

Optimized Cooper pair pumps (8 pages)	144522
Shabnam Safaei, Simone Montangero, Fabio Taddei, and Rosario Fazio	
Effect of inhomogeneous coupling on BCS superconductors (11 pages)	144523
Yue Zou, Israel Klich, and Gil Refael	
Calculation of the volume pinning force in MgB ₂ superconductors (5 pages)	144524
M. Eisterer	
Weakening thickness dependence of critical current density in YBa ₂ Cu ₃ O _{7-x} films using nanotube pore insertion (5 pages)	144525
Xiang Wang, Alan Dibos, and J. Z. Wu	
Electromagnetic response of high- <i>T_c</i> superconductors: Slave-boson and doped-carrier theories (11 pages)	144526
Tiago C. Ribeiro and Xiao-Gang Wen	
Magnetic and transport properties of a coupled Hubbard bilayer with electron and hole doping (7 pages)	144527
K. Bouadim, G. G. Batrouni, F. Hébert, and R. T. Scalettar	
Search for spin-polarization effects in La _{0.7} Mn _{0.3} Ca ₃ O ₃ /YBa ₂ Cu ₃ O _{7-δ} thin-film bilayers (10 pages)	144528
X. Deng, M. Joshi, R. Chakalova, M. S. Colclough, R. Palai, Y. Y. Tse, I. P. Jones, H. Huhtinen, and C. M. Muirhead	

COMMENTS

Comment on “Quantum Monte Carlo scheme for frustrated Heisenberg antiferromagnets” (2 pages)	146401
K. S. D. Beach, Matthieu Mambrini, and Fabien Alet	
Reply to “Comment on ‘Quantum Monte Carlo scheme for frustrated Heisenberg antiferromagnets’ ” (1 page)	146402
Jacek Wojtkiewicz	

ERRATA

Erratum: Resistance noise in spin valves [Phys. Rev. B 75, 092405 (2007)] (1 page)	149901(E)
Jørn Foros, Arne Brataas, Gerrit E. W. Bauer, and Yaroslav Tserkovnyak	
Erratum: Phase transitions in the antiferromagnetic XY model with a kagomé lattice [Phys. Rev. B 65, 054416 (2002)] (1 page)	149902(E)
S. E. Korshunov	

Quantized spin Hall effect in $^3\text{He-A}$ and other p-wave paired Fermi systems (5 pages)	144504
Jun Goryo, Mahito Kohmoto, and Yong-Shi Wu	
Gradient corrections to the time-dependent Ginzburg-Landau equation for anisotropic perturbations of quasiparticles (16 pages)	144505
Pei-Jen Lin and P. Lipavský	
Variational approach to vortex penetration and vortex interaction (11 pages)	144506
A. D. Hernández and A. López	
Quantum metamaterials: Electromagnetic waves in a Josephson qubit line (7 pages)	144507
A. L. Rakhmanov, A. M. Zagoskin, Sergey Savel'ev, and Franco Nori	
Hydrodynamic boundary condition for superfluid flow (6 pages)	144508
Yves Pomeau and David C. Roberts	
Magnetic properties of vortex states in spherical superconductors (9 pages)	144509
Ben Xu, M. V. Milošević, and F. M. Peeters	
Impact of a finite cut-off for the optical sum rule in the superconducting state (8 pages)	144510
F. Marsiglio, E. van Heumen, and A. B. Kuzmenko	
Superfluid-insulator transition in Fermi-Bose mixtures and the orthogonality catastrophe (11 pages)	144511
G. Refael and E. Demler	
Quasiparticle resonance states around a magnetic impurity in a two-dimensional f -wave superconductor (6 pages)	144512
Xian-Jun Zuo, Jin An, and Chang-De Gong	
Strong magnetic field enhancement of spin triplet pairing arising from coexisting $2k_F$ spin and $2k_F$ charge fluctuations (5 pages)	144513
Hirohito Aizawa, Kazuhiko Kuroki, and Yukio Tanaka	
Chaos and plasticity in superconductor vortices: Low-dimensional dynamics (8 pages)	144514
E. Olive and J. C. Soret	
Transverse sound in differentially moving superfluid helium (6 pages)	144515
I. N. Adamenko, K. E. Nemchenko, V. A. Slipko, and A. F. G. Wyatt	
Gauge-invariant electromagnetic response of a chiral $p_x + ip_y$ superconductor (21 pages)	144516
Roman M. Lutchyn, Pavel Nagornykh, and Victor M. Yakovenko	
Mott transition in bosonic systems: Insights from the variational approach (11 pages)	144517
Manuela Capello, Federico Becca, Michele Fabrizio, and Sandro Sorella	
Magnetically coupled pancake vortex molecules in $\text{HgBa}_2\text{Ca}_{n-1}\text{Cu}_n\text{O}_y$ ($n \geq 6$) (7 pages)	144518
A. Crisan, A. Iyo, Y. Tanaka, H. Matsuhata, D. D. Shivagan, P. M. Shirage, K. Tokiwa, T. Watanabe, T. W. Button, and J. S. Abell	
Preemptive vortex-loop proliferation in multicomponent interacting Bose-Einstein condensates (12 pages)	144519
E. K. Dahl, E. Babaev, S. Kragset, and A. Sudbø	
Trionic phase of ultracold fermions in an optical lattice: A variational study (14 pages)	144520
Ákos Rapp, Walter Hofstetter, and Gergely Zaránd	
Josephson relation for the superfluid density in the BCS-BEC crossover (7 pages)	144521
Edward Taylor	

(Continued)

Magnetoresistance of Co nanoconstrictions fabricated by means of electron beam lithography (5 pages)	144422
Patrik Krzysteczko and Günter Dumpich	
Enhancement in spin-torque efficiency by nonuniform spin current generated within a tapered nanopillar spin valve (6 pages)	144423
P. M. Braganca, O. Ozatay, A. G. F. Garcia, O. J. Lee, D. C. Ralph, and R. A. Buhrman	
Rate of magnetization reversal due to nucleation of soliton-antisoliton pairs at point-like defects (14 pages)	144424
Peter N. Loxley	
Yb ₂ Pt ₂ Pb: Magnetic frustration in the Shastry-Sutherland lattice (7 pages)	144425
M. S. Kim, M. C. Bennett, and M. C. Aronson	
Weak ferromagnetism in TbNi ₂ B ₂ C (8 pages)	144426
H. Kawano-Furukawa, H. Tsukagoshi, T. Nagata, C. Kobayashi, H. Yoshizawa, and H. Takeya	
Spin dynamics of the charge-transfer phase transition of an iron mixed-valence complex observed using muon spin relaxation spectroscopy (5 pages)	144427
N. Kida, M. Enomoto, I. Watanabe, T. Suzuki, and N. Kojima	
Scaling analysis and application: Phase diagram of magnetic nanorings and elliptical nanoparticles (8 pages)	144428
Wen Zhang, Rohit Singh, Noah Bray-Ali, and Stephan Haas	
Hyperfine fields in an Ag/Fe multilayer film investigated with ⁸ Li β -detected NMR (5 pages)	144429
T. A. Keeler, Z. Salman, K. H. Chow, B. Heinrich, M. D. Hossian, B. Kardasz, R. F. Kiefl, S. R. Kreitzman, C. D. P. Levy, W. A. MacFarlane, O. Mosendz, T. J. Parolin, M. R. Pearson, and D. Wang	
Magnetic properties of one-dimensional Ni/Cu and Ni/Al multilayered nanowires: Role of nonmagnetic spacers (8 pages)	144430
Partha Pratim Pal and Ranjit Pati	
Theory of nonspecular tunneling through magnetic tunnel junctions (8 pages)	144431
X.-G. Zhang, Yan Wang, and X. F. Han	
Thermodynamic and transport studies of the ferromagnetic filled skutterudite compound PrFe ₄ As ₁₂ (12 pages)	144432
T. A. Sayles, W. M. Yuhasz, J. Paglione, T. Yanagisawa, J. R. Jeffries, M. B. Maple, Z. Henkie, A. Pietraszko, T. Cichorek, R. Wawryk, Y. Nemoto, and T. Goto	
Spin-wave interaction in two-dimensional ferromagnets with dipolar forces (15 pages)	144433
A. V. Syromyatnikov	
Superfluidity and superconductivity	
Zero-crossing Shapiro steps in high- T_c superconducting microstructures tailored by a focused ion beam (5 pages)	144501
Myung-Ho Bae, R. C. Dinsmore III, M. Sahu, Hu-Jong Lee, and A. Bezryadin	
Pressure effects on the superconducting transition in nH -CaAlSi (7 pages)	144502
L. Boeri, J. S. Kim, M. Giantomassi, F. S. Razavi, S. Kuroiwa, J. Akimitsu, and R. K. Kremer	
Microscopic modeling of phonon dynamics and charge response in NdCuO (21 pages)	144503
Thomas Bauer and Claus Falter	

(Continued)

Critical point in the strong-field magnetotransport of a three-dimensional binary disordered composite medium (6 pages)	144406
Ronen Magier and David J. Bergman	
Artificial ferrimagnetic structure and thermal hysteresis in $\text{Gd}_{0.47}\text{Co}_{0.53}/\text{Co}$ multilayers (7 pages)	144407
J. P. Andrés, J. A. González, T. P. A. Hase, B. K. Tanner, and J. M. Riveiro	
Role of magnetic impurities in Fe/V multilayers (6 pages)	144408
B. Skubic, E. Holmström, A. Bergman, and O. Eriksson	
Evidence of intrinsic exchange bias and its origin in spin-glass-like disordered $L_{0.5}\text{Sr}_{0.5}\text{MnO}_3$ manganites ($L=\text{Y}$, $\text{Y}_{0.5}\text{Sm}_{0.5}$, and $\text{Y}_{0.5}\text{La}_{0.5}$) (10 pages)	144409
Shilpi Karmakar, S. Taran, Esa Bose, B. K. Chaudhuri, C. P. Sun, C. L. Huang, and H. D. Yang	
High-precision determination of universal amplitude ratios for the $q=3$ Potts model in two dimensions (10 pages)	144410
Lev N. Shchur, Bertrand Berche, and Paolo Butera	
☞ Evidence of $L1_0$ chemical order in CoPt nanoclusters: Direct observation and magnetic signature (11 pages)	144411
Florent Tournus, Alexandre Tamion, Nils Blanc, Abdelkrim Hannour, Laurent Bardotti, Brigitte Prével, Philippe Ohresser, Edgar Bonet, Thierry Epicier, and Véronique Dupuis	
Magnetothermal study of a Dy-stuffed spin ice: $\text{Dy}_2(\text{Dy}_x\text{Ti}_{2-x})\text{O}_{7-x/2}$ (5 pages)	144412
B. G. Ueland, G. C. Lau, R. S. Freitas, J. Snyder, M. L. Dahlberg, B. D. Muegge, E. L. Duncan, R. J. Cava, and P. Schiffer	
Fourfold degenerate columnar-dimer ground state in square lattice antiferromagnets (10 pages)	144413
Rakesh Kumar and Brijesh Kumar	
Energetics and magnetic impact of 3d-metal doping of the half-metallic ferromagnet NiMnSb (9 pages)	144414
B. Alling, M. Ekholm, and I. A. Abrikosov	
Triplet and singlet excitations in the valence bond crystal phase of the kagome lattice Heisenberg model (7 pages)	144415
Rajiv R. P. Singh and David A. Huse	
Soliton spin excitations and their perturbation in a generalized inhomogeneous Heisenberg ferromagnet (14 pages)	144416
M. Daniel and J. Beula	
Resonant domain wall depinning induced by oscillating spin-polarized currents in thin ferromagnetic strips (12 pages)	144417
E. Martinez, L. Lopez-Diaz, O. Alejos, and L. Torres	
Droplets in the two-dimensional $\pm J$ Ising spin glass (5 pages)	144418
A. K. Hartmann	
☞ ^7Li NMR study of heavy-fermion LiV_2O_4 containing magnetic defects (17 pages)	144419
X. Zong, S. Das, F. Borsa, M. D. Vannette, R. Prozorov, J. Schmalian, and D. C. Johnston	
Influence of domain wall pinning on the dynamic behavior of magnetic vortex structures: Time-resolved scanning x-ray transmission microscopy in NiFe thin film structures (5 pages)	144420
A. Vansteenkiste, J. De Baerdemaeker, K. W. Chou, H. Stoll, M. Curcic, T. Tyliczszak, G. Woltersdorf, C. H. Back, G. Schütz, and B. Van Waeyenberge	
Magnetic anisotropy in the Fe(II)Fe(III) bimetallic oxalates (10 pages)	144421
Randy S. Fishman and Fernando A. Reboredo	

(Continued)

Inhomogeneous, disordered, and partially ordered systems

Homogenization of radiation transfer in two-phase media with irregular phase boundaries (<i>14 pages</i>)	144201
A. V. Gusarov	
Static atomic displacements in Cu-Mn measured with diffuse x-ray scattering (<i>8 pages</i>)	144202
B. Schönfeld, H. Roelofs, G. Kostorz, J. L. Robertson, P. Zschack, and G. E. Ice	
Griffiths-McCoy singularities in random quantum spin chains: Exact results (<i>7 pages</i>)	144203
Ferenc Iglói and István A. Kovács	
Chemical short-range order and lattice deformations in $\text{Mg}_y\text{Ti}_{1-y}\text{H}_x$ thin films probed by hydrogenography (<i>10 pages</i>)	144204
R. Gremaud, A. Baldi, M. Gonzalez-Silveira, B. Dam, and R. Griessen	
Coupled orientational and displacive degrees of freedom in the high-temperature plastic phase of the carbon tetrabromide $\alpha\text{-CBr}_4$ (<i>10 pages</i>)	144205
Jacob C. W. Folmer, Ray L. Withers, T. R. Welberry, and James D. Martin	
<i>In situ</i> study of amorphization and changes in coordination in $\text{Si}_2\text{N}_2\text{O}$ at high pressure (<i>6 pages</i>)	144206
J. Haines and M. Santoro	
Short and intermediate range order in amorphous GeSe_2 (<i>10 pages</i>)	144207
Carlo Massobrio and Alfredo Pasquarello	
Low-energy antiphase boundaries, degenerate superstructures, and phase stability in frustrated fcc Ising model and Ag-Au alloys (<i>9 pages</i>)	144208
N. A. Zarkevich, Teck L. Tan, L.-L. Wang, and D. D. Johnson	
Formation and structure of amorphous carbon char from polymer materials (<i>6 pages</i>)	144209
John W. Lawson and Deepak Srivastava	

Dynamics, dynamical systems, lattice effects, quantum solids

Lattice dynamics of skutterudites: Inelastic x-ray scattering on CoSb_3 (<i>5 pages</i>)	144301
M. Rotter, P. Rogl, A. Grytsiv, W. Wolf, M. Krisch, and A. Mirone	
☞ Observations outside the light cone: Algorithms for nonequilibrium and thermal states (<i>13 pages</i>)	144302
M. B. Hastings	

Magnetism

Model for a collimated spin-wave beam generated by a single-layer spin torque nanocontact (<i>8 pages</i>)	144401
M. A. Hoefer, T. J. Silva, and M. D. Stiles	
Doping variation of anisotropic charge and orbital dynamics in $\text{Y}_{1-x}\text{Ca}_x\text{VO}_3$: Comparison with $\text{La}_{1-x}\text{Sr}_x\text{VO}_3$ (<i>10 pages</i>)	144402
J. Fujioka, S. Miyasaka, and Y. Tokura	
Spin-glass transition in single-crystal BiFeO_3 (<i>5 pages</i>)	144403
Manoj K. Singh, W. Prellier, M. P. Singh, Ram S. Katiyar, and J. F. Scott	
^{63,65} Cu NMR and NQR evidence for an unusual spin dynamics in PrCu_2 below 100 K (<i>7 pages</i>)	144404
A. Sacchetti, M. Weller, J. L. Gavilano, R. Mudliar, B. Pedrini, K. Magishi, H. R. Ott, R. Monnier, B. Delley, and Y. Ōnuki	
Structural and magnetic properties of the ternary solid solution between CoSb and $\text{Fe}_{1+\delta}\text{Sb}$ (<i>11 pages</i>)	144405
P. Amornpitoksuk, D. Ravot, A. Mauger, and J. C. Tedenac	

(Continued)