

BRIEF REPORTS

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

Consistent definition of the effective mass of the polaron	8739
V. Sa-yakanit and K. Tayanasanti	
Scalar-relativistic linear combinations of Gaussian-type-orbitals technique for crystalline solids	8743
J. C. Boettger	
Electron-tunneling studies of the hexaboride materials SmB_6 , EuB_6 , CeB_6 , and SrB_6	8747
B. Amsler, Z. Fisk, J. L. Sarrao, S. von Molnar, M. W. Meisel, and F. Sharifi	
Magnetism and fermiology of $\kappa\text{-(BEDT-TSF)}_2\text{FeCl}_4$	8751
N. Harrison, C. H. Mielke, D. G. Rickel, L. K. Montgomery, C. Gerst, and J. D. Thompson	
Ground-state energy of the Hubbard model: Cluster-perturbative results	8755
Maciej M. Maśka	
Angular dependence of the incoherent angle-resolved photoemission background from dressed particles	8759
G. J. Kaye	
Analysis of two-dimensional energy and relaxation-time distributions from temperature-dependent broadband dielectric spectroscopy	8763
R. Pelster, T. Kruse, H. G. Krauthaeuser, G. Nimtz, and P. Pissis	

Semiconductors I: bulk

Interaction between a monovacancy and a vacancy cluster in silicon	8767
A. Bongiorno and L. Colombo	
Optical path modulation in transient photoreflectance of CdMnTe layers	8770
W. Farah, D. Scalbert, M. Nawrocki, J. A. Gaj, E. Janik, G. Karczewski, and T. Wojtowicz	

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

Biexcitonic four-wave-mixing signal in quantum wells: Photon-echo versus free-induction decay	8774
H. Nickolaus and F. Henneberger	
Electronic structure of Mn-doped ZnS nanocrystals	8778
V. Albe, C. Jouanin, and D. Bertho	
Basic structure of the kinked monatomic steps on the $\text{Si}(001)$ surface	8782
Ja-Yong Koo, Jae-Yel Yi, Chanyong Hwang, Dal-Hyun Kim, Geunseop Lee, and Sekyung Lee	
Nonspecular x-ray-reflectivity study of partially correlated interface roughness of a Mo/Si multilayer	8786
D. R. Lee, Y. J. Park, D. Kim, Y. H. Jeong, and K.-B. Lee	
Diffusion of paired hydrogen on $\text{Si}(001)$	8790
D. R. Bowler, J. H. G. Owen, K. Miki, and G. A. D. Briggs	
Structure and energetics of segregated and nonsegregated $\text{Ge}(001)/\text{Si}(2\times 1)$	8794
S. J. Jenkins and G. P. Srivastava	
Direct calculation of the nonequilibrium current by a recursive method	8797
Shinji Nonoyama and Akira Oguri	
First-principles study of the stability of the $\text{NiSi}_2/\text{Si}(111)$ interface	8801
Hideaki Fujitani	



Optical properties of Ge self-organized quantum dots in Si	8805
C. S. Peng, Q. Huang, W. Q. Cheng, J. M. Zhou, Y. H. Zhang, T. T. Sheng, and C. H. Tung	
Comparison between two models of dephasing in mesoscopic systems	8809
T. P. Pareek, Sandeep K. Joshi, and A. M. Jayannavar	
Fermi-fluid description of the half-filled Landau level	8812
Tapash Chakraborty	
Giant higher harmonic generation in mesoscopic metal wires and rings interrupted by tunnel junctions	8816
A. van Oudenaarden, Yu. V. Nazarov, and J. E. Mooij	

Surface physics, low-dimensional systems, and related topics

Augmented-plane-wave method for photonic band-gap materials	8819
W. C. Sailor, F. M. Mueller, and Pierre R. Villeneuve	
Formation of a bilayer ordered surface alloy Mn/Ag(001)	8823
Wondong Kim, Wookje Kim, S.-J. Oh, J. Seo, J.-S. Kim, H.-G. Min, and S.-C. Hong	
Structure and electronic properties of Al ₁₄ and Al ₁₃ Na clusters	8827
Vijay Kumar	
Free-electron model for mesoscopic force fluctuations in nanowires	8830
S. Blom, H. Olin, J. L. Costa-Krämer, N. García, M. Jonson, P. A. Serena, and R. I. Shekhter	
Energy gap in the bilayer: Understanding the failure of the Singwi-Tosi-Land-Sjolander approximation	8834
G. Kalman and K. I. Golden	
Overlayer-dependent magnetic moment and anisotropy of a Co monolayer on Cu(100)	8838
L. Szunyogh, B. Ujfalussy, U. Pustogowa, and P. Weinberger	
Growth modes depending on the growing temperature in heteroepitaxy: Au/Ni(111)	8842
Kenji Umezawa, Shigemitsu Nakanishi, and Walter M. Gibson	

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

Spin-integrated and spin-resolved photoemission study of Fe chalcogenides	8845
K. Shimada, T. Mizokawa, K. Mamiya, T. Saitoh, A. Fujimori, K. Ono, A. Kakizaki, T. Ishii, M. Shirai, and T. Kamimura	
Dynamic correlations in a charged Bose gas	8854
K. Tankeshwar, B. Tanatar, and M. P. Tosi	
Linear optical absorption spectra of mesoscopic structures in intense THz fields: Free-particle properties	8860
Kristinn Johnsen and Antti-Pekka Jauho	
Spectral function of two-dimensional Fermi liquids	8873
Christoph J. Halboth and Walter Metzner	
Orthogonality catastrophe in a one-dimensional system of correlated electrons	8878
V. Meden, P. Schmitteckert, and Nic Shannon	
⁷ Li and ⁵¹ V NMR study of the heavy-fermion compound LiV ₂ O ₄	8890
A. V. Mahajan, R. Sala, E. Lee, F. Borsa, S. Kondo, and D. C. Johnston	
Magnetotransport in carbon foils fabricated from exfoliated graphite	8900
R. T. F. van Schaijk, A. de Visser, S. G. Ionov, V. A. Kulbachinskii, and V. G. Kytin	
Ballistic transport and electronic structure	8907
Kees M. Schep, Paul J. Kelly, and Gerrit E. W. Bauer	
Structural instability in polyacene: A projector quantum Monte Carlo study	8927
Bhargavi Srinivasan and S. Ramasesha	

Electronic structure and optical properties of β -FeSi ₂	8934
V. N. Antonov, O. Jepsen, W. Henrion, M. Rebien, P. Stauß, and H. Lange	

Semiconductors I: bulk

First-principles band-structure calculation of yttrium oxysulfide	8939
Masayoshi Mikami and Atsushi Oshiyama	
Electronic band structure of cubic CdSe determined by angle-resolved photoemission: Cd 4 <i>d</i> and valence-level states	8945
K. O. Magnusson, G. Neuhold, K. Horn, and D. A. Evans	
Bound-polaron model of effective-mass binding energies in GaN	8951
Stephen A. McGill, Ke Cao, W. Beall Fowler, and Gary G. DeLeo	
Optically detected electron-nuclear double resonance of epitaxial GaN	8957
E. R. Glaser, T. A. Kennedy, W. E. Carlos, J. A. Freitas, Jr., A. E. Wickenden, and D. D. Koleske	
Stress-dependent hole effective masses and piezoresistive properties of <i>p</i> -type monocrystalline and polycrystalline silicon	8966
P. Kleimann, B. Semmache, M. Le Berre, and D. Barbier	
Exchange and correlation in silicon	8972
Randolph Q. Hood, M. Y. Chou, A. J. Williamson, G. Rajagopal, and R. J. Needs	
Fingerprints of CuPt ordering in III-V semiconductor alloys: Valence-band splittings, band-gap reduction, and x-ray structure factors	8983
Su-Huai Wei and Alex Zunger	

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

Relaxation of the adsorption geometry of Sb and K on Si(001) surface induced by an electric field	8989
Anna Pomyalov	
Energy of Si(111) dimer-stacking-fault structures	8997
Marc Fouchier and John J. Boland	
SiC film formation and growth by the thermal reaction of a C ₆₀ film adsorbed on a Si(111)-(7×7) surface: Bonding nature of C ₆₀ molecules and SiC-film surface phonons	9003
Kazuyuki Sakamoto, Toshinao Suzuki, Masashi Harada, Takanori Wakita, Shozo Suto, and Atsuo Kasuya	
Electronic structure of the Si(111)- $\sqrt{21} \times \sqrt{21}$ -(Ag+Au) surface	9015
Xiao Tong, Chun Sheng Jiang, and Shuji Hasegawa	
Quantum control in quantum wells	9024
Jeffrey L. Krause, David H. Reitze, Gary D. Sanders, Alex V. Kuznetsov, and Christopher J. Stanton	
Shell filling of artificial atoms within density-functional theory	9035
In-Ho Lee, Vivek Rao, Richard M. Martin, and Jean-Pierre Leburton	
Dynamical localization of electrons in an aperiodic superlattice	9043
Marshall Luban and James H. Luscombe	
Excited states and energy relaxation in stacked InAs/GaAs quantum dots	9050
R. Heitz, A. Kalburge, Q. Xie, M. Grundmann, P. Chen, A. Hoffmann, A. Madhukar, and D. Bimberg	
Excitons in inhomogeneous quantum dots	9061
J. M. Ferreyra and C. R. Proetto	
Theory of radiative recombination from the metastable excited states of quantum dots	9069
Lucjan Jacak, Jurij Krasnyj, Marek Korkusiński, and Arkadiusz Wójs	
Numerically stable secular equation for superlattices via transfer-matrix formalism and application to InAs/In _{0.23} Ga _{0.77} Sb and InAs/In _{0.3} Ga _{0.7} Sb/GaSb superlattices	9081
Frank Szmulowicz	
Exciton diamagnetic shift in semiconductor nanostructures	9088
S. N. Walck and T. L. Reinecke	

Magnetism in a Wigner solid and the Aharonov-Bohm effect: Experiment and theory	9097
Tohru Okamoto and Shinji Kawaji	
Scattering matrix theory for nonlinear transport	9108
Zhong-shui Ma, Jian Wang, and Hong Guo	
Quantum oscillations of two-dimensional to two-dimensional tunneling in bilayer electron gases in tilted magnetic fields	9114
S. K. Lyo	
Intrinsic and extrinsic photocarriers in polyparaphenylenevinylene	9118
Bertrand Dulieu, Jany Wéry, Serge Lefrant, and Jacques Bullo	
Spectroscopy of band-to-band optical transitions in Si-Ge alloys and superlattices	9128
T. P. Pearsall, L. Colace, Adam DiVergilio, W. Jäger, D. Stenkamp, Georgios Theodorou, Hartmut Presting, Erich Kasper, and Klaus Thonke	
Cooperative and stimulated emission in poly(<i>p</i> -phenylene-vinylene) thin films and solutions	9141
S. V. Frolov, Z. V. Vardeny, and K. Yoshino	
Simulation of infrared pump-probe spectroscopy in <i>n</i> -type quantum wells	9148
G. D. Sanders and C. J. Stanton	
Theory of luminescence spectra from δ -doping structures: Application to GaAs	9168
G. M. Sipahi, R. Enderlein, L. M. R. Scolfaro, J. R. Leite, E. C. F. da Silva, and A. Levine	
Structural and electronic property evolution of nickel and nickel silicide thin films on Si(100) from multicore x-ray-absorption fine-structure studies	9179
S. J. Naftel, I. Coulthard, T. K. Sham, S. R. Das, and D.-X. Xu	
Adiabatic curvature distribution in disordered and chaotic structures	9186
A. Steuwer and B. D. Simons	
Size-dependent enhancement of nonlinear optical susceptibilities due to confined excitons in CuBr nanocrystals	9193
Yingli Li, Masaki Takata, and Arao Nakamura	
Semiconductor-metal transition of the single-domain K/Si(100)-(2 $\times$ 1) interface by Fermi-surface determination	9201
J. A. Martín-Gago, M. C. Asensio, P. Aebi, R. Fasel, D. Naumović, J. Osterwalder, M. C. Refolio, J. M. López-Sancho, and J. Rubio	
Lateral motion of confined excitonic polaritons	9208
U. Neukirch, G. Bley, J. Gutowski, and D. Hommel	
Hartree-Fock approximation for the quasiparticle properties of the coupled electron-phonon system in quantum-well wires in the presence of a magnetic field	9214
L. Wendler	
Surface physics, low-dimensional systems, and related topics	
Scanning-electrostatic-force microscopy: Self-consistent method for mesoscopic surface structures	9225
Zhi-Yuan Li, Ben-Yuan Gu, and Guo-Zhen Yang	
Systematic study of β -SiC surface structures by molecular-dynamics simulations	9234
Xuan Luo, Gefei Qian, Weidong Fei, E. G. Wang, and Changfeng Chen	
<i>Ab initio</i> calculation of electron affinities of diamond surfaces	9241
M. J. Rutter and J. Robertson	
Ordered phases of potassium on Pt{111}: Experiment and theory	9246
S. Moré, W. Berndt, A. M. Bradshaw, and Roland Stumpf	
Direct determination of atomic positions on the Cu(110)-(1 $\times$ 2)-H surface	9255
A. V. Mijiritskii, U. Wahl, M. H. Langelaar, and D. O. Boerma	
Surface morphology of laser-superheated Pb(111) and Pb(100)	9262
Z. H. Zhang, Bo Lin, X. L. Zeng, and H. E. Elsayed-Ali	

Effects of impurity on two-dimensional melting transitions	9270
Jian Ma, Eleanor D. Carter, and Hillary B. Kleinberg	
Nature of the surface chemical bond in N ₂ on Ni(100) studied by x-ray-emission spectroscopy and <i>ab initio</i> calculations	9274
P. Bennich, T. Wiell, O. Karis, M. Weinelt, N. Wassdahl, A. Nilsson, M. Nyberg, L. G. M. Pettersson, J. Stöhr, and M. Samant	
Monolayer solid of N ₂ /Ag(111)	9285
L. W. Bruch and F. Y. Hansen	
Calculation of thermal emissivity for thin films by a direct method	9293
P. Pigeat, D. Rouxel, and B. Weber	
π -band contribution to the optical properties of carbon nanotubes: Effects of chirality	9301
Shuichi Tasaki, Koji Maekawa, and Tokio Yamabe	
Surface effects in the failure probability of heterogeneous materials with tough-to-brittle crossover	9319
Niu-Niu Chen and P. L. Leath	
Dynamic screening of fast ions moving in solids	9329
J. D. Fuhr, V. H. Ponce, F. J. García de Abajo, and P. M. Echenique	
Neutral excitons and metastable charged polarons in 5,5'-bis-(2-phenylethynyl)-2,2'-bithienyl	9336
Y. H. Kim, T.-Z. Deng, B.-H. Feng, Y.-X. Nie, Z.-X. Zhao, Hans Zimmer, and K. Sudsuansri	
Electronic and optical properties of finite zigzag carbon nanotubes with and without Coulomb interaction	9343
Jun Ma and Ren-kuan Yuan	
Errata	
Erratum: Composite-fermion Hall conductance at $\nu=\frac{1}{2}$ [Phys. Rev. B 55 , 15 552 (1997)]	9349
D.-H. Lee, Y. Krotov, J. Gan, and S. A. Kivelson	
Erratum: Magnetotransport in bundles of intercalated carbon nanotubes [Phys. Rev. B 56 , 2161 (1997)]	9349
M. Baxendale, V. Z. Mordkovich, S. Yoshimura, and R. P. H. Chang	
Cumulative Author Index	9350