

RAPID COMMUNICATIONS

Structure, structural phase transitions, mechanical properties, defects, etc.

- Griffiths-like ac nonlinearity in a disordered antiferroelectric (*4 pages*) 180101(R)
Eugene V. Colla, M. B. Weissman, Wai-Hung Chan, and Haydn Chen
- Structural and electronic properties of oxygen vacancies in cubic and antiferrodistortive phases of SrTiO_3 (*4 pages*) 180102(R)
James P. Buban, Hakim Iddir, and Serdar Ögüt
- Amorphization in quenched ice VIII: A first-principles study (*4 pages*) 180103(R)
Koichiro Umemoto and Renata M. Wentzcovitch

Magnetism

- Ground-state order and spin-lattice coupling in tetrahedral spin systems $\text{Cu}_2\text{Te}_2\text{O}_5\text{X}_2$ ($\text{X} = \text{Br}$ or Cl) (*4 pages*) 180401(R)
M. Prester, A. Smontara, I. Živković, A. Bilušić, D. Drobac, H. Berger, and F. Bussy
- Switching-mode-dependent magnetic interlayer coupling strength in spin valves and magnetic tunnel junctions (*4 pages*) 180402(R)
Y. Pennec, J. Camarero, J. C. Toussaint, S. Pizzini, M. Bonfim, F. Petroff, W. Kuch, F. Offi, K. Fukumoto, F. Nguyen Van Dau, and J. Vogel
- Absence of hole pairing in a simple t - J model on the Shastry-Sutherland lattice (*4 pages*) 180403(R)
P. W. Leung and Y. F. Cheng
- Nanoscale phase competition during charge ordering in intrinsically strained $\text{La}_{0.33}\text{Ca}_{0.67}\text{MnO}_3$ (*4 pages*) 180404(R)
J. Tao and J. M. Zuo
- Pressure-induced transition from a spin glass to an itinerant ferromagnet in the half-doped manganite $\text{La}_{0.5}\text{Ba}_{0.5}\text{MnO}_3$ ($L = \text{Sm}$ and Nd) with quenched disorder (*4 pages*) 180405(R)
N. Takeshita, C. Terakura, D. Akahoshi, Y. Tokura, and H. Takagi

Superfluidity and superconductivity

- Origin of the A_{1g} and B_{1g} electronic Raman scattering peaks in the superconducting state of $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ (*4 pages*) 180501(R)
H. Martinho, A. A. Martin, C. Rettori, and C. T. Lin
- Josephson plasma resonance in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+y}$ with spatially dependent interlayer phase coherence (*4 pages*) 180502(R)
N. Kameda, M. Tokunaga, T. Tamegai, M. Konczykowski, and S. Okayasu
- Effect of morphology on the superconductor-insulator transition in one-dimensional nanowires (*4 pages*) 180503(R)
A. T. Bollinger, A. Rogachev, M. Remeika, and A. Bezryadin



Upper critical field and Fulde-Ferrell-Larkin-Ovchinnikov state in CeCoIn_5 (4 pages)	180504(R)
Hyekyung Won, Kazumi Maki, Stephan Haas, Niels Oeschler, Franziska Weickert, and Philipp Gegenwart	
Suppression of the vortex glass transition due to correlated defects with a persistent direction perpendicular to an applied magnetic field (4 pages)	180505(R)
Ryusuke Ikeda and Kiyokazu Myojin	
Optical conductivity of single crystals of $\text{Na}_{0.57}\text{CoO}_2$ (4 pages)	180506(R)
S. Lupi, M. Ortolani, and P. Calvani	
Single-shot measurement of the Josephson charge qubit (4 pages)	180507(R)
O. Astafiev, Yu. A. Pashkin, T. Yamamoto, Y. Nakamura, and J. S. Tsai	
Bulk electronic structure of $\text{Na}_{0.35}\text{CoO}_2 \cdot 1.3\text{H}_2\text{O}$ (4 pages)	180508(R)
A. Chainani, T. Yokoya, Y. Takata, K. Tamasaku, M. Taguchi, T. Shimojima, N. Kamakura, K. Horiba, S. Tsuda, S. Shin, D. Miwa, Y. Nishino, T. Ishikawa, M. Yabashi, K. Kobayashi, H. Namatame, M. Taniguchi, K. Takada, T. Sasaki, H. Sakurai, and E. Takayama-Muromachi	
Probing the superconducting gap symmetry of $\text{PrRu}_4\text{Sb}_{12}$: A comparison with $\text{PrOs}_4\text{Sb}_{12}$ (4 pages)	180509(R)
Elbert E. M. Chia, M. B. Salamon, H. Sugawara, and H. Sato	
Vortex solid-liquid transition in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ with a high density of strong pins (4 pages)	180510(R)
S. Colson, C. J. van der Beek, M. Konczykowski, M. B. Gaifullin, Y. Matsuda, P. Gierłowski, Ming Li, and P. H. Kes	
Quadrupolar effect and rattling motion in the heavy-fermion superconductor $\text{PrOs}_4\text{Sb}_{12}$ (4 pages)	180511(R)
Terutaka Goto, Yuichi Nemoto, Kazuhiro Sakai, Takashi Yamaguchi, Mitsuhiro Akatsu, Tatsuya Yanagisawa, Hirofumi Hazama, Kei Onuki, Hitoshi Sugawara, and Hideyuki Sato	
Electronic structure and superconductivity of CaAlSi and SrAlSi (4 pages)	180512(R)
I. I. Mazin and D. A. Papaconstantopoulos	
Heat-capacity anomalies at T_{sc} and T^* in the ferromagnetic superconductor UGe_2 (4 pages)	180513(R)
N. Tateiwa, T. C. Kobayashi, K. Amaya, Y. Haga, R. Settai, and Y. Ōnuki	

ARTICLES

Structure, structural phase transitions, mechanical properties, defects, etc.

Epitaxially strained $[\text{001}]\text{-(PbTiO}_3)_1(\text{PbZrO}_3)_1$ superlattice and PbTiO_3 from first principles (8 pages)	184101
Claudia Bungaro and K. M. Rabe	
Titanium metal at high pressure: Synchrotron experiments and <i>ab initio</i> calculations (4 pages)	184102
Rajeev Ahuja, Leonid Dubrovinsky, Natalia Dubrovinskaia, J. M. Osorio Guillen, Maurizio Mattesini, Börje Johansson, and Tristan Le Bihan	
Extinction effects in x-ray holographic imaging with internal reference (9 pages)	184103
P. Korecki, D. V. Novikov, M. Tolkiehn, and G. Materlik	
Lattice dynamics of perovskite $\text{Pb}_x\text{Ca}_{1-x}\text{TiO}_3$ (6 pages)	184104
Shou-Yi Kuo, Chung-Ting Li, and Wen-Feng Hsieh	
Pressure as a probe of the physics of ^{18}O -substituted SrTiO_3 (9 pages)	184105
E. L. Venturini, G. A. Samara, M. Itoh, and R. Wang	

Inhomogeneous, disordered, and partially ordered systems

Contact resistance in percolating networks (4 pages)	184201
P. Keblinski and F. Cleri	

Thermoelectric figure of merit of AlPdRe icosahedral quasicrystals: Composition-dependent effects (7 pages)	184202
Enrique Maciá	
Dynamics, dynamical systems, lattice effects, quantum solids, etc.	
First-principles investigation of high- κ dielectrics: Comparison between the silicates and oxides of hafnium and zirconium (10 pages)	184301
G.-M. Rignanese, X. Gonze, Gyuchang Jun, Kyeongjae Cho, and Alfredo Pasquarello	
Lumped-mass method for the study of band structure in two-dimensional phononic crystals (6 pages)	184302
Gang Wang, Jihong Wen, Yaozong Liu, and Xisen Wen	
Magnetism	
Superstructures at low spin–high spin transitions (4 pages)	184401
D. I. Khomskii and U. Löw	
Field-driven transitions in the dipolar pyrochlore antiferromagnet $\text{Gd}_2\text{Ti}_2\text{O}_7$ (5 pages)	184402
Olivier Cépas and B. Sriram Shastry	
Nonlinear excitations in CsNiF_3 in magnetic fields perpendicular to the easy plane (6 pages)	184403
M. Orendáč, A. Orendáčová, E. Čížmár J.-H. Park, A. Feher, S. J. Gamble, S. Gabáni, K. Flachbart, J. Karadamoglou, M. Poirier, and M. W. Meisel	
Electron-energy-loss spectra of NiO (6 pages)	184404
L. V. Dobysheva, P. L. Potapov, and D. Schryvers	
Search for mean-free-path effects in current-perpendicular-to-plane magnetoresistance (10 pages)	184405
Wen-C. Chiang, C. Ritz, K. Eid, R. Loloee, W. P. Pratt, Jr., and J. Bass	
Current-induced magnetization dynamics in current perpendicular to the plane spin valves (8 pages)	184406
M. Covington, M. AlHajDarwish, Y. Ding, N. J. Gokemeijer, and M. A. Seigler	
Quasiparticle vanishing driven by geometrical frustration (6 pages)	184407
A. E. Trumper, C. J. Gazza, and L. O. Manuel	
Coexistence of bandlike and localized $5f$ electrons in $\text{U}_x\text{La}_{1-x}\text{S}$ (6 pages)	184408
M. Broschwitz, C. Stellmach, M. Rode, M. Marutzky, D. Menzel, J. Schoenes, O. Vogt, and K. Mattenberger	
Self-assembled epitaxial magnetic lateral structures on Ru: Controlling the shape and placement (5 pages)	184409
Ruihua Cheng, J. Pearson, H. F. Ding, Vitali Metlushko, S. D. Bader, F. Y. Fradin, and Dongqi Li	
Spin-resonance modes of the spin-gap magnet TiCuCl_3 (9 pages)	184410
V. N. Glazkov, A. I. Smirnov, H. Tanaka, and A. Oosawa	
Magnetic and electronic properties of the antiferromagnet NpCoGa_5 (8 pages)	184411
E. Colineau, P. Javorský, P. Boulet, F. Wastin, J. C. Griveau, J. Rebizant, J. P. Sanchez, and G. R. Stewart	
Structural and electronic properties of the ordered double perovskites $A_2M\text{ReO}_6$ ($A=\text{Sr,Ca}$; $M=\text{Mg,Sc,Cr,Mn,Fe,Co,Ni,Zn}$) (8 pages)	184412
H. Kato, T. Okuda, Y. Okimoto, Y. Tomioka, K. Oikawa, T. Kamiyama, and Y. Tokura	
Magnetotransport properties of $(\text{La}_{1-y}\text{Pr}_y)_{0.65}\text{Ca}_{0.35}\text{MnO}_3$ ($y=0.0-0.7$) showing crossover from A-type to CE-type antiferromagnetic state (5 pages)	184413
Subhrangsu Taran, Sandip Chatterjee, and B. K. Chaudhuri	
Susceptibility and Dzyaloshinskii-Moriya interaction in the Haldane-gap compound $\text{Ni}(\text{C}_2\text{H}_8\text{N}_2)_2\text{NO}_2(\text{ClO}_4)$ (10 pages)	184414
Hai Huang and Ian Affleck	
Stability of the tetragonal Mn^{3+}O_6 distortions in the $\text{LaMn}_{1-x}\text{Ga}_x\text{O}_3$ series by x-ray absorption spectroscopy (9 pages)	184415
M. C. Sánchez, G. Subías, J. García, and J. Blasco	

Quantum properties of a strongly interacting frustrated disordered magnet (6 pages)	184416
James W. Landry and S. N. Coppersmith	
Two-magnon scattering in a self-assembled nanoscale network of misfit dislocations (10 pages)	184417
G. Woltersdorf and B. Heinrich	
Magnetostriction and magnetotransport in bismuth (4 pages)	184418
J.-P. Michenaud, B. Lenoir, and C. Bellouard	
Wide-scale evolution of magnetization distribution in ultrathin films (7 pages)	184419
M. Kisielewski, A. Maziewski, T. Polyakova, and V. Zablotskii	
Magnetic phases and reorientation transitions in antiferromagnetically coupled multilayers (15 pages)	184420
U. K. Rößler and A. N. Bogdanov	
Local magnetism in rare-earth metals encapsulated in fullerenes (7 pages)	184421
C. De Nadaï, A. Mirone, S. S. Dhesi, P. Bencok, N. B. Brookes, I. Marenne, P. Rudolf, N. Tagmatarchis, H. Shinohara, and T. J. S. Dennis	
Half-metallic character and electronic properties of inverse magnetoresistant $\text{Fe}_{1-x}\text{Co}_x\text{Si}$ alloys (6 pages)	184422
Javier Guevara, Verónica Vildosola, Julián Milano, and Ana María Llois	
Aging dynamics of the Heisenberg spin glass (15 pages)	184423
L. Berthier and A. P. Young	
Magnetization density calculation for diffusing spins (8 pages)	184424
Andre Marko, Bernd Wolter, and Walter Arnold	
Numerical Jordan-Wigner approach for two-dimensional spin systems (6 pages)	184425
D. C. Cabra and G. L. Rossini	

Superfluidity and superconductivity

Critical temperature for the two-dimensional attractive Hubbard model (5 pages)	184501
Thereza Paiva, Raimundo R. dos Santos, R. T. Scalettar, and P. J. H. Denteneer	
Split transition in ferromagnetic superconductors (13 pages)	184502
D. Belitz and T. R. Kirkpatrick	
Pseudo-spin-gap and slow spin fluctuation in $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$ ($x=0.13$ and 0.18) via ^{63}Cu and ^{139}La nuclear quadrupole resonance (8 pages)	184503
Y. Itoh, T. Machi, N. Koshizuka, M. Murakami, H. Yamagata, and M. Matsumura	
Guidance of vortices and the vortex ratchet effect in high- T_c superconducting thin films obtained by arrangement of antidots (6 pages)	184504
R. Wördenweber, P. Dymashevski, and V. R. Misko	
Quantum destruction of stiffness in diluted antiferromagnets and superconductors (5 pages)	184505
N. Bray-Ali and J. E. Moore	
Evidence for an excited nonequilibrium quasiparticle distribution in superconducting tunnel junctions resulting from energy accumulation via sequential tunneling (16 pages)	184506
A. G. Kozorezov, J. K. Wigmore, A. Peacock, R. den Hartog, D. Martin, G. Brammertz, P. Verhoeve, and N. Rando	
Muon spin relaxation and magnetic susceptibility studies of the effects of nonmagnetic impurities on the Cu spin dynamics and superconductivity in $\text{La}_{2-x}\text{Sr}_x\text{Cu}_{1-y}\text{Zn}_y\text{O}_4$ around $x=0.115$ (10 pages)	184507
T. Adachi, S. Yairi, K. Takahashi, Y. Koike, I. Watanabe, and K. Nagamine	
Structure optimization effects on the electronic and vibrational properties of $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ (8 pages)	184508
V. Bellini, F. Manghi, T. Thonhauser, and C. Ambrosch-Draxl	
Superconducting thin rings with finite penetration depth (12 pages)	184509
Ernst Helmut Brandt and John R. Clem	
Low-energy phase-only action in a superconductor: A comparison with the XY model (21 pages)	184510
L. Benfatto, A. Toschi, and S. Caprara	
Edge modes, edge currents, and gauge invariance in $p_x + ip_y$ superfluids and superconductors (12 pages)	184511
Michael Stone and Rahul Roy	

Zero-temperature glass transition in the two-dimensional gauge glass model (8 pages)	184512
Marios Nikolaou and Mats Wallin	
Absolute values of the London penetration depth in $\text{YBa}_2\text{Cu}_3\text{O}_{6+y}$ measured by zero field ESR spectroscopy on Gd doped single crystals (13 pages)	184513
T. Pereg-Barnea, P. J. Turner, R. Harris, G. K. Mullins, J. S. Bobowski, M. Raudsepp, Ruixing Liang, D. A. Bonn, and W. N. Hardy	
Reversible magnetization measurement of the anisotropy of the London penetration depth in MgB_2 single crystals (5 pages)	184514
Heon-Jung Kim, Byeongwon Kang, Min-Seok Park, Kyung-Hee Kim, Hyun Sook Lee, and Sung-Ik Lee	

COMMENTS

Comment on “Energy partitioning and particle spectra in multicomponent collision cascades” (2 pages)	186101
Zhu Lin Zhang	
Reply to “Comment on ‘Energy partitioning and particle spectra in multicomponent collision cascades’ ” (1 page)	186102
Herbert M. Urbassek and Martin Vicanek	

ERRATA

Erratum: Dimer liquid state in the quantum antiferromagnet compound LiCu_2O_2 [Phys. Rev. B 66 , 064424 (2002)] (1 page)	189901(E)
S. Zvyagin, G. Cao, Y. Xin, S. McCall, T. Caldwell, W. Moulton, L.-C. Brunel, A. Angerhofer, and J. E. Crow	
Publisher’s Note: Pseudo-spin-gap and slow spin fluctuation in $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$ ($x=0.13$ and 0.18) via ^{63}Cu and ^{109}La nuclear quadrupole resonance [Phys. Rev. B 69 , 184503 (2004)] (1 page)	189902(E)
Y. Itoh, T. Machi, N. Koshizuka, M. Murakami, H. Yamagata, and M. Matsumura	
Publisher’s Note: Comparative study of the I - V scaling in highly anisotropic $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ and isotropic (K,Ba) BiO_3 heavy-ion-irradiated single crystals [Phys. Rev. B 69 , 134508 (2004)] (1 page)	189903(E)
L. Ammor, B. Pignon, and A. Ruyter	
Erratum: Features of supercooled glycerol dynamics [Phys. Rev. B 67 , 132202 (2003)] (1 page)	189904(E)
Ya. E. Ryabov, Y. Hayashi, A. Gutina, and Y. Feldman	

Cumulative Author Index	i
-------------------------------	---