PHYSICAL REVIEW B **THIRD SERIES, VOLUME 104, NUMBER 13** **OCTOBER 2021-1(I)**

Possible topological phases in quantum anomalous Hall insulator/unconventional superconductor hybrid systems *(12 pages)* 134518
Ryoi Ohashi, Shingo Kobayashi, and Yukio Tanaka

Boundary-induced topological and mid-gap states in charge conserving one-dimensional superconductors: Fractionalization transition *(17 pages)* 134519
Parameshwar R. Pasnoori, Natan Andrei, and Patrick Azaria

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 104, NUMBER 13** **OCTOBER 2021-1(I)**

Superconducting phase diagram and the evolution of electronic structure across charge density wave in underdoped $1T$-$Cu_\delta TiSe_2$ under hydrostatic pressure *(9 pages)* 134503
Shuxiang Xu, Pengtao Yang, Keyu Chen, Ziyi Liu, Wuwei Cui, Qing Hu, Jianping Sun, Ran Ang, Yoshiya Uwatoko, Bosen Wang, and Jinguang Cheng

Time-resolved optical conductivity and Higgs oscillations in two-band dirty superconductors *(25 pages)* 134504
Rafael Haenel, Paul Froese, Dirk Manske, and Lukas Schwarz

Pressure-induced superconductivity in Li-Te electrides *(9 pages)* 134505
Xiaohua Zhang, Fei Li, Aitor Bergara, and Guochun Yang

Microscopic Ginzburg-Landau theory and singlet ordering in Sr_2RuO_4 *(13 pages)* 134506
Glenn Wagner, Henrik S. Røising, Felix Flicker, and Steven H. Simon

Confinement-induced zero-bias peaks in conventional superconductor hybrids *(8 pages)* 134507
Jorge Cayao and Pablo Burset

Hierarchy of higher-order topological superconductors in three dimensions *(11 pages)* 134508
Arnob Kumar Ghosh, Tanay Nag, and Arijit Saha

Interplay between singlet and triplet pairings in multiband two-dimensional oxide superconductors *(21 pages)* . . . 134509
L. Lepori, D. Giuliano, A. Nava, and C. A. Perroni

Superconductivity and topological properties of MgB_2-type diborides from first principles *(8 pages)* 134510
Yipeng An, Jie Li, Kun Wang, Guangtao Wang, Shijing Gong, Chunlan Ma, Tianxing Wang, Zhaoyong Jiao, Xiao Dong, Guoliang Xu, Ruqian Wu, and Wuming Liu

Weyl nodal-ring semimetallic behavior and topological superconductivity in crystalline forms of Su-Schrieffer-Heeger chains *(7 pages)* 134511
Peter Rosenberg and Efstratios Manousakis

Time-reversal symmetry breaking and d-wave superconductivity of triple-point fermions *(12 pages)* 134512
Subrata Mandal, Julia M. Link, and Igor F. Herbut

Joule heating effects in high-transparency Josephson junctions *(9 pages)* 134513
Matti Tomi, Mikhail R. Samatov, Andrey S. Vasenko, Antti Laitinen, Pertti Hakonen, and Dmitry S. Golubev

Spin-triplet superconductor–quantum anomalous Hall insulator–spin-triplet superconductor Josephson junctions: 0-π transition, ϕ_0 phase, and switching effects *(9 pages)* 134514
Qiang Cheng, Qing Yan, and Qing-Feng Sun

Yu-Shiba-Rusinov multiplets and clusters of multiorbital adatoms in superconducting substrates: Subgap Green's function approach *(20 pages)* 134515
Liliana Arrachea

Ever-present Majorana bound state in a generic one-dimensional superconductor with odd number of Fermi surfaces *(18 pages)* 134516
Maxim Kharitonov, Ewelina M. Hankiewicz, Björn Trauzettel, and F. Sebastian Bergeret

Superconductivity in disordered locally noncentrosymmetric materials: An application to $CeRh_2As_2$ *(17 pages)* 134517
David Möckli and Aline Ramires

(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 104, NUMBER 13** **OCTOBER 2021-1(I)**

Paramagnetic spin Hall magnetoresistance *(14 pages)* 134428
Koichi Oyanagi, Juan M. Gomez-Perez, Xian-Peng Zhang, Takashi Kikkawa, Yao Chen, Edurne Sagasta, Andrey Chuvilin, Luis E. Hueso, Vitaly N. Golovach, F. Sebastian Bergeret, Fèlix Casanova, and Eiji Saitoh

Various facets of magnetic charge correlation: Micromagnetic and distorted-wave Born approximation simulations study *(10 pages)* 134429
G. Yumnam, J. Guo, and D. K. Singh

Quantum wetting transition in the one-dimensional transverse-field Ising model with random bonds *(12 pages)* 134430
Kun Hu and Xintian Wu

Observation of spontaneous x-ray magnetic circular dichroism in a chiral antiferromagnet *(6 pages)* 134431
Shoya Sakamoto, Tomoya Higo, Masanobu Shiga, Kenta Amemiya, Satoru Nakatsuji, and Shinji Miwa

Magnetic properties of the quasi two-dimensional centered honeycomb antiferromagnet $GdInO_3$ *(13 pages)* 134432
Xunqing Yin, Yunlong Li, Guohua Wang, Jiayuan Hu, Chenhang Xu, Qi Lu, Yunlei Zhong, Jiawang Zhao, Xiang Zhao, Yuanlei Zhang, Yiming Cao, Kun Xu, Zhe Li, Yoshitomo Kamiya, Guo Hong, and Dong Qian

Connection between magnetic interactions and the spin-wave gap of the insulating phase of $NaOsO_3$ *(7 pages)* . . . 134433
Nikolaos Ntallis, Vladislav Borisov, Yaroslav O. Kvashnin, Danny Thonig, Erik Sjöqvist, Anders Bergman, Anna Delin, Olle Eriksson, and Manuel Pereiro

Controllable magnetic anisotropy and spin orientation of a prototypical easy-plane antiferromagnet on a ferromagnetic support *(10 pages)* 134434
M. Ślęzak, H. Nayyef, P. Dróżdż, W. Janus, A. Kozioł-Rachwał, M. Szpytma, M. Zając, T. O. Menteş, F. Genuzio, A. Locatelli, and T. Ślęzak

Commensurate and incommensurate magnetic structure of the moderately frustrated antiferromagnet $Li_2M(WO_4)_2$ with $M = Co, Ni$ *(6 pages)* 134435
Sunil K. Karna, C. W. Wang, R. Sankar, D. Temple, and M. Avdeev

Crystal-field potential and short-range order effects in inelastic neutron scattering, magnetization, and heat capacity of the cage-glass compound HoB_{12} *(9 pages)* 134436
B. Z. Malkin, E. A. Goremychkin, K. Siemensmeyer, S. Gabáni, K. Flachbart, M. Rajňák, A. L. Khoroshilov, K. M. Krasikov, N. Yu. Shitsevalova, V. B. Filipov, and N. E. Sluchanko

Magnon polarons in the van der Waals antiferromagnet $FePS_3$ *(8 pages)* 134437
D. Vaclavkova, M. Palit, J. Wyzula, S. Ghosh, A. Delhomme, S. Maity, P. Kapuscinski, A. Ghosh, M. Veis, M. Grzeszczyk, C. Faugeras, M. Orlita, S. Datta, and M. Potemski

Spin-charge conversion in ferromagnetic Rashba states *(6 pages)* 134438
Olivier Rousseau, Cosimo Gorini, Fatima Ibrahim, Jean-Yves Chauleau, Aurélie Solignac, Ali Hallal, Sebastian Tölle, Mairbek Chshiev, and Michel Viret

Superfluidity and superconductivity

Prediction of high-T_c superconductivity in ternary lanthanum borohydrides *(8 pages)* 134501
Xiaowei Liang, Aitor Bergara, Xudong Wei, Xiaoxu Song, Linyan Wang, Rongxin Sun, Hanyu Liu, Russell J. Hemley, Lin Wang, Guoying Gao, and Yongjun Tian

Collective magnetic and plasma excitations in Josephson ψ junctions *(7 pages)* 134502
S. V. Mironov and A. I. Buzdin

(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 104, NUMBER 13** **OCTOBER 2021-1(I)**

Competing energetic states in γ-Fe_2WO_6 with strong spin-charge-lattice coupling *(7 pages)* 134413
M. Sretenovic, S. Okamoto, G. Peiker, T. X. Tang, H. Zhang, C. Q. Xu, T. W. Heitmann, Q. Zhang, C. R. dela Cruz, and X. Ke

Spin dynamics in bulk MnNiGa and $Mn_{1.4}Pt_{0.9}Pd_{0.1}Sn$ investigated by muon spin relaxation *(9 pages)* 134414
M. N. Wilson, T. J. Hicken, M. Gomilšek, A. Štefančič, G. Balakrishnan, J. C. Loudon, A. C. Twitchett-Harrison, F. L. Pratt, M. Telling, and T. Lancaster

Confined magnons *(14 pages)* 134415
Seamus Beairsto, Maximilien Cazayous, Randy S. Fishman, and Rogério de Sousa

Tuning the spin-flop transition in perpendicularly magnetized synthetic antiferromagnets by swift heavy Fe ions irradiation *(15 pages)* 134416
Jijun Yun, Yanbin Sheng, Xi Guo, Bowen Zheng, Peng Chen, Yang Cao, Ze Yan, Xiaodong He, Peng Jin, Jing Li, Minghuan Cui, Tielong Shen, Zhiguang Wang, Dezheng Yang, Yalu Zuo, and Li Xi

Spin polarization and magnetotransport properties of systematically disordered $Fe_{60}Al_{40}$ thin films *(7 pages)* 134417
K. Borisov, J. Ehrler, C. Fowley, B. Eggert, H. Wende, S. Cornelius, K. Potzger, J. Lindner, J. Fassbender, R. Bali, and P. Stamenov

Beyond magnons in Nd_2ScNbO_7: An Ising pyrochlore antiferromagnet with all-in–all-out order and random fields *(18 pages)* 134418
A. Scheie, M. Sanders, Xin Gui, Yiming Qiu, T. R. Prisk, R. J. Cava, and C. Broholm

Resonant optical topological Hall conductivity from skyrmions *(15 pages)* 134419
Sopheak Sorn, Luyi Yang, and Arun Paramekanti

Nonreciprocal magnon excitations by the Dzyaloshinskii-Moriya interaction on the basis of bond magnetic toroidal multipoles *(15 pages)* 134420
Takuya Matsumoto and Satoru Hayami

Effects of array shape and disk ellipticity in dipolar-coupled magnetic metamaterials *(5 pages)* 134421
Sam D. Slöetjes, Einar S. Digernes, Anders Strømberg, Fredrik K. Olsen, Ambjørn D. Bang, Alpha T. N'Diaye, Rajesh V. Chopdekar, Erik Folven, and Jostein K. Grepstad

Spin-orbit torque control of spin waves in a ferromagnetic waveguide *(8 pages)* 134422
Andrei I. Nikitchenko and Nikolay A. Pertsev

Driven dissipative quantum dynamics in a cavity magnon-polariton system *(10 pages)* 134423
Guogan Zhao, Yong Wang, and X.-F. Qian

Dzyaloshinskii-Moriya interaction probed by magnetization reversal in bilayer Pt/Co/Ir/Co/Pt synthetic ferrimagnets *(9 pages)* 134424
R. B. Morgunov, A. I. Bezverkhnii, M. Hehn, J. L. Bello, T. Fache, and S. Mangin

XY magnetism, Kitaev exchange, and long-range frustration in the $J_{\mathrm{eff}} = \frac{1}{2}$ honeycomb cobaltates *(14 pages)* 134425
Shreya Das, Sreekar Voleti, Tanusri Saha-Dasgupta, and Arun Paramekanti

Interplay of magnetism and dimerization in the pressurized Kitaev material β-Li_2IrO_3 *(9 pages)* 134426
Bin Shen, Anton Jesche, Maximilian L. Seidler, Friedrich Freund, Philipp Gegenwart, and Alexander A. Tsirlin

Robust formation of skyrmion and skyrmionium in magnetic hemispherical shells and their dynamic switching *(13 pages)* 134427
Jaehak Yang, Hyeon-Kyu Park, Gyuyoung Park, Claas Abert, Dieter Suess, and Sang-Koog Kim

(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 104, NUMBER 13** **OCTOBER 2021-1(I)**

Effect of the electronic charge gap on LO bond-stretching phonons in undoped La_2CuO_4 calculated using LDA+U *(7 pages)* 134311
Tyler C. Sterling and Dmitry Reznik

Universal semiclassical equations based on the quantum metric for a two-band system *(8 pages)* 134312
C. Leblanc, G. Malpuech, and D. D. Solnyshkov

Magnetism

Modification of interfacial spin-orbit torque in Co/Pt/oxide hybrid structures *(6 pages)* 134401
Takamasa Hirai, Kento Hasegawa, Shinya Ota, Motohiro Suzuki, Tomohiro Koyama, and Daichi Chiba

Fractional spin fluctuations and quantum liquid signature in Gd_2ZnIrO_6 *(9 pages)* 134402
Birender Singh, Deepu Kumar, Vivek Kumar, Michael Vogl, Sabine Wurmehl, Saicharan Aswartham, Bernd Büchner, and Pradeep Kumar

Effective field theory of magnons: Chiral magnets and the Schwinger mechanism *(22 pages)* 134403
Masaru Hongo, Toshiaki Fujimori, Tatsuhiro Misumi, Muneto Nitta, and Norisuke Sakai

Observation of surface magnons and crystalline electric field shifts in superantiferromagnetic $NdCu_2$ nanoparticles *(12 pages)* 134404
E. M. Jefremovas, M. de la Fuente Rodríguez, F. Damay, B. Fåk, A. Michels, J. A. Blanco, and L. F. Barquín

Entanglement-based tensor-network strong-disorder renormalization group *(9 pages)* 134405
Kouichi Seki, Toshiya Hikihara, and Kouichi Okunishi

Bipolar magnetic semiconducting behavior in VNbRuAl *(6 pages)* 134406
Jadupati Nag, Deepika Rani, Jiban Kangsabanik, Durgesh Singh, R. Venkatesh, P. D. Babu, K. G. Suresh, and Aftab Alam

Scaling of the anomalous Hall effect in perpendicularly magnetized epitaxial films of the ferrimagnet $NiCo_2O_4$ *(5 pages)* 134407
Daisuke Kan, Lingling Xie, and Yuichi Shimakawa

Manipulating antiferromagnetic interfacial states by spin-orbit torques *(10 pages)* 134408
E. Z. Zhang, Y. C. Deng, X. H. Liu, X. Z. Zhan, T. Zhu, and K. Y. Wang

Possible high-spin states in hydrogenated C_{60} molecules *(7 pages)* 134409
Shao-Bin Qiu, Yu-Jun Zhao, Yao Yao, and Xiao-Bao Yang

Planar triangular $S = 3/2$ magnet $AgCrSe_2$: Magnetic frustration, short range correlations, and field-tuned anisotropic cycloidal magnetic order *(16 pages)* 134410
M. Baenitz, M. M. Piva, S. Luther, J. Sichelschmidt, K. M. Ranjith, H. Dawczak-Dębicki, M. O. Ajeesh, S.-J. Kim, G. Siemann, C. Bigi, P. Manuel, D. Khalyavin, D. A. Sokolov, P. Mokhtari, H. Zhang, H. Yasuoka, P. D. C. King, G. Vinai, V. Polewczyk, P. Torelli, J. Wosnitza, U. Burkhardt, B. Schmidt, H. Rosner, S. Wirth, H. Kühne, M. Nicklas, and M. Schmidt

Electronic control of strong magnetic anisotropy in Co-based single-molecule magnets *(8 pages)* 134411
Zahra Hooshmand, Jie-Xiang Yu, Hai-Ping Cheng, and Mark R Pederson

Evidence for a coupled magnetic-crystallographic transition in $La_{0.9}Ce_{0.1}Fe_{12}B_6$ *(13 pages)* 134412
L. V. B. Diop, T. Faske, M. Amara, D. Koch, O. Isnard, and W. Donner

(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 104, NUMBER 13** **OCTOBER 2021-1(I)**

Theoretical study of the crystal structure, stability, and properties of phases in the V-N system *(11 pages)* 134111
Jin Zhang, Xinfeng Li, Xiao Dong, Huafeng Dong, Artem R. Oganov, and Jeffrey M. McMahon

Inhomogeneous, disordered, and partially ordered systems

Mott-Anderson metal-insulator transitions from entanglement *(5 pages)* 134201
G. A. Canella and V. V. França

Dual mapping and quantum criticality in quasiperiodic Su-Schrieffer-Heeger chains *(6 pages)* 134202
Tong Liu and Xu Xia

Distribution of two-level system couplings to strain and electric fields in glasses at low temperatures *(10 pages)* 134203
Herve M. Carruzzo, Alexander Bilmes, Jürgen Lisenfeld, Zheng Yu, Bu Wang, Zhongyi Wan, J. R. Schmidt, and Clare C. Yu

Localization and delocationzation of surface disordering in surface mediated melting *(11 pages)* 134204
Xue Fan, Xiaohong Chen, Deng Pan, Yi Liu, Ping Liu, and Mo Li

Dynamics, dynamical systems, lattice effects:

Theory for coherent control of longitudinal optical phonons in GaAs using polarized optical pulses with relative phase locking *(10 pages)* 134301
Itsuki Takagi, Yosuke Kayanuma, and Kazutaka G. Nakamura

Ultrafast polarization control in κ-(BEDT-TTF)$_2X$ *(13 pages)* 134302
Shu Ohmura, Jun Tokimoto, and Akira Takahashi

Three-nodal surface phonons in solid-state materials: Theory and material realization *(8 pages)* 134303
Chengwu Xie, Hongkuan Yuan, Ying Liu, Xiaotian Wang, and Gang Zhang

Transformation acoustics with bulk media composed of polarized sources *(9 pages)* 134304
Dylan A. Kovacevich and Bogdan-Ioan Popa

Neutron scattering study of the kagome metal $Sc_3Mn_3Al_7Si_5$ *(9 pages)* 134305
X. Y. Li, D. Reig-i-Plessis, P.-F. Liu, S. Wu, B.-T. Wang, A. M. Hallas, M. B. Stone, C. Broholm, and M. C. Aronson

Reductions in the thermal conductivity of irradiated silicon governed by displacement damage *(5 pages)* 134306
Ethan A. Scott, Khalid Hattar, Eric J. Lang, Kiumars Aryana, John T. Gaskins, and Patrick E. Hopkins

Periodic and aperiodic dynamics of flat bands in diamond-octagon lattice *(15 pages)* 134307
Tanay Nag and Atanu Rajak

Fermi's golden rule for heating in strongly driven Floquet systems *(9 pages)* 134308
Tatsuhiko N. Ikeda and Anatoli Polkovnikov

Fragility of classical Hamiltonian period doubling to quantum fluctuations *(14 pages)* 134309
Reyhaneh Khasseh, Angelo Russomanno, and Rosario Fazio

Torque-free manipulation of nanoparticle rotations via embedded spins *(7 pages)* 134310
Yue Ma, M. S. Kim, and Benjamin A. Stickler

(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™

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 104, NUMBER 13 *CONTENTS* **OCTOBER 2021-1(I)**

ARTICLES

Structure, structural phase transitions, mechanical properties, defects

Barocaloric properties of quaternary $Mn_3(Zn,In)N$ for room-temperature refrigeration applications *(7 pages)* 134101
David Boldrin, Eduardo Mendive-Tapia, Jan Zemen, Julie B. Staunton, Angelo M. Gomes, Luis Ghivelder, John Halpin, Alexandra S. Gibbs, Araceli Aznar, Josep-Lluís Tamarit, Pol Lloveras, Xavier Moya, and Lesley F. Cohen

Evidence for mechanical softening-hardening dual anomaly in transition metals from shock-compressed vanadium *(9 pages)* 134102
Hao Wang, J. Li, X. M. Zhou, Y. Tan, L. Hao, Y. Y. Yu, C. D. Dai, K. Jin, Q. Wu, Q. M. Jing, X. R. Chen, X. Z. Yan, Y. X. Wang, and Hua Y. Geng

Measurement of the thulium ion spin Hamiltonian in an yttrium gallium garnet host crystal *(10 pages)* 134103
Jacob H. Davidson, Philip J. T. Woodburn, Aaron D. Marsh, Kyle J. Olson, Adam Olivera, Antariksha Das, Mohsen Falamarzi Askarani, Wolfgang Tittel, Rufus L. Cone, and Charles W. Thiel

Model of ramp compression of diamond from *ab initio* simulations *(13 pages)* 134104
F. González-Cataldo, B. K. Godwal, K. Driver, R. Jeanloz, and B. Militzer

Local amorphization in boron carbide at finite temperature: Strategies toward improved ductility *(13 pages)* 134105
Jun Li, Qi An, and Lisheng Liu

Disorder classification of the vibrational spectra of modern glasses *(10 pages)* 134106
Zhiwen Pan, Omar Benzine, Shigeki Sawamura, Rene Limbach, Akio Koike, Thomas D. Bennett, Gerhard Wilde, Walter Schirmacher, and Lothar Wondraczek

Prevalence of pretransition disordering in the rutile-to-$CaCl_2$ phase transition of GeO_2 *(8 pages)* 134107
G. Alexander Smith, Daniel Schacher, Jasmine K. Hinton, Daniel Sneed, Changyong Park, Sylvain Petitgirard, Keith V. Lawler, and Ashkan Salamat

Short-range order and atomic diffusion in liquid Ge and $Si_{20}Ge_{80}$ investigated by neutron scattering and x-ray diffraction *(9 pages)* 134108
H. Weis, D. Holland-Moritz, F. Kargl, F. Yang, T. Unruh, T. C. Hansen, J. Bednarčik, and A. Meyer

Point and complex defects in monolayer $PdSe_2$: Evolution of electronic structure and emergence of magnetism *(11 pages)* 134109
Artem V. Kuklin, Lyudmila V. Begunovich, Lingfeng Gao, Han Zhang, and Hans Ågren

Acoustic anti-parity-time symmetric structure enabling equivalent lasing and coherent perfect absorption *(10 pages)* 134110
Ting Hu, Qi Wei, Xing-Feng Zhu, Jie Yao, and Da-Jian Wu

Copyright 2021 by American Physical Society

2469-9950(20211001)104:13;1-T

(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).