PHYSICAL REVIEW B

For editorial and subscription correspondence,
please see inside front cover
(ISSN: 1098-0121)

PERIODICALS
Postmaster send address changes to:
APS Subscription Services
Suite 1NO1
2 Huntington Quadrangle
Melville, NY 11747-4502

THIRD SERIES, VOLUME 78, NUMBER 5 *CONTENTS* AUGUST 2008-1(I)

BRIEF REPORTS

Structure, structural phase transitions, mechanical properties, defects

Sodium-ion diffusion and ordering in single-crystal $P2$-Na_xCoO_2 *(4 pages)* 052101
G. J. Shu and F. C. Chou

Elastic stability of β-Ti under pressure calculated using a first-principles plane-wave pseudopotential method *(4 pages)* 052102
Qing-Miao Hu, Song Lu, and Rui Yang

Electrocaloric effect in bulk and low-dimensional ferroelectrics from first principles *(4 pages)* 052103
S. Prosandeev, I. Ponomareva, and L. Bellaiche

Interplay of dislocation-related relaxation processes in iron-based materials *(4 pages)* 052104
M. J. Konstantinović

Inhomogeneous, disordered, and partially ordered systems

Field-induced nucleation in phase change memory *(4 pages)* 052201
V. G. Karpov, Y. A. Kryukov, I. V. Karpov, and M. Mitra

Low-temperature elastic moduli of a Pd-based metallic glass showing positive phonon dispersion *(4 pages)* 052202
T. Ichitsubo, E. Matsubara, K. Miyagi, W. Itaka, K. Tanaka, and S. Hosokawa

Dynamics, dynamical systems, lattice effects, quantum solids

Effective propagation in a perturbed periodic structure *(4 pages)* 052301
Agnès Maurel and Vincent Pagneux

Magnetism

Effect of noise on the high-speed reversal of single-domain uniaxial magnetic nanoparticles *(4 pages)* 052401
Andrey L. Pankratov, Sergey N. Vdovichev, and Igor M. Nefedov

Long-range magnetic order and spin-lattice coupling in delafossite $CuFeO_2$ *(4 pages)* 052402
Volker Eyert, Raymond Frésard, and Antoine Maignan

Relationship between granularity of an antiferromagnet and exchange bias: Measurements of CoO doped with Pt *(4 pages)* 052403
Sergei Urazhdin, Phillip Tabor, and Weng-Lee Lim

Copyright 2008 by The American Physical Society

1098-0121(20080801)78:5;1-W

(Continued)

The editors and referees of PRB find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. B 77, 130001 (2008).

PHYSICAL REVIEW B **THIRD SERIES, VOLUME 78, NUMBER 5** **AUGUST 2008-1(I)**

Nonpercolative behavior of the magnetic-field-induced local tunneling conductivity of $La_{0.75}Ca_{0.25}MnO_3/MgO(100)$ thin films *(4 pages)* 052404
S. A. Köster, V. Moshnyaga, B. Damaschke, and K. Samwer

Nanometer size effect on magnetic order in $La_{0.4}Ca_{0.6}MnO_3$: Predominant influence of doped electron localization *(4 pages)* 052405
E. Rozenberg, M. Auslender, A. I. Shames, D. Mogilyansky, I. Felner, E. Sominskii, A. Gedanken, and Ya. M. Mukovskii

Magnetoresistance of ferromagnetic $Cr_xTi_{1-x}N$ solid solution nitride *(4 pages)* 052406
Kei Inumaru, Yuji Miyaki, Kazuma Tanaka, Kunihiko Koyama, and Shoji Yamanaka

Total angular momentum conservation in laser-induced femtosecond magnetism *(4 pages)* 052407
G. P. Zhang and Thomas F. George

Isotope effect in quasi-two-dimensional metal-organic antiferromagnets *(4 pages)* 052408
P. A. Goddard, J. Singleton, C. Maitland, S. J. Blundell, T. Lancaster, P. J. Baker, R. D. McDonald, S. Cox, P. Sengupta, J. L. Manson, K. A. Funk, and J. A. Schlueter

Electronic inhomogeneity EuO: Possibility of magnetic polaron states *(4 pages)* 052409
Shin-ichi Kimura, Takahiro Ito, Hidetoshi Miyazaki, Takafumi Mizuno, Takuya Iizuka, and Toshiharu Takahashi

Signature of magnetic phase separation in the ground state of $Pr_{1-x}Ca_xMnO_3$ *(4 pages)* 052410
Hao Sha, F. Ye, Pengcheng Dai, J. A. Fernandez-Baca, Dalgis Mesa, J. W. Lynn, Y. Tomioka, Y. Tokura, and Jiandi Zhang

Superfluidity and superconductivity

Antiferromagnetic transition in $EuFe_2As_2$: A possible parent compound for superconductors *(4 pages)* 052501
Zhi Ren, Zengwei Zhu, Shuai Jiang, Xiangfan Xu, Qian Tao, Cao Wang, Chunmu Feng, Guanghan Cao, and Zhu'an Xu

Electrical resistivity and specific heat of single-crystalline $EuFe_2As_2$: A magnetic homologue of $SrFe_2As_2$ *(4 pages)* 052502
H. S. Jeevan, Z. Hossain, Deepa Kasinathan, H. Rosner, C. Geibel, and P. Gegenwart

Positron potential and wave function in LaFeAsO *(4 pages)* 052503
H. Takenaka and D. J. Singh

Optimization of the superconducting transition temperature of the filled skutterudite $BaPt_4Ge_{12}$ by gold substitution *(4 pages)* 052504
R. Gumeniuk, H. Rosner, W. Schnelle, M. Nicklas, A. Leithe-Jasper, and Yu. Grin

In-field critical current of type-II superconductors caused by strain from nanoscale columnar inclusions *(4 pages)* 052505
J. P. Rodriguez, P. N. Barnes, and C. V. Varanasi

Relevant energy scale in hybrid mesoscopic Josephson junctions *(4 pages)* 052506
Franco Carillo, Detlef Born, Vittorio Pellegrini, Francesco Tafuri, Giorgio Biasiol, Lucia Sorba, and Fabio Beltram

Magnetic excitations in the high-T_c iron pnictides *(4 pages)* 052507
Dao-Xin Yao and E. W. Carlson

(Continued)

The editors and referees of PRB find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. B 77, 130001 (2008).

PHYSICAL REVIEW B **THIRD SERIES, VOLUME 78, NUMBER 5** **AUGUST 2008-1(I)**

Neutron-scattering study of the oxypnictide superconductor $LaFeAsO_{0.87}F_{0.13}$ *(4 pages)* 052508
Y. Qiu, M. Kofu, Wei Bao, S.-H. Lee, Q. Huang, T. Yildirim, J. R. D. Copley, J. W. Lynn, T. Wu, G. Wu, and X. H. Chen

Microwave enhancement of superconductivity in $Bi_2Sr_2CaCu_2O_{8+\delta}$ break junctions *(4 pages)* 052509
S. I. Vedeneev, D. K. Maude, and J. M. Byrne

ARTICLES

Structure, structural phase transitions, mechanical properties, defects

Local polarization switching in the presence of surface-charged defects: Microscopic mechanisms and piezoresponse force spectroscopy observations *(17 pages)* 054101
Anna N. Morozovska, Sergei V. Svechnikov, Eugene A. Eliseev, Brian J. Rodriguez, Stephen Jesse, and Sergei V. Kalinin

Elongation of gold nanoparticles in silica glass by irradiation with swift heavy ions *(8 pages)* 054102
Koichi Awazu, Xiaomin Wang, Makoto Fujimaki, Junji Tominaga, Hirohiko Aiba, Yoshimichi Ohki, and Tetsuro Komatsubara

Polarization-independent aging in the relaxor $0.92PbMg_{1/3}Nb_{2/3}O_3$-$0.08PbTiO_3$ *(5 pages)* 054103
Eugene V. Colla, Philip Griffin, Matthew Delgado, M. B. Weissman, Xifa Long, and Zuo-Gang Ye

Structural and magnetic properties of the ferroelectric magnet $BaMn_{1-x}Zn_xF_4$, a site diluted square-lattice two-dimensional Heisenberg antiferromagnet with $S=\frac{5}{2}$ *(6 pages)* 054104
J. R. Veira, D. N. Argyriou, K. Kiefer, A. U. B. Wolter, D. Alber, M. Meissner, R. Almairac, M. Reehuis, and H. N. Bordallo

Influence of Mo on the Fe:Mo:C nanocatalyst thermodynamics for single-walled carbon nanotube growth *(8 pages)* 054105
Stefano Curtarolo, Neha Awasthi, Wahyu Setyawan, Aiqin Jiang, Kim Bolton, Toshio Tokune, and Avetik R. Harutyunyan

Melting and freezing of spherical bismuth nanoparticles confined in a homogeneous sodium borate glass *(5 pages)* 054106
G. Kellermann and A. F. Craievich

Structural coherence and ferroelectricity decay in submicron- and nano-sized perovskites *(7 pages)* 054107
V. Petkov, V. Buscaglia, M. T. Buscaglia, Z. Zhao, and Y. Ren

Hydrogen tunneling in the perovskite ionic conductor $BaCe_{1-x}Y_xO_{3-\delta}$ *(9 pages)* 054108
F. Cordero, F. Craciun, F. Deganello, V. La Parola, E. Roncari, and A. Sanson

Nature of the magnetoelectric coupling in multiferroic $Pb(Fe_{1/2}Nb_{1/2})O_3$ ceramics *(6 pages)* 054109
M. H. Lente, J. D. S. Guerra, G. K. S. de Souza, B. M. Fraygola, C. F. V. Raigoza, D. Garcia, and J. A. Eiras

Multiscale kinetic model for polarization switching in ferroelectric polymer thin films *(9 pages)* 054110
Rajeev Ahluwalia, Michael B. Sullivan, David J. Srolovitz, Jian Wei Zheng, and Alfred C. H. Huan

Radiation damage formation in InP, InSb, GaAs, GaP, Ge, and Si due to fast ions *(12 pages)* 054111
A. Kamarou, W. Wesch, E. Wendler, A. Undisz, and M. Rettenmayr

Local organization and atomic clustering in multicomponent amorphous steels *(5 pages)* 054112
V. Yu. Kazimirov, Despina Louca, M. Widom, X.-J. Gu, S. J. Poon, and G. J. Shiflet

(Continued)

The editors and referees of PRB find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. B 77, 130001 (2008).

PHYSICAL REVIEW B **THIRD SERIES, VOLUME 78, NUMBER 5** **AUGUST 2008-1(I)**

Solvation pressure in a Lennard-Jones fluid by molecular dynamics simulation *(10 pages)* 054113
John P. Everett and David A. Faux

Origin of the exceptional negative thermal expansion in metal-organic framework-5 $Zn_4O(1,4\text{-benzenedicarboxylate})_3$ *(5 pages)* 054114
W. Zhou, H. Wu, T. Yildirim, J. R. Simpson, and A. R. Hight Walker

Propagating modes of periodic solid layers in an ideal or viscous fluid by homogenization analysis *(9 pages)* 054115
Ying-Hong Liu, Chien C. Chang, and Chih-Yu Kuo

Combined Raman scattering and *ab initio* investigation of pressure-induced structural phase transitions in the scintillator $ZnWO_4$ *(12 pages)* 054116
D. Errandonea, F. J. Manjón, N. Garro, P. Rodríguez-Hernández, S. Radescu, A. Mujica, A. Muñoz, and C. Y. Tu

Structural stability and lattice dynamics of SiO_2 cristobalite *(14 pages)* 054117
Sinisa Coh and David Vanderbilt

Quantum simulation of materials at micron scales and beyond *(14 pages)* 054118
Qing Peng, Xu Zhang, Linda Hung, Emily A. Carter, and Gang Lu

Thermal equations of state for titanium obtained by high pressure—temperature diffraction studies *(7 pages)* 054119
Jianzhong Zhang, Yusheng Zhao, Robert S. Hixson, George T. Gray, III, Liping Wang, Wataru Utsumi, Saito Hiroyuki, and Hattori Takanori

Origin of incommensurate modulations in the high-pressure phosphorus IV phase *(9 pages)* 054120
M. Marqués, G. J. Ackland, L. F. Lundegaard, S. Falconi, C. Hejny, M. I. McMahon, J. Contreras-García, and M. Hanfland

Classical potential describes martensitic phase transformations between the α, β, and ω titanium phases *(10 pages)* 054121
R. G. Hennig, T. J. Lenosky, D. R. Trinkle, S. P. Rudin, and J. W. Wilkins

Phase stability and elastic properties of $X\mathrm{MgB}_{14}$ studied by *ab initio* calculations (X=Al,Ge,Si,C,Mg,Sc,Ti,V,Zr,Nb,Ta,Hf) *(6 pages)* 054122
Helmut Kölpin, Denis Music, Graeme Henkelman, and Jochen M. Schneider

Resonant x-ray scattering study of layered $TbBaCo_2O_{5.5}$ *(7 pages)* 054123
J. Blasco, J. García, G. Subías, H. Renevier, M. Stingaciu, K. Conder, and J. Herrero-Martín

Inhomogeneous, disordered, and partially ordered systems

Extraordinary optical transmission through a random array of subwavelength holes *(5 pages)* 054201
I. V. Bykov, A. V. Dorofeenko, A. S. Ilyin, I. A. Ryzhikov, M. V. Sedova, and A. P. Vinogradov

Continuous and discontinuous grain-boundary wetting in Zn_xAl_{1-x} *(6 pages)* 054202
Boris B. Straumal, Alena S. Gornakova, Olga A. Kogtenkova, Svetlana G. Protasova, Vera G. Sursaeva, and Brigitte Baretzky

Confinement effects on glass forming liquids probed by dynamic mechanical analysis *(9 pages)* 054203
J. Koppensteiner, W. Schranz, and M. R. Puica

Electromagnetic wave manipulation by layered systems using the transformation media concept *(9 pages)* 054204
Huanyang Chen and C. T. Chan

(Continued)

The editors and referees of PRB find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. B 77, 130001 (2008).

PHYSICAL REVIEW B THIRD SERIES, VOLUME 78, NUMBER 5 AUGUST 2008-1(I)

Dynamics, dynamical systems, lattice effects, quantum solids

Quantum dynamics in the thermodynamic limit *(12 pages)* 054301
Jasper van Wezel

Effective single-particle order-*N* scheme for the dynamics of open noninteracting many-body systems *(8 pages)* 054302
Yu. V. Pershin, Y. Dubi, and M. Di Ventra

Atomic-scale measurement of ultraslow Li motions in glassy $LiAlSi_2O_6$ by two-time ^{6}Li spin-alignment echo NMR correlation spectroscopy *(9 pages)* 054303
M. Wilkening, A. Kuhn, and P. Heitjans

Magnetism

High-pressure-induced spin-liquid phase of multiferroic $YMnO_3$ *(5 pages)* 054401
D. P. Kozlenko, I. Mirebeau, J.-G. Park, I. N. Goncharenko, S. Lee, Junghwan Park, and B. N. Savenko

Ferromagnetism in the multiband Kondo lattice model *(10 pages)* 054402
A. Sharma and W. Nolting

Enhanced annealing, high Curie temperature, and low-voltage gating in (Ga,Mn)As: A surface oxide control study *(4 pages)* 054403
K. Olejník, M. H. S. Owen, V. Novák, J. Mašek, A. C. Irvine, J. Wunderlich, and T. Jungwirth

Crystallographic and magnetic structure of $SrCoO_{2.5}$ brownmillerite: Neutron study coupled with band-structure calculations *(8 pages)* 054404
A. Muñoz, C. de la Calle, J. A. Alonso, P. M. Botta, V. Pardo, D. Baldomir, and J. Rivas

$(m,d,N)=(1,3,2)$ Lifshitz point and the three-dimensional *XY* universality class studied by high-temperature bivariate series for *XY* models with anisotropic competing interactions *(15 pages)* 054405
P. Butera and M. Pernici

Localization, confinement, and field-controlled propagation of spin waves in $Ni_{80}Fe_{20}$ antidot lattices *(10 pages)* 054406
Sebastian Neusser, Bernhard Botters, and Dirk Grundler

Magnetization of a superconducting film in a perpendicular magnetic field *(7 pages)* 054407
Mauro M. Doria, Ernst Helmut Brandt, and F. M. Peeters

Fully symmetrized valence-bond based technique for solving exchange Hamiltonians of molecular magnets *(7 pages)* 054408
Shaon Sahoo, Raghunathan Rajamani, S. Ramasesha, and Diptiman Sen

Translating reproducible phase-separated texture in manganites into reproducible two-state low-field magnetoresistance: An imaging and transport study *(5 pages)* 054409
C. Israel, L. Granja, T. M. Chuang, L. E. Hueso, D. Sánchez, J. L. Prieto, P. Levy, A. de Lozanne, and N. D. Mathur

Experimental observation of enhanced interaction of magnetic solitons with potential barriers and wells *(4 pages)* 054410
Vladislav E. Demidov, Ulf-Hendrik Hansen, and Sergej O. Demokritov

Polaron liquid-gas crossover at the orthorhombic-rhombohedral transition of manganites *(7 pages)* 054411
J. A. Souza, H. Terashita, E. Granado, R. F. Jardim, N. F. Oliveira, Jr., and R. Muccillo

(Continued)

The editors and referees of PRB find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. B 77, 130001 (2008).

PHYSICAL REVIEW B **THIRD SERIES, VOLUME 78, NUMBER 5** **AUGUST 2008-1(I)**

Effect of anisotropy on the ground-state magnetic ordering of the spin-half quantum $J_1^{XXZ}-J_2^{XXZ}$ model on the square lattice *(11 pages)* 054412
R. F. Bishop, P. H. Y. Li, R. Darradi, J. Schulenburg, and J. Richter

Large magnetic anisotropy and tunneling anisotropic magnetoresistance in layered bimetallic nanostructures: Case study of Mn/W(001) *(6 pages)* 054413
A. B. Shick, F. Máca, M. Ondráček, O. N. Mryasov, and T. Jungwirth

Understanding magnetic interactions in the series $A_2FeX_5 \cdot H_2O$ (A=K, Rb; X=Cl, Br). I. Spin densities by polarized neutron diffraction and DFT calculations *(9 pages)* 054414
Javier Luzón, Javier Campo, Fernando Palacio, Garry J. McIntyre, and Angel Millán

Understanding magnetic interactions in the series $A_2FeX_5 \cdot H_2O$ (A=K, Rb; X=Cl, Br). II. Inelastic neutron scattering and DFT studies *(10 pages)* 054415
Javier Campo, Javier Luzón, Fernando Palacio, Garry J. McIntyre, Angel Millán, and Andrew R. Wildes

Spin, orbital ordering, and magnetic dynamics of $LaVO_3$: Magnetization, heat capacity, and neutron scattering studies *(5 pages)* 054416
L. D. Tung, A. Ivanov, J. Schefer, M. R. Lees, G. Balakrishnan, and D. McK. Paul

Influence of a periodic magnetic field and spin-polarized current on the magnetic dynamics of a monodomain ferromagnet *(15 pages)* 054417
Paul P. Horley, Vítor R. Vieira, Peter M. Gorley, Vitalii K. Dugaev, Jamal Berakdar, and Józef Barnaś

First-principles study of magnetism at grain boundaries in iron and nickel *(10 pages)* 054418
Miroslav Čák, Mojmír Šob, and Jürgen Hafner

Two-particle bound states and one-particle structure factor in a Heisenberg bilayer system *(12 pages)* 054419
A. Collins and C. J. Hamer

Theory of ferromagnetic resonance in magnetic trilayers with a tilted spin polarizer *(6 pages)* 054420
Peng-Bin He, Zai-Dong Li, An-Lian Pan, Qiang Wan, Qing-Lin Zhang, Ri-Xing Wang, Yan-Guo Wang, Wu-Ming Liu, and Bing-Suo Zou

Low-lying excitations of the three-leg spin tube: A density-matrix renormalization group study *(9 pages)* 054421
S. Nishimoto and M. Arikawa

Muon spin relaxation detection of the soft mode toward the exotic magnetic ground state in the bond-disordered quantum spin system IPA-$Cu(Cl_{0.35}Br_{0.65})_3$ *(6 pages)* 054422
Takayuki Goto, Takao Suzuki, Keishi Kanada, Takehiro Saito, Akira Oosawa, Isao Watanabe, and Hirotaka Manaka

Predicted defect-induced vortex core switching in thin magnetic nanodisks *(10 pages)* 054423
R. L. Silva, A. R. Pereira, R. C. Silva, W. A. Moura-Melo, N. M. Oliveira-Neto, S. A. Leonel, and P. Z. Coura

Magnetic and electronic Co states in the layered cobaltate $GdBaCo_2O_{5.5-x}$ *(13 pages)* 054424
M. García-Fernández, V. Scagnoli, U. Staub, A. M. Mulders, M. Janousch, Y. Bodenthin, D. Meister, B. D. Patterson, A. Mirone, Y. Tanaka, T. Nakamura, S. Grenier, Y. Huang, and K. Conder

Band versus localized electron magnetism in $CaCrO_3$ *(6 pages)* 054425
S. V. Streltsov, M. A. Korotin, V. I. Anisimov, and D. I. Khomskii

(Continued)

The editors and referees of PRB find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. B 77, 130001 (2008).

PHYSICAL REVIEW B **THIRD SERIES, VOLUME 78, NUMBER 5** **AUGUST 2008-1(I)**

Electron spin relaxation and ^{39}K pulsed ENDOR studies on Cr^{5+}-doped K_3NbO_8 at 9.7 and 240 GHz *(6 pages)* 054426
S. Nellutla, G. W. Morley, J. van Tol, M. Pati, and N. S. Dalal

Effects of strain on orbital ordering and magnetism at perovskite oxide interfaces: $LaMnO_3/SrMnO_3$ *(12 pages)* 054427
B. R. K. Nanda and Sashi Satpathy

Impurity-ion pair induced high-temperature ferromagnetism in Co-doped ZnO *(10 pages)* 054428
C. D. Pemmaraju, R. Hanafin, T. Archer, H. B. Braun, and S. Sanvito

Signal propagation in time-dependent spin transport *(9 pages)* 054429
Yao-Hui Zhu, Burkard Hillebrands, and Hans Christian Schneider

Distribution of magnetization of a cold ferromagnetic cluster beam *(13 pages)* 054430
Xiaoshan Xu, Shuangye Yin, Ramiro Moro, and Walt A. de Heer

Degeneracy and consistency condition for Berry phases: Gap closing under a local gauge twist *(8 pages)* 054431
T. Hirano, H. Katsura, and Y. Hatsugai

Renormalization group studies on four-fermion interaction instabilities on algebraic spin liquids *(14 pages)* 054432
Cenke Xu

Coherence loss and recovery of an electron spin coupled inhomogeneously to a one-dimensional interacting spin bath: An adaptive time-dependent density-matrix renormalization group study *(10 pages)* 054433
Zhi-Hui Wang, Bing-Shen Wang, and Zhao-Bin Su

Electronic structure of the cubic perovskite $SrMn_{1-x}Fe_xO_3$ investigated by x-ray spectroscopies *(5 pages)* 054434
J.-S. Kang, H. J. Lee, G. Kim, D. H. Kim, B. Dabrowski, S. Kolesnik, Hangil Lee, J.-Y. Kim, and B. I. Min

Thermal destruction of chiral order in a two-dimensional model of coupled trihedra *(14 pages)* 054435
Laura Messio, Jean-Christophe Domenge, Claire Lhuillier, Laurent Pierre, Pascal Viot, and Grégoire Misguich

Spin-orbital effects in magnetized quantum wires and spin chains *(23 pages)* 054436
Suhas Gangadharaiah, Jianmin Sun, and Oleg A. Starykh

Low-temperature properties of the dilute dipolar magnet $LiHo_xY_{1-x}F_4$ *(6 pages)* 054437
A. Biltmo and P. Henelius

Derivation of the low-T phase diagram of $LiHo_xY_{1-x}F_4$: A dipolar quantum Ising magnet *(17 pages)* 054438
M. Schechter and P. C. E. Stamp

Magnetism of an Fe monolayer on W(110) *(9 pages)* 054439
A. T. Costa, R. B. Muniz, J. X. Cao, R. Q. Wu, and D. L. Mills

Optical spectroscopic investigation on the coupling of electronic and magnetic structure in multiferroic hexagonal $RMnO_3$ (R=Gd, Tb, Dy, and Ho) thin films *(6 pages)* 054440
Woo Seok Choi, Soon Jae Moon, Sung Seok A. Seo, Daesu Lee, Jung Hyuk Lee, Pattukkannu Murugavel, Tae Won Noh, and Yun Sang Lee

Electronic, magnetic, and transport properties and magnetic phase transition in quaternary (Cu,Ni)MnSb Heusler alloys *(8 pages)* 054441
J. Kudrnovský, V. Drchal, I. Turek, and P. Weinberger

(Continued)

The editors and referees of PRB find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. B 77, 130001 (2008).

PHYSICAL REVIEW B **THIRD SERIES, VOLUME 78, NUMBER 5** **AUGUST 2008-1(I)**

Magnetic anomalies in $Nd_6Co_{1.67}Si_3$: A first-order transition in the low-temperature isothermal magnetization behavior *(6 pages)* 054442
Niharika Mohapatra, S. Narayana Jammalamadaka, Sitikantha D. Das, and E. V. Sampathkumaran

Magnetodielectric coupling of a polar organic-inorganic hybrid Cr(II) phosphonate *(5 pages)* 054443
G. Nénert, U. Adem, E. M. Bauer, C. Bellitto, G. Righini, and T. T. M. Palstra

Quantum spherical spin glass with random short-range interactions *(8 pages)* 054444
Pedro Castro Menezes and Alba Theumann

Kondo effect in single-molecule magnet transistors *(12 pages)* 054445
Gabriel González, Michael N. Leuenberger, and Eduardo R. Mucciolo

Spin injection from Fe into Si(001): *Ab initio* calculations and role of the Si complex band structure *(8 pages)* 054446
Phivos Mavropoulos

Current driven dynamics of domain walls constrained in ferromagnetic nanopillars *(7 pages)* 054447
Matteo Franchin, Thomas Fischbacher, Giuliano Bordignon, Peter de Groot, and Hans Fangohr

Anisotropy in two-dimensional arrays of collinear in-plane rotated identical particles with arbitrary charge or polarization distribution *(12 pages)* 054448
N. Mikuszeit, J. J. de Miguel, and R. Miranda

Superfluidity and superconductivity

Fulde-Ferrell-Larkin-Ovchinnikov state in disordered *s*-wave superconductors *(8 pages)* 054501
Qinghong Cui and Kun Yang

Surface plasma waves across the layers of intrinsic Josephson junctions *(4 pages)* 054502
V. A. Yampol'skii, D. R. Gulevich, Sergey Savel'ev, and Franco Nori

Proximity effect between an unconventional superconductor and a ferromagnet with spin bandwidth asymmetry *(13 pages)* 054503
Mario Cuoco, Alfonso Romano, Canio Noce, and Paola Gentile

Identifying collective modes through impurity pinning in cuprate superconductors *(6 pages)* 054504
Roy H. Nyberg, Enrico Rossi, and Dirk K. Morr

Superconducting nanofilms: Andreev-type states induced by quantum confinement *(8 pages)* 054505
A. A. Shanenko, M. D. Croitoru, and F. M. Peeters

Structures and superconducting properties of the high-pressure IV and V phases of calcium from first principles *(8 pages)* 054506
Yansun Yao, John S. Tse, Zhe Song, Dennis D. Klug, Jian Sun, and Yvon Le Page

Quantum nondemolition-like fast measurement scheme for a superconducting qubit *(10 pages)* 054507
I. Serban, B. L. T. Plourde, and F. K. Wilhelm

Phase diagram and binding energy of interacting Bose gases *(5 pages)* 054508
M. Männel, K. Morawetz, M. Schreiber, and P. Lipavský

Depinning and creep in Josephson junction arrays in weak magnetic fields *(5 pages)* 054509
Huan Liu, Wei Zhou, and Qing-Hu Chen

Bogoliubov angle and visualization of particle-hole mixture in superconductors *(13 pages)* 054510
K. Fujita, Ilya Grigorenko, J. Lee, W. Wang, Jian Xin Zhu, J. C. Davis, H. Eisaki, S. Uchida, and Alexander V. Balatsky

(Continued)

The editors and referees of PRB find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. B 77, 130001 (2008).

PHYSICAL REVIEW B **THIRD SERIES, VOLUME 78, NUMBER 5** **AUGUST 2008-1(I)**

Magnetic field induced rotation of the *d*-vector in the spin-triplet superconductor Sr_2RuO_4 *(6 pages)* 054511
James F. Annett, B. L. Györffy, G. Litak, and K. I. Wysokiński

Pseudo-Rabi oscillations in superconducting flux qubits in the classical regime *(5 pages)* 054512
A. N. Omelyanchouk, S. N. Shevchenko, A. M. Zagoskin, E. Il'ichev, and Franco Nori

Quantum structure of normal-liquid and supercritical ^{4}He *(11 pages)* 054513
K. A. Gernoth, M. Serhan, and M. L. Ristig

Upper critical fields well above 100 T for the superconductor $SmFeAsO_{0.85}F_{0.15}$ with T_c=46 K *(7 pages)* 054514
C. Senatore, R. Flükiger, M. Cantoni, G. Wu, R. H. Liu, and X. H. Chen

Phonon imaging in superconducting Pb crystals: Absence of large gap anisotropy and spin-density waves *(16 pages)* 054515
J. D. Short, T. L. Head, and J. P. Wolfe

Influence of nonequilibrium quasiparticles in phonon imaging of superconductors: Consistency with BCS theory in Pb crystals *(12 pages)* 054516
T. L. Head and J. P. Wolfe

Josephson modulation of the critical current in $YBa_2Cu_3O_{7-\delta}$ films *(9 pages)* 054517
P. Bernstein, Y. Bougherira, J. F. Hamet, Y. Thimont, and L. Méchin

Demonstrating the model nature of the high-temperature superconductor $HgBa_2CuO_{4+\delta}$ *(7 pages)* 054518
Neven Barišić, Yuan Li, Xudong Zhao, Yong-Chan Cho, Guillaume Chabot-Couture, Guichuan Yu, and Martin Greven

Dynamics of glass phases in the two-dimensional gauge glass model *(5 pages)* 054519
Qing-Hu Chen, Jian-Ping Lv, and Huan Liu

Strong-coupling phases of frustrated bosons on a two-leg ladder with ring exchange *(22 pages)* 054520
D. N. Sheng, Olexei I. Motrunich, Simon Trebst, Emanuel Gull, and Matthew P. A. Fisher

Effect of magnetic field on macroscopic quantum tunneling escape time in small Josephson junctions *(10 pages)* 054521
Yu. N. Ovchinnikov, A. Barone, and A. A. Varlamov

Anomalous superconductivity of $Pb/La_{0.7}Sr_{0.3}MnO_3$ point contacts *(7 pages)* 054522
V. N. Krivoruchko and V. Yu. Tarenkov

Origins of large critical temperature variations in single-layer cuprates *(5 pages)* 054523
A. D. Palczewski, T. Kondo, R. Khasanov, N. N. Kolesnikov, A. V. Timonina, E. Rotenberg, T. Ohta, A. Bendounan, Y. Sassa, A. Fedorov, S. Pailhés, A. F. Santander-Syro, J. Chang, M. Shi, J. Mesot, H. M. Fretwell, and A. Kaminski

Electronic phase separation near the superconductor-insulator transition of $Nd_{1+x}Ba_{2-x}Cu_3O_{7-\delta}$ thin films studied by an electric-field-induced doping effect *(6 pages)* 054524
M. Salluzzo, A. Gambardella, G. M. De Luca, R. Di Capua, Z. Ristic, and R. Vaglio

Surface energy and magnetocapacitance of superconductors under electric field bias *(13 pages)* 054525
K. Morawetz, P. Lipavský, J. Koláček, and E. H. Brandt

Monte Carlo simulations of thermal fluctuations in moderately damped Josephson junctions: Multiple escape and retrapping, switching- and return-current distributions, and hysteresis *(12 pages)* 054526
J. C. Fenton and P. A. Warburton

Local dynamical lattice instabilities: Prerequisites for resonant pairing superconductivity *(14 pages)* 054527
Julius Ranninger and Alfonso Romano

(Continued)

The editors and referees of PRB find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. B 77, 130001 (2008).

PHYSICAL REVIEW B **THIRD SERIES, VOLUME 78, NUMBER 5** **AUGUST 2008-1(I)**

Specific heat of $Na_{0.3}CoO_2 \cdot 1.3H_2O$: Two energy gaps, nonmagnetic pair breaking, strong fluctuations in the superconducting state, and effects of sample age *(15 pages)* 054528
N. Oeschler, R. A. Fisher, N. E. Phillips, J. E. Gordon, M.-L. Foo, and R. J. Cava

Doping evolution of antiferromagnetic order and structural distortion in $LaFeAsO_{1-x}F_x$ *(6 pages)* 054529
Q. Huang, Jun Zhao, J. W. Lynn, G. F. Chen, J. L. Luo, N. L. Wang, and Pengcheng Dai

ERRATA

Erratum: Phase diagram of vortices in high-T_c superconductors from lattice defect model with pinning [Phys. Rev. B **75**, 144513 (2007)] *(3 pages)* . . . . . 059901(E)
Jürgen Dietel and Hagen Kleinert

Publisher's Note: Elongation of gold nanoparticles in silica glass by irradiation with swift heavy ions [Phys. Rev. B **78**, 054102 (2008)] *(1 page)* . . . . . 059902(E)
Koichi Awazu, Xiaomin Wang, Makoto Fujimaki, Junji Tominaga, Hirohiko Aiba, Yoshimichi Ohki, and Tetsuro Komatsubara

The editors and referees of PRB find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. B 77, 130001 (2008).