

PM  
pg/nb

# PHYSICAL REVIEW B<sup>TM</sup>

## CONDENSED MATTER AND MATERIALS PHYSICS

Articles Published in DECEMBER 2014

15(II)

*Published by*  
**AMERICAN PHYSICAL SOCIETY<sup>TM</sup>**

Volume 90

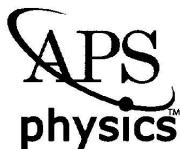
Third Series

Number 24

## RAPID COMMUNICATIONS

### Electronic structure and strongly correlated systems

Perfect metal phases of one-dimensional and anisotropic higher-dimensional systems ( <i>5 pages</i> ) . . . . .	241101(R)
Eugeniu Plamadeala, Michael Mulligan, and Chetan Nayak	
Quantum Hall ice ( <i>5 pages</i> ) . . . . .	241102(R)
Gia-Wei Chern, Armin Rahmani, Ivar Martin, and Cristian D. Batista	
Controlling multipolar radiation with symmetries for electromagnetic bound states in the continuum ( <i>4 pages</i> ) . . . . .	241103(R)
Thomas Lepetit and Boubacar Kanté	
Real-time simulation of large open quantum spin systems driven by dissipation ( <i>5 pages</i> ) . . . . .	241104(R)
D. Banerjee, F.-J. Jiang, M. Kon, and U.-J. Wiese	
Quantum phase transition between orbital-selective Mott states in Hund's metals ( <i>5 pages</i> ) . . . . .	241105(R)
Julián Rincón, Adriana Moreo, Gonzalo Alvarez, and Elbio Dagotto	
Evidence for a new excitation at the interface between a high- $T_c$ superconductor and a topological insulator ( <i>5 pages</i> ) . . . . .	241106(R)
Parisa Zareapour, Alex Hayat, Shu Yang F. Zhao, Michael Kreshchuk, Yong Kiat Lee, Anjan A. Reijnders, Achint Jain, Zhijun Xu, T. S. Liu, G. D. Gu, Shuang Jia, Robert J. Cava, and Kenneth S. Burch	
Role of electron localization in density functionals ( <i>4 pages</i> ) . . . . .	241107(R)
M. J. P. Hodgson, J. D. Ramsden, T. R. Durrant, and R. W. Godby	
Phase diagram and excitations of a Shiba molecule ( <i>5 pages</i> ) . . . . .	241108(R)
N. Y. Yao, C. P. Moca, I. Weymann, J. D. Sau, M. D. Lukin, E. A. Demler, and G. Zaránd	
Universal Knight shift anomaly in the periodic Anderson model ( <i>5 pages</i> ) . . . . .	241109(R)
M. Jiang, N. J. Curro, and R. T. Scalettar	
Self-organized electronic superlattices in layered materials ( <i>5 pages</i> ) . . . . .	241110(R)
Carmine Ortix, Carlo Di Castro, and José Lorenzana	
Shubnikov-de Haas oscillations from topological surface states of metallic $\text{Bi}_2\text{Se}_{2.1}\text{Te}_{0.9}$ ( <i>5 pages</i> ) . . . . .	241111(R)
Keshav Shrestha, Vera Marinova, Bernd Lorenz, and Paul C. W. Chu	
Diffusive quantum criticality in three-dimensional disordered Dirac semimetals ( <i>5 pages</i> ) . . . . .	241112(R)
Bitan Roy and S. Das Sarma	



**CONTENTS - *Continued*****PHYSICAL REVIEW B****THIRD SERIES, VOLUME 90, NUMBER 24****DECEMBER 2014-15(II)**

- Ferroelectricity driven by charge ordering in the A-site ordered perovskite manganite  $\text{SmBaMn}_2\text{O}_6$  (*4 pages*) . . . . . 241113(R)  
H. Sagayama, S. Toyoda, K. Sugimoto, Y. Maeda, S. Yamada, and T. Arima

**Semiconductors I: bulk**

- Origin of the unusually strong luminescence of  $a$ -type screw dislocations in GaN (*4 pages*) . . . . . 241201(R)  
M. Albrecht, L. Lymparakis, and J. Neugebauer
- Spin transport with dispersive traps: Narrowing of the Hanle curve (*5 pages*) . . . . . 241202(R)  
R. C. Roundy and M. E. Raikh
- Electron spin decoherence in silicon carbide nuclear spin bath (*6 pages*) . . . . . 241203(R)  
Li-Ping Yang, Christian Burk, Matthias Widmann, Sang-Yun Lee, Jörg Wrachtrup, and Nan Zhao
- First-principles study of the mobility of  $\text{SrTiO}_3$  (*5 pages*) . . . . . 241204(R)  
Burak Himmetoglu, Anderson Janotti, Hartwin Peelaers, Audrius Alkauskas, and Chris G. Van de Walle

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

- Quantum theory of third-harmonic generation in graphene (*4 pages*) . . . . . 241301(R)  
S. A. Mikhailov
- Terahertz emission from multiple-microcavity exciton-polariton lasers (*4 pages*) . . . . . 241302(R)  
S. Huppert, O. Lafont, E. Baudin, J. Tignon, and R. Ferreira
- Ultrafast high-fidelity initialization of a quantum-dot spin qubit without magnetic fields (*5 pages*) . . . . . 241303(R)  
Jonathan D. Mar, Jeremy J. Baumberg, Xiulai Xu, Andrew C. Irvine, and David A. Williams
- Photoluminescence of high-density exciton-polariton condensates (*5 pages*) . . . . . 241304(R)  
Natsuko Ishida, Tim Byrnes, Tomoyuki Horikiri, Franco Nori, and Yoshihisa Yamamoto

**Surface physics, nanoscale physics, low-dimensional systems**

- Density-functional investigation of molecular graphene: CO on Cu(111) (*5 pages*) . . . . . 241401(R)  
Matti Ropo, Sami Paavilainen, Jaakko Akola, and Esa Räsänen
- Avoiding critical-point phonon instabilities in two-dimensional materials: The origin of the stripe formation in epitaxial silicene (*5 pages*) . . . . . 241402(R)  
Chi-Cheng Lee (李啓正), Antoine Fleurence, Rainer Friedlein, Yukiko Yamada-Takamura, and Taisuke Ozaki
- Interplay between electronic topology and crystal symmetry: Dislocation-line modes in topological band insulators (*5 pages*) . . . . . 241403(R)  
Robert-Jan Slager, Andrej Mesaros, Vladimir Juričić, and Jan Zaanen
- Dissipative preparation of the exciton and biexciton in self-assembled quantum dots on picosecond time scales (*5 pages*) . . . . . 241404(R)  
Per-Lennart Ardel, Lukas Hanschke, Kevin A. Fischer, Kai Müller, Alexander Kleinkauf, Manuel Koller, Alexander Bechtold, Tobias Simmet, Jakob Wierzbowski, Hubert Riedl, Gerhard Abstreiter, and Jonathan J. Finley
- Transport characteristics of a single  $\text{C}_{60}$ -molecule junction revealed by multiple Andreev reflections (*5 pages*) . . . . . 241405(R)  
Ryoichi Hiraoka, Ryuichi Arafune, Noriyuki Tsukahara, Maki Kawai, and Noriaki Takagi

*(Continued)*

**CONTENTS - *Continued*****PHYSICAL REVIEW B****THIRD SERIES, VOLUME 90, NUMBER 24****DECEMBER 2014-15(II)**

Rashba splitting of graphene-covered Au(111) revealed by quasiparticle interference mapping ( <i>5 pages</i> ) . . . . .	241406(R)
Philipp Leicht, Julia Tesch, Samuel Bouvron, Felix Blumenschein, Philipp Erler, Luca Gragnaniello, and Mikhail Fonin	
Stability and properties of high-buckled two-dimensional tin and lead ( <i>5 pages</i> ) . . . . .	241408(R)
Pablo Rivero, Jia-An Yan, Víctor M. García-Suárez, Jaime Ferrer, and Salvador Barraza-Lopez	
Engineered near-perfect backscattering on the surface of a topological insulator with nonmagnetic impurities ( <i>5 pages</i> ) . . . . .	241409(R)
J. Fransson, A. M. Black-Schaffer, and A. V. Balatsky	
Collective edge modes near the onset of a graphene quantum spin Hall state ( <i>5 pages</i> ) . . . . .	241410(R)
Ganpathy Murthy, Efrat Shimshoni, and H. A. Fertig	
Deterministic generation of a quantum-dot-confined triexciton and its radiative decay via three-photon cascade ( <i>5 pages</i> ) . . . . .	241411(R)
E. R. Schmidgall, I. Schwartz, L. Gantz, D. Cogan, S. Raindel, and D. Gershoni	
Local control of the excitation of surface plasmon polaritons by near-field magneto-optical Kerr effect ( <i>4 pages</i> ) . . . . .	241412(R)
R. Vincent, H. Marinchio, J. J. Sáenz, and R. Carminati	
Tip radius quantification using feature-size mapping of field ion microscopy images ( <i>5 pages</i> ) . . . . .	241413(R)
Sören Zint, Daniel Ebeling, Dirk Dietzel, Jens Falter, and André Schirmeisen	
Classical and quantum plasmonics in graphene nanodisks: Role of edge states ( <i>5 pages</i> ) . . . . .	241414(R)
Thomas Christensen, Weihua Wang, Antti-Pekka Jauho, Martijn Wubs, and N. Asger Mortensen	
Fine structure of the phonon in one dimension from quantum hydrodynamics ( <i>5 pages</i> ) . . . . .	241415(R)
Tom Price and Austen Lamacraft	
Photon-drag-induced terahertz emission from graphene ( <i>5 pages</i> ) . . . . .	241416(R)
Petr A. Obraztsov, Natsuki Kanda, Kuniaki Konishi, Makoto Kuwata-Gonokami, Sergey V. Garnov, Alexander N. Obraztsov, and Yuri P. Svirko	

**ARTICLES****Electronic structure and strongly correlated systems**

Electrostatics of solvated systems in periodic boundary conditions ( <i>16 pages</i> ) . . . . .	245101
Oliviero Andreussi and Nicola Marzari	
Localized in-gap state in a single-electron doped Mott insulator ( <i>5 pages</i> ) . . . . .	245102
Weng-Hang Leong, Shun-Li Yu, T. Xiang, and Jian-Xin Li	
Orbital-cooperative spin fluctuation and orbital-dependent transport in ruthenates ( <i>6 pages</i> ) . . . . .	245103
Naoya Arakawa	
Comparison of the electronic structure of the Hubbard and $t - J$ models within the cluster perturbation theory ( <i>5 pages</i> ) . . . . .	245104
V. I. Kuz'min, S. V. Nikolaev, and S. G. Ovchinnikov	
Phase diagram of electron-doped dichalcogenides ( <i>6 pages</i> ) . . . . .	245105
M. Rösner, S. Haas, and T. O. Wehling	

*(Continued)*

CONTENTS - *Continued*

PHYSICAL REVIEW B

THIRD SERIES, VOLUME 90, NUMBER 24

DECEMBER 2014-15(II)

Generalizing quantum Hall ferromagnetism to fractional Chern bands ( <i>6 pages</i> ) . . . . .	245106
Akshay Kumar, Rahul Roy, and S. L. Sondhi	
Anomalous entanglement in chaotic Dirac billiards ( <i>4 pages</i> ) . . . . .	245107
J. G. G. S. Ramos, I. M. L. da Silva, and A. L. R. Barbosa	
Tunability of the fractional quantum Hall states in buckled Dirac materials ( <i>6 pages</i> ) . . . . .	245108
Vadym M. Apalkov and Tapash Chakraborty	
Conformal field theories at nonzero temperature: Operator product expansions, Monte Carlo, and holography ( <i>19 pages</i> ) . . . . .	245109
Emanuel Katz, Subir Sachdev, Erik S. Sørensen, and William Witczak-Krempa	
Current amplification and relaxation in Dirac systems ( <i>11 pages</i> ) . . . . .	245110
Alexandra Junck, Gil Refael, and Felix von Oppen	
CPT theorem and classification of topological insulators and superconductors ( <i>26 pages</i> ) . . . . .	245111
Chang-Tse Hsieh, Takahiro Morimoto, and Shinsei Ryu	
Optical conductivity and optical effective mass in a high-mobility organic semiconductor: Implications for the nature of charge transport ( <i>8 pages</i> ) . . . . .	245112
Yuan Li, Yuanping Yi, Veaceslav Coropceanu, and Jean-Luc Brédas	
Laser-induced ultrafast spin dynamics in di-, tri- and tetrานuclear nickel clusters, and the M process ( <i>13 pages</i> ) . . . . .	245113
D. Chaudhuri, H. P. Xiang, G. Lefkidis, and W. Hübner	
Possible triplet $p + ip$ superconductivity in graphene at low filling ( <i>5 pages</i> ) . . . . .	245114
Tianxing Ma, Fan Yang, Hong Yao, and Hai-Qing Lin	
Frustrated electrons on a spatially anisotropic triangular lattice: Emergent competition of charge orders and exotic disorders due to thermal fluctuations ( <i>12 pages</i> ) . . . . .	245115
Tempei Yoshida and Chisa Hotta	
Energy density of variational states ( <i>8 pages</i> ) . . . . .	245116
Leon Balents	
Unquenched $e_g^1$ orbital moment in the Mott-insulating antiferromagnet $\text{KO}_4$ ( <i>6 pages</i> ) . . . . .	245117
Young-Joon Song, Kyo-Hoon Ahn, Kwan-Woo Lee, and Warren E. Pickett	
Asymptotic discontinuities in the RKKY interaction in the graphene Bernal bilayer ( <i>18 pages</i> ) . . . . .	245118
N. Klier, S. Shallcross, and O. Pankratov	
Exotic magnetic orderings in the kagome Kondo-lattice model ( <i>13 pages</i> ) . . . . .	245119
Kipton Barros, Jörn W. F. Venderbos, Gia-Wei Chern, and C. D. Batista	
Symmetry-protected topological states of interacting fermions and bosons ( <i>17 pages</i> ) . . . . .	245120
Yi-Zhuang You and Cenke Xu	
Resonating valence-bond physics on the honeycomb lattice ( <i>10 pages</i> ) . . . . .	245121
Pranay Patil, Ishita Dasgupta, and Kedar Damle	
Exactly soluble model of a three-dimensional symmetry-protected topological phase of bosons with surface topological order ( <i>8 pages</i> ) . . . . .	245122
F. J. Burnell, Xie Chen, Lukasz Fidkowski, and Ashvin Vishwanath	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW B

THIRD SERIES, VOLUME 90, NUMBER 24

DECEMBER 2014-15(II)

Fermi-edge singularity in chiral one-dimensional systems far from equilibrium ( <i>7 pages</i> ) . . . . .	245123
Iuri Chernii, Ivan P. Levkivskyi, and Eugene V. Sukhorukov	
Anisotropic strain in SmSe and SmTe: Implications for electronic transport ( <i>8 pages</i> ) . . . . .	245124
Marcelo A. Kuroda, Zhengping Jiang, Michael Povolotskyi, Gerhard Klimeck, Dennis M. Newns, and Glenn J. Martyna	
Unified framework of topological phases with symmetry ( <i>18 pages</i> ) . . . . .	245125
Yuxiang Gu, Ling-Yan Hung, and Yidun Wan	
Direct experimental evidence of multiferroicity in a nanocrystalline Zener polaron ordered manganite ( <i>10 pages</i> ) . . . . .	245126
Vinay Kumar Shukla, Soumik Mukhopadhyay, Kalipada Das, A. Sarma, and I. Das	
Real-time dynamics in the one-dimensional Hubbard model ( <i>9 pages</i> ) . . . . .	245127
Luis Seabra, Fabian H. L. Essler, Frank Pollmann, Imke Schneider, and Thomas Veness	
Local convertibility of the ground state of the perturbed toric code ( <i>18 pages</i> ) . . . . .	245128
Siddhartha Santra, Alioscia Hamma, Lukasz Cincio, Yigit Subasi, Paolo Zanardi, and Luigi Amico	
Investigation of metal–insulator-like transition through the <i>ab initio</i> density matrix renormalization group approach ( <i>11 pages</i> ) . . . . .	245129
E. Fertitta, B. Paulus, G. Barcza, and Ö. Legeza	
Two-bath spin-boson model: Phase diagram and critical properties ( <i>20 pages</i> ) . . . . .	245130
Benedikt Bruognolo, Andreas Weichselbaum, Cheng Guo, Jan von Delft, Imke Schneider, and Matthias Vojta	
Interface control of a morphotropic phase boundary in epitaxial samarium modified bismuth ferrite superlattices ( <i>11 pages</i> ) . . . . .	245131
Ronald Maran, Shintaro Yasui, Eugene A. Eliseev, Maya D. Glinchuk, Anna N. Morozovska, Hiroshi Funakubo, Ichiro Takeuchi, and Valanoor Nagarajan	
Escort distribution function of work done and diagonal entropies in quenched Luttinger liquids ( <i>5 pages</i> ) . . . . .	245132
Balázs Dóra	
Cooperative effects of Jahn-Teller distortion, magnetism, and Hund's coupling in the insulating phase of BaCrO <sub>3</sub> ( <i>6 pages</i> ) . . . . .	245134
Gianluca Giovannetti, Markus Aichhorn, and Massimo Capone	
Competing valence-bond states of spin- $\frac{3}{2}$ fermions on a strongly coupled ladder ( <i>9 pages</i> ) . . . . .	245135
E. Szirmai and H. Nonne	
Density-wave instabilities of fractionalized Fermi liquids ( <i>10 pages</i> ) . . . . .	245136
Debanjan Chowdhury and Subir Sachdev	
Electronic states of RFe <sub>2</sub> O <sub>4</sub> (R = Lu, Yb, Tm, Y) mixed-valence compounds determined by soft x-ray absorption spectroscopy and x-ray magnetic circular dichroism ( <i>13 pages</i> ) . . . . .	245137
Sara Lafuerza, Joaquín García, Gloria Subías, Javier Blasco, Javier Herrero-Martín, and Sakura Pascarelli	
Charge transfer across transition-metal oxide interfaces: Emergent conductance and electronic structure ( <i>11 pages</i> )	245138
Hanghui Chen, Hyowon Park, Andrew J. Millis, and Chris A. Marianetti	
Magnetic phase diagram and Mott transition of the half-filled $\frac{1}{3}$ -depleted Hubbard model with frustration ( <i>6 pages</i> )	245139
Atsushi Yamada	

(Continued)

**CONTENTS - *Continued*****PHYSICAL REVIEW B****THIRD SERIES, VOLUME 90, NUMBER 24****DECEMBER 2014-15(II)**

Breit-Wigner-Fano line shapes in Raman spectra of graphene ( <i>8 pages</i> ) . . . . .	245140
Eddwi H. Hasdeo, Ahmad R. T. Nugraha, Mildred S. Dresselhaus, and Riichiro Saito	
Origin of the band dispersion in a metal phthalocyanine crystal ( <i>6 pages</i> ) . . . . .	245141
Susumu Yanagisawa, Kunihiko Yamauchi, Takeshi Inaoka, Tamio Oguchi, and Ikutaro Hamada	
<b>Möbius molecules and fragile Mott insulators (<i>7 pages</i>) . . . . .</b>	<b>245142</b>
Lukas Muechler, Joseph Maciejko, Titus Neupert, and Roberto Car	
Interfaces, strings, and a soft mode in the square lattice quantum dimer model ( <i>8 pages</i> ) . . . . .	245143
D. Banerjee, M. Bögli, C. P. Hofmann, F.-J. Jiang, P. Widmer, and U.-J. Wiese	
Roles of Hund's rule coupling in excitonic density-wave states ( <i>7 pages</i> ) . . . . .	245144
Tatsuya Kaneko and Yukinori Ohta	
<i>GW</i> quasiparticle band gap of the hybrid organic-inorganic perovskite $\text{CH}_3\text{NH}_3\text{PbI}_3$ : Effect of spin-orbit interaction, semicore electrons, and self-consistency ( <i>10 pages</i> ) . . . . .	245145
Marina R. Filip and Feliciano Giustino	
Resonant charge relaxation as a likely source of the enhanced thermopower in FeSi ( <i>5 pages</i> ) . . . . .	245146
Peijie Sun, Beipei Wei, Dirk Menzel, and Frank Steglich	
Comparison of computer-algebra strong-coupling perturbation theory and dynamical mean-field theory for the Mott-Hubbard insulator in high dimensions ( <i>10 pages</i> ) . . . . .	245147
Martin Paech, Walter Apel, Eva Kalinowski, and Eric Jeckelmann	
Rashba coupling and magnetic order in correlated helical liquids ( <i>8 pages</i> ) . . . . .	245148
Martin Hohenadler and Fakher F. Assaad	
BLF-SSH polarons coupled to acoustic phonons in the adiabatic limit ( <i>8 pages</i> ) . . . . .	245149
Carl J. Chandler and F. Marsiglio	
Probing the electronic band structure of ferromagnets with spin injection and extraction ( <i>5 pages</i> ) . . . . .	245150
Pawel Bruski, Steven C. Erwin, Jens Herfort, Abbes Tahraoui, and Manfred Ramsteiner	
<b>Semiconductors I: bulk</b>	
Origin of Meyer-Neldel type compensation behavior in organic semiconductors at large carrier concentrations: Disorder versus thermodynamic description ( <i>10 pages</i> ) . . . . .	245201
I. I. Fishchuk, A. Kadashchuk, A. Mityashin, M. M. Gavrilyuk, A. Köhler, H. Bässler, J. Genoe, H. Sitter, and N. S. Sariciftci	
Tuning the Fermi level beyond the equilibrium doping limit through quenching: The case of CdTe ( <i>5 pages</i> ) . . . . .	245202
Ji-Hui Yang, Ji-Sang Park, Joongoo Kang, Wyatt Metzger, Teresa Barnes, and Su-Huai Wei	
Dynamical coherent control of photocurrent in bulk GaAs at room temperature ( <i>5 pages</i> ) . . . . .	245203
Hirokazu Tahara and Yoshihiko Kanemitsu	
Effect of hydrostatic pressure on the thermoelectric properties of $\text{Bi}_2\text{Te}_3$ ( <i>7 pages</i> ) . . . . .	245204
Wilfredo Ibarra-Hernández, Matthieu J. Verstraete, and Jean-Yves Raty	
Nonlinear optical response induced by non-Abelian Berry curvature in time-reversal-invariant insulators ( <i>5 pages</i> )	245205
Fan Yang and Ren-Bao Liu	

*(Continued)*

CONTENTS - *Continued*

PHYSICAL REVIEW B

THIRD SERIES, VOLUME 90, NUMBER 24

DECEMBER 2014-15(II)

YbN: An intrinsic semiconductor with antiferromagnetic exchange ( <i>5 pages</i> ) .....	245206
H. Warring, B. J. Ruck, J. F. McNulty, E.-M. Anton, S. Granville, A. Koo, B. Cowie, and H. J. Trodahl	
<b>Semiconductors II: surfaces, interfaces, microstructures, and related topics</b>	
Ordering phenomena and formation of nanostructures in $In_xGa_{1-x}N$ layers coherently grown on GaN(0001) ( <i>10 pages</i> ) .....	245301
Sangheon Lee, Christoph Freysoldt, and Jörg Neugebauer	
Theory of coupled spin-charge transport due to spin-orbit interaction in inhomogeneous two-dimensional electron liquids ( <i>19 pages</i> ) .....	245302
Ka Shen, R. Raimondi, and G. Vignale	
Polarization-dependent Landau level crossing in a two-dimensional electron system in a MgZnO/ZnO heterostructure ( <i>5 pages</i> ) .....	245303
D. Maryenko, J. Falson, Y. Kozuka, A. Tsukazaki, and M. Kawasaki	
Three- to two-dimensional crossover in time-dependent density-functional theory ( <i>12 pages</i> ) .....	245304
Shahrzad Karimi and Carsten A. Ullrich	
Interplay of spin-orbit and hyperfine interactions in dynamical nuclear polarization in semiconductor quantum dots ( <i>10 pages</i> ) .....	245305
Marko J. Rančić and Guido Burkard	
Atomistic-continuum modeling of short laser pulse melting of Si targets ( <i>17 pages</i> ) .....	245306
V. P. Lipp, B. Rethfeld, M. E. Garcia, and D. S. Ivanov	
Compensating vacancy defects in Sn- and Mg-doped $In_2O_3$ ( <i>7 pages</i> ) .....	245307
E. Korhonen, F. Tuomisto, O. Bierwagen, J. S. Speck, and Z. Galazka	
Topological insulator to Dirac semimetal transition driven by sign change of spin-orbit coupling in thallium nitride ( <i>7 pages</i> ) .....	245308
Xian-Lei Sheng, Zhijun Wang, Rui Yu, Hongming Weng, Zhong Fang, and Xi Dai	
Exciton-polariton oscillations in real space ( <i>7 pages</i> ) .....	245309
T. C. H. Liew, Y. G. Rubo, and A. V. Kavokin	
Exchange energy and impurity band effects in the <i>I-V</i> characteristics of $(Ga,Mn)As/GaAs$ spin injectors ( <i>5 pages</i> ) .....	245310
Pedro Pereyra and Dieter Weiss	
Carrier dynamics in site- and structure-controlled InGaN/GaN quantum dots ( <i>13 pages</i> ) .....	245311
Lei Zhang, Tyler A. Hill, Chu-Hsiang Teng, Brandon Demory, Pei-Cheng Ku, and Hui Deng	
<b>Surface physics, nanoscale physics, low-dimensional systems</b>	
$\mathbb{Z}_2$ fractional topological insulators in two dimensions ( <i>14 pages</i> ) .....	245401
C. Repellin, B. Andrei Bernevig, and N. Regnault	
High intrinsic mobility and ultrafast carrier dynamics in multilayer metal-dichalcogenide MoS <sub>2</sub> ( <i>9 pages</i> ) .....	245402
Jared H. Strait, Parinita Nene, and Farhan Rana	
Local curvature and stability of two-dimensional systems ( <i>6 pages</i> ) .....	245403
Jie Guan, Zhongqi Jin, Zhen Zhu, Chern Chuang, Bih-Yaw Jin, and David Tománek	

(Continued)

**CONTENTS - *Continued***

<b>PHYSICAL REVIEW B</b>	<b>THIRD SERIES, VOLUME 90, NUMBER 24</b>	<b>DECEMBER 2014-15(II)</b>
Magnetoresistance in multilayer fullerene spin valves: A first-principles study ( <i>12 pages</i> ) . . . . .	245404	
Deniz Çakır, Diana M. Otálvaro, and Geert Brocks		
Emending thermal dispersion interactions of Li, Na, K, and Rb alkali-metal atoms with graphene in the Dirac model ( <i>7 pages</i> ) . . . . .	245405	
Kiranpreet Kaur, Jasmeet Kaur, Bindya Arora, and B. K. Sahoo		
Spin dynamics of Mn impurities and their bound acceptors in GaAs ( <i>11 pages</i> ) . . . . .	245406	
M. R. Mahani, A. Pertsova, and C. M. Canali		
Anomalous electrical conduction in a monatomic Pb layer on Ge(111) ( <i>6 pages</i> ) . . . . .	245407	
Shinichiro Hatta, Takashi Noma, Hiroshi Okuyama, and Tetsuya Aruga		
Electron dynamics in unoccupied states of spatially aligned 7-a graphene nanoribbons on Au(788) ( <i>5 pages</i> ) . . . . .	245408	
N. F. Kleimeier, A. Timmer, L. Bignardi, H. Möning, X. L. Feng, K. Müllen, L. F. Chi, H. Fuchs, and H. Zacharias		
Strain-induced modifications of transport in gated graphene nanoribbons ( <i>10 pages</i> ) . . . . .	245409	
Diana A. Cosma, Marcin Mucha-Kruczyński, Henning Schomerus, and Vladimir I. Fal'ko		
Transport gap and hysteretic behavior of the Ising quantum Hall ferromagnets in $ N  > 0$ Landau levels of bilayer graphene ( <i>17 pages</i> ) . . . . .	245410	
Wenchen Luo and R. Côté		
Spin-resolved optical conductivity of two-dimensional group-VIB transition-metal dichalcogenides ( <i>8 pages</i> ) . . . . .	245411	
Marco Gibertini, Francesco M. D. Pellegrino, Nicola Marzari, and Marco Polini		
Quantum sticking of atoms on membranes ( <i>6 pages</i> ) . . . . .	245412	
Dennis P. Clougherty		
Orbital hyperfine interaction and qubit dephasing in carbon nanotube quantum dots ( <i>7 pages</i> ) . . . . .	245413	
Gábor Csiszár and András Pályi		
Transport properties of a two-lead Luttinger-liquid junction out of equilibrium: Fermionic representation ( <i>12 pages</i> ) . . . . .	245414	
D. N. Aristov and P. Wölfle		
Highly anisotropic hybridization, dispersion, damping, and propagation of quantum plasmons in graphene superlattices ( <i>6 pages</i> ) . . . . .	245415	
Yuan Cao, Xiaoguang Li, Dongli Wang, Xiaodong Fan, Xiaobo Lu, Zhenyuan Zhang, Changgan Zeng, and Zhenyu Zhang		
Dispersion of guided modes in two-dimensional split ring lattices ( <i>8 pages</i> ) . . . . .	245416	
Per Lunnemann and A. Femius Koenderink		
Tunneling spectroscopy of Majorana-Kondo devices ( <i>8 pages</i> ) . . . . .	245417	
Erik Eriksson, Andrea Nava, Christophe Mora, and Reinhold Egger		
Theory of bulk-surface coupling in topological insulator films ( <i>15 pages</i> ) . . . . .	245418	
Kush Saha and Ion Garate		
Entanglement swapping with energy-polarization-entangled photons from quantum dot cascade decay ( <i>8 pages</i> ) . . . . .	245419	
F. Troiani		

*(Continued)*

CONTENTS - *Continued*

PHYSICAL REVIEW B

THIRD SERIES, VOLUME 90, NUMBER 24

DECEMBER 2014-15(II)

Effect of hole doping on the magnetism of point defects in graphene: A theoretical study ( <i>7 pages</i> ) .....	245420
Felix Yndurain	
Topographic measurement of buried thin-film interfaces using a grazing resonant soft x-ray scattering technique ( <i>9 pages</i> ) .....	245421
Eliot Gann, Anne Watson, John R. Tumbleston, Justin Cochran, Hongping Yan, Cheng Wang, Jaewook Seok, Michael Chabinyc, and Harald Ade	
Diameter dependence of TO phonon frequencies and the Kohn anomaly in armchair single-wall carbon nanotubes ( <i>7 pages</i> ) .....	245422
Hagen Telg, Erik H. Házoz, Juan G. Duque, Xiaomin Tu, Constantine Y. Khripin, Jeffrey A. Fagan, Ming Zheng, Junichiro Kono, and Stephen K. Doorn	
High harmonic generation in undoped graphene: Interplay of inter- and intraband dynamics ( <i>7 pages</i> ) .....	245423
Ibraheem Al-Naib, J. E. Sipe, and Marc M. Dignam	
Hot-electron noise properties of graphene-like systems ( <i>9 pages</i> ) .....	245424
A. Rustagi and C. J. Stanton	
Spin-polarized dynamic transport in tubular two-dimensional electron gases ( <i>13 pages</i> ) .....	245425
E. A. Rothstein, B. Horovitz, O. Entin-Wohlman, and A. Aharonov	
Formation of nonequilibrium steady states in interacting double quantum dots: When coherences dominate the charge distribution ( <i>16 pages</i> ) .....	245426
R. Härtle and A. J. Millis	
Magnetic field resistant quantum interferences in Josephson junctions based on bismuth nanowires ( <i>5 pages</i> ) ....	245427
Chuan Li, A. Kasumov, Anil Murani, Shamashis Sengupta, F. Fortuna, K. Napolkskii, D. Koshkodaev, G. Tsirlina, Y. Kasumov, I. Khodos, R. Deblock, M. Ferrier, S. Guérion, and H. Bouchiat	
Interlayer vibrational modes in few-quintuple-layer Bi <sub>2</sub> Te <sub>3</sub> and Bi <sub>2</sub> Se <sub>3</sub> two-dimensional crystals: Raman spectroscopy and first-principles studies ( <i>11 pages</i> ) .....	245428
Yanyuan Zhao, Xin Luo, Jun Zhang, Junxiong Wu, Xuxu Bai, Meixiao Wang, Jinfeng Jia, Hailin Peng, Zhongfan Liu, Su Ying Quek, and Qihua Xiong	
Low-frequency phonons of few-layer graphene within a tight-binding model ( <i>7 pages</i> ) .....	245429
Valentin N. Popov and Christian Van Alsenoy	
Relative stability of excitonic complexes in quasi-one-dimensional semiconductors ( <i>5 pages</i> ) .....	245430
I. V. Bondarev	
Double-resonant LA phonon scattering in defective graphene and carbon nanotubes ( <i>6 pages</i> ) .....	245431
Felix Herziger, Christoph Tyborski, Oliver Ochedowski, Marika Schleberger, and Janina Maultzsch	
Sensitivity analysis explains quasi-one-dimensional current transport in two-dimensional materials ( <i>5 pages</i> ) ....	245432
Mads Boll, Mikkel R. Lotz, Ole Hansen, Fei Wang, Daniel Kjær, Peter Bøggild, and Dirch H. Petersen	
Tunable topological electronic structure of silicene on a semiconducting Bi/Si(111)- $\sqrt{3}\times\sqrt{3}$ substrate ( <i>5 pages</i> ) .....	245433
Zhi-Quan Huang, Bo-Hung Chou, Chia-Hsiu Hsu, Feng-Chuan Chuang, Hsin Lin, and Arun Bansil	
Brownian scattering of a spinon in a Luttinger liquid ( <i>5 pages</i> ) .....	245434
M.-T. Rieder, A. Levchenko, and T. Micklitz	

(Continued)

**CONTENTS - *Continued***

**PHYSICAL REVIEW B**

**THIRD SERIES, VOLUME 90, NUMBER 24**

**DECEMBER 2014-15(II)**

Chiral zero modes in superconducting nanowires with Dresselhaus spin-orbit coupling ( <i>9 pages</i> ) . . . . .	245435
Hsien-chung Kao	
Inelastic carrier lifetime in a coupled graphene/electron-phonon system: Role of plasmon-phonon coupling ( <i>7 pages</i> ) . . . . .	245436
Seongjin Ahn, E. H. Hwang, and Hongki Min	
Atomistic simulations of tension-induced large deformation and stretchability in graphene kirigami ( <i>7 pages</i> ) . . . . .	245437
Zenan Qi, David K. Campbell, and Harold S. Park	
Magnetic field response and chiral symmetry of time-reversal-invariant topological superconductors ( <i>6 pages</i> ) . . . . .	245438
Eugene Dumitrescu, Jay D. Sau, and Sumanta Tewari	
Direct band gap silicon quantum dots achieved via electronegative capping ( <i>7 pages</i> ) . . . . .	245439
A. N. Poddubny and K. Dohnalová	