

NU
169/jmp

INTERNATIONAL JOURNAL OF MODERN PHYSICS *B*

Volume 27, Number 15
June 20, 2013

SPECIAL ISSUE

8th International Conference on New Theories, Discoveries and Applications of Superconductors and Related Materials (New3SC-8)

June 8-11, 2011, Chongqing, China

Editors

J. D. Fan	M. de Llano
Ju Gao	A. Maeda
Y. M. Malozovsky	Han Zhang

-
- Science Citation Index® (SCI®)
 - SciSearch®
 - ISI Alerting Services
 - Current Contents®/Physical, Chemical & Earth Sciences
 - Astrophysics Data System (ADS) Abstract Service
 - Chemical Abstracts Service
 - Mathematical Reviews
 - INSPEC
 - CSA Meteorological & Geoastrophysical Abstracts
 - Zentralblatt MATH
 - Scopus
-

INTERNATIONAL JOURNAL OF MODERN PHYSICS B
Vol. 27, No. 15 (20 June 2013)

SPECIAL ISSUE

*8th International Conference on New Theories, Discoveries and Application
of Superconductors and Related Materials (New3SC-8)
June 8–11 2011, Chongqing, China*

CONTENTS

PREFACE	1302003
QUANTUM LIQUID CRYSTAL PHASES IN FERMIONIC SUPERFLUIDS WITH PAIRING BETWEEN FERMION SPECIES OF UNEQUAL DENSITIES K. Yang	1362001
ASYMMETRIC TWO-COMPONENT HARD-CORE BOSON MIXTURES IN A ONE-DIMENSIONAL OPTICAL LATTICE M.-C. Cha	1362002
MAGNETIC AND STRUCTURAL TRANSITION PROPERTIES OF NIOBIUM-DOPED BiFeO ₃ THIN FILMS H. Z. Chen, M. C. Kao and S. L. Young	1362003
CONTROLLING SUPERCONDUCTIVITY WITH MAGNETIC NANOSTRUCTURES I. F. Lyuksyutov	1362004
SUPERCONDUCTING FILM WITH EMBEDDED COBALT NANORODS H. Lee, K. Kim, K. K. D. Rathnayaka, I. F. Lyuksyutov and D. G. Naugle	1362005
MAGNETIC PROPERTIES OF La-DOPED AND Cu-DOPED ZnO NANOWIRES FABRICATED BY HYDROTHERMAL METHOD S.-L. Young, H.-Z. Chen, M.-C. Kao, C.-Y. Kung, C.-C. Lin, T.-T. Lin, L. Horng, Y.-T. Shih, C.-J. Ou and C.-H. Lin	1362006
STABLE STRUCTURES, ELECTRIC AND MAGNETIC PROPERTIES OF NANOPARTICLES CO _n (<i>n</i> = 1 – 6) CLUSTERS: FIRST-PRINCIPLES CALCULATIONS J. Liu, S.-B. Tan and H.-N. Dong	1362007
THE PERFORMANCE CHARACTERISTICS OF A NEW CEILING COOLING PANEL M.-W. Tong, P. Hu, Z.-H. Qing, Q. Zhang and C. Chen	1362008
FINITE SIZE EFFECT ON YBCO/PBCAO AND YBCO/PBCGO NANOMETER MULTILAYERS T.-P. Chen, K. Wu, S. Z. Wang, Q. Li, B. Chen, U. Tipparaach and C.-J. Chen	1362009

(Continued)

CONTENTS – (*Continued*)

ROOM-TEMPERATURE FERROMAGNETIC PROPERTIES OF Co-DOPED ZnO NAOROD ARRAYS C. L. Zhang and C. G. Hu	1362010
EDGE MAGNETISM AND QUANTUM SPIN HALL EFFECT IN ZIGZAG GRAPHENE NANORIBBON J.-W. Rhim and K. Moon	1362011
ELECTRICAL TRANSPORT AND LOW-FIELD MAGNETORESISTANCE IN La _{0.8} Sr _{0.2} MnO ₃ /Zn COMPOSITES L. Q. Yang, X. S. Yang, L. Lv and Y. Zhao	1362012
<i>Ab-Initio</i> CALCULATIONS OF ELECTRONIC PROPERTIES OF InP AND GaP Y. Malozovsky, L. Franklin, E. C. Ekuma, G. L. Zhao and D. Bagayoko	1362013
SPATIAL VARIATION OF TUNNELING SPECTRA IN (111)-ORIENTED FILMS OF BORON-DOPED DIAMOND PROBED BY STM/STS T. Nishizaki, T. Sasaki, N. Kobayashi, Y. Takano, M. Nagao and H. Kawarada	1362014
FIXED TRIANGLE IN Bi _{2-X} Pb _X Sr ₂ CaCu ₂ O _{8+Y} AND Bi _{2-X} Pb _X Sr ₂ Ca ₂ Cu ₃ O _{10+Y} SYSTEMS C. Q. Guo, C. Y. Zhang, S. J. Hao, W. T. Jin and H. Zhang	1362015
HYSTERESIS OF THE PHASE DIAGRAM IN THE FERROMAGNET-SUPERCONDUCTOR HYBRIDS A. E. Ozmetin, E. Yazici, K. Kim, K. D. D. Rathnayaka, I. F. Lyuksyutov and D. G. Naugle	1362016
ELECTRONIC STRUCTURE OF K _{0.8} Fe ₂ Se ₂ FROM DENSITY FUNCTIONAL THEORY GW METHOD SIMULATION L. Tan, R. Guo, S. Yang, E. Khosravi, G.-L. Zhao and D. Bagayoko	1362017
FABRICATION OF SmBiO ₃ /NiO DOUBLE BUFFER LAYER FOR COATED CONDUCTORS M. Lei, X. Yang and Y. Zhao	1362018
PREPARATION OF Sm _{0.2} Ce _{0.8} O _{1.9-X} BUFFER BY REEL-TO-REEL SLOT-DIE COATING M. Lei, X. Pan, X. Yang, W. Wang, F. Yang and Y. Zhao	1362019
SUPERCONDUCTING FILM WITH AN ARRAY OF MAGNETIC NANOSTRIPE K. Kim, K. K. D. Rathnayaka, I. F. Lyuksyutov and D. G. Naugle	1362020
SYNTHESIS AND STRUCTURAL STABILITY OF BiRhO ₃ AT HIGH PRESSURE X. Li, Q. Q. Liu, W. Han, Y. Liu, X. D. Li, Y. C. Li, J. Liu and C. Q. Jin	1362021
VERTICAL VIBRATION CHARACTERISTICS OF A HIGH-TEMPERATURE SUPERCONDUCTING MAGLEV VEHICLE SYSTEM J. Jiang, K. C. Li, L. F. Zhao, J. Q. Ma, Y. Zhang and Y. Zhao	1362022
THE MULTIFERROIC PROPERTIES OF Bi(Fe _{1/2} Cr _{1/2})O ₃ COMPOUND J. L. Zhu, H. X. Yang, S. M. Feng, L. J. Wang, Q. Q. Liu, C. Q. Jin, X. H. Wang, L. T. Li and J. Yu	1362023
PAULI EXCLUSION PRINCIPLE J. D. Fan and Y. M. Malozovsky	1362024

(*Continued*)

CONTENTS – (*Continued*)

TRANSPORT PROPERTIES OF A SUPERCONDUCTING FILM WITH MAGNETIC NANOSTRIPEs	K. Kim, K. D. D. Rathnayaka, I. F. Lyuksyutov and D. G. Naugle	1362025
FLUX TRAPPING PROPERTIES OF BULK HIGH- T_C SUPERCONDUCTORS IN STATIC FIELD-COOLING MAGNETIZATION	Z. Deng, K. Tsuzuki, M. Miki, B. Felder, S. Hara and M. Izumi	1362026
NUMERICAL STUDY OF MAGNETIC PENETRATION DEPTH IN MgB ₂	B. Li and D.-H. Lin	1362027
NOVEL APPROACH FOR t - J MODEL WITH ELECTRON SCATTERINGS	C.-J. Ou, C.-H. Lin and C.-M. Ou	1362028
TRANSPORT PROPERTIES OF La _{2-x1} Sr _{x1} CuO _{4+δ} /La _{2-x2} Sr _{x2} CuO _{4+δ} MULTILAYERS GROWN BY LASER ABLATION	H. F. Wang, Y. Z. Zhang, L. H. Liu, D. P. Li, G. Y. Wang, H. Y. Tian and D. N. Zheng	1362029
THE APPLICATION FOR PZT THIN FILM IN THE TAPPING MODE SPM CANTILEVER	X.-S. Sun, A.-P. Liu and X.-X. Yao	1362030
THE SIMULATION ANALYSIS OF NANO-ZnO PIEZOELECTRIC FILM BASED ON SPM MICRO-CANTILEVER	A.-P. Liu, X.-N. Sun and X.-X. Yao	1362031
THEORETICAL INVESTIGATIONS OF THE EPR PARAMETERS OF CUBIC Yb ³⁺ CENTER IN PbS, PbSe AND PbTe SEMICONDUCTORS	G.-Y. Xie and X.-R. Liu	1362032
NUMERICAL STUDY ON IRREVERSIBLE BEHAVIOR OF THz WAVE EMISSION FROM INTRINSIC JOSEPHSON JUNCTIONS	Y. Nonomura	1362033
AN EXPLANATION OF SUPERFLUIDITY OF LIQUID ³ He	J. D. Fan and Y. M. Malozovsky	1362034
SIGN REVERSAL OF COULOM INTERACTION BETWEEN TWO QUASIPARTICLES IN MOMENTUM SPACE	J. D. Fan and Y. M. Malozovsky	1362035
MAGNETORESISTANCE IN TOPOLOGICAL INSULATOR Mn _x Bi _{2-x} Se ₃ CRYSTALS	L. Lv, M. Zhang, Z. Wei, L. Yang, X. Yang and Y. Zhao	1362036
PHASE TRANSITION OF BOSONS DRIVEN BY A STAGGERED GAUGE FIELD IN AN OPTICAL LATTICE	M.-C. Cha	1362037
PICO-CHEMISTRY: THE POSSIBILITY OF NEW PHASES IN SOME HYDROGEN/METAL SYSTEMS	J. J. Dufour, X. J. C. Dufour and J. D. Vinko	1362038

(*Continued*)

CONTENTS – (*Continued*)

MAGNETIC IMPURITY IN THE VICINITY OF A VACANCY IN BILAYER
GRAPHENE

J. H. Sun, F. M. Hu, H. K. Tang and H. Q. Lin 1362039

MODELING OF TRANSITION TEMPERATURE FOR PULSED LASER
DEPOSITION $\text{NdBa}_2\text{Cu}_3\text{O}_{7-\delta}$ THIN FILMS VIA SUPPORT VECTOR
REGRESSION

T. T. Xiao, C. Z. Cai, J. L. Tang and S. J. Huang 1362040