

ARTICLES

Structure, structural phase transitions, mechanical properties, defects

Negative capacitance regime in ferroelectrics demystified from nonequilibrium molecular dynamics (6 pages) ...	134101
K. A. Lynch and I. Ponomareva	
Theoretical study of quantum emitters in two-dimensional silicon carbide monolayers (8 pages)	134103
Q. Hassanzada, I. Abdolhosseini Sarsari, A. Hashemi, A. Ghojavand, A. Gali, and M. Abdi	
Landau theory for non-symmetry-breaking electronic instability coupled to symmetry-breaking order parameter applied to Prussian blue analog (13 pages)	134104
Giovanni Azzolina, Roman Bertoni, Claude Ecolivet, Hiroko Tokoro, Shin-ichi Ohkoshi, and Eric Collet	
Toughening a superstrong carbon crystal: Sequential bond-breaking mechanisms (8 pages)	134105
Hui Liang, Hefei Li, Quan Li, and Changfeng Chen	
Twinned nanostructure of VO ₂ thin films grown on r-cut sapphire (7 pages)	134106
Anatoly G. Shabalin, Elihu Anouchi, Nelson Hua, Yimin A. Wu, Martin V. Holt, Amos Sharoni, and Oleg G. Shpyrko	
Quantifying the stability of the anion ordering in SrVO ₂ H (7 pages)	134108
Masayuki Ochi and Kazuhiko Kuroki	
Novel sulfur hydrides synthesized at extreme conditions (8 pages)	134109
Dominique Laniel, Bjoern Winkler, Elena Bykova, Timofey Fedotenko, Stella Chariton, Victor Milman, Maxim Bykov, Vitali Prakapenka, Leonid Dubrovinsky, and Natalia Dubrovinskaia	
Origin of the isostructural electronic states of the topological insulator Bi ₂ Te ₃ (11 pages)	134110
Xinguo Hong, Matt Newville, Yang Ding, Dongzhou Zhang, Tetsuo Irifune, Genda Gu, and Ho-Kwang Mao	
Fidelity susceptibility near topological phase transitions in quantum walks (11 pages)	134111
S. Panahyan, W. Chen, and S. Fritzsche	
Electronic properties of substitutional impurities in graphenelike C ₂ N, <i>tg</i> -C ₃ N ₄ , and <i>hg</i> -C ₃ N ₄ (14 pages)	134112
Saif Ullah, Pablo A. Denis, Marcos G. Menezes, Fernando Sato, and Rodrigo B. Capaz	
Guiding shear bands in bulk metallic glasses using stress fields: A perspective from the activation of flow units (8 pages)	134113
K. Kosiba, S. Scudino, J. Bednarcik, J. Bian, G. Liu, U. Kühn, and S. Pauly	



Investigations of the Co-Pt alloy phase diagram with neutron diffuse scattering, inverse cluster variation method, and Monte Carlo simulations (<i>13 pages</i>)	134114
M. Fèvre, J.-M. Sanchez, J. R. Stewart, J.-S. Mérot, F. Fossard, Y. Le Bouar, K. Tanaka, H. Numakura, G. Schmerber, and V. Pierron-Bohnes	
☞ Circular dichroism in higher-order harmonic generation: Heralding topological phases and transitions in Chern insulators (<i>20 pages</i>)	134115
Alexis Chacón, Dasol Kim, Wei Zhu, Shane P. Kelly, Alexandre Dauphin, Emilio Pisanty, Andrew S. Maxwell, Antonio Picón, Marcelo F. Ciappina, Dong Eon Kim, Christopher Ticknor, Avadh Saxena, and Maciej Lewenstein	
First-principles calculation of higher-order elastic constants using exact deformation-gradient tensors (<i>13 pages</i>)	134116
S. P. Łepkowski	
Shuffle and glide mechanisms of prismatic dislocations in a hexagonal C14-type Laves-phase intermetallic compound (<i>9 pages</i>)	134117
Yongchao Zhang, Wei Zhang, Beining Du, Wenqing Li, Liyuan Sheng, Hengqiang Ye, and Kui Du	
Possible antiferroelectric-to-ferroelectric transition and metallic antiferroelectricity caused by charge doping in PbZrO_3 (<i>7 pages</i>)	134118
Huaxiang Fu	
Hierarchy among the crystal lattice, charge density wave, and superconducting orders in transition metal dichalcogenides (<i>11 pages</i>)	134119
Valeri Petkov, Junjie Yang, Sarvjit Shastri, and Yang Ren	
Two good metals make a semiconductor: A potassium-nickel compound under pressure (<i>6 pages</i>)	134120
Adebayo A. Adeleke, Elissaios Stavrou, Adebayo O. Adeniyi, Biao Wan, Huiyang Gou, and Yansun Yao	
Inhomogeneous, disordered, and partially ordered systems	
Broadband subwavelength sensitivity to symmetry defects of disordered slabs (<i>4 pages</i>)	134201
Élie Chéron, Simon Félix, and Vincent Pagneux	
Design of broad and large physical responses from atomistic simulations (<i>6 pages</i>)	134202
Alireza Akbarzadeh, Yousra Nahas, Sergei Prokhorenko, and Laurent Bellaïche	
Multiregion entanglement in locally scrambled quantum dynamics (<i>19 pages</i>)	134203
A. A. Akhtar and Yi-Zhuang You	
Stability of two-dimensional asymmetric materials with a quadratic band crossing point under four-fermion interaction and impurity scattering (<i>18 pages</i>)	134204
Yao-Ming Dong, Ya-Hui Zhai, Dong-Xing Zheng, and Jing Wang	
Many-body localization in a one-dimensional optical lattice with speckle disorder (<i>13 pages</i>)	134205
Artur Maksymov, Piotr Sierant, and Jakub Zakrzewski	
Localization of light in a three-dimensional disordered crystal of atoms (<i>13 pages</i>)	134206
S. E. Skipetrov	
Multiscattering effects in disordered two-dimensional anisotropic Weyl fermions (<i>6 pages</i>)	134207
Zhen Ning, Bo Fu, Qinwei Shi, and Xiaoping Wang	

(Continued)

Non-Born effects in the scattering of electrons in a conducting strip with a low concentration of impurities (<i>18 pages</i>)	134208
N. S. Peshcherenko and A. S. Ioselevich	
Algorithm for generating irreducible site-occupancy configurations (<i>9 pages</i>)	134209
Ji-Chun Lian, Hong-Yu Wu, Wei-Qing Huang, Wangyu Hu, and Gui-Fang Huang	
Decoherence of ensembles of nitrogen-vacancy centers in diamond (<i>9 pages</i>)	134210
Erik Bauch, Swati Singh, Junghyun Lee, Connor A. Hart, Jennifer M. Schloss, Matthew J. Turner, John F. Barry, Linh M. Pham, Nir Bar-Gill, Susanne F. Yelin, and Ronald L. Walsworth	
Superconducting proximity effect and order parameter fluctuations in disordered and quasiperiodic systems (<i>10 pages</i>)	134211
Gautam Rai, Stephan Haas, and Anuradha Jagannathan	
Floquet dynamics of disordered bands with isolated critical energies (<i>9 pages</i>)	134212
Sriram Ganeshan, Kartiek Agarwal, and R. N. Bhatt	
Topological quantum phase transitions retrieved through unsupervised machine learning (<i>13 pages</i>)	134213
Yanming Che, Clemens Gneiting, Tao Liu, and Franco Nori	
Dynamics, dynamical systems, lattice effects:	
Probing the ultrafast electron and lattice dynamics of gold using femtosecond mid-infrared pulses (<i>8 pages</i>)	134301
Harmen J. Sielcken and Huib J. Bakker	
Locating quantum critical points with Kibble-Zurek quenches (<i>8 pages</i>)	134302
Michał Białończyk and Bogdan Damski	
Hermitian formulation of multiple scattering induced topological phases in metamaterial crystals (<i>14 pages</i>)	134303
N. Kaina and R. Fleury	
Effective Hamiltonian for Stokes–anti-Stokes pair generation with pump and probe polarized modes (<i>8 pages</i>)	134304
R. Acosta Diaz, C. H. Monken, A. Jorio, and Marcelo F. Santos	
<i>h</i> -ErMnO ₃ absorbance, reflectivity, and emissivity in the terahertz to mid-infrared from 2 to 1700 K: Carrier screening, Fröhlich resonance, small polarons, and bipolarons (<i>16 pages</i>)	134305
Néstor E. Massa, Leire del Campo, Karsten Holldack, Aurélien Canizarès, Vinh Ta Phuoc, Paula Kayser, and José Antonio Alonso	
Time-dependent variational principle for mixed matrix product states in the thermodynamic limit (<i>10 pages</i>)	134306
Yantao Wu	
Dynamic renormalization group theory for open Floquet systems (<i>29 pages</i>)	134307
Steven Mathey and Sebastian Diehl	
Effective phononic crystals for non-Cartesian elastic wave propagation (<i>6 pages</i>)	134308
Ignacio Arretche and Kathryn H. Matlack	
Defect production and quench dynamics in the three-dimensional Kitaev model (<i>18 pages</i>)	134309
Subhajit Sarkar, Dibyendu Rana, and Saptarshi Mandal	
Spectral transitions and universal steady states in random Kraus maps and circuits (<i>13 pages</i>)	134310
Lucas Sá, Pedro Ribeiro, Tankut Can, and Tomaž Prosen	

(Continued)

Current-induced phonon Hall effect (7 pages)	134311
Kangtai Sun, Zhibin Gao, and Jian-Sheng Wang	
Combining density functional theory and Monte Carlo neutron transport calculations to study the phonon density of states of UO_2 up to 1675 K by inelastic neutron scattering (12 pages)	134312
G. Noguere, J. P. Scotta, S. Xu, A. Filhol, J. Ollivier, E. Farhi, Y. Calzavara, S. Rols, B. Fak, J.-M. Zanotti, and Q. Berrod	
Magnetism	
Localization, transport, and edge states in a two-strand ladder network in an aperiodically staggered magnetic field (11 pages)	134401
Sk. Sajid and Arunava Chakrabarti	
Spin-wave Talbot effect in a thin ferromagnetic film (11 pages)	134402
Mateusz Gołębiewski, Paweł Gruszecki, Maciej Krawczyk, and Andriy E. Serebryannikov	
Spin transport in noncollinear antiferromagnetic metals (6 pages)	134403
Yihong Cheng and Shufeng Zhang	
Spin-orbit exciton in a honeycomb lattice magnet CoTiO_3 : Revealing a link between magnetism in d - and f -electron systems (11 pages)	134404
Bo Yuan, M. B. Stone, Guo-Jiun Shu, F. C. Chou, Xin Rao, J. P. Clancy, and Young-June Kim	
Giant exchange bias effect in Ruddlesden-Popper oxides $\text{SrLaFe}_{0.25+x}\text{Mn}_{0.25}\text{Co}_{0.5-x}\text{O}_4$ ($x = 0, 0.25$): Role of the cluster glass magnetic phase in a quasi-two-dimensional perovskite (15 pages)	134405
Anusree V. K., Ranjana R. Das, P. Neenu Lekshmi, Ramchandra Dhal, Claire V. Colin, and P. N. Santhosh	
Intermediate magnetic phase of the magnetoelectric compound $(\text{Ca,Sr})\text{BaCo}_4\text{O}_7$ described with the superspace formalism (11 pages)	134406
J. Lohr, A. L. Larralde, J. Curiale, R. Sánchez, J. Campo, G. J. Cuello, D. Sheptyakov, L. Keller, M. Kenzelmann, and G. Aurelio	
Magnetic properties and magnetic structure of the frustrated quasi-one-dimensional antiferromagnet $\text{SrCuTe}_2\text{O}_6$ (12 pages)	134407
P. Saeun, Y. Zhao, P. Piyawongwatthana, T. J. Sato, F. C. Chou, M. Avdeev, G. Gitgeatpong, and K. Matan	
Short-range magnetic order in the paramagnetic phase of cubic SrMnO_{3-x} ($x < 0.005$): An ^{17}O and ^{87}Sr NMR study (9 pages)	134408
A. Gerashenko, A. Trokiner, S. Verkhovskii, Z. Volkova, A. Germov, K. Mikhalev, and A. Yakubovskii	
Magnetoelectric properties and low-energy excitations of multiferroic FeCr_2S_4 (10 pages)	134409
A. Strinić, S. Reschke, K. V. Vasin, M. Schmidt, A. Loidl, V. Tsurkan, M. V. Eremin, and J. Deisenhofer	
Effect of chemical substitution on the skyrmion phase in Cu_2OSeO_3 (12 pages)	134410
Paul M. Neves, Dustin A. Gilbert, Sheng Ran, I-Lin Liu, Shanta Saha, John Collini, Markus Bleuel, Johnpierre Paglione, Julie A. Borchers, and Nicholas P. Butch	
Strong magnetic anisotropy and unusual magnetic field reinforced phase in URhSn with a quasi-kagome structure (11 pages)	134411
Yusei Shimizu, Atsushi Miyake, Arvind Maurya, Fuminori Honda, Ai Nakamura, Yoshiki J. Sato, Dexin Li, Yoshiya Homma, Makoto Yokoyama, Yo Tokunaga, Masashi Tokunaga, and Dai Aoki	

(Continued)

Magnetic ground state of the ordered double-perovskite $\text{Sr}_2\text{YbRuO}_6$: Two magnetic transitions (<i>11 pages</i>)	134412
Shivani Sharma, D. T. Adroja, C. Ritter, D. Khalyavin, P. Manuel, Gavin B. G. Stenning, A. Sundaresan, A. D. Hillier, P. P. Deen, D. I. Khomskii, and S. Langridge	
Spin reorientation transition in an ultrathin Fe film on W(110) induced by Dzyaloshinsky-Moriya interactions (<i>6 pages</i>)	134413
Balázs Nagyfalusi, László Udvardi, László Szunyogh, and Levente Rózsa	
Coupled-oscillator collective mode of a magnetic chiral soliton lattice (<i>7 pages</i>)	134414
Koujiro Hoshi, Jun-ichiro Kishine, and Jun-ichiro Ohe	
Ultrafast antiferromagnetic switching in NiO induced by spin transfer torques (<i>8 pages</i>)	134415
Théophile Chirac, Jean-Yves Chauleau, Pascal Thibaudau, Olena Gomonay, and Michel Viret	
First-principles study of a Mn-doped In_2Se_3 monolayer: Coexistence of ferromagnetism and ferroelectricity with robust half-metallicity and enhanced polarization (<i>6 pages</i>)	134416
Chunmei Zhang, Lei Zhang, Cheng Tang, Stefano Sanvito, Bo Zhou, Zhenyi Jiang, and Aijun Du	
Nonreciprocal surface magnetoelastic dynamics (<i>12 pages</i>)	134417
Tao Yu	
Unravelling competing microscopic interactions at a phase boundary: A single-crystal study of the metastable antiferromagnetic pyrochlore $\text{Yb}_2\text{Ge}_2\text{O}_7$ (<i>12 pages</i>)	134418
C. L. Sarkis, J. G. Rau, L. D. Sanjeeva, M. Powell, J. Kolis, J. Marbey, S. Hill, J. A. Rodriguez-Rivera, H. S. Nair, D. R. Yahne, S. Säubert, M. J. P. Gingras, and K. A. Ross	
Spin wave theory of a one-dimensional generalized Kitaev model (<i>23 pages</i>)	134419
Wang Yang, Alberto Nocera, and Ian Affleck	
Ferrimagnetic resonance induced by the spin Hall effect (<i>8 pages</i>)	134420
Chi Sun, Hyunsoo Yang, and Mansoor B. A. Jalil	
Magnetic field induced phase transition in spinel GeNi_2O_4 (<i>7 pages</i>)	134421
T. Basu, T. Zou, Z. Dun, C. Q. Xu, C. R. Dela Cruz, Tao Hong, H. B. Cao, K. M. Taddei, H. D. Zhou, and X. Ke	
Strain-dependent Dzyaloshinskii-Moriya interaction in a ferromagnet/heavy-metal bilayer (<i>10 pages</i>)	134422
O. G. Udalov and I. S. Beloborodov	
Local probes for charge-neutral edge states in two-dimensional quantum magnets (<i>11 pages</i>)	134423
Johannes Feldmeier, Willian Natori, Michael Knap, and Johannes Knolle	
Magnetic field control of antiferromagnetic domain walls in a thermal gradient (<i>5 pages</i>)	134424
R. Yanes, M. Rodriguez Rosa, and L. Lopez-Diaz	
Free-energy analysis of the nonhysteretic first-order phase transition of Eu_2In (<i>6 pages</i>)	134425
B. P. Alho, P. O. Ribeiro, P. J. von Ranke, F. Guillou, Y. Mudryk, and V. K. Pecharsky	
Strong magnetocaloric effect induced by spin reorientation transitions in epitaxial Ho thin films (<i>9 pages</i>)	134426
O. Koplak, R. Morgunov, R. Medapalli, E. E. Fullerton, and S. Mangin	
Temperature dependence of spin-transport properties and spin torque in a magnetic nanostructure (<i>8 pages</i>)	134427
W. Boonruesi, J. Chureemart, R. W. Chantrell, and P. Chureemart	

(Continued)

 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).

First-principles calculations of physical properties and superconductivity of orthorhombic ScRuSi and ZrRhSi (<i>13 pages</i>)	134508
H. Y. Uzunok, S. Bağcı, Ertuğrul Karaca, H. M. Tütüncü, and G. P. Srivastava	
Fraunhofer oscillations of the critical current at a varying Zeeman field in a spin-orbit coupled Josephson junction (<i>5 pages</i>)	134509
A. G. Mal'shukov	
Superconductivity and equation of state of lanthanum at megabar pressures (<i>7 pages</i>)	134510
Wuhao Chen, Dmitrii V. Semenov, Ivan A. Troyan, Anna G. Ivanova, Xiaoli Huang, Artem R. Oganov, and Tian Cui	
Time-reversal-symmetry breaking and unconventional pairing in the noncentrosymmetric superconductor La ₇ Rh ₃ (<i>9 pages</i>)	134511
D. Singh, M. S. Scheurer, A. D. Hillier, D. T. Adroja, and R. P. Singh	
Pressure tuning of superconductivity in Mo ₈ Ga ₄₁ single crystals (<i>6 pages</i>)	134512
Ying Zhou, Yonghui Zhou, Chunhua Chen, Xuliang Chen, Chao An, Lili Zhang, Wenbin Wu, Zhitao Zhang, and Zhaorong Yang	
Kolmogorov and Kelvin wave cascades in a generalized model for quantum turbulence (<i>13 pages</i>)	134513
Nicolás P. Müller and Giorgio Krstulovic	
Time-reversal invariant and fully gapped unconventional superconducting state in the bulk of the topological compound Nb _{0.25} Bi ₂ Se ₃ (<i>8 pages</i>)	134514
Debarchan Das, K. Kobayashi, M. P. Smylie, C. Mielke III, T. Takahashi, K. Willa, J.-X. Yin, U. Welp, M. Z. Hasan, A. Amato, H. Luetkens, and Z. Guguchia	

ERRATA

Erratum: Dynamic process and Uhlmann process: Incompatibility and dynamic phase of mixed quantum states [Phys. Rev. B 101 , 104310 (2020)] (<i>3 pages</i>)	139901(E)
Hao Guo, Xu-Yang Hou, Yan He, and Chih-Chun Chien	
Erratum: Measurement-induced criticality in (2 + 1)-dimensional hybrid quantum circuits [Phys. Rev. B 102 , 014315 (2020)] (<i>2 pages</i>)	139902(E)
Xhek Turkeshi, Rosario Fazio, and Marcello Dalmonte	