigation of noncontact atomic force microscopy tip-surface instability in InAs(110) surface (9 pages)	035423
V. Caciuc, H. Hölscher, and S. Blügel	
Random laser emission from a surface-corrugated waveguide (4 pages)	035424
Qinghai Song, Lei Wang, Shumin Xiao, Xinchuan Zhou, Liying Liu, and Lei Xu	
Resonant Raman spectroscopy of individual metallic and semiconducting single-wall carbon nanotubes under uniaxial strain (8 pages)	035425
S. B. Cronin, A. K. Swan, M. S. Ünlü, B. B. Goldberg, M. S. Dresselhaus, and M. Tinkham	
Monotonically decreasing size distributions for one-dimensional Ga rows on Si(100) (8 pages)	035426
M. A. Albao, M. M. R. Evans, J. Nogami, D. Zorn, M. S. Gordon, and J. W. Evans	
Surface-enhanced Raman scattering and fluorescence near metal nanoparticles (17 pages)	035427
Peter Johansson, Hongxing Xu, and Mikael Käll	
Carbon three-dimensional architecture formed by intersectional collision of graphene patches (7 pages)	035428
Takazumi Kawai, Susumu Okada, Yoshiyuki Miyamoto, and Atsushi Oshiyama	
Strong enhancement of terahertz transmission for a three-layer heterostructure of metal hole arrays (5 pages)	035429
Fumiaki Miyamaru and Masanori Hangyo	
AFM, SEM and <i>in situ</i> RHEED study of Cu texture evolution on amorphous carbon by oblique angle vapor deposition (8 pages)	035430
F. Tang, C. Gaire, D.-X. Ye, T. Karabacak, T.-M. Lu, and G.-C. Wang	
Low-energy (5–250 eV) electron-stimulated desorption of H ⁺ , H ₂ ⁺ , and H ⁺ (H ₂ O) _n from low-temperature water ice surfaces (10 pages)	035431
Janine Herring-Captain, Gregory A. Grieves, Alex Alexandrov, Matthew T. Sieger, Haiyan Chen, and Thomas M. Orlando	
Charge exchange in 3–30 keV H ⁺ scattering off clean and AlF ₃ -covered Al(111) surfaces I. Experimental study (7 pages)	035432
J. O. Lugo, E. C. Goldberg, E. A. Sánchez, and O. Grizzi	

Charge exchange in 3–30 keV H^+ scattering off clean and AlF_3 -covered Al(111) surfaces II. Theoretical study (9 pages)	035433
J. O. Lugo, E. C. Goldberg, E. A. Sánchez, and O. Grizzi	
Electronic properties of the ordered metallic Mn:Ge(111) interface (6 pages)	035434
L. Sangaletti, D. Ghidoni, S. Pagliara, A. Goldoni, A. Morgante, L. Floreano, A. Cossaro, M. C. Mozzati, and C. B. Azzoni	
Atomic-scale finite element method in multiscale computation with applications to carbon nanotubes (8 pages)	035435
B. Liu, H. Jiang, Y. Huang, S. Qu, M.-F. Yu, and K. C. Hwang	
Electron-phonon and electron-photon interactions and resonant Raman scattering from the radial-breathing mode of single-walled carbon nanotubes (10 pages)	035436
Valentin N. Popov, Luc Henrard, and Philippe Lambin	
Ostwald ripening of two-dimensional homoepitaxial islands (11 pages)	035437
Frank Haußer and Axel Voigt	
Size calibration of self-assembled nanoparticles in a model of strained epitaxy with passive substrate (7 pages)	035438
V. I. Tokar and H. Dreyssé	
Effect of electron correlations in Pd, Ni, and Co monowires (10 pages)	035439
Małgorzata Wierzbowska, Anna Delin, and Erio Tosatti	
Effect of impurities on transport through organic self-assembled molecular films from first principles (5 pages)	035440
B. Larade and A. M. Bratkovsky	
Electronic properties of O_2 -doped DNA (6 pages)	035441
H. Mehrez, S. Walch, and M. P. Anantram	
Surface atom core-level shifts of clean and oxygen-covered $Re(12\bar{3}1)$ (5 pages)	035442
A. S. Y. Chan, G. K. Wertheim, H. Wang, M. D. Ulrich, J. E. Rowe, and T. E. Madey	
Resonator design for use in scanning tunneling spectroscopy studies of surface electron lifetimes (6 pages)	035443
S. Crampin, H. Jensen, J. Kröger, L. Limot, and R. Berndt	
Universality class of interacting k -mers in a two-dimensional lattice system (8 pages)	035444
F. Romá, A. J. Ramirez-Pastor, and J. L. Riccardo	
Mechanical properties of a carbon nanotube fixed at a tip apex: A frequency-modulated atomic force microscopy study (16 pages)	035445
D. Dietzel, S. Marsaudon, J. P. Aimé, C. V. Nguyen, and G. Couturier	
$Si(110)5 \times 2$ -Au: A metallic chain structure (4 pages)	035446
J. L. McChesney, J. N. Crain, F. J. Himpsel, and R. Bennewitz	
Electronic and vibrational properties of diamondlike hydrocarbons (9 pages)	035447
A. J. Lu, B. C. Pan, and J. G. Han	
Orbital-specific dynamic charge transfer from Fe(II)-tetraphenylporphyrin molecules to molybdenum disulfide substrates (8 pages)	035448
M. P. de Jong, R. Friedlein, S. L. Sorensen, G. Öhrwall, W. Osikowicz, C. Tengsted, S. K. M. Jönsson, M. Fahlman, and W. R. Salaneck	

CONTENTS - Continued

PHYSICAL REVIEW B

THIRD SERIES, VOLUME 72, NUMBER 3

JULY 2005-15(I)

First-principles study of field-emission properties of nanoscale graphite ribbon arrays (8 pages)	035449
S. F. Huang, T. C. Leung, Bin Li, and C. T. Chan	
Conductance calculations for quantum wires and interfaces: Mode matching and Green's functions (13 pages)	035450
P. A. Khomyakov, G. Brocks, V. Karpan, M. Zwierzycki, and P. J. Kelly	
van der Waals coupling in atomically doped carbon nanotubes (15 pages)	035451
I. V. Bondarev and Ph. Lambin	
Spin-based quantum interference effects and dephasing in strongly disordered Au nanobridges (9 pages)	035452
A. Anaya, M. Bowman, A. L. Korotkov, and D. Davidović	
Nucleation and reshaping thermodynamics of Ni as catalyst of carbon nanotubes (5 pages)	035453
L. H. Liang, F. Liu, D. X. Shi, W. M. Liu, X. C. Xie, and H. J. Gao	
Pressure-induced structural transition of double-walled carbon nanotubes (5 pages)	035454
X. Ye, D. Y. Sun, and X. G. Gong	
Negative quantum capacitance of gated carbon nanotubes (5 pages)	035455
L. Latessa, A. Pecchia, A. Di Carlo, and P. Lugli	
Effect of thermal fluctuations of twist angles on charge transport in DNA: A model calculation (5 pages)	035456
Wei Ren, Jian Wang, Zhongshui Ma, and Hong Guo	
Surface defect configurations on the (100) dipolar surface of UO ₂ (6 pages)	035457
Averyl H. H. Tan, Michael Abramowski, Robin W. Grimes, and Scott Owens	
Long-range-ordered pentacene chains assembled on the Cu(119) vicinal surface (5 pages)	035458
Luca Gavioli, Mattia Fanetti, Massimo Sancrotti, and Maria Grazia Betti	
Effect of crystalline electrodes on the transport properties of Al monatomic wires at finite biases (5 pages)	035459
Yusuke Asari, Jun Nara, Nobuhiko Kobayashi, and Takahisa Ohno	
Scanning tunneling spectroscopy of dislocations in ultrathin fcc and hcp Co films (8 pages)	035460
M. Pratzer and H. J. Elmers	

ERRATA

Erratum: High-bias conductance of atom-sized Al contacts [Phys. Rev. B 68 , 155428 (2003)] (1 page)	039901(E)
Jun-ichi Mizobata, Akihiro Fujii, Shu Kurokawa, and Akira Sakai	