PHYSICAL REVIEW B **THIRD SERIES, VOLUME 95, NUMBER 21** **JUNE 2017-1(I)**

ERRATA

Publisher's Note: Enhanced ferroelectric polarization in epitaxial $(Pb_{1-x}La_x)(Zr_{0.52}Ti_{0.48})O_3$ thin films due to low La doping [Phys. Rev. B **95**, 174304 (2017)] *(1 page)* . . . . . 219901(E)
Devajyoti Mukherjee, Mahesh Hordagoda, David Pesquera, Dipankar Ghosh, Jacob L. Jones, Pritish Mukherjee, and Sarath Witanachchi

Publisher's Note: Josephson effect in a multiorbital model for Sr_2RuO_4 [Phys. Rev. B **95**, 174518 (2017)] *(1 page)* 219902(E)
Kohei Kawai, Keiji Yada, Yukio Tanaka, Yasuhiro Asano, Alexander A. Golubov, and Satoshi Kashiwaya

Publisher's Note: Achiral tilted domain walls in perpendicularly magnetized nanowires [Phys. Rev. B **95**, 180406(R) (2017)] *(1 page)* . . . . . 219903(E)
B. Boehm, A. Bisig, A. Bischof, G. Stefanou, B. J. Hickey, and R. Allenspach

Publisher's Note: Phase-field study of ripening and rearrangement of precipitates under chemomechanical coupling [Phys. Rev. B **95**, 174101 (2017)] *(1 page)* . . . . . 219904(E)
C. Schwarze, A. Gupta, T. Hickel, and R. Darvishi Kamachali

Erratum: Unraveling the composition dependence of the martensitic transformation temperature: A first-principles study of Ti-Ta alloys [Phys. Rev. B **94**, 224104 (2016)] *(1 page)* . . . . . 219905(E)
Tanmoy Chakraborty, Jutta Rogal, and Ralf Drautz

Selected for a Viewpoint in *Physics*. Please visit http://physics.aps.org/.

PHYSICAL REVIEW B **THIRD SERIES, VOLUME 95, NUMBER 21** **JUNE 2017-1(I)**

Nature of the effective interaction in electron-doped cuprate superconductors: A sign-problem-free quantum Monte Carlo study *(7 pages)* 214505
Zi-Xiang Li, Fa Wang, Hong Yao, and Dung-Hai Lee

Superconductivity and charge-carrier localization in ultrathin $La_{1.85}Sr_{0.15}CuO_4/La_2CuO_4$ bilayers *(12 pages)* 214506
K. Sen, P. Marsik, S. Das, E. Perret, R. de Andres Prada, A. Alberca, N. Biškup, M. Varela, and C. Bernhard

Dynamic transition of vortices into phase slips and generation of vortex-antivortex pairs in thin film Josephson junctions under dc and ac currents *(19 pages)* 214507
Ahmad Sheikhzada and Alex Gurevich

Damped spin excitations in a doped cuprate superconductor with orbital hybridization *(8 pages)* 214508
O. Ivashko, N. E. Shaik, X. Lu, C. G. Fatuzzo, M. Dantz, P. G. Freeman, D. E. McNally, D. Destraz, N. B. Christensen, T. Kurosawa, N. Momono, M. Oda, C. E. Matt, C. Monney, H. M. Rønnow, T. Schmitt, and J. Chang

Finite-energy spin fluctuations as a pairing glue in systems with coexisting electron and hole bands *(6 pages)* 214509
Masahiro Nakata, Daisuke Ogura, Hidetomo Usui, and Kazuhiko Kuroki

Ru doping in iron-based pnictides: The "unfolded" dominant role of structural effects for superconductivity *(11 pages)* 214510
M. Reticcioli, G. Profeta, C. Franchini, and A. Continenza

Superconductivity with broken time-reversal symmetry in ion-irradiated $Ba_{0.27}K_{0.73}Fe_2As_2$ single crystals *(5 pages)* 214511
V. Grinenko, P. Materne, R. Sarkar, H. Luetkens, K. Kihou, C. H. Lee, S. Akhmadaliev, D. V. Efremov, S.-L. Drechsler, and H.-H. Klauss

Optical investigation of $BaFe_2(As_{0.77}P_{0.23})_2$: Spin-fluctuation-mediated superconductivity under pressure *(12 pages)* 214512
E. Uykur, T. Kobayashi, W. Hirata, S. Miyasaka, S. Tajima, and C. A. Kuntscher

Quantum paraelectricity probed by superconducting resonators *(6 pages)* 214513
D. Davidovikj, N. Manca, H. S. J. van der Zant, A. D. Caviglia, and G. A. Steele

Electron-phonon superconductivity in the filled skutterudites $LaRu_4P_{12}$, $LaRu_4As_{12}$, and $LaPt_4Ge_{12}$ *(13 pages)* 214514
H. M. Tütüncü, Ertuğrul Karaca, and G. P. Srivastava

Three superconducting phases with different categories of pairing in hole- and electron-doped $LaFeAs_{1-x}P_xO$ *(8 pages)* 214515
S. Miyasaka, M. Uekubo, H. Tsuji, M. Nakajima, S. Tajima, T. Shiota, H. Mukuda, H. Sagayama, H. Nakao, R. Kumai, and Y. Murakami

COMMENTS

Comment on "Cluster expansion and the configurational theory of alloys" *(3 pages)* 216201
Tim Mueller

Reply to "Comment on 'Cluster expansion and the configurational theory of alloys'" *(4 pages)* 216202
J. M. Sanchez

(Continued)

Selected for a Viewpoint in *Physics*. Please visit http://physics.aps.org/.

PHYSICAL REVIEW B **THIRD SERIES, VOLUME 95, NUMBER 21** **JUNE 2017-1(I)**

Paths to collapse for isolated skyrmions in few-monolayer ferromagnetic films *(12 pages)* 214418
Dusan Stosic, Jeroen Mulkers, Bartel Van Waeyenberge, Teresa B. Ludermir, and Milorad V. Milošević

Field-induced metamagnetic transitions and two-dimensional excitations in ludwigite $Co_{4.76}Al_{1.24}(O_2BO_3)_2$ *(6 pages)* 214419
C. P. C. Medrano, D. C. Freitas, E. C. Passamani, C. B. Pinheiro, E. Baggio-Saitovitch, M. A. Continentino, and D. R. Sanchez

Cascades of phase transitions in spiral magnets caused by dipolar forces *(9 pages)* 214420
O. I. Utesov and A. V. Syromyatnikov

Longitudinal spin Seebeck effect in permalloy separated from the anomalous Nernst effect: Theory and experiment *(8 pages)* 214421
J. Holanda, O. Alves Santos, R. O. Cunha, J. B. S. Mendes, R. L. Rodríguez-Suárez, A. Azevedo, and S. M. Rezende

Anisotropic Dzyaloshinskii-Moriya interaction in ultrathin epitaxial Au/Co/W(110) *(6 pages)* 214422
Lorenzo Camosi, Stanislas Rohart, Olivier Fruchart, Stefania Pizzini, Mohamed Belmeguenai, Yves Roussigné, Andreï Stashkevich, Salim Mourad Cherif, Laurent Ranno, Maurizio de Santis, and Jan Vogel

Temperature-dependent magnetic damping of yttrium iron garnet spheres *(8 pages)* 214423
H. Maier-Flaig, S. Klingler, C. Dubs, O. Surzhenko, R. Gross, M. Weiler, H. Huebl, and S. T. B. Goennenwein

Spin-wave modes in ferromagnetic nanodisks, their excitation via alternating currents and fields, and auto-oscillations *(15 pages)* 214424
D. Mancilla-Almonacid and R. E. Arias

Magnetic phase diagram of $CeCu_2Ge_2$ up to 15 T: On the route to understand field-induced phase transitions *(10 pages)* 214425
P. Geselbracht, A. Schneidewind, M. Doerr, S. Granovsky, M. Rotter, M. Loewenhaupt, G. W. Scheerer, Z. Ren, and K. Prokeš

Magnetization process in a frustrated plaquette dimerized ladder *(13 pages)* 214426
F. Elias, M. Arlego, and C. A. Lamas

Equilibrium magnetization and magnetization relaxation of multicore magnetic nanoparticles *(10 pages)* 214427
Patrick Ilg

Superfluidity and superconductivity

Collective mode contributions to the Meissner effect: Fulde-Ferrell and pair-density wave superfluids *(6 pages)* 214501
Rufus Boyack, Chien-Te Wu, Brandon M. Anderson, and K. Levin

Higgs modes in the pair density wave superconducting state *(10 pages)* 214502
Rodrigo Soto-Garrido, Yuxuan Wang, Eduardo Fradkin, and S. Lance Cooper

Stability of flat zero-energy states at the dirty surface of a nodal superconductor *(11 pages)* 214503
Satoshi Ikegaya and Yasuhiro Asano

Giant ultrafast Kerr effect in superconductors *(5 pages)* 214504
Charles W. Robson, Kieran A. Fraser, and Fabio Biancalana

(Continued)

Selected for a Viewpoint in *Physics*. Please visit http://physics.aps.org/.

PHYSICAL REVIEW B **THIRD SERIES, VOLUME 95, NUMBER 21** **JUNE 2017-1(I)**

Phase diagram of weakly coupled Heisenberg spin chains subject to a uniform Dzyaloshinskii-Moriya interaction *(25 pages)* 214404
Wen Jin and Oleg A. Starykh

Inverse spin Hall effect in the semiconductor (Ga,Mn)As at room temperature *(7 pages)* 214405
J. B. S. Mendes, S. L. A. Mello, O. Alves Santos, R. O. Cunha, R. L. Rodríguez-Suárez, A. Azevedo, and S. M. Rezende

Superexchange theory of electronic polarization driven by relativistic spin-orbit interaction at half filling *(13 pages)* 214406
I. V. Solovyev

Dipolar ferromagnetism in three-dimensional superlattices of nanoparticles *(8 pages)* 214407
Bassel Alkadour, J. I. Mercer, J. P. Whitehead, B. W. Southern, and J. van Lierop

Magnon dispersion in $Ca_2Ru_{1-x}Ti_xO_4$: Impact of spin-orbit coupling and oxygen moments *(14 pages)* 214408
S. Kunkemöller, E. Komleva, S. V. Streltsov, S. Hoffmann, D. I. Khomskii, P. Steffens, Y. Sidis, K. Schmalzl, and M. Braden

Finite-temperature fidelity and von Neumann entropy in the honeycomb spin lattice with quantum Ising interaction *(9 pages)* 214409
Yan-Wei Dai, Qian-Qian Shi, Sam Young Cho, Murray T. Batchelor, and Huan-Qiang Zhou

Entanglement scaling and spatial correlations of the transverse-field Ising model with perturbations *(8 pages)* 214410
Richard Cole, Frank Pollmann, and Joseph J. Betouras

Topological properties of a coupled spin-photon system induced by damping *(7 pages)* 214411
Michael Harder, Lihui Bai, Paul Hyde, and Can-Ming Hu

Critical behavior of $Mg_{1-x}Fe_xO$ at the pressure-induced iron spin-state crossover *(8 pages)* 214412
K. Glazyrin, R. Sinmyo, E. Bykova, M. Bykov, V. Cerantola, M. Longo, C. McCammon, Vitali B. Prakapenka, and Leonid Dubrovinsky

Spin pumping, dissipation, and direct and alternating inverse spin Hall effects in magnetic-insulator/normal-metal bilayers *(14 pages)* 214413
André Kapelrud and Arne Brataas

Anisotropy-governed competition of magnetic phases in the honeycomb quantum magnet $Na_3Ni_2SbO_6$ studied by dilatometry and high-frequency ESR *(7 pages)* 214414
J. Werner, W. Hergett, M. Gertig, J. Park, C. Koo, and R. Klingeler

Phase diagram of multiferroic $KCu_3As_2O_7(OD)_3$ *(10 pages)* 214415
Gøran J. Nilsen, Virginie Simonet, Claire V. Colin, Ryutaro Okuma, Yoshihiko Okamoto, Masashi Tokunaga, Thomas C. Hansen, Dmitry D. Khalyavin, and Zenji Hiroi

Detection of induced paramagnetic moments in Pt on $Y_3Fe_5O_{12}$ via x-ray magnetic circular dichroism *(7 pages)* 214416
Takashi Kikkawa, Motohiro Suzuki, Jun Okabayashi, Ken-ichi Uchida, Daisuke Kikuchi, Zhiyong Qiu, and Eiji Saitoh

Magnetism and ultrafast magnetization dynamics of Co and CoMn alloys at finite temperature *(12 pages)* 214417
R. Chimata, E. K. Delczeg-Czirjak, A. Szilva, R. Cardias, Y. O. Kvashnin, M. Pereiro, S. Mankovsky, H. Ebert, D. Thonig, B. Sanyal, A. B. Klautau, and O. Eriksson

(Continued)

Selected for a Viewpoint in *Physics*. Please visit http://physics.aps.org/.

PHYSICAL REVIEW B **THIRD SERIES, VOLUME 95, NUMBER 21** **JUNE 2017-1(I)**

Scaling of the Hall effects beyond the quantum resistance threshold in oxidized CoFeB *(5 pages)* 214206
A. Gerber and G. Kopnov

Memory versus irreversibility in the thermal densification of amorphous glasses *(10 pages)* 214207
Z. Ovadyahu

Dynamics, dynamical systems, lattice effects:

Absorption spectrum of a two-level system subjected to a periodic pulse sequence *(12 pages)* 214301
H. F. Fotso and V. V. Dobrovitski

Accurate interatomic force fields via machine learning with covariant kernels *(10 pages)* 214302
Aldo Glielmo, Peter Sollich, and Alessandro De Vita

Unified quantum theory of elastic and inelastic atomic scattering from a physisorbed monolayer solid *(12 pages)* 214303
L. W. Bruch, F. Y. Hansen, and B. Dammann

Dynamic strain-induced giant electroresistance and erasing effect in ultrathin ferroelectric tunnel-junction memory *(7 pages)* 214304
Hei-Man Yau, Zhongnan Xi, Xinxin Chen, Zheng Wen, Ge Wu, and Ji-Yan Dai

Diffusely scattered and transmitted elastic waves by random rough solid-solid interfaces using an elastodynamic Kirchhoff approximation *(13 pages)* 214305
Fan Shi, Mike Lowe, and Richard Craster

Acoustic properties of double-porosity granular polymers *(10 pages)* 214306
A. Alevizaki, R. Sainidou, P. Rembert, B. Morvan, and N. Stefanou

Floquet time crystal in the Lipkin-Meshkov-Glick model *(12 pages)* 214307
Angelo Russomanno, Fernando Iemini, Marcello Dalmonte, and Rosario Fazio

Zero-temperature localization in a sub-Ohmic spin-boson model investigated by an extended hierarchy equation of motion *(8 pages)* 214308
Chenru Duan, Zhoufei Tang, Jianshu Cao, and Jianlan Wu

Rabi-like vibrational coherence transfer in a hydrogen-bonded charge transfer material *(8 pages)* 214309
Aaron S. Rury and Jahan M. Dawlaty

Distinguishing between spatial coherence and temporal coherence of phonons *(8 pages)* 214310
Benoit Latour and Yann Chalopin

Magnetism

Spin dynamics of antiferromagnets in the presence of a homogeneous magnetization *(16 pages)* 214401
T. R. Kirkpatrick and D. Belitz

First-order reversal curve of the magnetostructural phase transition in FeTe *(8 pages)* 214402
M. K. Frampton, J. Crocker, D. A. Gilbert, N. Curro, Kai Liu, J. A. Schneeloch, G. D. Gu, and R. J. Zieve

Pressure effects in the itinerant antiferromagnetic metal TiAu *(10 pages)* 214403
C. T. Wolowiec, Y. Fang, C. A. McElroy, J. R. Jeffries, R. L. Stillwell, E. Svanidze, J. M. Santiago, E. Morosan, S. T. Weir, Y. K. Vohra, and M. B. Maple

(Continued)

Selected for a Viewpoint in *Physics*. Please visit http://physics.aps.org/.

PHYSICAL REVIEW B **THIRD SERIES, VOLUME 95, NUMBER 21** **JUNE 2017-1(I)**

Glassy nature and glass-to-crystal transition in the binary metallic glass CuZr *(11 pages)* 214111
Zi-Yang Wei, Cheng Shang, Xiao-Jie Zhang, and Zhi-Pan Liu

Frequency-dependent mechanical damping in alloys *(8 pages)* 214112
Raghavan Ranganathan, Yunfeng Shi, and Pawel Keblinski

Tunable low-temperature dissipation scenarios in palladium nanomechanical resonators *(9 pages)* 214113
S. Rebari, Shelender Kumar, S. Indrajeet, Abhishek Kumar, Satyendra P. Pal, D. Weiss, and A. Venkatesan

Simultaneous time-space resolved reflectivity and interferometric measurements of dielectrics excited with femtosecond laser pulses *(13 pages)* 214114
M. Garcia-Lechuga, L. Haahr-Lillevang, J. Siegel, P. Balling, S. Guizard, and J. Solis

Phosphorus allotropes: Stability of black versus red phosphorus re-examined by means of the van der Waals inclusive density functional method *(7 pages)* 214115
Muratahan Aykol, Jeff W. Doak, and C. Wolverton

Relativistic coupled-cluster and density-functional studies of argon at high pressure *(10 pages)* 214116
Peter Schwerdtfeger, Krista G. Steenbergen, and Elke Pahl

Improved atomistic Monte Carlo models based on *ab-initio*-trained neural networks: Application to FeCu and FeCr alloys *(11 pages)* 214117
N. Castin, L. Messina, C. Domain, R. C. Pasianot, and P. Olsson

Role of the A-site cation in determining the properties of the hybrid perovskite $CH_3NH_3PbBr_3$ *(7 pages)* 214118
Sagar Sarkar and Priya Mahadevan

Mott-to-Goodenough insulator-insulator transition in $LiVO_2$ *(7 pages)* 214119
Alaska Subedi

Synthesis of a polar ordered oxynitride perovskite *(5 pages)* 214120
Rajasekarakumar Vadapoo, Muhtar Ahart, Maddury Somayazulu, Nicholas Holtgrewe, Yue Meng, Zuzana Konopkova, Russell J. Hemley, and R. E. Cohen

First-principles study on Ni_3Al (111) antiphase boundary with Ti and Hf impurities *(9 pages)* 214121
Ruoshi Sun, Christopher Woodward, and Axel van de Walle

Inhomogeneous, disordered, and partially ordered systems

Delocalized carriers in the t-J model with strong charge disorder *(8 pages)* 214201
Janez Bonča and Marcin Mierzejewski

Polaron spin echo envelope modulations in an organic semiconducting polymer *(14 pages)* 214202
V. V. Mkhitaryan and V. V. Dobrovitski

Transport and optics at the node in a nodal loop semimetal *(11 pages)* 214203
S. P. Mukherjee and J. P. Carbotte

Quantum dynamics of nuclear spins and spin relaxation in organic semiconductors *(6 pages)* 214204
V. V. Mkhitaryan and V. V. Dobrovitski

Cotunneling and polaronic effect in granular systems *(18 pages)* 214205
A. S. Ioselevich and V. V. Sivak

(Continued)

Selected for a Viewpoint in *Physics*. Please visit http://physics.aps.org/.

PHYSICAL REVIEW B™

For editorial and subscription correspondence, please see inside front cover
(ISSN: 2469-9950)

PERIODICALS
Postmaster send address changes to:

APS Subscription Services
P.O. Box 41
Annapolis Junction, MD 20701

THIRD SERIES, VOLUME 95, NUMBER 21 *CONTENTS* **JUNE 2017-1(I)**

ARTICLES

Structure, structural phase transitions, mechanical properties, defects

Reversible phase transition induced large piezoelectric response in Sm-doped $BiFeO_3$ with a composition near the morphotropic phase boundary *(7 pages)* 214101
Zhenyu Liao, Fei Xue, Wei Sun, Dongsheng Song, Qiqi Zhang, Jing-Feng Li, Long-Qing Chen, and Jing Zhu

Formation enthalpies for transition metal alloys using machine learning *(12 pages)* 214102
Shashanka Ubaru, Agnieszka Międlar, Yousef Saad, and James R. Chelikowsky

Current-voltage characteristics of Weyl semimetal semiconducting devices, Veselago lenses, and hyperbolic Dirac phase *(13 pages)* 214103
R. D. Y. Hills, A. Kusmartseva, and F. V. Kusmartsev

Elasticity and Poisson's ratio of hexagonal close-packed hydrogen at high pressures *(10 pages)* 214104
Alexander F. Goncharov, Michel Gauthier, Daniele Antonangeli, Simon Ayrinhac, Frédéric Decremps, Marc Morand, Alexei Grechnev, S. M. Tretyak, and Yu. A. Freiman

Molecular detection on a defective MoS_2 monolayer by simultaneous conductance and force simulations *(9 pages)* 214105
C. González and Y. J. Dappe

First-principles investigation of local structure deformation induced by x-ray irradiation in κ-(BEDT-TTF)$_2$Cu[N(CN)$_2$]Br *(7 pages)* 214106
Lijing Kang, Kazuto Akagi, Kouichi Hayashi, and Takahiko Sasaki

First-principles investigation of phase stability in the Mg-Sc binary alloy *(10 pages)* 214107
Anirudh Raju Natarajan and Anton Van der Ven

Migration mechanism for oversized solutes in cubic lattices: The case of yttrium in iron *(11 pages)* 214108
Jean-Louis Bocquet, Caroline Barouh, and Chu-Chun Fu

Palladium-based ferroelectrics and multiferroics: Theory and experiment *(9 pages)* 214109
Shalini Kumari, Dhiren K. Pradhan, Nora Ortega, Kallol Pradhan, Christopher DeVreugd, Gopalan Srinivasan, Ashok Kumar, Tula R. Paudel, Evgeny Y. Tsymbal, Alice M. Bumstead, J. F. Scott, and Ram S. Katiyar

Temperature-dependent far-infrared reflectance of an epitaxial $(BaTiO_3)_8/(SrTiO_3)_4$ superlattice *(10 pages)* 214110
V. Železný, O. Caha, A. Soukiassian, D. G. Schlom, and X. X. Xi

Copyright 2017 by American Physical Society

(Continued)

2469-9950(20170601)95:21;1-T

Selected for a Viewpoint in *Physics*. Please visit http://physics.aps.org/.