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CONTENTS

NOVEMBER 2004-15(I)

BRIEF REPORTS

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

- Truncated-determinant diagrammatic Monte Carlo for fermions with contact interaction (*4 pages*) 193101
Evgueni Bourovski, Nikolay Prokof'ev, and Boris Svistunov
- Iterative refinement method for the approximate factorization of a matrix inverse (*4 pages*) 193102
Anders M. N. Niklasson
- Valence-band photoemission study of β -ZrNCl and the quasi-two-dimensional superconductor Na_xZrNCl (*4 pages*) 193103
T. Yokoya, T. Takeuchi, S. Tsuda, T. Kiss, T. Higuchi, S. Shin, K. Iizawa, S. Shamoto, T. Kajitani, and T. Takahashi
- Observation of Jonscher law in ac hopping conduction of the electron-doped nanoporous crystal $12\text{CaO}\cdot 7\text{Al}_2\text{O}_3$ in a THz frequency range (*4 pages*) 193104
H. Harimochi, J. Kitagawa, M. Ishizaka, Y. Kadoya, M. Yamanishi, S. Matsuishi, and H. Hosono
- Variational approach to the optimized phonon technique for electron-phonon problems (*4 pages*) 193105
V. Cataudella, G. De Filippis, F. Martone, and C. A. Perroni
- Metal-insulator transition in YH_x : Scaling of the sub-THz conductivity (*3 pages*) 193106
I. G. Romijn, A. V. Pronin, H. B. Brom, and A. F. Th. Hoekstra
- Conduction band satellite of Ni metal observed using $3p$ - $3d$ resonant inverse photoemission study (*4 pages*) .. 193107
Y. Tezuka, K. Kanai, H. Ishii, S. Shin, S. Nozawa, A. Tanaka, and T. Jo

Semiconductors I: bulk

- Electron-phonon renormalization of electronic band gaps of semiconductors: Isotopically enriched silicon (*4 pages*) 193201
S. Tsoi, H. Alawadhi, X. Lu, J. W. Ager, III, C. Y. Liao, H. Riemann, E. E. Haller, S. Rodriguez, and A. K. Ramdas
- Origin of the enhanced space-charge-limited current in poly(*p*-phenylene vinylene) (*4 pages*) 193202
C. Tanase, P. W. M. Blom, and D. M. de Leeuw
- Anomalous Hall effect in insulating $\text{Ga}_{1-x}\text{Mn}_x\text{As}$ (*4 pages*) 193203
Sh. U. Yuldashev, H. C. Jeon, H. S. Im, T. W. Kang, S. H. Lee, and J. K. Furdyna
- Bound excitons and optical properties of bulk *trans*-polyacetylene (*4 pages*) 193204
Murilo L. Tiago, Michael Rohlfing, and Steven G. Louie



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(Continued)



1098-0121(20041115)70:19;1-0

Stabilization of substitutional Mn in silicon-based semiconductors (<i>4 pages</i>)	193205
Antônio J. R. da Silva, A. Fazzio, and Alex Antonelli	
Energetics and electronic structure of stacking faults in ZnO (<i>4 pages</i>)	193206
Yanfa Yan, G. M. Dalpian, M. M. Al-Jassim, and Su-Huai Wei	
Hyperfine interaction of the nitrogen donor in 4H-SiC (<i>4 pages</i>)	193207
N. T. Son, E. Janzén, J. Isoya, and S. Yamasaki	
Semiconductors II: surfaces, interfaces, microstructures, and related topics	
Spin-split two-dimensional electron gas perturbed by intense terahertz laser fields (<i>4 pages</i>)	193301
W. Xu	
Periodically arranged point defects in two-dimensional photonic crystals (<i>4 pages</i>)	193302
Stefan Richter, Reinald Hillebrand, Cecile Jamois, Margit Zacharias, Ulrich Gösele, Stefan L. Schweizer, and Ralf B. Wehrspohn	
Effect of thermal annealing and strain engineering on the fine structure of quantum dot excitons (<i>4 pages</i>) . . .	193303
A. I. Tartakovskii, M. N. Makhonin, I. R. Sellers, J. Cahill, A. D. Andreev, D. M. Whittaker, J.-P. R. Wells, A. M. Fox, D. J. Mowbray, M. S. Skolnick, K. M. Groom, M. J. Steer, H. Y. Liu, and M. Hopkinson	
Determination of density of electronic states using the potential dependence of electron density measured at nonzero temperatures (<i>4 pages</i>)	193304
V. G. Kytin, J. Bisquert, I. Abayev, and A. Zaban	
Charge transport through a single-electron transistor with a mechanically oscillating island (<i>4 pages</i>)	193305
N. M. Chtchelkatchev, W. Belzig, and C. Bruder	
Initial stages of Ge and Si growth near S_B monoatomic steps on Si(100) (<i>4 pages</i>)	193306
G. M. Dalpian, Antônio J. R. da Silva, and A. Fazzio	
Electron tunneling cross-talk: Selective transmission in semiconductor nanowires (<i>3 pages</i>)	193307
Leonard Dobrzynski	
Shallow-deep transitions of neutral and charged donor states in semiconductor quantum dots (<i>4 pages</i>)	193308
R. K. Pandey, Manoj K. Harbola, and Vijay A. Singh	
ScGaN alloy growth by molecular beam epitaxy: Evidence for a metastable layered hexagonal phase (<i>4 pages</i>)	193309
Costel Constantin, Hamad Al-Brithen, Muhammad B. Haider, David Ingram, and Arthur R. Smith	
Magnitude of magnetic field dependence of a possible selective spin filter in ZnSe/Zn _{1-x} Mn _x Se multilayer heterostructures (<i>4 pages</i>)	193310
Zhen-Gang Zhu and Gang Su	
Calculation of the nonlinear free-carrier absorption of terahertz radiation in semiconductor heterostructures (<i>4 pages</i>)	193311
C. Zhang and J. C. Cao	
Low-temperature electron mobilities due to ionized-impurity scattering in multisubband two-dimensional semiconductor systems (<i>4 pages</i>)	193312
K. T. Mazon, G.-Q. Hai, M. T. Lee, P. M. Koenraad, and A. F. W van de Stadt	
Anisotropic magnetoresistance in a two-dimensional electron gas in a quasirandom magnetic field (<i>4 pages</i>) . .	193313
A. W. Rushforth, B. L. Gallagher, P. C. Main, A. C. Neumann, M. Henini, C. H. Marrows, and B. J. Hickey	

Surface physics, low-dimensional systems, and related topics

Collective and single-particle dynamics in time-resolved two-photon photoemission (<i>4 pages</i>)	193401
M. Merschdorf, C. Kennerknecht, and W. Pfeiffer	
Water adsorption on Ti-doped silicon clusters (<i>4 pages</i>)	193402
Hiroaki Kawamura, Vijay Kumar, and Yoshiyuki Kawazoe	
Properties of LaB ₆ elucidated by density functional theory (<i>4 pages</i>)	193403
R. Monnier and B. Delley	
Monitoring surface compound formation with chemical-shift near-edge x-ray absorption fine structure (<i>4 pages</i>)	193404
A. P. Woodhead, A. Gutiérrez-Sosa, P. Martinez-Escolano, and G. Thornton	
Theory of equilibrium shape of an anisotropically strained island: Thermodynamic limits for growth of nanowires (<i>4 pages</i>)	193405
Amit Pradhan, N.-Y. Ma, and Feng Liu	
Spin-valve effect in a carbon atomic wire (<i>4 pages</i>)	193406
Yadong Wei, Yan Xu, Jian Wang, and Hong Guo	
Magnetic properties of Co nanowires on Cu(001) surfaces (<i>4 pages</i>)	193407
A. B. Klautau and S. Frota-Pessôa	
From atomic scale reactant ordering to mesoscale reaction front propagation: CO oxidation on Pd(100) (<i>4 pages</i>)	193408
Da-Jiang Liu and J. W. Evans	
Nonreciprocal optical reflection from a bidimensional array of subwavelength holes in a metallic film (<i>4 pages</i>)	193409
Michaël Sarrazin and Jean Pol Vigneron	
Dynamics of oxygen species on reduced TiO ₂ (110) rutile (<i>4 pages</i>)	193410
Yun Wang, Devina Pillay, and Gyeong S. Hwang	
Low-temperature phase diagram of condensed <i>para</i> -hydrogen in two dimensions (<i>4 pages</i>)	193411
Massimo Boninsegni	
Spin-orbit splitting of the Shockley state in the Ag/Au(111) interface (<i>4 pages</i>)	193412
H. Cercellier, Y. Fagot-Revurat, B. Kierren, F. Reinert, D. Popović, and D. Malterre	

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

High-resolution angle-resolved photoemission study of incommensurate charge-density-wave compound CeTe ₃ (<i>6 pages</i>)	195101
H. Komoda, T. Sato, S. Souma, T. Takahashi, Y. Ito, and K. Suzuki	
Self-consistent projection operator approach to nonlocal excitation spectra (<i>12 pages</i>)	195102
Y. Takehashi and P. Fulde	
Theory of optical spectral weights in Mott insulators with orbital degrees of freedom (<i>6 pages</i>)	195103
Giniyat Khaliullin, Peter Horsch, and Andrzej M. Oleś	

Frequency-dependent local interactions and low-energy effective models from electronic structure calculations (8 pages)	195104
F. Aryasetiawan, M. Imada, A. Georges, G. Kotliar, S. Biermann, and A. I. Lichtenstein	
Stability of the spiral phase in the two-dimensional extended t - J model (7 pages)	195105
Valeri N. Kotov and Oleg P. Sushkov	
Multiple-quantum-well-based photonic crystals with simple and compound elementary supercells (10 pages) ..	195106
E. L. Ivchenko, M. M. Voronov, M. V. Erementchouk, L. I. Deych, and A. A. Lisyansky	
Thermopower of single-molecule devices (12 pages)	195107
Jens Koch, Felix von Oppen, Yuval Oreg, and Eran Sela	
Analysis of photonic band gaps in two-dimensional photonic crystals with rods covered by a thin interfacial layer (8 pages)	195108
T. Trifonov, L. F. Marsal, A. Rodríguez, J. Pallarès, and R. Alcubilla	
Effect of nonadiabatic switching of dynamic perturbations in one-dimensional Fermi systems (5 pages)	195109
Carlos M. Naón, Mariano J. Salvay, and Marta L. Trobo	
Image resolution depending on slab thickness and object distance in a two-dimensional photonic-crystal-based superlens (9 pages)	195110
Xiangdong Zhang	
Running coupling constant and possible bound state in a Luttinger liquid (7 pages)	195111
Yu-Liang Liu	
Surface and bulk electronic structure of $\text{La}_{1-x}\text{Ca}_x\text{VO}_3$ (7 pages)	195112
K. Maiti, Ashwani Kumar, D. D. Sarma, E. Weschke, and G. Kaindl	
Quantum entanglement and the self-trapping transition in polaronic systems (5 pages)	195113
Yang Zhao, Paolo Zanardi, and Guanhua Chen	
XAFS Debye-Waller factors for Zn metalloproteins (12 pages)	195114
Nicholas Dimakis and Grant Bunker	
Tunneling through two resonant levels: Fixed points and conductances (6 pages)	195115
Sumathi Rao and Diptiman Sen	
Insulator-metal transition in the doped $3d^1$ transition metal oxide LaTiO_3 (4 pages)	195116
L. Craco, M. S. Laad, S. Leoni, and E. Müller-Hartmann	
Stability and electronic structure of the complex K_2PtCl_6 -structure hydrides DMH_6 ($D=\text{Mg, Ca, Sr}$; $M=\text{Fe, Ru, Os}$) (11 pages)	195117
S. V. Halilov, D. J. Singh, M. Gupta, and R. Gupta	
Electronic structure of the chainlike compound TlSe (6 pages)	195118
Ş. Ellialtıoğlu, E. Mete, R. Shaltaf, K. Allakhverdiev, F. Gashimzade, M. Nizametdinova, and G. Orudzhev	
Density-functional band-structure calculations for La-, Y-, and Sc-filled CoP_3 -based skutterudite structures (6 pages)	195119
O. M. Løvvik and Ø. Prytz	
Electron-lattice coupling, orbital stability, and the phase diagram of $\text{Ca}_{2-x}\text{Sr}_x\text{RuO}_4$ (7 pages)	195120
Satoshi Okamoto and Andrew J. Millis	

Electron density distribution in paramagnetic and antiferromagnetic NiO: A γ -ray diffraction study (8 pages)	195121
W. Jauch and M. Reehuis	
Phase diagram and magnetic collective excitations of the Hubbard model for graphene sheets and layers (12 pages)	195122
N. M. R. Peres, M. A. N. Araújo, and Daniel Bozi	
Electronic structure and thermodynamic properties of CeRhAl (8 pages)	195123
Andrzej Ślebarski, Jerzy Goraus, Alicja Hackemer, and Monika Sołtyga	
Semiconductors I: bulk	
Dielectric function of diluted magnetic semiconductors in the infrared regime (6 pages)	195201
Ramón Aguado, M. P. López-Sancho, Jairo Sinova, and L. Brey	
Finite-size scaling as a cure for supercell approximation errors in calculations of neutral native defects in InP (13 pages)	195202
C. W. M. Castleton and S. Mirbt	
Modeling of the structure and properties of oxygen vacancies in amorphous silica (15 pages)	195203
Sanghamitra Mukhopadhyay, Peter V. Sushko, A. Marshall Stoneham, and Alexander L. Shluger	
Ferromagnetism in transition-metal-doped TiO ₂ thin films (6 pages)	195204
Nguyen Hoa Hong, Joe Sakai, W. Prellier, Awatef Hassini, Antoine Ruyter, and François Gervais	
Spin-exchange kinetics of excitons in Cu ₂ O: Transverse acoustic phonon mechanism (8 pages)	195205
J. I. Jang, K. E. O'Hara, and J. P. Wolfe	
<i>Ab initio</i> characterization of magnetic CuFeS ₂ (7 pages)	195206
J. Łażewski, H. Neumann, and K. Parlinski	
Excitonic fine structure and recombination dynamics in single-crystalline ZnO (10 pages)	195207
A. Teke, Ü. Özgür, S. Doğan, X. Gu, H. Morkoç, B. Nemeth, J. Nause, and H. O. Everitt	
Effects of growth temperature on magnetism in digital ferromagnetic heterostructures (5 pages)	195208
T. C. Kreutz, W. D. Allen, G. Zanelatto, E. G. Gwinn, and A. C. Gossard	
Anomalous current transients related to defect discharge in irradiated silicon diodes (8 pages)	195209
David Menichelli, Monica Scaringella, Mara Bruzzi, Ioana Pintilie, and Eckhart Fretwurst	
Stokes shift of biexcitons in Al _x Ga _{1-x} N epitaxial layers (5 pages)	195210
Yoichi Yamada, Yusuke Ueki, Kohzo Nakamura, Tsunemasa Taguchi, Akihiko Ishibashi, Yasutoshi Kawaguchi, and Toshiya Yokogawa	
Ultrahigh-field hole cyclotron resonance absorption in In _{1-x} Mn _x As films (7 pages)	195211
Y. H. Matsuda, G. A. Khodaparast, M. A. Zudov, J. Kono, Y. Sun, F. V. Kyrychenko, G. D. Sanders, C. J. Stanton, N. Miura, S. Ikeda, Y. Hashimoto, S. Katsumoto, and H. Munekata	
Many-body effects in the electronic spectra of cubic boron nitride (13 pages)	195212
Guido Satta, Giancarlo Cappellini, Valerio Olevano, and Lucia Reining	
Triplet exciton state and related phenomena in the β -phase of poly(9,9-dioctyl)fluorene (10 pages)	195213
C. Rothe, S. M. King, F. Dias, and A. P. Monkman	

Equivalent core-hole time-dependent density functional theory calculations of carbon 1s shake-up states of phthalocyanine (6 pages)	195214
Barbara Brena, Yi Luo, Mats Nyberg, Stéphane Carniato, Katharina Nilson, Ylvi Alfredsson, John Åhlund, Nils Mårtensson, Hans Siegbahn, and Carla Puglia	
Double-exchange mechanisms for Mn-doped III-V ferromagnetic semiconductors (16 pages)	195215
P. M. Krstajić, F. M. Peeters, V. A. Ivanov, V. Fleurov, and K. Kikoin	
Modes interaction and light transport in bidimensional organic random lasers in the weak scattering limit (7 pages)	195216
M. Anni, S. Lattante, T. Stomeo, R. Cingolani, G. Gigli, G. Barbarella, and L. Favaretto	
Semiconductors II: surfaces, interfaces, microstructures, and related topics	
Spin-mechanical device for detection and control of spin current by nanomechanical torque (6 pages)	195301
P. Mohanty, G. Zolfagharkhani, S. Kettemann, and P. Fulde	
Binding of electrons, holes, and excitons in symmetric strained InP/In _{0.49} Ga _{0.51} P triple quantum-dot molecules (11 pages)	195302
M. Tadić and F. M. Peeters	
Influence of nonstimulated polariton relaxation on parametric scattering of microcavity polaritons (6 pages)	195303
D. N. Krizhanovskii, A. I. Tartakovskii, M. N. Makhonin, A. N. Dremin, and V. D. Kulakovskii	
Optical properties of epitaxially grown submonolayer CdSe/ZnSe nanostructures (10 pages)	195304
A. M. Kapitonov, T. Itoh, U. Woggon, D. Kayser, and D. Hommel	
Multipeak characteristics of field emission energy distribution from semiconductors (6 pages)	195305
R. Z. Wang, X. M. Ding, K. Xue, B. L. Zhao, H. Yan, and X. Y. Hou	
Growth kinetics of Ge islands during Ga-surfactant-mediated ultrahigh vacuum chemical vapor deposition on Si(001) (9 pages)	195306
A. Portavoce, M. Kammler, R. Hull, M. C. Reuter, M. Copel, and F. M. Ross	
Atomic structure of the interface between silicon (111) and amorphous germanium (12 pages)	195307
N. I. Borgardt, B. Plikat, W. Schröter, M. Seibt, and Th. Wagner	
Carrier relaxation in GaAs v-groove quantum wires and the effects of localization (8 pages)	195308
N. I. Cade, R. Roshan, M. Hauert, A. C. Maciel, J. F. Ryan, A. Schwarz, Th. Schäpers, and H. Lüth	
Momentum filtering effect in molecular wires (5 pages)	195309
Chao-Cheng Kaun, Hong Guo, Peter Grütter, and R. Bruce Lennox	
Density-functional theory of multicomponent quantum dots (5 pages)	195310
K. Kärkkäinen, M. Koskinen, S. M. Reimann, and M. Manninen	
Modeling of open quantum devices within the closed-system paradigm (8 pages)	195311
Remo Proietti Zaccaria, Emanuele Ciancio, Rita C. Iotti, and Fausto Rossi	
Multiscale modeling of oxygen diffusion through the oxide during silicon oxidation (14 pages)	195312
Angelo Bongiorno and Alfredo Pasquarello	
Single-quantum-dot strong coupling in a semiconductor photonic crystal nanocavity side coupled to a waveguide (5 pages)	195313
S. Hughes and H. Kamada	
Magnetic field effects on spin relaxation in heterostructures (6 pages)	195314
M. M. Glazov	

Local spin-density oscillations in coupled quantum wells (5 pages)	195315
H. Cruz, D. Luis, F. Delgado, and J. G. Muga	
Strong-coupling branching between edges of fractional quantum Hall liquids (11 pages)	195316
V. V. Ponomarenko and D. V. Averin	
Directional emission from a microdisk resonator with a linear defect (6 pages)	195317
V. M. Apalkov and M. E. Raikh	
Multisubband effect in spin dephasing in semiconductor quantum wells (4 pages)	195318
M. Q. Weng and M. W. Wu	
$su(N,N)$ algebra and constants of motion for bosonic mean-field exciton equations (11 pages)	195319
Z. S. Yang, N. H. Kwong, and R. Binder	
Dissipative dynamics of spins in quantum dots (4 pages)	195320
Harry Westfahl, Jr., Amir O. Caldeira, Gilberto Medeiros-Ribeiro, and Maya Cerro	
Excitonic effects in the photoinduced conduction intersubband transitions in undoped quantum wells (8 pages)	195321
S. M. Sadeghi and W. Li	
Temperature dependence of Dyakonov-Perel spin relaxation in zinc-blende semiconductor quantum structures (9 pages)	195322
J. Kainz, U. Rössler, and R. Winkler	
Large-signal negative dynamic conductivity and high-harmonic oscillations in a superlattice (5 pages)	195323
V. I. Litvinov and A. Manasson	
Gradual decrease of conductance of an adiabatic ballistic constriction below $2e^2/h$ (5 pages)	195324
C.-T. Liang, O. A. Tkachenko, V. A. Tkachenko, D. G. Baksheyev, M. Y. Simmons, D. A. Ritchie, and M. Pepper	
Electronic structure of nanostructured ZnO from x-ray absorption and emission spectroscopy and the local density approximation (5 pages)	195325
C. L. Dong, C. Persson, L. Vayssieres, A. Augustsson, T. Schmitt, M. Mattesini, R. Ahuja, C. L. Chang, and J.-H. Guo	
Spin and orbital effects in a 2d electron gas in a random magnetic field (9 pages)	195326
K. B. Efetov and V. R. Kogan	
Photoconductivity studies of treated CdSe quantum dot films exhibiting increased exciton ionization efficiency (12 pages)	195327
M. V. Jarosz, V. J. Porter, B. R. Fisher, M. A. Kastner, and M. G. Bawendi	
Current heating of a magnetic two-dimensional electron gas in $\text{Hg}_{1-x}\text{Mn}_x\text{Te}/\text{Hg}_{0.3}\text{Cd}_{0.7}\text{Te}$ quantum wells (4 pages)	195328
Y. S. Gui, C. R. Becker, J. Liu, M. König, V. Daumer, M. N. Kiselev, H. Buhmann, and L. W. Molenkamp	
Crossover of conductance and local density of states in a single-channel disordered quantum wire (17 pages)	195329
S. Ryu, C. Mudry, and A. Furusaki	
Raman coherence beats from the entangled state involving polarized excitons in single quantum dots (4 pages)	195330
Xiaoqin Li, Yanwen Wu, D. G. Steel, D. Gammon, and L. J. Sham	

Evidence of spontaneous spin polarization in the two-dimensional electron gas (6 pages)	195331
A. R. Goñi, P. Giudici, F. A. Reboredo, C. R. Proetto, C. Thomsen, K. Eberl, and M. Hauser	
Aharonov-Bohm phase as quantum gate in two-electron charge qubits (7 pages)	195332
A. Weichselbaum and S. E. Ulloa	
Conductance quantization in amorphous silicon switches (5 pages)	195333
A. J. M. Neves and H. S. Moreira	
Currents in a many-particle parabolic quantum dot under a strong magnetic field (11 pages)	195334
E. Anisimovas, A. Matulis, and F. M. Peeters	
Incompressible strips in dissipative Hall bars as origin of quantized Hall plateaus (12 pages)	195335
Afif Siddiki and Rolf R. Gerhardt	
Low-temperature mobility of holes in Si/SiGe <i>p</i> -channel heterostructures (10 pages)	195336
Doan Nhat Quang, Vu Ngoc Tuoc, Tran Doan Huan, and Pham Nam Phong	
Photoluminescence of <i>p</i> -doped quantum wells with strong spin splitting (17 pages)	195337
P. Kossacki, H. Boukari, M. Bertolini, D. Ferrand, J. Cibert, S. Tatarenko, J. A. Gaj, B. Deveaud, V. Ciulin, and M. Potemski	
Field-free charge polarization of mesoscopic rings (10 pages)	195338
A. Matos-Abiague and J. Berakdar	
Band edge alignment of pseudomorphic GaAs _{1-y} Sb _y on GaAs (8 pages)	195339
J.-B. Wang, S. R. Johnson, S. A. Chaparro, D. Ding, Y. Cao, Yu. G. Sadofyev, Y.-H. Zhang, J. A. Gupta, and C. Z. Guo	
Hyperfine interaction in a quantum dot: Non-Markovian electron spin dynamics (21 pages)	195340
W. A. Coish and Daniel Loss	
Device for charge- and spin-pumped current generation with temperature-induced enhancement (5 pages)	195341
Mou Yang and Shu-Shen Li	
Dynamical mean-field theory for strongly correlated inhomogeneous multilayered nanostructures (14 pages) . .	195342
J. K. Freericks	
Influences of spin accumulation on the intrinsic spin Hall effect in two-dimensional electron gases with Rashba spin-orbit coupling (7 pages)	195343
Xiaohua Ma, Liangbin Hu, Ruibao Tao, and Shun-Qing Shen	
<i>Ab initio</i> study of structural and electronic properties of planar defects in Si and SiC (12 pages)	195344
C. Raffy, J. Furthmüller, J.-M. Wagner, and F. Bechstedt	
Theory of transport through quantum-dot spin valves in the weak-coupling regime (12 pages)	195345
Matthias Braun, Jürgen König, and Jan Martinek	
Modulating unpolarized current in quantum spintronics: Visibility of spin-interference effects in multichannel Aharonov-Casher mesoscopic rings (11 pages)	195346
Satofumi Souma and Branislav K. Nikolić	
Surface physics, low-dimensional systems, and related topics	
Structural, electronic, and dynamical properties of the C(001)-(2×1) surface (12 pages)	195401
H. M. Tütüncü, S. Bağcı, and G. P. Srivastava	
Real-space finite-difference method for conductance calculations (13 pages)	195402
Petr A. Khomyakov and Geert Brocks	

Unequal-sphere packing model for the structural arrangement of the well-ordered adsorbate-substrate system (8 pages)	195403
Alexandre Tkatchenko and Nikola Batina	
Experimental and theoretical characterization of the structure of defects at the pyrite FeS ₂ (100) surface (5 pages)	195404
K. Andersson, M. Nyberg, H. Ogasawara, D. Nordlund, T. Kendelewicz, C. S. Doyle, G. E. Brown, Jr., L. G. M. Pettersson, and A. Nilsson	
Direct observation of oscillatory behavior in the surface magnetization of Fe thin films grown on a Ni/Cu(100) film (6 pages)	195405
Kenta Amemiya, Daiju Matsumura, Hitoshi Abe, Soichiro Kitagawa, Toshiaki Ohta, and Toshihiko Yokoyama	
Percolation threshold in ultrathin titanium films determined by <i>in situ</i> spectroscopic ellipsometry (6 pages) . . .	195406
T. W. H. Oates, D. R. McKenzie, and M. M. M. Bilek	
Longitudinal Kerr effect in ultrathin Fe films on Pd(100) (7 pages)	195407
A. Vernes, I. Reichl, P. Weinberger, L. Szunyogh, and C. Sommers	
Observation of Fano resonances in single-wall carbon nanotubes (7 pages)	195408
B. Babić and C. Schönenberger	
Influence of self-affine roughness on the friction coefficient of rubber at high sliding velocity (6 pages)	195409
G. Palasantzas	
Radiative lifetime of excitons in ZnO nanocrystals: The dead-layer effect (5 pages)	195410
Vladimir A. Fonoberov and Alexander A. Balandin	
Persistent currents in helical structures (4 pages)	195411
M. Iskin and I. O. Kulik	
Dispersive force between dissimilar materials: Geometrical effects (8 pages)	195412
Cecilia Noguez and C. E. Román-Velázquez	
Nonicosahedral growth and magnetic behavior of rhodium clusters (7 pages)	195413
Young-Cho Bae, Hiroki Osanai, Vijay Kumar, and Yoshiyuki Kawazoe	
High-pressure effect in ionically conducting nanostructured silicates (5 pages)	195414
B. Ghosh, S. Banerjee, A. Ghosh, and D. Chakravorty	
Nonlinear friction of a damped dimer sliding on a periodic substrate (5 pages)	195415
S. Gonçalves, V. M. Kenkre, and A. R. Bishop	
Surface melting and surface disordering in binary alloy thin films (9 pages)	195416
L. Wojtczak, I. Zasada, A. Sukiennicki, and F. L. Castillo Alvarado	
Step-by-step cooling of a two-dimensional Na gas on the Si(111)-(7×7) surface (4 pages)	195417
K. H. Wu, A. I. Oreshkin, Y. Takamura, Y. Fujikawa, T. Nagao, T. Briere, V. Kumar, Y. Kawazoe, R. F. Dou, J. F. Jia, Q. K. Xue, and T. Sakurai	
Interactions of fast ions with carbon nanotubes: Two-fluid model (7 pages)	195418
D. J. Mowbray, Z. L. Mišković, F. O. Goodman, and You-Nian Wang	
Elastic moduli of nanostructured carbon films (4 pages)	195419
D. Donadio, L. Colombo, and G. Benedek	
Magnetism and structure of atomic-size nanocontacts (4 pages)	195420
V. S. Stepanyuk, A. L. Klavsyuk, W. Hergert, A. M. Saletsky, P. Bruno, and I. Mertig	

CONTENTS - Continued

PHYSICAL REVIEW B

THIRD SERIES, VOLUME 70, NUMBER 19

NOVEMBER 2004-15(I)

Self-assembled growth of CeO ₂ nanostructures on sapphire (11 pages)	195421
J. C. Nie, H. Yamasaki, and Y. Mawatari	
Dynamics of monolayer xenon adsorbed on Pt(111) (6 pages)	195422
R. D. Boutchko and L. W. Bruch	
Laser-induced heating and melting of gold nanoparticles studied by time-resolved x-ray scattering (7 pages)	195423
A. Plech, V. Kotaidis, S. Grésillon, C. Dahmen, and G. von Plessen	
Temperature dependence in nanoindentation of a metal substrate by a diamondlike tip (9 pages)	195424
Jin-Yuan Hsieh, Shin-Pon Ju, Shyh-Hong Li, and Chi-Chuan Hwang	
Electronic properties calculation of MgO thin films adsorbed on semi-infinite Ag(001) (8 pages)	195425
G. Butti, M. I. Trioni, and H. Ishida	
Diffusion of Fe atoms on W surfaces and Fe/W films and along surface steps (13 pages)	195426
D. Spišák and J. Hafner	
Energetics of MCs _n ⁺ molecular ions emitted from Cs ⁺ irradiated surfaces (5 pages)	195427
Subhendu Sarkar, Purushottam Chakraborty, and Hubert Gnaser	
Enhanced transmission versus localization of a light pulse by a subwavelength metal slit (9 pages)	195428
S. V. Kukhlevsky, M. Mechler, L. Csapó, K. Janssens, and O. Samek	
Multiscale modeling of surface sputtering in a scanning transmission electron microscope (8 pages)	195429
W. S. Lai, A. V. Barashev, and D. J. Bacon	
Electronic stabilization of a 5 × 4 dopant superlattice on Si(111)5 × 2-Au (7 pages)	195430
J. L. McChesney, J. N. Crain, V. Pérez-Dieste, Fan Zheng, M. C. Gallagher, M. Bissen, C. Gundelach, and F. J. Himpsel	
Structures of Al ₁₉ cluster: A full-potential LMTO molecular-dynamics study (5 pages)	195431
Chang-hong Yao, Bin Song, and Pei-lin Cao	
Determination of model-free Kramers-Kronig consistent optical constants of thin absorbing films from just one spectral measurement: Application to organic semiconductors (14 pages)	195432
Robert Nitsche and Torsten Fritz	
Mesoscopic dots as collective terahertz oscillators (13 pages)	195433
C. Metzner and D. Stehr	
Atomistic modeling and thermodynamic interpretation of the bridging phenomenon observed in the Co-Au system (5 pages)	195434
H. B. Guo, J. H. Li, and B. X. Liu	

ERRATA

Publisher's Note: Role of lattice registry in the full collapse and twist formation of carbon nanotubes [Phys. Rev. B 70 , 161402(R) (2004)] (1 page)	199901(E)
Bin Liu, Min-Feng Yu, and Yonggang Huang	
Publisher's Note: Electronic structure and bonding in calcium apatite crystals: Hydroxyapatite, fluorapatite, chlorapatite, and bromapatite [Phys. Rev. B 70 , 155104 (2004)] (1 page)	199902(E)
Paul Rulis, Lizhi Ouyang, and W. Y. Ching	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW B

THIRD SERIES, VOLUME 70, NUMBER 19

NOVEMBER 2004-15(I)

Publisher's Note: He atoms in carbon nanotubes and nanotube bundles [Phys. Rev. B 70 , 155412 (2004)]	
(1 page)	199903(E)
M. Aichinger, S. Kilić, E. Krotscheck, and L. Vranješ	
Publisher's Note: Comment on "Conduction states in oxide perovskites: Three manifestations of Ti^{3+}	
Jahn-Teller polarons in barium titanate" [Phys. Rev. B 70 , 157101 (2004)] (1 page)	199904(E)
S. A. Prosandeev, I. P. Raevski, and M. A. Bunin	
Cumulative Author Index	i