PHYSICAL REVIEW B

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

PERIODICALS
Postmaster send address changes to:
APS Subscription Services
Suite 1NO1
2 Huntington Quadrangle
Melville, NY 11747-4502

THIRD SERIES, VOLUME 79, NUMBER 23 *CONTENTS* **JUNE 2009-15(I)**

BRIEF REPORTS

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

Probing the interface of Fe_3O_4/GaAs thin films by hard x-ray photoelectron spectroscopy *(4 pages)* 233101
M. Paul, A. Müller, A. Ruff, B. Schmid, G. Berner, M. Mertin, M. Sing, and R. Claessen

Band structure of a photonic crystal with the clathrate Si-34 lattice *(4 pages)* 233102
Pavel N. Dyachenko, Nataliya D. Kundikova, and Yuri V. Miklyaev

Exciton-exciton interactions in $CdWO_4$ irradiated by intense femtosecond vacuum ultraviolet pulses *(4 pages)* 233103
M. Kirm, V. Nagirnyi, E. Feldbach, M. De Grazia, B. Carré, H. Merdji, S. Guizard, G. Geoffroy, J. Gaudin, N. Fedorov, P. Martin, A. Vasil'ev, and A. Belsky

Guiding terahertz waves along subwavelength channels *(4 pages)* 233104
A. I. Fernández-Domínguez, Esteban Moreno, L. Martín-Moreno, and F. J. García-Vidal

Numerical renormalization group calculations of ground-state energy: Application to correlation effects in the adsorption of magnetic impurities on metal surfaces *(4 pages)* 233105
Rok Žitko

Electrical resistivity, high-resolution thermal expansion, and heat capacity measurements of the charge-density wave compound γ-Mo_4O_{11} *(4 pages)* 233106
M. S. da Luz, A. de Campos, B. D. White, and J. J. Neumeier

Effective properties of amorphous metamaterials *(4 pages)* 233107
C. Helgert, C. Rockstuhl, C. Etrich, C. Menzel, E.-B. Kley, A. Tünnermann, F. Lederer, and T. Pertsch

Semiconductors I: bulk

Time-dependent density-functional approach for exciton binding energies *(4 pages)* 233201
V. Turkowski, A. Leonardo, and C. A. Ullrich

Facile synthesis of highly stable *a*-Si by ion implantation of low-keV H isotopes *(4 pages)* 233202
O. Moutanabbir, R. Scholz, U. Gösele, and B. Terreault

Semiconductors II: surfaces, interfaces, microstructures, and related topics

Anomalous polarization of the photoluminescence from anisotropic colloidal CdSe nanocrystals subject to external magnetic fields *(4 pages)* 233301
S. V. Goupalov

Copyright 2009 by The American Physical Society

1098-0121(20090615)79:23;1-6

(Continued)

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

The editors and referees of PRB find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. B 77, 130001 (2008).

PHYSICAL REVIEW B **THIRD SERIES, VOLUME 79, NUMBER 23** **JUNE 2009-15(I)**

Edge-state Fabry-Perot interferometer as a high-sensitivity charge detector *(4 pages)* 233302
P. K. Pathak and Kicheon Kang

Edge versus interior in the chemical bonding of graphene materials *(4 pages)* 233303
Michael R. Philpott and Yoshiyuki Kawazoe

Stress relaxation scenario for buried quantum dots *(4 pages)* 233304
V. V. Chaldyshev, N. A. Bert, A. L. Kolesnikova, and A. E. Romanov

Selection rules for optical transitions in PbSe nanocrystal quantum dots: Drastic effect of structure inversion asymmetry *(4 pages)* 233305
S. V. Goupalov

Measurement of binding energy of negatively charged excitons in GaAs/$Al_{0.3}Ga_{0.7}As$ quantum wells *(4 pages)* 233306
V. V. Solovyev and I. V. Kukushkin

Photoluminescence dynamics and Auger fountain in three-dimensional Si/SiGe multilayer nanostructures *(4 pages)* 233307
E.-K. Lee, D. J. Lockwood, J.-M. Baribeau, A. M. Bratkovsky, T. I. Kamins, and L. Tsybeskov

Intrinsic optical gain of ultrathin silicon quantum wells from first-principles calculations *(4 pages)* 233308
Yuji Suwa and Shin-ichi Saito

Plasmonic metaresonances: Molecular resonances in quantum dot–metallic nanoparticle conjugates *(4 pages)* 233309
S. M. Sadeghi

Surface physics, nanoscale physics, low-dimensional systems

Electronic properties of silicon nanotubes with distinct bond lengths *(4 pages)* 233401
J. E. Bunder and James M. Hill

Suppression of the superconducting transition temperature of doped graphene due to thermal fluctuations of the order parameter *(4 pages)* 233402
V. M. Loktev and V. Turkowski

Growth of curved graphene sheets on graphite by chemical vapor deposition *(4 pages)* 233403
I. Kholmanov, E. Cavaliere, M. Fanetti, C. Cepek, and L. Gavioli

Edge-disorder-dependent transport length scales in graphene nanoribbons: From Klein defects to the superlattice limit *(4 pages)* 233404
Alessandro Cresti and Stephan Roche

Transition from during- to post-collision multifragmentation in cluster surface impact *(4 pages)* 233405
A. Kaplan, A. Bekkerman, B. Tsipinyuk, and E. Kolodney

Theoretical calculation for the ultraviolet optical properties of single-walled carbon nanotubes *(4 pages)* 233406
Yoshiteru Takagi and Susumu Okada

Charge and spin states of metal atoms adsorbed on ultrathin MgO/Fe(001) films *(4 pages)* 233407
Jinwoo Park, B. D. Yu, and Hanchul Kim

Calcium-hydroxyl group complex for potential hydrogen storage media: A density functional theory study *(4 pages)* 233408
Manh Cuong Nguyen, Moon-Hyun Cha, Keunsu Choi, Yealee Lee, and Jisoon Ihm

(Continued)

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

The editors and referees of PRB find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. B 77, 130001 (2008).

PHYSICAL REVIEW B THIRD SERIES, VOLUME 79, NUMBER 23 JUNE 2009-15(I)

Magnetization measurement of a possible high-temperature superconducting state in amorphous carbon doped with sulfur *(4 pages)* 233409
Israel Felner and Yakov Kopelevich

ARTICLES

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

Scaling and transferability of the interaction-energy functional of the inhomogeneous Hubbard model *(9 pages)* 235101
Matthieu Saubanère and G. M. Pastor

Generalization of correlated electron-ion dynamics from nonequilibrium Green's functions *(9 pages)* 235102
Yu Wang

Anharmonic softening of Raman active phonons in iron-pnictides: Estimating the Fe isotope effect due to anharmonic expansion *(6 pages)* 235103
M. Granath, J. Bielecki, J. Holmlund, and L. Börjesson

Incoherent optical conductivity and breakdown of the generalized Drude formula in quasi-one-dimensional bad metallic systems *(9 pages)* 235104
I. Kupčić

Electronic and vibrational density of states through the metal-insulator transition in amorphous yttrium-silicon alloy thin films *(6 pages)* 235105
B. L. Zink and F. Hellman

Core-hole effect in the one-particle approximation revisited from density functional theory *(16 pages)* 235106
Vincent Mauchamp, Michel Jaouen, and Peter Schattschneider

Quasiparticles in the Kondo lattice model at partial fillings of the conduction band using the density matrix renormalization group *(9 pages)* 235107
Sebastian Smerat, Ulrich Schollwöck, Ian P. McCulloch, and Herbert Schoeller

Low-temperature galvanomagnetic, magnetic, and thermoelectric properties of $Mo_3Sb_{7-x}Te_x$ (x=0.0, 0.3, 1.0, 1.6, and 1.8) *(12 pages)* 235108
C. Candolfi, B. Lenoir, A. Dauscher, J. Hejtmánek, and J. Tobola

Classical theory for second-harmonic generation from metallic nanoparticles *(9 pages)* 235109
Yong Zeng, Walter Hoyer, Jinjie Liu, Stephan W. Koch, and Jerome V. Moloney

First-order reversal curve measurements of the metal-insulator transition in VO_2: Signatures of persistent metallic domains *(7 pages)* 235110
J.-G. Ramírez, A. Sharoni, Y. Dubi, M. E. Gómez, and Ivan K. Schuller

Galvanomagnetic properties and noise in a barely metallic film of V_2O_3 *(5 pages)* 235111
Clara Grygiel, Alain Pautrat, and Pierre Rodière

Fast impurity solver based on equations of motion and decoupling *(9 pages)* 235112
Qingguo Feng, Yu-Zhong Zhang, and Harald O. Jeschke

Electronic hybridization effect on 4f electron crystal field states of $PrOs_4P_{12}$ *(6 pages)* 235113
Kazuaki Iwasa, Kotaro Saito, Youichi Murakami, and Hitoshi Sugawara

Quasiparticle band structures of the antiferromagnetic transition-metal oxides MnO, FeO, CoO, and NiO *(8 pages)* 235114
C. Rödl, F. Fuchs, J. Furthmüller, and F. Bechstedt

(Continued)

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

The editors and referees of PRB find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. B 77, 130001 (2008).

PHYSICAL REVIEW B **THIRD SERIES, VOLUME 79, NUMBER 23** **JUNE 2009-15(I)**

Effect of substituting of S for O: The sulfide perovskite $BaZrS_3$ investigated with density functional theory *(6 pages)* 235115
Joseph W. Bennett, Ilya Grinberg, and Andrew M. Rappe

Anderson disorder in graphene nanoribbons: A local distribution approach *(5 pages)* 235116
Gerald Schubert, Jens Schleede, and Holger Fehske

Nanoscale phase separation and superconductivity in the one-dimensional Hirsch model *(8 pages)* 235117
Alberto Anfossi, Cristian Degli Esposti Boschi, and Arianna Montorsi

Revisiting magnetic coupling in transition-metal-benzene complexes with maximally localized Wannier functions *(8 pages)* 235118
Hongming Weng, Taisuke Ozaki, and Kiyoyuki Terakura

Two-loop functional renormalization group approach to the one- and two-dimensional Hubbard model *(13 pages)* 235119
A. A. Katanin

Effects of impurities in spin Bose-metal phase on a two-leg triangular strip *(7 pages)* 235120
Hsin-Hua Lai and Olexei I. Motrunich

Negative refraction, negative phase velocity, and counterposition in bianisotropic materials and metamaterials *(5 pages)* 235121
Tom G. Mackay and Akhlesh Lakhtakia

Defects in codoped NiO with gigantic dielectric response *(4 pages)* 235122
Ping Wu, Valeri Ligatchev, Zhi Gen Yu, Jianwei Zheng, Michael B. Sullivan, and Yingzhi Zeng

Electronic and optical properties of single-walled carbon nanotubes under a uniform transverse electric field: A first-principles study *(5 pages)* 235123
T. H. Cho, W. S. Su, T. C. Leung, Wei Ren, and C. T. Chan

Nernst effect in the electron-doped cuprate superconductors *(9 pages)* 235124
Andreas Hackl and Subir Sachdev

DFT+U calculations of the ground state and metastable states of uranium dioxide *(8 pages)* 235125
Boris Dorado, Bernard Amadon, Michel Freyss, and Marjorie Bertolus

Titanium nitride: A correlated metal at the threshold of a Mott transition *(7 pages)* 235126
H. Allmaier, L. Chioncel, and E. Arrigoni

Delocalization and hybridization enhance the magnetocaloric effect in Cu-doped Ni_2MnGa *(5 pages)* 235127
S. Roy, E. Blackburn, S. M. Valvidares, M. R. Fitzsimmons, S. C. Vogel, M. Khan, I. Dubenko, S. Stadler, N. Ali, S. K. Sinha, and J. B. Kortright

Charge transfer transitions in multiferroic $BiFeO_3$ and related ferrite insulators *(16 pages)* 235128
R. V. Pisarev, A. S. Moskvin, A. M. Kalashnikova, and Th. Rasing

Many-body Green's function approach to attosecond nonlinear x-ray spectroscopy *(9 pages)* 235129
Upendra Harbola and Shaul Mukamel

Low-energy theory of the $t-t'-t''-U$ Hubbard model at half-filling: Interaction strengths in cuprate superconductors and an effective spin-only description of La_2CuO_4 *(22 pages)* 235130
J.-Y. P. Delannoy, M. J. P. Gingras, P. C. W. Holdsworth, and A.-M. S. Tremblay

(Continued)

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

The editors and referees of PRB find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. B 77, 130001 (2008).

PHYSICAL REVIEW B THIRD SERIES, VOLUME 79, NUMBER 23 JUNE 2009-15(I)

Detecting charge and lattice dynamics in photoinduced charge-order melting in perovskite-type manganites using a 30-femtosecond time resolution *(7 pages)* 235131
Hiroyuki Matsuzaki, Hirotaka Uemura, Masakazu Matsubara, Tsuyoshi Kimura, Yoshinori Tokura, and Hiroshi Okamoto

Transport in disordered graphene nanoribbons *(5 pages)* 235132
Ivar Martin and Ya. M. Blanter

Effective Coulomb interactions in solids under pressure *(8 pages)* 235133
Jan M. Tomczak, T. Miyake, R. Sakuma, and F. Aryasetiawan

Semiconductors I: bulk

Infrared spectroscopic studies on incorporating the effect of metallic ions into a *M*-DNA double helix *(8 pages)* 235201
H. Matsui, N. Toyota, M. Nagatori, H. Sakamoto, and K. Mizoguchi

Optimization of Mn doping in group-IV-based dilute magnetic semiconductors by electronic codopants *(13 pages)* 235202
Hua Chen, Wenguang Zhu, Efthimios Kaxiras, and Zhenyu Zhang

First-principles study of the $Co_2FeSi(001)$ surface and $Co_2FeSi/GaAs(001)$ interface *(10 pages)* 235203
Sh. Khosravizadeh, S. Javad Hashemifar, and Hadi Akbarzadeh

Doubly resonant Raman electron paramagnetic transitions of Cr^{3+} in ruby $(Al_2O_3:Cr^{3+})$ *(7 pages)* 235204
X. Lu, S. Venugopalan, Hyunjung Kim, M. Grimsditch, S. Rodriguez, and A. K. Ramdas

Photoluminescence quenching of tris-(8-hydroxyquinoline) aluminum thin films at interfaces with metal oxide films of different conductivities *(8 pages)* 235205
Jun Mei, M. Scott Bradley, and Vladimir Bulović

Theory of charge transport in organic crystals: Beyond Holstein's small-polaron model *(11 pages)* 235206
Frank Ortmann, Friedhelm Bechstedt, and Karsten Hannewald

Magnetic properties of the superconducting state of iron-based superconductors *(8 pages)* 235207
Kangjun Seo, Chen Fang, B. Andrei Bernevig, and Jiangping Hu

Codoping of aluminum and gallium with nitrogen in ZnO: A comparative first-principles investigation *(9 pages)* 235208
X. M. Duan, C. Stampfl, M. M. M. Bilek, and D. R. McKenzie

Optical characterization of $Zn_{0.95-x}Be_xMn_{0.05}Se$ mixed crystals *(8 pages)* 235209
D. O. Dumcenco, C. T. Huang, Y. S. Huang, F. Firszt, S. Łęgowski, H. Męczyńska, A. Marasek, and K. K. Tiong

Theory of the neutral nitrogen-vacancy center in diamond and its application to the realization of a qubit *(6 pages)* 235210
Adam Gali

Semiconductors II: surfaces, interfaces, microstructures, and related topics

Interference of heavy holes in an Aharonov-Bohm ring *(11 pages)* 235301
Dimitrije Stepanenko, Minchul Lee, Guido Burkard, and Daniel Loss

Magnetoabsorption in InSb quantum-well heterostructures *(7 pages)* 235302
J. M. S. Orr, K.-C. Chuang, R. J. Nicholas, L. Buckle, M. T. Emeny, and P. D. Buckle

(Continued)

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

The editors and referees of PRB find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. B 77, 130001 (2008).

PHYSICAL REVIEW B **THIRD SERIES, VOLUME 79, NUMBER 23** **JUNE 2009-15(I)**

Selective suppression of Dresselhaus or Rashba spin-orbit coupling effects by the Zeeman interaction in quantum dots *(13 pages)* 235303
B. Szafran, M. P. Nowak, S. Bednarek, T. Chwiej, and F. M. Peeters

Temperature-dependent Drude transport in a two-dimensional electron gas *(5 pages)* 235304
D. S. Novikov

Determination of the Voigt constant of phthalocyanines by magneto-optical Kerr-effect spectroscopy *(7 pages)* 235305
M. Fronk, B. Bräuer, J. Kortus, O. G. Schmidt, D. R. T. Zahn, and G. Salvan

Temperature dependence of hot-carrier relaxation in PbSe nanocrystals: An *ab initio* study *(7 pages)* 235306
Hua Bao, Bradley F. Habenicht, Oleg V. Prezhdo, and Xiulin Ruan

Observation of percolation-induced two-dimensional metal-insulator transition in a Si MOSFET *(6 pages)* 235307
L. A. Tracy, E. H. Hwang, K. Eng, G. A. Ten Eyck, E. P. Nordberg, K. Childs, M. S. Carroll, M. P. Lilly, and S. Das Sarma

Impact of the crystal structure of HfO_2 on the transport properties of model $HfO_2/Si/HfO_2$ silicon-on-insulator field-effect transistors: A combined DFT-scattering theory approach *(9 pages)* 235308
G. Giorgi, L. R. C. Fonseca, A. Korkin, and K. Yamashita

Diagrammatic real-time approach to adiabatic pumping through metallic single-electron devices *(11 pages)* 235309
Nina Winkler, Michele Governale, and Jürgen König

Metastable zinc-blende MgS structure: Combined experimental and theoretical study *(10 pages)* 235310
C. Bocchi, A. Catellani, F. Germini, L. Nasi, J. K. Morrod, K. A. Prior, and G. Calestani

Fluctuation theorem in a quantum-dot Aharonov-Bohm interferometer *(9 pages)* 235311
Yasuhiro Utsumi and Keiji Saito

Negative lateral conductivity of hot electrons in a biased superlattice *(8 pages)* 235312
A. Hernández-Cabrera, P. Aceituno, and F. T. Vasko

Origin of the "0.25 anomaly" in the nonlinear conductance of a quantum point contact *(5 pages)* 235313
S. Ihnatsenka and I. V. Zozoulenko

Optical-phonon scattering and theory of magneto-polarons in a quantum well in a strong magnetic field *(8 pages)* 235314
Yu Chen, N. Regnault, R. Ferreira, Bang-Fen Zhu, and G. Bastard

Gapless layered three-dimensional fractional quantum Hall states *(11 pages)* 235315
Michael Levin and Matthew P. A. Fisher

Enhanced single-photon emission in the near infrared from a diamond color center *(5 pages)* 235316
Igor Aharonovich, Chunyuan Zhou, Alastair Stacey, Julius Orwa, Stefania Castelletto, David Simpson, Andrew D. Greentree, François Treussart, Jean-Francois Roch, and Steven Prawer

Phase-field modeling of anomalous spiral step growth on Si(001) surface *(6 pages)* 235317
Yan-Mei Yu, Bang-Gui Liu, and Axel Voigt

Ultrafast singlet and triplet dynamics in microcrystalline pentacene films *(8 pages)* 235318
Henning Marciniak, Igor Pugliesi, Bert Nickel, and Stefan Lochbrunner

Formation and electronic states of In nanoclusters on the Si(111)-7×7 surface *(7 pages)* 235319
Jung Hoon Byun, Jin Sung Shin, Pil Gyu Kang, Hojin Jeong, and Han Woong Yeom

(Continued)

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

The editors and referees of PRB find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. B 77, 130001 (2008).

PHYSICAL REVIEW B **THIRD SERIES, VOLUME 79, NUMBER 23** **JUNE 2009-15(I)**

Alteration of first-order phase transition by stress cycles in a MnAs layer on step-bunched GaAs(331)*B* *(6 pages)* 235320
Y. Takagaki, C. Herrmann, B. Jenichen, and J. Herfort

Critical behavior of a point contact in a quantum spin Hall insulator *(22 pages)* 235321
Jeffrey C. Y. Teo and C. L. Kane

Ferromagnetic properties of *p*-(Cd,Mn)Te quantum wells: Interpretation of magneto-optical measurements by Monte Carlo simulations *(11 pages)* 235322
A. Lipińska, C. Simserides, K. N. Trohidou, M. Goryca, P. Kossacki, A. Majhofer, and T. Dietl

Memory effect on the multiphoton coherent destruction of tunneling in the electron transport of nanoscale systems driven by a periodic field: A generalized Floquet approach *(6 pages)* 235323
Tak-San Ho, Shih-Han Hung, Hsing-Ta Chen, and Shih-I Chu

Effective mass suppression in a ferromagnetic two-dimensional electron liquid *(4 pages)* 235324
Reza Asgari, T. Gokmen, B. Tanatar, Medini Padmanabhan, and M. Shayegan

Luminescence spectra of quantum dots in microcavities. I. Bosons *(17 pages)* 235325
Fabrice P. Laussy, Elena del Valle, and Carlos Tejedor

Luminescence spectra of quantum dots in microcavities. II. Fermions *(20 pages)* 235326
Elena del Valle, Fabrice P. Laussy, and Carlos Tejedor

Magnetization in two-dimensional electron gas in a perpendicular magnetic field: The roles of edge states and spin-orbit coupling *(8 pages)* 235327
Zhigang Wang, Wei Zhang, and Ping Zhang

Sum rules and universality in electron-modulated acoustic phonon interaction in a free-standing semiconductor plate *(7 pages)* 235328
Shigeyasu Uno, Darryl Yong, and Nobuya Mori

Spin-orbit interactions in bilayer exciton-condensate ferromagnets *(15 pages)* 235329
Y.-P. Shim and A. H. MacDonald

Stoichiometry and Bravais lattice diversity: An *ab initio* study of the GaSb(001) surface *(6 pages)* 235330
O. Romanyuk, F. Grosse, and W. Braun

Coherent {001} interfaces between rocksalt and zinc-blende crystal structures *(6 pages)* 235331
H. Groiss, G. Hesser, W. Heiss, F. Schäffler, R. Leitsmann, F. Bechstedt, K. Koike, and M. Yano

Effect of the surrounding oxide on the photoabsorption spectra of Si nanocrystals *(6 pages)* 235332
Laura Koponen, Lasse O. Tunturivuori, Martti J. Puska, and Risto M. Nieminen

Zero-field spin splitting and spin-dependent broadening in high-mobility $InSb/In_{1-x}Al_xSb$ asymmetric quantum well heterostructures *(10 pages)* 235333
A. M. Gilbertson, W. R. Branford, M. Fearn, L. Buckle, P. D. Buckle, T. Ashley, and L. F. Cohen

Path to Wigner localization in circular quantum dots *(5 pages)* 235334
Lang Zeng, W. Geist, W. Y. Ruan, C. J. Umrigar, and M. Y. Chou

Disorder and temperature renormalization of interaction contribution to the conductivity in two-dimensional $In_xGa_{1-x}As$ electron systems *(8 pages)* 235335
G. M. Minkov, A. V. Germanenko, O. E. Rut, A. A. Sherstobitov, and B. N. Zvonkov

Real-time simulations of nonequilibrium transport in the single-impurity Anderson model *(6 pages)* 235336
F. Heidrich-Meisner, A. E. Feiguin, and E. Dagotto

(Continued)

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

The editors and referees of PRB find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. B 77, 130001 (2008).

PHYSICAL REVIEW B THIRD SERIES, VOLUME 79, NUMBER 23 JUNE 2009-15(I)

R-matrix method for quantum transport simulations in discrete systems *(5 pages)* 235337
Gennady Mil'nikov, Nobuya Mori, and Yoshinari Kamakura

Surface physics, nanoscale physics, low-dimensional systems

Noise in frequency-modulation dynamic force microscopy *(23 pages)* 235401
Jérôme Polesel-Maris, Miguel Angel Venegas de la Cerda, David Martrou, and Sébastien Gauthier

Enhanced magnetoresistance due to charging effects in a molecular nanocomposite spin device *(5 pages)* . . . 235402
Daiki Hatanaka, Shinichi Tanabe, Haruka Kusai, Ryo Nouchi, Takayuki Nozaki, Teruya Shinjo, Yoshishige Suzuki, Hai Wang, Koki Takanashi, and Masashi Shiraishi

Thermoelectric and Seebeck coefficients of granular metals *(25 pages)* 235403
Andreas Glatz and I. S. Beloborodov

Interference effects on the transport characteristics of a benzene single-electron transistor *(16 pages)* 235404
D. Darau, G. Begemann, A. Donarini, and M. Grifoni

Pumping current and conductance of a Luttinger liquid in the presence of two time-dependent impurities at finite temperatures *(5 pages)* 235405
Mariano J. Salvay

Energy relaxation of hot Dirac fermions in graphene *(5 pages)* 235406
Wang-Kong Tse and S. Das Sarma

Tuning the electrical resistivity of semiconductor thin films by nanoscale corrugation *(6 pages)* 235407
Shota Ono and Hiroyuki Shima

Few-electron physics in a nanotube quantum dot with spin-orbit coupling *(6 pages)* 235408
B. Wunsch

Role of substrate on nucleation and morphology of gold nanoparticles produced by pulsed laser deposition *(6 pages)* 235409
V. Resta, C. N. Afonso, E. Piscopiello, and G. Van Tendeloo

First-principles study of γ-Al_2O_3 (100) surface *(7 pages)* 235410
C. Y. Ouyang, Ž. Šljivančanin, and A. Baldereschi

Inelastic scattering in metal-H_2-metal junctions *(5 pages)* 235411
I. S. Kristensen, M. Paulsson, K. S. Thygesen, and K. W. Jacobsen

Guided propagation along quadrupolar chains of plasmonic nanoparticles *(12 pages)* 235412
Andrea Alù and Nader Engheta

Epitaxial orientations of *para*-sexiphenyl platelets grown on alkali halide (001) surfaces *(10 pages)* 235413
Detlef-M. Smilgies and Edward J. Kintzel, Jr.

Inelastic scattering in a local polaron model with quadratic coupling to bosons *(12 pages)* 235414
Thomas Olsen

Interface states and anomalous quantum oscillations in hybrid graphene structures *(6 pages)* 235415
C. P. Puls, N. E. Staley, and Y. Liu

Surface second-harmonic generation from scattering of surface plasmon polaritons from radially symmetric nanostructures *(13 pages)* 235416
Lina Cao, N. C. Panoiu, Ravi D. R. Bhat, and R. M. Osgood, Jr.

Density functional study of Pt_4 clusters adsorbed on a carbon nanotube support *(7 pages)* 235417
Nguyen Thanh Cuong, Ayumu Sugiyama, Akihiko Fujiwara, Tadaoki Mitani, and Dam Hieu Chi

(Continued)

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

The editors and referees of PRB find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. B 77, 130001 (2008).

PHYSICAL REVIEW B **THIRD SERIES, VOLUME 79, NUMBER 23** **JUNE 2009-15(I)**

Phonon-assisted dynamical Coulomb blockade in a thin suspended graphite sheet *(8 pages)* 235418
A. Chepelianskii, P. Delplace, A. Shailos, A. Kasumov, R. Deblock, M. Monteverde, C. Ojeda-Aristizabal, M. Ferrier, S. Guéron, and H. Bouchiat

Tailoring band gaps of insulators by adsorption at surface defects: Benzoic acids on NaCl surfaces *(17 pages)* 235419
Wei Chen, Christoph Tegenkamp, Herbert Pfnür, and Thomas Bredow

Adsorption and dissociation of H_2O on in-plane-polarized $BaTiO_3(001)$ surfaces and their relation to ferroelectricity *(11 pages)* 235420
Grégory Geneste and Brahim Dkhil

Linear ripples and traveling circular ripples produced on polymers by thermal AFM probes *(7 pages)* 235421
Enrico Gnecco, Elisa Riedo, William P. King, Seth R. Marder, and Robert Szoszkiewicz

Irradiation-enhanced adsorption and trapping of O_2 on nanoporous water ice *(6 pages)* 235422
J. Shi, B. D. Teolis, and R. A. Baragiola

Curvature-induced anisotropic spin-orbit splitting in carbon nanotubes *(5 pages)* 235423
L. Chico, M. P. López-Sancho, and M. C. Muñoz

Defect-pinned nucleation, growth, and dynamic coalescence of Ag islands on MgO(001): An *in situ* grazing-incidence small-angle x-ray scattering study *(10 pages)* 235424
C. Revenant, G. Renaud, R. Lazzari, and J. Jupille

Superstructures of oxygen and sulphur on a Fe(110) surface via fast atom diffraction *(15 pages)* 235425
A. Schüller, M. Busch, J. Seifert, S. Wethekam, H. Winter, and K. Gärtner

Electronic and vibrational properties at the ZnPc/Ag(110) interface *(10 pages)* 235426
P. Amsalem, L. Giovanelli, J. M. Themlin, and T. Angot

Modification of surface electronic properties on alloy surfaces: Standing waves on a Cu-9 at. % Al(111) surface observed by STM *(4 pages)* 235427
Yinghui Yu, Keisuke Sagisaka, and Daisuke Fujita

Photogalvanic effect and photoconductance in a quantum channel with a single short-range scatterer *(9 pages)* 235428
M. A. Pyataev and S. N. Ulyanov

Renormalization of the phonon spectrum in semiconducting single-walled carbon nanotubes studied by Raman spectroscopy *(9 pages)* 235429
Anindya Das and A. K. Sood

Electric-field effects on the diffusion of Si and Ge adatoms on Si(001) studied by density functional simulations *(5 pages)* 235430
Yao He and J. G. Che

Density of states in disordered graphene *(9 pages)* 235431
Klaus Ziegler, Balázs Dóra, and Peter Thalmeier

Ballistic versus electronic processes in ion-induced nanostructuring of ionic surfaces *(8 pages)* 235432
F. Krok, S. R. Saeed, Z. Postawa, and M. Szymonski

Carrier density and magnetism in graphene zigzag nanoribbons *(5 pages)* 235433
J. Jung and A. H. MacDonald

Influence of ultrathin water layer on the van der Waals/Casimir force between gold surfaces *(7 pages)* 235434
G. Palasantzas, V. B. Svetovoy, and P. J. van Zwol

(Continued)

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

The editors and referees of PRB find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. B 77, 130001 (2008).

PHYSICAL REVIEW B THIRD SERIES, VOLUME 79, NUMBER 23 JUNE 2009-15(I)

Modeling of film growth by cluster deposition: The effect of size and energy *(5 pages)* 235435
K. Meinander and K. Nordlund

Model for the electrocatalysis of hydrogen evolution *(10 pages)* 235436
E. Santos, A. Lundin, K. Pötting, P. Quaino, and W. Schmickler

Structural and electronic properties of Ge-Si, Sn-Si, and Pb-Si dimers on Si(001) from density-functional calculations *(6 pages)* 235437
Binghai Yan, Kota Tomatsu, Bing Huang, Andreia Luisa da Rosa, Gang Zhou, Bing-Lin Gu, Wenhui Duan, Fumio Komori, and Thomas Frauenheim

Size-dependent surface-plasmon-enhanced photoluminescence from silver nanoparticles embedded in silica *(8 pages)* 235438
Oleg A. Yeshchenko, Igor M. Dmitruk, Alexandr A. Alexeenko, Mykhaylo Yu. Losytskyy, Andriy V. Kotko, and Anatoliy O. Pinchuk

Self-assembly, dynamics, and structure of Si magic clusters *(9 pages)* 235439
Weijie Ong, Eng Soon Tok, Harman Johll, and Hway Chuan Kang

Water on graphene: Hydrophobicity and dipole moment using density functional theory *(5 pages)* 235440
O. Leenaerts, B. Partoens, and F. M. Peeters

Adsorption and diffusion of SCH_3 radicals and $Au(SCH_3)_2$ complexes on the unreconstructed Au(111) surface in the submonolayer coverage regime *(12 pages)* 235441
Andreas Franke and Eckhard Pehlke

Field-induced gap and quantized charge pumping in a nanoscale helical wire *(6 pages)* 235442
Xiao-Liang Qi and Shou-Cheng Zhang

First-principles calculations of hyperfine structure in M-doped $Si_{16}H_{16}$ fullerene cages (M=Cr, Mn, and Fe) *(7 pages)* 235443
Mohammad Saeed Bahramy, Vijay Kumar, and Yoshiyuki Kawazoe

Electronic structure calculations for a carbon nanotube capacitor with a dielectric medium *(8 pages)* 235444
Kazuyuki Uchida and Atsushi Oshiyama

COMMENTS

Comment on "Raman spectra of misoriented bilayer graphene" *(2 pages)* 237401
Zhenhua Ni, Yingying Wang, Ting Yu, Yumeng You, and Zexiang Shen

Reply to "Comment on 'Raman spectra of misoriented bilayer graphene' " *(2 pages)* 237402
P. Poncharal, A. Ayari, T. Michel, and J.-L. Sauvajol

ERRATA

Erratum: Conductivity of suspended and non-suspended graphene at finite gate voltage [Phys. Rev. B **78**, 085418 (2008)] *(1 page)* . . . . . 239901(E)
T. Stauber, N. M. R. Peres, and A. H. Castro Neto

Erratum: Theory of the energy-spectrum dependence of the electronic thermoelectric tunneling coefficients of a quantum dot [Phys. Rev. B **78**, 165327 (2008)] *(1 page)* . . . . . 239902(E)
X. Zianni

(Continued)

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

The editors and referees of PRB find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. B 77, 130001 (2008).

PHYSICAL REVIEW B **THIRD SERIES, VOLUME 79, NUMBER 23** **JUNE 2009-15(I)**

Erratum: Atmospheric pressure induced atomic diffusion into solid crystal [Phys. Rev. B **79**, 155405 (2009)] *(1 page)* . . . . . 239903(E)
J. K. Bal and S. Hazra

Publisher's Note: Role of substrate on nucleation and morphology of gold nanoparticles produced by pulsed laser deposition [Phys. Rev. B **79**, 235409 (2009)] *(1 page)* . . . . . 239904(E)
V. Resta, C. N. Afonso, E. Piscopiello, and G. Van Tendeloo

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

The editors and referees of PRB find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. B 77, 130001 (2008).