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 112, NUMBER 18 *CONTENTS* **NOVEMBER 2025-1(II)**

LETTERS

Inhomogeneous, disordered, and partially ordered systems

Emergent fractals in dirty topological crystals *(6 pages)* L180201
Daniel J. Salib and Bitan Roy

Random displacements in critical Rydberg atom arrays *(7 pages)* L180202
Xingyu Li, Shuyan Zhou, Xue Chen, Chengshu Li, and Hanteng Wang

Analytic and numerical toolkit for the Anderson model in one dimension *(7 pages)* L180203
Oleg Evnin

Dynamics, dynamical systems, lattice effects:

Coherent information phase transition in a noisy quantum circuit *(7 pages)* L180301
Dongheng Qian and Jing Wang

Entanglement transition and suppression of critical phase of thermofield double state in monitored quantum circuit with unitary R matrix gates *(6 pages)* L180302
Shi-Kang Sun and Shu Chen

Heat-to-motion conversion for quantum active matter *(6 pages)* L180303
Alexander-Georg Penner, Ludmila Viotti, Rosario Fazio, Liliana Arrachea, and Felix von Oppen

Prediction of extremely high thermal conductivity in a layered oxide near instability *(6 pages)* L180304
Qi Feng, Yuhao Fu, David J. Singh, and Lijun Zhang

Ferroelectrically controlled chirality switching of Weyl quasiparticles *(8 pages)* L180305
Zeling Li, Yu Liu, Le Du, Fengyu Li, Zhifeng Liu, Lei Li, Lei Wang, Botao Fu, and Xiao-Ping Li

Probing prethermal nonergodicity through measurement outcomes of monitored quantum dynamics *(7 pages)* L180306
Zheng-Hang Sun, Fabian Ballar Trigueros, Qicheng Tang, and Markus Heyl

Translation symmetry restoration in integrable systems: The noninteracting case *(6 pages)* L180307
Molly Gibbins, Adam Gammon-Smith, and Bruno Bertini

Magnetism

Magnetic resonance and microwave resistance modulation in the van der Waals ferrimagnet $Mn_3Si_2Te_6$ *(8 pages)* L180401
Miuko Tanaka, Abdul Ahad, Darius-Alexandru Deaconu, Varun Shah, Daisuke Nishio-Hamane, Tomohiro Ishii, Masayuki Hashisaka, Shoya Sakamoto, Shinji Miwa, Mohammad Saeed Bahramy, and Toshiya Ideue

(Continued)

2469-9950(20251101)112:18;1-E

This paper was highlighted in the APS publication *Physics* (physics.aps.org).

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 112, NUMBER 18 NOVEMBER 2025-1(II)

Spin-phase detection by spin current in a chiral helimagnet *(7 pages)* L180402
Nan Jiang, Shota Suzuki, Issei Sasaki, Kazuki Yamada, Ryoma Kawahara, Shintaro Takada, Yusuke Shimamoto, Hiroki Shoji, Yusuke Kousaka, Jun-ichiro Ohe, Yoshihiko Togawa, and Yasuhiro Niimi

Magnon-phonon interactions from first principles *(7 pages)* L180403
Khoa B. Le, Ali Esquembre-Kučukalić, Hsiao-Yi Chen, Ivan Maliyov, Yao Luo, Jin-Jian Zhou, Davide Sangalli, Alejandro Molina-Sánchez, and Marco Bernardi

Dipolar-octupolar correlations and hierarchy of exchange interactions in $Ce_2Hf_2O_7$ *(7 pages)* L180404
Victor Porée, Anish Bhardwaj, Elsa Lhotel, Sylvain Petit, Nicolas Gauthier, Han Yan, Vladimir Pomjakushin, Jacques Ollivier, Jeffrey A. Quilliam, Andriy H. Nevidomskyy, Hitesh J. Changlani, and Romain Sibille

Luttinger-compensated bipolarized magnetic semiconductor *(7 pages)* L180405
Peng-Jie Guo, Huan-Cheng Yang, Xiao-Yao Hou, Ze-Feng Gao, Wei Ji, and Zhong-Yi Lu

Electrical injection and transport of coherent magnon superposition states in noncollinear antiferromagnets *(6 pages)* L180406
Ping Tang and Gerrit E. W. Bauer

Generation of phonons with angular momentum during ultrafast demagnetization *(7 pages)* L180407
M. S. Mrudul, Markus Weißenhofer, and Peter M. Oppeneer

Superfluidity and superconductivity

Superfluid weight of strongly inhomogeneous superconductors *(7 pages)* L180501
Jonathan Schirmer and Enrico Rossi

Observation of superconductivity and weak ferromagnetism in the quasi-one-dimensional chain compound $(TaSe_4)_3I$ at ambient pressure *(8 pages)* L180502
Arnab Bera, Riju Pal, Buddhadeb Pal, Samir Rom, Suchanda Mondal, Deepti Rana, Aastha Vasdev, Sandeep Howlader, Manish Jana, Tanmay Maiti, Rafikul Ali Saha, Biswajit Das, Tanusri Saha-Dasgupta, Prabhat Mandal, Atindra Nath Pal, and Mintu Mondal

Inverse superconductor-insulator transition in weakly monitored Josephson junction arrays *(6 pages)* L180503
Purnendu Das and Sumilan Banerjee

Upper bound on T_c in a strongly coupled electron-boson superconductor *(7 pages)* L180504
Nikolay V. Gnezdilov and Rufus Boyack

Majorana zero modes in a heterogeneous structure of topological and trivial domains in $FeSe_{1-x}Te_x$ *(5 pages)* L180505
Prashant Gupta, Jasmin Bedow, Eric Mascot, and Dirk K. Morr

ARTICLES

Structure, structural phase transitions, mechanical properties, defects

Model Hamiltonian for altermagnetic topological insulators *(12 pages)* 184101
Rafael González-Hernández and Bernardo Uribe

(Continued)

This paper was highlighted in the APS publication *Physics* (physics.aps.org).

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 112, NUMBER 18** **NOVEMBER 2025-1(II)**

Structural transformations in the (1-x)$Na_{0.5}Bi_{0.5}TiO_3$-$x$$BaTiO_3$ solid solution under high pressure: Comparison between x below and above the morphotropic phase boundary *(15 pages)* 184102
Constanze Rösche, Thomas Malcherek, Tiziana Boffa Ballaran, Carsten Paulmann, Ross John Angel, Semën Gorfman, and Boriana Mihailova

Topological dual-Wannier cycles in orbital phononic crystals *(6 pages)* 184103
Wenjie Xie, Jien Wu, Zhaojian He, Ke Deng, Hailong He, Manzhu Ke, and Zhengyou Liu

Theory-guided discovery of pressure-induced transitions in the fast-ion conductor $BaSnF_4$ *(10 pages)* 184104
Robin Turnbull, Zhang YingLong, Claudio Cazorla, Akun Liang, Rahman Saqib, Miriam Peña-Alvarez, Catalin Popescu, Laura Pampillo, and Daniel Errandonea

Phase transition and antiferroelectric-like switching inside ferroelastic domain walls *(15 pages)* 184105
Guangming Lu, Michael A. Carpenter, and Ekhard K. H. Salje

Elastic softening and defect-mediated diffusion in superionic Li_2O revealed by molecular dynamics *(7 pages)* 184106
Zhifeng Wu, Yiwei You, Fangfang Zhang, Tie-Yu Lü, Xinrui Cao, Yang Sun, Zi-Zhong Zhu, and Shunqing Wu

Close-up view of the interplay between lattice distortions and charge density waves: Case study on rare-earth nickel carbides *(8 pages)* 184107
Valeri Petkov, Adeel Zafar, Sitaram Ramakrishnan, Jorge R. Galeano-Cabral, Kaya Wei, and AM Milinda Abeykoon

Pressure-induced superconductivity in LaP_2 with a graphenelike phosphorus layer *(7 pages)* 184108
Mingxin Zhang, Cuiying Pei, Bangshuai Zhu, Qi Wang, Juefei Wu, and Yanpeng Qi

Short-range charge ordering in Mn-doped $LiFePO_4$ *(8 pages)* 184109
Souzan Hammadi, Fabian Schwarz, Jolla Kullgren, Daniel Brandell, and Peter Broqvist

Stacking direction dependent Raman mode, wake-up alleviation, and coercive-field reduction in HfO_2/ZrO_2 superlattices *(10 pages)* 184110
Hamoon Fahrvandi, Pawan Kumar, and Jun Hee Lee

Molecular dynamics study of the impact of coordination number on the thermal conductivity of amorphous Ga_2O_3 *(11 pages)* 184111
Youtian Li, Yangyu Guo, Haiping Lin, Shiyun Xiong, and Hongliang Yi

High-throughput computational search for group-IV-related quantum defects as spin-photon interfaces in 4H-SiC *(11 pages)* 184112
Shibu Meher, Manoj Dey, and Abhishek Kumar Singh

Theoretical investigation of noncentrosymmetric Ruddlesden-Popper germanium perovskites Cs_2GeX_4 (X = Cl, Br, and I) for second harmonic generation *(11 pages)* 184113
Zun-Yi Deng, Qixiang Yin, Lixiang Rao, Qiyi Zhao, Gang Tang, and Jiawang Hong

Hydrogen-driven symmetry breaking and reconstruction in α-U to α-UH_3 *(12 pages)* 184114
Runyu Zhou and Tao Gao

Irreversible process of the atomic reconstruction phenomenon induced by uniaxial stress in MnP *(8 pages)* 184115
Hiromu Tamatsukuri, Tatsuya Kozawa, Setsuo Mitsuda, Masayoshi Fujihala, Katsuki Kinjo, Kazuhiro Nawa, Hung-Cheng Wu, Taku J. Sato, and Shin-ichiro Yano

(Continued)

This paper was highlighted in the APS publication *Physics* (physics.aps.org).

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 112, NUMBER 18 NOVEMBER 2025-1(II)

Inhomogeneous, disordered, and partially ordered systems

Quasiconservation laws and suppressed transport in weakly interacting localized models *(33 pages)* 184201
Jessica K. Jiang, Federica M. Surace, and Olexei I. Motrunich

Multifractality in high-dimensional graphs induced by correlated radial disorder *(17 pages)* 184202
David E. Logan and Sthitadhi Roy

Diffuse scattering from solid solutions: Real-space versus reciprocal-space data evaluation and electronic structure calculations *(14 pages)* 184203
B. Schönfeld and A. V. Ruban

Disorder-induced phase transitions in higher-order Weyl semimetals *(9 pages)* 184204
Shu-xiu Shang, Jia-liang Cai, Ning-ning Zhao, and Shu-feng Zhang

Dynamics, dynamical systems, lattice effects:

Universal nonequilibrium dynamics of pure states and density-dependent thermalization in the Sachdev-Ye-Kitaev model *(21 pages)* 184301
Rishik Perugu, Arijit Haldar, and Sumilan Banerjee

Phonon spectrum in the spin-Peierls phase of $CuGeO_3$ *(18 pages)* 184302
L. Spitz, A. Razpopov, S. Biswas, H. Lane, S. E. Nikitin, K. Iida, R. Kajimoto, M. Fujita, M. Arai, M. Mourigal, Ch. Rüegg, R. Valentí, and B. Normand

Topologically guided slow Lamb waves via height-modulated valley Hall heterostructures *(8 pages)* 184303
Zhe Li, Hua-Yang Chen, Si-Yuan Yu, and Yan-Feng Chen

Complex and tunable heating in conformal field theories with structured drives via classical ergodicity breaking *(19 pages)* 184304
Liang-Hong Mo, Roderich Moessner, and Hongzheng Zhao

Kohn anomalies and phonon anharmonicity in iridium *(13 pages)* 184305
Shaofei Wang, Simon Thébaud, Duncan H. Moseley, James R. Torres, Michael E. Manley, Yongqiang Cheng, Songxue Chi, Douglas L. Abernathy, Garrett E. Granroth, Andrei T. Savici, Andrew F. May, Parul Raghuvanshi, Lucas Lindsay, and Raphael H. Hermann

Anomalous phonon thermal transport of He_2H_2O at high pressure *(12 pages)* 184306
Yi-Xian Wang, Yu-Xuan Zhang, Shi-Jia Wang, Zhe Yuan, and Zhao-Qi Wang

Temperature and conditions for thermalization after canonical quenches *(12 pages)* 184307
Lennart Dabelow

Dispersion and transport of exciton-polaritons in an optical conveyor belt *(11 pages)* 184308
Xingran Xu, Chunyu Jia, and Xin-Xin Yang

Realization and characterization of an all-bands-flat electrical lattice *(7 pages)* 184309
Noah Lape, Simon Diubenkov, L. Q. English, P. G. Kevrekidis, Alexei Andreanov, Yeongjun Kim, and Sergej Flach

Structure and dynamics of electron-phonon coupled systems using neural quantum states *(20 pages)* 184310
Ankit Mahajan, Paul J. Robinson, Joonho Lee, and David R. Reichman

(Continued)

This paper was highlighted in the APS publication *Physics* (physics.aps.org).

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 112, NUMBER 18** **NOVEMBER 2025-1(II)**

Anharmonicity-driven avoided phonon crossing and anomalous thermal transport in the nodal-line semimetal ZrSiS *(11 pages)* 184311
Xin Jin, Qingqing Zhang, Dengfeng Li, Zhenxiang Cheng, Jianli Wang, Xuewei Lv, Xiaoyuan Zhou, Rui Wang, Xianyong Ding, Peng Yu, and Xiaolong Yang

Bound excited states of Fröhlich polarons in one dimension *(10 pages)* 184312
J. Taylor, M. Čufar, D. Mitrouskas, R. Seiringer, E. Pahl, and J. Brand

Momentum-robust temporal scattering via $\mathcal{PT}$-symmetry transition *(8 pages)* 184313
Meng-Cheng Jin, Guang-Chen He, Ze-Guo Chen, Ming-Hui Lu, Peng Zhan, and Yan-Feng Chen

Multipartite Greenberger-Horne-Zeilinger entanglement in monitored random Clifford circuits *(14 pages)* 184314
Guanglei Xu and Yu-Xiang Zhang

Observation of a phonon bottleneck effect on the thermal depopulation from a photoexcited shallow defect in silicon *(5 pages)* 184315
Sergio Revuelta, Hai I. Wang, Mischa Bonn, and Enrique Cánovas

Dispersion relations for dislocation modes and their sensitivity to the lattice structure *(9 pages)* 184316
Jin-Yun Lin, Ira Z. Rothstein, and Shashin Pavaskar

Magnetism

Tunability of magnetic properties in the Ni-intercalated transition metal dichalcogenide $NbSe_2$ *(15 pages)* 184401
Xujia Gong, Amar Fakhredine, and Carmine Autieri

Skyrmion Hall effect and shape deformation of current-driven bilayer skyrmions in synthetic antiferromagnets *(14 pages)* 184402
Mu-Kun Lee, Javier A. Vélez, Rubén M. Otxoa, and Masahito Mochizuki

Symmetry-broken magnetotoroidal artificial spin ices: Magnetization states and dynamics *(12 pages)* 184403
Ghanem Alatteili, Lawrence A. Scafuri, and Ezio Iacocca

Nonlinear anomalous Edelstein response at altermagnetic interfaces *(10 pages)* 184404
Mattia Trama, Irene Gaiardoni, Claudio Guarcello, Jorge I. Facio, Alfonso Maiellaro, Francesco Romeo, Roberta Citro, and Jeroen van den Brink

Josephson-like magnetic tunnel junction: Transition from classical to quantum regime *(12 pages)* 184405
V. V. Yurlov, P. N. Skirdkov, K. A. Zvezdin, and A. K. Zvezdin

Field and temperature evolution of the magnetic excitations in the field-induced state of $Na_2Co_2TeO_6$ *(8 pages)* 184406
Liyu Shi, Xintong Li, Rongsheng Li, Yuan Li, Tao Dong, Jianlin Luo, Xinbo Wang, and Nanlin Wang

Stretched exponential magnetic relaxation dynamics in artificial square ice revealed through x-ray photon correlation spectroscopy *(13 pages)* 184407
Valerio Scagnoli, Sandra H. Skjærvø, Jamie R. Massey, Oles Sendetskyi, Naëmi Leo, Claudio Mazzoli, Laura J. Heyderman, and Peter M. Derlet

Ballistic transport of orbital current from chromium *(8 pages)* 184408
Yongzuo Wang, Fu Liu, Bing Lv, Lijuan Zhao, Hang Li, Zhongjie Yan, Xiaolong Fan, Chenglong Jia, and Cunxu Gao

(Continued)

This paper was highlighted in the APS publication *Physics* (physics.aps.org).

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 112, NUMBER 18** **NOVEMBER 2025-1(II)**

Abnormal field-like spin orbit torque in a synthetic antiferromagnet *(11 pages)* 184409
Yuxin Si, Yuteng Ma, Xiaoyi Gu, Hang Xie, Jiaqi Wang, Eng Huat Toh, and Yihong Wu

Role of breathing mode in band topology and multiferroics in two-dimensional kagome magnets *(7 pages)* 184410
Yue Li, Jun He, Yu Xie, Chao Li, Xiaofan Shen, Dinghui Wang, and Junting Zhang

Raman spectroscopy of anyons in generic Kitaev spin liquids *(16 pages)* 184411
Aprem P. Joy and Achim Rosch

Magnons in chromium trihalides calculated with the *ab initio* Bethe-Salpeter equation *(13 pages)* 184412
Ali Esquembre-Kučukalić, Khoa B. Le, Alberto García-Cristóbal, Marco Bernardi, Davide Sangalli, and Alejandro Molina-Sánchez

Impact of thermal annealing on magnetic properties in the nanostructured compositionally complex spinel cobaltites $(Mg_{0.2}Mn_{0.2}Fe_{0.2}Cu_{0.2}Zn_{0.2})Co_2O_4$ *(12 pages)* 184413
Xin Wang, Cameron S. Jorgensen, Corisa Kons, Peter C. Metz, Joshua Safin, William R. Meier, Dustin A. Gilbert, Katharine Page, Yuanpeng Zhang, Jue Liu, and Eleonora Calì

Characterization of the magnetic phase transitions in double perovskite Nd_2NiMnO_6 *(12 pages)* 184414
John M. Attah-Baah, Pascal Manuel, Dmitry D. Khalyavin, Nilson S. Ferreira, and Roger D. Johnson

Néel vector dependence of x-ray magnetic circular dichroism in altermagnets *(6 pages)* 184415
J. Kuneš

Antiferromagnetic structure of KV_2Se_2O: A neutron diffraction study *(6 pages)* 184416
Yili Sun, Yu Huang, Jingwen Cheng, Shanshan Zhang, Zezhong Li, Huiqian Luo, Xiaobai Ma, Wenyun Yang, Jinbo Yang, Dongfeng Chen, Kai Sun, Matthias Gutmann, Silvia C. Capelli, Feiran Shen, Jiazheng Hao, Lunhua He, Genfu Chen, and Shiliang Li

Post-measurement quantum Monte Carlo *(21 pages)* 184417
Kriti Baweja, David J. Luitz, and Samuel J. Garratt

Giant anomalous Hall effect in the kagome nodal surface semimetal Fe_3Ge *(6 pages)* 184418
Shu-Xiang Li, Wencheng Wang, Sheng Xu, Tianhao Li, Zheng Li, Jinjin Wang, Jun-Jian Mi, Qian Tao, Feng Tang, Xiangang Wan, and Zhu-An Xu

Numerically efficient unitary evolution for Hamiltonians beyond nearest neighbors *(9 pages)* 184419
Alberto Giuseppe Catalano

Itinerant versus localized magnetism in spin-gapped metallic half-Heusler compounds: Stoner criterion and magnetic interactions *(15 pages)* 184420
E. Şaşıoğlu, W. Beida, S. Ghosh, M. Tas, B. Sanyal, S. Lounis, S. Blügel, I. Mertig, and I. Galanakis

Spin Seebeck effect in correlated antiferromagnetic V_2O_3 *(8 pages)* 184421
Renjie Luo, Tanner J. Legvold, Gage Eichman, Henry Navarro, Ali C. Basaran, Erbin Qiu, Ivan K. Schuller, and Douglas Natelson

Tunable anomalous valley Hall effect in multiferroic $VInSe_3$ monolayers and bilayers *(8 pages)* 184422
Zhihao Gao, Zongshuo Wu, Liyan Lin, Linze Li, Haijun Zhang, Lu Chen, and Yurong Yang

Unconventional spin dynamics and supersolid excitations in the triangular-lattice XXZ model *(26 pages)* 184423
Rafael Flores-Calderón, Roderich Moessner, and Frank Pollmann

(Continued)

This paper was highlighted in the APS publication *Physics* (physics.aps.org).

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 112, NUMBER 18 NOVEMBER 2025-1(II)

Three-dimensional topological superstructure of magnetic hopfions threaded by meron strings in easy-plane magnets *(18 pages)* 184424
Shoya Kasai, Kotaro Shimizu, Shun Okumura, Yasuyuki Kato, and Yukitoshi Motome

Extrinsic scattering induced magnon spin swapping effect in Bi-doped yttrium iron garnet *(7 pages)* 184425
Bin Yang, Peng Wang, Di Wang, Yuben Yang, Yuxuan Mu, Anpeng He, Yuanzhe Tian, Bowen Zheng, Weijie Qin, Kaiyuan Wang, Biying Huang, Jun Du, Baigeng Wang, Xiangang Wan, Qingyu Xu, and Di Wu

Large magnetic anisotropy and high spin state in two-dimensional $MnIn_2Se_3I_2$ *(8 pages)* 184426
Yanyan Yang, Xinyu Chen, Guitao Zhang, Kang Li, Jinlan Wang, and Qian Chen

Physical properties and magnetic structures of the metallic antiferromagnet $CeMn_{0.84}Sb_2$ *(10 pages)* 184427
Takahiro Urata, Yusuke Takahashi, Takafumi Hawai, Kazuki Ohishi, Kazuki Iida, Toru Ishigaki, Jun Sugiyama, and Hiroshi Ikuta

Unconventional criticality and phase diagram of a tetramer Heisenberg bond-alternating chain with single-ion anisotropy *(12 pages)* 184428
Luan M. Veríssimo, J. Torrico, S. M. de Souza, Onofre Rojas, M. S. S. Pereira, and Marcelo L. Lyra

Antiferromagnetic magnons and spin pumping generated by elastic waves injected into NiO/Pt bilayers *(10 pages)* 184429
Andrei V. Azovtsev and Nikolay A. Pertsev

XY-like incommensurate magnetic order in Ce_2SnS_5 *(12 pages)* 184430
Maximilien F. Debbas, Takehito Suzuki, Danielle R. Yahne, and Joseph G. Checkelsky

Multiple topological phases of magnons induced by Dzyaloshinskii-Moriya and pseudodipolar anisotropic exchange interactions in kagome ferromagnets *(17 pages)* 184431
Jin-Yu Ni, Xia-Ming Zheng, Peng-Tao Wei, Da-Yong Liu, and Liang-Jian Zou

Critical behavior, magnetic phase diagram, and magnetocaloric effect in the square-net ferromagnet $NdMn_2Ge_2$ *(11 pages)* 184432
Zhiyu Zeng, Ruiya Zhan, Wenwen Lin, Qi Xiang, Dexi Shao, Yuke Li, and Jialu Wang

Magnetic and electrical transport properties of the single-crystalline half-Heusler antiferromagnet DyNiSb *(9 pages)* 184433
Abhinav Agarwal, Prabuddha Kant Mishra, Orest Pavlosiuk, Maciej J. Winiarski, Piotr Wiśniewski, and Dariusz Kaczorowski

Superfluidity and superconductivity

Unconventional superconductivity of an altermagnetic metal: Polarized BCS and inhomogeneous FFLO states *(11 pages)* 184501
Hui Hu, Zhao Liu, and Xia-Ji Liu

$s\pm$ pairing symmetry from electron-phonon coupling in $La_3Ni_2O_7$ under pressure *(9 pages)* 184502
Yucong Yin, Jun Zhan, Boyang Liu, and Xinloong Han

Depairing critical current density and the vortex-free state in FeSe nanobridges *(6 pages)* 184503
Yue Sun, Yuling Xiang, Zhixiagn Shi, Tsuyoshi Tamegai, and Haruhisa Kitano

Exceptional Andreev spectrum and supercurrent in *p*-wave non-Hermitian Josephson junctions *(7 pages)* 184504
Chang-An Li and Björn Trauzettel

(Continued)

This paper was highlighted in the APS publication *Physics* (physics.aps.org).
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 112, NUMBER 18** **NOVEMBER 2025-1(II)**

Electrically controlled field-free Josephson diode effect in two-dimensional antiferromagnets *(6 pages)* 184505
Wei-Tao Lu, Tie-Feng Fang, Qiang Cheng, and Qing-Feng Sun

Supersolid phase in two-dimensional soft-core bosons at finite temperature *(22 pages)* 184506
S. Peotta, G. Spada, S. Giorgini, S. Pilati, and A. Recati

Intrinsic space-time crystalline order in a hybrid Josephson junction *(10 pages)* 184507
M. Nashaat, J. Tekić, and Yu. M. Shukrinov

Pressure-driven amorphous superconductivity in the topological semimetal VP_4 *(8 pages)* 184508
Na Zuo, Bowen Zheng, Chutong Zhang, Xiangzhuo Xing, Yalei Huang, Haoran Yu, Bin Li, Xiaolei Yi, Yan Meng, Xiaoran Zhang, Bingchao Yang, Xin Chen, Xiaofeng Xu, and Xiaobing Liu

Out-of-equilibrium nonlinear model of thermoelectricity in superconducting tunnel junctions *(9 pages)* 184509
Leonardo Lucchesi and Federico Paolucci

Correlation between H-linear magnetoresistance and T-linear resistivity in the strange-metal state *(12 pages)* 184510
Qiuyan Shi, Jinsong Zhang, Xingyu Jiang, Xuelian Liang, Ruozhou Zhang, Juan Xu, Zhanyi Zhao, Jihuang Chen, Wenxin Cheng, Xuewei Wang, Changhong Yuan, Yating Jiang, Yutong Wang, Beiyi Zhu, Jie Yuan, Yangmu Li, Ming Yang, Junfeng Wang, Lu Ji, Qihong Chen, and Kui Jin

Design principle for high-temperature superconductivity in ternary borides at ambient pressure *(9 pages)* 184511
Zhuangzhuang Qiao, Shuo Cai, Xiaotong Liao, Xiaowei Huang, Liying Zhang, Chongze Wang, J. Cho, Liangliang Liu, and Yu Jia

Eliminating leading and subleading corrections to scaling in the three-dimensional XY universality class *(18 pages)* 184512
Martin Hasenbusch

Domain wall engineering in graphene-based Josephson junctions *(12 pages)* 184513
Xia'an Du, Junjie Qi, Hua Jiang, and X. C. Xie

Vortices in dipolar condensates of interlayer excitons *(8 pages)* 184514
Sara Conti, Andrey Chaves, Luis A. Peña Ardila, David Neilson, and Milorad V. Milošević

Proximity effect and p-wave superconductivity in s-wave superconductor/helimagnet heterostructures *(13 pages)* 184515
G. A. Bobkov, A. V. Kornev, A. M. Bobkov, and I. V. Bobkova

Anisotropic superconducting properties of the misfit layer compound $(SnS)_{1.15}(TaS_2)$ *(5 pages)* 184516
Makoto Maki, Ayumi Koga, and Terukazu Nishizaki

Anharmonicity and Coulomb pseudopotential effects on superconductivity in YH_6 and YH_9 *(7 pages)* 184517
Yucheng Ding, Haoran Chen, and Junren Shi

Ubiquitous missing first Shapiro step in Al-InSb nanosheet Josephson junctions *(9 pages)* 184518
Xingjun Wu, Haitian Su, Chuanchang Zeng, Ji-Yin Wang, Shili Yan, Dong Pan, Jianhua Zhao, Po Zhang, and H. Q. Xu

Two-dimensional superconductivity with unconventional magnetotransport in $PtPb_4$ single crystals: A nonsymmorphic symmetry-protected topological superconductor *(14 pages)* 184519
Zhujialei Lei, Sheng-En Lin, Chin Wei Lin, I-Nan Chen, and Li-Min Wang

This paper was highlighted in the APS publication *Physics* (physics.aps.org).

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).