

BRIEF REPORTS

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

- Huge-pressure-induced volume collapse in LiAlH_4 and its implications to hydrogen storage (*4 pages*) 212101
P. Vajeeston, P. Ravindran, R. Vidya, H. Fjellvåg, and A. Kjekshus
- High-pressure Raman study of the iodine-doped silicon clathrate $\text{I}_8\text{Si}_{44}\text{I}_2$ (*4 pages*) 212102
Hiroyasu Shimizu, Tetsuji Kume, Toyoki Kuroda, Shigeo Sasaki, Hiroshi Fukuoka, and Shoji Yamanaka

Inhomogeneous, disordered, and partially ordered systems

- Chemical order, molecular clusters, and topological transitions in chalcogenide network glasses (*4 pages*) 212201
R. Aravinda Narayanan
- Hydrogen diffusion in partially quasicrystalline $\text{Zr}_{69.5}\text{Cu}_{12}\text{Ni}_{11}\text{Al}_{7.5}$ (*4 pages*) 212202
T. Apih, Varsha Khare, M. Klanjšek, P. Jeglič, and J. Dolinšek
- Evidence for surface compaction in Al-incorporated Al-Pd-Mn quasicrystals (*4 pages*) 212203
R. Lüscher, T. Flückiger, M. Erbudak, and A. R. Kortan

Magnetism

- Spin-polarized magnetic circular dichroism in Ni *2p* core-level photoemission (*4 pages*) 212401
C. De Nadaï, G. van der Laan, S. S. Dhesi, and N. B. Brookes
- Remanence enhancement in magnetically interacting particles (*4 pages*) 212402
Heliang Qu and Jiang Yu Li
- Discommensurate and inhomogeneous states induced by a strong magnetic field in low-dimensional antiferromagnets (*4 pages*) 212403
B. A. Ivanov, C. E. Zaspel, and A. Yu. Merkulov
- Magnetization reversal via the formation of stripe domains in ultrathin Fe films on Cu(100) (*4 pages*) 212404
G. Meyer, A. Bauer, T. Crecelius, I. Mauch, and G. Kaindl
- Reinterpretation of temperature-induced dynamical behavior in the EPR spectrum of Rh^{2+} centers in AgCl (*3 pages*) 212405
H. Vrielinck, F. Callens, and P. Matthys
- Ground state of electron-doped manganites from energy-band-structure calculations (*4 pages*) 212406
S. M. Dunaevsky and V. V. Deriglazov
- Domain wall dynamics of the Ising chain in a transverse field (*4 pages*) 212407
V. Subrahmanyam
- Size dependence of the spin-flop transition in hematite nanoparticles (*4 pages*) 212408
R. D. Zysler, D. Fiorani, A. M. Testa, L. Suber, E. Agostinelli, and M. Godinho



Spinon deconfinement above a finite energy gap in two-dimensional quantum Heisenberg antiferromagnets (4 pages)	212409
G. Baskaran	
Evidence of decoupled lattice distortion and ferroelectric polarization in the relaxor system PMN- <i>x</i> PT (4 pages)	212410
Guangyong Xu, D. Viehland, J. F. Li, P. M. Gehring, and G. Shirane	

Superfluidity and superconductivity

Effect of bilayer coupling on tunneling conductance of double-layer high- T_c cuprates (4 pages)	212501
Y. H. Su, J. Chang, H. T. Lu, H. G. Luo, and T. Xiang	
Local density of states in a <i>d</i> -wave superconductor with stripelike modulations and a strong impurity (4 pages)	212502
Hong-Yi Chen and C. S. Ting	
Non-Ohmic critical fluctuation conductivity of layered superconductors in a magnetic field (4 pages)	212503
I. Puica and W. Lang	
Nuclear spin-lattice relaxation rate in the $D_1 + iD_2$ superconducting state: Implications for CoO superconductor (4 pages)	212504
Yunkyu Bang, M. J. Graf, and A. V. Balatsky	
Effect of symmetry on the resistive characteristics of proximity coupled metallic multilayers (4 pages)	212505
V. N. Kushnir, S. L. Prischepa, M. L. Della Rocca, M. Salvato, and C. Attanasio	

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

Atomic-scale model of the grain boundary potential in perovskite oxides (10 pages)	214101
R. F. Klie, M. Beleggia, Y. Zhu, J. P. Buban, and N. D. Browning	
First-principles study of defect energetics in titanium-doped alumina (8 pages)	214102
Katsuyuki Matsunaga, Atsutomo Nakamura, Takahisa Yamamoto, and Yuichi Ikuhara	
Abrupt changes and hysteretic behavior of 90° domains in epitaxial ferroelectric thin films with misfit dislocations (10 pages)	214103
A. Yu. Emelyanov and N. A. Pertsev	
First-principles thermodynamics of transition metals: W, NiAl, and PdTi (7 pages)	214104
Graeme J. Ackland, Xiangyang Huang, and Karin M. Rabe	
Effect of ion bombardment on stress in thin metal films (10 pages)	214105
S. G. Mayr and R. S. Averback	

Inhomogeneous, disordered, and partially ordered systems

Structural relaxation and configurational statistics of the orientational glass CuCN (6 pages)	214201
J. Wang and G. P. Johari	
Cluster model of decagonal tilings (10 pages)	214202
Michael Reichert and Franz Gähler	
Observation of high-temperature thermal vacancies in $Al_{70}Pd_{21}Mn_9$ quasicrystals (4 pages)	214203
K. Sato, F. Baier, A. A. Rempel, W. Sprengel, and H.-E. Schaefer	
<i>Ab initio</i> molecular dynamics simulation of femtosecond laser-induced structural modification in vitreous silica (6 pages)	214204
S. Sen and J. E. Dickinson	
Phase diagram of an empirical potential: The case of Fe-Cu (9 pages)	214205
E. M. Lopasso, M. Caro, A. Caro, and P. E. A. Turchi	

Chemical order in mixed-cation silicate glasses and melts (<i>7 pages</i>)	214206
Sung Keun Lee, Bjorn O. Mysen, and George D. Cody	
Dynamics, dynamical systems, lattice effects, quantum solids, etc.	
Trapping and guiding of acoustic waves by defect modes in a full-band-gap ultrasonic crystal (<i>4 pages</i>)	214301
A. Khelif, A. Choujaa, B. Djafari-Rouhani, M. Wilm, S. Ballandras, and V. Laude	
Low-temperature entropy in Cu-based shape-memory alloys and the boson peak (<i>6 pages</i>)	214302
Marcelo Stipcich, Jordi Marcos, Lluís Mañosa, Antoni Planes, and Ricardo Romero	
Elementary excitations in condensed oxygen (α, β, γ , liquid) by high-resolution Raman scattering (<i>12 pages</i>)	214303
Jörg Kreutz and Hans J. Jodl	
Magnetism	
Zero-field magnetic structure in CeB ₆ reinvestigated by neutron diffraction and muon spin relaxation (<i>11 pages</i>)	214401
O. Zaharko, P. Fischer, A. Schenck, S. Kunii, P.-J. Brown, F. Tasset, and T. Hansen	
Magnetic circular dichroism in $L_3M_{2,3}M_{2,3}$ Auger emission from Fe and Co metals due to symmetry-breaking interactions (<i>11 pages</i>)	214402
A. Chassé, H. A. Dürr, G. van der Laan, Yu. Kucherenko, and A. N. Yaresko	
Extended variational principle for the Sherrington-Kirkpatrick spin-glass model (<i>4 pages</i>)	214403
Michael Aizenman, Robert Sims, and Shannon L. Starr	
Magnetic transitions in disordered GdAl ₂ (<i>8 pages</i>)	214404
D. S. Williams, P. M. Shand, T. M. Pekarek, R. Skomski, V. Petkov, and D. L. Leslie-Pelecky	
Weak ferromagnetism and other instabilities of the two-dimensional t - t' Hubbard model at van Hove fillings (<i>11 pages</i>)	214405
V. Hankevych, B. Kyung, and A.-M. S. Tremblay	
Antiferromagnetic Ising chain in a mixed transverse and longitudinal magnetic field (<i>10 pages</i>)	214406
A. A. Ovchinnikov, D. V. Dmitriev, V. Ya. Krivnov, and V. O. Cheranovskii	
Interface alloying and tunability of magnetic structure with hydrogen in Fe/V multilayers (<i>10 pages</i>)	214407
V. Uzdin, K. Westerholt, H. Zabel, and B. Hjörvarsson	
Dynamical structure factor for the alternating Heisenberg chain: A linked cluster calculation (<i>20 pages</i>)	214408
Chris J. Hamer, Weihong Zheng, and Rajiv R. P. Singh	
In-plane and out-of-plane transverse susceptibility in close-packed arrays of monodisperse Fe nanoparticles (<i>8 pages</i>)	214409
P. Poddar, J. L. Wilson, H. Srikanth, D. F. Farrell, and S. A. Majetich	
Two-particle localization and antiresonance in disordered spin and qubit chains (<i>12 pages</i>)	214410
L. F. Santos and M. I. Dykman	
First-order transition in the itinerant ferromagnet CoS _{1.9} Se _{0.1} (<i>8 pages</i>)	214411
T. J. Sato, J. W. Lynn, Y. S. Hor, and S. -W. Cheong	
Critical behavior of disordered fcc Fe ₇₀ Pt ₃₀ alloy under high pressure (<i>4 pages</i>)	214412
Sergii Khmelevskyi and Peter Mohn	
Evidence for a magnetic moment on Ir in IrMnAl from x-ray magnetic circular dichroism (<i>5 pages</i>)	214413
V. V. Krishnamurthy, N. Kawamura, M. Suzuki, T. Ishikawa, G. J. Mankey, P. Raj, A. Sathyamoorthy, Amish G. Joshi, and S. K. Malik	
Magnetization reversal and two-level fluctuations by spin injection in a ferromagnetic metallic layer (<i>10 pages</i>)	214414
J.-E. Wegrowe	
Physics of low-energy singlet states of the Kagome lattice quantum Heisenberg antiferromagnet (<i>17 pages</i>)	214415
P. Nikolic and T. Senthil	

Ultrathin Pt films on Ni(111): Structure determined by surface x-ray diffraction (12 pages)	214416
O. Robach, H. Isérn, P. Steadman, K. F. Peters, C. Quirós, and S. Ferrer	
Transport and structural study of pressure-induced magnetic states in $\text{Nd}_{0.55}\text{Sr}_{0.45}\text{MnO}_3$ and $\text{Nd}_{0.5}\text{Sr}_{0.5}\text{MnO}_3$ (5 pages)	214417
Congwu Cui, Trevor A. Tyson, Zhiqiang Chen, and Zhong Zhong	
Pressure-induced magnetic collapse and hydrogen segregation in the frustrated Laves hydrides $\text{Tb}(\text{Mn}_{0.88}\text{Al}_{0.12})_2\text{H}_x$ (6 pages)	214418
I. N. Goncharenko, P. Cadavez-Peres, I. Mirebeau, O. L. Makarova, T. Le Bihan, and M. Mezouar	
Large orbital magnetic moment and its quenching in the itinerant uranium intermetallic compounds UTGa_5 ($T=\text{Ni, Pd, Pt}$) (9 pages)	214419
K. Kaneko, N. Metoki, N. Bernhoeft, G. H. Lander, Y. Ishii, S. Ikeda, Y. Tokiwa, Y. Haga, and Y. Ōnuki	
Antiferromagnetic layer thickness dependence of the IrMn/Co exchange-bias system (7 pages)	214420
M. Ali, C. H. Marrows, M. Al-Jawad, B. J. Hickey, A. Misra, U. Nowak, and K. D. Usadel	
Magnetic properties of $\text{Cu}_6\text{Ge}_6\text{O}_{18-x}\text{H}_2\text{O}$ ($x=0-6$): A compound of $S=1/2$ Heisenberg competing antiferromagnetic chains coupled by interchain interaction (7 pages)	214421
Masashi Hase, Kiyoshi Ozawa, and Norio Shinya	
Dynamical properties of a crystalline rare-earth boron cluster spin-glass system (5 pages)	214422
Takao Mori and Hiroaki Mamiya	
Quantum-classical transition of the escape rate of uniaxial antiferromagnetic particles in an arbitrarily directed field (6 pages)	214423
Bin Zhou, Ruibao Tao, and Shun-Qing Shen	
Electronic structure and x-ray magnetic circular dichroism in uranium compounds. I. UFe_2 (11 pages)	214424
V. N. Antonov, B. N. Harmon, and A. N. Yaresko	
Electronic structure and x-ray magnetic circular dichroism in uranium compounds. II. UTaI ($T=\text{Co, Rh, and Pt}$) intermetallics (6 pages)	214425
V. N. Antonov, B. N. Harmon, O. V. Andryushchenko, L. V. Bekeney, and A. N. Yaresko	
Electronic structure and x-ray magnetic circular dichroism in uranium compounds. III. Heavy-fermion compounds (13 pages)	214426
A. N. Yaresko, V. N. Antonov, and B. N. Harmon	
Orbital order parameter in $\text{La}_{0.95}\text{Sr}_{0.05}\text{MnO}_3$ probed by electron spin resonance (5 pages)	214427
J. Deisenhofer, B. I. Kochelaev, E. Shilova, A. M. Balbashov, A. Loidl, and H.-A. Krug von Nidda	
Phase diagrams of the generalized spin- $\frac{1}{2}$ ladder under staggered field and dimerization: A renormalization-group study (11 pages)	214428
Y.-J. Wang	
Temperature evolution of crystal field interactions across the Jahn-Teller transition in a $\text{La}_{7/8}\text{Sr}_{1/8}\text{MnO}_3$ single crystal (15 pages)	214429
G. Alejandro, M. C. G. Passeggi, D. Vega, C. A. Ramos, M. T. Causa, M. Tovar, and R. Senis	
Itinerant ferromagnetism in the periodic Anderson model (13 pages)	214430
C. D. Batista, J. Bonča, and J. E. Gubernatis	
Freezing and large time scales induced by geometrical frustration (12 pages)	214431
Michel Ferrero, Federico Becca, and Frédéric Mila	
Superfluidity and superconductivity	
Andreev drag effect in ferromagnetic-normal-superconducting systems (5 pages)	214501
David Sánchez, Rosa López, Peter Samuelsson, and Markus Büttiker	
Gaplike behavior of the c -axis dynamic conductivity in pure and Ti-doped Sr_2RuO_4 (5 pages)	214502
K. Pucher, A. Loidl, N. Kikugawa, and Y. Maeno	

Superconductors with broken time-reversal symmetry: Spontaneous magnetization and quantum Hall effects (12 pages)	214503
Baruch Horovitz and Anatoly Golub	
Guided vortex motion in superconductors with a square antidot array (6 pages)	214504
A. V. Silhanek, L. Van Look, S. Raedts, R. Jonckheere, and V. V. Moshchalkov	
Fluxoid dynamics in superconducting thin film rings (8 pages)	214505
J. R. Kirtley, C. C. Tsuei, V. G. Kogan, J. R. Clem, H. Raffy, and Z. Z. Li	
Inelastic tunneling spectroscopy in a <i>d</i> -wave superconductor (5 pages)	214506
A. V. Balatsky, Ar. Abanov, and Jian-Xin Zhu	
Pairing and density correlations of stripe electrons in a two-dimensional antiferromagnet (26 pages)	214507
Henrik Johannesson and G. I. Japaridze	
Condensation energy in strongly coupled superconductors (20 pages)	214508
Robert Haslinger and Andrey V. Chubukov	
Strong-coupling expansion for the pairing Hamiltonian for small superconducting metallic grains (8 pages)	214509
Emil A. Yuzbashyan, Alexander A. Baytin, and Boris L. Altshuler	
Variational theory of flux line liquids (10 pages)	214510
A. M. Ettouhami	
Dip effect in ac susceptibility due to surface barrier with flux creep (5 pages)	214511
X. Leng, S. Y. Ding, Y. Liu, Z. H. Wang, H. K. Liu, and S. X. Dou	
Efficient self-consistent calculations of multiband superconductivity in UPd ₂ Al ₃ (5 pages)	214512
P. M. Oppeneer and G. Varelogiannis	
Zero-bias conductance peak splitting due to multiband effect in tunneling spectroscopy of organic superconductors (7 pages)	214513
Y. Tanuma, K. Kuroki, Y. Tanaka, and S. Kashiwaya	
Poor screening and nonadiabatic superconductivity in correlated systems (12 pages)	214514
Lilia Boeri, Emmanuele Cappelluti, Claudio Grimaldi, and Luciano Pietronero	
Dissipation and quantum phase transitions of a pair of Josephson junctions (34 pages)	214515
Gil Refael, Eugene Demler, Yuval Oreg, and Daniel S. Fisher	
Structure and dynamics of superconducting Na _x CoO ₂ hydrate and its unhydrated analog (7 pages)	214516
J. W. Lynn, Q. Huang, C. M. Brown, V. L. Miller, M. L. Foo, R. E. Schaak, C. Y. Jones, E. A. Mackey, and R. J. Cava	
Crystal structure of the sodium cobaltate deuterate superconductor Na _x CoO ₂ ·4xH ₂ O ($x \approx \frac{1}{3}$) (10 pages)	214517
J. D. Jorgensen, M. Avdeev, D. G. Hinks, J. C. Burley, and S. Short	
Magnetic structure in the zero-applied-field reentrant superconductor ErNi _{1.96} Fe _{0.04} B ₂ C _{0.99} (7 pages)	214518
E. Alleno, C. Godart, G. André, S. K. Dhar, S. M. Pattalwar, P. Bonville, R. Nagarajan, and L. C. Gupta	
Collective and boson mapping description of a system of <i>N</i> Josephson junctions in a resonant cavity (9 pages)	214519
A. Ballesteros, O. Civitarese, F. J. Herranz, and M. Reboiro	
<i>d</i> -wave anisotropy and coexistence of the superconducting gap and pseudogap in La _{2-x} Sr _x CuO ₄ /Ag junctions (5 pages)	214520
T. Miyake, T. Imaizumi, and I. Iguchi	
Quantum transport through carbon nanotubes: Proximity-induced and intrinsic superconductivity (16 pages)	214521
A. Kasumov, M. Kociak, M. Ferrier, R. Deblock, S. Guéron, B. Reulet, I. Khodos, O. Stéphan, and H. Bouchiat	
Kinetic energy of He atoms in liquid ⁴ He- ³ He mixtures (7 pages)	214522
R. Senesi, C. Andreani, A. L. Fielding, J. Mayers, and W. G. Stirling	

CONTENTS - *Continued*

PHYSICAL REVIEW B

THIRD SERIES, VOLUME 68, NUMBER 21

DECEMBER 2003-1(I)

Magnetic field dependent vibrational modes in isotopically decorated κ -(ET) ₂ Cu(SCN) ₂ (6 pages)	214523
J. Choi, J. L. Musfeldt, I. Olejniczak, Y. J. Wang, J. A. Schlueter, and A. M. Kini	

COMMENTS

Comment on "Structural ordering transition and repulsion of the giant LO-TO splitting in polycrystalline Ba _x Sr _{1-x} TiO ₃ " (2 pages)	216101
Yu. I. Yuzyuk and P. Simon	
Comment on "Atomic jumps in quasiperiodic Al _{72.6} Ni _{10.5} Co _{16.9} and related crystalline material" (4 pages) . . .	216201
Gerrit Coddens	
Reply to "Comment on 'Atomic jumps in quasiperiodic Al _{72.6} Ni _{10.5} Co _{16.9} and related crystalline material' " (3 pages)	216202
Janez Dolinšek and Jean-Marie Dubois	

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