

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 71, NUMBER 7

CONTENTS

FEBRUARY 2005-15(I)

BRIEF REPORTS

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

- Collective spin-density-wave response perpendicular to the chains of the quasi-one-dimensional conductor (TMTSF)₂PF₆ (3 pages) 073101
K. Petukhov and M. Dressel
- Pressure-induced metal-insulator transition in the filled skutterudite PrFe₄P₁₂ (4 pages) 073102
Hiroyuki Hidaka, Ikuma Ando, Hisashi Kotegawa, Tatsuo C. Kobayashi, Hisatomo Harima,
Miki Kobayashi, Hitoshi Sugawara, and Hideyuki Sato
- Density fitting of Coulomb integrals in electronic structure calculations of solids (3 pages) 073103
Š. Varga
- Possible adiabatic polaronic hopping in Ca_{1-x}Eu_xB₆ (x=0.005, 0.01, and 0.05) (4 pages) 073104
Jong-Soo Rhyee, B. K. Cho, and H. C. Kim

Semiconductors I: bulk

- On the nature of spin currents in Rashba and Luttinger-type systems (4 pages) 073201
B. A. Bernevig

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

- Third-order correction to localization in a two-level driven system (3 pages) 073301
Marco Frasca
- Excitonic signatures in the photoluminescence and terahertz absorption of a GaAs/Al_xGa_{1-x}As multiple quantum well (4 pages) 073302
I. Galbraith, R. Chari, S. Pellegrini, P. J. Phillips, C. J. Dent, A. F. G. van der Meer, D. G. Clarke,
A. K. Kar, G. S. Buller, C. R. Pidgeon, B. N. Murdin, J. Allam, and G. Strasser
- Observation of skyrmions in a two-dimensional hole system (4 pages) 073303
C. M. Townsley, R. Chughtai, R. J. Nicholas, and M. Henini
- Correlation between morphological transition and preferred thickness of Pb and Ag islands on Si(111)7×7 (4 pages) 073304
W. B. Su, H. Y. Lin, Y. P. Chiu, H. T. Shih, T. Y. Fu, Y. W. Chen, C. S. Chang, and Tien T. Tsong
- Inelastic resonant tunneling through single molecules and quantum dots: Spectrum modification due to nonequilibrium effects (4 pages) 073305
D. A. Ryndyk and J. Keller



Copyright 2005 by The American Physical Society

(Continued)



1098-0121(20050215)71:7;1-E

Magnetic-field modulation of the spectrum of coherent thermal radiation of semiconductor layers (4 pages)	073306
O. G. Kollyukh, A. I. Liptuga, V. Morozhenko, and V. I. Pipa	
<i>Ab initio</i> simulation of photoinduced transformation of small rings in amorphous silica (4 pages)	073307
Davide Donadio and Marco Bernasconi	
Deep-level optical transitions of (Ga,Mn)As in high magnetic fields (4 pages)	073308
Yongmin Kim, Yoon Shon, T. Takamasu, and H. Yokoi	
Statistical photoluminescence of dislocations and associated defects in heteroepitaxial GaN grown by metal organic chemical vapor deposition (4 pages)	073309
L. Macht, J. L. Weyher, A. Grzegorzczuk, and P. K. Larsen	
Surface physics, nanoscale physics, low-dimensional systems	
Electronic transport and Fano resonance in crossed carbon nanotubes (4 pages)	073401
Hua Tong Yang, Jiang Wei Chen, Lin Feng Yang, and Jinming Dong	
Optical manifestations of the condensation of topological defects in continuous layer multishell carbon nanoparticles (4 pages)	073402
Peter V. Pikhitsa, Young Jeong Kim, Myung Whun Kim, Sangsun Yang, Tae Won Noh, and Mansoo Choi	
Melting temperature of screened Wigner crystal on helium films by molecular dynamics (4 pages)	073403
J. A. R. da Cunha and Ladir Cândido	
First-principles calculation of the second harmonic response of Ag(111) and Ag(100) surfaces (4 pages)	073404
Cristián G. Sánchez, Elizabeth Santos, and Wolfgang Schmickler	
Electronic structure of an electron on the gyroid surface: A helical labyrinth (4 pages)	073405
M. Koshino and H. Aoki	
Electronic structure of Ca_3CoXO_6 ($X=\text{Co, Rh, Ir}$) studied by x-ray photoemission spectroscopy (4 pages)	073406
K. Takubo, T. Mizokawa, S. Hirata, J.-Y. Son, A. Fujimori, D. Topwal, D. D. Sarma, S. Rayaprol, and E.-V. Sampathkumaran	
Clustering of Au on the faulted half of the Si(111)- 7×7 unit cell (4 pages)	073407
S. K. Ghose, P. A. Bennett, and I. K. Robinson	
Comparison of the bonding in Au_8 and Cu_8 : A density functional theory study (4 pages)	073408
Henrik Grönbeck and Peter Broqvist	
Long periodic oscillation of electronic properties in capped finite-length armchair carbon nanotubes (4 pages)	073409
Jia Li, Gang Zhou, Li Yang, Jian Wu, and Wenhui Duan	
Tin clusters that do not melt: Calorimetry measurements up to 650 K (4 pages)	073410
Gary A. Breaux, Colleen M. Neal, Baopeng Cao, and Martin F. Jarrold	

ARTICLES

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

Radiative decay of vacuum-ultraviolet excitation of silica synthesized by molecular precursors of Si-Si sites: An indicator of intracenter relaxation of neutral oxygen vacancies (7 pages)	075101
A. Paleari, N. Chiodini, D. Di Martino, and F. Meinardi	

CONTENTS - Continued

PHYSICAL REVIEW B

THIRD SERIES, VOLUME 71, NUMBER 7

FEBRUARY 2005-15(I)

Cyclotron resonance in rare-earth monopnictides (12 pages)	075102
Makoto Yoshida, Keiichi Koyama, Akira Ochiai, and Mitsuhiro Motokawa	
Phase diagram of the half-filled two-dimensional $SU(N)$ Hubbard-Heisenberg model: A quantum Monte Carlo study (10 pages)	075103
F. F. Assaad	
Scaling behavior of the longitudinal and transverse transport in quasi-one-dimensional organic conductors (10 pages)	075104
M. Dressel, K. Petukhov, B. Salameh, P. Zornoza, and T. Giamarchi	
Optical spectroscopy study of the electronic structure of $Eu_{1-x}Ca_xB_6$ (4 pages)	075105
Jung-Ho Kim, Youngwoo Lee, C. C. Homes, Jong-Soo Rhyee, B. K. Cho, S.-J. Oh, and E. J. Choi	
Strong correlation effects of the Re 5d electrons on the metal-insulator transition in Ca_2FeReO_6 (8 pages) . . .	075106
H. Iwasawa, T. Saitoh, Y. Yamashita, D. Ishii, H. Kato, N. Hamada, Y. Tokura, and D. D. Sarma	
Large- N limit of a magnetic impurity in unconventional density waves (7 pages)	075107
Balázs Dóra	
Stripe formation in doped Hubbard ladders (6 pages)	075108
G. Hager, G. Wellein, E. Jeckelmann, and H. Fehske	
Effects of carrier concentration on the dielectric function of ZnO:Ga and In_2O_3 :Sn studied by spectroscopic ellipsometry: Analysis of free-carrier and band-edge absorption (10 pages)	075109
Hiroyuki Fujiwara and Michio Kondo	
Regular networks of Luttinger liquids (14 pages)	075110
K. Kazymyrenko and B. Douçot	
Dynamical mean-field theory of temperature- and field-dependent band shifts in magnetically coupled semimetals: Application to EuB_6 (6 pages)	075111
Chungwei Lin and Andrew J. Millis	
Lifetime of a quasiparticle in an electron liquid (10 pages)	075112
Zhixin Qian and Giovanni Vignale	
Structural, transport, and thermal properties of the single-crystalline type-VIII clathrate $Ba_8Ga_{16}Sn_{30}$ (6 pages)	075113
D. Huo, T. Sakata, T. Sasakawa, M. A. Avila, M. Tsubota, F. Iga, H. Fukuoka, S. Yamanaka, S. Aoyagi, and T. Takabatake	
Electronic structure and bonding in Mo_3Si , Mo_5Si_3 , and $Mo(Si,Al)_2$ alloys investigated by x-ray photoelectron spectroscopy and density-functional theory (6 pages)	075114
D. A. Pankhurst, Z. Yuan, D. Nguyen-Manh, M.-L. Abel, G. Shao, J. F. Watts, D. G. Pettifor, and P. Tsakiropoulos	
Temperature dependence of the crystal structure and charge ordering in Yb_4As_3 (11 pages)	075115
U. Staub, M. Shi, C. Schulze-Bries, B. D. Patterson, F. Fauth, E. Dooryhee, L. Soderholm, J. O. Cross, D. Mannix, and A. Ochiai	
Dipole emission into rectangular metallic gratings with subwavelength slits (13 pages)	075116
Yanko Todorov, Izo Abram, and Christophe Minot	
Optical evidence for transient photoinduced magnetization in $La_{0.7}Ca_{0.3}MnO_3$ (5 pages)	075117
S. A. McGill, R. I. Miller, O. N. Torrens, A. Mamchik, I-Wei Chen, and J. M. Kikkawa	

(Continued)

Optical excitation in the creep phase of plastic charge-density waves (8 pages)	075118
Naoki Ogawa, Kenjiro Miyano, and Serguei Brazovski	
Leading interactions in the β -SrV ₆ O ₁₅ compound (7 pages)	075119
Marie-Liesse Doublet and Marie-Bernadette Lepetit	
Semiconductors I: bulk	
Vibrational properties of GaAs _{0.915} N _{0.085} under hydrostatic pressures up to 20 GPa (6 pages)	075201
M. Güngerich, P. J. Klar, W. Heimbrodt, J. Koch, W. Stolz, M. P. Halsall, and P. Harmer	
Semiconductors I: bulk	
Structure and properties of ilmenite from first principles (9 pages)	075202
N. C. Wilson, J. Muscat, D. Mkhonto, P. E. Ngoepe, and N. M. Harrison	
Tight-binding calculations of the band structure and total energies of the various polytypes of silicon carbide (11 pages)	075203
N. Bernstein, H. J. Gotsis, D. A. Papaconstantopoulos, and M. J. Mehl	
Positron annihilation study of density fluctuations in amorphous poly(ethylene terephthalate) films in terms of quasispinodal decomposition (9 pages)	075204
Tong Xu, Yuezhen Bin, Nikolay Djourellov, Takenori Suzuki, and Masaru Matsuo	
Theoretical and experimental study of dynamic triplet-triplet annihilation in an organic one-dimensional motion system (7 pages)	075205
A. Benfredj, F. Henia, L. Hachani, S. Romdhane, and H. Bouchriha	
Chemical profile and magnetoresistance of Ga _{1-x} Mn _x As/GaAs/AlAs/GaAs/Ga _{1-x} Mn _x As tunnel junctions (8 pages)	075206
R. Mattana, M. Elsen, J.-M. George, H. Jaffrès, F. Nguyen Van Dau, A. Fert, M. F. Wyczisk, J. Olivier, P. Galtier, B. Lépine, A. Guivarc'h, and G. Jézéquel	
Structural, electronic, and energetic properties of small self-interstitial clusters in GaAs by tight-binding molecular dynamics (6 pages)	075207
M. Volpe, G. Zollo, and L. Colombo	
Semiconductors II: surfaces, interfaces, microstructures, and related topics	
Conductance of a quantum wire with a Gaussian impurity potential and variable cross-sectional shape (16 pages)	075301
Vassilios Vargiamidis and Hariton M. Polatoglou	
Electronic structure of donor states under a strong magnetic field (7 pages)	075302
G. M. Huang, Y. M. Liu, and C. G. Bao	
Combined <i>ab initio</i> and kinetic Monte Carlo simulations of C diffusion on the $\sqrt{3} \times \sqrt{3}$ β -SiC(111) surface (7 pages)	075303
M. C. Righi, C. A. Pignedoli, R. Di Felice, C. M. Bertoni, and A. Catellani	
Epitaxial properties of Al-doped ZnO thin films grown by pulsed laser deposition on SrTiO ₃ (001) (4 pages) . .	075304
M. Karger and M. Schilling	
Strongly correlated regimes in a double quantum dot device (9 pages)	075305
P. S. Cornaglia and D. R. Grempel	

All-optical ejection and control of spin currents from a quantum well (6 pages)	075306
Ali Najmaie, Arthur L. Smirl, and J. E. Sipe	
Origin of surface metallization of Si(001) at high temperatures (4 pages)	075307
Jun-Hyung Cho and Jung-Yup Lee	
Hole spin relaxation in semiconductor quantum dots (10 pages)	075308
C. Lü, J. L. Cheng, and M. W. Wu	
Influence of self-affine interface roughness on the charge capacitance between two dielectric media (5 pages)	075309
G. Palasantzas	
Kinetics of excitonic complexes on tunneling devices (6 pages)	075310
A. Vercik, Y. Galvão Gobato, I. Camps, G. E. Marques, M. J. S. P. Brasil, and S. S. Makler	
Inhomogeneous broadening of $\text{Al}_x\text{Ga}_{1-x}\text{N}/\text{GaN}$ quantum wells (6 pages)	075311
F. Natali, D. Byrne, M. Leroux, B. Damilano, F. Semond, A. Le Louarn, S. Vezian, N. Grandjean, and J. Massies	
Design of a very thin direct-band-gap semiconductor nanotube of germanium with metal encapsulation (5 pages)	075312
Abhishek Kumar Singh, Vijay Kumar, and Yoshiyuki Kawazoe	
Unoccupied states in the band gap of δ -doped Si in GaAs probed by Auger resonance spectroscopy (7 pages)	075313
M. D. Jackson, J. M. C. Thornton, D. Lewis, A. Robinson, M. Fahy, A. Aviary, and P. Weightman	
Shape transition of self-assembled InAs quantum dots on GaAs(114)A (8 pages)	075314
M. C. Xu, Y. Temko, T. Suzuki, and K. Jacobi	
Rashba spin-orbit coupling and spin relaxation in silicon quantum wells (7 pages)	075315
Charles Tahan and Robert Joynt	
Scanning capacitance microscopy of nanostructures (7 pages)	075316
H. E. Ruda and A. Shik	
Time-dependent quantum transport: Direct analysis in the time domain (10 pages)	075317
Yu Zhu, Joseph Maciejko, Tao Ji, Hong Guo, and Jian Wang	
X-ray absorption study of the growth of Y_2O_3 on Si(001) (8 pages)	075318
M. Malvestuto, R. Carboni, F. Boscherini, F. D'Acapito, S. Spiga, M. Fanciulli, A. Dimoulas, G. Vellianitis, and G. Mavrou	
Off-centering of hydrogenic impurities in quantum dots (7 pages)	075319
J. L. Movilla and J. Planelles	
Quantum transport through a deformable molecular transistor (10 pages)	075320
P. S. Cornaglia, D. R. Grempel, and H. Ness	
Electron spin tomography through counting statistics: A quantum trajectory approach (9 pages)	075321
Holger Schaefer and Walter T. Strunz	
Theory of noncoherent spin pumps (12 pages)	075322
Eran Sela and Yuval Oreg	
First-principles study of Sb-stabilized GaSb(001) surface reconstructions (5 pages)	075323
M. C. Righi, Rita Magri, and C. M. Bertoni	

Hot-phonon effect on power dissipation in a biased $\text{Al}_x\text{Ga}_{1-x}\text{N}/\text{AlN}/\text{GaN}$ channel (8 pages)	075324
M. Ramonas, A. Matulionis, J. Liberis, L. Eastman, X. Chen, and Y.-J. Sun	
Broken symmetry and quantum entanglement of an exciton in $\text{In}_x\text{Ga}_{1-x}\text{As}/\text{GaAs}$ quantum dot molecules (13 pages)	075325
Gabriel Bester, Alex Zunger, and J. Shumway	
Electron-hole exchange interaction in a negatively charged quantum dot (7 pages)	075326
I. A. Akimov, K. V. Kavokin, A. Hundt, and F. Henneberger	
Intraband polaron dynamics of excited carriers in $\text{InAs}/\text{In}_x\text{Al}_{1-x}\text{As}$ quantum dots (5 pages)	075327
G. Bahir, E. Finkman, F. Fossard, F. H. Julien, J. Brault, M. Gendry, and S. E. Schacham	
Growth of Te on As-exposed Si(211): Electronic structure calculations (8 pages)	075328
Bikash C. Gupta, Inder P. Batra, and S. Sivananthan	
Phonon-assisted tunneling in coupled semiconductor quantum dots (6 pages)	075329
V. López-Richard, S. S. Oliveira, and G.-Q. Hai	
Stark effect dependence on hydrogenic impurity position in a cubic quantum box (5 pages)	075330
Carlos I. Mendoza, G. J. Vazquez, M. del Castillo-Mussot, and H. Spector	
Quantum and semiclassical study of magnetic quantum dots (14 pages)	075331
Bence Kocsis, Gergely Palla, and József Cserti	
Surface physics, nanoscale physics, low-dimensional systems	
Resonance Raman spectroscopy (n, m)-dependent effects in small-diameter single-wall carbon nanotubes (11 pages)	075401
A. Jorio, C. Fantini, M. A. Pimenta, R. B. Capaz, Ge. G. Samsonidze, G. Dresselhaus, M. S. Dresselhaus, J. Jiang, N. Kobayashi, A. Grüneis, and R. Saito	
First-principles calculation of the electronic structure and EELS spectra at the graphene/Ni(111) interface (8 pages)	075402
Giovanni Bertoni, Lionel Calmels, Anne Altibelli, and Virginie Serin	
Structural incoherency and structure reversal in bimetallic Au-Pd nanoclusters (6 pages)	075403
H. B. Liu, U. Pal, A. Medina, C. Maldonado, and J. A. Ascencio	
Light transmission assisted by Brewster-Zennek modes in chromium films carrying a subwavelength hole array (5 pages)	075404
Michaël Sarrazin and Jean-Pol Vigneron	
Segregation-mediated capping of Volmer-Weber Cu islands grown onto Ag(111) (6 pages)	075405
Franck Bocquet, Christian Maurel, Jean-Marc Roussel, Mathieu Abel, Mathieu Koudia, and Louis Porte	
First-principles calculation of the atomic and electronic structure of the surface alloy $\text{Cu}(001)c(2 \times 2)\text{-Pd}$ (7 pages)	075406
Ling Li, Kun Xun, Yu-mei Zhou, Ding-sheng Wang, and Si-cheng Wu	
Island shapes, island densities, and stacking-fault formation on Ir(111): Kinetic Monte Carlo simulations and experiments (8 pages)	075407
Michael Müller, Karsten Albe, Carsten Busse, Arne Thoma, and Thomas Michely	
Role of electromagnetic trapped modes in extraordinary transmission in nanostructured materials (7 pages) . . .	075408
A. G. Borisov, F. J. García de Abajo, and S. V. Shabanov	

Quantized molecular structural mechanics modeling for studying the specific heat of single-walled carbon nanotubes (6 pages)	075409
Chunyu Li and Tsu-Wei Chou	
Resonant light scattering by near-field-induced phonon polaritons (7 pages)	075410
Jan Renger, Stefan Grafström, Lukas M. Eng, and Rainer Hillenbrand	
Low-energy deposition of Co onto Co islands on Ag(100): Effect on submonolayer growth (8 pages)	075411
J. Frantz, M. O. Jahma, K. Nordlund, and I. T. Koponen	
Enhancement of hydrogen physisorption on single-walled carbon nanotubes resulting from defects created by carbon bombardment (8 pages)	075412
Yueyuan Xia, John Zhonghua Zhu, Mingwen Zhao, Feng Li, Boda Huang, Yanju Ji, Xiangdong Liu, Zhenyu Tan, Chen Song, and Yanyan Yin	
Role of Co antisite segregation in the CoAl(111) surface (11 pages)	075413
L. Hammer, V. Blum, Ch. Schmidt, O. Wieckhorst, W. Meier, S. Müller, and K. Heinz	
Steering effects on growth instability during step-flow growth of Cu on Cu(1,1,17) (5 pages)	075414
Jikeun Seo, Hye-Young Kim, and J.-S. Kim	
Molecular dynamics simulations of the meltinglike transition in $\text{Li}_{13}\text{Na}_{42}$ and $\text{Na}_{13}\text{Cs}_{42}$ clusters (12 pages) . . .	075415
Andrés Aguado and José M. López	
Electron injection in a nanotube with leads: Finite-frequency noise correlations and anomalous charges (10 pages)	075416
Andrei V. Lebedev, Adeline Crépieux, and Thierry Martin	
<i>Ab initio</i> calculations of surface phase diagrams of silica polymorphs (9 pages)	075417
Evgueni Chagarov, Alexander A. Demkov, and James B. Adams	
Single-wall nanotubes: Atomiclike behavior and microscopic approach (8 pages)	075418
S. Bellucci and P. Onorato	
Scanning tunneling microscopy and spectroscopy of NaCl overlayers on the stepped Cu(311) surface: Experimental and theoretical study (8 pages)	075419
F. E. Olsson, M. Persson, J. Repp, and G. Meyer	
Photoemission study of onionlike carbons produced by annealing nanodiamonds (10 pages)	075420
Yu. V. Butenko, S. Krishnamurthy, A. K. Chakraborty, V. L. Kuznetsov, V. R. Dhanak, M. R. C. Hunt, and L. Šiller	
<i>N</i> -type electric conductivity of nitrogen-doped ultrananocrystalline diamond films (5 pages)	075421
Ying Dai, Dadi Dai, Cuixia Yan, Baibiao Huang, and Shenghao Han	
Incoherent backscattering of acoustic waves from surfaces with randomly distributed oscillators (9 pages) . . .	075422
Andriy V. Tutov, Andreas P. Mayer, and Alexei A. Maradudin	
Growth behavior of metal-doped silicon clusters Si_nM ($M=\text{Ti}, \text{Zr}, \text{Hf}$; $n=8-16$) (12 pages)	075423
Hiroaki Kawamura, Vijay Kumar, and Yoshiyuki Kawazoe	
Thermal stability of single and multi-walled carbon nanotubes (6 pages)	075424
K. M. Liew, C. H. Wong, X. Q. He, and M. J. Tan	

ERRATA

Erratum: Mechanism of bending with kinking of a single-walled carbon nanotube [Phys. Rev. B 69 , 115410 (2004)] (<i>1 page</i>)	079901(E)
T. Vodenitcharova and L. C. Zhang	