

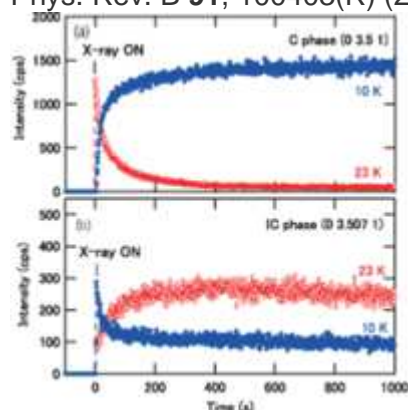
## HIGHLIGHTED ARTICLES

Editors' Suggestion | Rapid Communication

### *X-ray induced lock-in transition of cycloidal magnetic order in a multiferroic perovskite manganite*

Y. Yamasaki, H. Nakao, Y. Murakami, T. Nakajima, A. Lafuente Sampietro, H. Ohsumi, M. Takata, T. Arima, and Y. Tokura

Phys. Rev. B **91**, 100403(R) (2015) – Published 24 March 2015



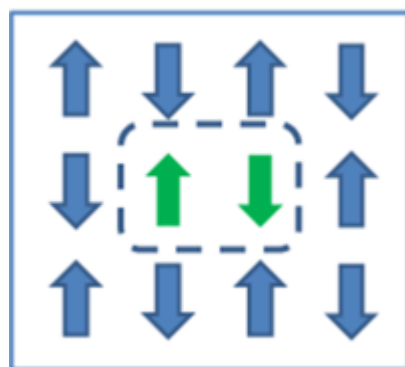
$Gd_{1-x}Tb_xMnO_3$  oxides are characterized by two main competing states that exhibit both ferroelectric and multiferroic ordering. Both states involve cycloidal magnetic order that drives ferroelectricity. In their new article, a collaboration of researchers from Japan discovered that exposure of  $Gd_{0.5}Tb_{0.5}MnO_3$  to x-ray irradiation induces a reversible transition into a new hidden state, which is also characterized by cycloidal order, but with a different modulation wave vector. The ability to manipulate the state with x-rays suggests a novel route for photocontrol of multiferroic materials.

Editors' Suggestion | Rapid Communication

### *General microscopic model of magnetoelastic coupling from first principles*

X. Z. Lu, Xifan Wu, and H. J. Xiang

Phys. Rev. B **91**, 100405(R) (2015) – Published 30 March 2015



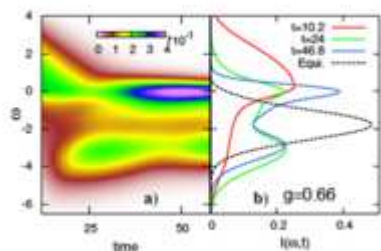
Magnetoelastic coupling describes the interaction between the magnetic degrees of freedom of a material and its strain. This Rapid Communication presents a microscopic model of magnetoelasticity in which all parameters are derived from first-principles calculations. In application to multiferroic materials, the model reveals a new contribution to the electric polarization that appears as a combination of the magnetoelastic and piezoelectric effects. Surprisingly, in the prototypical multiferroic material  $BiFeO_3$  the new effect is responsible for a significant share of the total polarization and exceeds the known ionic and electronic contributions.

### Editors' Suggestion

## Coexistence of excited polarons and metastable delocalized states in photoinduced metals

Sharareh Sayyad and Martin Eckstein

Phys. Rev. B **91**, 104301 (2015) – Published 3 March 2015



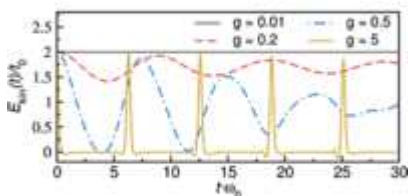
Using a nonequilibrium dynamical mean-field theory the authors study relaxation of a hot-electron distribution coupled to optical phonons. Their main interest is in the adiabatic regime of phonon frequencies smaller than the electronic bandwidth and in an extended analysis of photoemission spectra. In this limit initial coherent phonon oscillations become strongly damped, leaving the system in a mixture of excited polaron states and metastable delocalized states.

### Editors' Suggestion

## Real-time decay of a highly excited charge carrier in the one-dimensional Holstein model

F. Dorfner, L. Vidmar, C. Brockt, E. Jeckelmann, and F. Heidrich-Meisner

Phys. Rev. B **91**, 104302 (2015) – Published 3 March 2015

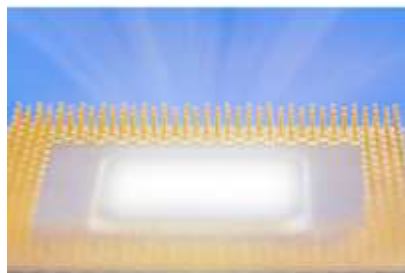


Nonequilibrium dynamics of interacting quantum many-body physics has recently attracted great attention. The authors address here the nonequilibrium dynamics of a single electron interacting through a Holstein-like coupling with dispersionless phonons on a one dimensional lattice. Using diagonalization in a limited functional space, they identify two different regimes: (1) the relaxation regime where, during a characteristic time scale, a net energy is transferred between the electronic and the phononic subsystem; and (2) the stationary regime, characterized by zero energy transfer and by persisting coherent oscillations in the dynamics of observables.

### Editors' Suggestion

#### [Two-photon lasing by a superconducting qubit](#)

P. Neillinger, M. Reháč, M. Grajcar, G. Oelsner, U. Hübner, and E. Il'ichev  
Phys. Rev. B **91**, 104516 (2015) – Published 19 March 2015



This European research team reports the first observation of two-photon lasing in a superconducting circuit consisting of a pair of flux qubits strongly coupled to a coplanar waveguide.

## RAPID COMMUNICATIONS

Structure, structural phase transitions, mechanical properties, defects

### Rapid Communication

#### [Dynamical magnetoelectric effects associated with ferroelectric domain walls](#)

Sergey Prosandeev, Andrei Malashevich, Igor P. Raevski, and L. Bellaiche  
Phys. Rev. B **91**, 100101(R) (2015) – Published 9 March 2015

Inhomogeneous, disordered, and partially ordered systems

### Rapid Communication

#### [Interaction-induced connectivity of disordered two-particle states](#)

D. O. Krimer and S. Flach

Phys. Rev. B **91**, 100201(R) (2015) – Published 10 March 2015

### Rapid Communication

#### [Gardner transition in finite dimensions](#)

Pierfrancesco Urbani and Giulio Biroli

Phys. Rev. B **91**, 100202(R) (2015) – Published 25 March 2015

## Magnetism

### Rapid Communication

#### [Detecting crystal symmetry fractionalization from the ground state: Application to \$Z\_2\$ spin liquids on the kagome lattice](#)

Yang Qi and Liang Fu

Phys. Rev. B **91**, 100401(R) (2015) – Published 2 March 2015

### Rapid Communication

#### [Magnetic switching dynamics due to ultrafast exchange scattering: A model study](#)

Alexander Baral and Hans Christian Schneider

Phys. Rev. B **91**, 100402(R) (2015) – Published 16 March 2015

### Editors' Suggestion | Rapid Communication

#### [X-ray induced lock-in transition of cycloidal magnetic order in a multiferroic perovskite manganite](#)

Y. Yamasaki, H. Nakao, Y. Murakami, T. Nakajima, A. Lafuente Sampietro, H. Ohsumi, M. Takata, T. Arima, and Y. Tokura

Phys. Rev. B **91**, 100403(R) (2015) – Published 24 March 2015

### Rapid Communication

#### [Control of spin current by a magnetic YIG substrate in NiFe/Al nonlocal spin valves](#)

F. K. Dejene, N. Vlietstra, D. Luc, X. Waintal, J. Ben Youssef, and B. J. van Wees

Phys. Rev. B **91**, 100404(R) (2015) – Published 24 March 2015

### Editors' Suggestion | Rapid Communication

#### [General microscopic model of magnetoelastic coupling from first principles](#)

X. Z. Lu, Xifan Wu, and H. J. Xiang

Phys. Rev. B **91**, 100405(R) (2015) – Published 30 March 2015

**Rapid Communication**

*Magnetic order and electronic structure of the  $5d_3$  double perovskite  $Sr_2ScOsO_6$*

A. E. Taylor, R. Morrow, D. J. Singh, S. Calder, M. D. Lumsden, P. M. Woodward, and A. D. Christianson

Phys. Rev. B **91**, 100406(R) (2015) – Published 30 March 2015

**Rapid Communication**

*Trimerized ground state of the spin-1 Heisenberg antiferromagnet on the kagome lattice*

Hitesh J. Changlani and Andreas M. Läuchli

Phys. Rev. B **91**, 100407(R) (2015) – Published 30 March 2015

**Superfluidity and superconductivity**

**Rapid Communication**

*Enhanced thermoelectric coupling near electronic phase transition: The role of fluctuation Cooper pairs*

Henni Ouerdane, Andrey A. Varlamov, Alexey V. Kavokin, Christophe Goupil, and Cronin B. Vining

Phys. Rev. B **91**, 100501(R) (2015) – Published 9 March 2015

**Rapid Communication**

*Transition-metal substitutions in iron chalcogenides*

V. L. Bezusyy, D. J. Gawryluk, A. Malinowski, and Marta Z. Cieplak

Phys. Rev. B **91**, 100502(R) (2015) – Published 20 March 2015

**Rapid Communication**

*Vortex arrays in nanoscopic superfluid helium droplets*

Francesco Ancilotto, Martí Pi, and Manuel Barranco

Phys. Rev. B **91**, 100503(R) (2015) – Published 23 March 2015

**Rapid Communication**

*Nodeless superconductivity in quasi-one-dimensional  $Nb_2PdS_5$ : A  $\mu$ SR study*

P. K. Biswas, H. Luetkens, Xiaofeng Xu, J. H. Yang, C. Baines, A. Amato, and E. Morenzoni

Phys. Rev. B **91**, 100504(R) (2015) – Published 23 March 2015

## ARTICLES

**Structure, structural phase transitions, mechanical properties, defects**

*Structures and stability of calcium and magnesium carbonates at mantle pressures*

Chris J. Pickard and Richard J. Needs

Phys. Rev. B **91**, 104101 (2015) – Published 2 March 2015

*Shape effects on the cluster spreading process of spin-crossover compounds analyzed within an elastic model with Eden and Kawasaki dynamics*

Cristian Enachescu, Masamichi Nishino, Seiji Miyashita, Kamel Boukheddaden, François Varret, and Per Arne Rikvold

Phys. Rev. B **91**, 104102 (2015) – Published 3 March 2015

*Revisiting pyramid compression to quantify flexoelectricity: A three-dimensional simulation study*

Amir Abdollahi, Daniel Millán, Christian Peco, Marino Arroyo, and Irene Arias

Phys. Rev. B **91**, 104103 (2015) – Published 3 March 2015

*Metastable monoclinic and orthorhombic phases and electric field induced irreversible phase transformation at room temperature in the lead-free classical ferroelectric  $BaTiO_3$*

Ajay Kumar Kalyani, Dipak Kumar Khatua, B. Loukya, Ranjan Datta, Andy N. Fitch, Anatoliy Senyshyn, and Rajeev Ranjan

Phys. Rev. B **91**, 104104 (2015) – Published 5 March 2015

*Thermoelastic properties of  $\alpha$ -iron from first-principles*

Daniele Dragoni, Davide Ceresoli, and Nicola Marzari

Phys. Rev. B **91**, 104105 (2015) – Published 5 March 2015

### *Piezoelectric and dielectric properties of $Pb(Zr,Ti)O_3$ ferroelectric bilayers*

Alexei Grigoriev, Chun Yang, Mandana Meisami Azad, Oliver Causey, Donald A. Walko, Daniel S. Tinberg, and Susan Trolier-McKinstry

Phys. Rev. B **91**, 104106 (2015) – Published 9 March 2015

### *Tunable mechanical and thermal properties of ZnS/CdS core/shell nanowires*

Tarakanth Mandal, Chandan Dasgupta, and Prabal K. Maiti

Phys. Rev. B **91**, 104107 (2015) – Published 12 March 2015

### *Origin of the large piezoelectric activity*

#### *in $(1-x)Ba(Zr_{0.2}Ti_{0.8})O_3-x(Ba_{0.7}Ca_{0.3})TiO_3$ ceramics*

Matias Acosta, Nasser Khakpash, Takumi Someya, Nikola Novak, Wook Jo, Hajime Nagata, George A. Rossetti, Jr., and Jürgen Rödel

Phys. Rev. B **91**, 104108 (2015) – Published 16 March 2015

### *High-pressure structural phase transition in $MnWO_4$*

J. Ruiz-Fuertes, A. Friedrich, O. Gomis, D. Errandonea, W. Morgenroth, J. A. Sans, and D. Santamaría-Pérez

Phys. Rev. B **91**, 104109 (2015) – Published 30 March 2015

### *Pressure-induced phase transitions and metallization in $VO_2$*

Ligang Bai, Quan Li, Serena A. Corr, Yue Meng, Changyong Park, Stanislav V. Sinogeikin, Changhyun Ko, Junqiao Wu, and Guoyin Shen

Phys. Rev. B **91**, 104110 (2015) – Published 31 March 2015

## Inhomogeneous, disordered, and partially ordered systems

### *Electron-electron interaction effect on longitudinal and Hall transport in thin and thick $Ag_x(SnO_2)_{1-x}$ granular metals*

Ya-Nan Wu, Yan-Fang Wei, Zhi-Qing Li, and Juhn-Jong Lin

Phys. Rev. B **91**, 104201 (2015) – Published 3 March 2015

### *Localization, delocalization, and topological transitions in disordered two-dimensional quantum walks*

Jonathan M. Edge and Janos K. Asboth

Phys. Rev. B **91**, 104202 (2015) – Published 5 March 2015

### *Compressibility enhancement in an almost staggered interacting Harper model*

Bat-el Friedman and Richard Berkovits

Phys. Rev. B **91**, 104203 (2015) – Published 31 March 2015

## Dynamics, dynamical systems, lattice effects

### **Editors' Suggestion**

### *Coexistence of excited polarons and metastable delocalized states in photoinduced metals*

Sharareh Sayyad and Martin Eckstein

Phys. Rev. B **91**, 104301 (2015) – Published 3 March 2015

### **Editors' Suggestion**

### *Real-time decay of a highly excited charge carrier in the one-dimensional Holstein model*

F. Dorfner, L. Vidmar, C. Brockt, E. Jeckelmann, and F. Heidrich-Meisner

Phys. Rev. B **91**, 104302 (2015) – Published 3 March 2015

### *Rényi entropy flows from quantum heat engines*

Mohammad H. Ansari and Yuli V. Nazarov

Phys. Rev. B **91**, 104303 (2015) – Published 18 March 2015

### *Phononic thin plates with embedded acoustic black holes*

Hongfei Zhu and Fabio Semperlotti

Phys. Rev. B **91**, 104304 (2015) – Published 20 March 2015

### *Calculation of energy relaxation rates of fast particles by phonons in crystals*

M. P. Prange, L. W. Campbell, D. Wu, F. Gao, and S. Kerisit

Phys. Rev. B **91**, 104305 (2015) – Published 20 March 2015

### *Quantum heat bath for spin-lattice dynamics*

C. H. Woo, Haohua Wen, A. A. Semenov, S. L. Dudarev, and Pui-Wai Ma



Phys. Rev. B **91**, 104306 (2015) – Published 20 March 2015

*Theory of multiresonant metamaterials for  $A_0$  Lamb waves*

Earl G. Williams, Philippe Roux, Matthieu Rupin, and W. A. Kuperman

Phys. Rev. B **91**, 104307 (2015) – Published 23 March 2015

**Magnetism**

*Dual gate control of bulk transport and magnetism in the spin-orbit insulator  $Sr_2IrO_4$*

Chengliang Lu, Shuai Dong, Andy Quindeau, Daniele Preziosi, Ni Hu, and Marin Alexe

Phys. Rev. B **91**, 104401 (2015) – Published 3 March 2015

*Ground-state phase diagram of the XXZ spin- $s$  kagome antiferromagnet: A coupled-cluster study*

O. Götze and J. Richter

Phys. Rev. B **91**, 104402 (2015) – Published 4 March 2015

*Tailoring the magnetic anisotropy, magnetization reversal, and anisotropic magnetoresistance of Ni films by ion sputtering*

Hao-liang Liu, Tomáš Škereň, Alexander Volodin, Kristiaan Temst, André Vantomme, and Chris Van Haesendonck

Phys. Rev. B **91**, 104403 (2015) – Published 5 March 2015

*Spin and energy currents in integrable and nonintegrable spin-1/2 chains: A typicality approach to real-time autocorrelations*

Robin Steinigeweg, Jochen Gemmer, and Wolfram Brenig

Phys. Rev. B **91**, 104404 (2015) – Published 9 March 2015

*Mode-coupling mechanisms in nanocontact spin-torque oscillators*

Ezio Iacocca, Philipp Dürrenfeld, Olle Heinonen, Johan Åkerman, and Randy K. Dumas

Phys. Rev. B **91**, 104405 (2015) – Published 11 March 2015

*Nonlinear analysis of magnetization dynamics excited by spin Hall effect*

Tomohiro Taniguchi

Phys. Rev. B **91**, 104406 (2015) – Published 12 March 2015

*Terahertz dynamics of spins and charges in  $CoFe/Al_2O_3$  multilayers*

J. D. Costa, T. J. Huisman, R. V. Mikhaylovskiy, I. Razdolski, J. Ventura, J. M. Teixeira, D. S.

Schmool, G. N. Kakazei, S. Cardoso, P. P. Freitas, Th. Rasing, and A. V. Kimel

Phys. Rev. B **91**, 104407 (2015) – Published 12 March 2015

*Spin gapless semiconducting behavior in equiatomic quaternary  $CoFeMnSi$  Heusler alloy*

Lakhan Bainsla, A. I. Mallick, M. Manivel Raja, A. K. Nigam, B. S. D. Ch. S. Varaprasad, Y. K.

Takahashi, Aftab Alam, K. G. Suresh, and K. Hono

Phys. Rev. B **91**, 104408 (2015) – Published 13 March 2015

*Coherent elastic excitation of spin waves*

Akashdeep Kamra, Hedyeh Keshtgar, Peng Yan, and Gerrit E. W. Bauer

Phys. Rev. B **91**, 104409 (2015) – Published 13 March 2015

*Dispersive readout of ferromagnetic resonance for strongly coupled magnons and microwave photons*

J. A. Haigh, N. J. Lambert, A. C. Doherty, and A. J. Ferguson

Phys. Rev. B **91**, 104410 (2015) – Published 16 March 2015

*Transitions to valence-bond solid order in a honeycomb lattice antiferromagnet*

Sumiran Pujari, Fabien Alet, and Kedar Damle

Phys. Rev. B **91**, 104411 (2015) – Published 16 March 2015

*Anomalous breakdown of Bloch's rule in the Mott-Hubbard insulator  $MnTe_2$*

Tapan Chatterji, Antonio M. dos Santos, Jamie J. Molaison, Thomas C. Hansen, Stefan Klotz,

Mathew Tucker, Kartik Samanta, and Tanusri Saha-Dasgupta

Phys. Rev. B **91**, 104412 (2015) – Published 17 March 2015

*Ferroelectricity induced by ferriaxial crystal rotation and spin helicity in a B-site-ordered double-perovskite multiferroic  $In_2NiMnO_6$*

Noriki Terada, Dmitry D. Khalyavin, Pascal Manuel, Wei Yi, Hiroyuki S. Suzuki, Naohito Tsujii, Yasutaka Imanaka, and Alexei A. Belik

Phys. Rev. B **91**, 104413 (2015) – Published 17 March 2015

*Asymmetric magnetic bubble expansion under in-plane field in Pt/Co/Pt: Effect of interface engineering*

R. Lavrijsen, D. M. F. Hartmann, A. van den Brink, Y. Yin, B. Barcones, R. A. Duine, M. A. Verheijen, H. J. M. Swagten, and B. Koopmans

Phys. Rev. B **91**, 104414 (2015) – Published 17 March 2015

*Spin waves in exchange-coupled double layers in the presence of spin torques*

Pavel Baláž and Józef Barnaś

Phys. Rev. B **91**, 104415 (2015) – Published 18 March 2015

*Thermal properties of magnons in yttrium iron garnet at elevated magnetic fields*

S. M. Rezende and J. C. López Ortiz

Phys. Rev. B **91**, 104416 (2015) – Published 19 March 2015

*Magnetic frustration in lead pyrochlores*

A. M. Hallas, A. M. Arevalo-Lopez, A. Z. Sharma, T. Munsie, J. P. Attfield, C. R. Wiebe, and G. M. Luke

Phys. Rev. B **91**, 104417 (2015) – Published 19 March 2015

*Phase diagram of the  $J_1$ – $J_2$  Heisenberg model on the kagome lattice*

F. Kolley, S. Depenbrock, I. P. McCulloch, U. Schollwöck, and V. Alba

Phys. Rev. B **91**, 104418 (2015) – Published 19 March 2015

*Exchange-bias-like coupling in a Cu-diluted-Fe/Tb multilayer*

Saumya Mukherjee, Wolfgang Kreuzpaintner, Jochen Stahn, Jian-Guo Zheng, Andreas Bauer, Peter Böni, and Amitesh Paul

Phys. Rev. B **91**, 104419 (2015) – Published 20 March 2015

*Transverse dynamical magnetic susceptibilities from regular static density functional theory: Evaluation of damping and  $g$  shifts of spin excitations*

Samir Lounis, Manuel dos Santos Dias, and Benedikt Schweflinghaus

Phys. Rev. B **91**, 104420 (2015) – Published 20 March 2015

*Magnonic band gaps in YIG-based one-dimensional magnonic crystals: An array of grooves versus an array of metallic stripes*

V. D. Bessonov, M. Mruczkiewicz, R. Gieniusz, U. Guzowska, A. Maziewski, A. I. Stognij, and M. Krawczyk

Phys. Rev. B **91**, 104421 (2015) – Published 23 March 2015

*Magnetism of the spin-trimer compound  $CaNi_3(P_2O_7)_2$ : Microscopic insight from combined  $P_{31}$  NMR and first-principles studies*

M. Majumder, S. Kanungo, A. Ghoshray, M. Ghosh, and K. Ghoshray

Phys. Rev. B **91**, 104422 (2015) – Published 24 March 2015

*Hyperfine field assessment of the magnetic structure of  $ZrZn_2$*

A. V. Tsvyashchenko, D. A. Salamatina, A. Velichkov, A. V. Salamatina, V. N. Trofimov, L. N.

Fomicheva, V. A. Sidorov, A. V. Fedorov, A. V. Nikolaev, G. K. Rjasny, A. V. Spasskiy, and M. Budzynski

Phys. Rev. B **91**, 104423 (2015) – Published 24 March 2015

*Multiple in-plane spin reorientation transitions in Fe/CoO bilayers grown on vicinal MgO(001)*

Q. Li, T. Gu, J. Zhu, Z. Ding, J. X. Li, J. H. Liang, Y. M. Luo, Z. Hu, C. Y. Hua, H.-J. Lin, T. W. Pi, C. Won, and Y. Z. Wu

Phys. Rev. B **91**, 104424 (2015) – Published 25 March 2015

*Spin reorientation transition in dysprosium-samarium orthoferrite single crystals*

Weiyao Zhao, Shixun Cao, Ruoxiang Huang, Yiming Cao, Kai Xu, Baojuan Kang, Jincang Zhang, and Wei Ren

Phys. Rev. B **91**, 104425 (2015) – Published 26 March 2015

[\*Quantized transport for a skyrmion moving on a two-dimensional periodic substrate\*](#)

C. Reichhardt, D. Ray, and C. J. Olson Reichhardt  
Phys. Rev. B **91**, 104426 (2015) – Published 26 March 2015

[\*Evidence for unidimensional low-energy excitations as the origin of persistent spin dynamics in geometrically frustrated magnets\*](#)

A. Yaouanc, P. Dalmas de Réotier, A. Bertin, C. Marin, E. Lhotel, A. Amato, and C. Baines  
Phys. Rev. B **91**, 104427 (2015) – Published 27 March 2015

[\*Burst-mode manipulation of magnonic vortex crystals\*](#)

Max Hänze, Christian F. Adolff, Markus Weigand, and Guido Meier  
Phys. Rev. B **91**, 104428 (2015) – Published 27 March 2015

[\*Field effects with  \$H \perp b\$  on the incommensurate magnetic structures of multiferroic  \$MnWO\_4\$  studied within the superspace formalism\*](#)

I. Urcelay-Olabarria, J. L. García-Muñoz, and A. A. Mukhin  
Phys. Rev. B **91**, 104429 (2015) – Published 30 March 2015

[\*Nonequilibrium evolution of window overlaps in spin glasses\*](#)

Markus Manssen, Alexander K. Hartmann, and A. P. Young  
Phys. Rev. B **91**, 104430 (2015) – Published 30 March 2015

[\*Low-remanence criterion for helicity-dependent all-optical magnetic switching in ferrimagnets\*](#)

Alexander Hassdenteufel, Johannes Schmidt, Christian Schubert, Birgit Hebler, Manfred Helm, Manfred Albrecht, and Rudolf Bratschitsch  
Phys. Rev. B **91**, 104431 (2015) – Published 30 March 2015

[\*Critical point scaling of Ising spin glasses in a magnetic field\*](#)

Joonhyun Yeo and M. A. Moore  
Phys. Rev. B **91**, 104432 (2015) – Published 30 March 2015

[\*Autoresonant switching of the magnetization in single-domain nanoparticles: Two-level theory\*](#)

Guillaume Klughertz, Lazar Friedland, Paul-Antoine Hervieux, and Giovanni Manfredi  
Phys. Rev. B **91**, 104433 (2015) – Published 30 March 2015

[\*Anomalous physical properties of Heusler-type  \$Co\_2Cr\(Ga,Si\)\$  alloys and thermodynamic study on reentrant martensitic transformation\*](#)

Xiao Xu, Makoto Nagasako, Mitsuo Kataoka, Rie Y. Umetsu, Toshihiro Omori, Takeshi Kanomata, and Ryosuke Kainuma  
Phys. Rev. B **91**, 104434 (2015) – Published 31 March 2015

[\*Dynamics of magnon fluid in Dzyaloshinskii-Moriya magnet and its manifestation in magnon-Skyrmion scattering\*](#)

Yun-Tak Oh, Hyunyoung Lee, Jin-Hong Park, and Jung Hoon Han  
Phys. Rev. B **91**, 104435 (2015) – Published 31 March 2015

**Superfluidity and superconductivity**

[\*Effect of disorder on superconductivity in the presence of spin-density wave order\*](#)

Vivek Mishra  
Phys. Rev. B **91**, 104501 (2015) – Published 2 March 2015

[\*Nematicity from mixed  \$S\_{\pm\pm} d\_{x^2-y^2}\$  states in iron-based superconductors\*](#)

G. Livanas, A. Aperis, P. Kotetes, and G. Varelogiannis  
Phys. Rev. B **91**, 104502 (2015) – Published 2 March 2015

[\*Superconducting fluctuations and large diamagnetism of low- \$T\_c\$  nanoparticles\*](#)

Yoseph Imry  
Phys. Rev. B **91**, 104503 (2015) – Published 3 March 2015

[\*Study of grain boundary transparency in  \$\(Yb\_{1-x}Ca\_x\)Ba\_2Cu\_3O\$  bicrystal thin films over a wide temperature, field, and field orientation range\*](#)

Pei Li, Dmytro Abraimov, Anatolii Polyanskii, Fumitake Kametani, and David Larbalestier  
Phys. Rev. B **91**, 104504 (2015) – Published 6 March 2015



*Vortex state of topological superconductor  $Cu_xBi_2Se_3$*

Masashi Tachiki and Hiroyasu Koizumi

Phys. Rev. B **91**, 104505 (2015) – Published 9 March 2015

*Scanning tunneling microscopy study of superconductivity, magnetic vortices, and possible charge-density wave in  $Ta_4Pd_3Te_{16}$*

Q. Fan, W. H. Zhang, X. Liu, Y. J. Yan, M. Q. Ren, M. Xia, H. Y. Chen, D. F. Xu, Z. R. Ye, W. H. Jiao, G. H. Cao, B. P. Xie, T. Zhang, and D. L. Feng

Phys. Rev. B **91**, 104506 (2015) – Published 11 March 2015

*Redistribution of phase fluctuations in a periodically driven cuprate superconductor*

R. Höppner, B. Zhu, T. Rexin, A. Cavalleri, and L. Mathey

Phys. Rev. B **91**, 104507 (2015) – Published 11 March 2015

*Variational cluster approach to  $s$ -wave pairing in heavy-fermion superconductors*

Keisuke Masuda and Daisuke Yamamoto

Phys. Rev. B **91**, 104508 (2015) – Published 12 March 2015

*Effect of pointlike impurities on  $d_{x^2-y^2}$  charge-density waves in cuprate superconductors*

W. A. Atkinson and A. P. Kampf

Phys. Rev. B **91**, 104509 (2015) – Published 12 March 2015

*Anomalous phonon redshift in  $K$ -doped  $BaFe_2As_2$  iron pnictides*

B. Xu, Y. M. Dai, B. Shen, H. Xiao, Z. R. Ye, A. Forget, D. Colson, D. L. Feng, H. H. Wen, C. C. Homes, X. G. Qiu, and R. P. S. M. Lobo

Phys. Rev. B **91**, 104510 (2015) – Published 12 March 2015

*Superconductivity in semimetallic  $Bi_3O_2S_3$*

L. Li, D. Parker, P. Babkevich, L. Yang, H. M. Ronnow, and A. S. Sefat

Phys. Rev. B **91**, 104511 (2015) – Published 12 March 2015

*Checkerboard order in vortex cores from pair-density-wave superconductivity*

Daniel F. Agterberg and Julien Garaud

Phys. Rev. B **91**, 104512 (2015) – Published 16 March 2015

*Thermal and electromagnetic properties of  $Bi_2Sr_2CaCu_2O_8$  intrinsic Josephson junction stacks studied via one-dimensional coupled sine-Gordon equations*

F. Rudau, M. Tsujimoto, B. Gross, T. E. Judd, R. Wieland, E. Goldobin, N. Kinev, J. Yuan, Y.

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*Quenched metastable vortex states in  $Sr_2RuO_4$*

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*Superconducting properties and pseudogap from preformed Cooper pairs in the triclinic  $(CaFe_{1-x}Pt_xAs)_{10}Pt_3As_8$*

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**Editors' Suggestion**

*Two-photon lasing by a superconducting qubit*

P. Neilinger, M. Reháč, M. Grajcar, G. Oelsner, U. Hübner, and E. Il'ichev

Phys. Rev. B **91**, 104516 (2015) – Published 19 March 2015

*Local and nonlocal dynamics in superfluid turbulence*

L. K. Sherwin-Robson, C. F. Barenghi, and A. W. Baggaley

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*Cross thermoelectric coupling in normal-superconductor quantum dots*

Sun-Yong Hwang, Rosa López, and David Sánchez

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*Superconductivity and role of pnictogen and Fe substitution in 112-  
LaPd<sub>x</sub>Pn<sub>2</sub> (Pn=Sb,Bi)*

Reiner Retzlaff, Alexander Buckow, Philipp Komissinskiy, Soumya Ray, Stefan Schmidt, Holger Mühlig, Frank Schmidl, Paul Seidel, Jose Kurian, and Lambert Alff  
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*Neutron spin resonance as a probe of superconducting gap anisotropy in partially  
detwinned electron underdoped NaFe<sub>0.985</sub>Co<sub>0.015</sub>As*

Chenglin Zhang, J. T. Park, Xingye Lu, Rong Yu, Yu Li, Wenliang Zhang, Yang Zhao, J. W. Lynn, Qimiao Si, and Pengcheng Dai  
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*Domain walls in superconductors: Andreev bound states and tunneling features*

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*Strong effects of weak ac driving in short superconducting junctions*

Roman-Pascal Riwar, Manuel Houzet, Julia S. Meyer, and Yuli V. Nazarov  
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*Broken time-reversal symmetry in superconducting Pr<sub>1-x</sub>Ce<sub>x</sub>Pt<sub>4</sub>Ge<sub>12</sub>*

Jian Zhang, D. E. MacLaughlin, A. D. Hillier, Z. F. Ding, K. Huang, M. B. Maple, and Lei Shu  
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*Doping-dependent critical Cooper-pair momentum in thin underdoped cuprate films*

John Draskovic, Stanley Steers, Thomas McJunkin, Adam Ahmed, and Thomas R. Lemberger  
Phys. Rev. B **91**, 104524 (2015) – Published 30 March 2015

*Atomic and electronic structures of*

*superconducting BaFe<sub>2</sub>As<sub>2</sub>/SrTiO<sub>3</sub>superlattices*

P. Gao, Y. Zhang, S. Y. Zhang, S. Lee, J. Weiss, J. R. Jokisaari, E. E. Hellstrom, D. C. Larbalestier, C. B. Eom, and X. Q. Pan  
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## COMMENTS

*Comment on “Reconnection of quantized vortex filaments and the Kolmogorov  
spectrum”*

R. Hänninen  
Phys. Rev. B **91**, 106501 (2015) – Published 9 March 2015

*Reply to “Comment on ‘Reconnection of quantized vortex filaments and the  
Kolmogorov spectrum’ ”*

Sergey K. Nemirovskii  
Phys. Rev. B **91**, 106502 (2015) – Published 9 March 2015