

PHYSICAL REVIEW B

CONDENSED MATTER

THIRD SERIES, VOLUME 54, NUMBER 4

CONTENTS

15 JULY 1996-II

RAPID COMMUNICATIONS

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

- Stability and charge transfer of C_3B ordered structures R2271
Qiang Wang, Long-Qing Chen, and James F. Annett
- Multiconfigurational symmetrized-projector quantum Monte Carlo method for low-lying excited states of the Hubbard model R2276
Bhargavi Srinivasan, S. Ramasesha, and H. R. Krishnamurthy
- Electron focusing in Ag and W single crystals R2280
J. Heil, M. Primke, A. Böhm, B. Wyder, B. Wolf, J. Major, and P. Keppler

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

- Virtual states and photon-assisted tunneling R2284
B. J. Keay and C. Aversa
- Localization of a disordered phonon system: Anderson localization of optical phonons in $Al_xGa_{1-x}As$ R2288
P. H. Song and D. S. Kim
- Weak localization of exciton polaritons in a quantum well R2292
Eiichi Hanamura and Theodore B. Norris
- Long-lived charged multiple-exciton complexes in strong magnetic fields R2296
J. J. Palacios, D. Yoshioka, and A. H. MacDonald
- Electronic structure of InAs/GaAs self-assembled quantum dots R2300
M. A. Cusack, P. R. Briddon, and M. Jaros
- Evidence of spontaneous formation of steps on silicon (100) R2304
Lei Zhong, Akimichi Hojo, Yoshiaki Matsushita, Yoshiro Aiba, Kenro Hayashi, Ryuji Takeda, Hirao Shirai, Hiroyoki Saito, Junichi Matsushita, and Jun Yoshikawa
- Interchain photoluminescence in poly(phenylene vinylene) derivatives R2308
E. M. Conwell, J. Perlstein, and S. Shaik
- Flux-periodic resistance oscillations in arrays of superconducting weak links based on InAs-AlSb quantum wells with Nb electrodes R2311
Mason Thomas, Hans-Richard Blank, K. C. Wong, Chanh Nguyen, Herbert Kroemer, and Evelyn L. Hu
- Magnetic-field-induced resonant tunneling in parallel two-dimensional systems R2315
T. Ihn, H. Carmona, P. C. Main, L. Eaves, and M. Henini
- Magnetotransport and interlayer-edge channel tunneling of two-dimensional electrons in a double-quantum-well system R2319
Y. Ohno, M. Foley, and H. Sakaki
- Electric-field domain formation in type-II superlattices R2323
H. Mimura, M. Hosoda, N. Ohtani, K. Tominaga, K. Fujita, T. Watanabe, H. T. Grahn, and K. Fujiwara
- Experimental indication for supercurrents carried by opened transport channels R2327
L. C. Mur, C. J. P. M. Harmans, J. E. Mooij, J. F. Carlin, A. Rudra, and M. Ilegems
- Many-Skyrmion wave functions and Skyrmion statistics in quantum Hall ferromagnets R2331
Kun Yang and S. L. Sondhi
- Dielectric enhancement of excitons in near-surface quantum wells R2335
L. V. Kulik, V. D. Kulakovskii, M. Bayer, A. Forchel, N. A. Gippius, and S. G. Tikhodeev

(Continued)

- Spherosiloxane $\text{H}_8\text{Si}_8\text{O}_{12}$ clusters on Si(001): First-principles calculation of Si 2p core-level shifts R2339
 Alfredo Pasquarello, Mark S. Hybertsen, and Roberto Car

Surface physics, low-dimensional systems, and related topics

- Effect of interface magnetic moments and quantum-well states on magnetization-induced second-harmonic generation R2343
 P. van Gelderen, S. Crampin, Th. Rasing, and J. E. Inglesfield
- Incorporation of alkali metals on Pt(111) R2347
 J. Lehmann, P. Roos, and E. Bertel

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

- Onsager relations and hydrodynamic balance equations 2351
 M. W. Wu, H. L. Cui, and N. J. M. Horing
- Energy-loss function in the two-pair approximation for the electron liquid 2360
 M. E. Bachlechner, A. Holas, H. M. Böhm, and A. Schinner
- Lowest-order corrections to the RPA polarizability and GW self-energy of a semiconducting wire 2374
 H. J. de Groot, R. T. M. Ummels, P. A. Bobbert, and W. van Haeringen
- Ab initio* investigation of the electronic properties of planar and twisted polyparaphenylenes 2381
 Benoît Champagne, David H. Mosley, Joseph G. Fripiat, and Jean-Marie André
- Subgap optical absorption induced by quantum lattice fluctuations at the Peierls edge in PtCl chain complexes 2390
 Noritaka Kuroda, Masato Nishida, and Masahiro Yamashita
- Theoretical and experimental study of positron annihilation with core electrons in solids 2397
 M. Alatalo, B. Barbiellini, M. Hakala, H. Kauppinen, T. Korhonen, M. J. Puska, K. Saarinen,
 P. Hautojärvi, and R. M. Nieminen
- Spin-gap phase in nearly half-filled one-dimensional conductors coupled with phonons 2410
 K. Yonemitsu and M. Imada
- Semiempirical Hartree-Fock calculations for KNbO_3 2421
 R. I. Eglitis, A. V. Postnikov, and G. Borstel
- Color of pure and alkali-doped cerium sulfide: A local-density-functional study 2428
 M.-A. Perrin and E. Wimmer
- Electronic structure and optical properties of WO_3 , LiWO_3 , NaWO_3 , and HWO_3 2436
 Anders Hjelm, Claes G. Granqvist, and John M. Wills
- Calculated optical properties of thorium, protactinium, and uranium metals 2446
 T. Gasche, M. S. S. Brooks, and B. Johansson
- Complete band-structure determination of the quasi-two-dimensional Fermi-liquid reference compound TiTe_2 2453
 R. Claessen, R. O. Anderson, G.-H. Gweon, J. W. Allen, W. P. Ellis, C. Janowitz, C. G. Olson,
 Z. X. Shen, V. Eyert, M. Skibowski, K. Friemelt, E. Bucher, and S. Hüfner
- Nonlinear Berry phases for simple band representations 2466
 P. Zeiner, R. Dirl, and B. L. Davies
- Collective modes of the one-dimensional Fermi gas within the quasiparticle random-phase approximation 2471
 T. Alm and P. Schuck

Semiconductors I: bulk

- Calculated optical properties of Si, Ge, and GaAs under hydrostatic pressure 2480
 M. Alouani and J. M. Wills
- k**·**p** method for strained wurtzite semiconductors 2491
 S. L. Chuang and C. S. Chang
- Electronic structure and hyperfine interactions for deep donors and vacancies in II-VI compound semiconductors . 2505
 M. Illgner and H. Overhof

(Continued)

Evaluation of some basic positron-related characteristics of SiC	2512
G. Brauer, W. Anwand, E.-M. Nicht, J. Kuriplach, M. Sob, N. Wagner, P. G. Coleman, M. J. Puska, and T. Korhonen	
Free exciton emission in GaN	2518
D. Kovalev, B. Averboukh, D. Volm, B. K. Meyer, H. Amano, and I. Akasaki	
Nonmonotonic decay of nonequilibrium polariton condensate in direct-gap semiconductors	2523
Igor V. Beloussov and Vladimir V. Frolov	
Optically active erbium centers in silicon	2532
H. Przybylinska, W. Jantsch, Yu. Suprun-Belevitch, M. Stepikhova, L. Palmetshofer, G. Hendorfer, A. Kozanecki, R. J. Wilson, and B. J. Sealy	
Experimental evidence for luminescence from silicon oxide layers in oxidized porous silicon	2548
G. G. Qin, H. Z. Song, B. R. Zhang, J. Lin, J. Q. Duan, and G. Q. Yao	
Cohesive energies of cubic III-V semiconductors	2556
Beate Paulus, Peter Fulde, and Hermann Stoll	
Phonon-induced dephasing of localized optical excitations	2561
D. Brinkmann, F. Rossi, S. W. Koch, and P. Thomas	
Complete theoretical analysis of the Kaplan-Solomon-Mott mechanism of spin-dependent recombination in semiconductors	2571
A. V. Barabanov, O. V. Tretiak, and V. A. L'vov	
Localization and delocalization of electrons in narrow-band semiconductors under the action of strong time-dependent and constant electric fields	2578
Oleg M. Yevtushenko	
Semiconductors II: surfaces, interfaces, microstructures, and related topics	
Self-diffusion on Si(111) surfaces	2586
A. V. Latyshev, A. B. Krasilnikov, and A. L. Aseev	
Electronic properties of Sb deposited on GaAs(110) in the submonolayer coverage regime	2590
R. Magri	
Quantum conductance of carbon nanotubes with defects	2600
Leonor Chico, Lorin X. Benedict, Steven G. Louie, and Marvin L. Cohen	
Quantum scars of classical orbits in small interacting electronic systems	2607
Oded Agam	
Recombination dynamics of localized excitons in a CdSe/ZnSe/ZnS _x Se _{1-x} single-quantum-well structure	2629
Shigeo Yamaguchi, Yoichi Kawakami, Shizuo Fujita, Shigeo Fujita, Yoichi Yamada, Tomobumi Mishina, and Yasuaki Masumoto	
Quantum transport through a periodic scatterer in a magnetic field	2635
Shinji Nonoyama and Atsunobu Nakamura	
Low-temperature atomic dynamics of the Si(111)-7×7	2642
I. Stich, J. Kohanoff, and K. Terakura	
Plasmon excitations and accumulation layers in heavily doped InAs(001)	2654
G. R. Bell, C. F. McConville, and T. S. Jones	
Hole confinement in boron δ -doped silicon quantum wells studied by deep-level transient spectroscopy	2662
Jian-hong Zhu, Da-wei Gong, Bo Zhang, Fang Lu, Chi Sheng, Heng-hui Sun, and Xun Wang	
Bound and resonant electron states in quantum dots: The optical spectrum	2667
R. Buczko and F. Bassani	
Energy subbands, envelope states, and intersubband optical transitions in one-dimensional quantum wires: The local-envelope-states approach	2675
A. Sa'ar, S. Calderon, A. Givant, O. Ben-Shalom, E. Kapon, and C. Caneau	
Temperature dependence of the magnetoresistance of In _x Ga _{1-x} As antidot lattices	2685
J. Heremans, B. K. Fuller, C. M. Thrush, and V. Bayot	

Elastic- and inelastic-scattering effects on electron magnetotunneling through a quantum well	2691
Hong Zhou, Yuan-tai Du, and Tsung-han Lin	
Universal correlations of Coulomb-blockade conductance peaks and the rotation scaling in quantum dots	2696
Y. Alhassid and H. Attias	
Specific heat and validity of the quasiparticle approximation in the half-filled Landau level	2715
Yong Baek Kim and Patrick A. Lee	
Interface properties and valence-band discontinuity of MnS/ZnSe heterostructures	2718
L. Wang, S. Sivananthan, R. Sporken, and R. Caudano	
Topological disorder and conductance fluctuations in thin films	2723
Kristin M. Abkemeier and David G. Grier	
Superlattice effects induced by atomic ordering on $\text{Ga}_x\text{In}_{1-x}\text{P}$ Raman modes	2728
A. Hassine, J. Sapriel, P. Le Berre, M. A. Di Forte-Poisson, F. Alexandre, and M. Quillec	
Exciton localization, photoluminescence spectra, and interface roughness in thin quantum wells	2733
U. Jahn, S. H. Kwok, M. Ramsteiner, R. Hey, H. T. Grahn, and E. Runge	
Theoretical investigation of excitonic surface states in multilayer organic quantum wells: Radiative decay rates of the first and second surface excitons	2739
Nguyen Trung Dan and Eiichi Hanamura	
Energy relaxation of an excited electron gas in quantum wires: Many-body electron-LO-phonon coupling	2751
Lian Zheng and S. Das Sarma	
Optical observation of impurity localized states at the edges of Landau subbands in doped quantum wells	2756
D. Gekhtman, J. A. Kash, E. Cohen, and Arza Ron	
Effect of exciton-carrier thermodynamics on the GaAs quantum well photoluminescence	2763
H. W. Yoon, D. R. Wake, and J. P. Wolfe	
Emission of acoustic and optical phonons by hot electrons in a two-dimensional electron system in parallel magnetic fields	2775
W. Xu	
Dynamic dielectric properties of a bounded solid-state plasma and a two-dimensional electron sheet: Inverse dielectric function and coupled collective modes	2785
N. J. M. Horing, T. Jena, H. L. Cui, and J. D. Mancini	
Scattering of plasmons in a quasi-two-dimensional electron gas containing a fixed-point charge	2791
S. Rudin and T. L. Reinecke	
Mesoscopic charge-density-wave junctions	2798
Mark I. Visscher and Gerrit E. W. Bauer	
Reflection of finite-width edge channels	2806
R. J. F. van Haren, A. J. Markvoort, A. J. C. van Rijswijk, F. A. P. Blom, and J. H. Wolter	
Investigation of deep metastable traps in Si δ -doped $\text{GaAs}/\text{Al}_{0.33}\text{Ga}_{0.67}\text{As}$ quantum-well samples using noise spectroscopy	2813
D. D. Carey, S. T. Stoddart, S. J. Bending, J. J. Harris, and C. T. Foxon	

Surface physics, low-dimensional systems, and related topics

Structure of Mn films grown on (111) and (001) fcc Ir determined by EXAFS and the multiple-scattering approach	2822
S. Andrieu, H. M. Fischer, M. Piecuch, A. Traverse, and J. Mimault	
X-ray absorption at the $L_{2,3}$ edge of an anisotropic single crystal: Cadmium (0001)	2830
P. Le Fèvre, H. Magnan, and D. Chandèsris	
Structural determination of the $\text{Pd}\{110\}(2\times 1)p2mg\text{-CO}$ system by means of high-energy x-ray photoelectron diffraction	2839
A. Locatelli, B. Brena, G. Comelli, S. Lizzit, G. Paolucci, and R. Rosei	
Measurement of roughness at buried Si/SiO_2 interfaces by transmission electron diffraction	2846
Xidong Chen and J. Murray Gibson	

Atomic structure of amorphous nanosized silicon powders upon thermal treatment	2856
H. Hofmeister, J. Dutta, and H. Hofmann	
Vibrational signatures for low-energy intermediate-sized Si clusters	2863
Mark R. Pederson, Koblar Jackson, D. V. Porezag, Z. Hajnal, and Th. Frauenheim	
Theoretical study of O adlayers on Ru(0001)	2868
C. Stampfl and M. Scheffler	
Electronic and geometric structure of NH ₃ on Ge(001) under equilibrium adsorption conditions	2873
W. Ranke and J. Platen	
Self-diffusion on low-index metallic surfaces: Ag and Au (100) and (111)	2880
Ghyslain Boisvert and Laurent J. Lewis	
First-order orientational-disordering transition on the (111) surface of C ₆₀	2890
A. Goldoni, C. Cepek, and S. Modesti	
Electronic specific heat of single-walled carbon nanotubes	2896
M. F. Lin and Kenneth W.-K. Shung	
Electron-energy losses in hemispherical targets	2901
J. Aizpurua, A. Rivacoba, and S. P. Apell	
Oscillatory interaction of steps on W{110}	2910
Wei Xu, James B. Adams, and T. L. Einstein	
Determination of the electronic density of states near buried interfaces: Application to Co/Cu multilayers	2917
A. Nilsson, J. Stöhr, T. Wiell, M. Aldén, P. Bennich, N. Wassdahl, M. G. Samant, S. S. P. Parkin, N. Mårtensson, J. Nordgren, B. Johansson, and H. L. Skriver	
Magnetic dichroism in valence-band photoemission from Co/Cu(001): Experiment and theory	2922
A. Fanelisa, E. Kisker, J. Henk, and R. Feder	
Kinetics of nucleation-dominated step flow	2931
Christopher Roland and George H. Gilmer	
Stability of Na _n Pb ($n \leq 7$) clusters: A first-principles molecular-dynamics study	2937
Luis Carlos Balbás and José Luís Martins	
Computer simulation of the ground-state atomic configurations of Ni-Al clusters using the embedded-atom model	2942
C. Rey, J. García-Rodeja, and L. J. Gallego	
Surface polaritons in layered structures of anisotropic media	2949
R. N. Costa Filho, M. G. Cottam, E. L. Albuquerque, and G. A. Farias	
Cumulative Author Index	2954