

ARTICLES

Structure, structural phase transitions, mechanical properties, defects

- High resolution spectroscopy of thulium atoms implanted in solid noble gas crystals (7 pages) 214101
Vinod Gaire, Mi Y. Do, Yiting Pei, Anthony Semenova, and Colin V. Parker

- Local structure, bonding, and asymmetry of $((\text{NH}_2)_2\text{CH})\text{PbBr}_3$, CsPbBr_3 , and $(\text{CH}_3\text{NH}_3)\text{PbBr}_3$ (16 pages) 214102
F. Bridges, J. Gruzdas, C. MacKeen, K. Mayford, N. J. Weadock, V. Urena Baltazar, Y. Rakita, Louis Waquier, Julian A. Vigil, Hemamala I. Karunadasa, and M. F. Toney

- Negative thermal expansion of the stars of David in a 1T-NbSe₂ monolayer at about 50 K (7 pages) 214103
Li Cheng, Chen Liang, Xiaolong Zou, Zheng Liu, Jian Wu, Shunhong Zhang, and Shuang Qiao

- Topological phase detection through high-harmonic spectroscopy in extended Su-Schrieffer-Heeger chains (10 pages) 214104
Mohit Lal Bera, Jessica O. de Almeida, Marlena Dziurawiec, Marcin Płodzień, Maciej M. Maśka, Maciej Lewenstein, Tobias Grass, and Utso Bhattacharya

- Effective properties of periodic plate-array metacylinders (14 pages) 214105
H. J. Putley, S. Guenneau, R. V. Craster, B. Davies, and C. G. Poulton

- Quantifying the intrinsic mechanical flexibility of crystalline materials (7 pages) 214106
Meha Bhogra, Andrew L. Goodwin, Anthony K. Cheetham, and Umesh V. Waghmare

- FeSiO₄H₂ stabilized at subducting slab conditions: A geologically viable water carrier into the Earth's lower mantle (7 pages) 214107
Sen Shao, Jian Lv, Hanyu Liu, Wencheng Lu, Peng Liu, Andreas Hermann, Yanchao Wang, Changfeng Chen, and Yanming Ma

- High magnetic field phase diagram and weak ferromagnetic moment breaking in $(\text{Ni}_{0.93}\text{Co}_{0.07})_3\text{V}_2\text{O}_8$ (7 pages) 214108
Jiating Wu, Minjie Zhang, Ke Shi, Huxin Yin, Yuyan Han, Lansheng Ling, Wei Tong, Chuanying Xi, Li Pi, and Zhaosheng Wang

- Insulator-to-metal transition in low-dimensional NbS₃ under pressure (8 pages) 214109
Sergio Conejeros, Pere Alemany, and Enric Canadell

Inhomogeneous, disordered, and partially ordered systems

- Electron transport in a weakly disordered Weyl semimetal (12 pages) 214201
M. E. Ismagambetov and P. M. Ostrovsky



(Continued)



2469-9950(20231201)108:21;1-4

Effect of Anderson localization on surface plasmon polariton propagation and outward leakage when scattered by a randomly corrugated section of the interface (<i>19 pages</i>)	214202
---	--------

Yu. V. Tarasov and O. M. Stadnyk

Dynamics, dynamical systems, lattice effects:

Electron-phonon coupling in transition metals beyond Wang's approximation (<i>11 pages</i>)	214301
---	--------

Fedor Akhmetov, Igor Milov, Igor A. Makhotkin, Marcelo Ackermann, and Jan Vorberger

 Decodable hybrid dynamics of open quantum systems with $\mathbb{Z}_2$ symmetry (<i>28 pages</i>)	214302
--	--------

Yaodong Li and Matthew P. A. Fisher

Effect of long-range hopping on dynamic quantum phase transitions of an exactly solvable free-fermion model: Nonanalyticities at almost all times (<i>10 pages</i>)	214303
---	--------

J. C. Xavier and José A. Hoyos

Strong four-phonon effects and anomalous thermal transport behavior in the monolayer group-IVB transition metal dichalcogenides MX_2 ($M=\text{Ti, Zr, Hf}$; $X = \text{S, Se}$) (<i>12 pages</i>)	214304
---	--------

Zhunyun Tang, Xiaoxia Wang, Jin Li, Chaoyu He, Mingxing Chen, Chao Tang, and Tao Ouyang

Measurement-induced chirality: Diffusion and disorder (<i>15 pages</i>)	214305
---	--------

Brian J. J. Khor, Matthew Wampler, Gil Refael, and Israel Klich

Topological analog of the magnetic bit within the Su-Schrieffer-Heeger-Holstein model (<i>13 pages</i>)	214306
---	--------

Xinyuan Xu, David Sénéchal, and Ion Garate

Varying quench dynamics in the transverse Ising chain: The Kibble-Zurek, saturated, and presaturated regimes (<i>11 pages</i>)	214307
--	--------

Han-Chuan Kou and Peng Li

Entanglement dynamics in the many-body Hatano-Nelson model (<i>18 pages</i>)	214308
--	--------

Takahiro Orito and Ken-Ichiro Imura

Significant four-phonon scattering and its heat transfer implications in crystalline $\text{Ge}_2\text{Sb}_2\text{Te}_5$ (<i>22 pages</i>)	214309
--	--------

Kanka Ghosh, Andrzej Kusiak, and Jean-Luc Battaglia

Backscattering reduction in a sharply bent water wave channel (<i>9 pages</i>)	214311
--	--------

S. Kucher, A. Koźluk, P. Petitjeans, A. Maurel, and V. Pagneux

Topological zero modes and edge symmetries of metastable Markovian bosonic systems (<i>35 pages</i>)	214312
--	--------

Vincent P. Flynn, Emilio Cobanera, and Lorenza Viola

Phononic dynamics in sliding friction (<i>10 pages</i>)	214313
---	--------

Yi Tao, Zhiyong Wei, Yun Dong, Zaoqi Duan, Yajing Kan, Yan Zhang, and Yunfei Chen

Nonequilibrium dynamics of bosons with dipole symmetry: Large- N Keldysh approach (<i>16 pages</i>)	214314
---	--------

Md Mursalin Islam, K. Sengupta, and Rajdeep Sensarma

Magnetism

Mössbauer spectroscopy study of magnetostructural and spin-state transitions in the breathing pyrochlore $\text{LiFeCr}_4\text{O}_8$ (<i>9 pages</i>)	214401
---	--------

Bo Zhang, Wei Ren, Shengyu Yang, Qifeng Kuang, Da Li, Xin Liu, Anmin Zhang, Hua Pang, Liyun Tang, Liang Qiao, Fashen Li, and Zhiwei Li

(Continued)

Magnon orbital angular momentum of ferromagnetic honeycomb and zigzag lattice models (<i>14 pages</i>)	214402
Randy S. Fishman, Tom Berlijn, Jack Villanova, and Lucas Lindsay	
Anisotropic magnetic properties of $RCd_{1-\delta}Sb_2$ ($R = Ce-Nd$) single crystals (<i>9 pages</i>)	214403
Vikash Sharma and Arumugam Thamizhavel	
Oxidization engineered Dzyaloshinskii-Moriya interaction and topological magnetism at Fe/MgO bilayers (<i>8 pages</i>)	214404
Liming Wang, Yonglong Ga, Qirui Cui, Peng Li, Jinghua Liang, Yan Zhou, Shouguo Wang, and Hongxin Yang	
Theoretical analysis of multimagnon excitations in resonant inelastic x-ray scattering spectra of two-dimensional antiferromagnets (<i>10 pages</i>)	214405
Subhajyoti Pal, Umesh Kumar, Prabhakar, and Anamitra Mukherjee	
$L1_0$ FePt thin films with tilted and in-plane magnetic anisotropy: A first-principles study (<i>12 pages</i>)	214406
Joanna Marciniak and Mirosław Werwiński	
Dynamical structure factor of the $SU(4)$ algebraic spin liquid on the honeycomb lattice (<i>10 pages</i>)	214407
Dániel Vörös and Karlo Penc	
Universality of $q = \frac{1}{2}$ orbital magnetism in the pseudogap phase of the high- T_c superconductor $YBa_2Cu_3O_{6+x}$ (<i>11 pages</i>)	214408
Dalila Bounoua, Yvan Sidis, Martin Boehm, Paul Steffens, Toshinao Loew, Lin Shan Guo, Jun Qian, Xin Yao, and Philippe Bourges	
Phase coexistence and nonequilibrium dynamics under simultaneously applied magnetic field and pressure: Possible role of the interface (<i>10 pages</i>)	214409
Sudip Pal, Kranti Kumar, and A. Banerjee	
Magnetic field tuned anisotropic quantum phase transition in the distorted kagome antiferromagnet Nd_3BWO_9 (<i>10 pages</i>)	214410
Fangyuan Song, Han Ge, Andi Liu, Yuqi Qin, Yuyan Han, Langsheng Ling, Songliu Yuan, Zhongwen Ouyang, Jieming Sheng, Liusuo Wu, and Zhaoming Tian	
Acoustic lattice instabilities at the magnetostructural transition in $Fe_{1.057(7)}Te$ (<i>12 pages</i>)	214411
K. Guratinder, E. Chan, E. E. Rodriguez, J. A. Rodriguez-Rivera, U. Stuhr, A. Stunault, R. Travers, M. A. Green, N. Qureshi, and C. Stock	
☞ Impact of hyperfine contributions on the ground state of spin-ice compounds (<i>8 pages</i>)	214412
J. Gronemann, S. Chattopadhyay, T. Gottschall, E. Osmic, A. T. M. N. Islam, V. K. Anand, B. Lake, H. Kaneko, H. Suzuki, J. Wosnitza, and T. Herrmannsdörfer	
Random free-fermion quantum spin chain with multispin interactions (<i>23 pages</i>)	214413
Francisco C. Alcaraz, José A. Hoyos, and Rodrigo A. Pimenta	
Precise estimation of spin drift velocity and spin mobility in the absence of synthetic Rashba spin-orbit field in a Si metal-oxide-semiconductor (<i>5 pages</i>)	214414
Hajime Inoue, Hayato Koike, Ryo Ohshima, Yuichiro Ando, and Masashi Shiraishi	
Magnetization of the antiferromagnetic cactus graph model with an exact dimer ground state (<i>8 pages</i>)	214415
Pratyay Ghosh	

(Continued)

Even-odd effect for spin current through a thin antiferromagnetic insulator (7 pages)	214416
Niklas Rohling and Roberto E. Troncoso	
Skymion and skymionium formation in the two-dimensional magnet $\text{Cr}_2\text{Ge}_2\text{Te}_6$ (9 pages)	214417
L. Powalla, M. T. Birch, K. Litzius, S. Wintz, S. Satheesh, M. Weigand, E. Goering, G. Schütz, and M. Burghard	
Relativistic magnetic interactions from nonorthogonal basis sets (18 pages)	214418
Gabriel Martínez-Carracedo, László Oroszlány, Amador García-Fuente, Bendegúz Nyári, László Udvardi, László Szunyogh, and Jaime Ferrer	
Field-induced phase transitions and anisotropic magnetic properties of the Kitaev-Heisenberg compound $\text{Na}_2\text{Co}_2\text{TeO}_6$ (8 pages)	214419
A. K. Bera, S. M. Yusuf, F. Orlandi, P. Manuel, L. Bhaskaran, and S. A. Zvyagin	
Dynamically encircling an exceptional point by microwave fields in synthetic antiferromagnets (9 pages)	214420
Chaowei Sui, Mingyu Ma, Shaohua Yuan, Jie Zheng, Daqiang Gao, Vladimir Koval, and Chenglong Jia	
Magnon peak lineshape in the transverse dynamical structure factor of a ferromagnetically polarized easy-axis XXZ chain at low temperatures (13 pages)	214421
P. N. Bibikov	
Giant conductivity anisotropy in cubic $\text{CuCr}_2\text{Te}_3\text{I}$ and semiconducting behavior in $\text{CuCr}_2\text{S}_3\text{Cl}$ and $\text{CuCr}_2\text{Se}_3\text{Br}$ (6 pages)	214422
David J. Singh	
Magnetic anisotropy and magnetocaloric effect in $\text{Gd}_2\text{NiMnO}_6$ thin films (10 pages)	214423
Amitava Ghosh, Roumita Roy, R. C. Sahoo, Sachindra Nath Sarangi, Mithun Ghosh, Dipak Mazumdar, D. Samal, P. S. Anil Kumar, Zakir Hossain, Sudipta Kanungo, and Chanchal Sow	
<i>sp</i> - and <i>d</i> -band effects on secondary low-energy electron generation (7 pages)	214424
V. Desbuis, D. Lacour, C. Tiusan, W. Weber, and M. Hehn	
Micromagnetics of ferromagnetic/antiferromagnetic nanocomposite materials. I. Towards a mesoscopic approach (9 pages)	214425
Sergey Erokhin, Dmitry Berkov, and Andreas Michels	
Micromagnetics of ferromagnetic/antiferromagnetic nanocomposite materials. II. Mesoscopic modeling (6 pages)	214426
Sergey Erokhin, Dmitry Berkov, and Andreas Michels	
Ti_3O_5 monolayer: Tunable quantum anomalous Hall insulator (7 pages)	214427
Xiaokang Xu, Tianxia Guo, Donghao Guan, Jie Li, Ailei He, Jinlian Lu, Xiaojing Yao, Yongjun Liu, and Xiuyun Zhang	
Unsupervised learning of phase transitions via modified anomaly detection with autoencoders (9 pages)	214428
Kwai-Kong Ng and Min-Fong Yang	
Noninvertible duality transformation between symmetry-protected topological and spontaneous symmetry breaking phases (19 pages)	214429
Linhao Li, Masaki Oshikawa, and Yunqin Zheng	
Weak universality, quantum many-body scars, and anomalous infinite-temperature autocorrelations in a one-dimensional spin model with duality (21 pages)	214430
Adithi Udupa, Samudra Sur, Sourav Nandy, Arnab Sen, and Diptiman Sen	

(Continued)

Quantum Weyl-Heisenberg antiferromagnet (8 pages)	214431
Peter Rosenberg and Efstratios Manousakis	
Extraordinary two-dimensionality in the $S = 1/2$ spatially anisotropic triangular quantum magnet Cu(1,3-diaminopropane)Cl ₂ with modulated structure (14 pages)	214432
R. Tarasenko, O. Vinnik, J. Šebesta, D. Legut, J. Chovan, E. Čížmár, J. Strečka, K. Karlová, P. J. Baker, L. Kotvytska, M. Orendáč, and A. Orendáčová	
Structural and magnetic properties of Fe-Co-C alloys with tetragonal deformation: A first-principles study (18 pages)	214433
Wojciech Marciniak and Mirosław Werwiński	
Superfluidity and superconductivity	
Magnon influence on the superconducting density of states in superconductor–ferromagnetic-insulator bilayers (10 pages)	214501
A. S. Ianovskaia, A. M. Bobkov, and I. V. Bobkova	
Magnetic field induced weak-to-strong-link transformation in patterned superconducting films (10 pages)	214502
Davi A. D. Chaves, M. I. Valerio-Cuadros, L. Jiang, E. A. Abbey, F. Colauto, A. A. M. Oliveira, A. M. H. de Andrade, L. B. L. G. Pinheiro, T. H. Johansen, C. Xue, Y.-H. Zhou, A. V. Silhanek, W. A. Ortiz, and M. Motta	
Inclusion of pairing fluctuations in the differential equation for the gap parameter for superfluid fermions in the presence of nontrivial spatial constraints (18 pages)	214503
L. Pisani, V. Piselli, and G. Calvanese Strinati	
Josephson current flowing through a nontrivial geometry: Role of pairing fluctuations across the BCS-BEC crossover (8 pages)	214504
V. Piselli, L. Pisani, and G. Calvanese Strinati	
Pressure-induced formation of cubic lutetium hydrides derived from trigonal LuH ₃ (10 pages)	214505
Owen Moulding, Samuel Gallego-Parra, Yingzheng Gao, Pierre Toulemonde, Gaston Garbarino, Patricia De Rango, Sébastien Pairis, Pierre Giroux, and Marie-Aude Méasson	
Enhancement of superconductivity in a dirty marginal Fermi liquid (15 pages)	214506
Tsz Chun Wu, Patrick A. Lee, and Matthew S. Foster	
Superconductivity in compounds of sodium-intercalated graphite (6 pages)	214507
Chun-Mei Hao, Xing Li, Artem R. Oganov, Jingyu Hou, Shicong Ding, Yanfeng Ge, Lin Wang, Xiao Dong, Hui-Tian Wang, Guochun Yang, Xiang-Feng Zhou, and Yongjun Tian	
Multiband strong-coupling superconductors with spontaneously broken time-reversal symmetry (15 pages)	214508
Niels Henrik Aase, Kristian Mæland, and Asle Sudbø	
Two-dimensional-like superconducting properties and weak antilocalization transport in FeSe _{0.4} Te _{0.6} single crystals: Topology-driven magnetotransport (14 pages)	214509
Chin-Wei Lin, I Nan Chen, Zhujialei Lei, and Li Min Wang	
Spectral properties of disordered Ising superconductors with singlet and triplet pairing in in-plane magnetic fields (10 pages)	214510
Stefan Ilić, Julia S. Meyer, and Manuel Houzet	

(Continued)

Exceeding the Chandrasekhar-Clogston limit in flat-band superconductors: A multiband strong-coupling approach (15 pages)	214511
Kristian Mæland and Asle Sudbø	
Broken time-reversal symmetry in the cubic skutterudite-like superconductor $\text{Y}_3\text{Ru}_4\text{Ge}_{13}$ (6 pages)	214512
A. Kataria, J. A. T. Verezhak, O. Prakash, R. K. Kushwaha, A. Thamizhavel, S. Ramakrishnan, M. S. Scheurer, A. D. Hillier, and R. P. Singh	
Geometric and fluctuational divergences in the linear response of coherently driven microcavity polaritons and their relation to superfluidity (28 pages)	214513
I. Timofeev, R. Juggins, and M. H. Szymańska	
Spatial inhomogeneity of superconducting gap in epitaxial monolayer $\text{FeTe}_{1-x}\text{Se}_x$ films (7 pages)	214514
Yaowu Liu, Luxin Li, Zheng Xie, Zichun Zhang, Sidan Chen, Lichen Ji, Wei Chen, Xinyu Zhou, Xiaopeng Hu, Xi Chen, Qi-Kun Xue, and Shuai-Hua Ji	
$\text{Yb}_3\text{Rh}_4\text{Sn}_{13}$: Two-gap superconductor with a complex Fermi surface (15 pages)	214515
Roman Gumenuik, Volodymyr Levytskyi, Bohdan Kundys, and Andreas Leithe-Jasper	
Extended superconducting fluctuation region and $6e$ and $4e$ flux quantization in a kagome compound with a normal state of $3Q$ order (10 pages)	214516
Chandra M. Varma and Ziqiang Wang	
Quartet currents in a biased three-terminal diffusive Josephson junction (13 pages)	214517
T. Jonckheere, J. Rech, C. Padurariu, L. Raymond, T. Martin, and D. Feinberg	
Superconductivity and critical fields of tellurium single crystal under high pressure (8 pages)	214518
Lingxiao Zhao, Cuiying Pei, Juefei Wu, Yi Zhao, Qi Wang, Bangshuai Zhu, Changhua Li, Weizheng Cao, and Yanpeng Qi	
Design of Josephson diode based on magnetic impurity (9 pages)	214519
Yu-Fei Sun, Yue Mao, and Qing-Feng Sun	
Parity-protected superconducting diode effect in topological Josephson junctions (7 pages)	214520
Henry F. Legg, Katharina Laubscher, Daniel Loss, and Jelena Klinovaja	
 Field theory of a superconductor with repulsion (19 pages)	214521
Amir Dalal, Jonathan Ruhman, and Vladyslav Kozii	
Electron correlations and superconductivity in $\text{La}_3\text{Ni}_2\text{O}_7$ under pressure tuning (9 pages)	214522
Zhiguang Liao, Lei Chen, Guijing Duan, Yiming Wang, Changle Liu, Rong Yu, and Qimiao Si	
 Possible explanation for the high superconducting T_c in bcc Ti at high pressure (7 pages)	214523
Antonio Sanna, Camilla Pellegrini, Simone di Cataldo, Gianni Profeta, and Lilia Boeri	

COMMENTS

Comment on “Effects of shear methods on shear strengths and deformation modes of two typical transition metal carbides and their unification” (3 pages)	216101
Marcin Maździarz	
Reply to “Comment on ‘Effects of shear methods on shear strengths and deformation modes of two typical transition metal carbides and their unification’” (5 pages)	216102
Chuanqing Li, Tao Fu, Xule Li, Hao Hu, and Xianghe Peng	

(Continued)

ERRATA

Erratum: Critical assessment of Co-Cu phase diagram from first-principles calculations [Phys. Rev. B 102 , 184428 (2020)] (<i>1 page</i>)	219901(E)
Changle Li, Henrik Levämäki, Ruiwen Xie, Liyun Tian, Zhihua Dong, Wei Li, Song Lu, Qing Chen, John Ågren, and Levente Vitos	
Erratum: Quadratic optical responses in a chiral magnet [Phys. Rev. B 104 , L180407 (2021)] (<i>2 pages</i>)	219902(E)
Shun Okumura, Takahiro Morimoto, Yasuyuki Kato, and Yukitoshi Motome	
Erratum: Supplemental material for ultrafast quantum path interferometry to determine the electronic decoherence time of the electron-phonon coupled system in <i>n</i> -type gallium arsenide [Phys. Rev. B 107 , 184305 (2023)] (<i>1 page</i>)	219903(E)
Itsuki Takagi, Yosuke Kayanuma, and Kazutaka G. Nakamura	
Erratum: Kerr nonlinearity in a superconducting Josephson metamaterial [Phys. Rev. B 98 , 094516 (2018)] (<i>1 page</i>)	219904(E)
Yu. Krupko, V. D. Nguyen, T. Weiß, É. Dumur, J. Puertas, R. Dassonneville, C. Naud, F. W. J. Hekking, D. M. Basko, O. Buisson, N. Roch, and W. Hasch-Guichard	
Erratum: Higher-order crystal field and rare-earth magnetism in rare-earth-Co ₅ intermetallics [Phys. Rev. B 101 , 214433 (2020)] (<i>1 page</i>)	219905(E)
L. V. Pourovskii, J. Boust, R. Ballou, G. Gomez Eslava, and D. Givord	