

RAPID COMMUNICATIONS

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

- Temperature-induced neutral-ionic transition in 2-chloro-5-methyl-
p-phenylenediamine-2,5-dimethyl-dicyanoquinonedimine R2893
Shinya Aoki and Toshio Nakayama
- Reversible loading of epitaxial Y(00.1) films with hydrogen R2897
A. Remhof, G. Song, K. Theis-Bröhl, and H. Zabel
- Experimental evidence of nonactivated creep in $\text{Pb}(\text{Zr}_x\text{Ti}_{1-x})\text{O}_3$ ceramics at low temperatures R2900
E. Pérez-Enciso, N. Agraït, and S. Vieira

Inhomogeneous, disordered, and partially ordered systems

- Effect of dipoles on carrier drift and diffusion of molecularly doped polymers R2904
Akiko Hirao and Hideyuki Nishizawa

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

- Stepwise quantum decay of self-localized solitons R2908
V. Hizhnyakov and D. Nevedrov

Magnetism

- Soliton width in the incommensurate phase of spin-Peierls systems R2912
Ariel Dobry and José A. Riera
- Magnetic and transport properties of single-crystal Ca_2RuO_4 : Relationship to superconducting Sr_2RuO_4 R2916
G. Cao, S. McCall, M. Shepard, J. E. Crow, and R. P. Guertin
- Dynamics of disordered heavy-fermion systems R2920
A. Chattopadhyay and M. Jarrell
- Origin of the polar Kerr effect in PtMnSb and NiMnSb R2924
J. van Ek and J. M. Maclaren

Superfluidity and superconductivity

- High-temperature series expansions with cyclic exchanges on a triangular lattice: Application to two-dimensional
solid ^3He R2928
M. Roger
- Coherent diffusive transport mediated by Andreev reflections at $V=\Delta/e$ in a mesoscopic superconductor/
semiconductor/superconductor junction R2932
J. Kutchinsky, R. Taboryski, O. Kuhn, C. B. Sørensen, P. E. Lindelof, A. Kristensen,
J. Bindslev Hansen, C. Schelde Jacobsen, and J. L. Skov
- Evidence for a vortex-lattice melting transition in an organic superconductor R2936
L. Fruchter, A. Aburto, and C. Pham-Phu
- Screening of the B_{1g} Raman response in *d*-wave superconductors R2940
D. Manske, C. T. Rieck, R. Das Sharma, A. Bock, and D. Fay



Pinning and the intrinsic magnetic-field dependence of the mixed-state Hall conductivity in amorphous Mo_3Si and $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$	R2944
A. W. Smith, T. W. Clinton, Wu Liu, C. C. Tsuei, A. Pique, Qi Li, and C. J. Lobb	
Anomalous hysteresis in the Josephson plasma resonance of $\text{Bi}_2\text{Sr}_2\text{CaCuO}_{8+\delta}$ for fields close to alignment with the ab plane	R2948
Ophelia K. C. Tsui, Sibel P. Bayrakci, N. P. Ong, K. Kishio, and S. Watauchi	
Normal-state magnetic susceptibility in a bilayer cuprate	R2952
W. C. Wu, B. W. Statt, Ya-Wei Hsueh, and J. P. Carbotte	

ARTICLES

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

Melting and dynamics of two-dimensional Coulomb systems in the presence of a magnetic field	2957
Girija S. Dubey and Godfrey Gumbs	
<i>Ab initio</i> molecular-dynamics study of pressure-induced glass-to-crystal transitions in the sodium system	2962
Masaru I. Aoki and Kazuo Tsumuraya	
Crystallography of a two-dimensional binary crystal with local distortions	2969
D. A. Dimitrov, A. R. Bishop, and S. D. Conradson	
Simulations of the atomic structure, energetics, and cross slip of screw dislocations in copper	2977
T. Rasmussen, K. W. Jacobsen, T. Leffers, and O. B. Pedersen	
Shear elasticity of RbCN and related mixed crystals	2991
A. Binder, K. Knorr, and F. Luty	
Mechanisms of membrane rupture: From cracks to pores	2997
Zicong Zhou and Béla Joós	
Universal-binding-energy relations across the rock-salt–cesium chloride phase transition in alkali halides	3010
A. Martín Pendás, J. M. Recio, E. Francisco, and V. Luaña	
Influence of the glass transition on the secondary relaxation of an epoxy resin	3016
R. Casalini, D. Fioretto, A. Livi, M. Lucchesi, and P. A. Rolla	
Optical studies of Cr^{3+} in KMgF_3 : Time-resolved site-selective spectroscopy and experimental evidence of spin-orbit coupling	3022
M. Mortier, Q. Wang, J. Y. Buzaré, M. Rousseau, and B. Piriou	
Thermal formation of atomic vacancies in Ni_3Al	3032
K. Badura-Gergen and H.-E. Schaefer	
Two-photon absorption spectroscopy of Ce^{3+} in LuPO_4	3038
K. M. Murdoch, A. D. Nguyen, N. M. Edelstein, S. Hubert, and J. C. Gâcon	
<i>In situ</i> studies of morphology, strain, and growth modes of a molecular organic thin film	3046
P. Fenter, F. Schreiber, L. Zhou, P. Eisenberger, and S. R. Forrest	

Inhomogeneous, disordered, and partially ordered systems

<i>Ab initio</i> molecular-dynamics study of liquid GeSe_2	3054
Mark Cobb and D. A. Drabold	
UV irradiation-induced defect study of GeO_2 - SiO_2 glasses by Raman spectroscopy	3066
F. X. Liu, J. Y. Qian, X. L. Wang, L. Liu, and H. Ming	
Electronic structure and transport properties of decagonal Al-Cu-Co alloys	3072
M. Krajčí, J. Hafner, and M. Mihalkovič	
Metal-insulator transition in highly conducting oriented polymers	3086
N. Dupuis	

Dissociation and thermodynamics of dense fluid hydrogen	3094
Alex Bunker, Stefan Nagel, Ronald Redmer, and Gerd Röpke	
Dynamics, dynamical systems, lattice effects, quantum solids, etc.	
Structural and nonstructural factors in fast ion conduction in Ag_2SO_4 at high pressure	3099
Richard A. Secco and Etalo A. Secco	
Polaron and bipolaron formation in a cubic perovskite lattice	3105
Vladimir N. Kostur and Philip B. Allen	
Four-membered silicate rings: Vibrational analysis of $\text{BaCuSi}_2\text{O}_6$ and implications for glass structure	3114
David A. McKeown and Michael I. Bell	
Isotope dependencies of Raman spectra of B_{12}As_2 , B_{12}P_2 , B_{12}O_2 , and $\text{B}_{12+x}\text{C}_{3-x}$: Bonding of intericosahedral chains	3122
T. L. Aselage, D. R. Tallant, and D. Emin	
Decay of metastable states: Sharp transition from quantum to classical behavior	3130
D. A. Gorokhov and G. Blatter	
Magnetism	
Competition between Kondo effect and RKKY interactions in heavy-fermion systems: Transport properties	3140
Sanjeev Kumar, P. K. Ahluwalia, and K. C. Sharma	
Competition between Kondo effect and RKKY interactions in heavy-fermion systems: Specific heat	3145
Ashwani Kumar, P. K. Ahluwalia, S. Kumar, and K. C. Sharma	
Exact ground and excited states of frustrated antiferromagnets on the CaV_4O_9 lattice	3149
Indrani Bose and Asimkumar Ghosh	
Cohesive energy, local magnetic properties, and Curie temperature of Fe_3B studied using the self-consistent LMTD method	3153
Yong Kong and Fashen Li	
Magnetic phases near the Van Hove singularity in s - and d -band Hubbard models	3159
Marcus Fleck, Andrzej M. Oleś, and Lars Hedin	
Weak disorder in the two-dimensional XY dipole ferromagnet	3167
D. E. Feldman	
Spin-Peierls and antiferromagnetic phases in $\text{Cu}_{1-x}\text{Zn}_x\text{GeO}_3$: A neutron-scattering study	3173
Michael C. Martin, M. Hase, K. Hirota, G. Shirane, Y. Sasago, N. Koide, and K. Uchinokura	
Long-wavelength anomalous diffusion mode in the two-dimensional XY dipole magnet	3181
Ar. Abanov, A. Kashuba, and V. L. Pokrovsky	
Low-field remanent magnetization in $\text{Rb}_2\text{FeCl}_5 \cdot \text{H}_2\text{O}$ and in its site-diluted solid solutions $\text{Rb}_2\text{Fe}_{1-x}\text{In}_x\text{Cl}_5 \cdot \text{H}_2\text{O}$ ($x = 0.04, 0.08, 0.15$, and 0.35)	3196
Fernando Palacio, Mercedes Gabás, Javier Campo, Carlos C. Becerra, Armando Paduan-Filho, and Vagner B. Barbata	
Hysteresis and relaxation behavior in diluted $\text{A}_2\text{Fe}_{1-x}\text{In}_x\text{Cl}_5 \cdot \text{H}_2\text{O}$ ($A = \text{K, Rb}$)	3204
C. C. Becerra, V. B. Barbata, A. Paduan-Filho, F. Palacio, J. Campo, and M. Gabás	
Magnetization process of the spin- $\frac{1}{2}$ XXZ models on square and cubic lattices	3212
Masanori Kohno and Minoru Takahashi	
First-principles calculation of the exchange interaction and the exchange force between magnetic Fe films	3218
Kohji Nakamura, Hideo Hasegawa, Tamio Oguchi, Kazuhisa Sueoka, Kazunobu Hayakawa, and Koichi Mukasa	
Noncollinear alignment of the surface and bulk magnetic moment in localized ferromagnets	3222
A. P. Popov and D. P. Pappas	
Spin-singlet ground state with energy gaps in Cu_2PO_4 : Neutron-scattering, magnetic-susceptibility, and ESR measurements	3231
Masashi Hase, Kristen M. S. Etheredge, Shiou-Jyh Hwu, Kazuma Hirota, and Gen Shirane	

Magnetic-Compton-scattering study of spin moments in UFe_2	3239
P. K. Lawson, M. J. Cooper, M. A. G. Dixon, D. N. Timms, E. Zukowski, F. Itoh, and H. Sakurai	
Magnetic circular dichroism in 5 <i>p</i> photoemission from Gd and Tb metal	3244
G. van der Laan, E. Arenholz, E. Navas, Z. Hu, E. Mentz, A. Bauer, and G. Kaindl	
Ferromagnetism of Anderson localized electrons: Application to cluster compounds	3251
Subhalakshmi Lamba, Ashok K. Rastogi, and Deepak Kumar	
Magnetostatic interactions and magnetization reversal in ferromagnetic wires	3265
A. O. Adeyeye, J. A. C. Bland, C. Daboo, and D. G. Hasko	
Correlation of the magnetic properties with structure and morphology in ultrathin Fe films grown on Cu(311)	3271
B.-Ch. Choi, S. Fölsch, M. Farle, and K.-H. Rieder	
Quantum-well-induced ferromagnetism in thin films	3276
A. M. N. Niklasson, S. Mirbt, H. L. Skriver, and B. Johansson	
Magnetic susceptibility of EuTe/PbTe Heisenberg antiferromagnetic superlattices: Experimental and theoretical studies	3281
Lorenzo Bergomi and James J. Chen	
Structural studies of $\text{Ni}_x\text{Fe}_{100-x}/\text{Mo}$ magnetic multilayers by x-ray small-angle reflection and high-angle diffraction	3290
G. M. Luo, M. L. Yan, Z. H. Mai, W. Y. Lai, and Y. T. Wang	
Charge and spin transport through a metallic ferromagnetic-paramagnetic-ferromagnetic junction	3296
Selman Hershfield and Hui Lin Zhao	
Perpendicular anisotropy detected by transversely biased initial susceptibility via the magneto-optic Kerr effect in $\text{Fe}_x\text{Si}_{1-x}$ thin films and $\text{Fe}_x\text{Si}_{1-x}/\text{Si}$ multilayers: Theory and experiment	3306
L. M. Alvarez-Prado, G. T. Pérez, R. Morales, F. H. Salas, and J. M. Alameda	
Charge localization, magnetic order, structural behavior, and spin dynamics of $(\text{La-Tb})_{2/3}\text{Ca}_{1/3}\text{MnO}_3$ manganese perovskites probed by neutron diffraction and muon spin relaxation	3317
J. M. De Teresa, C. Ritter, M. R. Ibarra, P. A. Algarabel, J. L. García-Muñoz, J. Blasco, J. García, and C. Marquina	
Transverse complex magnetic susceptibility of single-domain ferromagnetic particles with uniaxial anisotropy subjected to a longitudinal uniform magnetic field	3325
Yu P. Kalmykov and W. T. Coffey	
NMR relaxation rate of ^{17}O in $\text{Sr}_2\text{CuO}_2\text{Cl}_2$: Probing two-dimensional magnons at short distances	3338
Peter Kopietz and Sudip Chakravarty	
^{19}F NMR study of KMnFeF_6 . II. A frustrated magnetic system	3347
S. Giri, K. Ghoshray, A. Ghoshray, and N. Chatterjee	
Statistical mechanics of a nonlinear deformable sine-Gordon model	3353
David Yemélé and Timoléon C. Kofané	
Magnetism in the $R_5\text{T}_4\text{Sn}_{10}$ ($R=\text{Ce, Pr, and Nd}$; $T=\text{Rh and Ir}$) system	3360
N. G. Patil and S. Ramakrishnan	

Superfluidity and superconductivity

Noninteracting Cooper pairs inside a pseudogap	3372
Oleg Tchernyshyov	
Two-hole problem in the t - J model: A canonical transformation approach	3381
V. I. Belinicher, A. L. Chernyshev, and V. A. Shubin	
Onset of chaos in a superconducting Wheatstone bridge of overdamped Josephson junctions	3394
M. Cahay and R. Kothari	
Electronic structure and magnetic properties of the linear chain cuprates Sr_2CuO_3 and Ca_2CuO_3	3402
H. Rosner, H. Eschrig, R. Hayn, S.-L. Drechsler, and J. Málek	
Flux penetration into flat rectangular superconductors with anisotropic critical current	3413
Th. Schuster, H. Kuhn, E. H. Brandt, and S. Klaumünzer	

Dimensionality of collective pinning in 2H-NbSe ₂ single crystals	3425
L. A. Angurel, F. Amin, M. Polichetti, J. Aarts, and P. H. Kes	
Dynamics of vortices in planar pinning centers and anisotropic conductivity in type-II superconductors	3433
Yasunori Mawatari	
High-resolution x-ray-photoemission study of single crystalline Sr ₂ CuO ₂ Cl ₂	3438
T. Böske, O. Knauff, R. Neudert, M. Kielwein, M. Knupfer, M. S. Golden, J. Fink, H. Eisaki, S. Uchida, K. Okada, and A. Kotani	
Magnetoplasmons in two-dimensional circular sheets of ⁴ He ⁺ ions	3447
P. L. Elliott, S. S. Nazin, C. I. Pakes, L. Skrbek, W. F. Vinen, and G. F. Cox	
Synthesis of delafossite-derived phases, RCuO _{2+δ} with R = Y, La, Pr, Nd, Sm, and Eu, and observation of spin-gap-like behavior	3457
Kazuyuki Isawa, Yuji Yaegashi, Motoharu Komatsu, Mitsugu Nagano, Shiroshi Sudo, Maarit Karppinen, and Hisao Yamauchi	
Resonant photoemission study of Ba _{1-x} K _x BiO ₃ single crystals	3467
H. Nylén, G. Chiaia, A. A. Zakharov, M. Qvarford, I. Lindau, V. G. Nazin, M. B. Tsetlin, M. N. Mikheeva, S. N. Barilo, and S. V. Shiryayev	
Flux-line cutting in granular high-temperature superconductors	3473
F. Pérez-Rodríguez, A. Pérez-González, John R. Clem, G. Gandolfini, and M. A. R. LeBlanc	
Direct observation of tilted vortex structures induced by twin boundaries in YBa ₂ Cu ₃ O _y single crystals	3481
A. A. Zhukov, G. K. Perkins, J. V. Thomas, A. D. Caplin, H. Küpfer, and T. Wolf	
Mechanical measurement of vortex phase transition in YBa ₂ Cu ₃ O _{7+δ}	3488
W. Tian, J. S. Zhu, F. Yan, Q. M. Zhang, H. M. Shao, Z. Yang, Y. N. Wang, and R. T. Reng	
Electronic structure of Pr _{1-x} Y _x Ba ₂ Cu ₃ O _y (x=0, 0.5, and 1.0)	3494
Katsuyoshi Kakinuma and Kazuo Fueki	
Cumulative Author Index	3508