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 102, NUMBER 16 *CONTENTS* **OCTOBER 2020-15(II)**

RAPID COMMUNICATIONS

Electronic structure and strongly correlated systems

Untying links through anti-parity-time-symmetric coupling *(7 pages)* . . . . . 161101(R)
H. C. Wu, X. M. Yang, L. Jin, and Z. Song

Protected helical transport in magnetically doped quantum wires: Beyond the one-dimensional paradigm *(5 pages)* 161102(R)
Florian Stäbler, Alexei M. Tsvelik, and Oleg M. Yevtushenko

Imaging the valley and orbital Hall effect in monolayer MoS_2 *(5 pages)* . . . . . 161103(R)
Fei Xue, Vivek Amin, and Paul M. Haney

Systematic comparison and cross-validation of fixed-node diffusion Monte Carlo and phaseless auxiliary-field quantum Monte Carlo in solids *(8 pages)* . . . . . 161104(R)
Fionn D. Malone, Anouar Benali, Miguel A. Morales, Michel Caffarel, Paul R. C. Kent, and Luke Shulenburger

Coherent phonons and the interplay between charge density wave and Mott phases in 1*T*-$TaSe_2$ *(6 pages)* . . . . . 161105(R)
C. J. Sayers, H. Hedayat, A. Ceraso, F. Museur, M. Cattelan, L. S. Hart, L. S. Farrar, S. Dal Conte, G. Cerullo, C. Dallera, E. Da Como, and E. Carpene

Spin/charge density waves at the boundaries of transition metal dichalcogenides *(5 pages)* . . . . . 161106(R)
Sridevi Krishnamurthi and Geert Brocks

Fully anisotropic superconductivity with few Helmholtz Fermi-surface harmonics *(6 pages)* . . . . . 161107(R)
Jon Lafuente-Bartolome, Idoia G. Gurtubay, and Asier Eiguren

Langevin simulations of the half-filled cubic Holstein model *(5 pages)* . . . . . 161108(R)
B. Cohen-Stead, Kipton Barros, ZY Meng, Chuang Chen, R. T. Scalettar, and G. G. Batrouni

Electronic correlations in the van der Waals ferromagnet Fe_3GeTe_2 revealed by its charge dynamics *(6 pages)* . . . 161109(R)
M. Corasaniti, R. Yang, K. Sen, K. Willa, M. Merz, A. A. Haghighirad, M. Le Tacon, and L. Degiorgi

Generalized hydrodynamics with dephasing noise *(6 pages)* . . . . . 161110(R)
Alvise Bastianello, Jacopo De Nardis, and Andrea De Luca

Resistivity and its fluctuations in disordered many-body systems: From chains to planes *(7 pages)* . . . . . 161111(R)
M. Mierzejewski, M. Środa, J. Herbrych, and P. Prelovšek

Topological states in arrays of optical waveguides engineered via mode interference *(5 pages)* . . . . . 161112(R)
Roman S. Savelev and Maxim A. Gorlach

Copyright 2020 by American Physical Society

(Continued)

2469-9950(20201015)102:16;1-M

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 102, NUMBER 16** **OCTOBER 2020-15(II)**

Dyakonov-like waveguide modes in an interfacial strip waveguide *(5 pages)* . . . . . 161113(R)
E. V. Anikin, D. A. Chermoshentsev, S. A. Dyakov, and N. A. Gippius

Fermi-surface topology and renormalization of bare ellipticity in an interacting anisotropic electron gas *(5 pages)* 161114(R)
Seongjin Ahn and S. Das Sarma

Mapping Dirac fermions in the intrinsic antiferromagnetic topological insulators $(MnBi_2Te_4)(Bi_2Te_3)_n$ $(n = 0, 1)$ *(7 pages)* . . . . . 161115(R)
Zuowei Liang, Aiyun Luo, Mengzhu Shi, Qiang Zhang, Simin Nie, J. J. Ying, J.-F. He, Tao Wu, Zhijun Wang, Gang Xu, Zhenyu Wang, and X.-H. Chen

Doping-controlled transition from excitonic insulator to semimetal in Ta_2NiSe_5 *(5 pages)* . . . . . 161116(R)
L. Chen, T. T. Han, C. Cai, Z. G. Wang, Y. D. Wang, Z. M. Xin, and Y. Zhang

$\mathbb{Z}_2$-projective translational symmetry protected topological phases *(5 pages)* . . . . . 161117(R)
Y. X. Zhao, Yue-Xin Huang, and Shengyuan A. Yang

℘ Hund's metal physics: From $SrNiO_2$ to $LaNiO_2$ *(8 pages)* . . . . . 161118(R)
Y. Wang, C.-J. Kang, H. Miao, and G. Kotliar

Geodesic string condensation from symmetric tensor gauge theory: A unifying framework of holographic toy models *(6 pages)* . . . . . 161119(R)
Han Yan (闫寒)

Unconventional magnetic ferroelectricity in the quadruple perovskite $NaMn_7O_{12}$ *(5 pages)* . . . . . 161120(R)
Vinícius Pascotto Gastaldo, Yannick Klein, Benoît Baptiste, Riccardo Cabassi, Edmondo Gilioli, Andrea Gauzzi, and Adilson J. A. de Oliveira

Surface physics, nanoscale physics, low-dimensional systems

Quantum interference between the optical Stark effect and resonant harmonic generation in WS_2 *(7 pages)* . . . . . 161401(R)
Darien J. Morrow, Daniel D. Kohler, Yuzhou Zhao, Jason M. Scheeler, Song Jin, and John C. Wright

Cooperative orbital moments and edge magnetoresistance in monolayer WTe_2 *(5 pages)* . . . . . 161402(R)
Arpit Arora, Li-kun Shi, and Justin C. W. Song

Electromagnetic dressing of the electron energy spectrum of Au(111) at high momenta *(6 pages)* . . . . . 161403(R)
Marius Keunecke, Marcel Reutzel, David Schmitt, Alexander Osterkorn, Tridev A. Mishra, Christina Möller, Wiebke Bennecke, G. S. Matthijs Jansen, Daniel Steil, Salvatore R. Manmana, Sabine Steil, Stefan Kehrein, and Stefan Mathias

Additional excitonic features and momentum-dark states in ReS_2 *(8 pages)* . . . . . 161404(R)
A. Dhara, D. Chakrabarty, P. Das, A. K. Pattanayak, S. Paul, S. Mukherjee, and S. Dhara

Effect of increased stability of peptide-based coatings in the Casimir regime via nanoparticle doping *(6 pages)* . . . 161405(R)
G. L. Klimchitskaya, V. M. Mostepanenko, and E. N. Velichko

ARTICLES

Electronic structure and strongly correlated systems

Hall viscosity of the composite-fermion Fermi seas for fermions and bosons *(8 pages)* 165101
Songyang Pu

(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 102, NUMBER 16** **OCTOBER 2020-15(II)**

Electrical resistivity of atomically smooth single-crystal Cu films *(6 pages)* 165102
Prashant P. Shinde, Piyush Tagade, Shashishekar P. Adiga, Aniruddha Konar, Shanthi Pandian, K. Subramanya Mayya, Hyeon-Jin Shin, Yeonchoo Cho, and Seongjun Park

Interplay of electron correlations, spin-orbit couplings, and structural effects for Cu centers in the quasi-two-dimensional magnet $InCu_{2/3}V_{1/3}O_3$ *(6 pages)* 165103
R. Murugesan, M. S. Eldeeb, M. Yehia, B. Büchner, V. Kataev, O. Janson, and L. Hozoi

Interaction induced hybridization of Majorana zero modes in a coupled quantum-dot–superconducting-nanowire hybrid system *(8 pages)* 165104
L. S. Ricco, Y. Marques, J. E. Sanches, I. A. Shelykh, and A. C. Seridonio

Theory of magnetotransport in shaped topological insulator nanowires *(15 pages)* 165105
Ansgar Graf, Raphael Kozlovsky, Klaus Richter, and Cosimo Gorini

Field-induced SU(4) to SU(2) Kondo crossover in a half-filling nanotube dot: Spectral and finite-temperature properties *(23 pages)* 165106
Yoshimichi Teratani, Rui Sakano, Tokuro Hata, Tomonori Arakawa, Meydi Ferrier, Kensuke Kobayashi, and Akira Oguri

Efficient compression of the environment of an open quantum system *(13 pages)* 165107
Max Nusspickel and George H. Booth

Finite-size scaling analysis of two-dimensional deformed Affleck-Kennedy-Lieb-Tasaki states *(9 pages)* 165108
Ching-Yu Huang (黃靜瑜), Yuan-Chun Lu (呂元鈞), and Pochung Chen (陳柏中)

Proton mobility in metallic copper hydride from high-pressure nuclear magnetic resonance *(8 pages)* 165109
Thomas Meier, Florian Trybel, Giacomo Criniti, Dominique Laniel, Saiana Khandarkhaeva, Egor Koemets, Timofey Fedotenko, Konstantin Glazyrin, Michael Hanfland, Maxim Bykov, Gerd Steinle-Neumann, Natalia Dubrovinskaia, and Leonid Dubrovinsky

Anisotropic RKKY interactions in nodal-line semimetals *(9 pages)* 165110
Hou-Jian Duan, Shi-Han Zheng, Yan-Yan Yang, Chang-Yong Zhu, Ming-Xun Deng, Mou Yang, and Rui-Qiang Wang

Effects of dynamical noises on Majorana bound states *(10 pages)* 165111
Roya Radgohar and Mehdi Kargarian

Chiral topologically ordered insulating phases in arrays of interacting integer quantum Hall islands *(15 pages)* . . . 165112
Hiromi Ebisu, Rohit R. Kalloor, Alexei M. Tsvelik, and Yuval Oreg

Symmetric Helmholtz Fermi-surface harmonics for an optimal representation of anisotropic quantities on the Fermi surface: Application to the electron-phonon problem *(11 pages)* 165113
Jon Lafuente-Bartolome, Idoia G. Gurtubay, and Asier Eiguren

Strongly parity-mixed superconductivity in the Rashba-Hubbard model *(7 pages)* 165114
Kosuke Nogaki and Youichi Yanase

First-principles theory of the Dirac semimetal Cd_3As_2 under Zeeman magnetic field *(8 pages)* 165115
Santu Baidya and David Vanderbilt

Quantum theory of dissipative topological systems *(12 pages)* 165116
Yu-Wei Huang, Pei-Yun Yang, and Wei-Min Zhang

(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 102, NUMBER 16** **OCTOBER 2020-15(II)**

Surface Green's functions and quasiparticle interference in Weyl semimetals *(8 pages)* 165117
Sarah Pinon, Vardan Kaladzhyan, and Cristina Bena

Quantum geometry and stability of moiré flatband ferromagnetism *(10 pages)* 165118
Fengcheng Wu and S. Das Sarma

Topological phases in the α-Li_3N-type crystal structure of light-element compounds *(10 pages)* 165119
Ali Ebrahimian, Reza Asgari, and Mehrdad Dadsetani

Corner charge and bulk multipole moment in periodic systems *(14 pages)* 165120
Haruki Watanabe and Seishiro Ono

Complex behavior of the density in composite quantum systems *(13 pages)* 165121
Filiberto Ares, José G. Esteve, Fernando Falceto, and Alberto Usón

Generalized diagonalization scheme for many-particle systems *(17 pages)* 165122
Steffen Sykora, Arnd Hübsch, and Klaus W. Becker

Coupled wire construction of a topological phase with chiral tricritical Ising edge modes *(8 pages)* 165123
Chengshu Li, Hiromi Ebisu, Sharmistha Sahoo, Yuval Oreg, and Marcel Franz

Successive magnetic transitions in the heavy-fermion superconductor Ce_3PtIn_{11} studied by ^{115}In nuclear quadrupole resonance *(8 pages)* 165124
Hideto Fukazawa, Kazuki Kumeda, Naoki Shioda, Yongsun Lee, Yoh Kohori, Koudai Sugimoto, Debarchan Das, Joanna Bławat, and Dariusz Kaczorowski

Superconductivity in La_2Ni_2In *(14 pages)* 165125
Jannis Maiwald, Igor I. Mazin, Alex Gurevich, and Meigan Aronson

Kinetics and luminescence of the excitations of a nonequilibrium polariton condensate *(13 pages)* 165126
T. D. Doan, D. B. Tran Thoai, and H. Haug

Hard x-ray photoemission spectroscopy of GdNi and HoNi *(15 pages)* 165127
C. W. Chuang, F. M. F. de Groot, Y. F. Liao, Y. Y. Chin, K. D. Tsuei, R. Nirmala, D. Malterre, and A. Chainani

Laser pulse driven control of charge and spin order in the two-dimensional Kondo lattice *(9 pages)* 165128
Benedikt Fauseweh and Jian-Xin Zhu

Ferroelectricity and ferromagnetism in a VOI_2 monolayer: Role of the Dzyaloshinskii-Moriya interaction *(6 pages)* 165129
Ning Ding, Jun Chen, Shuai Dong, and Alessandro Stroppa

Direct evidence for anisotropic three-dimensional magnetic excitations in a hole-doped antiferromagnet *(5 pages)* 165130
Rajesh Dutta, Avishek Maity, Anna Marsicano, J. Ross Stewart, Matthias Opel, and Werner Paulus

Entanglement compression in scale space: From the multiscale entanglement renormalization ansatz to matrix product operators *(5 pages)* 165131
Karel Van Acoleyen, Andrew Hallam, Matthias Bal, Markus Hauru, Jutho Haegeman, and Frank Verstraete

Disorder-free localization in a simple $U(1)$ lattice gauge theory *(8 pages)* 165132
Irene Papaefstathiou, Adam Smith, and Johannes Knolle

(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 102, NUMBER 16** **OCTOBER 2020-15(II)**

Large magnetoresistance and nonzero Berry phase in the nodal-line semimetal MoO_2 *(8 pages)* 165133
Qin Chen, Zhefeng Lou, ShengNan Zhang, Binjie Xu, Yuxing Zhou, Huancheng Chen, Shuijin Chen, Jianhua Du, Hangdong Wang, Jinhu Yang, QuanSheng Wu, Oleg V. Yazyev, and Minghu Fang

Joule heating in Boltzmann theory of metals *(5 pages)* 165134
Philip B. Allen and Mengkun Liu

Filling-enforced Dirac nodal loops in nonmagnetic systems and their evolutions under various perturbations *(15 pages)* 165135
Dexi Shao and Chen Fang

η-paired superconducting hidden phase in photodoped Mott insulators *(10 pages)* 165136
Jiajun Li, Denis Golez, Philipp Werner, and Martin Eckstein

Generalized f-sum rules and Kohn formulas on nonlinear conductivities *(8 pages)* 165137
Haruki Watanabe and Masaki Oshikawa

Electronic entropy contribution to the metal insulator transition in VO_2 *(5 pages)* 165138
J. Paras and A. Allanore

Influence of magnetic ordering on the optical response of the antiferromagnetic topological insulator $MnBi_2Te_4$ *(6 pages)* 165139
M. Köpf, J. Ebad-Allah, S. H. Lee, Z. Q. Mao, and C. A. Kuntscher

Super-Poissonian behavior of the Rosenzweig-Porter model in the nonergodic extended regime *(6 pages)* 165140
Richard Berkovits

Mott transition and electronic excitation of the Gutzwiller wavefunction *(9 pages)* 165141
Masanori Kohno

One-dimensional electronic instabilities at the edges of MoS_2 *(9 pages)* 165142
Sridevi Krishnamurthi, Mojtaba Farmanbar, and Geert Brocks

Hidden physical effects in noncentrosymmetric crystals *(10 pages)* 165143
Zuzhang Lin, Chong Wang, Yong Xu, and Wenhui Duan

℘ Enhanced spin correlations in the Bose-Einstein condensate compound $Sr_3Cr_2O_8$ *(9 pages)* 165144
T. Nomura, Y. Skourski, D. L. Quintero-Castro, A. A. Zvyagin, A. V. Suslov, D. Gorbunov, S. Yasin, J. Wosnitza, K. Kindo, A. T. M. N. Islam, B. Lake, Y. Kohama, S. Zherlitsyn, and M. Jaime

Localized character of charge excitations for $La_{2-x}Sr_xNiO_{4+\delta}$ revealed by oxygen K-edge resonant inelastic x-ray scattering *(7 pages)* 165145
Kohei Yamagami, Kenji Ishii, Yasuyuki Hirata, Keisuke Ikeda, Jun Miyawaki, Yoshihisa Harada, Masanori Miyazaki, Shun Asano, Masaki Fujita, and Hiroki Wadati

Anomalous density fluctuations in a random t-J model *(12 pages)* 165146
Darshan G. Joshi and Subir Sachdev

℘ Majorana end states in an interacting quantum wire *(22 pages)* 165147
Ren-Bo Wang, Akira Furusaki, and Oleg A. Starykh

Contrasting lattice geometry dependent versus independent quantities: Ramifications for Berry curvature, energy gaps, and dynamics *(13 pages)* 165148
Steven H. Simon and Mark S. Rudner

(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 102, NUMBER 16** **OCTOBER 2020-15(II)**

Topological nodal line in $ZrTe_2$ demonstrated by nuclear magnetic resonance *(8 pages)* 165149
Yefan Tian, Nader Ghassemi, and Joseph H. Ross, Jr.

η-pairing in correlated fermion models with spin-orbit coupling *(9 pages)* 165150
Kai Li

Longitudinal and anomalous Hall conductivity of a general two-band model *(26 pages)* 165151
Johannes Mitscherling

Insight into Kondo screening in the intermediate-valence compound $SmOs_4Sb_{12}$ uncovered by soft x-ray magnetic circular dichroism *(8 pages)* 165152
Y. Saitoh, H. Fujiwara, A. Yasui, T. Kadono, H. Sugawara, D. Kikuchi, H. Sato, S. Suga, A. Yamasaki, A. Sekiyama, and S. Imada

Temperature-dependent electronic structure in a higher-order topological insulator candidate $EuIn_2As_2$ *(7 pages)* 165153
Sabin Regmi, M. Mofazzel Hosen, Barun Ghosh, Bahadur Singh, Gyanendra Dhakal, Christopher Sims, Baokai Wang, Firoza Kabir, Klauss Dimitri, Yangyang Liu, Amit Agarwal, Hsin Lin, Dariusz Kaczorowski, Arun Bansil, and Madhab Neupane

Ultralow temperature NMR of $CeCoIn_5$ *(9 pages)* 165154
M. Yamashita, M. Tashiro, K. Saiki, S. Yamada, M. Akazawa, M. Shimozawa, T. Taniguchi, H. Takeda, M. Takigawa, and H. Shishido

Finite-temperature density-matrix renormalization group method for electron-phonon systems: Thermodynamics and Holstein-polaron spectral functions *(17 pages)* 165155
David Jansen, Janez Bonča, and Fabian Heidrich-Meisner

Strong anisotropy of the electron-phonon interaction in NbP probed by magnetoacoustic quantum oscillations *(8 pages)* 165156
Clemens Schindler, Denis Gorbunov, Sergei Zherlitsyn, Stanislaw Galeski, Marcus Schmidt, Jochen Wosnitza, and Johannes Gooth

First-principles study of two-dimensional ferroelectrics using self-consistent Hubbard parameters *(14 pages)* 165157
Jiawei Huang, Sang-Hoon Lee, Young-Woo Son, Andrew Supka, and Shi Liu

Semiconductors II: surfaces, interfaces, microstructures, and related topics

Dynamical Floquet spectrum of Kekulé-distorted graphene under normal incidence of electromagnetic radiation *(13 pages)* 165301
M. A. Mojarro, V. G. Ibarra-Sierra, J. C. Sandoval-Santana, R. Carrillo-Bastos, and Gerardo G. Naumis

Atomic structure and properties of a perovskite/spinel (111) interface *(8 pages)* 165302
Yuanmin Zhu, Linhan Liu, Guoping Cao, Wandong Xing, Ying-Hao Chu, Jing Zhu, and Rong Yu

Epsilon-near-zero media coupled with localized surface plasmon modes *(7 pages)* 165303
Bilge Can Yildiz and Humeyra Caglayan

Uniaxial ε-near-zero metamaterials for giant enhancement of the transverse magneto-optical Kerr effect *(5 pages)* 165304
E. Moncada-Villa, Osvaldo N. Oliveira, Jr., and J. R. Mejía-Salazar

Unconventional reentrant quantum Hall effect in a HgTe/CdHgTe double quantum well *(10 pages)* 165305
M. V. Yakunin, S. S. Krishtopenko, W. Desrat, S. M. Podgornykh, M. R. Popov, V. N. Neverov, S. A. Dvoretsky, N. N. Mikhailov, F. Teppe, and B. Jouault

(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 102, NUMBER 16** **OCTOBER 2020-15(II)**

Plasmons and magnetoplasmons in partially bounded two-layer electron systems *(8 pages)* 165306
A. A. Zabolotnykh and V. A. Volkov

Raman spectroscopy polarization dependence analysis in two-dimensional gallium sulfide *(10 pages)* 165307
R. S. Alencar, R. Longuinhos, C. Rabelo, H. Miranda, B. C. Viana, A. G. Souza Filho, L. G. Cançado, A. Jorio, and J. Ribeiro-Soares

Tunable charge density wave in a lateral black/blue phosphorene heterostructure: A first-principles calculation *(8 pages)* 165308
Yan Li, Hongwei Bao, Jian Zhou, and Fei Ma

Kinetic approach to nuclear-spin polaron formation *(10 pages)* 165309
Andreas Fischer, Iris Kleinjohann, Frithjof B. Anders, and Mikhail M. Glazov

Comparison of density of states and scattering parameters in coaxial photonic crystals: Theory and experiment *(23 pages)* 165310
Soufyane Khattou, Madiha Amrani, Abdelkader Mouadili, El Houssaine El Boudouti, Abdelkrim Talbi, Abdellatif Akjouj, and Bahram Djafari-Rouhani

Image-enhanced bipolaron formation at organic semiconductor/electrode interfaces *(6 pages)* 165311
Jonathon R. Schrecengost, Sukrit Mukhopadhyay, and Noel C. Giebink

Enhanced Majorana bound states in magnetic chains on superconducting topological insulator edges *(11 pages)* 165312
Raphael L. R. C. Teixeira, Dushko Kuzmanovski, Annica M. Black-Schaffer, and Luis G. G. V. Dias da Silva

Gauge-invariant variables reveal the quantum geometry of fractional quantum Hall states *(6 pages)* 165313
YingKang Chen and Rudro R. Biswas

Longitudinal spin relaxation time of donor-bound electrons in a CdTe quantum well *(8 pages)* 165314
G. Garcia-Arellano, F. Bernardot, G. Karczewski, C. Testelin, and M. Chamarro

Selection rules for the excitation of quantum dots by spatially structured light beams: Application to the reconstruction of higher excited exciton wave functions *(18 pages)* 165315
M. Holtkemper, G. F. Quinteiro, D. E. Reiter, and T. Kuhn

Surface physics, nanoscale physics, low-dimensional systems

Pre-equilibrium stopping and charge capture in proton-irradiated aluminum sheets *(9 pages)* 165401
Alina Kononov and André Schleife

Temperature-dependent electron-phonon spectral function and the intrinsic resistivity of a metal: A case study of monolayer Ti_2N *(9 pages)* 165402
Binyuan Zhang, Mingfeng Zhu, Zhe Liu, Fei Guo, and Yisong Zheng

Ambipolar charge transport in quasi-free-standing monolayer graphene on SiC obtained by gold intercalation *(8 pages)* 165403
Kyung Ho Kim, Hans He, Claudia Struzzi, Alexei Zakharov, Cristina E. Giusca, Alexander Tzalenchuk, Yung Woo Park, Rositsa Yakimova, Sergey Kubatkin, and Samuel Lara-Avila

Multiple robust Dirac states in hexagonal lattice induced by *p-d* electron-counting rule and bilayer stacking *(9 pages)* 165404
Bingwen Zhang, Jie Sun, Jiancai Leng, Cheng Zhang, Huamin Chen, and Jun Wang

(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 102, NUMBER 16** **OCTOBER 2020-15(II)**

Quantum motion of hydrogen on Ni(100) surfaces *(7 pages)* 165405
H. Ibach

Microscopic quantum description of second-order nonlinearities in two-dimensional hexagonal nanostructures beyond the Dirac cone approximation *(13 pages)* 165406
H. K. Avetissian, G. F. Mkrtchian, K. G. Batrakov, and S. A. Maksimenko

SQUID pattern disruption in transition metal dichalcogenide Josephson junctions due to nonparabolic dispersion of the edge states *(11 pages)* 165407
D. Sticlet, P. Wójcik, and M. P. Nowak

Adiabatic pumping driven by a moving kink in a buckled graphene nanoribbon with implications for a quantum standard for the ampere *(10 pages)* 165408
Dominik Suszalski and Adam Rycerz

Phonon density of states in lanthanide-based nanocrystals *(11 pages)* 165409
Z. H. Li, D. Hudry, R. Heid, A. H. Said, M. D. Le, R. Popescu, D. Gerthsen, M. Merz, K. W. Krämer, D. Busko, I. A. Howard, B. S. Richards, and F. Weber

Metal-insulator transition in organic ion intercalated VSe_2 induced by dimensional crossover *(9 pages)* 165410
F. B. Meng, Z. Liu, L. X. Yang, M. Z. Shi, B. H. Ge, H. Zhang, J. J. Ying, Z. F. Wang, Z. Y. Wang, T. Wu, and X. H. Chen

Oxygen vacancy induced insulator-metal transition in $LaNiO_3$ thin films *(8 pages)* 165411
Huy Duy Nguyen, Cong Thanh Bach, and Yoshitada Morikawa

Complexity of mixed allotropes of MoS_2 unraveled by first-principles theory *(7 pages)* 165412
Raquel Esteban-Puyuelo, D. D. Sarma, and Biplab Sanyal

Electric-field-driven exciton vortices in transition metal dichalcogenide monolayers *(12 pages)* 165413
Yingda Chen, Yongwei Huang, Wenkai Lou, Yongyong Cai, and Kai Chang

Photoinduced electronic and spin properties of two-dimensional electron gases with Rashba spin-orbit coupling under perpendicular magnetic fields *(12 pages)* 165414
Daniel Hernangómez-Pérez, Juan Daniel Torres, and Alexander López

Observation of logarithmic Kohn anomaly in monolayer graphene *(6 pages)* 165415
Yanchong Zhao, Luojun Du, Wei Yang, Cheng Shen, Jian Tang, Xiaomei Li, Yanbang Chu, Jinpeng Tian, Kenji Watanabe, Takashi Taniguchi, Rong Yang, Dongxia Shi, Zhipei Sun, and Guangyu Zhang

Landau levels in spin-orbit coupling proximitized graphene: Bulk states *(8 pages)* 165416
Tobias Frank and Jaroslav Fabian

Intrinsic nonreciprocal reflection and violation of Kirchhoff's law of radiation in planar type-I magnetic Weyl semimetal surfaces *(11 pages)* 165417
Simo Pajovic, Yoichiro Tsurimaki, Xin Qian, and Gang Chen

Violation of thermodynamics uncertainty relations in a periodically driven work-to-work converter from weak to strong dissipation *(15 pages)* 165418
L. M. Cangemi, V. Cataudella, G. Benenti, M. Sassetti, and G. De Filippis

Helicity maximization below the diffraction limit *(10 pages)* 165419
Mina Hanifeh, Mohammad Albooyeh, and Filippo Capolino

(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 102, NUMBER 16** **OCTOBER 2020-15(II)**

Symmetry breaking, strain solitons, and mechanical edge modes in monolayer antimony *(7 pages)* 165420
Joshua Chiel, Harsh Mathur, and Onuttom Narayan

Thermal ripples in bilayer graphene *(17 pages)* 165421
Achille Mauri, David Soriano, and Mikhail I. Katsnelson

Nanopatterning of the (001) surface of crystalline Ge by ion irradiation at off-normal incidence: Experiment and simulation *(9 pages)* 165422
Denise Erb, Ricardo de Schultz, Andrey Ilinov, Kai Nordlund, R. Mark Bradley, and Stefan Facsko

Recombination and spin dynamics of excitons in thin (Ga,Al)(Sb,As)/AlAs quantum wells with an indirect band gap and type-I band alignment *(9 pages)* 165423
T. S. Shamirzaev, D. R. Yakovlev, A. K. Bakarov, N. E. Kopteva, D. Kudlacik, A. K. Gutakovskii, and M. Bayer

Dynamical stability of two-dimensional metals in the periodic table *(14 pages)* 165424
Shota Ono

Transport study of the wormhole effect in three-dimensional topological insulators *(11 pages)* 165425
Ming Gong, Ming Lu, Haiwen Liu, Hua Jiang, Qing-Feng Sun, and X. C. Xie

Orientation-dependent stabilization of $MgCr_2O_4$ spinel thin films *(7 pages)* 165426
Fangdi Wen, Xiaoran Liu, Mikhail Kareev, Tsung-Chi Wu, Michael Terilli, Jak Chakhalian, Padraic Shafer, and Elke Arenholz

Temperature dependence of the longitudinal spin relaxation time T_1 of single nitrogen-vacancy centers in nanodiamonds *(5 pages)* 165427
T. de Guillebon, B. Vindolet, J.-F. Roch, V. Jacques, and L. Rondin

Blue phosphorus nanoscrolls *(6 pages)* 165428
Yitian Wang, Xuehao Tang, Qionghua Zhou, Xinyu Chen, Qian Chen, and Yuhao Xu