# 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 80, NUMBER 12** *CONTENTS* **SEPTEMBER 2009-15(II)**

## RAPID COMMUNICATIONS

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

Intermediate-valence behavior of the transition-metal oxide $CaCu_3Ru_4O_{12}$ *(4 pages)* . . . . . 121101(R)
A. Krimmel, A. Günther, W. Kraetschmer, H. Dekinger, N. Büttgen, V. Eyert, A. Loidl, D. V. Sheptyakov, E.-W. Scheidt, and W. Scherer

Unidirectional band gaps in uniformly magnetized two-dimensional magnetophotonic crystals *(4 pages)* . . . . . 121102(R)
Mathias Vanwolleghem, Xavier Checoury, Wojciech Śmigaj, Boris Gralak, Liubov Magdenko, Kamil Postava, Béatrice Dagens, Pierre Beauvillain, and Jean-Michel Lourtioz

Optical selection of a multiple phase order in the charge density wave condensate *o*-$TaS_3$ using a spectrally resolved nonequilibrium measurement *(4 pages)* . . . . . 121103(R)
Y. Toda, R. Onozaki, M. Tsubota, K. Inagaki, and S. Tanda

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

Orbital effects on tunneling anisotropic magnetoresistance in Fe/GaAs/Au junctions *(4 pages)* . . . . . 121301(R)
M. Wimmer, M. Lobenhofer, J. Moser, A. Matos-Abiague, D. Schuh, W. Wegscheider, J. Fabian, K. Richter, and D. Weiss

Effect of Landau level mixing on the effective interaction between electrons in the fractional quantum Hall regime *(4 pages)* . . . . . 121302(R)
Waheb Bishara and Chetan Nayak

Valley-dependent many-body effects in two-dimensional semiconductors *(4 pages)* . . . . . 121303(R)
S. Das Sarma, E. H. Hwang, and Qi Li

Photovoltaic effect in a gated two-dimensional electron gas in magnetic field *(4 pages)* . . . . . 121304(R)
Maria B. Lifshits and Michel I. Dyakonov

Evidence for quantum-confined Stark effect in GaN/AlN quantum dots in nanowires *(4 pages)* . . . . . 121305(R)
J. Renard, R. Songmuang, G. Tourbot, C. Bougerol, B. Daudin, and B. Gayral

Microcavity polaritonlike dispersion doublet in resonant Bragg gratings *(4 pages)* . . . . . 121306(R)
Fabio Biancalana, Leonidas Mouchliadis, Celestino Creatore, Simon Osborne, and Wolfgang Langbein

☙ Anomalous corrections to the Hall resistivity of spin-polarized holes in a two-dimensional GaAs/$Al_xGa_{1-x}As$ heterostructure *(4 pages)* . . . . . 121307(R)
Hwayong Noh, S. Lee, S. H. Chun, Hyoung Chan Kim, L. N. Pfeiffer, and K. W. West

**Copyright 2009 by The American Physical Society**

*(Continued)*

1098-0121(20090915)80:12;1-X

☙ 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 80, NUMBER 12 SEPTEMBER 2009-15(II)

Electric field tuning of spin-orbit coupling in $KTaO_3$ field-effect transistors *(4 pages)* . . . . . 121308(R)
H. Nakamura and T. Kimura

Coherent optical control of the wave function of zero-dimensional exciton polaritons *(4 pages)* . . . . . 121309(R)
R. Cerna, D. Sarchi, T. K. Paraïso, G. Nardin, Y. Léger, M. Richard, B. Pietka, O. El Daif, F. Morier-Genoud, V. Savona, M. T. Portella-Oberli, and B. Deveaud-Plédran

**Surface physics, nanoscale physics, low-dimensional systems**

Structure of the fivefold surface of the Ag-In-Yb icosahedral quasicrystal *(4 pages)* . . . . . 121401(R)
H. R. Sharma, M. Shimoda, K. Sagisaka, H. Takakura, J. A. Smerdon, P. J. Nugent, R. McGrath, D. Fujita, S. Ohhashi, and A. P. Tsai

Demonstration of the asymmetric lateral Casimir force between corrugated surfaces in the nonadditive regime *(4 pages)* . . . . . 121402(R)
H.-C. Chiu, G. L. Klimchitskaya, V. N. Marachevsky, V. M. Mostepanenko, and U. Mohideen

Time-resolved Raman spectroscopy of optical phonons in graphite: Phonon anharmonic coupling and anomalous stiffening *(4 pages)* . . . . . 121403(R)
Hugen Yan, Daohua Song, Kin Fai Mak, Ioannis Chatzakis, Janina Maultzsch, and Tony F. Heinz

Power-law singularity in the local density of states due to the point defect in graphene *(4 pages)* . . . . . 121404(R)
Wen-Min Huang, Jian-Ming Tang, and Hsiu-Hau Lin

Scaling properties of flexible membranes from atomistic simulations: Application to graphene *(4 pages)* . . . . . 121405(R)
J. H. Los, M. I. Katsnelson, O. V. Yazyev, K. V. Zakharchenko, and A. Fasolino

Step-edge instability during epitaxial growth of graphene from SiC(0001) *(4 pages)* . . . . . 121406(R)
Valery Borovikov and Andrew Zangwill

☙ Electrostatic confinement of electrons in graphene nanoribbons *(4 pages)* . . . . . 121407(R)
Xinglan Liu, Jeroen B. Oostinga, Alberto F. Morpurgo, and Lieven M. K. Vandersypen

Image potential states in graphene *(4 pages)* . . . . . 121408(R)
V. M. Silkin, J. Zhao, F. Guinea, E. V. Chulkov, P. M. Echenique, and H. Petek

Instability of two-dimensional graphene: Breaking $sp^2$ bonds with soft x rays *(4 pages)* . . . . . 121409(R)
S. Y. Zhou, Ç. Ö. Girit, A. Scholl, C. J. Jozwiak, D. A. Siegel, P. Yu, J. T. Robinson, F. Wang, A. Zettl, and A. Lanzara

## ARTICLES

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

Mutual Chern-Simons Landau-Ginzburg theory for continuous quantum phase transition of $Z_2$ topological order *(5 pages)* . . . . . 125101
Su-Peng Kou, Jing Yu, and Xiao-Gang Wen

$\pi$-$\pi$ orbital resonance in twisting duplex DNA: Dynamical phyllotaxis and electronic structure effects *(13 pages)* . . . . . 125102
Enrique Maciá

Broadband absorption enhancement in anisotropic metamaterials by mirror reflections *(5 pages)* . . . . . 125103
Jiong Yang, Xinhua Hu, Xin Li, Zheng Liu, Zixian Liang, Xunya Jiang, and Jian Zi

*(Continued)*

☙ 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 80, NUMBER 12** **SEPTEMBER 2009-15(II)**

Development of the heavy-fermion state in $Ce_2IrIn_8$ and the effects of Ce dilution in $(Ce_{1-x}La_x)_2IrIn_8$ *(7 pages)* . . . . . 125104
K. Ohishi, R. H. Heffner, T. U. Ito, W. Higemoto, G. D. Morris, N. Hur, E. D. Bauer, J. L. Sarrao, J. D. Thompson, D. E. MacLaughlin, and L. Shu

Metallic versus insulating behavior in the *A*-site ordered perovskite oxides $ACu_3Co_4O_{12}$ ($A$=Ca and Y) controlled by Mott and Zhang-Rice physics *(4 pages)* . . . . . 125105
Takashi Mizokawa, Yosuke Morita, Takaaki Sudayama, Kou Takubo, Ikuya Yamada, Masaki Azuma, Mikio Takano, and Yuichi Shimakawa

$AgCuVO_4$: A quasi-one-dimensional $S=\frac{1}{2}$ chain compound *(8 pages)* . . . . . 125106
A. Möller, M. Schmitt, W. Schnelle, T. Förster, and H. Rosner

Madelung potentials and covalency effect in strained $La_{1-x}Sr_xMnO_3$ thin films studied by core-level photoemission spectroscopy *(4 pages)* . . . . . 125107
H. Wadati, A. Maniwa, A. Chikamatsu, H. Kumigashira, M. Oshima, T. Mizokawa, A. Fujimori, and G. A. Sawatzky

Density functional study of elastic and vibrational properties of the Heusler-type alloys $Fe_2VAl$ and $Fe_2VGa$ *(5 pages)* . . . . . 125108
V. Kanchana, G. Vaitheeswaran, Yanming Ma, Yu Xie, A. Svane, and O. Eriksson

Transient dynamics of a molecular quantum dot with a vibrational degree of freedom *(7 pages)* . . . . . 125109
Roman-Pascal Riwar and Thomas L. Schmidt

Systematic reduction of sign errors in many-body problems: Generalization of self-healing diffusion Monte Carlo to excited states *(11 pages)* . . . . . 125110
Fernando Agustín Reboredo

Electronic structure of $RNiC_2$ ($R$=Sm, Gd, and Nd) intermetallic compounds *(5 pages)* . . . . . 125111
J. Laverock, T. D. Haynes, C. Utfeld, and S. B. Dugdale

Role of K/Bi disorder in the electronic structure of $\beta$-$K_2Bi_8Se_{13}$ *(8 pages)* . . . . . 125112
Khang Hoang, Aleksandra Tomic, S. D. Mahanti, Theodora Kyratsi, Duck-Young Chung, S. H. Tessmer, and Mercouri G. Kanatzidis

Analysis of the electric field gradient in the perovskites $SrTiO_3$ and $BaTiO_3$: Density functional and model calculations *(9 pages)* . . . . . 125113
K. Koch, R. O. Kuzian, K. Koepernik, I. V. Kondakova, and H. Rosner

Flattening-induced electronic changes in zigzag single- and multi-walled boron nitride nanotubes: A first-principles DFT study *(6 pages)* . . . . . 125114
Y. Kinoshita, S. Hase, and N. Ohno

Electronic and magnetic properties of $RMnO_3/AMnO_3$ heterostructures *(11 pages)* . . . . . 125115
Rong Yu, Seiji Yunoki, Shuai Dong, and Elbio Dagotto

Nearly perfect nonmagnetic invisibility cloaking: Analytic solutions and parametric studies *(12 pages)* . . . . . 125116
Giuseppe Castaldi, Ilaria Gallina, and Vincenzo Galdi

☙ Correlated electron physics in two-level quantum dots: Phase transitions, transport, and experiment *(22 pages)* . . . . . 125117
David E. Logan, Christopher J. Wright, and Martin R. Galpin

Incoherent transport induced by a single static impurity in a Heisenberg chain *(4 pages)* . . . . . 125118
O. S. Barišić, P. Prelovšek, A. Metavitsiadis, and X. Zotos

*(Continued)*

☙ 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 80, NUMBER 12** **SEPTEMBER 2009-15(II)**

Drastic change of the Casimir force at the metal-insulator transition *(11 pages)* . . . . . 125119
E. G. Galkina, B. A. Ivanov, Sergey Savel'ev, V. A. Yampol'skii, and Franco Nori

Overhauser's spin-density wave in exact-exchange spin-density functional theory *(9 pages)* . . . . . 125120
S. Kurth and F. G. Eich

Long-range Coulomb interactions and nanoscale electronic inhomogeneities in correlated oxides *(18 pages)* . . . . . 125121
Vijay B. Shenoy, Tribikram Gupta, H. R. Krishnamurthy, and T. V. Ramakrishnan

Electronic structure of $Sr_{0.8-y}La_{0.2+y}Ti_{0.8}Cr_{0.2}O_3$ studied by photoemission spectroscopy and first-principles band structure calculations *(6 pages)* . . . . . 125122
H. Iwasawa, S. Kaneyoshi, K. Kurahashi, T. Saitoh, I. Hase, T. Katsufuji, K. Shimada, H. Namatame, and M. Taniguchi

Optimal site-centered electronic structure basis set from a displaced-center expansion: Improved results via *a priori* estimates of saddle points in the density *(12 pages)* . . . . . 125123
Aftab Alam and D. D. Johnson

Tailoring plasmons with metallic nanorod arrays *(9 pages)* . . . . . 125124
C. Tserkezis, N. Papanikolaou, E. Almpanis, and N. Stefanou

Convergence acceleration and stabilization of dynamical mean-field theory calculations *(9 pages)* . . . . . 125125
Rok Žitko

Electron density distribution in hexagonal cobalt: A $\gamma$-ray diffraction study *(6 pages)* . . . . . 125126
W. Jauch and M. Reehuis

Obtaining correct orbital ground states in *f*-electron systems using a nonspherical self-interaction-corrected LDA+*U* method *(6 pages)* . . . . . 125127
Fei Zhou (周 非) and V. Ozoliņš

Characteristics of two-dimensional lattice models from a fermionic realization: Ising and *XYZ* models *(19 pages)* . . . . . 125128
Sh. Khachatryan and A. Sedrakyan

Reducing ohmic losses in metamaterials by geometric tailoring *(7 pages)* . . . . . 125129
Durdu Ö. Güney, Thomas Koschny, and Costas M. Soukoulis

Mott and Wigner-Mott transitions in doped correlated electron systems: Effects of superlattice potential and intersite correlation *(10 pages)* . . . . . 125130
Chunhua Li and Ziqiang Wang

First-principles study of the high-pressure suppression of magnetic moments in $CeIn_3$ *(7 pages)* . . . . . 125131
Mansoure Ilkhani, Mohammad Reza Abolhassani, and Morteza Aslaninejad

Intertwined magneto-optical and plasmonic effects in Ag/Co/Ag layered structures *(9 pages)* . . . . . 125132
Elías Ferreiro-Vila, Juan B. González-Díaz, Rui Fermento, María U. González, Antonio García-Martín, José M. García-Martín, Alfonso Cebollada, Gaspar Armelles, David Meneses-Rodríguez, and Emilio Muñoz Sandoval

Orbital-ordering driven structural distortion in metallic $SrCrO_3$ *(6 pages)* . . . . . 125133
K.-W. Lee and W. E. Pickett

Anisotropic polarization $\pi$-molecular skeleton coupled dynamics in proton-displacive organic ferroelectrics *(8 pages)* . . . . . 125134
J. Fujioka, S. Horiuchi, N. Kida, R. Shimano, and Y. Tokura

*(Continued)*

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 80, NUMBER 12 SEPTEMBER 2009-15(II)

**Semiconductors I: bulk**

Identification of a Frenkel-pair defect in electron-irradiated 3*C* SiC *(8 pages)* . . . . . 125201
N. T. Son, E. Janzén, J. Isoya, N. Morishita, H. Hanaya, H. Takizawa, T. Ohshima, and A. Gali

Theoretical characterization of silicon self-interstitial clusters in uniform strain fields *(10 pages)* . . . . . 125202
Robert J. Bondi, Sangheon Lee, and Gyeong S. Hwang

*Ab initio* theory of the lattice thermal conductivity in diamond *(8 pages)* . . . . . 125203
A. Ward, D. A. Broido, Derek A. Stewart, and G. Deinzer

Scaling relation of the anomalous Hall effect in (Ga,Mn)As *(5 pages)* . . . . . 125204
M. Glunk, J. Daeubler, W. Schoch, R. Sauer, and W. Limmer

Characterization and analysis of thermoelectric transport in *n*-type $Ba_8Ga_{16-x}Ge_{30+x}$ *(12 pages)* . . . . . 125205
Andrew F. May, Eric S. Toberer, Ali Saramat, and G. Jeffrey Snyder

Luminescence of Eu ions in $Al_xGa_{1-x}N$ across the entire alloy composition range *(6 pages)* . . . . . 125206
K. Wang, K. P. O'Donnell, B. Hourahine, R. W. Martin, I. M. Watson, K. Lorenz, and E. Alves

Ortho-para transition of interstitial $H_2$ and $D_2$ in Si *(13 pages)* . . . . . 125207
Chao Peng, Michael Stavola, W. Beall Fowler, and Megan Lockwood

Antimony as an amphoteric dopant in lead telluride *(10 pages)* . . . . . 125208
Christopher M. Jaworski, Janusz Tobola, E. M. Levin, Klaus Schmidt-Rohr, and Joseph P. Heremans

Infrared dielectric function of *p*-type $Ge_{0.98}Sn_{0.02}$ alloys *(7 pages)* . . . . . 125209
Vijay R. D'Costa, John Tolle, Junqi Xie, John Kouvetakis, and José Menéndez

Atomic resolution mapping of the excited-state electronic structure of $Cu_2O$ with time-resolved x-ray absorption spectroscopy *(5 pages)* . . . . . 125210
P. W. Hillyard, S. V. N. T. Kuchibhatla, T. E. Glover, M. P. Hertlein, N. Huse, P. Nachimuthu, L. V. Saraf, S. Thevuthasan, and K. J. Gaffney

Atomic scale high-angle annular dark field STEM analysis of the N configuration in dilute nitrides of GaAs *(11 pages)* . . . . . 125211
M. Herrera, Q. M. Ramasse, D. G. Morgan, D. Gonzalez, J. Pizarro, A. Yáñez, P. Galindo, R. Garcia, M.-H. Du, S. B. Zhang, M. Hopkinson, and N. D. Browning

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

Systematic approach to statistics of conductance and shot-noise in chaotic cavities *(14 pages)* . . . . . 125301
B. A. Khoruzhenko, D. V. Savin, and H.-J. Sommers

Polariton lasing in a multilevel quantum dot strongly coupled to a single photon mode *(9 pages)* . . . . . 125302
Carlos Andrés Vera, Herbert Vinck-Posada, and Augusto González

Adsorption structure of cyclopentene on InP(001)(2×4) *(7 pages)* . . . . . 125303
Regina Passmann, Priscila Favero, Wolf Gero Schmidt, Ronei Miotto, Walter Braun, Wolfgang Richter, Michael Kneissl, Norbert Esser, and Patrick Vogt

Fermi-liquid theory for SU(*N*) Kondo model *(7 pages)* . . . . . 125304
Christophe Mora

Meron ground states of quantum Hall droplets *(6 pages)* . . . . . 125305
M. V. Milovanović, E. Dobardžić, and Z. Radović

*(Continued)*

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 80, NUMBER 12** **SEPTEMBER 2009-15(II)**

Quantum Monte Carlo study of the two-dimensional electron gas in presence of Rashba interaction *(9 pages)* . . . . . 125306
A. Ambrosetti, F. Pederiva, E. Lipparini, and S. Gandolfi

Broadband Purcell factor enhancements in photonic-crystal ridge waveguides *(7 pages)* . . . . . 125307
M. Patterson, S. Hughes, D. Dalacu, and R. L. Williams

Strong to weak localization transition and two-parameter scaling in a two-dimensional quantum dot array *(8 pages)* . . . . . 125308
N. P. Stepina, E. S. Koptev, A. V. Dvurechenskii, and A. I. Nikiforov

Implementation of the quantum-walk step operator in lateral quantum dots *(5 pages)* . . . . . 125309
K. A. van Hoogdalem and M. Blaauboer

Electron interferometry in the quantum Hall regime: Aharonov-Bohm effect of interacting electrons *(6 pages)* . . . . . 125310
Ping V. Lin, F. E. Camino, and V. J. Goldman

Enhanced spin Hall effect by tuning antidot potential: Proposal for a spin filter *(11 pages)* . . . . . 125311
Tomohiro Yokoyama and Mikio Eto

High-resolution spin-flip Raman scattering in CdTe quantum wells at $^3$He temperature *(5 pages)* . . . . . 125312
R. Shen, K. Oto, K. Muro, G. Karczewski, T. Wojtowicz, J. Kossut, and S. Takeyama

Contribution of *s-d* exchange interaction to magnetoresistance of ZnO-based heterostructures with a magnetic barrier *(7 pages)* . . . . . 125313
K. Masuko, A. Ashida, T. Yoshimura, and N. Fujimura

Theoretical prediction of the antiferromagnetic ground state of a C defect on Si(001) *(4 pages)* . . . . . 125314
Jin-Ho Choi and Jun-Hyung Cho

Surface atomic order of compound III-V semiconductor alloys at finite temperature *(12 pages)* . . . . . 125315
John C. Thomas, Joanna Mirecki Millunchick, Normand A. Modine, and Anton Van der Ven

Optical detection of symmetric and antisymmetric states in double quantum wells at room temperature *(11 pages)* . . . . . 125316
M. Marchewka, E. M. Sheregii, I. Tralle, A. Marcelli, M. Piccinini, and J. Cebulski

Theoretical modeling of spatial- and temperature-dependent exciton energy in coupled quantum wells *(7 pages)* . . . . . 125317
C. S. Liu, H. G. Luo, and W. C. Wu

Coupled electron-nuclear spin dynamics in quantum dots: A graded box model approach *(6 pages)* . . . . . 125318
M. Yu. Petrov, G. G. Kozlov, I. V. Ignatiev, R. V. Cherbunin, D. R. Yakovlev, and M. Bayer

Crossover of exciton-photon coupled modes in a finite system *(11 pages)* . . . . . 125319
Motoaki Bamba and Hajime Ishihara

Distribution of charge cumulants of a chaotic quantum dot with nonideal contacts *(10 pages)* . . . . . 125320
F. A. G. Almeida, S. Rodríguez-Pérez, and A. M. S. Macêdo

Spin-orbit coupling and phase-coherent transport in InN nanowires *(4 pages)* . . . . . 125321
G. Petersen, S. Estévez Hernández, R. Calarco, N. Demarina, and Th. Schäpers

Electron quantum dynamics in closed and open potentials at high magnetic fields: Quantization and lifetime effects unified by semicoherent states *(19 pages)* . . . . . 125322
Thierry Champel and Serge Florens

*(Continued)*

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 80, NUMBER 12** **SEPTEMBER 2009-15(II)**

Possible effect of collective modes in zero magnetic field transport in an electron-hole bilayer *(6 pages)* . . . . . 125323
A. F. Croxall, K. Das Gupta, C. A. Nicoll, H. E. Beere, I. Farrer, D. A. Ritchie, and M. Pepper

Stability of spintronic devices based on quantum ring networks *(9 pages)* . . . . . 125324
Péter Földi, Orsolya Kálmán, and F. M. Peeters

Optimal mixture of randomly dispersed quantum dots for optical excitation transfer via optical near-field interactions *(7 pages)* . . . . . 125325
Makoto Naruse, Tadashi Kawazoe, Ryuichi Ohta, Wataru Nomura, and Motoichi Ohtsu

Correction of systematic errors in scanning tunneling spectra on semiconductor surfaces: The energy gap of Si(111)-7×7 at 0.3 K *(5 pages)* . . . . . 125326
S. Modesti, H. Gutzmann, J. Wiebe, and R. Wiesendanger

Robustness of the spin-Chern number *(7 pages)* . . . . . 125327
Emil Prodan

Giant enhanced g-factors in an InSb two-dimensional gas *(5 pages)* . . . . . 125328
B. Nedniyom, R. J. Nicholas, M. T. Emeny, L. Buckle, A. M. Gilbertson, P. D. Buckle, and T. Ashley

Shape transitions and island nucleation for Si/Ge molecular beam epitaxy on stripe-patterned Si (001) substrate *(14 pages)* . . . . . 125329
B. Sanduijav, D. Matei, G. Chen, and G. Springholz

Transport through (Ga,Mn)As nanoislands: Coulomb blockade and temperature dependence of the conductance *(5 pages)* . . . . . 125330
Markus Schlapps, Teresa Lermer, Stefan Geissler, Daniel Neumaier, Janusz Sadowski, Dieter Schuh, Werner Wegscheider, and Dieter Weiss

Wave packet dynamics in semiconductor quantum rings of finite width *(14 pages)* . . . . . 125331
Andrey Chaves, G. A. Farias, F. M. Peeters, and B. Szafran

Light transport regimes in slow light photonic crystal waveguides *(8 pages)* . . . . . 125332
N. Le Thomas, H. Zhang, J. Jágerská, V. Zabelin, R. Houdré, I. Sagnes, and A. Talneau

Polarized photoluminescence from point emitters in ordered $Ga_xIn_{1-x}P$ *(4 pages)* . . . . . 125333
B. Fluegel, A. Mascarenhas, and J. F. Geisz

Spin relaxation in charge-tunable InP quantum dots *(6 pages)* . . . . . 125334
Bipul Pal and Yasuaki Masumoto

**Surface physics, nanoscale physics, low-dimensional systems**

Quantum interference effects in electron transport through nitrobenzene with pyridil anchor groups *(11 pages)* . . . . . 125401
R. Stadler

Local density of states from constant-current tunneling spectra *(6 pages)* . . . . . 125402
M. Ziegler, N. Néel, A. Sperl, J. Kröger, and R. Berndt

Adsorption of metal adatoms on FeO(111) and MgO(111) monolayers: Effects of charge state of adsorbate on rumpling of supported oxide film *(7 pages)* . . . . . 125403
Jacek Goniakowski, Claudine Noguera, Livia Giordano, and Gianfranco Pacchioni

*G*-band Raman double resonance in twisted bilayer graphene: Evidence of band splitting and folding *(5 pages)* . . . . . 125404
Zhenhua Ni, Lei Liu, Yingying Wang, Zhe Zheng, Lain-Jong Li, Ting Yu, and Zexiang Shen

*(Continued)*

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 80, NUMBER 12** **SEPTEMBER 2009-15(II)**

Zero modes, energy gap, and edge states of anisotropic honeycomb lattice in a magnetic field *(14 pages)* .... 125405
Kenta Esaki, Masatoshi Sato, Mahito Kohmoto, and Bertrand I. Halperin

Band dispersion near the Fermi level for $VO_2$ thin films grown on $TiO_2$ (001) substrates *(5 pages)* ..... 125406
K. Saeki, T. Wakita, Y. Muraoka, M. Hirai, T. Yokoya, R. Eguchi, and S. Shin

Lattice thermal conductivity of single-walled carbon nanotubes: Beyond the relaxation time approximation and phonon-phonon scattering selection rules *(7 pages)* ..... 125407
L. Lindsay, D. A. Broido, and Natalio Mingo

Stress-induced morphological instabilities at the nanoscale examined using the phase field crystal approach *(8 pages)* ..... 125408
Kuo-An Wu and Peter W. Voorhees

Local structure of the Ag(100) surface reacting with molecular iodine: Experimental and theoretical study *(10 pages)* ..... 125409
B. V. Andryushechkin, G. M. Zhidomirov, K. N. Eltsov, Y. V. Hladchanka, and A. A. Korlyukov

Anisotropic growth of long isolated graphene ribbons on the C face of graphite-capped 6*H*-SiC *(8 pages)* ..... 125410
Nicolas Camara, Jean-Roch Huntzinger, Gemma Rius, Antoine Tiberj, Narcis Mestres, Francesc Pérez-Murano, Philippe Godignon, and Jean Camassel

Quantum conductance in double-wall carbon nanotubes grown by chemical vapor deposition *(5 pages)* ..... 125411
M. Baxendale, P. Battini, I. Pollini, M. Endo, Y. A. Kim, T. Hayashi, and H. Muramatsu

Phonon density of states of self-assembled isolated Fe-rich Fe-Pt alloy nanoclusters *(7 pages)* ..... 125412
B. Roldan Cuenya, Jason R. Croy, L. K. Ono, A. Naitabdi, H. Heinrich, W. Keune, J. Zhao, W. Sturhahn, E. E. Alp, and M. Hu

Potential barrier modification and interface states formation in metal-oxide-metal tunnel junctions *(6 pages)* ..... 125413
Hyuntae Jung, Yongmin Kim, Kyooho Jung, Hyunsik Im, Yu. A. Pashkin, O. Astafiev, Y. Nakamura, Hosik Lee, Y. Miyamoto, and J. S. Tsai

Surface structure of the liquid $Au_{72}Ge_{28}$ eutectic phase: X-ray reflectivity *(9 pages)* ..... 125414
P. S. Pershan, S. E. Stoltz, S. Mechler, O. G. Shpyrko, A. Y. Grigoriev, V. S. K. Balagurusamy, B. H. Lin, and M. Meron

Description of Kitaev's honeycomb model with toric-code stabilizers *(10 pages)* ..... 125415
G. Kells, J. K. Slingerland, and J. Vala

Magnetic edge states in $MoS_2$ characterized using density-functional theory *(11 pages)* ..... 125416
Aleksandra Vojvodic, Berit Hinnemann, and Jens K. Nørskov

Conformal mapping and shot noise in graphene *(14 pages)* ..... 125417
Adam Rycerz, Patrik Recher, and Michael Wimmer

☙ Theory of microwave-induced photocurrent and photovoltage magneto-oscillations in a spatially nonuniform two-dimensional electron gas *(11 pages)* ..... 125418
I. A. Dmitriev, S. I. Dorozhkin, and A. D. Mirlin

Electronic structure and magnetic properties of $Ni_{3n}Al_n$ clusters *(8 pages)* ..... 125419
Vaishali Shah and D. G. Kanhere

Compositional changes of Pd-Au bimetallic nanoclusters upon hydrogenation *(4 pages)* ..... 125420
M. Di Vece, S. Bals, J. Verbeeck, P. Lievens, and G. Van Tendeloo

*(Continued)*

☙ 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 80, NUMBER 12** **SEPTEMBER 2009-15(II)**

Functionalized adamantane: Building blocks for nanostructure self-assembly *(6 pages)* . . . . . 125421
J. C. Garcia, J. F. Justo, W. V. M. Machado, and L. V. C. Assali

Interference effect on Raman spectrum of graphene on $SiO_2/Si$ *(6 pages)* . . . . . 125422
Duhee Yoon, Hyerim Moon, Young-Woo Son, Jin Sik Choi, Bae Ho Park, Young Hun Cha, Young Dong Kim, and Hyeonsik Cheong

Effects of dephasing in molecular transport junctions using atomistic first principles *(6 pages)* . . . . . 125423
Jesse Maassen, Ferdows Zahid, and Hong Guo

First-principles study of thin $TiO_x$ and bulklike rutile nanowires *(9 pages)* . . . . . 125424
D. Çakır and O. Gülseren

Influence of surface structure and composition on neutralization of $^4He^+$ ions scattered from noble metals and alloy surfaces *(6 pages)* . . . . . 125425
D. Primetzhofer, M. Spitz, S. N. Markin, E. Taglauer, and P. Bauer

Surface dynamics and friction of K/Cu(001) characterized by helium-3 spin-echo and density functional theory *(7 pages)* . . . . . 125426
H. Hedgeland, P. R. Kole, H. R. Davies, A. P. Jardine, G. Alexandrowicz, W. Allison, J. Ellis, G. Fratesi, and G. P. Brivio

Bouncing transient currents and SQUID-like voltage in nanodevices at half filling *(7 pages)* . . . . . 125427
Michele Cini, Enrico Perfetto, Chiara Ciccarelli, Gianluca Stefanucci, and Stefano Bellucci

Spin-polarized transport through a domain wall in magnetized graphene *(11 pages)* . . . . . 125428
M. Khodas, I. A. Zaliznyak, and D. E. Kharzeev

*Ab initio* study of the temperature-dependent structural properties of Al(110) *(11 pages)* . . . . . 125429
Pawel Scharoch

In and Si adatoms on Si(111)$5\times2$-Au: Scanning tunneling microscopy and first-principles density functional calculations *(8 pages)* . . . . . 125430
A. Stępniak, P. Nita, M. Krawiec, and M. Jałochowski

Lack of surface oxide layers and facile bulk oxide formation on Pd(110) *(11 pages)* . . . . . 125431
R. Westerström, C. J. Weststrate, J. Gustafson, A. Mikkelsen, J. Schnadt, J. N. Andersen, E. Lundgren, N. Seriani, F. Mittendorfer, G. Kresse, and A. Stierle

Band structure effects in surface second harmonic generation: The case of Cu(001) *(8 pages)* . . . . . 125432
F. Bisio, A. Winkelmann, W.-C. Lin, C.-T. Chiang, M. Nývlt, H. Petek, and J. Kirschner

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).