

PN
P59/rb

PHYSICAL REVIEW BTM

CONDENSED MATTER AND MATERIALS PHYSICS

Articles Published in MARCH 2014

1(I)

Published by
AMERICAN PHYSICAL SOCIETYTM

Volume 89

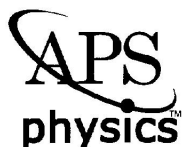
Third Series

Number 9

ARTICLES

Structure, structural phase transitions, mechanical properties, defects

- Relationships between structural and electrical properties in mixed conductors duplex materials in the ZrO_2 - Y_2O_3 - TiO_2 ternary system (*11 pages*) 094101
M. T. Colomer, S. Díaz-Moreno, R. Boada, M. Maczka, and J. Chaboy
- Structural, elastic, and thermal properties of cementite (Fe_3C) calculated using a modified embedded atom method (*11 pages*) 094102
Laalitha S. I. Liyanage, Seong-Gon Kim, Jeff Houze, Sungho Kim, Mark A. Tschopp, M. I. Baskes, and M. F. Horstemeyer
- Ab initio* characterization of the quantum linear-zigzag transition using density matrix renormalization group calculations (*12 pages*) 094103
Pietro Silvi, Tommaso Calarco, Giovanna Morigi, and Simone Montangero
- Combinatorial screening for new materials in unconstrained composition space with machine learning (*7 pages*) 094104
B. Meredig, A. Agrawal, S. Kirklin, J. E. Saal, J. W. Doak, A. Thompson, K. Zhang, A. Choudhary, and C. Wolverton
- Atomic sublattice decomposition of piezoelectric response in tetragonal $PbTiO_3$, $BaTiO_3$, and $KNbO_3$ (*4 pages*) 094105
Jing Shi, Ilya Grinberg, Xiaoli Wang, and Andrew M. Rappe
- Electric-field-induced transformations in epitaxial relaxor ferroelectric $PbMg_{1/3}Nb_{2/3}O_3$ films (*7 pages*) 094106
M. Tyunina, I. Pintilie, A. Iuga, and L. Pintilie
- Unambiguous Gibbs dividing surface for nonequilibrium finite-width interface: Static equivalence approach (*5 pages*) 094107
Valery I. Levitas
- Nonequilibrium quantum criticality in open systems: The dissipation rate as an additional indispensable scaling variable (*9 pages*) 094108
Shuai Yin, Peizhi Mai, and Fan Zhong
- Dynamic stabilization of cubic $CaSiO_3$ perovskite at high temperatures and pressures from *ab initio* molecular dynamics (*9 pages*) 094109
Tao Sun, Dong-Bo Zhang, and Renata M. Wentzcovitch



Mechanisms of the paraelectric to ferroelectric phase transition in RbH_2PO_4 probed by purely resonant x-ray diffraction (9 pages)	094110
C. Richter, D. V. Novikov, E. Kh. Mukhamedzhanov, M. M. Borisov, K. A. Akimova, E. N. Ovchinnikova, A. P. Oreshko, J. Strempler, M. Zschornak, E. Mehner, D. C. Meyer, and V. E. Dmitrienko	
Intrinsic LiNbO_3 point defects from hybrid density functional calculations (8 pages)	094111
Yanlu Li, W. G. Schmidt, and S. Sanna	
Quantum hexatic order in two-dimensional dipolar and charged fluids (10 pages)	094112
Georg M. Bruun and David R. Nelson	
Inhomogeneous, disordered, and partially ordered systems	
Anisotropic optical response of nanocrystalline V_2O_5 thin films and effects of oxygen vacancy formation (6 pages)	094201
T. D. Kang, J.-S. Chung, and Jong-Gul Yoon	
Dynamics, dynamical systems, lattice effects:	
Soliton dynamics in a solid lubricant during sliding friction (13 pages)	094301
Anna Vigentini, Barbara Van Hattem, Elena Diato, Paolo Ponzellini, Tommaso Meledina, Andrea Vanossi, Giuseppe Santoro, Erio Tosatti, and Nicola Manini	
Transport regimes in quasiballistic heat conduction (5 pages)	094302
Chengyun Hua and Austin J. Minnich	
Vibrational and thermodynamic properties of GeSe in the quasiharmonic approximation (9 pages)	094303
Volker L. Deringer, Ralf P. Stoffel, and Richard Dronskowski	
Spatial adiabatic passage processes in sonic crystals with linear defects (10 pages)	094304
R. Menchon-Enrich, J. Mompart, and V. Ahufinger	
Magnetism	
Chiral phases of two-dimensional hard-core bosons with frustrated ring exchange (17 pages)	094401
Daniel Hueriga, Jorge Dukelsky, Nicolas Laflorencie, and Gerardo Ortiz	
Magnetic correlations of the quasi-one-dimensional half-integer spin-chain antiferromagnets $\text{Sr}M_2\text{V}_2\text{O}_8$ ($M = \text{Co}, \text{Mn}$) (13 pages)	094402
A. K. Bera, B. Lake, W.-D. Stein, and S. Zander	
Low-temperature heat transport in the geometrically frustrated antiferromagnets $R_2\text{Ti}_2\text{O}_7$ ($R = \text{Gd}$ and Er) (8 pages)	094403
F. B. Zhang, Q. J. Li, Z. Y. Zhao, C. Fan, S. J. Li, X. G. Liu, X. Zhao, and X. F. Sun	
Suppression of antiferromagnetic order and hybridization gap by electron and hole doping in the Kondo semiconductor $\text{CeOs}_2\text{Al}_{10}$ (7 pages)	094404
J. Kawabata, T. Takabatake, K. Umeo, and Y. Muro	
Magnetic and transport properties of the layered transition-metal pnictides $R_3\text{T}_4\text{As}_4\text{O}_{2-\delta}$ ($R = \text{La}, \text{Ce}, \text{Pr}, \text{Nd},$ and $\text{Sm}, T = \text{Ni}, \text{Cu}$) (15 pages)	094405
Jiakui K. Wang, A. Marcinkova, Chih-Wei Chen, Hua He, Meigan Aronson, and E. Morosan	
Thermally activated spin fluctuations in stoichiometric LiCoO_2 clarified by electron paramagnetic resonance and muon-spin rotation and relaxation measurements (11 pages)	094406
Kazuhiko Mukai, Yoshifumi Aoki, Daniel Andreica, Alex Amato, Isao Watanabe, Sean R. Giblin, and Jun Sugiyama	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW B

THIRD SERIES, VOLUME 89, NUMBER 9

MARCH 2014-1(I)

Interface magnetic moments enhancement of FePt-L1 ₀ /MgO(001): An <i>ab initio</i> study (7 pages)	094407
R. Cuadrado and R. W. Chantrell	
Suppression of antiferromagnetism by pressure in CaCo ₂ P ₂ (8 pages)	094408
R. E. Baumbach, V. A. Sidorov, Xin Lu, N. J. Ghimire, F. Ronning, B. L. Scott, D. J. Williams, E. D. Bauer, and J. D. Thompson	
Anisotropic magnetothermal transport and spin Seebeck effect (5 pages)	094409
J.-E. Wegrowe, H.-J. Drouhin, and D. Lacour	
First-principles study of spin-dependent thermoelectric properties of half-metallic Heusler thin films between platinum leads (15 pages)	094410
Denis Comtesse, Benjamin Geisler, Peter Entel, Peter Kratzer, and László Szunyogh	
Chiral skyrmions in cubic helimagnet films: The role of uniaxial anisotropy (13 pages)	094411
M. N. Wilson, A. B. Butenko, A. N. Bogdanov, and T. L. Monchesky	
Electronic and magnetic properties of the interface between metal-quinoline molecules and cobalt (10 pages)	094412
Andrea Droghetti, Sabine Steil, Nicolas Großmann, Norman Haag, Hongtao Zhang, Maureen Willis, William P. Gillin, Alan J. Drew, Martin Aeschlimann, Stefano Sanvito, and Mirko Cinchetti	
Spiral antiferromagnets beyond the spin-wave approximation: Frustrated XY and Heisenberg models on the honeycomb lattice (9 pages)	094413
Andrea Di Ciolo, Juan Carrasquilla, Federico Becca, Marcos Rigol, and Victor Galitski	
Crossover from diffusive to tunneling regime in NbN/DyN/NbN ferromagnetic semiconductor tunnel junctions (5 pages)	094414
P. K. Muduli, Avradeep Pal, and Mark G. Blamire	
Lattice and spin excitations in multiferroic <i>h</i> -YMnO ₃ (8 pages)	094415
C. Toulouse, J. Liu, Y. Gallais, M.-A. Measson, A. Sacuto, M. Cazayous, L. Chaix, V. Simonet, S. de Brion, L. Pinsard-Godart, F. Willaert, J. B. Brubach, P. Roy, and S. Petit	
Spin ordering and dynamics in the frustrated antiferromagnet YBaCo ₄ O _{7.1} (8 pages)	094416
S. Yuan, X. Hu, P. L. Kuhns, A. P. Reyes, J. S. Brooks, T. Besara, T. Siegrist, H. Zheng, J. F. Mitchell, and M. J. R. Hoch	
☞ Emergent criticality and Friedan scaling in a two-dimensional frustrated Heisenberg antiferromagnet (28 pages)	094417
Peter P. Orth, Premala Chandra, Piers Coleman, and Jörg Schmalian	
Intrinsic paramagnetism and aggregation of manganese dopants in SrTiO ₃ (8 pages)	094418
A. Zorko, M. Pregelj, H. Luetkens, A.-K. Axelsson, and M. Valant	
Nonswitchable magnetic moments in polycrystalline and (111)-epitaxial permalloy/CoO exchange-biased bilayers (7 pages)	094419
S.-W. Chen, X. Lu, E. Blackburn, V. Lauter, H. Ambaye, K. T. Chan, E. E. Fullerton, A. E. Berkowitz, and S. K. Sinha	
Experimental and theoretical study of magnetic ordering and local atomic polarization in Ru-substituted Lu ₂ Fe ₁₇ (10 pages)	094420
E. A. Tereshina, O. Isnard, A. Smekhova, A. V. Andreev, A. Rogalev, and S. Khmelevskyi	
Optical characterization of nonlocal spin transfer torque acting on a single nanomagnet (7 pages)	094421
P. S. Keatley, A. Aziz, M. Ali, B. J. Hickey, M. G. Blamire, and R. J. Hicken	

(Continued)

Electric field control and effect of Pd capping on magnetocrystalline anisotropy in FePd thin films: A first-principles study (8 pages)	094422
P. V. Ong, Nicholas Kioussis, P. Khalili Amiri, J. G Alzate, K. L. Wang, Gregory P. Carman, Jun Hu, and Ruqian Wu	
Thermal control of the spin pumping damping in ferromagnetic/normal metal interfaces (4 pages)	094423
S. M. Rezende, R. L. Rodríguez-Suárez, and A. Azevedo	
<i>N</i> -leg spin- <i>S</i> Heisenberg ladders: A density-matrix renormalization group study (7 pages)	094424
F. B. Ramos and J. C. Xavier	
Momentum space anisotropy of electronic correlations in Fe and Ni: An analysis of magnetic Compton profiles (9 pages)	094425
L. Chioncel, D. Benea, H. Ebert, I. Di Marco, and J. Minár	
Nonreciprocal Oersted field contribution to the current-induced frequency shift of magnetostatic surface waves (12 pages)	094426
Mohammad Haidar, Matthieu Bailleul, Mikhail Kostylev, and Yuyang Lao	
Pinned magnetic moments in exchange bias: Role of the antiferromagnetic bulk spin structure (5 pages)	094427
M. Yaqoob Khan, Chii-Bin Wu (吳啟彬), and Wolfgang Kuch	
Photoinduced spin angular momentum transfer into an antiferromagnetic insulator (6 pages)	094428
Y. Fan, X. Ma, F. Fang, J. Zhu, Q. Li, T. P. Ma, Y. Z. Wu, Z. H. Chen, H. B. Zhao, and G. Lüpke	
Superfluidity and superconductivity	
Enhancing the three-dimensional electronic structure in 1111-type iron arsenide superconductors by H substitution (6 pages)	094501
Yoshinori Muraba, Satoru Matsuishi, and Hideo Hosono	
Mean-field phase diagram of the Bose-Fermi Hubbard model (12 pages)	094502
Marin Bukov and Lode Pollet	
Helical states and solitons in noncentrosymmetric superconductors (9 pages)	094503
K. V. Samokhin	
Muon-spin rotation measurements of the vortex state in Sr ₂ RuO ₄ : Type-1.5 superconductivity, vortex clustering, and a crossover from a triangular to a square vortex lattice (6 pages)	094504
S. J. Ray, A. S. Gibbs, S. J. Bending, P. J. Curran, E. Babaev, C. Baines, A. P. Mackenzie, and S. L. Lee	
Superconductivity in rubidium-substituted Ba _{1-x} Rb _x Ti ₂ Sb ₂ O (6 pages)	094505
Fabian von Rohr, Reinhard Nesper, and Andreas Schilling	
Terahertz transition radiation of bulk and surface electromagnetic waves by an electron entering a layered superconductor (9 pages)	094506
Yu. O. Averkov, V. M. Yakovenko, V. A. Yampol'skii, and Franco Nori	
Tunneling spectroscopy of superconducting nanospheres (10 pages)	094507
Miroslav Hopjan and Pavel Lipavský	
Cooper-pair-based photon entanglement without isolated emitters (7 pages)	094508
Alex Hayat, Hae-Young Kee, Kenneth S. Burch, and Aephraim M. Steinberg	

(Continued)

Investigations of the superconducting states of noncentrosymmetric LaPdSi ₃ and LaPtSi ₃ (10 pages)	094509
M. Smidman, A. D. Hillier, D. T. Adroja, M. R. Lees, V. K. Anand, R. P. Singh, R. I. Smith, D. M. Paul, and G. Balakrishnan	
Controlling factors of T_c dome structure in 1111-type iron arsenide superconductors (5 pages)	094510
Satoru Matsuishi, Takuya Maruyama, Soshi Iimura, and Hideo Hosono	
Structural, magnetic, and superconducting properties of pulsed-laser-deposition-grown La _{1.85} Sr _{0.15} CuO ₄ /La _{2/3} Ca _{1/3} MnO ₃ superlattices on (001)-oriented LaSrAlO ₄ substrates (12 pages)	094511
S. Das, K. Sen, I. Marozau, M. A. Uribe-Laverde, N. Biskup, M. Varela, Y. Khaydukov, O. Soltwedel, T. Keller, M. Döbeli, C. W. Schneider, and C. Bernhard	
Entanglement modes and topological phase transitions in superconductors (15 pages)	094512
T. P. Oliveira and P. D. Sacramento	
 Dissipation signatures of the normal and superfluid phases in torsion pendulum experiments with ³ He in aerogel (11 pages)	094513
N. Zhelev, R. G. Bennett, E. N. Smith, J. Pollanen, W. P. Halperin, and J. M. Parpia	
Role of the 245 phase in alkaline iron selenide superconductors revealed by high-pressure studies (7 pages)	094514
Peiwen Gao, Rong Yu, Liling Sun, Hangdong Wang, Zhen Wang, Qi Wu, Minghu Fang, Genfu Chen, Jing Guo, Chao Zhang, Dachun Gu, Huanfang Tian, Jianqi Li, Jing Liu, Yanchun Li, Xiaodong Li, Sheng Jiang, Ke Yang, Aiguo Li, Qimiao Si, and Zhongxian Zhao	
Improved tetrahedron method for the Brillouin-zone integration applicable to response functions (8 pages)	094515
Mitsuaki Kawamura, Yoshihiro Gohda, and Shinji Tsuneyuki	
Finite-size scaling at quantum transitions (22 pages)	094516
Massimo Camprostrini, Andrea Pelissetto, and Ettore Vicari	
Tuning the charge-transfer energy in hole-doped cuprates (5 pages)	094517
Chuck-Hou Yee and Gabriel Kotliar	
Superconductivity in doped Sr ₂ IrO ₄ : A functional renormalization group study (5 pages)	094518
Yang Yang, Wan-Sheng Wang, Jin-Guo Liu, Hua Chen, Jian-Hui Dai, and Qiang-Hua Wang	
Momentum-resolved electronic relaxation dynamics in <i>d</i> -wave superconductors (7 pages)	094519
Yong Wang and Fu-Chun Zhang	
Characteristics of the phase transition near 147 K in Sr ₃ Ir ₄ Sn ₁₃ (6 pages)	094520
C. N. Kuo, H. F. Liu, C. S. Lue, L. M. Wang, C. C. Chen, and Y. K. Kuo	
Parity switching and decoherence by quasiparticles in single-junction transmons (9 pages)	094522
G. Catelani	
Characterization of the intra-unit-cell magnetic order in Bi ₂ Sr ₂ CaCu ₂ O _{8+δ} (11 pages)	094523
L. Mangin-Thro, Y. Sidis, P. Bourges, S. De Almeida-Didry, F. Giovannelli, and I. Laffez-Monot	
Phase transitions in the domain structure of ferromagnetic superconductors (14 pages)	094524
I. M. Khaymovich, A. S. Mel'nikov, and A. I. Buzdin	

ERRATA

Erratum: High magnetic field evolution of ferroelectricity in CuCrO ₂ [Phys. Rev. B 89 , 054411 (2014)] (1 page)	099901(E)
Eundeok Mun, M. Frontzek, A. Podlesnyak, G. Ehlers, S. Barilo, S. V. Shiryayev, and Vivien S. Zapf	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW B

THIRD SERIES, VOLUME 89, NUMBER 9

MARCH 2014-1(I)

Erratum: Shock-induced plasticity in tantalum single crystals: Interatomic potentials and large-scale molecular-dynamics simulations [Phys. Rev. B 88 , 134101 (2013)] (<i>1 page</i>)	099902(E)
R. Ravelo, T. C. Germann, O. Guerrero, Q. An, and B. L. Holian	
Erratum: Magnetic phase transitions and magnetoelectric coupling of GdFeO ₃ single crystals probed by low-temperature heat transport [Phys. Rev. B 83 , 014414 (2011)] (<i>2 pages</i>)	099903(E)
Z. Y. Zhao, X. M. Wang, C. Fan, W. Tao, X. G. Liu, W. P. Ke, F. B. Zhang, X. Zhao, and X. F. Sun	