PHYSICAL REVIEW B **THIRD SERIES, VOLUME 55, NUMBER 13** **1 APRIL 1997-I**

Line shape of $2p$ magnetic-x-ray-dichroism spectra in $3d$ metallic systems 8086
Gerrit van der Laan

Superfluidity and superconductivity

Renormalization effects in a dilute Bose gas 8090
Eric Braaten and Agustin Nieto
Phase-slip memory effects in dissipation-free superflow 8094
K. Schwab, J. Steinhauer, and Richard Packard
Complementary variational theorems for inhomogeneous superconductors 8098
T. C. Choy
Two vortices in square-columnar Josephson-junction arrays 8102
D.-X. Chen, J. J. Moreno, and A. Hernando
Nonlinear transport in high-temperature superconductors in a percolation model 8106
Michael Ziese
Effect of deoxygenation on the vortex dynamics in $R\mathrm{Ba_2Cu_3O_{7-\delta}}$ high-temperature superconductors 8110
G. K. Perkins, L. F. Cohen, A. A. Zhukov, and A. D. Caplin

ARTICLES

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

Comparison of Johnson-Mehl-Avrami-Kologoromov kinetics with a phase-field model for microstructural evolution driven by substructure energy 8114
Herng-Jeng Jou and Mark T. Lusk
Effect of pressure on the atomic volume of Ga and Tl up to 68 GPa 8122
Olaf Schulte and Wilfried B. Holzapfel
Critical scattering at the order-disorder phase transition of Si(111)-$\sqrt{3}\times\sqrt{3}R30°$-Au surface: A phase transition with particle exchange 8129
Y. Nakajima, C. Voges, T. Nagao, S. Hasegawa, G. Klos, and H. Pfnür
Unusual structural modification in the $\mathrm{Ti_{68}Fe_{26}Ni_1Si_5}$ quasicrystalline phase 8136
M. A. Shaz, N. P. Lalla, R. K. Mandal, and O. N. Srivastava
Formation of metastable iron carbide phases after high-fluence carbon ion implantation into iron at low temperatures 8143
A. Königer, C. Hammerl, M. Zeitler, and B. Rauschenbach
Cubic-to-tetragonal structural phase transition in $\mathrm{Rb_{1-x}Cs_xCaF_3}$ solid solutions: Thermal expansion and EPR studies 8148
F. Lahoz, B. Villacampa, R. Alcalá, C. Marquina, and M. R. Ibarra
Dynamics of domain walls in an incommensurate phase near the lock-in transition: One-dimensional crystal model 8155
S. V. Dmitriev, T. Shigenari, A. A. Vasiliev, and K. Abe
Dielectric behavior of lead magnesium niobate relaxors 8165
Z.-Y. Cheng, R. S. Katiyar, X. Yao, and Aqiang Guo

Inhomogeneous, disordered, and partially ordered systems

Distinguishing quasiperiodic from random order in high-resolution TEM images 8175
Dieter Joseph, Stefan Ritsch, and Conradin Beeli
Theoretical study of ordering in Fe-Al alloys based on a density-functional generalized-perturbation method 8184
S. K. Bose, V. Drchal, J. Kudrnovský, O. Jepsen, and O. K. Andersen
Infrared response of glassy Ar:O_2 mixed crystals 8194
Jushan Xie, Mechthild Enderle, Klaus Knorr, and H. J. Jodl

(Continued)