

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 66, NUMBER 12

CONTENTS

15 SEPTEMBER 2002-II

RAPID COMMUNICATIONS

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

- Nonequilibrium persistent currents in charge-density-wave systems (*4 pages*) 121101(R)
N. Harrison
- Coulomb pseudogap caused by partial localization of a three-dimensional electron system in the extreme quantum limit (*4 pages*) 121102(R)
M. Morgenstern, D. Haude, J. Klijn, and R. Wiesendanger
- Abnormal quasiparticle shifts in CaB_6 (*4 pages*) 121103(R)
H. Kino, F. Aryasetiawan, K. Terakura, and T. Miyake

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

- Quantum-dot electron occupancy controlled by a charged scanning probe (*4 pages*) 121301(R)
R. Crook, C. G. Smith, W. R. Tribe, S. J. O'Shea, M. Y. Simmons, and D. A. Ritchie
- Picosecond nonlinear relaxation of photoinjected carriers in a single $\text{GaAs}/\text{Al}_{0.3}\text{Ga}_{0.7}\text{As}$ quantum dot (*4 pages*) 121302(R)
T. Kuroda, S. Sanguinetti, M. Gurioli, K. Watanabe, F. Minami, and N. Koguchi
- Two-phonon scattering of magnetorotons in fractional quantum Hall liquids (*4 pages*) 121303(R)
V. M. Apalkov and M. E. Portnoi
- Formation of a suprahoneycomb compound of Zn_3 cluster on a $\text{Si}(111)-(7\times 7)$ surface (*4 pages*) 121304(R)
Zhao-Xiong Xie, Kayo Iwase, Toshihiro Egawa, and Ken-ichi Tanaka
- Control of electron-optical-phonon scattering rates in quantum box cascade lasers (*4 pages*) 121305(R)
D. Smirnov, C. Becker, O. Drachenko, V. V. Rylkov, H. Page, J. Leotin, and C. Sirtori
- Geometrical commensurability oscillations in the magnetoresistance of a two-dimensional electron gas under microwave irradiation (*4 pages*) 121306(R)
I.V. Kukushkin, J.H. Smet, V.I. Fal'ko, K. von Klitzing, and K. Eberl
- Role of two- and three-dimensional surface structures in $\text{InAs-GaAs}(001)$ quantum dot nucleation (*4 pages*) 121307(R)
T. J. Krzyzewski, P. B. Joyce, G. R. Bell, and T. S. Jones
- Band bending and photoemission-induced surface photovoltages on clean *n*- and *p*- $\text{GaN}(0001)$ surfaces (*4 pages*) 121308(R)
J. P. Long and V. M. Bermudez

Surface physics, low-dimensional systems, and related topics

- Effects of hydrogen adsorption on single-wall carbon nanotubes: Metallic hydrogen decoration (*4 pages*) 121401(R)
O. Gülseren, T. Yildirim, and S. Ciraci



Structural reorganization of carbon nanoparticles into single-wall nanotubes (<i>4 pages</i>)	121402(R)
R. Larciprete, S. Lizzit, S. Botti, C. Cepek, and A. Goldoni	
Topology and energetics of metal-encapsulating Si fullerene-like cage clusters (<i>4 pages</i>)	121403(R)
Takehide Miyazaki, Hidefumi Hiura, and Toshihiko Kanayama	
Surface energetics and growth of pentacene (<i>4 pages</i>)	121404(R)
John E. Northrup, Murilo L. Tiago, and Steven G. Louie	

ARTICLES

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

All-electron GW calculation based on the LAPW method: Application to wurtzite ZnO (<i>8 pages</i>)	125101
Manabu Usuda, Noriaki Hamada, Takao Kotani, and Mark van Schilfgaarde	
Nonlinear optical response in two-dimensional Mott insulators (<i>8 pages</i>)	125102
Makoto Takahashi, Takami Tohyama, and Sadamichi Maekawa	
Two-dimensional band structure and self-energy of Bi(111) near the $\bar{\Gamma}$ point (<i>9 pages</i>)	125103
Christian R. Ast and Hartmut Höchst	
Electronic susceptibilities in systems with anisotropic Fermi surfaces (<i>8 pages</i>)	125104
S. Fratini and F. Guinea	
Relativistic density-functional calculations of interconfigurational energies for second and third transition-metal rows (<i>9 pages</i>)	125105
Chung-Yuan Ren, Horng-Tay Jeng, and Chen-Shiung Hsue	
Mechanically induced current from open Luttinger liquids and carbon nanotubes (<i>6 pages</i>)	125106
Andrei Komnik and Alexander O. Gogolin	
Nondispersive hole transport of liquid crystalline glasses and a cross-linked network for organic electroluminescence (<i>5 pages</i>)	125107
S. R. Farrar, A. E. A. Contoret, M. O'Neill, J. E. Nicholls, G. J. Richards, and S. M. Kelly	

Semiconductors I: bulk

Pressure dependence of sound velocities in 3C-SiC and their relation to the high-pressure phase transition (<i>6 pages</i>)	125201
Margarita Prikhodko, M. S. Miao, and Walter R. L. Lambrecht	
Excitation spectrum for ultrafast photogeneration of charged solitons in polyacetylene (<i>5 pages</i>)	125202
Paulo B. Miranda, Daniel Moses, Alan J. Heeger, and Y. W. Park	
Ultrafast photoexcitation dynamics in a ladder-type oligophenyl (<i>7 pages</i>)	125203
C. Gadermaier, G. Cerullo, M. Zavelani-Rossi, G. Sansone, G. Lanzani, E. Zojer, A. Pogantsch, D. Beljonne, Z. Shuai, J. L. Brédas, U. Scherf, and G. Leising	
Quasiparticle effective-mass theory in semiconductors (<i>4 pages</i>)	125204
M. Oshikiri, F. Aryasetiawan, Y. Imanaka, and G. Kido	
Fluorescence yield and lifetime of isolated polydiacetylene chains: Evidence for a one-dimensional exciton band in a conjugated polymer (<i>6 pages</i>)	125205
R. Lécuyer, J. Berréhar, J. D. Ganière, C. Lapersonne-Meyer, P. Lavallard, and M. Schott	
Heat transport in $\text{Sb}_{2-x}\text{V}_x\text{Te}_3$ single crystals (<i>6 pages</i>)	125206
J. S. Dyck, W. Chen, C. Uher, C. Drašar, and P. Lošćák	
Diagonal parameter shifts due to nearest-neighbor displacements in empirical tight-binding theory (<i>6 pages</i>)	125207
Timothy B. Boykin, Gerhard Klimeck, R. Chris Bowen, and Fabiano Oyafuso	

Isolated oxygen defects in 3C- and 4H-SiC: A theoretical study (7 pages)	125208
A. Gali, D. Heringer, P. Deák, Z. Hajnal, Th. Frauenheim, R. P. Devaty, and W. J. Choyke	
Semiconductors II: surfaces, interfaces, microstructures, and related topics	
Collective excitations at the boundary of a four-dimensional quantum Hall droplet (10 pages)	125301
Jiangping Hu and Shou-Cheng Zhang	
Signature of phonon drag thermopower in periodically modulated structures (7 pages)	125302
Alain Nogaret	
Inhomogeneous broadening of the intersubband transitions in nonideal quantum wells (6 pages)	125303
F. T. Vasko, P. Aceituno, and A. Hernández-Cabrera	
Transport in quantum dots from the integrability of the Anderson model (38 pages)	125304
Robert M. Konik, Hubert Saleur, and Andreas Ludwig	
Giant magnetoresistance effect in a magnetic-electric barrier structure (5 pages)	125305
Feng Zhai, Yong Guo, and Bing-Lin Gu	
Dissociation mechanism of methanol on a Si(111)-(7×7) surface studied by scanning tunneling microscopy (5 pages)	125306
Zhao-Xiong Xie, Yusuke Uematsu, Xin Lu, and Ken-ichi Tanaka	
Spin dynamics in semiconductor nanocrystals (12 pages)	125307
J. A. Gupta, D. D. Awschalom, Al. L. Efros, and A. V. Rodina	
Modeling subsurface charge accumulation images of a quantum Hall liquid (6 pages)	125308
S. H. Tessmer, G. Finkelstein, P. I. Glicofridis, and R. C. Ashoori	
Bimodal size distribution of self-assembled $\text{In}_x\text{Ga}_{1-x}\text{As}$ quantum dots (5 pages)	125309
S. Anders, C. S. Kim, B. Klein, Mark W. Keller, R. P. Mirin, and A. G. Norman	
Heat current in a parametric quantum pump (4 pages)	125310
Baigeng Wang and Jian Wang	
Finite-size effects on acoustic phonons in GaAs/AlAs superlattices (7 pages)	125311
M. Trigo, A. Fainstein, B. Jusserand, and V. Thierry-Mieg	
Nucleation of Ge dots on the C-alloyed Si(001) surface (4 pages)	125312
O. Leifeld, A. Beyer, D. Grützmacher, and K. Kern	
Electronic structure calculations of ultrasmall Si quantum boxes: Characteristics of band-edge states (10 pages)	125313
Masahiko Nishida	
Conductance of the single-electron transistor: A comparison of experimental data with Monte Carlo calculations (8 pages)	125314
C. Wallisser, B. Limbach, P. vom Stein, R. Schäfer, C. Theis, G. Göppert, and H. Grabert	
Interference in interacting quantum dots with spin (7 pages)	125315
Daniel Boese, Walter Hofstetter, and Herbert Schoeller	
Bias-dependent Peltier coefficient and internal cooling in bipolar devices (11 pages)	125316
K. P. Pipe, R. J. Ram, and A. Shakouri	
Intersubband magnetophonon resonances in quantum cascade structures (4 pages)	125317
D. Smirnov, O. Drachenko, J. Leotin, H. Page, C. Becker, C. Sirtori, V. Apalkov, and T. Chakraborty	
Double-occupation errors induced by orbital dephasing in exchange-interaction quantum gates (8 pages)	125318
S. D. Barrett and C. H. W. Barnes	
Electronic structure of GaN and $\text{In}_x\text{Ga}_{1-x}\text{N}$ measured with electron energy-loss spectroscopy (7 pages)	125319
V. J. Keast, A. J. Scott, M. J. Kappers, C. T. Foxon, and C. J. Humphreys	
Laser-induced electronic desorption of Si atoms from Si(111)-(7×7) (5 pages)	125320
Jun'ichi Kanasaki and Katsumi Tanimura	

Surface physics, low-dimensional systems, and related topics

Temperature-dependent work functions of free alkali-metal nanoparticles (<i>5 pages</i>)	125401
Kin Wong, George Tikhonov, and Vitaly V. Kresin	
Surface structure and lattice dynamics of KI(001) studied by high-resolution ion scattering combined with molecular dynamics simulation (<i>10 pages</i>)	125402
T. Okazawa, T. Nishimura, and Y. Kido	
Microscopic derivation of the master and Fokker-Planck equations for surface diffusion (<i>13 pages</i>)	125403
M. Azzouz, H. J. Kreuzer, and M. R. A. Shegelski	
Nonresonant Raman spectrum in infinite and finite single-wall carbon nanotubes (<i>9 pages</i>)	125404
A. Rahmani, J.-L. Sauvajol, S. Rols, and C. Benoit	
Defects in ultrathin copper nanowires: Atomistic simulations (<i>8 pages</i>)	125405
Jeong Won Kang, Jae Jeong Seo, Ki Ryang Byun, and Ho Jung Hwang	
Laser-wavelength dependence of the picosecond ultrasonic response of a NiFe/NiO/Si structure (<i>7 pages</i>)	125406
C. A. C. Bosco, A. Azevedo, and L. H. Acioli	
Sputtering from ion-beam-roughened Cu surfaces (<i>8 pages</i>)	125407
M. Stepanova, S. K. Dew, and I. P. Soshnikov	
Layer intermixing during metal/metal oxide adsorption: Ti/sapphire(0001) (<i>4 pages</i>)	125408
C. Verdozzi, P.A. Schultz, Ruqian Wu, A.H. Edwards, and Nicholas Kioussis	
Misfit dislocation loops or incommensurate structure at an interface: Vibrational and anharmonic effects (<i>15 pages</i>)	125409
I. Meunier, G. Tréglia, R. Tétot, J. Creuze, F. Berthier, and B. Legrand	

Cumulative Author Index	i
--------------------------------------	---