

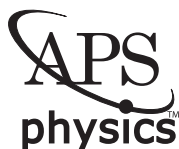
ARTICLES

Structure, structural phase transitions, mechanical properties, defects

- Acoustic impurity shielding induced by a pair of metasurfaces respecting $\mathcal{PT}$ symmetry (6 pages) 094101
Haixiao Zhang, Yiwei Zhang, Xiaoli Liu, Yu Bao, and Jinyu Zhao
- Effect of initial temperature on compaction and strength of porous silica under shock compression (8 pages) 094102
J. Matthew D. Lane, Jason P. Koski, Keith A. Jones, and Tracy J. Vogler
- Theoretical predictions of melting behaviors of hcp iron up to 4000 GPa (9 pages) 094103
Tran Dinh Cuong, Nguyen Quang Hoc, Nguyen Duc Trung, Nguyen Thi Thao, and Anh D. Phan
- Pinning of domain walls by strontium layer in the BaTiO₃ perovskite: An atomic-scale study (7 pages) 094104
Aris Dimou, Pierre Hirel, and Anna Grünebohm
- Nontrivial gapless electronic states at the stacking faults of weak topological insulators (8 pages) 094105
Gabriele Naselli, Viktor Könye, Sanjib Kumar Das, G. G. N. Angilella, Anna Isaeva, Jeroen van den Brink, and Cosma Fulga
- Coupling between tilts and charge carriers at polar-nonpolar perovskite interfaces (16 pages) 094106
Daniel Bennett, Pablo Aguado-Puente, Emilio Artacho, and Nicholas C. Bristowe
- Strategy to consider element distribution when constructing training datasets for developing machine learning potentials of alloys based on a Monte-Carlo-like method (11 pages) 094107
Zhipeng Zhang, Liuqing Chen, Junyi Guo, Xianyin Duan, Bin Shan, and Xianbao Duan

Inhomogeneous, disordered, and partially ordered systems

- Memory effects in the density-wave imbalance in delocalized disordered systems (14 pages) 094201
Paul Pöpperl, Igor V. Gornyi, and Alexander D. Mirlin
- Statistical mechanics of dimers on quasiperiodic Ammann-Beenker tilings (30 pages) 094202
Jerome Lloyd, Sounak Biswas, Steven H. Simon, S. A. Parameswaran, and Felix Flicker
- Topological phases induced by the Aubry-André-Harper potential in the longer-range Kitaev superconducting chain (8 pages) 094203
Chunhui Zhang, Li Sheng, and Dingyu Xing
- Non-Hermitian Rosenzweig-Porter random-matrix ensemble: Obstruction to the fractal phase (10 pages) 094204
Giuseppe De Tomasi and Ivan M. Khaymovich



Non-Hermitian invisibility in tight-binding lattices (<i>11 pages</i>)	094205
Stefano Longhi and Ermanno Pinotti	
Quasiperiodic many-body localization transition in dimension $d > 1$ (<i>7 pages</i>)	094206
Utkarsh Agrawal, Romain Vasseur, and Sarang Gopalakrishnan	
Dynamics, dynamical systems, lattice effects:	
Steady off-diagonal long-range order state in a half-filled dimerized Hubbard chain induced by a resonant pulsed field (<i>11 pages</i>)	094301
X. Z. Zhang and Z. Song	
Assessing the quality of relaxation-time approximations with fully automated computations of phonon-limited mobilities (<i>6 pages</i>)	094302
Romain Claes, Guillaume Brunin, Matteo Giantomassi, Gian-Marco Rignanese, and Geoffroy Hautier	
Emergent tracer dynamics in constrained quantum systems (<i>18 pages</i>)	094303
Johannes Feldmeier, William Witczak-Krempa, and Michael Knap	
Instabilities of intrinsic thermoacoustic modes in a thermoacoustic waveguide with anechoic terminations (<i>16 pages</i>)	094304
Haitian Hao and Fabio Semperlotti	
Dynamical signatures of point-gap Weyl semimetal (<i>14 pages</i>)	094305
Haiping Hu, Erhai Zhao, and W. Vincent Liu	
Transient and steady state magneto-optical studies of the CsPbBr ₃ crystal (<i>8 pages</i>)	094306
Uyen N. Huynh, Teddy Feng, Dipak Raj Khanal, Haoliang Liu, Paul Bailey, Rikard Bodin, Peter C. Sercel, Jinsong Huang, and Z. Valy Vardeny	
Toward acceleration sensing based on topological gyroscopic metamaterials (<i>10 pages</i>)	094307
Xianze Zheng, Jian Zhao, Najib Kacem, and Pengbo Liu	
Matrix product state simulations of quantum quenches and transport in Coulomb blockaded superconducting devices (<i>20 pages</i>)	094308
Chia-Min Chung, Matteo M. Wauters, and Michele Burrello	
Engineering quasi-steady-state correlations in uncorrelated thermal states using stochastic driving (<i>7 pages</i>)	094309
Armin Rahmani	
Phonons in complex twisted crystals: Angular momenta, interactions, and topology (<i>12 pages</i>)	094310
R. Juneja, X. Li, S. Thébaud, D. H. Moseley, Y. Q. Cheng, M. E. Manley, R. P. Hermann, and L. Lindsay	
Divergence of phonon angular momentum driven by temperature and strain (<i>7 pages</i>)	094311
Young-Jae Choi and Seung-Hoon Jhi	
Temporal interfaces by instantaneously varying boundary conditions (<i>6 pages</i>)	094312
Luca Stefanini, Shixiong Yin, Davide Ramaccia, Andrea Alù, Alessandro Toscano, and Filiberto Bilotti	
Pressure-dependent thermal conductivity in Al, W, and Pt: Role of electrons and phonons (<i>11 pages</i>)	094313
Xinyu Zhang, Shouhang Li, Ao Wang, and Hua Bao	
Engineering Floquet dynamical quantum phase transitions (<i>10 pages</i>)	094314
J. Naji, R. Jafari, Longwen Zhou, and A. Langari	

(Continued)

Signatures of a quantum stabilized fluctuating phase and critical dynamics in a kinetically constrained open many-body system with two absorbing states (9 pages)	094315
Federico Carollo, Markus Gnann, Gabriele Perfetto, and Igor Lesanovsky	
 Zero-point renormalization of the band gap of semiconductors and insulators using the projector augmented wave method (19 pages)	094316
Manuel Engel, Henrique Miranda, Laurent Chaput, Atsushi Togo, Carla Verdi, Martijn Marsman, and Georg Kresse	
Anharmonicity-induced strong temperature-dependent thermal conductivity in CuInX_2 ($X=\text{Se, Te}$) (9 pages)	094317
Yongheng Li, Junyan Liu, and Jiawang Hong	
Magnetism	
Controllable spin-dynamic scenarios on zigzag carbon cross structure (17 pages)	094401
Jing Liu, Yiming Zhang, Chun Li, Wei Jin, Georgios Lefkidis, and Wolfgang Hübner	
Temperature-dependent micromagnetic model of the antiferromagnet Mn_2Au : A multiscale approach (13 pages)	094402
Joel Hirst, Unai Atxitia, Sergiu Ruta, Jerome Jackson, Leon Petit, and Thomas Ostler	
Strain-tunable Dzyaloshinskii-Moriya interaction and skyrmions in two-dimensional Janus $\text{Cr}_2\text{X}_3\text{Y}_3$ ($X, Y = \text{Cl, Br, I}, X \neq Y$) trihalide monolayers (7 pages)	094403
Zhong Shen, Changsheng Song, Yufei Xue, Zebin Wu, Jiqing Wang, and Zhicheng Zhong	
Spin-induced strongly correlated magnetodielectricity, magnetostriction effect, and spin-phonon coupling in helical magnet $\text{Fe}_3(\text{PO}_4)_3$ (13 pages)	094404
Arkadeb Pal, C. H. Huang, T. W. Yen, P. H. Lee, Y. H. Chang, C. H. Yeh, T. W. Kuo, Ajay Tiwari, D. Chandrasekhar Kakarla, S. M. Huang, M. C. Chou, H. S. Kunwar, S. Rana, V. G. Sathe, B. H. Chen, Y. C. Chuang, and H. D. Yang	
Fundamental inequalities in the Stoner-Wohlfarth model (8 pages)	094405
C. A. Iglesias, J. C. R. de Araújo, E. F. Silva, M. Gamino, M. A. Correa, and F. Bohn	
Tunneling anisotropic magnetoresistance in MgO -based magnetic tunnel junctions induced by spin-orbit coupling (7 pages)	094406
Hui-Min Tang, Shi-Zhuo Wang, and Xing-Tao Jia	
Evolution of ground state in Cr_2Te_3 single crystal under applied magnetic field (11 pages)	094407
Z. Z. Jiang, X. Liang, X. Luo, J. J. Gao, W. Wang, T. Y. Wang, X. C. Yang, X. L. Wang, L. Zhang, Y. Sun, P. Tong, J. F. Hu, W. H. Song, W. J. Lu, and Y. P. Sun	
Neutron scattering study of the $\text{Tm}_2\text{Ir}_2\text{O}_7$ pyrochlore iridate (10 pages)	094408
M. Klicpera, K. Vlášková, D. Staško, T. Guidi, I. Puente Orench, and M. Diviš	
Purity of thermal mixed quantum states (18 pages)	094409
Atsushi Iwaki and Chisa Hotta	
Area law for magnetic domain walls in bent cylindrical nanowires (6 pages)	094410
G. H. R. Bittencourt, O. Chubykalo-Fesenko, D. Altbir, V. L. Carvalho-Santos, and R. Moreno	
Atomic-scale spin-wave polarizer based on a sharp antiferromagnetic domain wall (9 pages)	094411
Ehsan Faridi, Se Kwon Kim, and Giovanni Vignale	

(Continued)

Response of the chiral soliton lattice to spin-polarized currents (<i>12 pages</i>)	094412
S. A. Osorio, A. Athanasopoulos, V. Laliena, J. Campo, and S. Bustingorry	
Brane order and quantum magnetism in modulated anisotropic ladders (<i>17 pages</i>)	094413
Toplal Pandey and Gennady Y. Chitov	
Inverse Faraday effect in massive Dirac electrons (<i>10 pages</i>)	094414
Guanxiong Qu and Gen Tatara	
Topological disorder parameter: A many-body invariant to characterize gapped quantum phases (<i>18 pages</i>)	094415
Bin-Bin Chen, Hong-Hao Tu, Zi Yang Meng, and Meng Cheng	
Low-temperature magnetic order rearrangement in the layered van der Waals compound MnPS ₃ (<i>6 pages</i>)	094416
Sayan Chaudhuri, C. N. Kuo, Y. S. Chen, C. S. Lue, and J. G. Lin	
Hole spectral function of a chiral spin liquid in the triangular lattice Hubbard model (<i>8 pages</i>)	094417
Wilhelm Kadow, Laurens Vanderstraeten, and Michael Knap	
Particle-like skyrmions interacting with a funnel obstacle (<i>15 pages</i>)	094418
Xichao Zhang, Jing Xia, and Xiaoxi Liu	
Magnetic structure and properties of the vanthoffite mineral Na ₆ Mn(SO ₄) ₄ (<i>9 pages</i>)	094419
Ajana Dutta, Diptikanta Swain, A. K. Bera, Rajamani Raghunathan, D. Samal, S. M. Yusuf, S. Ramasesha, and T. N. Guru Row	
Quantum spin liquid with emergent chiral order in the triangular-lattice Hubbard model (<i>14 pages</i>)	094420
Bin-Bin Chen, Ziyu Chen, Shou-Shu Gong, D. N. Sheng, Wei Li, and Andreas Weichselbaum	
Thermodynamic insights into the intricate magnetic phase diagram of EuAl ₄ (<i>17 pages</i>)	094421
William R. Meier, James R. Torres, Raphael P. Hermann, Jiyong Zhao, Barbara Lavina, Brian C. Sales, and Andrew F. May	
Coexistence of spin-orbit torque and unidirectional magnetoresistance effect induced by spin polarization with spin rotation symmetry in Co/Cu/Co structures (<i>8 pages</i>)	094422
Shuling Sun, Bo Wang, Wangda Li, Xiaoxue Zeng, Yonghai Guo, Bo Han, Tao Wang, Dezheng Yang, Xiaolong Fan, and Jiangwei Cao	
Effective modeling of magnitude-fluctuated magnetization dynamics: Dynamic precursor effect in magnets (<i>10 pages</i>)	094423
Yu Wang, Jie Wang, Takayuki Kitamura, Hiroyuki Hirakata, and Takahiro Shimada	
Puzzle of bicriticality in the XXZ antiferromagnet (<i>6 pages</i>)	094424
Amnon Aharony and Ora Entin-Wohlman	
Magnetic field effects in an octupolar quantum spin liquid candidate (<i>10 pages</i>)	094425
Bin Gao, Tong Chen, Han Yan, Chunruo Duan, Chien-Lung Huang, Xu Ping Yao, Feng Ye, Christian Balz, J. Ross Stewart, Kenji Nakajima, Seiko Ohira-Kawamura, Guangyong Xu, Xianghan Xu, Sang-Wook Cheong, Emilia Morosan, Andriy H. Nevidomskyy, Gang Chen, and Pengcheng Dai	
Field-induced magnetic states in the metallic rare-earth layered triangular antiferromagnet TbAuAl ₄ Ge ₂ (<i>7 pages</i>)	094426
Ian A. Leahy, Keke Feng, Roei Dery, Ryan Baumbach, and Minhyea Lee	
Possible stripe phases in the multiple magnetization plateaus in TbB ₄ from single-crystal neutron diffraction under pulsed high magnetic fields (<i>8 pages</i>)	094427
N. Qureshi, F. Bourdarot, E. Ressouche, W. Knafo, F. Iga, S. Michimura, L.-P. Regnault, and F. Duc	

(Continued)

Valence state of chromium ions in the half-metallic ferromagnet CrO_2 probed by ^{53}Cr NMR (8 pages)	094428
Y. V. Piskunov, A. F. Sadykov, V. V. Ogloblichev, A. G. Smolnikov, A. P. Gerashenko, and P. Z. Si	
Spin orbit torque driven magnetization reversal in CoFeTaB/Pt probed by resonant x-ray reflectivity (9 pages) . . .	094429
D. M. Burn, R. Fan, O. Inyang, M. Tokaç, L. Bouchenoire, A. T. Hindmarch, and P. Steadman	
Strain-induced shape anisotropy in antiferromagnetic structures (9 pages)	094430
Hendrik Meer, Olena Gomonay, Christin Schmitt, Rafael Ramos, Leo Schnitzspan, Florian Kronast, Mohamad-Assaad Mawass, Sergio Valencia, Eiji Saitoh, Jairo Sinova, Lorenzo Baldrati, and Mathias Kläui	
Ground-state selection by magnon interactions in a fcc antiferromagnet (10 pages)	094431
R. Schick, O. Götze, T. Ziman, R. Zinke, J. Richter, and M. E. Zhitomirsky	
Altermagnetism and magnetic groups with pseudoscalar electron spin (14 pages)	094432
Ilja Turek	
Emergent non-Abelian gauge theory in coupled spin-electron dynamics (18 pages)	094433
Nicolas Lenzing, Alexander I. Lichtenstein, and Michael Potthoff	
Skymions and hopfions in three-dimensional frustrated magnets (18 pages)	094434
Carlos Naya, Daniel Schubring, Mikhail Shifman, and Zhentao Wang	
Skymion alignment and pinning effects in the disordered multiphase skymion material $\text{Co}_8\text{Zn}_8\text{Mn}_4$ (14 pages)	094435
M. E. Henderson, M. Bleuel, J. Beare, D. G. Cory, B. Heacock, M. G. Huber, G. M. Luke, M. Pula, D. Sarenac, S. Sharma, E. M. Smith, K. Zhernenkov, and D. A. Pushin	
Probing laser-induced spin-current generation in synthetic ferrimagnets using spin waves (7 pages)	094436
Tom Lichtenberg, Youri L. W. van Hees, Maarten Beens, Caspar J. Levels, Reinoud Lavrijsen, Rembert A. Duine, and Bert Koopmans	
Superfluidity and superconductivity	
Inverse proximity effect in a topological-insulator–superconductor hybrid system (11 pages)	094501
Ze-Gang Liu, Xi-Wang Luo, Sheng-Yong Qin, Guang-Can Guo, and Ming Gong	
Phase noise in a Duffing oscillator induced by quantum turbulence (7 pages)	094502
C. S. Barquist, W. G. Jiang, K. Gunther, Y. Lee, and H. B. Chan	
Pure crossed Andreev reflection assisted transverse valley currents in $\alpha - \mathcal{T}_3$ lattices (6 pages)	094503
W. Zeng and R. Shen	
Quality factor for zero-bias conductance peaks in Majorana nanowire (20 pages)	094504
Yi-Hua Lai, Sankar Das Sarma, and Jay D. Sau	
Nonlinear microwave response of clean superconducting films (10 pages)	094505
A. A. Radkevich and A. G. Semenov	
Odd frequency pairing in a quantum critical metal (23 pages)	094506
Yi-Ming Wu, Shang-Shun Zhang, Artem Abanov, and Andrey V. Chubukov	
Time reversal invariant single-gap superconductivity with upper critical field larger than the Pauli limit in NbIr_2B_2 (7 pages)	094507
Debarchan Das, Karolina Górnicka, Zurab Guguchia, Jan Jaroszynski, Robert J. Cava, Weiwei Xie, Hubertus Luetkens, and Tomasz Klimczuk	

(Continued)

Solvable model for a charge- $4e$ superconductor (22 pages)	094508
Nikolay V. Gnezdilov and Yuxuan Wang	
Role of electromagnetic gauge-field fluctuations in the selection between chiral and nematic superconductivity (16 pages)	094509
Virginia Gali and Rafael M. Fernandes	
Evolution of lattice, spin, and charge properties across the phase diagram of $\text{FeSe}_{1-x}\text{S}_x$ (9 pages)	094510
N. Lazarević, A. Baum, A. Milosavljević, L. Peis, R. Stumberger, J. Bekaert, A. Šolajić, J. Pešić, Aifeng Wang, M. Šćepanović, A. M. Milinda Abeykoon, M. V. Milošević, C. Petrovic, Z. V. Popović, and R. Hackl	
Single-crystal growth and superconductivity in RbNi_2Se_2 (6 pages)	094511
Hui Liu, Xunwu Hu, Hanjie Guo, Xiao-Kun Teng, Huanpeng Bu, Zhihui Luo, Lisi Li, Zengjia Liu, Mengwu Huo, Feixiang Liang, Hualei Sun, Bing Shen, Pengcheng Dai, Robert J. Birgeneau, Dao-Xin Yao, Ming Yi, and Meng Wang	
Vortices in a Ginzburg-Landau theory of superconductors with nematic order (18 pages)	094512
R. S. Severino, P. D. Mininni, E. Fradkin, V. Bekeris, G. Pasquini, and G. S. Lozano	
Density-gradient mechanism of vortex plastic creep (6 pages)	094513
Leonid Burlachkov and Valerii Vinokur	
Complete magnetic control over the superconducting thermoelectric effect (8 pages)	094514
Jabir Ali Ouassou, César González-Ruano, Diego Caso, Farkhad G. Aliev, and Jacob Linder	
Contribution of collective excitations to third harmonic generation in two-band superconductors: The case of MgB_2 (17 pages)	094515
Jacopo Fiore, Mattia Udina, Marco Marciani, Goetz Seibold, and Lara Benfatto	
Vacancy dynamics in niobium and its native oxides and their potential implications for quantum computing and superconducting accelerators (19 pages)	094516
Marc Wenskat, Jakub Čížek, Maciej Oskar Liedke, Maik Butterling, Martin Stiehl, Guilherme Dalla Lana Semione, Constanze Backes, Christopher Bate, Oksana Melikhova, Eric Hirschmann, Andreas Wagner, Hans Weise, Andreas Stierle, Martin Aeschlimann, and Wolfgang Hillert	

ERRATA

Erratum: Difference in magnetic anisotropy of the ferromagnetic monolayers VI_3 and CrI_3 [Phys. Rev. B 103 , 014438 (2021)] (1 page)	099901(E)
Guo-Dong Zhao, Xingen Liu, Tao Hu, Fanhao Jia, Yaning Cui, Wei Wu, Myung-Hwan Whangbo, and Wei Ren	
Erratum: Competition between helimagnetic and ferroquadrupolar ordering in a monoaxial chiral magnet DyNi_3Ga_9 studied by resonant x-ray diffraction [Phys. Rev. B 105 , 014428 (2022)] (1 page)	099902(E)
Mitsuru Tsukagoshi, Takeshi Matsumura, Shinji Michimura, Toshiya Inami, and Shigeo Ohara	