

RAPID COMMUNICATIONS

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

- Microscopic study of oxygen-vacancy defects in ferroelectric perovskites R13 961
C. H. Park and D. J. Chadi
- Role of electron-phonon coupling on collision cascade development in Ni, Pd, and Pt R13 965
K. Nordlund, L. Wei, Y. Zhong, and R. S. Averback
- Low-temperature structural model of hcp solid C_{70} R13 969
G. Ghosh, V. S. Sastry, and T. S. Radhakrishnan
- Enhancement of piezoelectricity in a mixed ferroelectric R13 973
Eric Cockayne and Karin M. Rabe

Inhomogeneous, disordered, and partially ordered systems

- Comparison of the structural and orientational glass-transition dynamics in ethanol R13 977
M. A. Miller, M. Jimenez-Ruiz, F. J. Bermejo, and Norman O. Birge

Dynamics, dynamical systems, lattice effects, quantum solids, etc.

- Viscous effects in brittle fracture R13 981
O. Pla, F. Guinea, E. Louis, S. V. Ghaisas, and L. M. Sander
- Parallel replica method for dynamics of infrequent events R13 985
Arthur F. Voter
- Brillouin-scattering observation of the TA-TO coupling in $SrTiO_3$ R13 989
B. Hehlen, L. Arzel, A. K. Tagantsev, E. Courtens, Y. Inaba, A. Yamanaka, and K. Inoue

Magnetism

- Orbital polarization in manganese oxides R13 993
Ryo Maezono, Sumio Ishihara, and Naoto Nagaosa
- Temperature dependence of the Hall angle in a correlated three-dimensional metal R13 997
T. F. Rosenbaum, A. Husmann, S. A. Carter, and J. M. Honig
- Spontaneous vortex phase in a superconducting weak ferromagnet R14 000
E. B. Sonin and I. Felner
- Nonadiabatic approach to spin-Peierls transitions via flow equations R14 004
Götz S. Uhrig
- Thermodynamic properties of Heisenberg ferrimagnetic spin chains: Ferromagnetic-antiferromagnetic crossover ... R14 008
Shoji Yamamoto and Takahiro Fukui
- Intrinsic localized modes of bright and dark types in ferromagnetic Heisenberg chains R14 012
Svetlana V. Rakhmanova and Andrei V. Shchegrov
- Thermodynamic properties of a band Jahn-Teller system R14 016
Y. M. Li, N. d'Ambrumenil, and P. Fulde
- Unusual effect of interatomic interactions on magnetism: Rh adatoms on the $Ag(001)$ surface R14 020
V. S. Stepanyuk, W. Hergert, P. Rennert, J. Izquierdo, A. Vega, and L. C. Balbás
- Spin-wave series for quantum one-dimensional ferrimagnets R14 024
N. B. Ivanov



Magnetization behavior of nanometer-scale iron particles	R14 028
S. Wirth, M. Field, D. D. Awschalom, and S. von Molnár	
Magnetic percolation and giant spontaneous Hall effect in $\text{La}_{1-x}\text{Ca}_x\text{CoO}_3$ ($0.2 \leq x \leq 0.5$)	R14 032
A. V. Samoilov, G. Beach, C. C. Fu, N.-C. Yeh, and R. P. Vasquez	
Temperature-dependent crossover from ferro- to antiferromagnetic interlayer alignment due to magnetic anisotropy energy	R14 036
P. Pouloupoulos, U. Bovensiepen, M. Farle, and K. Baberschke	
Thermal excitations in quasi-one-dimensional amorphous ferromagnetic wires	R14 040
J. P. Nozières, M. Ghidini, C. Pinettes, C. Lacroix, B. Gervais, G. Suran, and D. Dufeu	
<i>Ab initio</i> calculation of the giant magnetostriction in terbium and erbium	R14 044
S. Buck and M. Fähnle	

Superfluidity and superconductivity

Dimple-assisted dewetting in rotating superfluid films	R14 048
R. Blossey	
Classification of the Van Hove scenario as an $\text{SO}(8)$ spectrum-generating algebra	R14 052
R. S. Markiewicz and M. T. Vaughn	
Structural disorder and its effect on the superconducting transition temperature in the organic superconductor $\kappa\text{-(BEDT-TTF)}_2\text{Cu}[\text{N}(\text{CN})_2]\text{Br}$	R14 056
X. Su, F. Zuo, J. A. Schlueter, M. E. Kelly, and Jack M. Williams	
Time-reversal symmetry-breaking states near grain boundaries between d -wave superconductors	R14 060
M. Fogelström and S.-K. Yip	
Empirical scaling of the vortex glass line above 1 T for high- T_c superconductors of varying anisotropy	R14 064
B. Lundqvist, A. Rydh, Yu. Eltsev, Ö. Rapp, and M. Andersson	
Role of interfaces in the proximity effect in anisotropic superconductors	R14 068
E. Polturak, G. Koren, D. Cohen, O. Nesher, R. G. Mints, and I. Snapiro	
CuO-chain Raman scattering and photoinduced metastability in $\text{YBa}_2\text{Cu}_3\text{O}_x$	R14 072
M. Käll, M. Osada, M. Kakihana, L. Börjesson, T. Frello, J. Madsen, N. H. Andersen, R. Liang, P. Dosanjh, and W. N. Hardy	
Barrier properties in $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ grain-boundary Josephson junctions using electron-beam irradiation	R14 076
F. Tafuri, B. Nadgorny, S. Shokhor, M. Gurvitch, F. Lombardi, F. Carillo, A. Di Chiara, and E. Sarnelli	
Local voltage-current characteristics in high- T_c superconductors	R14 080
D. Giller, Y. Abulafia, R. Prozorov, Y. Wolfus, A. Shaulov, and Y. Yeshurun	
Transport measurements of in-plane critical fields in $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ to 300 T	R14 084
A. S. Dzurak, B. E. Kane, R. G. Clark, N. E. Lumpkin, J. O'Brien, G. R. Facer, R. P. Starrett, A. Skougarevsky, H. Nakagawa, N. Miura, Y. Enomoto, D. G. Rickel, J. D. Goettee, L. J. Campbell, C. M. Fowler, C. Mielke, J. C. King, W. D. Zerwekh, D. Clark, B. D. Bartram, A. I. Bykov, O. M. Tatsenko, V. V. Platonov, E. E. Mitchell, J. Herrmann, and K.-H. Müller	
Effect of columnar defects on the vortex-solid melting transition in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$	R14 088
B. Khaykovich, M. Konczykowski, K. Teitelbaum, E. Zeldov, H. Shtrikman, and M. Rappaport	

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

X-ray-diffraction study of critical phenomena at the spin-Peierls transition in CuGeO_3	14 097
M. D. Lumsden, B. D. Gaulin, and H. Dabkowska	
Index of refraction, polarizability, and equation of state of solid molecular hydrogen	14 105
William J. Evans and Isaac F. Silvera	

Monte Carlo simulation of first-order phase transformations with mutual blocking of anisotropically growing particles up to all relevant orders	14 110
T. Pusztai and L. Gránásy	
Local structural deformation in $[\text{Zn}(1\text{-propyltetrazole})_6](\text{BF}_4)_2$ and $[\text{Fe}(1\text{-propyltetrazole})_6](\text{BF}_4)_2$ crystals observed by positron-annihilation spectroscopy	14 119
Yasuyoshi Nagai, Haruo Saito, Toshio Hyodo, Attila Vértes, and Károly Süvegh	
Local order in CVD diamond films : Comparative Raman, x-ray-diffraction, and x-ray-absorption near-edge studies	14 123
L. Fayette, B. Marcus, M. Mermoux, G. Tourillon, K. Laffon, P. Parent, and F. Le Normand	
Dynamic structure factor of vitreous silica from first principles: Comparison to neutron-inelastic-scattering experiments	14 133
Alfredo Pasquarello, Johannes Sarnthein, and Roberto Car	
Sagittal elastic waves in Fibonacci superlattices	14 141
L. Fernández-Alvarez and V. R. Velasco	

Inhomogeneous, disordered, and partially ordered systems

Reverse Monte Carlo analysis of the structure of glassy carbon using electron-microscopy data	14 148
B. O'Malley, I. Snook, and D. McCulloch	
Deuteron NMR investigations of glass and phase transitions in $(\text{KI})_{1-x}(\text{ND}_4\text{I})_x$ mixed crystals	14 158
M. Winterlich, A. Titze, G. Hinze, and R. Böhmer	
Applicability of the coherent-potential approximation in the theory of random alloys	14 164
I. A. Abrikosov and B. Johansson	
Level curvature distribution and the structure of eigenfunctions in disordered systems	14 174
C. Basu, C. M. Canali, V. E. Kravtsov, and I. V. Yurkevich	
Analysis of mechanical losses due to ion-transport processes in silicate glasses	14 192
B. Roling and M. D. Ingram	
Mean free time for excimer light emission in conjugated polymers	14 200
E. M. Conwell	
Atomistic analysis of the field-ion microscopy image of Fe_3Al	14 203
Chen Nan-xian, Ge Xi-jin, Zhang Wen-qing, and Zhu Feng-wu	

Dynamics, dynamical systems, lattice effects, quantum solids, etc.

Raman-active modes in wurtzite $(\text{GaN})_m(\text{AlN})_n$ superlattices	14 209
Yu. E. Kitaev, M. F. Limonov, P. Tronc, and G. N. Yushin	
Solitary plane waves in an isotropic hexagonal lattice	14 213
Y. Zolotaryuk, A. V. Savin, and P. L. Christiansen	
Nonequilibrium temperature and hyperbolic heat conduction	14 228
A. Barletta and E. Zanchini	

Magnetism

Specific heat in the spin model for $\text{Nd}_{2-x}\text{Ce}_x\text{CuO}_4$	14 235
Jan Bala	
Effective theory for midgap states in doped spin-ladder and spin-Peierls systems: Liouville quantum mechanics ...	14 242
David G. Shelton and Alexei M. Tsvelik	
Real-space approach to the calculation of magnetocrystalline anisotropy in metals	14 247
S. V. Beiden, W. M. Temmerman, Z. Szotek, G. A. Gehring, G. M. Stocks, Yang Wang, D. M. C. Nicholson, W. A. Shelton, and H. Ebert	
Renormalization-group study of Anderson and Kondo impurities in gapless Fermi systems	14 254
Carlos Gonzalez-Buxton and Kevin Ingersent	

Exchange-induced enhancement of T_C in $\text{Co}_{1-x}(\text{EuS})_x$ macroscopic ferrimagnets	14 294
P. Fumagalli, A. Schirmeisen, and R. J. Gambino	
Structure, exchange interactions, and magnetic phase transition of $\text{Er}_2\text{Fe}_{17-x}\text{Al}_x$ intermetallic compounds	14 299
Zhao-hua Cheng, Bao-gen Shen, Qi-wei Yan, Hui-qun Guo, Dong-feng Chen, Cheng Gou, Kai Sun, F. R. de Boer, and K. H. J. Buschow	
Photoelectron diffraction: A source for magnetic dichroism in angle-resolved photoemission from ferromagnets ...	14 310
R. Schellenberg, E. Kisker, A. Fanelsa, F. U. Hillebrecht, J. G. Menchero, A. P. Kaduwela, C. S. Fadley, and M. A. Van Hove	
Dynamics of the magnetization reversal in Au/Co/Au micrometer-size dot arrays	14 320
J.-P. Jamet, S. Lemerle, P. Meyer, J. Ferré, B. Bartenlian, N. Bardou, C. Chappert, P. Veillet, F. Rousseaux, D. Decanini, and H. Launois	
Quasistatic remagnetization processes in two-dimensional systems with random on-site anisotropy and dipolar interaction: Numerical simulations	14 332
D. V. Berkov and N. L. Gorn	
Electron-spin-resonance investigation of the heavy-fermion compound $\text{Ce}(\text{Cu}_{1-x}\text{Ni}_x)_2\text{Ge}_2$	14 344
H.-A. Krug von Nidda, A. Schütz, M. Heil, B. Elschner, and A. Loidl	
Electronic structure, local moments, and transport in Fe_2VAl	14 352
D. J. Singh and I. I. Mazin	
Field-induced spin-density-wave transitions and rapid oscillations observed in the microwave surface impedance of (TMTSF) $_2\text{ClO}_4$	14 357
P. Fertey, M. Poirier, and H. Müller	
High-temperature photomagnetism in Co-doped yttrium iron garnet films	14 366
A. B. Chizhik, I. I. Davidenko, A. Maziewski, and A. Stupakiewicz	
Magnetic linear dichroism in valence-band photoemission: Experimental and theoretical study of Fe(110)	14 370
A. Rampe, G. Güntherodt, D. Hartmann, J. Henk, T. Scheunemann, and R. Feder	

Superfluidity and superconductivity

Temperature scale and heat capacity of superfluid $^3\text{He-B}$ in the 100 μK range	14 381
C. Bäuerle, Yu. M. Bunkov, S. N. Fisher, and H. Godfrin	
Superconducting magnetization above the irreversibility line in $\text{Tl}_2\text{Ba}_2\text{CuO}_{6+\delta}$	14 387
C. Bergemann, A. W. Tyler, A. P. Mackenzie, J. R. Cooper, S. R. Julian, and D. E. Farrell	
Electrodynamic response of disordered Josephson-junction arrays	14 397
Matteo Mombelli and Hans Beck	
Critical-temperature-oscillations dependence on Mn concentration in superconducting Nb/CuMn multilayers	14 411
C. Attanasio, C. Coccorese, L. V. Mercaldo, S. L. Prischepa, M. Salvato, and L. Maritato	
Direct observation of the superconducting energy gap developing in the conductivity spectra of niobium	14 416
A. V. Pronin, M. Dressel, A. Pimenov, A. Loidl, I. V. Roshchin, and L. H. Greene	
^2D NMR in α -(h_8 -BEDT-TTF) $_2\text{ND}_4\text{Hg}(\text{SCN})_4$	14 422
S. Endo, T. Goto, T. Fukase, H. Uozaki, K. Okamoto, and N. Toyota	
Differences between Ca-Th and Ca-Pr doped 1:2:3 superconductors: Evidence for disorder-depressed T_c for Ca-Th doping	14 428
B. Lundqvist, P. Lundqvist, and Ö. Rapp	
Inhomogeneous states of nonequilibrium superconductors: Quasiparticle bags and antiphase domain walls	14 433
M. I. Salkola and J. R. Schrieffer	
Weakly localized bosons	14 440
D. Das and S. Doniach	
Anisotropy dependence of the c -axis phonon dispersion in the high-temperature superconductors	14 444
Claus Falter, Michael Klenner, and Georg A. Hoffmann	
Electron-phonon coupling and properties of doped BaBiO_3	14 453
V. Meregalli and S. Y. Savrasov	

Specific-heat anomaly of overdoped $\text{Bi}_{1.8}\text{Pb}_{0.3}\text{Sr}_{1.9}\text{CuO}_y$	14 470
H. Mayama, Y. Okajima, and K. Yamaya	
Nature of the low-field transition in the mixed state of high-temperature superconductors	14 476
Seungoh Ryu and David Stroud	
Thermodynamics of the first-order vortex lattice melting transition in $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$	14 498
Matthew J. W. Dodgson, Vadim B. Geshkenbein, Henrik Nordborg, and Gianni Blatter	
Magnetic studies on the field-driven transition from decoupled to coupled pancake vortex phase in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ with columnar defects	14 507
Noriko Chikumoto, Makoto Kosugi, Yuji Matsuda, Marcin Konczykowski, and Kohji Kishio	
Observation of vortex lattice melting in twinned $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ using neutron small-angle scattering	14 511
C. M. Aegerter, S. T. Johnson, W. J. Nuttall, S. H. Lloyd, M. T. Wylie, M. P. Nutley, E. M. Forgan, R. Cubitt, S. L. Lee, D. McK. Paul, M. Yethiraj, and H. A. Mook	
Tunneling spectroscopy with intrinsic Josephson junctions in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ and $\text{Tl}_2\text{Ba}_2\text{Ca}_2\text{Cu}_3\text{O}_{10+\delta}$	14 518
K. Schlenga, R. Kleiner, G. Hechtfisher, M. Mößle, S. Schmitt, Paul Müller, Ch. Helm, Ch. Preis, F. Forsthofer, J. Keller, H. L. Johnson, M. Veith, and E. Steinbeiß	
Cumulative Author Index	14537