

International Conference on Recent Trends in Physics

(ICRTP 2012)

Journal of Physics: Conference Series Volume 365

**Indore, India
4-5 February 2012**

**ISBN: 978-1-62276-782-3
ISSN: 1742-6588**

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2012) by the Institute of Physics
All rights reserved.

Printed by Curran Associates, Inc. (2013)

For permission requests, please contact the Institute of Physics
at the address below.

Institute of Physics
Dirac House, Temple Back
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481
Fax: 44 1 17 920 0979

techtracking@iop.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

INVITED TALKS

012001 XXIst Century Ferrites	1
<i>F Mazaleyrat, K Zehani, A Pasko, V Loyau, M Lobue</i>	
012002 X-ray Absorption Fine Structure (XAFS) Spectroscopy Using Synchrotron Radiation	9
<i>B D Shrivastava</i>	
012003 Soft Magnetic Thin Films: Influence of Annealing on Magnetic Properties	20
<i>M Coisson, G Barrera, F Celegato, P Tiberto, F Vinai</i>	
012004 Towards a Wearable Non-invasive Blood Glucose Monitoring Device	28
<i>J T Andrews, J Solanki, O P Choudhary, S Chouksey, N Malvia, P Chaturvedi, P Sen</i>	
012005 Analytical and Numerical Investigation of High-harmonic and Attosecond Pulse-train Generation : The Sliding Mirror Model	33
<i>V Jain, H K Malav, K P Maheshwari, N K Jaiman</i>	
012006 Photocatalytic and Photoelectro-chemical Investigations of Fe/ Sn/ Nb Containing Oxides for Energy Application: Comparative Study	37
<i>P H Borse</i>	
012007 Optical Tweezers: Light for Manipulating Microscopic World	51
<i>R Dasgupta</i>	
012008 Role of Plasmons in Improved Photovoltaic Devices : Nano Clusters of Sn and SnO_x in SnO₂ Films	56
<i>S Kumar, C Mukherjee</i>	

CONDENSED MATTER PHYSICS

012009 Influence of Copper Doping on Physical Properties of Barium Titanate	63
<i>A Mishra, N Mishra</i>	
012010 Spectroscopic Studies of Some Transition Metal Copper and Iron Complexes	67
<i>A Mishra, R Sharma, B D Shrivastava, N Mishra</i>	
012011 Correlation of X-Ray Absorption Parameters with Schultz index	71
<i>P A Kekre, S Khatri, A Mishra, K P Joshi</i>	
012012 Comparative X-ray Crystallographic Studies of Systemic Fungicides Hexaconazole and Tricyclazole	76
<i>J Chauhan, A K Sharma, G Bhattacharya</i>	
012013 Estimation of Bulk Modulus and Microhardness of Tetrahedral Semiconductors	79
<i>S K Gorai</i>	
012014 Synthesis and Photoluminescence of CdSe/PVA Nanocomposites	83
<i>K Kushwaha, N Gautam, P Singh, M Ramrakhaini</i>	
012015 On the Optimization of Soft Magnetic Properties of High Bs Fe_{83.7}B_{14.8}Cu_{1.5} Nanocrystalline Alloy	86
<i>S N Kane, K Singh, N Ghodke, A Gupta, L K Varga</i>	
012016 X-ray Absorption Near Edge Structure (XANES) Study of Some Hydroxamic Mixed Ligand Copper Complexes	90
<i>A Mishra, N Parsai, N Soni, B D Shrivastava</i>	
012017 Temperature Dependence of the Elastic Constant of Borassus Flabellifer 'BF' Material by Acoustic Response	94
<i>S Phadke, B Dshrivastava, N Dagaonkar, A Mishra</i>	
012018 Study of Optical Band Gap of CuO Using Fermi's Golden Rule	98
<i>K R Nemade, S A Waghuley</i>	
012019 dc Electrical conductivity of V₂O₅-P₂O₅ binary glassy systems	102
<i>R V Barde, S A Waghuley</i>	
012020 EXAFS and XRD Studies of Copper and Cobalt Complexes of Amino Acid	105
<i>A Mishra, A Yadav, S Ninama, A Trivedi</i>	
012021 Determination of Bond Lengths from EXAFS Spectra Using Different Methods	109
<i>A Mishra, S Ninama</i>	

012022 Effect of Cu Doping on LPG Sensing Properties of Soft Chemically Grown Nano-structured ZnO Thin Film	113
<i>A Ghosh, A Ghule, R Sharma</i>	
012023 Growth and Characterization of Ferrite Film Prepared by Pulsed Laser Deposition	117
<i>S N Kane, M Satalkar, A Ghosh, D M Phase, R J Chaudhary, A Pasko, M Lobue, F Mazaleyrat</i>	
012024 Pressure Induced Structural Phase Transition of XC (X = Si, Ge, Sn)	121
<i>N Kaurav, S Verma, K K Choudhary, U Sharma, S Shah</i>	
012025 Analysis of Heat Transport in the Iron Oxyarsenide TbFeAsO_{0.85}	125
<i>N Kaurav, K K Choudhary, Y K Kuo</i>	
012026 X-ray Diffraction and Absorption Spectroscopic Studies of Copper Mixed Ligand Complexes with Aminophenol As One of the Ligands	129
<i>A Mishra, G Jain, H Patil</i>	
012027 Interpretation of Optical Conductivity in Normal State of Iron-based Superconductors CeOFeAs	133
<i>K K Choudhary, N Kaurav</i>	
012028 EXAFS Study of Tetrakis(Imidazole) Dinitratocopper (II) Complex	137
<i>D A Dar, A Johari, B D Shrivastava, J Prasad, K Srivastava, S N Jha, D Bhattacharyya, A Poswal</i>	
012029 X-ray Absorption Studies of Copper (II) Mixed Ligand Complexes with Ethylenediamine (EN) As One of the Ligands	141
<i>V K Hinge, S K Joshi, B D Shrivastava, J Prasad, K Srivastava</i>	
012030 Exafs Data Analysis of Some Cobalt Complexes	145
<i>A Mishra, V Vibhute, G Jain, S Ninama</i>	
012031 Effect of Annealing on ZnO Thin Films Grown on Quartz Substrate by RF Magnetron Sputtering	148
<i>G A Kumar, M V R Reddy, K N Reddy</i>	
012032 Origin of the Lβ2 Satellites in the X-ray Emission Spectra of the Middle-Z Elements from $_{40}\text{Zr}$ to $_{52}\text{Te}$	153
<i>R Kendurkar, B D Shrivastava</i>	
012033 Coordination Geometry Around Copper in a Schiff-base Trinuclear Copper Complex Using EXAFS Spectroscopy	158
<i>A Gaur, B D Shrivastava, D C Gaur, J Prasad, K Srivastava, S N Jha, D Bhattacharyya, A Poswal</i>	
012034 Effect of Mixed Glass Former on Ionic Conductivity of Silver Boro Tungstate Glass System $x[0.75\text{AgI}:0.25\text{AgCl}]:(1-x)[\text{Ag}_2\text{O}-\{\text{B}_2\text{O}_3:\text{WO}_3\}]$	163
<i>H Dehariya, R Kumar, A R Polu</i>	
012035 Structural Induced Changes in Properties and Crystallization Behaviour of $\text{Co}_{80}\text{Zr}_{10}\text{V}_{10}$ Alloy	167
<i>S N Kane, S Panchal, E Fleury</i>	
012036 Spin Relaxation in Mn Doped CdTe/ZnTe QDs	171
<i>S Rana, P Sen, P K Sen</i>	
012037 Effect of Shell and Shell Thickness on Photoluminescence (PL) of a CdSe/ZnS Core – Shell Quantum Dot	175
<i>S Chattopadhyay, P Sen, J T Andrews, P K Sen</i>	
012038 Study Of $\text{Co}_{90}\text{Fe}_{10}$ Magnetic thin Film On MgO Substrate Using In-situ Moke Technique	180
<i>G Sharma, D Kumar, A Gupta</i>	
012039 A Newly Synthesis and Characterization of Metal Complexes of 3-(N- phenyl) Thiourea- Pentanone-2 as Ligand	184
<i>A Mishra, S Ninama, P Sharma, N Soni, R Awate</i>	

LASER PHYSICS

012040 Jeans Instability of Self-gravitating Magnetized Strongly Coupled Plasma	189
<i>R P Prajapati, P K Sharma, R K Sanghvi, R K Chhajlani</i>	
012041 Effect of Magnetic Field on the Conducting Fluids Streaming in Porous Medium	193
<i>P K Sharma</i>	
012042 Effect of Magnetic Field on Rayleigh-taylor Instability of Two Superposed Fluids	197
<i>P K Sharma, A Tiwari, R K Chhajlani</i>	
012043 Transient Brillouin Gain in Direct Band Gap Semiconductors	201
<i>K Sontakke, N Yadav, S Ghosh</i>	
012044 Optical Phase Conjugation Reflectivity Via Stimulated Brillouin Scattering in Acousto-optic Diffusive Semiconductor Plasma Crystal	204
<i>N Nimje, S Ghosh</i>	

012045 Polaron Induced Parametric Interactions in Magnetized Semiconductors	208
<i>R Agrawal, S Dubey, S Ghosh</i>	
012046 Quantum Effect on Parametric Dispersion in Presence of Nonuniform Size Colloids in Semiconductors	212
<i>R Vanshpal, S Dubey, S Ghosh</i>	
012047 Study of Radial Position of Pole Piece Aperture in Focusing of Multibeam Electron Gun	217
<i>A K Nehra, R K Gupta, S M Sharma, P C Panda, Y Choyal, R K Sharma</i>	
012048 Investigation of Electron Beam Parameters Inside the Drift Region of Plasma Cathode Electron Gun	221
<i>D K Verma, U N Pal, N Kumar, J Prajapati, M Kumar, R Prakash, V Srivastava</i>	
012049 Dispersion Characteristics of Non-radiative Coupled Dielectric Waveguide at Millimeter Wave Frequencies	225
<i>A K Rastogi, A Hajela, M Nigam</i>	
012050 Dynamic Stark Effects in a Semiconductor Quantum Dot Exhibiting a Two-hole Species Valence Band	229
<i>S Goyal, P K Sen</i>	
012051 Comparative Simulation Studies of Plasma Cathode Electron (PCE) Gun	233
<i>J Prajapati, U N Pal, N Kumar, D K Verma, R Prakash, V Srivastava</i>	
012052 an Overview of the Undulator Field Measurement Studies at Insertion Device Lab, DAVV	238
<i>M Gehlot, G Mishra, G Sharma, J Hussain</i>	
012053 Gravitational Instability of Radiative Plasma with Finite Larmor Radius Corrections	242
<i>S Kaothekar, R K Chhajlani</i>	
012054 a Comparison of Paraxial and Extended Paraxial Approach for Laser Beam Propagation in Plasma	247
<i>P Sharma, S Jain, R P Sharma</i>	
012055 Simulation Study of Resonant Reflector for S-band BWO	251
<i>Y Choyal, N Parmar, A K Saini, S K Chhotray, K S Bhat, L Kumar</i>	
012056 High Power Microwave Pulse Compression Using a Helical Slow-Wave Structure	255
<i>V Rajput, N Parmar, K S Bhat, K P Maheswari, Y Choyal</i>	
012057 Design of Single disc RF window for High Power Gyrotron	259
<i>M K Alaria, Y Choyal, A K Sinha</i>	
012058 Features of Complex Networks in a Free-software Operating System	263
<i>R Nair, G Nagarjuna, A K Ray</i>	
012059 Infrared Spectra in Monitoring Biochemical Parameters of Human Blood	267
<i>S Prabhakar, N Jain, R A Singh</i>	
Author Index	