

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 1N01
2 Huntington Quadrangle
Melville, NY 11747-4502

THIRD SERIES, VOLUME 82, NUMBER 13

CONTENTS

OCTOBER 2010-1(I)

BRIEF REPORTS

Structure, structural phase transitions, mechanical properties, defects

- Shear softening in tantalum at megabar pressures (*4 pages*) 132101
Daniele Antonangeli, Daniel L. Farber, Ayman H. Said, Laura Robin Benedetti, Chantel M. Aracne,
Alexander Landa, Per Söderlind, and John E. Klepeis
- Random local strain effects in homovalent-substituted relaxor ferroelectrics: A first-principles study of
BaTi_{0.74}Zr_{0.26}O₃ (*4 pages*) 132102
C. Laulhé, A. Pasturel, F. Hippert, and J. Kreisel
- Stress-induced perovskite to post-perovskite transition in CaIrO₃ at room temperature (*4 pages*) 132103
J.-G. Cheng, J.-S. Zhou, and J. B. Goodenough
- Structural phase transition in the spin-crossover complex [Fe(ptz)₆](BF₄)₂ studied by x-ray diffraction
(*4 pages*) 132104
S. Lakhloufi, P. Guionneau, M. H. Lemée-Cailleau, P. Rosa, and J.-F. Létard

Inhomogeneous, disordered, and partially ordered systems

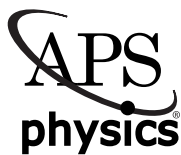
- Quantitative description of atomic architecture in solid solutions: A generalized theory for multicomponent
short-range order (*4 pages*) 132201
Anna V. Ceguerra, Rebecca C. Powles, Michael P. Moody, and Simon P. Ringer

Dynamics, dynamical systems, lattice effects

- Localized mode interactions in 0- π Josephson junctions (*4 pages*) 132301
Hadi Susanto and Gianne Derks

Magnetism

- Ferromagnetism in tetragonally distorted chromium (*4 pages*) 132401
Wuwei Feng, Dang Duc Dung, and Sunglae Cho
- Quasi-two-dimensional *d*-spin and *p*-hole ordering in the three-dimensional perovskite La_{1/3}Sr_{2/3}FeO₃
(*4 pages*) 132402
J. Okamoto, D. J. Huang, K. S. Chao, S. W. Huang, C.-H. Hsu, A. Fujimori, A. Masuno, T. Terashima,
M. Takano, and C. T. Chen
- Quantum order by disorder in a semiclassical spin ice (*4 pages*) 132403
Yang-Zhi Chou (周揚智) and Ying-Jer Kao (高英哲)



Copyright 2010 by The American Physical Society



1098-0121(20101001)82:13;1-8

(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).

Strong interplay between magnetic and structural properties in the spin-1/2 chain molecular compound D-F ₅ PNN (<i>4 pages</i>)	132404
E. Canévet, B. Grenier, Y. Yoshida, N. Sakai, L.-P. Regnault, T. Goto, Y. Fujii, and T. Kawae	
Influence of the size of uniaxial magnetic nanoparticle on the reliability of high-speed switching (<i>4 pages</i>)	132405
Anton A. Smirnov and Andrey L. Pankratov	
Magnetic-flux tuning of spin chirality in Mott insulators with ring exchanges (<i>4 pages</i>)	132406
Yi-Fei Wang and Chang-De Gong	
Magnetic properties of R ₂ Mn ₂ O ₇ pyrochlore rare-earth solid solutions (<i>4 pages</i>)	132407
N. Imamura, M. Karppinen, H. Yamauchi, and J. B. Goodenough	
Inter- and intratrimer excitations in the multiferroic Ba ₃ NbFe ₃ Si ₂ O ₁₄ (<i>4 pages</i>)	132408
H. D. Zhou, Y. Barlas, C. R. Wiebe, Y. Qiu, J. R. D. Copley, and J. S. Gardner	
Static equation of state of bcc iron (<i>4 pages</i>)	132409
H. L. Zhang, S. Lu, M. P. J. Punkkinen, Q.-M. Hu, B. Johansson, and L. Vitos	
Frequency shift of spin waves in tunnel-junction spin-transfer nano-oscillators (<i>4 pages</i>)	132410
R. L. Rodríguez-Suárez, A. Matos-Abiague, A. Azevedo, and S. M. Rezende	
Nonlocal scaling operators with entanglement renormalization (<i>4 pages</i>)	132411
G. Evenbly, P. Corboz, and G. Vidal	

Superfluidity and superconductivity

Quantum dynamics of a microwave driven superconducting phase qubit coupled to a two-level system (<i>4 pages</i>)	132501
Guozhu Sun, Xueda Wen, Bo Mao, Zhongyuan Zhou, Yang Yu, Peiheng Wu, and Siyuan Han	
Superconductivity for CaC ₆ to 32 GPa hydrostatic pressure (<i>3 pages</i>)	132502
M. Debessai, J. J. Hamlin, J. S. Schilling, D. Rosenmann, D. G. Hinks, and H. Claus	
Pairing mechanism of iron pnictide superconductors (<i>4 pages</i>)	132503
R. Chan, M. Gulacsi, A. Ormeci, and A. R. Bishop	
Possible secondary component of the order parameter observed in London penetration depth measurements (<i>4 pages</i>)	132504
A. Valli, G. Sangiovanni, M. Capone, and C. Di Castro	
Stability of vortex in a two-component superconductor (<i>4 pages</i>)	132505
Jun-Ping Wang	

ARTICLES

Structure, structural phase transitions, mechanical properties, defects

High-pressure investigation of CaTiO ₃ up to 60 GPa using x-ray diffraction and Raman spectroscopy (<i>10 pages</i>)	134101
Mael Guennou, Pierre Bouvier, Benjamin Krikler, Jens Kreisel, Raphaël Haumont, and Gaston Garbarino	
Structural and electronic properties of PbTiO ₃ /SrTiO ₃ superlattices from first principles (<i>9 pages</i>)	134102
Mingqiang Gu, Jianli Wang, Q. Y. Xie, and X. S. Wu	

(Continued)

Simultaneous high-pressure and high-temperature volume measurements of ice VII and its thermal equation of state (9 pages)	134103
Emiko Sugimura, Tetsuya Komabayashi, Kei Hirose, Nagayoshi Sata, Yasuo Ohishi, and Leonid S. Dubrovinsky	
Nanoscale ordering and multiferroic behavior in $\text{Pb}(\text{Fe}_{1/2}\text{Ta}_{1/2})\text{O}_3$ (10 pages)	134104
R. Martinez, R. Palai, H. Huhtinen, J. Liu, J. F. Scott, and R. S. Katiyar	
Electroresistance effects in ferroelectric tunnel barriers (8 pages)	134105
D. Pantel and M. Alexe	
First-principles accurate total energy surfaces for polar structural distortions of BaTiO_3 , PbTiO_3 , and SrTiO_3 : Consequences for structural transition temperatures (9 pages)	134106
Takeshi Nishimatsu, Masaya Iwamoto, Yoshiyuki Kawazoe, and Umesh V. Waghmare	
Trapping of oxygen vacancy at grain boundary and its correlation with local atomic configuration and resultant excess energy in barium titanate: A systematic computational analysis (10 pages)	134107
Takashi Oyama, Nobuyuki Wada, Hiroshi Takagi, and Masato Yoshiya	
Effect of A-site size difference on polar behavior in MBiScNbO_6 ($M=\text{Na}$, K , and Rb): Density functional calculations (5 pages)	134108
Shigeyuki Takagi, Alaska Subedi, Valentino R. Cooper, and David J. Singh	
Dopant-vacancy binding effects in Li-doped magnesium hydride (9 pages)	134109
Kyle C. Smith, Timothy S. Fisher, Umesh V. Waghmare, and Ricardo Grau-Crespo	
Oxygen and nitrogen interstitial ordering in hcp Ti, Zr, and Hf: An <i>ab initio</i> study (10 pages)	134110
A. V. Ruban, V. I. Baykov, B. Johansson, V. V. Dmitriev, and M. S. Blanter	
Compressibility of cubic white, orthorhombic black, rhombohedral black, and simple cubic black phosphorus (6 pages)	134111
S. M. Clark and J. M. Zaug	
Effects of vacancy-solute clusters on diffusivity in metastable Fe-C alloys (8 pages)	134112
Mukul Kabir, Timothy T. Lau, Xi Lin, Sidney Yip, and Krystyn J. Van Vliet	
Correlations between tetragonality, polarization, and ionic displacement in PbTiO_3 -derived ferroelectric perovskite solid solutions (5 pages)	134113
Tingting Qi, Ilya Grinberg, and Andrew M. Rappe	
Photoinduced fluidity in chalcogenide glasses at low and high intensities: A model accounting for photon efficiency (12 pages)	134114
Yann Gueguen, Jean Christophe Sangleboeuf, Vincent Keryvin, Eric Lépine, Zhiong Yang, Tanguy Rouxel, Céline Point, Bruno Bureau, Xiang-Hua Zhang, and Pierre Lucas	
Activation entropies for diffusion in cubic silicon carbide from first principles (12 pages)	134115
O. N. Bedoya-Martínez and Guido Roma	
Density-wave instability in $\alpha\text{-(BEDT-TTF)}_2\text{KHg(SCN)}_4$ studied by x-ray diffuse scattering and by first-principles calculations (14 pages)	134116
Pascale Foury-Leylekian, Jean-Paul Pouget, Young-Joo Lee, Risto M. Nieminen, Pablo Ordejón, and Enric Canadell	
Two pressure-induced structural phase transitions in TiOCl (5 pages)	134117
J. Ebad-Allah, A. Schönleber, S. van Smaalen, M. Hanfland, M. Klemm, S. Horn, S. Glawion, M. Sing, R. Claessen, and C. A. Kuntscher	

(Continued)

Investigation of fivefold symmetry at the liquid Pb/Si(001) interface: An <i>ab initio</i> molecular dynamics study (5 pages)	134118
J. Souto, M. M. G. Alemany, R. C. Longo, L. J. Gallego, L. E. González, and D. J. González	
Electric-field-induced dielectric and temperature changes in a $\langle 011 \rangle$ -oriented $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3$ - PbTiO_3 single crystal (8 pages)	134119
J. Peräntie, J. Hagberg, A. Uusimäki, and H. Jantunen	
Self-consistent embedding quantum mechanics/molecular mechanics method with applications to metals (8 pages)	134120
Xu Zhang, Qing Peng, and Gang Lu	
Experimental evidence for a phase transition in a Zn_6Sc 1/1 cubic approximant (5 pages)	134121
Tsunetomo Yamada, Ryuji Tamura, Yuji Muro, Kiyochiro Motoya, Masahiko Isobe, and Yutaka Ueda	
Viscoelastic model for polarization switching in soft matter organic ferroelectrics (6 pages)	134122
V. V. Lazarev, L. M. Blinov, S. P. Palto, and S. G. Yudin	
Elastic and anelastic relaxations associated with the incommensurate structure of $\text{Pr}_{0.48}\text{Ca}_{0.52}\text{MnO}_3$ (16 pages)	134123
Michael A. Carpenter, Christopher J. Howard, Ruth E. A. McKnight, Albert Migliori, Jon B. Betts, and Victor R. Fanelli	
Two-component model of the neutron diffuse scattering in the relaxor ferroelectric PZN-4.5%PT (9 pages)	134124
Zhijun Xu, Jinsheng Wen, Guangyong Xu, C. Stock, J. S. Gardner, and P. M. Gehring	
Structural transformation and vibrational properties of BaO_2 at high pressures (10 pages)	134125
I. Efthimiopoulos, K. Kunc, S. Karmakar, K. Syassen, M. Hanfland, and G. Vajenine	
<i>Ab initio</i> study of the formation of transparent carbon under pressure (5 pages)	134126
Xiang-Feng Zhou (周向锋), Guang-Rui Qian (钱广锐), Xiao Dong (董校), Lixin Zhang (张立新), Yongjun Tian (田永君), and Hui-Tian Wang (王慧田)	
Inhomogeneous, disordered, and partially ordered systems	
Percolation-to-hopping crossover in conductor-insulator composites (7 pages)	134201
G. Ambrosetti, I. Balberg, and C. Grimaldi	
Nonlinear conductivity spectra of ionically conducting glasses and glass ceramics: Analysis of spectral shape and scaling properties (7 pages)	134202
H. Staesche and B. Roling	
Electric and magnetic polarizabilities of hexagonal $\text{Ln}_2\text{CuTiO}_6$ ($\text{Ln}=\text{Y}, \text{Dy}, \text{Ho}, \text{Er}, \text{and Yb}$) (7 pages)	134203
Debraj Choudhury, Abhijit Hazarika, Adyam Venimadhav, Chandrasekhar Kakarla, Kris T. Delaney, P. Sujatha Devi, P. Mondal, R. Nirmala, J. Gopalakrishnan, Nicola A. Spaldin, Umesh V. Waghmare, and D. D. Sarma	
Nonlinear conductivity of two-dimensional Coulomb glasses (8 pages)	134204
M. Caravaca, A. M. Somoza, and M. Ortuño	
Phonon-coupling enhanced absorption of alloyed amorphous silicon for solar photovoltaics (6 pages)	134205
Jedo Kim and Massoud Kaviani	
Dynamics of particle flips in two-dimensional quasicrystals (9 pages)	134206
Michael Engel, Masahiro Umezaki, Hans-Rainer Trebin, and Takashi Odagaki	

(Continued)

<i>Ab initio</i> calculation of phonon dispersions in size-mismatched disordered alloys (10 pages)	134207
Biswanath Dutta, Konark Bisht, and Subhradip Ghosh	
Full versus first-stage replica symmetry breaking in spin glasses (5 pages)	134208
T. I. Schelkacheva, E. E. Tareyeva, and N. M. Chitchev	
Lead silicate glasses: Binary network-former glasses with large amounts of free volume (7 pages)	134209
S. Kohara, H. Ohno, M. Takata, T. Usuki, H. Morita, K. Suzuya, J. Akola, and L. Pusztai	
Dynamics, dynamical systems, lattice effects	
Evaluation of computational techniques for solving the Boltzmann transport equation for lattice thermal conductivity calculations (17 pages)	134301
Aleksandr Chernatynskiy and Simon R. Phillpot	
Off-center rattling and cage vibration of the carrier-tuned type-I clathrate Ba ₈ Ga ₁₆ Ge ₃₀ studied by Raman scattering (7 pages)	134302
Y. Takasu, T. Hasegawa, N. Ogita, M. Udagawa, M. A. Avila, K. Suekuni, and T. Takabatake	
Exact results on the quench dynamics of the entanglement entropy in the toric code (14 pages)	134303
Armin Rahmani and Claudio Chamon	
Andreev-Lifshitz hydrodynamics applied to an ordinary solid under pressure (9 pages)	134304
Matthew R. Sears and Wayne M. Saslow	
Magnetism	
Spin and charge dynamics in [TbPc ₂] ⁰ and [DyPc ₂] ⁰ single-molecule magnets (7 pages)	134401
F. Branzoli, P. Carretta, M. Filibian, M. J. Graf, S. Klyatskaya, M. Ruben, F. Coneri, and P. Dhakal	
Laves-phase (Zr,Nb)Fe ₂ alloys as model Invar systems without magnetic frustration: Comparison to Fe-Ni Invar (5 pages)	134402
S. Khmelevskiy and P. Mohn	
Phonon-induced relaxation in the Cr ₇ Ni magnetic molecule probed by NMR (7 pages)	134403
A. Bianchi, S. Carretta, P. Santini, G. Amoretti, J. Lago, M. Corti, A. Lascialfari, P. Arosio, G. Timco, and R. E. P. Winpenny	
Spin-glass ordering and absence of valence fluctuations of Eu in EuCu ₂ Si ₂ single crystals (7 pages)	134404
P. Wang, Z. M. Stadnik, J. Żukrowski, B. K. Cho, and J. Y. Kim	
Effect of spatial inhomogeneity on the mapping between strongly interacting fermions and weakly interacting spins (7 pages)	134405
Vivian V. França and Klaus Capelle	
Energetics and magnetic properties of V-doped MgO bulk and (001) surface: A GGA, GGA+ <i>U</i> , and hybrid density functional study (9 pages)	134406
C. Århammar, C. Moyses Araujo, K. V. Rao, Susanne Norgren, Börje Johansson, and Rajeev Ahuja	
Comparing frustrated and unfrustrated clusters of single-domain ferromagnetic islands (5 pages)	134407
J. Li, S. Zhang, J. Bartell, C. Nisoli, X. Ke, Paul E. Lammert, Vincent H. Crespi, and P. Schiffer	
Chemical control of orbital polarization in artificially structured transition-metal oxides: La ₂ NiXO ₆ (X=B, Al, Ga, In) from first principles (8 pages)	134408
M. J. Han, C. A. Marianetti, and A. J. Millis	

(Continued)

Artificially modulated chemical order in thin films: A different approach to create ferro/antiferromagnetic interfaces (<i>5 pages</i>)	134409
T. Saerbeck, F. Klose, D. Lott, G. J. Mankey, Z. Lu, P. R. LeClair, W. Schmidt, A. P. J. Stampfl, S. Danilkin, M. Yethiraj, and A. Schreyer	
Dynamical Monte Carlo investigation of spin reversal and nonequilibrium magnetization of single-molecule magnets (<i>9 pages</i>)	134410
Gui-Bin Liu and Bang-Gui Liu	
Micromagnetic simulations of spin-wave normal modes and the resonant field-driven magnetization dynamics of a 360° domain wall in a soft magnetic stripe (<i>13 pages</i>)	134411
P. E. Roy, T. Trypiniotis, and C. H. W. Barnes	
Spin transfer torque and magnetic dynamics in tunnel junctions (<i>6 pages</i>)	134412
P. Ogrodnik, M. Wilczyński, R. Świrkowicz, and J. Barnaś	
Effects of interparticle interactions in magnetic Fe/Si ₃ N ₄ granular systems (<i>12 pages</i>)	134413
F. Jiménez-Villacorta, J. Sánchez-Marcos, E. Céspedes, M. García-Hernández, and C. Prieto	
Spin dynamics of current-driven single magnetic adatoms and molecules (<i>15 pages</i>)	134414
F. Delgado and J. Fernández-Rossier	
Influence of adsorbates on the electronic and magnetic properties of graphane with H-vacancy defects (<i>6 pages</i>)	134415
Julia Berashevich and Tapash Chakraborty	
First-principles study of the interaction between paramagnetic V ⁴⁺ centers through formally magnetically inactive VO ₄ tetrahedra in the quasi-one-dimensional spin systems Sr ₂ V ₃ O ₉ and Ba ₂ V ₃ O ₉ (<i>7 pages</i>)	134416
Antonio Rodríguez-Fortea, Miquel Llunell, Pere Alemany, and Enric Canadell	
Magnetism in binary and encapsulated Co-Mn clusters (<i>9 pages</i>)	134417
A. M. Asaduzzaman and J. A. Blackman	
Harmonic and anharmonic properties of Fe and Ni: Thermal expansion, exchange-correlation errors, and magnetism (<i>7 pages</i>)	134418
Alison J. Hatt, Brent C. Melot, and Shobhana Narasimhan	
Piezoelectric tuning of exchange bias in a BaTiO ₃ /Co/CoO heterostructure (<i>7 pages</i>)	134419
S. Polisetty, W. Echtenkamp, K. Jones, X. He, S. Sahoo, and Ch. Binek	
Loop algorithm for classical Heisenberg models with spin-ice type degeneracy (<i>10 pages</i>)	134420
Hiroshi Shinaoka and Yukitoshi Motome	
Thermal drag revisited: Boltzmann versus Kubo (<i>14 pages</i>)	134421
Suhas Gangadharaiah, A. L. Chernyshev, and Wolfram Brenig	
Magnetic structures of δ-O ₂ resulting from competition of interplane exchange interactions (<i>7 pages</i>)	134422
E. V. Gomonay and V. M. Loktev	
Growth, structure, and magnetic properties of epitaxial Ni _x Mn _{100-x} single layers and Co/Ni _x Mn _{100-x} bilayers on Cu ₃ Au(100) (<i>8 pages</i>)	134423
W. A. A. Macedo, P. L. Gastelois, M. D. Martins, W. Kuch, J. Miguel, and M. Y. Khan	
Understanding the role of structural disorder on spin polarization in CeMnNi ₄ using XAFS (<i>6 pages</i>)	134424
Debdutta Lahiri, S. Khalid, P. Modak, Pratap Raychaudhuri, S. K. Dhar, and Surinder M. Sharma	
Probing equilibrium by nonequilibrium dynamics: Aging in Co/Cr superlattices (<i>5 pages</i>)	134425
T. Mukherjee, M. Pleimling, and Ch. Binek	

(Continued)

Behavior of the antiferromagnetic layer during training in exchange-biased bilayers within the domain state model (10 pages)	134426
A. G. Biternas, R. W. Chantrell, and U. Nowak	
Ordered phases of itinerant Dzyaloshinsky-Moriya magnets and their electronic properties (20 pages)	134427
Kwan-yuet Ho, T. R. Kirkpatrick, Yan Sang, and D. Belitz	
Signature of ferroelectricity in magnetically ordered Mo-doped CoFe_2O_4 (5 pages)	134428
G. D. Dwivedi, K. F. Tseng, C. L. Chan, P. Shahi, J. Lourembam, B. Chatterjee, A. K. Ghosh, H. D. Yang, and Sandip Chatterjee	
Theoretical prediction of multiferroicity in double perovskite Y_2NiMnO_6 (6 pages)	134429
Sanjeev Kumar, Gianluca Giovannetti, Jeroen van den Brink, and Silvia Picozzi	
Landau-Lifshitz equation for magnetization dynamics of thin films: Failure of the linear approximation at low effective fields (10 pages)	134430
D. Seddaoui, S. Loranger, D. Ménard, and A. Yelon	
Thermal fluctuation field for current-induced domain wall motion (16 pages)	134431
Kyoung-Whan Kim and Hyun-Woo Lee	
Anomalous Hall effect in the high-temperature ferrimagnetic semiconductors $\text{BaFe}_{2\pm x}\text{Ru}_{4\mp x}\text{O}_{11}$ (8 pages)	134432
L. Shlyk, R. Niewa, and L. E. De Long	
Nonmonotonic evolution of the blocking temperature in dispersions of superparamagnetic nanoparticles (6 pages)	134433
D. Serantes, D. Baldomir, M. Pereiro, C. E. Hoppe, F. Rivadulla, and J. Rivas	
Phase transitions and thermodynamics of the two-dimensional Ising model on a distorted kagome lattice (8 pages)	134434
Wei Li, Shou-Shu Gong, Yang Zhao, Shi-Ju Ran, Song Gao, and Gang Su	
Theoretical study on the variation of ordering vector in $\text{Ce}(\text{Pd}_{1-x}\text{M}_x)_2\text{Al}_3$ ($\text{M}=\text{Ag}, \text{Cu}$) (6 pages)	134435
Kazunori Tanaka, Takumi Araki, and Katsuro Hanzawa	
Inelastic electron tunneling spectrum from surface magnon and magnetic impurity scatterings in magnetic tunnel junctions (6 pages)	134436
H.-X. Wei, Q.-H. Qin, Q.-L. Ma, X.-G. Zhang, and X.-F. Han	
Magnetic Bose glass phases of coupled antiferromagnetic dimers with site dilution (15 pages)	134437
Rong Yu, Omid Nohadani, Stephan Haas, and Tommaso Roscilde	
Giant negative domain wall resistance in iron (9 pages)	134438
Dieter Elefant and Rudolf Schäfer	
Nonlinear spin-wave phenomena in the $[\text{Mn}\{(\text{R}/\text{S})\text{-pn}\}_2]_2[\text{Mn}\{(\text{R}/\text{S})\text{-pn}\}_2\text{H}_2\text{O}][\text{Cr}(\text{CN})_6]$ molecular ferrimagnet (5 pages)	134439
R. B. Morgunov, F. B. Mushenok, and O. Kazakova	
Multiscale modeling of magnetic materials: Temperature dependence of the exchange stiffness (10 pages)	134440
U. Atxitia, D. Hinzke, O. Chubykalo-Fesenko, U. Nowak, H. Kachkachi, O. N. Mryasov, R. F. Evans, and R. W. Chantrell	
Spin-polarized tunneling spectroscopic studies of the intrinsic heterogeneity and pseudogap phenomena in colossal magnetoresistive manganite $\text{La}_{0.7}\text{Ca}_{0.3}\text{MnO}_3$ (13 pages)	134441
C. R. Hughes, J. Shi, A. D. Beyer, and N.-C. Yeh	

(Continued)

Recovery of the training effect in exchange bias systems within a coherent rotation model (6 pages)	134442
B. F. Miao, J. H. Ai, L. Sun, B. You, An Hu, and H. F. Ding	
Spin-wave population in nickel after femtosecond laser pulse excitation (7 pages)	134443
Benjamin Lenk, Gerrit Eilers, Jaroslav Hamrle, and Markus Münzenberg	
Crystal field and microwave absorption spectra in tetragonal $\text{HoBa}_2\text{Cu}_3\text{O}_x$ ($x=6.0$ and 6.3) (10 pages)	134444
Z. A. Kazei, V. V. Snegirev, N. P. Danilova, M. Goiran, V. Nekvasil, L. P. Kozeeva, and M. Yu. Kameneva	
Metamagnetic transition self-propelled by spin injection (6 pages)	134445
A. A. Zyuzin and A. Yu. Zyuzin	
Magnetic anisotropy and ferromagnetic correlations above the Curie temperature in Eu_2CuSi_3 single crystals (7 pages)	134446
C. D. Cao, R. Klingeler, H. Vinzelberg, N. Leps, W. Löser, G. Behr, F. Muranyi, V. Kataev, and B. Büchner	
Magnetoresistance measurement of tailored Permalloy nanocontacts (8 pages)	134447
A. K. Patra, A. von Bieren, S. Krzyk, J. Rhensius, L. J. Heyderman, R. Hoffmann, and M. Kläui	
Magnetic structure of epitaxial multiferroic BiFeO_3 films with engineered ferroelectric domains (5 pages)	134448
X. Ke, P. P. Zhang, S. H. Baek, J. Zarestky, W. Tian, and C. B. Eom	
Inverse and oscillatory magnetoresistance in $\text{Fe}(001)/\text{MgO}/\text{Cr}/\text{Fe}$ magnetic tunnel junctions (6 pages)	134449
Jia Zhang, Yan Wang, X.-G. Zhang, and X. F. Han	
Superfluidity and superconductivity	
Geometry-dependent penetration fields in superconducting $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ platelets (5 pages)	134501
P. J. Curran, J. R. Clem, S. J. Bending, Y. Tsuchiya, and T. Tamegai	
Effect of quasiparticles injection on the ac response of a superconductor (9 pages)	134502
G. Catelani, L. I. Glazman, and K. E. Nagaev	
 Symmetry of spin excitation spectra in the tetragonal paramagnetic and superconducting phases of 122-ferropnictides (18 pages)	134503
J. T. Park, D. S. Inosov, A. Yaresko, S. Graser, D. L. Sun, Ph. Bourges, Y. Sidis, Yuan Li, J.-H. Kim, D. Haug, A. Ivanov, K. Hradil, A. Schneidewind, P. Link, E. Faulhaber, I. Glavatsky, C. T. Lin, B. Keimer, and V. Hinkov	
STM differential conductance of a disordered extreme type-II superconductor at high magnetic fields (7 pages)	134504
Saša Dukan, Joel Tenenbaum, Joseph Porembski, and Karl Tata	
Doped high- T_c cuprate superconductors elucidated in the light of zeros and poles of the electronic Green's function (16 pages)	134505
Shiro Sakai, Yukitoshi Motome, and Masatoshi Imada	
Effect of disorder on the electronic Raman scattering in the superconducting state of iron pnictides (8 pages)	134506
G. R. Boyd, P. J. Hirschfeld, and T. P. Devereaux	
Interface effects in d -wave superconductor-ferromagnet junctions in the vicinity of domain walls (5 pages)	134507
T. Kirzhner and G. Koren	

(Continued)

Shot noise and Coulomb effects on nonlocal electron transport in normal-metal/superconductor/normal-metal heterostructures (7 pages)	134508
Dmitri S. Golubev and Andrei D. Zaikin	
Valence change of europium in $\text{EuFe}_2\text{As}_{1.4}\text{P}_{0.6}$ and compressed EuFe_2As_2 and its relation to superconductivity (4 pages)	134509
Liling Sun, Jing Guo, Genfu Chen, Xianhui Chen, Xiaoli Dong, Wei Lu, Chao Zhang, Zheng Jiang, Yang Zou, Suo Zhang, Yuying Huang, Qi Wu, Xi Dai, Yuanchun Li, Jing Liu, and Zhongxian Zhao	
Vortex dynamics and Hall conductivity of hard-core bosons (14 pages)	134510
Netanel Lindner, Assa Auerbach, and Daniel P. Arovas	
Phase transitions in a three dimensional $U(1) \times U(1)$ lattice London superconductor: Metallic superfluid and charge-4e superconducting states (16 pages)	134511
Egil V. Herland, Egor Babaev, and Asle Sudbø	
Interband and intraband effects in the upper critical field of disordered MgB_2 (10 pages)	134512
P. Brotto, I. Pallecchi, M. Putti, and E. Galleani D'Agliano	
Interface resistance of $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}/\text{La}_{0.67}\text{Sr}_{0.33}\text{MnO}_3$ ramp-type contacts (9 pages)	134513
M. van Zalk, A. Brinkman, J. Aarts, and H. Hilgenkamp	
Structural trends from a consistent set of single-crystal data of $R\text{FeAsO}$ ($R=\text{La, Ce, Pr, Nd, Sm, Gd, and Tb}$) (8 pages)	134514
F. Nitsche, A. Jesche, E. Hieckmann, Th. Doert, and M. Ruck	
Phonons and superconductivity in YbC_6 and related compounds (5 pages)	134515
M. H. Upton, T. R. Forrest, A. C. Walters, C. A. Howard, M. Ellerby, A. H. Said, and D. F. McMorrow	
Josephson current in ballistic superconductor-graphene systems (6 pages)	134516
Imre Hagymási, Andor Kormányos, and József Cserti	
Decoherence of adiabatically steered quantum systems (12 pages)	134517
P. Solinas, M. Möttönen, J. Salmilehto, and J. P. Pekola	
Superconducting nanowires as nonlinear inductive elements for qubits (11 pages)	134518
Jaseung Ku, Vladimir Manucharyan, and Alexey Bezryadin	
Critical behavior of plastic depinning of vortex lattices in two dimensions: Molecular dynamics simulations (7 pages)	134519
Y. Fily, E. Olive, N. Di Scala, and J. C. Soret	
Superconductivity in the Rh-based Heusler family MRh_2Sn (6 pages)	134520
T. Klimczuk, K. Gofryk, C. H. Wang, J. M. Allred, F. Ronning, W. Sadowski, J.-C. Griveau, E. Colineau, D. Safarik, J. D. Thompson, and R. J. Cava	
Non-Abelian topological orders and Majorana fermions in spin-singlet superconductors (28 pages)	134521
Masatoshi Sato, Yoshiro Takahashi, and Satoshi Fujimoto	
Large-amplitude harmonic driving of highly coherent flux qubits (12 pages)	134522
Alejandro Ferrón, Daniel Domínguez, and María José Sánchez	
Andreev-Lifshitz supersolid hydrodynamics including the diffusive mode (8 pages)	134523
Matthew R. Sears and Wayne M. Saslow	

(Continued)

Coherent flux-flow emission from stacked Josephson junctions: Nonlocal radiative boundary conditions and the role of geometrical resonances (6 pages)	134524
V. M. Krasnov	
Thermally activated energy and flux-flow Hall effect of $\text{Fe}_{1+y}(\text{Te}_{1+x}\text{S}_x)_z$ (6 pages)	134525
Hechang Lei (雷和畅), Rongwei Hu (胡荣伟), E. S. Choi, and C. Petrovic	
Oxygen chain disorder as the weak scattering source in $\text{YBa}_2\text{Cu}_3\text{O}_{6.50}$ (9 pages)	134526
J. S. Bobowski, J. C. Baglo, James Day, Lynne Semple, P. Dosanjh, P. J. Turner, R. Harris, Ruixing Liang, D. A. Bonn, and W. N. Hardy	
Spectral analysis for the iron-based superconductors: Anisotropic spin fluctuations and fully gapped $s^\pm$ -wave superconductivity (9 pages)	134527
Junhua Zhang, Rastko Sknepnek, and Jörg Schmalian	
Pseudogap and its critical point in the heavily doped $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ from c -axis resistivity measurements (10 pages)	134528
M. A. Tanatar, N. Ni, A. Thaler, S. L. Bud'ko, P. C. Canfield, and R. Prozorov	
Elementary excitations in superfluid ^3He - ^4He mixtures (13 pages)	134529
David Mateo, Manuel Barranco, and Jesús Navarro	
Multiphoton spectroscopy of a hybrid quantum system (6 pages)	134530
P. Bushev, C. Müller, J. Lisenfeld, J. H. Cole, A. Lukashenko, A. Shnirman, and A. V. Ustinov	
Saturation of decaying counterflow turbulence in helium II (8 pages)	134531
Michele Sciacca, Yuri A. Sergeev, Carlo F. Barenghi, and Ladislav Skrbek	
Superconducting periodic nanostructures in a magnetic field (12 pages)	134532
Paul Erdős and Wei Zheng	
 Fast readout of a single Cooper-pair box using its quantum capacitance (7 pages)	134533
F. Persson, C. M. Wilson, M. Sandberg, and P. Delsing	
Superconducting proximity effects in metals with a repulsive pairing interaction (11 pages)	134534
Oriol T. Valls, Matthew Bryan, and Igor Žutić	
Phonon dispersions and anomalies of MgCNi_3 single-crystal superconductors determined by inelastic x-ray scattering (4 pages)	134535
Hawoong Hong, Mary Upton, Ayman H. Said, Hyun-Sook Lee, Dong-Jin Jang, Sung-Ik Lee, Ruqing Xu, and T.-C. Chiang	
Hard core bosons on the dual of the bowtie lattice (7 pages)	134536
Wanzhou Zhang, Laixi Li, and Wenan Guo	
Contractor-renormalization study of Hubbard plaquette clusters (10 pages)	134537
Shirit Baruch and Dror Orgad	

COMMENTS

Comment on “Quantum phase transition in the four-spin exchange antiferromagnet” (2 pages)	136401
L. Isaev, G. Ortiz, and J. Dukelsky	
Reply to “Comment on ‘Quantum phase transition in the four-spin exchange antiferromagnet’ ” (2 pages)	136402
Valeri N. Kotov, D. X. Yao, A. H. Castro Neto, and D. K. Campbell	

(Continued)

ERRATA

Publisher's Note: Nanoscale ordering and multiferroic behavior in $\text{Pb}(\text{Fe}_{1/2}\text{Ta}_{1/2})\text{O}_3$ [Phys. Rev. B 82 , 134104 (2010)] (<i>1 page</i>)	139901(E)
R. Martinez, R. Palai, H. Huhtinen, J. Liu, J. F. Scott, and R. S. Katiyar	