

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 64, NUMBER 3

CONTENTS

15 JULY 2001-I

Subject Matter Categories for Physical Review B	iii
Physical Review B Editorial Policies and Practices	iv
Physical Review B Information for Contributors	viii
Guidelines for Estimating Length for Physical Review B	xi
Announcement: Electronic-First Publication and Article Numbers	xii

BRIEF REPORTS

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

Single-hole spectral function and spin-charge separation in the t - J model (4 pages)	033101
A. S. Mishchenko, N. V. Prokof'ev, and B. V. Svistunov	
One-dimensional spinless fermion model with competing interactions beyond half filling (4 pages)	033102
A. K. Zhuravlev and M. I. Katsnelson	
One-dimensional electron gas interacting with a Heisenberg spin-1/2 chain (4 pages)	033103
Oron Zachar and Alexei M. Tsvelik	
Recombination of singlet excitons with geminate pairs of charge carriers in conjugated polymers (4 pages) ...	033104
Yu. V. Romanovskii, V. I. Arkhipov, and H. Bässler	

Semiconductors I: bulk

Full band calculation of doping-induced band-gap narrowing in p -type GaAs (4 pages)	033201
C. Persson, R. Ahuja, and B. Johansson	
Electron-hole excitations in Mg_2Si and Mg_2Ge compounds (4 pages)	033202
B. Arnaud and M. Alouani	

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

Nonequilibrium electron distribution in the presence of Kondo impurities (4 pages)	033301
Georg Göppert and Hermann Grabert	
Quantum dot in high magnetic fields: Correlated tunneling of electrons probes the spin configuration at the edge of the dot (4 pages)	033302
M. Keller, U. Wilhelm, J. Schmid, J. Weis, K. v. Klitzing, and K. Eberl	
Quantum conductance of helical nanowires (4 pages)	033303
Masakuni Okamoto, Tsuyoshi Uda, and Kunio Takayanagi	
Initial stage of GaN growth and its implication to defect formation in films (4 pages)	033304
S. H. Cheung, L. X. Zheng, M. H. Xie, S. Y. Tong, and N. Ohtani	
Spin and charge oscillations of a dot due to interaction with itinerant electrons (4 pages)	033305
Yong-Jian Xiong and Shi-Jie Xiong	



Spatial correlations and Raman scattering interferences in self-assembled quantum dot multilayers (4 pages)	033306
M. Cazayous, J. Groenen, J. R. Huntzinger, A. Mlayah, and O. G. Schmidt	
Effect of inelastic scattering on the average Coulomb-blockade peak height in quantum dots (3 pages)	033307
C. W. J. Beenakker, H. Schomerus, and P. G. Silvestrov	
Guiding mechanisms in dielectric-core photonic-crystal optical waveguides (4 pages)	033308
Ali Adibi, Yong Xu, Reginald K. Lee, Amnon Yariv, and Axel Scherer	
Unstable etching of Si(110) with potassium hydroxide (4 pages)	033309
Z. Moktadir and K. Sato	
Aharonov-Bohm phase shift in an open electron resonator (4 pages)	033310
D. S. Duncan, M. A. Topinka, R. M. Westervelt, K. D. Maranowski, and A. C. Gossard	
Band structure and optical properties of germanium sheet polymers (4 pages)	033311
Zoltán Hajnal, Günther Vogg, Lex J.-P. Meyer, Bernadett Szűcs, Martin S. Brandt, and Thomas Frauenheim	
Suppression of electron channelling in microscopic magnetic waveguides (4 pages)	033312
D. N. Lawton, A. Nogaret, S. J. Bending, D. K. Maude, J. C. Portal, and M. Henini	
Conductance fluctuations in a quantum dot under almost periodic ac pumping (4 pages)	033313
Xiao-Bing Wang and V. E. Kravtsov	
Spin fluctuation and persistent current in a mesoscopic ring coupled to a quantum dot (4 pages)	033314
Sam Young Cho, Kicheon Kang, Chul Koo Kim, and Chang-Mo Ryu	
Surface physics, low-dimensional systems, and related topics	
Shell and supershell structures of nanowires: A quantum-mechanical analysis (4 pages)	033401
M. J. Puska, E. Ogando, and N. Zabala	
Friedel oscillations in a Luttinger liquid with long-range interactions (4 pages)	033402
Victoria I. Fernández and Carlos M. Naón	
Structure of liquid Sn on Ge(111) (4 pages)	033403
M. F. Reedijk, J. Arsic, F. K. de Theije, M. T. McBride, K. F. Peters, and E. Vlieg	
dc conduction of stable ultrathin Pt films below the percolation threshold (4 pages)	033404
I. Ošťádal and R. M. Hill	
Observation of a hexagonal (4H) phase in nanocrystalline silver (4 pages)	033405
Praveen Taneja, Rajarshi Banerjee, Pushan Ayyub, and G. K. Dey	
Optical response of a quantum dot superlattice under electric and magnetic fields (4 pages)	033406
M. Pacheco and Z. Barticevic	
$\sqrt{7}R_{19.1^\circ}$ superlattice of Ar/Ag(111) (4 pages)	033407
L. W. Bruch	
Coulomb blockade in single-layer Au nanocluster films (4 pages)	033408
M. G. Ancona, W. Kruppa, R. W. Rendell, A. W. Snow, D. Park, and J. B. Boos	
Surfactant effect in heteroepitaxial growth: The Pb-Co/Cu(111) case (4 pages)	033409
Liliana Gómez and Julio Ferrón	
In-plane relaxation of Cu(111) and Al(111)/ α -Al ₂ O ₃ (0001) interfaces (4 pages)	033410
Iskander G. Batyrev and Leonard Kleinman	
Co nanowire arrays on N-terminated Cu(110) surfaces (3 pages)	033411
S. M. York and F. M. Leibsle	
Structural and electronic properties of a carbon nanotorus: Effects of delocalized and localized deformations (4 pages)	033412
Lei Liu, C. S. Jayanthi, and S. Y. Wu	
Pressure-dependent photopolymerization kinetics in C ₆₀ crystals: Observation of exponential dependence on intermolecular distance (4 pages)	033413
Masatoshi Sakai and Arai Nakamura	

Broken symmetry, boundary conditions, and band-gap oscillations in finite single-wall carbon nanotubes (4 pages)	033414
Lei Liu, C. S. Jayanthi, H. Guo, and S. Y. Wu	

ARTICLES

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

Charge transport of lithium-salt-doped polyaniline (8 pages)	035101
J. H. Jung, B. H. Kim, B. W. Moon, J. Joo, S. H. Chang, and K. S. Ryu	
Polarized laser selective excitation and Zeeman infrared absorption of C_{4v} and C_{3v} symmetry centers in Eu^{3+} -doped CaF_2 , SrF_2 , and BaF_2 crystals (10 pages)	035102
Jon-Paul R. Wells and Roger J. Reeves	
Equation of state for tantalum from relativistic linear combinations of Gaussian-type orbitals calculations (5 pages)	035103
J. C. Boettger	
Optical properties of BN in cubic and layered hexagonal phases (11 pages)	035104
Giancarlo Cappellini, Guido Satta, Maurizia Palummo, and Giovanni Onida	
Calculation of optical properties and density of states for systems with huge unit cells (8 pages)	035105
H.-Ch. Weissker, J. Furthmüller, and F. Bechstedt	
Annealing effects on the optical conductivity of single crystal $\text{La}_{1-x}\text{Ca}_x\text{MnO}_3$, ($x=0.1, 0.265$) (7 pages) ...	035106
O. Ripeka Mercier, R. G. Buckley, A. Bittar, H. J. Trodahl, E. M. Haines, J. B. Metson, and Y. Tomioka	
Odd-frequency density waves: Non-Fermi-liquid metals with an order parameter (6 pages)	035107
Eugene Pivovarov and Chetan Nayak	

Semiconductors I: bulk

Tunneling magnetoresistance in diluted magnetic semiconductor tunnel junctions (6 pages)	035201
Pin Lyu and Kyungsun Moon	
Effect of ion species on the accumulation of ion-beam damage in GaN (10 pages)	035202
S. O. Kucheyev, J. S. Williams, C. Jagadish, J. Zou, G. Li, and A. I. Titov	
Charge-carrier effects on the optical properties of poly(<i>p</i> -phenylene vinylene) (6 pages)	035203
I. H. Campbell, D. L. Smith, C. J. Neef, and J. P. Ferraris	
Vacancy-hydrogen defects in silicon studied by Raman spectroscopy (5 pages)	035204
E. V. Lavrov, J. Weber, L. Huang, and B. Bech Nielsen	
Effect of pressure on optical phonon modes and transverse effective charges in GaN and AlN (6 pages)	035205
A. R. Goñi, H. Siegle, K. Syassen, C. Thomsen, and J.-M. Wagner	
Predicted lattice relaxation around point defects in zinc selenide (9 pages)	035206
Leonid Muratov, Scott Little, Yaxiang Yang, Bernard R. Cooper, Thomas H. Myers, and John M. Wills	
Electronic and magnetic properties of $\text{Ga}_{1-x}\text{Mn}_x\text{As}$: Role of Mn defect bands (6 pages)	035207
Yu-Jun Zhao, W. T. Geng, K. T. Park, and A. J. Freeman	
Low-lying excitations of polydiacetylene (9 pages)	035208
A. Race, W. Barford, and R. J. Bursill	
Conjugation length dependence of the charge transport in oligothiophene single crystals (6 pages)	035209
J. H. Schön, Ch. Kloc, D. Fichou, and B. Batlogg	
Excitons and band structure of highly anisotropic GaTe single crystals (9 pages)	035210
Aishi Yamamoto, Atsushi Syouji, Takenari Goto, Erkin Kulatov, Kaoru Ohno, Yoshiyuki Kawazoe, Kazuhito Uchida, and Noboru Miura	

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

Acoustoelectric current for composite fermions (9 pages)	035301
J. Bergli and Y. M. Galperin	
Polarization dynamics and optical selection rules for excitonic transitions in strained quantum wells (7 pages)	035302
Scot A. Hawkins, Martin J. Stevens, and Arthur L. Smirl	
Raman scattering by magnetic excitations and phonons in diluted magnetic structures formed by self-organized quantum disks of CdZn(Mn)Se in a Zn(Mn)Se matrix (8 pages)	035303
I. I. Reshina, S. V. Ivanov, D. N. Mirlin, A. A. Toropov, A. Waag, and G. Landwehr	
Scanning tunneling microscopy and <i>ab initio</i> calculations: $c(4\times 8)$ reconstructions of Pb on Si and Ge(001) (8 pages)	035304
G. Falkenberg, R. L. Johnson, and Noboru Takeuchi	
Electronic structure of 1×1 GaN(0001) and GaN(000 $\bar{1}$) surfaces (8 pages)	035305
Fu-He Wang, Peter Krüger, and Johannes Pollmann	
Atomic structure of carbon-induced Si(001) $c(4\times 4)$ reconstruction as a Si-Si homodimer and C-Si heterodimer network (9 pages)	035306
L. Simon, M. Stoffel, P. Sonnet, L. Kubler, L. Stauffer, A. Selloni, A. De Vita, R. Car, C. Pirri, G. Garreau, D. Aubel, and J. L. Bischoff	
Conductance and density of states from the Kramers-Kronig dispersion relation (9 pages)	035307
Tooru Taniguchi	
Model of excitations in quantum dots based on quantum mechanics in spaces of constant curvature (9 pages)	035308
V. V. Gritsev and Yu. A. Kurochkin	
Electronic structure of a quantum ring in a lateral electric field (6 pages)	035309
J. M. Llorens, C. Trallero-Giner, A. García-Cristóbal, and A. Cantarero	
Spin-dependent transport in a Luttinger liquid (20 pages)	035310
L. Balents and R. Egger	
Possibility of an electromechanical which-path interferometer (17 pages)	035311
A. D. Armour and M. P. Blencowe	
Spatial carrier-carrier correlations in strain-induced quantum dots (9 pages)	035312
M. Braskén, M. Lindberg, D. Sundholm, and J. Olsen	
Tamm-like states in finite antidot lattices (8 pages)	035313
P. H. Rivera, M. A. Andrade Neto, P. A. Schulz, and Nelson Studart	
Indirect barrier electron-hole gas transitions in mixed type-I–type-II GaAs/AlAs multiple quantum wells (5 pages)	035314
R. Guliamov, E. Lifshitz, E. Cohen, Arza Ron, and L. N. Pfeiffer	
Tunable decoherence in the vicinity of a normal metal–superconducting junction (9 pages)	035315
Rodolphe Guyon, Thierry Martin, and Gordey B. Lesovik	
Optical phonons in $\text{Pb}_{1-x}\text{Eu}_x\text{Te}$ epilayers and PbTe/EuTe superlattices: Berreman effect (6 pages)	035316
M. Aigle, H. Pascher, Hyunjung Kim, E. Tarhan, A. J. Mayur, M. Dean Sciacca, A. K. Ramdas, G. Springholz, and G. Bauer	
Femtosecond time-resolved electron-hole dynamics and radiative transitions in the double-layer quantum well of the $\text{CdS}/(\text{HgS})_2/\text{CdS}$ quantum-dot–quantum-well nanoparticle (7 pages)	035317
Markus Braun, Clemens Burda, Mona Mohamed, and Mostafa El-Sayed	
Control of strain in GaN using an In doping-induced hardening effect (5 pages)	035318
Shigeo Yamaguchi, Michihiko Kariya, Takayuki Kashima, Shugo Nitta, Masayoshi Kosaki, Yohei Yukawa, Hiroshi Amano, and Isamu Akasaki	
Adiabatic steering and determination of dephasing rates in double-dot qubits (5 pages)	035319
T. Brandes, F. Renzoni, and R. H. Blick	

Excitons in small hydrogenated Si clusters (5 pages)	035320
A. R. Porter, M. D. Towler, and R. J. Needs	
Kinetic Monte Carlo model of self-organized quantum dot superlattices (6 pages)	035321
Pui-Man Lam and Sovirith Tan	
Complete quantum confinement of one-dimensional Bloch waves (5 pages)	035322
Shang Yuan Ren	
Dressed-band approach to laser-field effects in semiconductors and quantum-confined heterostructures (9 pages)	035323
H. S. Brandi, A. Latgé, and L. E. Oliveira	
Phonon-mediated drag between one-dimensional electron systems (10 pages)	035324
O. E. Raichev	
Photoinduced charge carriers at surfaces and interfaces of poly [2-methoxy-5-(2'-ethyl-hexyloxy)-1,4-phenylene vinylene] with Au and GaAs (6 pages)	035325
Jihua Yang, Ilan Shalish, and Yoram Shapira	
Dynamics of a three-terminal mechanically flexible tunneling contact (6 pages)	035326
A. Isacsson	
Surface physics, low-dimensional systems, and related topics	
Multiscale model for epitaxial growth of films: Growth mode transition (10 pages)	035401
R. Lam and D. G. Vlachos	
Reconstruction of Si(001) and adsorption of Si adatoms and ad-dimers on the surface: Many-body potential calculations (7 pages)	035402
Jun Cai and Jian-Sheng Wang	
Damping of a moving particle near a wall: A relativistic approach (15 pages)	035403
I. Dorofeyev, H. Fuchs, B. Gotsmann, and J. Jersch	
Behavior of uranium 5 <i>f</i> states in a graphite intercalation compound (8 pages)	035404
S. Danzenbächer, S. L. Molodtsov, J. Boysen, C. Laubschat, A. M. Shikin, S. A. Gorovikov, and Manuel Richter	
Intercalation of copper underneath a monolayer of graphite on Ni(111) (6 pages)	035405
Yu. S. Dedkov, A. M. Shikin, V. K. Adamchuk, S. L. Molodtsov, C. Laubschat, A. Bauer, and G. Kaindl	
Electronic structure of atomic chains on vicinal Si(111)-Au (11 pages)	035406
K. N. Altmann, J. N. Crain, A. Kirakosian, J.-L. Lin, D. Y. Petrovykh, F. J. Himpsel, and R. Losio	
Quasi-one-dimensional system of molecules inside carbon nanotubes: Exact solution for the lattice gas model and its application to fullerene-filled nanotubes (9 pages)	035407
Miroslav Hodak and L. A. Girifalco	
Self-organized pattern formation in the oxidation of supported iron thin films. I. An experimental study (5 pages)	035408
S. R. Shinde, Abhijit S. Ogale, S. B. Ogale, S. Aggarwal, V. Novikov, E. D. Williams, and R. Ramesh	
Self-organized pattern formation in the oxidation of supported iron thin films. II. A simulation study (5 pages)	035409
Abhijit S. Ogale	
Phase transformations in epitaxial Ni/Fe bilayers upon low-temperature gaseous nitriding (11 pages)	035410
A. V. Mijiritskii and D. O. Boerma	
Anomalous hopping exponents of ultrathin metal films (6 pages)	035411
J. C. Phillips	
Integration over two-dimensional Brillouin zones by adaptive mesh refinement (6 pages)	035412
J. Henk	

Simulations of the static friction due to adsorbed molecules (<i>13 pages</i>)	035413
Gang He and Mark O. Robbins	
Laser-induced electronic desorption from InP surfaces studied by femtosecond nonresonant ionization spectroscopy (<i>10 pages</i>)	035414
J. Kanasaki, N. Mikasa, and K. Tanimura	
Kinetics of molecular hydrogen dissociative adsorption on Si(111) studied by sum-frequency vibrational spectroscopy and second harmonic generation (<i>9 pages</i>)	035415
M. Y. Mao, P. B. Miranda, D. S. Kim, and Y. R. Shen	
Self-consistent-field study of conduction through conjugated molecules (<i>10 pages</i>)	035416
Magnus Paulsson and Sven Stafström	
Synthesis and optical properties of colloidal germanium nanocrystals (<i>9 pages</i>)	035417
J. P. Wilcoxon, P. P. Provencio, and G. A. Samara	
Longitudinal solitons in carbon nanotubes (<i>8 pages</i>)	035418
T. Yu. Astakhova, O. D. Gurin, M. Menon, and G. A. Vinogradov	
Strain-induced electronic property heterogeneity of a carbon nanotube (<i>5 pages</i>)	035419
D. Tekleab, D. L. Carroll, G. G. Samsonidze, and B. I. Yakobson	
Open-system density-matrix approach to image-potential dynamics of electrons at Cu(100): Energy- and time-resolved two-photon photoemission spectra (<i>11 pages</i>)	035420
Tillmann Klamroth, Peter Saalfrank, and Ulrich Höfer	
Bulk ordering and surface segregation in Ni ₅₀ Pt ₅₀ (<i>10 pages</i>)	035421
L. V. Pourovskii, A. V. Ruban, I. A. Abrikosov, Y. Kh. Vekilov, and B. Johansson	
Optical binding of particles with or without the presence of a flat dielectric surface (<i>7 pages</i>)	035422
P. C. Chaumet and M. Nieto-Vesperinas	
Energy loss of charged particles interacting with simple metal surfaces (<i>11 pages</i>)	035423
A. García-Lekue and J. M. Pitarke	
Characteristic features of Auger spectra from adatoms on metals (<i>7 pages</i>)	035424
N. Bonini, M. I. Trioni, and G. P. Brivio	
Light scattering from an amplifying medium bounded by a randomly rough surface: A numerical study (<i>7 pages</i>)	035425
Ingve Simonsen, Tamara A. Leskova, and Alexei A. Maradudin	

COMMENTS

Comment on “Effect of the structural anisotropy and lateral strain on the surface phonons of monolayer xenon on Cu(110)” (<i>2 pages</i>)	037401
Ch. Boas, Th. Becker, M. Kunat, U. Burghaus, and Ch. Wöll	
Reply to “Comment on ‘Effect of the structural anisotropy and lateral strain on the surface phonons of monolayer xenon on Cu(110)’” (<i>1 page</i>)	037402
P. Zeppenfeld, R. David, G. Comsa, Ch. Ramseyer, and C. Girardet	

Cumulative Author Index	xiii
-------------------------------	------