

RAPID COMMUNICATIONS

Structure, structural phase transitions, mechanical properties, defects

- Quasitopological rotational waves in mechanical granular graphene (*5 pages*) 060101(R)
Li-Yang Zheng, Georgios Theocharis, Vincent Tournat, and Vitalyi Gusev

Inhomogeneous, disordered, and partially ordered systems

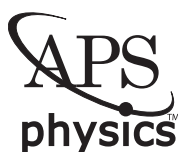
- Time evolution of many-body localized systems with the flow equation approach (*5 pages*) 060201(R)
S. J. Thomson and M. Schiró

Dynamics, dynamical systems, lattice effects:

- Localization and time-reversal of light through dynamic modulation (*5 pages*) 060301(R)
Momchil Minkov and Shanhui Fan
- Many-body interferometry of magnetic polaron dynamics (*6 pages*) 060302(R)
Yuto Ashida, Richard Schmidt, Leticia Tarruell, and Eugene Demler
- Generic dynamical features of quenched interacting quantum systems: Survival probability, density imbalance, and out-of-time-ordered correlator (*5 pages*) 060303(R)
E. J. Torres-Herrera, Antonio M. García-García, and Lea F. Santos
- Dynamical topological invariant after a quantum quench (*5 pages*) 060304(R)
Chao Yang, Linhu Li, and Shu Chen

Magnetism

- Spin model for nontrivial types of magnetic order in inverse-perovskite antiferromagnets (*5 pages*) 060401(R)
Masahito Mochizuki, Masaya Kobayashi, Reoya Okabe, and Daisuke Yamamoto
- Origin of temperature and field dependence of magnetic skyrmion size in ultrathin nanodots (*6 pages*) 060402(R)
R. Tomasello, K. Y. Guslienko, M. Ricci, A. Giordano, J. Barker, M. Carpentieri, O. Chubykalo-Fesenko, and G. Finocchio
- Finite-temperature dynamic structure factor of the spin-1 XXZ chain with single-ion anisotropy (*5 pages*) 060403(R)
Florian Lange, Satoshi Ejima, and Holger Fehske
- Generation of a localized microwave magnetic field by coherent phonons in a ferromagnetic nanograting (*5 pages*) 060404(R)
A. S. Salasyuk, A. V. Rudkovskaya, A. P. Danilov, B. A. Glavin, S. M. Kukhtaruk, M. Wang, A. W. Rushforth, P. A. Nekludova, S. V. Sokolov, A. A. Elistratov, D. R. Yakovlev, M. Bayer, A. V. Akimov, and A. V. Scherbakov



CONTENTS - *Continued*

PHYSICAL REVIEW B

THIRD SERIES, VOLUME 97, NUMBER 6

FEBRUARY 2018-1(II)

Thermodynamic entanglement of magnonic condensates (<i>6 pages</i>)	060405(R)
H. Y. Yuan and Man-Hong Yung	
Prediction of a magnetic Weyl semimetal without spin-orbit coupling and strong anomalous Hall effect in the Heusler compensated ferrimagnet Ti_2MnAl (<i>6 pages</i>)	060406(R)
Wujun Shi, Lukas Muechler, Kaustuv Manna, Yang Zhang, Klaus Koepernik, Roberto Car, Jeroen van den Brink, Claudia Felser, and Yan Sun	
Robust emergence of a topological Hall effect in MnGa/heavy metal bilayers (<i>8 pages</i>)	060407(R)
K. K. Meng, X. P. Zhao, P. F. Liu, Q. Liu, Y. Wu, Z. P. Li, J. K. Chen, J. Miao, X. G. Xu, J. H. Zhao, and Y. Jiang	
Transformable ferroelectric control of dynamic magnetic permeability (<i>6 pages</i>)	060408(R)
Changjun Jiang, Chenglong Jia, Fenglong Wang, Cai Zhou, and Desheng Xue	
Nonlinear spin conductance of yttrium iron garnet thin films driven by large spin-orbit torque (<i>5 pages</i>)	060409(R)
N. Thiery, A. Draveny, V. V. Naletov, L. Vila, J. P. Attané, C. Beigné, G. de Loubens, M. Viret, N. Beaulieu, J. Ben Youssef, V. E. Demidov, S. O. Demokritov, A. N. Slavin, V. S. Tiberkevich, A. Anane, P. Bortolotti, V. Cros, and O. Klein	
Superfluidity and superconductivity	
Multiband full-bandwidth anisotropic Eliashberg theory of interfacial electron-phonon coupling and high- T_c superconductivity in FeSe/SrTiO_3 (<i>6 pages</i>)	060501(R)
Alex Aperis and Peter M. Oppeneer	
Quasistatic internal magnetic field detected in the pseudogap phase of $\text{Bi}_{2+x}\text{Sr}_{2-x}\text{CaCu}_2\text{O}_{8+\delta}$ by muon spin relaxation (<i>5 pages</i>)	060502(R)
A. Pal, S. R. Dunsiger, K. Akintola, A. C. Y. Fang, A. Elhosary, M. Ishikado, H. Eisaki, and J. E. Sonier	
Pressure-induced superconductivity in semimetallic $1T\text{-TiTe}_2$ and its persistence upon decompression (<i>5 pages</i>)	060503(R)
U. Dutta, P. S. Malavi, S. Sahoo, B. Joseph, and S. Karmakar	
Generic phase diagram for Weyl superconductivity in mirror-symmetric superconductors (<i>5 pages</i>)	060504(R)
Ryo Okugawa and Takehito Yokoyama	
Investigation of the two-gap superconductivity in a few-layer NbSe_2 -graphene heterojunction (<i>4 pages</i>)	060505(R)
Tianyi Han, Junying Shen, Noah F. Q. Yuan, Jiangxiazhi Lin, Zefei Wu, Yingying Wu, Shuigang Xu, Liheng An, Gen Long, Yuanwei Wang, Rolf Lortz, and Ning Wang	
Two-gap superconductivity with line nodes in $\text{CsCa}_2\text{Fe}_4\text{As}_4\text{F}_2$ (<i>5 pages</i>)	060506(R)
Franziska K. K. Kirschner, Devashibhai T. Adroja, Zhi-Cheng Wang, Franz Lang, Michael Smidman, Peter J. Baker, Guang-Han Cao, and Stephen J. Blundell	
Direct observation of spin excitation anisotropy in the paramagnetic orthorhombic state of $\text{BaFe}_{2-x}\text{Ni}_x\text{As}_2$ (<i>6 pages</i>)	060507(R)
Haoran Man, Rui Zhang, J. T. Park, Xingye Lu, J. Kulda, A. Ivanov, and Pengcheng Dai	
Anharmonicity of a superconducting qubit with a few-mode Josephson junction (<i>5 pages</i>)	060508(R)
A. Kringhøj, L. Casparis, M. Hell, T. W. Larsen, F. Kuemmeth, M. Leijnse, K. Flensberg, P. Krogstrup, J. Nygård, K. D. Petersson, and C. M. Marcus	

(Continued)

CONTENTS - Continued

PHYSICAL REVIEW B

THIRD SERIES, VOLUME 97, NUMBER 6

FEBRUARY 2018-1(II)

Nodal multigap superconductivity in $\text{KCa}_2\text{Fe}_4\text{As}_4\text{F}_2$ (6 pages)	060509(R)
M. Smidman, F. K. K. Kirschner, D. T. Adroja, A. D. Hillier, F. Lang, Z. C. Wang, G. H. Cao, and S. J. Blundell	
Superconducting pairing in Sr_2RuO_4 from weak to intermediate coupling (6 pages)	060510(R)
Li-Da Zhang, Wen Huang, Fan Yang, and Hong Yao	

ARTICLES

Structure, structural phase transitions, mechanical properties, defects

Defect states in hexagonal boron nitride: Assignments of observed properties and prediction of properties relevant to quantum computation (9 pages)	064101
A. Sajid, Jeffrey R. Reimers, and Michael J. Ford	
Pressure-induced Lifshitz transition in NbP: Raman, x-ray diffraction, electrical transport, and density functional theory (9 pages)	064102
Satyendra Nath Gupta, Anjali Singh, Koushik Pal, D. V. S. Muthu, C. Shekhar, Yanpeng Qi, Pavel G. Naumov, Sergey A. Medvedev, C. Felser, U. V. Waghmare, and A. K. Sood	
Magnetic enhancement of ferroelectric polarization in a self-grown ferroelectric-ferromagnetic composite (7 pages)	064103
Amit Kumar, Bastola Narayan, Rohit Pachat, and Rajeev Ranjan	
Local-structure change rendered by electronic localization-delocalization transition in cerium-based metallic glasses (7 pages)	064104
Qiang Luo, Björn Schwarz, Janine C. Swarbrick, Jozef Bednarčík, Yingcai Zhu, Meibo Tang, Lirong Zheng, Ran Li, Jun Shen, and Jürgen Eckert	
Local-order metric for condensed-phase environments (11 pages)	064105
Fausto Martelli, Hsin-Yu Ko, Erdal C. Oğuz, and Roberto Car	
Evidence for a different electronic configuration as a primary effect during compression of orthorhombic perovskites: The case of $\text{NdM}^{3+}\text{O}_3$ ($M = \text{Cr, Ga}$) (10 pages)	064106
M. Ardit, M. Dondi, M. Merli, and G. Cruciani	
Synthesis and properties of selenium trihydride at high pressures (7 pages)	064107
Xiao Zhang, Wan Xu, Yu Wang, Shuqing Jiang, Federico A. Gorelli, Eran Greenberg, Vitali B. Prakapenka, and Alexander F. Goncharov	
Magnetopolaron effect on shallow-impurity states in the presence of magnetic and intense terahertz laser fields in the Faraday configuration (17 pages)	064108
Weiyang Wang, B. Van Duppen, M. Van der Donck, and F. M. Peeters	

Inhomogeneous, disordered, and partially ordered systems

Fermi arc reconstruction at junctions between Weyl semimetals (12 pages)	064201
Vatsal Dwivedi	
Quantum cluster variational method and message passing algorithms revisited (13 pages)	064202
E. Domínguez and Roberto Mulet	
Transversal magnetotransport in Weyl semimetals: Exact numerical approach (8 pages)	064203
Jan Behrends, Flore K. Kunst, and Björn Sbierski	

(Continued)

Counting local integrals of motion in disordered spinless-fermion and Hubbard chains (<i>9 pages</i>)	064204
Marcin Mierzejewski, Maciej Kozarzewski, and Peter Prelovšek	
Dynamics, dynamical systems, lattice effects:	
Time-domain Brillouin scattering assisted by diffraction gratings (<i>11 pages</i>)	064301
Osamu Matsuda, Thomas Pezeril, Ievgeniia Chaban, Kentaro Fujita, and Vitalyi Gusev	
Energy relaxation mechanism of hot-electron ensembles in GaAs: Theoretical and experimental study of its temperature dependence (<i>9 pages</i>)	064302
Jelena Sjakste, Nathalie Vast, Giuliana Barbarino, Matteo Calandra, Francesco Mauri, Junichi Kanasaki, Hiroshi Tanimura, and Katsumi Tanimura	
Universality of electronic friction. II. Equivalence of the quantum-classical Liouville equation approach with von Oppen's nonequilibrium Green's function methods out of equilibrium (<i>8 pages</i>)	064303
Wenjie Dou and Joseph E. Subotnik	
Bulk-boundary correspondence for dynamical phase transitions in one-dimensional topological insulators and superconductors (<i>8 pages</i>)	064304
N. Sedlmayr, P. Jaeger, M. Maiti, and J. Sirker	
Magnetism	
Quantum control of topological defects in magnetic systems (<i>8 pages</i>)	064401
So Takei and Masoud Mohseni	
Experimental evidence for an anisotropic Berry-phase effect on the anomalous Hall effect in MnAs films (<i>7 pages</i>)	064402
J. L. Ma, H. L. Wang, X. L. Wang, and J. H. Zhao	
Spin eigenmodes of magnetic skyrmions and the problem of the effective skyrmion mass (<i>10 pages</i>)	064403
Volodymyr P. Kravchuk, Denis D. Sheka, Ulrich K. Röbler, Jeroen van den Brink, and Yuri Gaididei	
Magnetic structure of the swedenborgite $\text{CaBa}(\text{Co}_3\text{Fe})\text{O}_7$ derived by unpolarized neutron diffraction and spherical neutron polarimetry (<i>9 pages</i>)	064404
N. Qureshi, M. T. Fernández Díaz, L. C. Chapon, A. Senyshyn, W. Schweika, and M. Valldor	
Magnetoelectric and Raman spectroscopic studies of monocrystalline MnCr_2O_4 (<i>7 pages</i>)	064405
G. T. Lin, Y. Q. Wang, X. Luo, J. Ma, H. L. Zhuang, D. Qian, L. H. Yin, F. C. Chen, J. Yan, R. R. Zhang, S. L. Zhang, W. Tong, W. H. Song, P. Tong, X. B. Zhu, and Y. P. Sun	
High-temperature dynamics in quantum compass models (<i>5 pages</i>)	064406
A. K. R. Briffa and X. Zotos	
Spin-specific heat determination of the ratio of competing first- and second-neighbor exchange interactions in frustrated spin- $\frac{1}{2}$ chains (<i>5 pages</i>)	064407
Dayasindhu Dey, Manoranjan Kumar, Siân E. Dutton, Robert J. Cava, and Zoltán G. Soos	
$\text{Ba}_3\text{M}\text{Ir}_2\text{O}_9$ hexagonal perovskites in the light of spin-orbit coupling and local structural distortions (<i>9 pages</i>) . . .	064408
Abhishek Nag, Sayantika Bhowal, F. Bert, A. D. Hillier, M. Itoh, Ilaria Carlomagno, C. Meneghini, T. Sarkar, R. Mathieu, I. Dasgupta, and Sugata Ray	
 Coherent spin dynamics of ytterbium ions in yttrium orthosilicate (<i>9 pages</i>)	064409
Hee-Jin Lim, Sacha Welinski, Alban Ferrier, Philippe Goldner, and J. J. L. Morton	

(Continued)

 Domain-wall excitations in the two-dimensional Ising spin glass (18 pages) Hamid Khoshbakht and Martin Weigel	064410
Generic non-Fermi-liquid behavior of the resistivity in magnets with ferromagnetic, helical, or skyrmionic order (12 pages) T. R. Kirkpatrick and D. Belitz	064411
Element-selective investigation of femtosecond spin dynamics in NiPd magnetic alloys using extreme ultraviolet radiation (9 pages) Seung-gi Gang, Roman Adam, Moritz Plötzing, Moritz von Witzleben, Christian Weier, Umut Parlak, Daniel E. Bürgler, Claus M. Schneider, Jan Ruzs, Pablo Maldonado, and Peter M. Oppeneer	064412
Heisenberg spin- $\frac{1}{2}$ XXZ chain in the presence of electric and magnetic fields (13 pages) Pradeep Thakur and P. Durganandini	064413
Unconventional field induced phases in a quantum magnet formed by free radical tetramers (12 pages) Andrés Saúl, Nicolas Gauthier, Reza Moosavi Askari, Michel Côté, Thierry Maris, Christian Reber, Anthony Lannes, Dominique Luneau, Michael Nicklas, Joseph M. Law, Elizabeth Lauren Green, Jochen Wosnitzer, Andrea Daniele Bianchi, and Adrian Feiguin	064414
Functional renormalization group approach to $SU(N)$ Heisenberg models: Real-space renormalization group at arbitrary N (12 pages) Finn Lasse Buessen, Dietrich Roscher, Sebastian Diehl, and Simon Trebst	064415
Functional renormalization group approach to $SU(N)$ Heisenberg models: Momentum-space renormalization group for the large- N limit (12 pages) Dietrich Roscher, Finn Lasse Buessen, Michael M. Scherer, Simon Trebst, and Sebastian Diehl	064416
 Polarized single crystal neutron diffraction study of the zero-magnetization ferromagnet $Sm_{1-x}Gd_xAl_2$ ($x = 0.024$) (6 pages) T. Chatterji, A. Stunault, and P. J. Brown	064417
Azimuthal spin-wave excitations in magnetic nanodots over the soliton background: Vortex, Bloch, and Néel-like skyrmions (10 pages) M. Mruczkiewicz, P. Gruszecki, M. Krawczyk, and K. Y. Guslienko	064418
Ferromagnetism versus slow paramagnetic relaxation in Fe-doped Li_3N (11 pages) M. Fix, A. Jesche, S. G. Jantz, S. A. Bräuninger, H.-H. Klauss, R. S. Manna, I. M. Pietsch, H. A. Höpfe, and P. C. Canfield	064419
Spin pumping in ion-beam sputtered Co_2FeAl/Mo bilayers: Interfacial Gilbert damping (8 pages) Sajid Husain, Ankit Kumar, Vineet Barwal, Nilamani Behera, Serkan Akansel, Peter Svedlindh, and Sujeet Chaudhary	064420
Observation of heavy spin-orbit excitons propagating in a nonmagnetic background: The case of $(Ba,Sr)_2YIrO_6$ (6 pages) M. Kusch, V. M. Katukuri, N. A. Bogdanov, B. Büchner, T. Dey, D. V. Efremov, J. E. Hamann-Borrero, B. H. Kim, M. Krisch, A. Maljuk, M. Moretti Sala, S. Wurmehl, G. Aslan-Cansever, M. Sturza, L. Hozoi, J. van den Brink, and J. Geck	064421
Electrical properties of epitaxial yttrium iron garnet ultrathin films at high temperatures (9 pages) N. Thierry, V. V. Naletov, L. Vila, A. Marty, A. Brenac, J.-F. Jacquot, G. de Loubens, M. Viret, A. Anane, V. Cros, J. Ben Youssef, N. Beaulieu, V. E. Demidov, B. Divinskiy, S. O. Demokritov, and O. Klein	064422

(Continued)

Critical behavior of magnetization in URhAl: Quasi-two-dimensional Ising system with long-range interactions (<i>10 pages</i>)	064423
Naoyuki Tateiwa, Jiří Pospíšil, Yoshinori Haga, and Etsuji Yamamoto	
Infinite coherence time of edge spins in finite-length chains (<i>7 pages</i>)	064424
Ivo A. Maceira and Frédéric Mila	
Magnetic phase diagram of $\text{Sr}_{2-x}\text{La}_x\text{IrO}_4$ synthesized by mechanical alloying (<i>8 pages</i>)	064425
K. Horigane, M. Fujii, H. Okabe, K. Kobayashi, R. Horie, H. Ishii, Y. F. Liao, Y. Kubozono, A. Koda, R. Kadono, and J. Akimitsu	
Superfluidity and superconductivity	
Localization and oscillations of Majorana fermions in a two-dimensional electron gas coupled with <i>d</i> -wave superconductors (<i>9 pages</i>)	064501
L. Ortiz, S. Varona, O. Viyuela, and M. A. Martin-Delgado	
Pseudogap temperature T^* of cuprate superconductors from the Nernst effect (<i>24 pages</i>)	064502
O. Cyr-Choinière, R. Daou, F. Laliberté, C. Collignon, S. Badoux, D. LeBoeuf, J. Chang, B. J. Ramshaw, D. A. Bonn, W. N. Hardy, R. Liang, J.-Q. Yan, J.-G. Cheng, J.-S. Zhou, J. B. Goodenough, S. Pyon, T. Takayama, H. Takagi, N. Doiron-Leyraud, and Louis Taillefer	
Cuprate diamagnetism in the presence of a pseudogap: Beyond the standard fluctuation formalism (<i>27 pages</i>)	064503
Rufus Boyack, Qijin Chen, A. A. Varlamov, and K. Levin	
Critical phenomena at the complex tensor ordering phase transition (<i>21 pages</i>)	064504
Igor Boettcher and Igor F. Herbut	
Odd-frequency pairing and Kerr effect in the heavy-fermion superconductor UPt_3 (<i>8 pages</i>)	064505
Christopher Triola and Annica M. Black-Schaffer	
Permanent spin currents in cavity-qubit systems (<i>5 pages</i>)	064506
Manas Kulkarni, Sven M. Hein, Eliot Kapit, and Camille Aron	
Dynamics of the density of quantized vortex lines in counterflow turbulence: Experimental investigation (<i>11 pages</i>)	064507
E. Varga and L. Skrbek	
Chip-to-chip entanglement of transmon qubits using engineered measurement fields (<i>15 pages</i>)	064508
C. Dickel, J. J. Wesdorp, N. K. Langford, S. Peiter, R. Sagastizabal, A. Bruno, B. Criger, F. Motzoi, and L. DiCarlo	
Pressure dependence of coherence-incoherence crossover behavior in KFe_2As_2 observed by resistivity and ^{75}As -NMR/NQR (<i>10 pages</i>)	064509
P. Wiecki, V. Taufour, D. Y. Chung, M. G. Kanatzidis, S. L. Bud'ko, P. C. Canfield, and Y. Furukawa	
Spontaneous surface flux pattern in chiral <i>p</i> -wave superconductors (<i>12 pages</i>)	064510
Sarah B. Etter, Adrien Bouhon, and Manfred Sigrist	
^{139}La NMR investigation of the charge and spin order in a $\text{La}_{1.885}\text{Sr}_{0.115}\text{CuO}_4$ single crystal (<i>9 pages</i>)	064511
A. Arsenault, S. K. Takahashi, T. Imai, W. He, Y. S. Lee, and M. Fujita	
Vorticity enhancement in thermal counterflow of superfluid helium (<i>8 pages</i>)	064512
P. Hrubcová, P. Švančara, and M. La Mantia	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW B

THIRD SERIES, VOLUME 97, NUMBER 6

FEBRUARY 2018-1(II)

Nodal s -wave superconductivity in antiferromagnetic semimetals (<i>7 pages</i>)	064513
Wojciech Brzezicki and Mario Cuoco	
Superconductivity in pressurized CeRhGe_3 and related noncentrosymmetric compounds (<i>6 pages</i>)	064514
Honghong Wang, Jing Guo, Eric D. Bauer, Vladimir A. Sidorov, Hengcan Zhao, Jiahao Zhang, Yazhou Zhou, Zhe Wang, Shu Cai, Ke Yang, Aiguo Li, Xiaodong Li, Yanchun Li, Peijie Sun, Yi-feng Yang, Qi Wu, Tao Xiang, J. D. Thompson, and Liling Sun	
Long-range effect of a Zeeman field on the electric current through the helical metal-superconductor interface in an Andreev interferometer (<i>7 pages</i>)	064515
A. G. Mal'shukov	
Field-driven transition in the $\text{Ba}_{1-x}\text{K}_x\text{Fe}_2\text{As}_2$ superconductor with splayed columnar defects (<i>11 pages</i>)	064516
Akiyoshi Park, Sunseng Pyon, Kengo Ohara, Nozomu Ito, Tsuyoshi Tamegai, Tadashi Kambara, Atsushi Yoshida, and Ataru Ichinose	
Half-metallic superconducting triplet spin multivalves (<i>11 pages</i>)	064517
Mohammad Alidoust and Klaus Halterman	
Quantum theory of an atom in proximity to a superconductor (<i>13 pages</i>)	064518
Matthias Le Dall, Igor Diniz, Luis G. G. V. Dias da Silva, and Rogério de Sousa	
Rashba-induced Kondo screening of a magnetic impurity in a two-dimensional superconductor (<i>8 pages</i>)	064519
Lin Li, Ming-Xin Gao, Zhen-Hua Wang, Hong-Gang Luo, and Wei-Qiang Chen	