

Superconducting properties of noncentrosymmetric $\text{Nb}_{0.18}\text{Re}_{0.82}$ thin films probed by transport and tunneling experiments (<i>8 pages</i>)	104512
C. Cirillo, G. Carapella, M. Salvato, R. Arpaia, M. Caputo, and C. Attanasio	
From chiral d -wave to nodal line superconductivity in the harmonic honeycomb lattices (<i>10 pages</i>)	104513
Johann Schmidt, Adrien Bouhon, and Annica M. Black-Schaffer	
Shubnikov-de Haas quantum oscillations reveal a reconstructed Fermi surface near optimal doping in a thin film of the cuprate superconductor $\text{Pr}_{1.86}\text{Ce}_{0.14}\text{CuO}_{4\pm\delta}$ (<i>5 pages</i>)	104514
Nicholas P. Breznay, Ian M. Hayes, B. J. Ramshaw, Ross D. McDonald, Yoshiharu Krockenberger, Ai Ikeda, Hiroshi Irie, Hideki Yamamoto, and James G. Analytis	
Coupled commensurate charge density wave and lattice distortion in $\text{Na}_2\text{Ti}_2\text{Pn}_2\text{O}$ ($Pn = \text{As}, \text{Sb}$) determined by x-ray diffraction and angle-resolved photoemission spectroscopy (<i>9 pages</i>)	104515
N. R. Davies, R. D. Johnson, A. J. Princep, L. A. Gannon, J.-Z. Ma, T. Qian, P. Richard, H. Li, M. Shi, H. Nowell, P. J. Baker, Y. G. Shi, H. Ding, J. Luo, Y. F. Guo, and A. T. Boothroyd	
☞ Normal-metal quasiparticle traps for superconducting qubits (<i>10 pages</i>)	104516
R.-P. Riwar, A. Hosseinkhani, L. D. Burkhardt, Y. Y. Gao, R. J. Schoelkopf, L. I. Glazman, and G. Catelani	
Disentangling the surface and bulk electronic structures of LaOFeAs (<i>5 pages</i>)	104517
P. Zhang, J. Ma, T. Qian, Y. G. Shi, A. V. Fedorov, J. D. Denlinger, X. X. Wu, J. P. Hu, P. Richard, and H. Ding	
Classification of magnetic inhomogeneities and $0-\pi$ transitions in superconducting-magnetic hybrid structures (<i>18 pages</i>)	104518
Thomas E. Baker, Adam Richie-Halford, and Andreas Bill	
Topological superconductivity and anti-Shiba states in disordered chains of magnetic adatoms (<i>12 pages</i>)	104519
Alex Westström, Kim Pöyhönen, and Teemu Ojanen	
☞ Electrodynamical duality and vortex unbinding in driven-dissipative condensates (<i>20 pages</i>)	104520
G. Wachtel, L. M. Sieberer, S. Diehl, and E. Altman	
☞ Lattice duality for the compact Kardar-Parisi-Zhang equation (<i>11 pages</i>)	104521
L. M. Sieberer, G. Wachtel, E. Altman, and S. Diehl	
Nodal-line pairing with 1D-3D coupled Fermi surfaces: A model motivated by Cr-based superconductors (<i>6 pages</i>)	104522
Gideon Wachtel and Yong Baek Kim	
Fermionic boundary modes in two-dimensional noncentrosymmetric superconductors (<i>14 pages</i>)	104523
K. V. Samokhin and S. P. Mukherjee	

Temperature-dependent exchange stiffness and domain wall width in Co (6 pages)	104433
R. Moreno, R. F. L. Evans, S. Khmelevskiy, M. C. Muñoz, R. W. Chantrell, and O. Chubykalo-Fesenko	
Pattern formation in skyrmionic materials with anisotropic environments (6 pages)	104434
Julian Hagemester, Elena Y. Vedmedenko, and Roland Wiesendanger	
Long-range magnetic order and interchain interactions in the $S = 2$ chain system $\text{MnCl}_3(\text{bpy})$ (5 pages)	104435
Randy S. Fishman, Shin-ichi Shinozaki, Akira Okutani, Daichi Yoshizawa, Takanori Kida, Masayuki Hagiwara, and Mark W. Meisel	
Spin and orbital disordering by hole doping in $\text{Pr}_{1-x}\text{Ca}_x\text{VO}_3$ (11 pages)	104436
M. Reehuis, C. Ulrich, P. M. Abdala, P. Pattison, G. Khaliullin, J. Fujioka, S. Miyasaka, Y. Tokura, and B. Keimer	
Superfluidity and superconductivity	
Identifying detrimental effects for multiorbital superconductivity: Application to Sr_2RuO_4 (13 pages)	104501
Aline Ramires and Manfred Sigrist	
Theory of a weak-link superconductor-ferromagnet Josephson structure (14 pages)	104502
J. Gelhausen and M. Eschrig	
$\text{Rh}_2\text{Mo}_3\text{N}$: Noncentrosymmetric s -wave superconductor (7 pages)	104503
Wensen Wei, G. J. Zhao, D. R. Kim, Chiming Jin, J. L. Zhang, Langsheng Ling, Lei Zhang, Haifeng Du, T. Y. Chen, Jiadong Zang, Mingliang Tian, C. L. Chien, and Yuheng Zhang	
Field theoretical model of multilayered Josephson junction and dynamics of Josephson vortices (15 pages)	104504
Toshiaki Fujimori, Hideaki Iida, and Muneto Nitta	
Antiferromagnetism enables electron-phonon coupling in iron-based superconductors (5 pages)	104505
Sinisa Coh, Marvin L. Cohen, and Steven G. Louie	
Kondo effect modified by Majorana doublet at end of a DIII-class topological superconductor (6 pages)	104506
Zhen Gao and Wei-Jiang Gong	
Enhanced high-pressure superconductivity and local structure of the $\text{Ba}_8\text{Si}_{46}$ clathrate (9 pages)	104507
F. Morales, M. Núñez-Regueiro, P. Toulemonde, D. Machon, S. Le Floch, V. Pischedda, P. Lagarde, A.-M. Flank, J. P. Itié, and A. San-Miguel	
Cooperon condensation and intravalley pairing states in honeycomb Dirac systems (12 pages)	104508
Shunji Tsuchiya, Jun Goryo, Emiko Arahata, and Manfred Sigrist	
Lattices of double-quanta vortices and chirality inversion in $p_x + ip_y$ superconductors (11 pages)	104509
Julien Garaud, Egor Babaev, Troels Arnfred Bojesen, and Asle Sudbø	
Observation of high- T_c superconductivity in rectangular $\text{FeSe}/\text{SrTiO}_3(110)$ monolayers (5 pages)	104510
P. Zhang, X.-L. Peng, T. Qian, P. Richard, X. Shi, J.-Z. Ma, B. B. Fu, Y.-L. Guo, Z. Q. Han, S. C. Wang, L. L. Wang, Q.-K. Xue, J. P. Hu, Y.-J. Sun, and H. Ding	
Prediction of superconducting transition temperatures of heterostructures based on the quasiparticle spectrum (4 pages)	104511
Gábor Csire, József Cserti, István Tüttő, and Balázs Újfalussy	

(Continued)

Spin transport at interfaces with spin-orbit coupling: Formalism (<i>16 pages</i>)	104419
V. P. Amin and M. D. Stiles	
Spin transport at interfaces with spin-orbit coupling: Phenomenology (<i>14 pages</i>)	104420
V. P. Amin and M. D. Stiles	
Magnon-phonon coupling and two-magnon continuum in the two-dimensional triangular antiferromagnet CuCrO_2 (<i>6 pages</i>)	104421
Kisoo Park, Joosung Oh, Jonathan C. Leiner, Jaehong Jeong, Kirrily C. Rule, Manh Duc Le, and Je-Geun Park	
Multiple relaxation times in single-molecule magnets (<i>5 pages</i>)	104422
Le Tuan Anh Ho and Liviu F. Chibotaru	
Strong magnetoelastic coupling at the transition from harmonic to anharmonic order in $\text{NaFe}(\text{WO}_4)_2$ with $3d^5$ configuration (<i>14 pages</i>)	104423
S. Holbein, M. Ackermann, L. Chapon, P. Steffens, A. Gukasov, A. Sazonov, O. Breunig, Y. Sanders, P. Becker, L. Bohatý, T. Lorenz, and M. Braden	
Annealing temperature and thickness dependencies of structural and magnetic properties of Co_2FeAl thin films (<i>9 pages</i>)	104424
M. Belmeguenai, M. S. Gabor, F. Zighem, Y. Roussigné, D. Faurie, and C. Tiusan	
Numerical study of the influence of interfacial roughness on the exchange bias properties of ferromagnetic/antiferromagnetic bilayers (<i>11 pages</i>)	104425
J. Moritz, P. Bacher, and B. Dieny	
Hydrogen-induced ferromagnetism in two-dimensional Pt dichalcogenides (<i>5 pages</i>)	104426
P. Manchanda, A. Enders, D. J. Sellmyer, and R. Skomski	
Resonant Raman scattering theory for Kitaev models and their Majorana fermion boundary modes (<i>23 pages</i>) . . .	104427
Brent Perreault, Johannes Knolle, Natalia B. Perkins, and F. J. Burnell	
Free- and reference-layer magnetization modes versus in-plane magnetic field in a magnetic tunnel junction with perpendicular magnetic easy axis (<i>6 pages</i>)	104428
Hamid Mazraati, Tuan Q. Le, Ahmad A. Awad, Sunjae Chung, Eriko Hirayama, Shoji Ikeda, Fumihiko Matsukura, Hideo Ohno, and Johan Åkerman	
Charge and spin order in the perovskite $\text{CaFe}_{0.5}\text{Mn}_{0.5}\text{O}_3$: Charge disproportionation behavior of randomly arranged Fe^{4+} (<i>5 pages</i>)	104429
Yoshiteru Hosaka, Noriya Ichikawa, Takashi Saito, J. Paul Attfield, and Yuichi Shimakawa	
Quantum origins of moment fragmentation in $\text{Nd}_2\text{Zr}_2\text{O}_7$ (<i>6 pages</i>)	104430
Owen Benton	
Probing the Dzyaloshinskii-Moriya interaction in CoFeB ultrathin films using domain wall creep and Brillouin light spectroscopy (<i>8 pages</i>)	104431
R. Soucaille, M. Belmeguenai, J. Torrejon, J.-V. Kim, T. Devolder, Y. Roussigné, S.-M. Chérif, A. A. Stashkevich, M. Hayashi, and J.-P. Adam	
Various disordered ground states and $\frac{1}{3}$ magnetization-plateau-like behavior in the $S=\frac{1}{2}$ Ti^{3+} kagome lattice antiferromagnets $\text{Rb}_2\text{NaTi}_3\text{F}_{12}$, $\text{Cs}_2\text{NaTi}_3\text{F}_{12}$, and $\text{Cs}_2\text{KTi}_3\text{F}_{12}$ (<i>10 pages</i>)	104432
Masato Goto, Hiroaki Ueda, Chishiro Michioka, Akira Matsuo, Koichi Kindo, and Kazuyoshi Yoshimura	

(Continued)

Possibility of an unconventional spin state of Ir^{4+} in $\text{Ba}_{21}\text{Ir}_9\text{O}_{43}$ single crystal (5 pages)	104403
L. Yang, M. Jeong, A. Arakcheeva, I. Živković, B. Náfrádi, A. Magrez, A. Pisoni, J. Jacimovic, V. M. Katukuri, S. Katrych, N. E. Shaik, O. V. Yazyev, L. Forró, and H. M. Rønnow	
First-principles evaluation of intrinsic, side-jump, and skew-scattering parts of anomalous Hall conductivities in disordered alloys (9 pages)	104404
K. Hyodo, A. Sakuma, and Y. Kota	
Simultaneous resolution of the micromagnetic and spin transport equations applied to current-induced domain wall dynamics (9 pages)	104405
M. Sturma, C. Bellegarde, J.-C. Toussaint, and D. Gusakova	
Extended skyrmion lattice scattering and long-time memory in the chiral magnet $\text{Fe}_{1-x}\text{Co}_x\text{Si}$ (6 pages)	104406
L. J. Bannenberg, K. Kakurai, F. Qian, E. Lelièvre-Berna, C. D. Dewhurst, Y. Onose, Y. Endoh, Y. Tokura, and C. Pappas	
Laser-initiated magnetization reversal and correlated morphological effects visualized with <i>in situ</i> Fresnel transmission electron microscopy (8 pages)	104407
Karl B. Schliep, Jun-Yang Chen, Mo Li, Jian-Ping Wang, and David J. Flannigan	
Magnetic anisotropy and the phase diagram of chiral MnSb_2O_6 (7 pages)	104408
J. Werner, C. Koo, R. Klingeler, A. N. Vasiliev, Y. A. Ovchenkov, A. S. Polovkova, G. V. Raganyan, and E. A. Zvereva	
 Magnetic-field- and pressure-induced quantum phase transition in CsFeCl_3 proved via magnetization measurements (7 pages)	104409
Nobuyuki Kurita and Hidekazu Tanaka	
Thermally induced magnonic spin current, thermomagnonic torques, and domain-wall dynamics in the presence of Dzyaloshinskii-Moriya interaction (11 pages)	104410
X.-G. Wang, L. Chotorlishvili, G.-H. Guo, A. Sukhov, V. Dugaev, J. Barnaś, and J. Berakdar	
Spin Hall effect induced spin transfer through an insulator (8 pages)	104412
Wei Chen, Manfred Sigrist, and Dirk Manske	
Spin structure factors of chiral quantum spin liquids on the kagome lattice (8 pages)	104413
Jad C. Halimeh and Matthias Punk	
Large magnetic cooling power involving frustrated antiferromagnetic spin-glass state in $R_2\text{NiSi}_3$ ($R = \text{Gd}, \text{Er}$) (15 pages)	104414
Santanu Pakhira, Chandan Mazumdar, R. Ranganathan, S. Giri, and Maxim Avdeev	
Complex spin configurations in hybrid magnetic multilayer structures due to mutual spin imprinting (5 pages) . . .	104415
Matthew T. Bryan, Georg Heldt, Thomas Thomson, Laura J. Heyderman, and Gino Hrkac	
Out-of-equilibrium dynamics and extended textures of topological defects in spin ice (24 pages)	104416
M. Udagawa, L. D. C. Jaubert, C. Castelnovo, and R. Moessner	
Microscopic calculation of thermally induced spin-transfer torques (12 pages)	104417
Hiroschi Kohno, Yuuki Hiraoka, Moosa Hatami, and Gerrit E. W. Bauer	
First-principles investigation of magnetocrystalline anisotropy at the $L2_1$ full Heusler MgO interfaces and tunnel junctions (5 pages)	104418
Rajasekarakumar Vadapoo, Ali Hallal, Hongxin Yang, and Mairbek Chshiev	

(Continued)

Atomic configuration and properties of austenitic steels at finite temperature: Effect of longitudinal spin fluctuations (10 pages)	104111
A. V. Ruban and M. Dehghani	
Carbonates at high pressures: Possible carriers for deep carbon reservoirs in the Earth's lower mantle (9 pages)	104112
M. L. Marcondes, J. F. Justo, and L. V. C. Assali	
Static and dynamic properties of low-temperature order in the one-dimensional semiconductor (NbSe ₄) ₃ I (7 pages)	104113
D. Dominko, S. Vdović, H. Skenderović, D. Starešinić, K. Biljaković, D. Ristić, D. Ivanda, J. E. Lorenzo, and J. Demsar	
Higher-order elastic constants and megabar pressure effects of bcc tungsten: <i>Ab initio</i> calculations (10 pages)	104114
Yu. Kh. Vekilov, O. M. Krasilnikov, A. V. Lugovskoy, and Yu. E. Lozovik	
Inhomogeneous, disordered, and partially ordered systems	
Relaxor ferroelectric behavior in Sr _{1-x} Pr _x TiO ₃ : Cooperation between polar and antiferrodistortive instabilities (8 pages)	104201
Stefano Checchia, Mattia Allietta, Mauro Coduri, Michela Brunelli, and Marco Scavini	
Localization transition in one dimension using Wegner flow equations (17 pages)	104202
Victor L. Quito, Paraj Titum, David Pekker, and Gil Refael	
Transition from stress-driven to thermally activated stress relaxation in metallic glasses (9 pages)	104203
J. C. Qiao, Yun-Jiang Wang, L. Z. Zhao, L. H. Dai, D. Crespo, J. M. Pelletier, L. M. Keer, and Y. Yao	
Dynamics, dynamical systems, lattice effects:	
Hyperbolic waveguide for long-distance transport of near-field heat flux (9 pages)	104301
Riccardo Messina, Philippe Ben-Abdallah, Brahim Guizal, Mauro Antezza, and Svend-Age Biehs	
Shift-current-induced strain waves in LiNbO ₃ mapped by femtosecond x-ray diffraction (7 pages)	104302
Marcel Holtz, Christoph Hauf, Antonio-Andres Hernández Salvador, Rene Costard, Michael Woerner, and Thomas Elsaesser	
<i>Ab initio</i> study of Cu impurity diffusion in bulk TiN (8 pages)	104303
Anton S. Bochkarev, Maxim N. Popov, Vsevolod I. Razumovskiy, Jürgen Spitaler, and Peter Puschnig	
Three-mode coupling interference patterns in the dynamic structure factor of a relaxor ferroelectric (8 pages)	104304
M. E. Manley, D. L. Abernathy, R. Sahul, P. J. Stonaha, and J. D. Budai	
Impact of anharmonic effects on the phase stability, thermal transport, and electronic properties of AlN (8 pages)	104305
Nina Shulumba, Zamaan Raza, Olle Hellman, Erik Janzén, Igor A. Abrikosov, and Magnus Odén	
Attenuation of 7 GHz surface acoustic waves on silicon (13 pages)	104306
Dongyao Li and David G. Cahill	
Magnetism	
Free coherent spinons in quantum square ice (11 pages)	104401
Stefanos Kourtis and Claudio Castelnovo	
Emergent O(<i>n</i>) symmetry in a series of three-dimensional Potts models (5 pages)	104402
Chengxiang Ding, Henk W. J. Blöte, and Youjin Deng	

(Continued)

Superfluidity and superconductivity

Majorana fermions at odd junctions in a wire network of ferromagnetic impurities (5 pages)	100501(R)
Kristofer Björnson and Annica M. Black-Schaffer	
Superfluid behavior of quasi-one-dimensional p -H ₂ inside a carbon nanotube (5 pages)	100502(R)
Maurizio Rossi and Francesco Ancilotto	
Upper critical field and quantum oscillations in tetragonal superconducting FeS (6 pages)	100503(R)
Taichi Terashima, Naoki Kikugawa, Hai Lin, Xiyu Zhu, Hai-Hu Wen, Takuya Nomoto, Katsuhiko Suzuki, Hiroaki Ikeda, and Shinya Uji	
Nodal superconductivity in FeS: Evidence from quasiparticle heat transport (6 pages)	100504(R)
T. P. Ying, X. F. Lai, X. C. Hong, Y. Xu, L. P. He, J. Zhang, M. X. Wang, Y. J. Yu, F. Q. Huang, and S. Y. Li	

ARTICLES

Structure, structural phase transitions, mechanical properties, defects

Strain-driven oxygen deficiency in multiferroic SrMnO ₃ thin films (9 pages)	104101
P. Agrawal, J. Guo, P. Yu, C. Hébert, D. Passerone, R. Erni, and M. D. Rossell	
X-ray diffraction of molybdenum under ramp compression to 1 TPa (9 pages)	104102
Jue Wang, Federica Coppari, Raymond F. Smith, Jon H. Eggert, Amy E. Lazicki, Dayne E. Fratanduono, J. Ryan Rygg, Thomas R. Boehly, Gilbert W. Collins, and Thomas S. Duffy	
Stabilization and strengthening effects of functional groups in two-dimensional titanium carbide (10 pages)	104103
Z. H. Fu, Q. F. Zhang, D. Legut, C. Si, T. C. Germann, T. Lookman, S. Y. Du, J. S. Francisco, and R. F. Zhang	
Interferroelectric transition as another manifestation of intrinsic size effect in ferroelectrics (7 pages)	104104
Bastola Narayan, Y. A. Sorb, B. Loukya, Atanu Samanta, Anatoliy Senyshyn, Ranjan Datta, Abhishek Kumar Singh, Chandrabhas Narayana, and Rajeev Ranjan	
 Domains and ferroelectric switching pathways in Ca ₃ Ti ₂ O ₇ from first principles (12 pages)	104105
Elizabeth A. Nowadnick and Craig J. Fennie	
High-throughput combinatorial study of the effect of M site alloying on the solid solution behavior of M_2 AlC MAX phases (15 pages)	104106
Anjana Talapatra, T. Duong, W. Son, H. Gao, M. Radovic, and R. Arróyave	
Role of quantum ion dynamics in the melting of lithium (5 pages)	104107
S. F. Elatresh, S. A. Bonev, E. Gregoryanz, and N. W. Ashcroft	
Structural transformations in morphotropic-phase-boundary composition of the lead-free piezoelectric system Ba(Ti _{0.8} Zr _{0.2})O ₃ – (Ba _{0.7} Ca _{0.3})TiO ₃ (7 pages)	104108
Kumar Brajesh, Muluaem Abebe, and Rajeev Ranjan	
Interplay between interstitial displacement and displacive lattice transformations (9 pages)	104109
Xie Zhang, Tilmann Hickel, Jutta Rogal, and Jörg Neugebauer	
Mechanism transition and strong temperature dependence of dislocation nucleation from grain boundaries: An accelerated molecular dynamics study (8 pages)	104110
Jun-Ping Du, Yun-Jiang Wang, Yu-Chieh Lo, Liang Wan, and Shigenobu Ogata	

(Continued)

RAPID COMMUNICATIONS

Structure, structural phase transitions, mechanical properties, defects

- Coupling of bias-induced crystallographic shear planes with charged domain walls in ferroelectric oxide thin films (6 pages) 100101(R)
Myung-Geun Han, Joseph A. Garlow, Matthieu Bugnet, Simon Divilov, Matthew S. J. Marshall, Lijun Wu, Matthew Dawber, Marivi Fernandez-Serra, Gianluigi A. Botton, Sang-Wook Cheong, Frederick J. Walker, Charles H. Ahn, and Yimei Zhu
- Large effects of subtle electronic correlations on the energetics of vacancies in α -Fe (6 pages) 100102(R)
Pascal Delange, Thomas Ayrat, Sergei I. Simak, Michel Ferrero, Olivier Parcollet, Silke Biermann, and Leonid Pourovskii
- Switching the curl of polarization vectors by an irrotational electric field (5 pages) 100103(R)
Fei Xue, Linze Li, Jason Britson, Zijian Hong, Colin Andrew Heikes, Carolina Adamo, Darrell G. Schlom, Xiaoping Pan, and Long-Qing Chen
- Enhanced electrocaloric cooling in ferroelectric single crystals by electric field reversal (4 pages) 100104(R)
Yang-Bin Ma, Nikola Novak, Jurij Koruza, Tongqing Yang, Karsten Albe, and Bai-Xiang Xu
- Scattering problems in elastodynamics (5 pages) 100105(R)
Andre Diatta, Muamer Kadic, Martin Wegener, and Sebastien Guenneau

Magnetism

- Disordered dimer state in electron-doped $\text{Sr}_3\text{Ir}_2\text{O}_7$ (5 pages) 100401(R)
Tom Hogan, Rebecca Dally, Mary Upton, J. P. Clancy, Kenneth Finkelstein, Young-June Kim, M. J. Graf, and Stephen D. Wilson
- Electrical measurement of magnetic-field-imposed polarity switching of a ferromagnetic vortex core (5 pages) ... 100402(R)
Manu Sushruth, Jasper P. Fried, Abdelmadjid Anane, Stephane Xavier, Cyrille Deranlot, Mikhail Kostylev, Vincent Cros, and Peter J. Metaxas
- Bose glass behavior in $(\text{Yb}_{1-x}\text{Lu}_x)_4\text{As}_3$ representing randomly diluted quantum spin- $\frac{1}{2}$ chains (5 pages) 100403(R)
G. Kamieniarz, R. Matysiak, P. Gengwart, A. Ochiai, and F. Steglich
- Probing ultrafast spin dynamics through a magnon resonance in the antiferromagnetic multiferroic HoMnO_3 (5 pages) 100404(R)
P. Bowlan, S. A. Trugman, J. Bowlan, J.-X. Zhu, N. J. Hur, A. J. Taylor, D. A. Yarotski, and R. P. Prasankumar
- Ab initio* cycloidal and chiral magnetoelectric responses in Cr_2O_3 (5 pages) 100405(R)
Natalie Tillack, Jonathan R. Yates, and Paolo G. Radaelli

