

HIGHLIGHTED ARTICLES

Editors' Suggestion

[Effective field theory for a p-wave superconductor in the subgap regime](#)

T. H. Hansson, T. Kvorning, V. P. Nair, and G. J. Sreejith

Phys. Rev. B **91**, 075116 (2015) – Published 19 February 2015

Editors' Suggestion

[Ultrafast dynamic conductivity and scattering rate saturation of photoexcited charge carriers in silicon investigated with a midinfrared continuum probe](#)

Fanqi Meng, Mark D. Thomson, Bo E. Sernelius, Michael Jörger, and Hartmut G. Roskos

Phys. Rev. B **91**, 075201 (2015) – Published 4 February 2015

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[Hydrogen centers and the conductivity of In₂O₃ single crystals](#)

Weikai Yin, Kirby Smithe, Philip Weiser, Michael Stavola, W. Beall Fowler, Lynn Boatner, Stephen J. Pearton, David C. Hays, and Sandro G. Koch

Phys. Rev. B **91**, 075208 (2015) – Published 24 February 2015

Editors' Suggestion

[Strain field of a buried oxide aperture](#)

F. Kießling, T. Niermann, M. Lehmann, J.-H. Schulze, A. Strittmatter, A. Schliwa, and U. W. Pohl

Phys. Rev. B **91**, 075306 (2015) – Published 12 February 2015

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[Multiscale approach to the electronic structure of doped semiconductor surfaces](#)

Ofer Sinai, Oliver T. Hofmann, Patrick Rinke, Matthias Scheffler, Georg Heimel, and Leeor Kronik

Phys. Rev. B **91**, 075311 (2015) – Published 24 February 2015

[Nonequilibrium plasmons with gain in graphene](#)

A. Freddie Page, Fouad Ballout, Ortwin Hess, and Joachim M. Hamm

Phys. Rev. B **91**, 075404 (2015) – Published 3 February 2015

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[Fractional quantum Hall states of dipolar gases in Chern bands](#)

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Phys. Rev. B **91**, 075102 (2015) – Published 4 February 2015

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Ke Liu (刘科子竞), Jaakko Nissinen, Zohar Nussinov, Robert-Jan Slager, Kai Wu, and Jan Zaanen

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[Fine structure of spectra in the antiferromagnetic phase of the Kondo lattice model](#)

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[Nickel-titanium double perovskite: A three-dimensional spin-1 Heisenberg antiferromagnet](#)

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[Ab initio theory of spin entanglement in atoms and molecules](#)

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[Large-amplitude spin oscillations triggered by nonequilibrium strongly correlated \$t_{2g}\$ electrons](#)

Malte Behrmann and Frank Lechermann

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[Spontaneous symmetry breaking of magnetostriction in metals with multivalley band structure](#)

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[Global phase diagram of competing ordered and quantum spin-liquid phases on the kagome lattice](#)

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[Correlation between Mn and Ru valence states and magnetic phases in \$\text{SrMn}_{1-x}\text{Ru}_x\text{O}_3\$](#)

D. H. Kim, Eunsook Lee, Hyun Woo Kim, S. Kolesnik, B. Dabrowski, Chang-Jong Kang, Minjae Kim, B. I. Min, Han-Koo Lee, J.-Y. Kim, and J.-S. Kang

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[Effective field theory for a \$p\$ -wave superconductor in the subgap regime](#)

T. H. Hansson, T. Kvorning, V. P. Nair, and G. J. Sreejith

Phys. Rev. B **91**, 075116 (2015) – Published 19 February 2015

[Electronic and magnetic structures of the ferroelectric compound \$\text{PbBaFe}_2\text{O}_5\$](#)

Wei Li, Xuguang Xu, Xin-Yuan Wei, Gang Mu, C. S. Ting, and Yan Chen

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F. Zirkelbach, P.-Y. Prodhomme, Peng Han, R. Cherian, and G. Bester

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C. L. Yang, X. Wang, X. Zhang, D. S. Wu, M. Liu, P. Zheng, J. Y. Yao, Z. Z. Li, Y.-F. Yang, Y. G. Shi, J. L. Luo, and N. L. Wang

Phys. Rev. B **91**, 075120 (2015) – Published 20 February 2015

[Phase diagrams of one-dimensional half-filled two-orbital \$\text{SU}\(N\)\$ cold fermion systems](#)

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Phys. Rev. B **91**, 075121 (2015) – Published 23 February 2015

[Relativistic tight-binding approximation method for materials immersed in a uniform magnetic field: Application to crystalline silicon](#)

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[Structural, electronic, and spectral properties of six ZnO bulk polymorphs](#)

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[Electronic and spin states of \$\text{SrRuO}_3\$ thin films: An x-ray magnetic circular dichroism study](#)

S. Agrestini, Z. Hu, C.-Y. Kuo, M. W. Haverkort, K.-T. Ko, N. Hollmann, Q. Liu, E. Pellegrin, M. Valvidares, J. Herrero-Martin, P. Gargiani, P. Gegenwart, M. Schneider, S. Esser, A. Tanaka, A. C. Komarek, and L. H. Tjeng

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[Low-energy description of the metal-insulator transition in the rare-earth nickelates](#)

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[Thermal conductivity across the metal-insulator transition in the single-crystalline hyperkagome antiferromagnet \$\text{Na}_{3+x}\text{Ir}_3\text{O}_8\$](#)

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Phys. Rev. B **91**, 075129 (2015) – Published 25 February 2015

[Heavy surface state in a possible topological Kondo insulator: Magnetothermoelectric transport on the \(011\) plane of \$\text{SmB}_6\$](#)

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[Ferromagnetic critical behavior in \$\text{U}\(\text{Co}_{1-x}\text{Fe}_x\)\text{Al}\$ \(\$0 \leq x \leq 0.02\$ \) studied by \$\text{Co}^{59}\$ nuclear quadrupole resonance measurements](#)

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[Optical properties of Cu-chalcogenide photovoltaic absorbers from self-consistent GW and the Bethe-Salpeter equation](#)

Sabine Körbel, David Kammerlander, Rafael Sarmiento-Pérez, Claudio Attaccalite, Miguel A. L. Marques, and Silvana Botti

Phys. Rev. B **91**, 075134 (2015) – Published 27 February 2015

Semiconductors I: bulk

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Fanqi Meng, Mark D. Thomson, Bo E. Sernelius, Michael Jörger, and Hartmut G. Roskos

Phys. Rev. B **91**, 075201 (2015) – Published 4 February 2015

[First-principles multiple-barrier diffusion theory: The case study of interstitial diffusion in CdTe](#)

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[Modification of electronic structure and thermoelectric properties of hole-doped tungsten dichalcogenides](#)

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[First-principles calculations of phonons and Raman spectra in monoclinic \$\text{CsSnCl}_3\$](#)

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[Ab initio electronic structure, optical, and magneto-optical properties of MnGaAs digital ferromagnetic heterostructures](#)

Patrizia Rosa, Davide Sangalli, Giovanni Onida, and Alberto Debernardi

Phys. Rev. B **91**, 075207 (2015) – Published 24 February 2015

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[Hydrogen centers and the conductivity of \$\text{In}_2\text{O}_3\$ single crystals](#)

Weikai Yin, Kirby Smithe, Philip Weiser, Michael Stavola, W. Beall Fowler, Lynn Boatner, Stephen J. Pearton, David C. Hays, and Sandro G. Koch

Phys. Rev. B **91**, 075208 (2015) – Published 24 February 2015

[Hydrodynamic description of trapped ultracold paraexcitons in \$\text{Cu}_2\text{O}\$](#)

S. Sobkowiak, D. Semkat, and H. Stolz

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[Charge-noise tolerant exchange gates of singlet-triplet qubits in asymmetric double quantum dots](#)

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[Theory of surface second-harmonic generation for semiconductors including effects of nonlocal operators](#)

Sean M. Anderson, Nicolas Tancogne-Dejean, Bernardo S. Mendoza, and Valérie Vénier

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[Nearly-free electronlike surface resonance of a \$\beta\text{-Si}_3\text{N}_4\(0001\)/\text{Si}\(111\)\text{-}8\times 8\$ interface](#)

R. Flammini, P. Allegrini, F. Wiame, R. Belkhou, F. Ronci, S. Colonna, D. M. Trucchi, F. Filippone, S. K. Mahatha, P. M. Sheverdyaeva, and P. Moras

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[Extended linear regime of cavity-QED enhanced optical circular birefringence induced by a charged quantum dot](#)

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[Optical control of spin textures in quasi-one-dimensional polariton condensates](#)

C. Antón, S. Morina, T. Gao, P. S. Eldridge, T. C. H. Liew, M. D. Martín, Z. Hatzopoulos, P. G. Savvidis, I. A. Shelykh, and L. Viña

Phys. Rev. B **91**, 075305 (2015) – Published 10 February 2015

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[Strain field of a buried oxide aperture](#)

F. Kießling, T. Niermann, M. Lehmann, J.-H. Schulze, A. Strittmatter, A. Schliwa, and U. W. Pohl

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[Probing the collective excitations of a spinor polariton fluid](#)

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[Magnetic field tuning of exciton-polaritons in a semiconductor microcavity](#)

B. Piętka, D. Zygunt, M. Król, M. R. Molas, A. A. L. Nicolet, F. Morier-Genoud, J. Szczytko, J. Łusakowski, P. Zięba, I. Tralle, P. Stępnicki, M. Matuszewski, M. Potemski, and B. Deveaud

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Exciton band structure of monolayer MoS_2

Fengcheng Wu, Fanyao Qu, and A. H. MacDonald

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[Multiscale approach to the electronic structure of doped semiconductor surfaces](#)

Ofer Sinai, Oliver T. Hofmann, Patrick Rinke, Matthias Scheffler, Georg Heimel, and Leeor Kronik

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[Electron-phonon deformation potential interaction in core-shell Ge-Si and Si-Ge nanowires](#)

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[Pulsed low-field electrically detected magnetic resonance](#)

L. Dreher, F. Hoehne, H. Morishita, H. Huebl, M. Stutzmann, K. M. Itoh, and M. S. Brandt

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Phys. Rev. B **91**, 075403 (2015) – Published 2 February 2015

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[Nonequilibrium plasmons with gain in graphene](#)

A. Freddie Page, Fouad Ballout, Ortwin Hess, and Joachim M. Hamm

Phys. Rev. B **91**, 075404 (2015) – Published 3 February 2015

[Relativistic dynamical spin excitations of magnetic adatoms](#)

M. dos Santos Dias, B. Schweflinghaus, S. Blügel, and S. Lounis

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[Nonlocal interference and Hong-Ou-Mandel collisions of single Bogoliubov quasiparticles](#)

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F. Güller, A. M. Llois, J. Goniakowski, and C. Noguera

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[Spin-orbit interaction in GaAs wells: From one to two subbands](#)

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[Dissipative plasmon solitons in graphene nanodisk arrays](#)

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[Electronic states induced by nonmagnetic defects in two-dimensional topological insulators](#)
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[Two-photon interference from a quantum dot microcavity: Persistent pure dephasing and suppression of time jitter](#)
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[Phonon dispersion in hypersonic two-dimensional phononic crystal membranes](#)
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[Spin-orbit controlled quantum capacitance of a polar heterostructure](#)
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[Quantum capacitance and compressibility of graphene: The role of Coulomb interactions](#)
Yu. E. Lozovik, A. A. Sokolik, and A. D. Zabolotskiy
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[Predicting excitonic gaps of semiconducting single-walled carbon nanotubes from a field theoretic analysis](#)
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[Dynamics of quasiparticles in graphene under intense circularly polarized light](#)
Dmitry Yudin, Olle Eriksson, and Mikhail I. Katsnelson
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[Interaction potential of FePt with the MgO\(001\) surface](#)
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Yoshiho Masuda, Wataru Norimatsu, and Michiko Kusunoki
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[Collective modes in anisotropic double-layer systems](#)
A. S. Rodin and A. H. Castro Neto
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[Exploiting interfacial and size effects to construct oxide superlattices with robust and tunable magnetoelectric properties at room temperature](#)
Yurong Yang, L. Bellaiche, and Jorge Íñiguez
Phys. Rev. B **91**, 075423 (2015) – Published 23 February 2015
[Magnetoplasmons in high electron mobility CdTe/CdMgTe quantum wells](#)
I. Grigelionis, K. Nogajewski, G. Karczewski, T. Wojtowicz, M. Czapkiewicz, J. Wróbel, H. Boukari, H. Mariette, and J. Łusakowski
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[Probing barrier transmission in ballistic graphene](#)
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[Interplay between Raman shift and thermal expansion in graphene: Temperature-dependent measurements and analysis of substrate corrections](#)
S. Linas, Y. Magnin, B. Poinso, O. Boisron, G. D. Förster, V. Martinez, R. Fulcrand, F. Tournus, V. Dupuis, F. Rabilloud, L. Bardotti, Z. Han, D. Kalita, V. Bouchiat, and F. Calvo
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[Kinetic Monte Carlo simulation of self-organized pattern formation induced by ion beam sputtering using crater functions](#)

- Zhangcan Yang, Michael A. Lively, and Jean Paul Allain
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[Transition states, electronic structure, and magnetic properties of small-sized nickel clusters](#)
- Omar López-Estrada and Emilio Orgaz
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[Ultrathin Bi\(110\) films on \$\text{Si}\(111\)\sqrt{3}\times\sqrt{3}-\text{B}\$ substrates](#)
- Ikuya Kokubo, Yusaku Yoshiike, Kan Nakatsuji, and Hiroyuki Hirayama
Phys. Rev. B **91**, 075429 (2015) – Published 26 February 2015
[Thin films of a three-dimensional topological insulator in a strong magnetic field: Microscopic study](#)
- A. Pertsova, C. M. Canali, and A. H. MacDonald
Phys. Rev. B **91**, 075430 (2015) – Published 26 February 2015
[Disentangling the magnetoelectric and thermoelectric transport in topological insulator thin films](#)
- Jinsong Zhang, Xiao Feng, Yong Xu, Minghua Guo, Zuo Cheng Zhang, Yunbo Ou, Yang Feng, Kang Li, Haijun Zhang, Lili Wang, Xi Chen, Zhongxue Gan, Shou-Cheng Zhang, Ke He, Xucun Ma, Qi-Kun Xue, and Yayu Wang
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[Topological phase driven by confinement effects in Bi bilayers](#)
- Erika N. Lima and Tome M. Schmidt
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[Valley Zeeman effect and spin-valley polarized conductance in monolayer \$\text{MoS}_2\$ in a perpendicular magnetic field](#)
- Habib Rostami and Reza Asgari
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[Identification of pristine and defective graphene nanoribbons by phonon signatures in the electron transport characteristics](#)
- Rasmus B. Christensen, Thomas Frederiksen, and Mads Brandbyge
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[Coherent tunneling by adiabatic passage of an exchange-only spin qubit in a double quantum dot chain](#)
- E. Ferraro, M. De Michielis, M. Fanciulli, and E. Prati
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[Charge transfer from delocalized excited states in a bulk heterojunction material](#)
- Loren G. Kaake, Daniel Moses, and Alan J. Heeger
Phys. Rev. B **91**, 075436 (2015) – Published 26 February 2015

ERRATA

- [Erratum: Role of charge separation mechanism and local disorder at hybrid solar cell interfaces \[Phys. Rev. B **91**, 035304 \(2015\)\]](#)
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