PHYSICAL REVIEW B THIRD SERIES, VOLUME 61, NUMBER 13 1 APRIL 2000-I

Quantum tunneling and quantum-classical transitions in large spin systems 8639
Bambi Hu, De-gang Zhang, and Bo-zang Li
Stability under pressure and magnetic field of the ferromagnetic-insulating phase in lightly doped $La_{1-x}Sr_xMnO_3$ crystals 8643
B. Martínez, R. Senis, Ll. Balcells, V. Laukhin, J. Fontcuberta, L. Pinsard, and A. Revcolevschi
Magnetic anisotropy energy and the anisotropy of the orbital moment of Ni in Ni/Pt multilayers 8647
F. Wilhelm, P. Poulopoulos, P. Srivastava, H. Wende, M. Farle, K. Baberschke, M. Angelakeris, N. K. Flevaris, W. Grange, J.-P. Kappler, G. Ghiringhelli, and N. B. Brookes
Critical behavior in $La_{0.5}Sr_{0.5}CoO_3$ 8651
S. Mukherjee, P. Raychaudhuri, and A. K. Nigam
Microscopic derivation of the Landau-Lifschitz equation for ferromagnetic relaxation 8654
D. R. Fredkin and A. Ron
Smart structure for tailoring the magneto-optical Kerr effect 8656
Z. Liu, S. M. Zhou, G. Q. Xia, S. Y. Wang, R. J. Zhang, Y. X. Zheng, L. Y. Chen, and J. T. Song

Superfluidity and superconductivity

Role of confined phonons in thin-film superconductivity 8659
E. H. Hwang, S. Das Sarma, and M. A. Stroscio
Spin-charge recombination and superconductivity in the *t-J* model 8663
Sanjoy K. Sarker
Quasiparticle resonant states induced by a unitary impurity in a *d*-wave superconductor 8667
Jian-Xin Zhu, T. K. Lee, C. S. Ting, and Chia-Ren Hu
Coherence effects in conventional layered superconductors 8671
S. P. Zhao
Magnetoresistance properties of $Bi_2Sr_{2-x}La_xCuO_{6+\delta}$ superconducting thin films grown on vicinal substrates 8675
Y. Z. Zhang, R. Deltour, J.-F. de Marneffe, Y. L. Qin, L. Li, Z. X. Zhao, A. G. M. Jansen, and P. Wyder
Electronic properties of $CePd_2Si_2$ under pressure 8679
S. Raymond and D. Jaccard
Pseudogap phase in the U(1) gauge theory with incoherent spinon pairs 8683
Xi Dai, Yue Yu, Tao Xiang, and Zhao-bin Su

ARTICLES

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

Tetragonal-to-monoclinic phase transition in a ferroelectric perovskite: The structure of $PbZr_{0.52}Ti_{0.48}O_3$ 8687
B. Noheda, J. A. Gonzalo, L. E. Cross, R. Guo, S.-E. Park, D. E. Cox, and G. Shirane
Full *ab initio* geometry optimization of all known crystalline phases of Si_3N_4 8696
W. Y. Ching, Lizhi Ouyang, and Julian D. Gale
Transition to a crystalline high-pressure phase in α-GeO_2 at room temperature 8701
J. Haines, J. M. Léger, and C. Chateau
Stress concentration near a surface step and shear localization 8707
S. Brochard, P. Beauchamp, and J. Grilhé
Dislocation pinning by glissile interstitial loops in a nickel crystal: A molecular-dynamics study 8714
D. Rodney and G. Martin
Pressure-induced structural changes in ZnS 8726
Serge Desgreniers, Luc Beaulieu, and Ian Lepage
Explicit Gibbs free energy equation of state applied to the carbon phase diagram 8734
Laurence E. Fried and W. Michael Howard

(Continued)