

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 12

CONTENTS

MARCH 2005-15(II)

RAPID COMMUNICATIONS

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

- Renormalization-group approach to spectral properties of the two-channel Anderson impurity model
(4 pages) 121101(R)
Frithjof B. Anders
- Spontaneous interlayer coherence in bilayer Kondo systems (4 pages) 121102(R)
T. Senthil and Matthias Vojta
- Isotropic three-dimensional left-handed metamaterials (4 pages) 121103(R)
Th. Koschny, L. Zhang, and C. M. Soukoulis
- Anisotropy and thermopower in Ti_3SiC_2 (3 pages) 121104(R)
Laurent Chaput, Gilles Hug, Pierre Pécheur, and Hubert Scherrer
- Optimized nonorthogonal localized orbitals for linear scaling quantum Monte Carlo calculations (4 pages) . . . 121105(R)
Fernando A. Reboredo and Andrew J. Williamson
- Time-dependent density-functional theory for the stopping power of an interacting electron gas for slow ions
(4 pages) 121106(R)
V. U. Nazarov, J. M. Pitarke, C. S. Kim, and Y. Takada

Semiconductors I: bulk

- Photoluminescence dynamics of GaN under intense band-to-band and exciton resonant excitation (4 pages) . . 121201(R)
Takehiko Nagai, Aishi Yamamoto, and Yoshihiko Kanemitsu
- Direct observation of a neutral Mn acceptor in $\text{Ga}_{1-x}\text{Mn}_x\text{As}$ by resonant x-ray emission spectroscopy
(4 pages) 121202(R)
Y. Ishiwata, T. Takeuchi, R. Eguchi, M. Watanabe, Y. Harada, K. Kanai, A. Chainani, M. Taguchi,
S. Shin, M. C. Debnath, I. Souma, Y. Oka, T. Hayashi, Y. Hashimoto, S. Katsumoto, and Y. Iye
- Diffusion of small self-interstitial clusters in silicon: Temperature-accelerated tight-binding molecular
dynamics simulations (4 pages) 121203(R)
M. Cogoni, B. P. Uberuaga, A. F. Voter, and L. Colombo

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

- Spin injection and relaxation in ferromagnet-semiconductor heterostructures (4 pages) 121301(R)
C. Adelmann, X. Lou, J. Strand, C. J. Palmstrøm, and P. A. Crowell



Copyright 2005 by The American Physical Society

(Continued)



1098-0121(20050315)71:12;1-4

In-plane uniaxial anisotropy rotations in (Ga,Mn)As thin films (4 pages)	121302(R)
M. Sawicki, K.-Y. Wang, K. W. Edmonds, R. P. Campion, C. R. Staddon, N. R. S. Farley, C. T. Foxon, E. Papis, E. Kamińska, A. Piotrowska, T. Dietl, and B. L. Gallagher	
Edge excitations and topological order in a rotating Bose gas (4 pages)	121303(R)
M. A. Cazalilla, N. Barberán, and N. R. Cooper	
Observation of spatially inhomogeneous electronic structure of Si(100) using scanning tunneling spectroscopy (4 pages)	121304(R)
K. Nagaoka, M. J. Comstock, A. Hammack, and M. F. Crommie	
Indirect coupling between spins in semiconductor quantum dots (4 pages)	121305(R)
G. Ramon, Y. Lyanda-Geller, T. L. Reinecke, and L. J. Sham	
Interchain coupling of degenerated quasi-one-dimensional indium chains on Si(111) (4 pages)	121306(R)
Saki Kurata and Takashi Yokoyama	
Dynamic Hall resistivity of electronic systems in the presence of Rashba coupling at zero field (4 pages)	121307(R)
Chao Zhang and Zhongshui Ma	
Spin Hall conductivity of a disordered two-dimensional electron gas with Dresselhaus spin-orbit interaction (4 pages)	121308(R)
A. G. Mal'shukov and K. A. Chao	
Kondo temperature for a quantum dot in an Aharonov-Bohm ring (4 pages)	121309(R)
C. H. Lewenkopf and H. A. Weidenmüller	
Rashba control for the spin excitation of a fully spin-polarized vertical quantum dot (4 pages)	121310(R)
P. Lucignano, B. Jouault, A. Tagliacozzo, and B. L. Altshuler	
Transverse momentum nonconservation at the ErAs/GaAs interface (4 pages)	121311(R)
K. J. Russell, Ian Appelbaum, V. Narayanamurti, M. P. Hanson, and A. C. Gossard	
Surface physics, nanoscale physics, low-dimensional systems	
Nonadiabatic effects in atom-surface charge transfer (4 pages)	121401(R)
A. R. Canário, A. G. Borisov, J. P. Gauyacq, and V. A. Esaulov	
Rocking-motion-induced charging of C ₆₀ on <i>h</i> -BN/Ni(111) (4 pages)	121402(R)
M. Muntwiler, W. Auwärter, A. P. Seitsonen, J. Osterwalder, and T. Greber	
Dynamic force microscopy study of 3,4,9,10-perylenetetracarboxylic dianhydride on KBr(001) (4 pages)	121403(R)
T. Kunstmann, A. Schlarb, M. Fendrich, Th. Wagner, R. Möller, and R. Hoffmann	
Formation of a rectifier with gold nanoclusters: X-ray reflectivity and atomic force microscopy measurements (4 pages)	121404(R)
S. Pal, M. K. Sanyal, Neena S. John, and G. U. Kulkarni	
Zero <i>m</i> phonons in MoS ₂ nanotubes (4 pages)	121405(R)
Edib Dobardžić, Borivoje Dakić, Milan Damjanović, and Ivanka Milošević	
<i>In situ</i> photoemission study on SrRuO ₃ /SrTiO ₃ films grown by pulsed laser deposition (4 pages)	121406(R)
Jungho Kim, Jaegwan Chung, and S.-J. Oh	

ARTICLES

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

X-ray singularities in the f -electron spectral function of the Falicov-Kimball model (8 pages)	125101
Frithjof B. Anders and G. Czycholl	
Origin of artificial electrodynamics in three-dimensional bosonic models (23 pages)	125102
O. I. Motrunich and T. Senthil	
Observing the spin Coulomb drag in spin-valve devices (5 pages)	125103
G. Vignale	
Metal-insulator transition in a disordered and correlated $\text{SrTi}_{1-x}\text{Ru}_x\text{O}_3$ system: Changes in transport properties, optical spectra, and electronic structure (11 pages)	125104
K. W. Kim, J. S. Lee, T. W. Noh, S. R. Lee, and K. Char	
Applicability of the ladder theory to the three-dimensional homogeneous electron gas (5 pages)	125105
Jerzy Cioslowski and Paul Ziesche	
Coupling of electromagnetic waves and superlattice vibrations in a piezomagnetic superlattice: Creation of a polariton through the piezomagnetic effect (5 pages)	125106
H. Liu, S. N. Zhu, Z. G. Dong, Y. Y. Zhu, Y. F. Chen, N. B. Ming, and X. Zhang	
Nonlinear optical susceptibilities, Raman efficiencies, and electro-optic tensors from first-principles density functional perturbation theory (14 pages)	125107
M. Veithen, X. Gonze, and Ph. Ghosez	
Effective vortex mass from microscopic theory (5 pages)	125108
Jung Hoon Han, June Seo Kim, Min Jae Kim, and Ping Ao	
Electron energy loss spectroscopy of core-electron excitation in anisotropic systems: Magic angle, magic orientation, and dichroism (10 pages)	125109
Y. Sun and J. Yuan	
Dimerized phase of ionic Hubbard models (9 pages)	125110
A. A. Aligia and C. D. Batista	
Quantum melting of charge order due to frustration in two-dimensional quarter-filled systems (5 pages)	125111
Jaime Merino, Hitoshi Seo, and Masao Ogata	
Spectrum of an open disordered quasi-two-dimensional electron system: The mode reduction effect of a classically weak in-plane magnetic field (11 pages)	125112
Yu. V. Tarasov	
Interacting fermions and bosons with definite total momentum (5 pages)	125113
Ofir E. Alon, Alexej I. Streltsov, and Lorenz S. Cederbaum	
Diffuse emission in the presence of an inhomogeneous spin-orbit interaction for the purpose of spin filtration (11 pages)	125114
A. Shekhter, M. Khodas, and A. M. Finkel'stein	
Diagrammatic multiresolution analysis for electron correlations (18 pages)	125115
Heinz-Jürgen Flad, Wolfgang Hackbusch, Hongjun Luo, and Dietmar Kolb	
Localization of Wannier functions for entangled energy bands (8 pages)	125116
U. Birkenheuer and D. Izotov	

Temperature-dependent x-ray absorption spectroscopy of colossal magnetoresistive perovskites (5 pages)	125117
N. Mannella, A. Rosenhahn, M. Watanabe, B. Sell, A. Nambu, S. Ritchey, E. Arenholz, A. Young, Y. Tomioka, and C. S. Fadley	
Charge-density response function of two-dimensional electron systems in a magnetic field (17 pages)	125118
Kanao Yoshizawa and Kazuo Takayanagi	
Full orbital calculation scheme for materials with strongly correlated electrons (16 pages)	125119
V. I. Anisimov, D. E. Kondakov, A. V. Kozhevnikov, I. A. Nekrasov, Z. V. Pchelkina, J. W. Allen, S.-K. Mo, H.-D. Kim, P. Metcalf, S. Suga, A. Sekiyama, G. Keller, I. Leonov, X. Ren, and D. Vollhardt	
Thermopower across the insulator-metal divide in $\text{NiCr}_{2-x}\text{V}_x\text{S}_4$ ($0 \leq x \leq 2$) (6 pages)	125120
Anthony V. Powell, Paz Vaquero, and Tsukio Ohtani	
Quantum many-body systems with nearest and next-to-nearest neighbor long-range interactions (8 pages)	125121
Meripeni Ezung, N. Gurappa, Avinash Khare, and Prasanta K. Panigrahi	
Physical origin of the ultrafast response of nonlinear photonic crystal atoms to the excitation of ultrashort pulses (6 pages)	125122
Sheng Lan, Xiong-Wen Chen, Jing-Dong Chen, and Xu-Sheng Lin	
Anomalous power dependence of sensitized upconversion luminescence (9 pages)	125123
J. F. Suyver, A. Aebischer, S. García-Revilla, P. Gerner, and H. U. Güdel	
Magnetic oscillations in planar systems with the Dirac-like spectrum of quasiparticle excitations. II. Transport properties (8 pages)	125124
V. P. Gusynin and S. G. Sharapov	
Compton scattering study of the silicon clathrate $\text{Ba}_8\text{Si}_{46}$: Experiment and theory (4 pages)	125125
M. Itou, Y. Sakurai, M. Usuda, C. Cros, H. Fukuoka, and S. Yamanaka	
High-resolution measurements of the vacuum ultraviolet energy levels of trivalent gadolinium by excited state excitation (10 pages)	125126
P. S. Peijzel, P. Vermeulen, W. J. M. Schrama, A. Meijerink, M. F. Reid, and G. W. Burdick	
Transport properties in $\text{CeOs}_4\text{Sb}_{12}$: Possibility of the ground state being semiconducting (6 pages)	125127
H. Sugawara, S. Osaki, M. Kobayashi, T. Namiki, S. R. Saha, Y. Aoki, and H. Sato	
Polarons generated by laser pulses in doped LiNbO_3 (10 pages)	125128
P. Herth, D. Schaniel, Th. Woike, T. Granzow, M. Imlau, and E. Krätzig	
Structure-derived electronic and optical properties of transparent conducting oxides (11 pages)	125129
David Segev and Su-Huai Wei	
Effects of nanoscale spatial inhomogeneity in strongly correlated systems (5 pages)	125130
M. F. Silva, N. A. Lima, A. L. Malvezzi, and K. Capelle	
Surface resonant modes in colloidal photonic crystals (7 pages)	125131
A. Mihi, H. Míguez, I. Rodríguez, S. Rubio, and F. Meseguer	
<i>Ab initio</i> investigations of optical properties of the high-pressure phases of ZnO (5 pages)	125132
Jian Sun, Hui-Tian Wang, Julong He, and Yongjun Tian	
Statistics of delay times in mesoscopic systems as a manifestation of eigenfunction fluctuations (10 pages) . . .	125133
Alexander Ossipov and Yan V. Fyodorov	
<i>Ab initio</i> linear response and frozen phonons for the relaxor $\text{PbMg}_{1/3}\text{Nb}_{2/3}\text{O}_3$ (16 pages)	125134
Narayani Choudhury, Zhigang Wu, E. J. Walter, and R. E. Cohen	

Semiconductors I: bulk

- Interchain effects in the ultrafast photophysics of a semiconducting polymer: THz time-domain spectroscopy of thin films and isolated chains in solution (10 pages) 125201
E. Hendry, M. Koeberg, J. M. Schins, H. K. Nienhuys, V. Sundström, L. D. A. Siebbeles, and M. Bonn
- Positively charged carbon vacancy in three inequivalent lattice sites of 6H-SiC: Combined EPR and density functional theory study (22 pages) 125202
V. Ya. Bratus', T. T. Petrenko, S. M. Okulov, and T. L. Petrenko
- Magnetic susceptibility of diluted magnetic semiconductors at low carrier densities (11 pages) 125203
Adel Kassaian and Mona Berciu
- Conductivity, weak ferromagnetism, and charge instability in an α -MnS single crystal (8 pages) 125204
S. S. Aplesnin, L. I. Ryabinkina, G. M. Abramova, O. B. Romanova, A. M. Vorotynov, D. A. Velikanov, N. I. Kiselev, and A. D. Balaev
- Langevin recombination and space-charge-perturbed current transients in regiorandom poly(3-hexylthiophene) (5 pages) 125205
A. Pivrikas, G. Juška, R. Österbacka, M. Westerling, M. Viliūnas, K. Arlauskas, and H. Stubb
- Crystal symmetry and pressure effects on the valence band structure of γ -InSe and ε -GaSe: Transport measurements and electronic structure calculations (11 pages) 125206
D. Errandonea, A. Segura, F. J. Manjón, A. Chevy, E. Machado, G. Tobias, P. Ordejón, and E. Canadell
- Self-vacancies in gallium arsenide: An *ab initio* calculation (12 pages) 125207
Fedwa El-Mellouhi and Normand Mousseau
- Analysis of the steady-state photocarrier grating method for the determination of the density of states in semiconductors (13 pages) 125208
J. A. Schmidt and C. Longeaud
- Properties of Ga-interstitial defects in $\text{Al}_x\text{Ga}_{1-x}\text{N}_y\text{P}_{1-y}$ (9 pages) 125209
N. Q. Thinh, I. P. Vorona, I. A. Buyanova, W. M. Chen, Sukit Limpijumnong, S. B. Zhang, Y. G. Hong, H. P. Xin, C. W. Tu, A. Utsumi, Y. Furukawa, S. Moon, A. Wakahara, and H. Yonezu
- Optical detection of electron paramagnetic resonance in room-temperature electron-irradiated ZnO (6 pages) .. 125210
L. S. Vlasenko and G. D. Watkins
- Density-functional tight-binding calculations of electronic states associated with grain boundaries in GaN (5 pages) 125211
A. Béré, P. Ruterana, G. Nouet, A. T. Blumenau, S. Sanna, T. Frauenheim, J. Chen, and J. Koulidiati
- Enhanced triplet exciton generation in polyfluorene blends (7 pages) 125212
T. A. Ford, I. Avilov, D. Beljonne, and N. C. Greenham
- Characterization of deep defects responsible for the quenching behavior in undoped GaN layers (5 pages) . . . 125213
H. Witte, E. Schrenk, K. Flügge, A. Krost, J. Christen, B. Kuhn, and F. Scholz

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

- Beating of oscillations in transport coefficients of a one-dimensionally periodically modulated two-dimensional electron gas in the presence of spin-orbit interaction (8 pages) 125301
X. F. Wang, P. Vasilopoulos, and F. M. Peeters

Validity of semiclassical treatment of optical response in cavity systems (5 pages)	125302
Hiroshi Ajiki	
Kinetic roughening of charge spreading in a two-dimensional silicon nanocrystal network detected by electrostatic force microscopy (7 pages)	125303
R. Dianoux, H. J. H. Smilde, F. Marchi, N. Buffet, P. Mur, F. Comin, and J. Chevrier	
Mesoscopic phonon transmission through a nanowire-bulk contact (8 pages)	125304
Chun-Min Chang and Michael R. Geller	
Deformation potentials of the semimetal HgTe (7 pages)	125305
V. Latussek, C. R. Becker, G. Landwehr, R. Bini, and L. Ulivi	
Defective transport properties of three-terminal carbon nanotube junctions (8 pages)	125306
Miriam del Valle, Carlos Tejedor, and Gianaurelio Cuniberti	
Level-oscillation-induced pump effect in a quantum dot with asymmetric constrictions (4 pages)	125307
Mou Yang and Shu-Shen Li	
Enhanced conductance of chlorine-terminated Si(111) surfaces: Formation of a two-dimensional hole gas via chemical modification (4 pages)	125308
G. P. Lopinski, B. J. Eves, O. Hul'ko, C. Mark, S. N. Patitsas, R. Boukherroub, and T. R. Ward	
Nearest-neighbor distributions in $\text{Ga}_{1-x}\text{In}_x\text{N}_y\text{As}_{1-y}$ and $\text{Ga}_{1-x}\text{In}_x\text{N}_y\text{As}_{1-y-z}\text{Sb}_z$ thin films upon annealing (8 pages)	125309
Vincenzo Lordi, Homan B. Yuen, Seth R. Bank, Mark A. Wistey, James S. Harris, and Stephan Friedrich	
Effects of large disorder on the Hofstadter butterfly (13 pages)	125310
Chenggang Zhou, Mona Berciu, and R. N. Bhatt	
Quantum Hall criticality, superconductor-insulator transition, and quantum percolation (4 pages)	125311
Yonatan Dubi, Yigal Meir, and Yshai Avishai	
Aharonov-Bohm oscillations in a quantum ring: Eccentricity and electric-field effects (7 pages)	125312
A. Bruno-Alfonso and A. Latgé	
Wave function collapse in a mesoscopic device (7 pages)	125313
G. B. Lesovik, A. V. Lebedev, and G. Blatter	
Broken symmetry, excitons, gapless modes, and topological excitations in trilayer quantum Hall systems (9 pages)	125314
Jinwu Ye	
Onset of coherent photoluminescence in semiconductor microcavities (10 pages)	125315
Vincenzo Savona, Paolo Schwendimann, and Antonio Quattropani	
Low-temperature tunneling spectroscopy of $\text{Ge}(111)c(2 \times 8)$ surfaces (16 pages)	125316
R. M. Feenstra, S. Gaan, G. Meyer, and K. H. Rieder	
Coherent resonant tunneling time and velocity in finite periodic systems (11 pages)	125317
C. Pacher, W. Boxleitner, and E. Gornik	
Ground-state structure in $\nu=2$ bilayer quantum Hall systems (15 pages)	125318
Z. F. Ezawa, M. Eliashvili, and G. Tsitsishvili	
Comparison of the optical response of hydrogen-passivated germanium and silicon clusters (8 pages)	125319
Argyrios Tsolakidis and Richard M. Martin	

Dynamic and kinetic aspects of the adsorption of acrylonitrile on Si(001)- 2×1 (9 pages)	125320
S. Rangan, S. Kubsky, J.-J. Gallet, F. Bournel, K. Le Guen, G. Dufour, F. Rochet, R. Funke, M. Knepe, G. Piaszenski, U. Köhler, and F. Sirotti	
Voltage control of the magnetic properties of charged semiconductor quantum dots containing magnetic ions (5 pages)	125321
J. I. Climente, M. Korkusiński, P. Hawrylak, and J. Planelles	
Partial self-ordering observed in silicon nanoclusters deposited on silicon oxide substrates by chemical vapor deposition (8 pages)	125322
R. A. Puglisi, G. Nicotra, S. Lombardo, C. Spinella, G. Ammendola, and C. Gerardi	
Nonlinear screening and stopping power in two-dimensional electron gases (13 pages)	125323
E. Zaremba, I. Nagy, and P. M. Echenique	
Off-resonance transport through a quantum dot weakly coupled to Luttinger liquids at finite applied bias voltages (6 pages)	125324
P. Durganandini	
Controlling the spin polarization of the electron current in a semimagnetic resonant-tunneling diode (8 pages)	125325
N. N. Beletskii, G. P. Berman, and S. A. Borysenko	
Real-time observation of charged exciton drift in modulation-doped (Cd,Mn)Te quantum well (5 pages)	125326
Fumiyoshi Takano, Takashi Tokizaki, Hiro Akinaga, Shinji Kuroda, and Kôki Takita	
Polarons in semiconductor quantum dots and their role in the quantum kinetics of carrier relaxation (6 pages)	125327
J. Seebeck, T. R. Nielsen, P. Gartner, and F. Jahnke	
Electronic structure around an As antisite near the (110) surface of GaAs (9 pages)	125328
Yusuke Iguchi, Takeo Fujiwara, Akira Hida, and Koji Maeda	
High-energy ion-beam-induced phase separation in SiO _x films (7 pages)	125329
W. M. Arnoldbik, N. Tomozeiu, E. D. van Hattum, R. W. Lof, A. M. Vredenberg, and F. H. P. M. Habraken	
Dissociative adsorption of vinyl bromide on Si(001): A first-principles study (5 pages)	125330
Jun-Hyung Cho and Leonard Kleinman	
Double-slit versus single-slit behavior in the intersubband absorption of semiconductor heterostructures (14 pages)	125331
W. Pötz	
Coherent rotations of a single spin-based qubit in a single quantum dot at fixed Zeeman energy (5 pages) . . .	125332
Jordan Kyriakidis and Stephen J. Penney	
Quantum nondemolition measurement of a kicked qubit (7 pages)	125333
Andrew N. Jordan and Markus Büttiker	
Low-temperature diffusion thermopower in GaN/AlGaIn heterojunctions: Effect of dislocations (7 pages)	125334
M. D. Kamatagi, N. S. Sankeshwar, and B. G. Mulimani	
Fine structure in the excitonic emission of InAs/GaAs quantum dot molecules (30 pages)	125335
G. Ortner, I. Yugova, G. Baldassarri Höger von Högersthal, A. Larionov, H. Kurtze, D. R. Yakovlev, M. Bayer, S. Fafard, Z. Wasilewski, P. Hawrylak, Y. B. Lyanda-Geller, T. L. Reinecke, A. Babinski, M. Potemski, V. B. Timofeev, and A. Forchel	

Ordered 1,6-bis(2-hydroxyphenyl) pyridine boron complex films grown on Ag(110): From submonolayer to multilayer (8 pages)	125336
D. Y. Zhong, F. Lin, L. F. Chi, Y. Wang, and H. Fuchs	
Electronic structure and reflectance anisotropy spectrum of InAs(110) (6 pages)	125337
X. López-Lozano, O. Pulci, C. Noguez, K. Fleischer, R. Del Sole, and W. Richter	
Resonant and coherent transport through Aharonov-Bohm interferometers with coupled quantum dots (12 pages)	125338
V. Moldoveanu, M. Țolea, A. Aldea, and B. Tanatar	
Exciton wave function properties probed by diamagnetic shift in disordered quantum wells (8 pages)	125339
M. Grochol, F. Grosse, and R. Zimmermann	
Infrared survey of the carrier dynamics in III-V digital ferromagnetic heterostructures (7 pages)	125340
K. S. Burch, E. J. Singley, J. Stephens, R. K. Kawakami, D. D. Awschalom, and D. N. Basov	
Spin-current-induced charge current (7 pages)	125341
Soon-wook Jung and Hyun-Woo Lee	
Intersublevel magnetoabsorption in the valence band of <i>p</i> -type InAs/GaAs and Ge/Si self-assembled quantum dots (15 pages)	125342
M. Tadić and F. M. Peeters	
Surface physics, nanoscale physics, low-dimensional systems	
Spin injection, accumulation, and precession in a mesoscopic nonmagnetic metal island (12 pages)	125401
M. Zaffalon and B. J. van Wees	
Raman-active modes in finite and infinite double-walled carbon nanotubes (7 pages)	125402
A. Rahmani, J.-L. Sauvajol, J. Cambedouzou, and C. Benoit	
Rb deposition on TiSe ₂ and TiTe ₂ at 100 K and at room temperature studied by photoelectron spectroscopy (11 pages)	125403
S. E. Stoltz, H. I. Starnberg, and L. J. Holleboom	
Pressure screening in the interior of primary shells in double-wall carbon nanotubes (5 pages)	125404
J. Arvanitidis, D. Christofilos, K. Papagelis, K. S. Andrikopoulos, T. Takenobu, Y. Iwasa, H. Kataura, S. Ves, and G. A. Kourouklis	
First-principles calculation of prevailing faces of α -PbO ₂ -type TiO ₂ (7 pages)	125405
Ming-Yu Kuo, Cheng-lung Chen, Hsiao-Ching Yang, Chih-Yu Hua, and Pouyan Shen	
Direct observation of electronic correlation in C ₆₀ by double photoemission (6 pages)	125406
F. U. Hillebrecht, A. Morozov, and J. Kirschner	
Influence of collision cascade statistics on pattern formation of ion-sputtered surfaces (14 pages)	125407
M. Feix, A. K. Hartmann, R. Kree, J. Muñoz-García, and R. Cuerno	
Intershell resistance in multiwall carbon nanotubes: A Coulomb drag study (17 pages)	125408
Anders Mathias Lunde, Karsten Flensberg, and Antti-Pekka Jauho	
Search for a local effect in multiatom resonant core excitation in a surface species: Photoemission and photon-stimulated desorption from N ₂ on Ni(111) (8 pages)	125409
P. Feulner, M. Ecker, P. Jakob, R. Romberg, R. Weimar, D. Menzel, A. Föhlisch, W. Wurth, S.-H. Yang, C. S. Fadley, R. Larciprete, S. Lizzit, K. L. Kostov, and G. Tyuliev	

Detailed structural analysis of epitaxial MBE-grown Fe/Cr superlattices by x-ray diffraction and transmission-electron spectroscopy (7 pages)	125410
M. E. Gómez, J. Santamaria, S. Kim, Kannan M. Krishnan, and Ivan K. Schuller	
Size and structure effect on optical transitions of iron oxide nanocrystals (9 pages)	125411
Y. P. He, Y. M. Miao, C. R. Li, S. Q. Wang, L. Cao, S. S. Xie, G. Z. Yang, B. S. Zou, and C. Burda	
Relationship between strain and the surface electronic structure of Cu(111) films on Ru(0001): Theory and experiment (7 pages)	125412
F. Calleja, V. M. García-Suárez, J. J. Hinarejos, J. Ferrer, A. L. Vázquez de Parga, and R. Miranda	
Electron-stimulated oxidation of beryllium by water vapor and by oxygen (7 pages)	125413
S. Zalkind, M. Polak, and N. Shamir	
Correlation between bonding structure and microstructure in fullerenelike carbon nitride thin films (6 pages) ..	125414
R. Gago, I. Jiménez, J. Neidhardt, B. Abendroth, I. Caretti, L. Hultman, and W. Möller	
Limitations of the thermodynamic Gibbs-Thompson analysis of nanoisland decay (9 pages)	125415
Z. Kuntová, Z. Chvoj, V. Šíma, and M. C. Tringides	
Enhancing higher harmonics of a tapping cantilever by excitation at a submultiple of its resonance frequency (6 pages)	125416
M. Balantekin and A. Atalar	
Hidden one dimensionality in Fermi surfaces of η -Mo ₄ O ₁₁ observed by Compton scattering experiments (5 pages)	125417
N. Hiraoka, T. Buslaps, V. Honkimäki, H. Guyot, and C. Schlenker	
Chemical characterization of a zirconia-supported Pt cluster (8 pages)	125418
Andreas Eichler	
Spectroscopic characterization of single-walled carbon nanotubes carrier-doped by encapsulation of TCNQ (7 pages)	125419
Masashi Shiraishi, Sufal Swaraj, Taishi Takenobu, Yoshihiro Iwasa, Masafumi Ata, and Wolfgang E. S. Unger	
Competing processes during the production of metal nanoparticles by pulsed laser deposition (8 pages)	125420
J. Gonzalo, A. Perea, D. Babonneau, C. N. Afonso, N. Beer, J.-P. Barnes, A. K. Petford-Long, D. E. Hole, and P. D. Townsend	
Physical mechanism for the mechanical reinforcement in nanotube-polymer composite materials (5 pages) . . .	125421
A. Wall, J. N. Coleman, and M. S. Ferreira	
Tunable optical properties of icosahedral, dodecahedral, and tetrahedral clusters (5 pages)	125422
Rui-Hua Xie, Garnett W. Bryant, Jijun Zhao, Tapas Kar, and Vedene H. Smith, Jr.	
Dependence of stacking-fault nucleation on cluster mobility (8 pages)	125423
Celia Polop, Andreas Lammerschop, Carsten Busse, and Thomas Michely	
Accuracy and resolution limits of Kelvin probe force microscopy (9 pages)	125424
Ulrich Zerweck, Christian Loppacher, Tobias Otto, Stefan Grafström, and Lukas M. Eng	
Tunneling spectroscopy of disordered multiwalled carbon nanotubes (5 pages)	125425
R. Tarkiainen, M. Ahlskog, M. Paalanen, A. Zyuzin, and P. Hakonen	
Prediction of intercluster separation and Schottky-type heat-capacity contribution in surface-segregated binary and ternary alloy nanocluster systems (5 pages)	125426
Micha Polak and Leonid Rubinovich	

Exciton dynamics in single-walled nanotubes: Transient photoinduced dichroism and polarized emission (11 pages)	125427
C.-X. Sheng, Z. V. Vardeny, A. B. Dalton, and R. H. Baughman	
Self-assembly and dynamics of oxide nanorods on NiAl(110) (11 pages)	125428
J. P. Pierce and K. F. McCarty	
Theoretical analysis of finite-size surface plasmon polariton band-gap structures (8 pages)	125429
Thomas Søndergaard and Sergey I. Bozhevolnyi	
Formation and luminescence of ZnO nanoparticles embedded in MgO films (6 pages)	125430
J. G. Ma, Y. C. Liu, C. L. Shao, J. Y. Zhang, Y. M. Lu, D. Z. Shen, and X. W. Fan	
RKKY interaction in single-walled nanotubes (6 pages)	125431
Vijay B. Shenoy	
Semirigorous synchronous sublattice algorithm for parallel kinetic Monte Carlo simulations of thin film growth (13 pages)	125432
Yunsic Shim and Jacques G. Amar	
<i>Ab initio</i> studies on the stability and electronic structure of LiCoO ₂ (003) surfaces (10 pages)	125433
Liyun Hu, Zhihua Xiong, Chuying Ouyang, Siqi Shi, Yinghua Ji, Minsheng Lei, Zhaoxiang Wang, Hong Li, Xuejie Huang, and Liquan Chen	
Atomic structures and mechanical properties of single-crystal GaN nanotubes (6 pages)	125434
B. Xu, A. J. Lu, B. C. Pan, and Q. X. Yu	
Filamentation and damage in fused silica induced by tightly focused femtosecond laser pulses (11 pages)	125435
A. Couairon, L. Sudrie, M. Franco, B. Prade, and A. Mysyrowicz	