

PHYSICAL REVIEW B

For editorial and subscription correspondence,
please see inside front cover
(ISSN: 0163-1829)

PERIODICALS

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

THIRD SERIES, VOLUME 67, NUMBER 8

CONTENTS

FEBRUARY 2003-15(II)

Announcement: Color Online Only for Physical Review i

RAPID COMMUNICATIONS

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

- Charge transfer at very high pressure in NiO (*4 pages*) 081101(R)
Abhay Shukla, Jean-Pascal Rueff, James Badro, Gyorgy Vanko, Aleks Mattila, F. M. F de Groot, and
Francesco Sette
- Possibility of a metallic phase in the charge-density-wave–spin-density-wave crossover region in the
one-dimensional Hubbard-Holstein model at half filling (*4 pages*) 081102(R)
Yasutami Takada and Ashok Chatterjee

Semiconductors I: bulk

- Initial transport of photogenerated charge carriers in π -conjugated polymers (*4 pages*) 081201(R)
G. Juška, K. Genevičius, R. Österbacka, K. Arlauskas, T. Kreuzis, D.D.C. Bradley, and H. Stubb
- Empirical tight-binding model for the electronic structure of dilute GaNAs alloys (*4 pages*) 081202(R)
N. Shtinkov, P. Desjardins, and R. A. Masut

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

- Uncoupled excitons in semiconductor microcavities detected in resonant Raman scattering (*4 pages*) 081301(R)
R. M. Stevenson, V. N. Astratov, M. S. Skolnick, J. S. Roberts, and G. Hill
- Compressibility of a two-dimensional hole gas in a tilted magnetic field (*4 pages*) 081302(R)
Maryam Rahimi, M. R. Sakr, S. V. Kravchenko, S. C. Dultz, and H. W. Jiang
- Chaotic transport in low-dimensional superlattices (*4 pages*) 081303(R)
Michael Zwolak, David Ferguson, and Massimiliano Di Ventra

Surface physics, low-dimensional systems, and related topics

- Dynamic scaling of the surface roughness of Cu deposited using a chemical bath (*4 pages*) 081401(R)
N. M. Hasan, J. J. Mallett, S. G. dos Santos Filho, A. A. Pasa, and W. Schwarzacher
- Ab initio* density functional studies of stepped TaC surfaces (*4 pages*) 081402(R)
V. B. Shenoy and C. V. Ciobanu
- Origin of positive core-level shifts in Au clusters on oxides (*4 pages*) 081403(R)
Zongxian Yang and Ruqian Wu
- Measurement of electron wave functions and confining potentials via photoemission (*4 pages*) 081404(R)
A. Mugarza, J. E. Ortega, F. J. Himpsel, and F. J. García de Abajo



Environment and structure influence on DNA conduction (4 pages)	081405(R)
Ch. Adessi, S. Walch, and M. P. Anantram	

ARTICLES

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

Dynamical cluster approximation employing the fluctuation exchange approximation as a cluster solver (14 pages)	085101
K. Aryanpour, M. H. Hettler, and M. Jarrell	
Residual resistivity near a two-dimensional metamagnetic quantum critical point (7 pages)	085102
Yong Baek Kim and A. J. Millis	
Thermodynamics of the planar Hubbard model (5 pages)	085103
J. Bonča and P. Prelovšek	
Thermodynamics of the Falicov-Kimball model with two spinless impurities interacting with a fermionic bath (8 pages)	085104
Luis R. Ramos, W. C. Oliveira, and Valter L. Líbero	
Density of states for finite photonic crystals (6 pages)	085105
D. Felbacq and R. Smaïli	
In situ x-ray-absorption spectroscopy study of hydrogen absorption by nickel-magnesium thin films (7 pages)	085106
B. Farangis, P. Nachimuthu, T. J. Richardson, J. L. Slack, R. C. C. Perera, E. M. Gullikson, D. W. Lindle, and M. Rubin	
Collapse of the antiferromagnetic ground state in the alkali-metal electrosodalites (5 pages)	085107
Georg K. H. Madsen and Peter Blaha	
Inhomogeneous Gutzwiller approximation with random phase fluctuations for the Hubbard model (14 pages)	085108
G. Seibold, F. Becca, and J. Lorenzana	
Strong correlation effects in the electronic structure of $\text{Sr}_2\text{FeMoO}_6$ (6 pages)	085109
Sugata Ray, Priya Mahadevan, Ashwani Kumar, D. D. Sarma, R. Cimino, M. Pedio, L. Ferrari, and A. Pesci	
Atomic model of supersymmetric Hubbard operators (18 pages)	085110
J. Hopkinson and P. Coleman	
Orbital state and magnetic properties of LiV_2O_4 (11 pages)	085111
I. A. Nekrasov, Z. V. Pchelkina, G. Keller, Th. Pruschke, K. Held, A. Krimmel, D. Vollhardt, and V. I. Anisimov	

Semiconductors I: bulk

Density matrix approach to electron transport in an arbitrary magnetic field and negative magnetoresistance (6 pages)	085201
V. E. Kaminskii	
Optical- and photocurrent-detected magnetic resonance studies on conjugated polymer/fullerene composites (7 pages)	085202
M. C. Scharber, N. A. Schultz, N. S. Sariciftci, and C. J. Brabec	
Asymmetries of local arsenic bonding sites in $\text{As}_x\text{S}_{1-x}$ and $\text{As}_x\text{Se}_{1-x}$ glasses (14 pages)	085203
T. Su, P. Hari, E. Ahn, P. C. Taylor, P. L. Kuhns, W. G. Moulton, and N. S. Sullivan	
Maximally localized Wannier functions for photonic lattices (6 pages)	085204
D. M. Whittaker and M. P. Croucher	

<i>In situ</i> electrical characterization of phase transformations in Si during indentation (9 pages)	085205
J. E. Bradby, J. S. Williams, and M. V. Swain	
Semiconductors II: surfaces, interfaces, microstructures, and related topics	
Excitonic states in CdTe/Cd _{0.74} Mg _{0.26} Te quantum wires grown on vicinal substrates (7 pages)	085301
Seiji Nagahara, Takashi Kita, Osamu Wada, Laurent Marsal, and Henri Mariette	
Variational study of the $\nu=1$ quantum Hall ferromagnet in the presence of spin-orbit interaction (9 pages) ...	085302
John Schliemann, J. Carlos Egues, and Daniel Loss	
Microscopic model for nonexcitonic mechanism of 1.5- μ m photoluminescence of the Er ³⁺ ion in crystalline Si (10 pages)	085303
M. Forcales, T. Gregorkiewicz, M. S. Bresler, O. B. Gusev, I. V. Bradley, and J-P. R. Wells	
Photoluminescence of GaAs/Al _x Ga _{1-x} As multiple quantum well structures containing δ -doping superlattices (10 pages)	085304
S. M. Landi, C. V.-B. Tribuzy, P. L. Souza, R. Butendeich, A. C. Bittencourt, and G. E. Marques	
Bloch-phonon coupling and tunneling-induced coherent phonon excitation in semiconductor superlattices (4 pages)	085305
M. Först, H. Kurz, T. Dekorsy, and R. P. Leavitt	
InP quantum dots embedded in GaP: Optical properties and carrier dynamics (8 pages)	085306
F. Hatami, W. T. Masselink, L. Schrottke, J. W. Tamm, V. Talalaev, C. Kristukat, and A. R. Goñi	
Efficient $\mathcal{O}(N^2)$ method to solve the Bethe-Salpeter equation (7 pages)	085307
W. G. Schmidt, S. Glutsch, P. H. Hahn, and F. Bechstedt	
Mapping of strain and electric fields in GaAs/Al _x Ga _{1-x} As quantum-well samples by laser-assisted NMR (5 pages)	085308
Marcus Eickhoff, Björn Lenzmann, Dieter Suter, Sophia E. Hayes, and Andreas D. Wieck	
Multiphoton-assisted absorption of terahertz radiation in InAs/AlSb heterojunctions (5 pages)	085309
J. C. Cao and X. L. Lei	
Electronic structure of monolayer and double-layer Ge on Si(001) (6 pages)	085310
H. W. Yeom, J. W. Kim, K. Tono, I. Matsuda, and T. Ohta	
Cavity polaritons in microcavities containing disordered organic semiconductors (10 pages)	085311
V. M. Agranovich, M. Litinskaia, and D. G. Lidzey	
Multisubband theory for the origination of intrinsic oscillations within double-barrier quantum well systems (10 pages)	085312
Peiji Zhao, Dwight L. Woolard, and H. L. Cui	
Magnetotransport in a two-dimensional electron gas in the presence of spin-orbit interaction (7 pages)	085313
X. F. Wang and P. Vasilopoulos	
Electron-hole recombination density matrices obtained from large configuration-interaction expansions (7 pages)	085314
S. Corni, M. Braskén, M. Lindberg, J. Olsen, and D. Sundholm	
Intersubband gain in a Bloch oscillator and quantum cascade laser (10 pages)	085315
H. Willenberg, G. H. Döhler, and J. Faist	
Full counting statistics of charge transfer in Coulomb blockade systems (16 pages)	085316
D. A. Bagrets and Yu. V. Nazarov	
Entangled two-photon source using biexciton emission of an asymmetric quantum dot in a cavity (15 pages)	085317
T. M. Stace, G. J. Milburn, and C. H. W. Barnes	
Continuum bound states as surface states of a finite periodic system (11 pages)	085318
D. W. L. Sprung, P. Jagiello, J. D. Sigetich, and J. Martorell	
Spin injection and spin accumulation in all-metal mesoscopic spin valves (16 pages)	085319
F. J. Jedema, M. S. Nijboer, A. T. Filip, and B. J. van Wees	

Time-resolved dynamics of electron wave packets in chaotic and regular quantum billiards with leads (7 pages)	085320
I. V. Zozoulenko and T. Blomquist	
Transport through a quantum wire with a side quantum-dot array (5 pages)	085321
P. A. Orellana, F. Domínguez-Adame, I. Gómez, and M. L. Ladrón de Guevara	
Surface physics, low-dimensional systems, and related topics	
Electrodynamics in the near-field regions of anisotropic nanoscopic films and platelets (12 pages)	085401
B. I. Lembrikov, M. A. Itskovsky, H. Cohen, and T. Maniv	
Atomic resolution imaging and frequency versus distance measurements on NiO(001) using low-temperature scanning force microscopy (6 pages)	085402
R. Hoffmann, M. A. Lantz, H. J. Hug, P. J. A. van Schendel, P. Kappenberger, S. Martin, A. Baratoff, and H.-J. Güntherodt	
Vacancies below the (111) surface of Pd (6 pages)	085403
Russel P. Kauffman and Andrew M. Rappe	
Theoretical study of small two-dimensional gold clusters (6 pages)	085404
Jin Zhao, Jinlong Yang, and J. G. Hou	
Isothermal aggregation of Bi atoms embedded in a soda borate glass: Coarsening of liquid nanodroplets and atomic diffusion (7 pages)	085405
G. Kellermann and A. F. Craievich	
Truncated Lévy walk of a nanocluster bound weakly to an atomically flat surface: Crossover from superdiffusion to normal diffusion (5 pages)	085406
Yutaka Maruyama and Junichi Murakami	
<i>Ab initio</i> studies of the passive film formed on iron (10 pages)	085407
S. Hendy, B. Walker, N. Laycock, and M. Ryan	
Lattice dynamics of single-walled boron nitride nanotubes (6 pages)	085408
Valentin N. Popov	
Resonance shift effects in apertureless scanning near-field optical microscopy (9 pages)	085409
J. A. Porto, P. Johansson, S. P. Apell, and T. López-Ríos	
Atomic and electronic structure of MoS ₂ nanoparticles (17 pages)	085410
M. V. Bollinger, K. W. Jacobsen, and J. K. Nørskov	
Random registry shifts in quasi-one-dimensional adsorbate systems (5 pages)	085411
J. Schäfer, S. C. Erwin, M. Hansmann, Z. Song, E. Rotenberg, S. D. Kevan, C. S. Hellberg, and K. Horn	
Growth of carbon nanotubes characterized by field emission measurements during chemical vapor deposition (11 pages)	085412
Jean-Marc Bonard, Mirko Croci, Christian Klinke, Fabien Conus, Imad Arfaoui, Thomas Stöckli, and André Chatelain	
Chemical termination of the CsCl-structure FeSi/Si(111) film surface and its multilayer relaxation (9 pages)	085413
S. Walter, R. Bandorf, W. Weiss, K. Heinz, U. Starke, M. Strass, M. Bockstedte, and O. Pankratov	
Electron energy loss in carbon nanostructures (8 pages)	085414
A. Rivacoba and F. J. García de Abajo	
Role of Wood anomalies in optical properties of thin metallic films with a bidimensional array of subwavelength holes (8 pages)	085415
Michaël Sarrazin, Jean-Pol Vigneron, and Jean-Marie Vigoureux	

ERRATA

Erratum: Magnetic quantum oscillations of the longitudinal conductivity σ_{zz} in quasi-two-dimensional metals [Phys. Rev. B 66 , 195111 (2002)] (<i>1 page</i>)	089901(E)
T. Champel and V. P. Mineev	
Erratum: Energy loss of charged particles interacting with simple metal surfaces [Phys. Rev. B 64 , 035423 (2001)] (<i>1 page</i>)	089902(E)
A. García-Lekue and J. M. Pitarke	
Cumulative Author Index	iii