

## CONTENTS

---

S. No.	Title	Pg No.
1.	A CdS/Bi <sub>2</sub> S <sub>3</sub> bilayer and a poly(3,4-ethylenedioxythiophene)/S <sub>2</sub> -interface control quantum dot solar cell performance Remya Narayanan, Melepurath Deepa, Franz Friebel, <b>Avanish Kumar Srivastava</b>	1
	<i>Electrochimica Acta</i> 105 (2013) 599–611	
2.	A Highly Efficient Microfluidic Nano Biochip Based On Nanostructured Nickel Oxide <b>Md. Azahar Ali, Pratima R. Solanki, Manoj K. Patel Hemant Dhayani, Ved Varun Agrawal</b> , Renu John and Bansi D. Malhotra	14
	<i>Nanoscale Volume: 5 Issue: 7 Pages: 2883-2891 Published: 2013</i>	
3.	A highly efficient rare earth metal oxide nanorods based platform for aflatoxin detection Jay Singh, <b>Appan Roychoudhury</b> , Manish Srivastava, <b>Pratima R. Solanki</b> , Dong Won Lee, Seung Hee Lee, <b>B. D. Malhotra</b>	23
	<i>J. Mater. Chem. B</i> , 2013, 1, 4493	
4.	A new smart coating of polyaniline–SiO <sub>2</sub> composite for protection of mild steel against corrosion in strong acidic medium <b>Anoop Kumar S, Hema Bhandari, Chandrica Sharma</b> , Fehmeeda Khatoon, <b>Sundeep K Dhawan</b>	34
	<i>Polym Int</i> 2013; 62: 1192–1201	
5.	A novel 1,10-bis[4-(5,6-dimethyl-1H-benzimidazole-1-yl)butyl]-4,40-bipyridinium dibromide (viologen) for a high contrast electrochromic device Rambabu Sydam, Melepurath Deepa, <b>Amish G. Joshi</b>	44
	<i>Organic Electronics</i> 14 (2013) 1027–1036	
6.	A novel comparative study of crystalline perfection and optical homogeneity in Nd:GGG crystals grown by the Czochralski technique with different crystal/ melt interface shapes Khavangkhui Zimik, <b>G. Bhagavannarayana</b> , Ramesh Kumar, Rashmi Rai Chauhan, Krishna Murari, Neelam Malhan and Harneet V. Thakur	54
	<i>J. Appl. Cryst.</i> (2013). 46, 1640–1644	
7.	A Process for the Selective Removal of Arsenic from Contaminated Water Using Acetate Functionalized Zinc Oxide Nanomaterials <b>Nahar Singh, S.P. Singh</b> , Vinay Gupta, Harish Kumar Yadav, Tarushee Ahuja, <b>S. Swarupa Tripathy</b> , and <b>Rashmi</b>	59
	<i>Environmental Progress &amp; Sustainable Energy</i> (Vol.32, No.4)	
8.	AC Susceptibility Study of Superconducting YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7</sub> :Ag <sub>x</sub> Bulk Composites (x = 0.0–0.20): The Role of Intra and Intergranular Coupling <b>Poonam Rani, Rajveer Jha, V.P.S. Awana</b>	66
	<i>J Supercond Nov Magn</i> (2013) 26:2347–2352	
9.	Acceptor dependent structural,microstructural and dielectric properties of PbTiO <sub>3</sub> nanoparticles A.K. Katna, <b>R.K.Kotnala</b> , N.S.Negi	72
	<i>Physica B</i> 425(2013)95–99	

## CONTENTS

---

10. Advanced high-k gate dielectric amorphous LaGdO<sub>3</sub> gated metal-oxide-semiconductor devices with sub-nanometer equivalent oxide thickness 78  
S. P. Pavunny, P. Misra, R. Thomas, **A. Kumar**, J. Schubert, J. F. Scott, and R. S. Katiyar
- Appl. Phys. Lett.* 102, 192904 (2013)
11. Aerosol climatology at Delhi in the western Indo-Gangetic Plain: Microphysics, long-term trends, and source strengths 83  
**Neelesh K. Lodhi, S. Naseema Beegum, Sachchidanand Singh, Krishan Kumar**
- Journal Of Geophysical Research: Atmospheres*, Vol. 118, 1361–1375
12. An extensive investigation on nucleation, growth parameters, crystalline perfection, spectroscopy, thermal, optical, microhardness, dielectric and SHG studies on potential NLO crystal – Ammonium Hydrogen L-tartarte 98  
Redrothu Hanumantharao, S. Kalainathan, **G. Bhagavannarayana**, U. Madhusoodanan
- Spectrochimica Acta Part A:Molecular and Biomolecular Spectroscopy* 103 (2013) 388.99
13. An insight into evolution of electronic, magnetic, optical, and vibrational properties of ultrathin Pd nanowires 110  
Poorva Singh, Anu Bala, Tashi Nautiyal, **Sushil Auluck**
- J Nanopart Res* (2013) 15:1784
14. Analysis on structural, SHG efficiency, optical and mechanical properties of KDP single crystals influenced by Glycine doping 125  
**Mohd. Shkir**, V. Ganesh, **N. Vijayan**, **B. Riscob**, Anoop Kumar, Devendra Kumar Rana Mohd. Shoeb Khan, Mohd. Hasmuddin, M.A. Wahab, R. Ramesh Babu, **G. Bhagavannarayana**
- Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 103(2013) 199-4
15. Anharmonic behavior and structural phase transition in Yb<sub>2</sub>O<sub>3</sub> 131  
**Sugandha Dogra Pandey**, **K. Samanta**, **Jasveer Singh**, **Nita Dilawar Sharma**, **A. K. Bandyopadhyay**
- AIP Advances* 3, 122123 (2013)
16. Anomalous dielectric response with suppression in Neel temperature of Bi<sub>0.9</sub>Y<sub>0.1</sub>Fe<sub>1x</sub>Mn<sub>x</sub>O<sub>3</sub> (0.6 x 6 0.07) ceramics 143  
Virendra Kumar, Anurag Gaur, **R.K. Kotnala**
- Journal of Alloys and Compounds* 551 (2013) 410–414
17. APMP.QM-S5 :Essential and Toxic Elements in Seafood Final Report 148  
Liliana Valiente, John W Bennett, Rodrigo Caciano de Sena, Boriana Kotzeva, Gabriela Massiff, Jingbo Chao, Jun Wang, Randa Nasr, Guillaume Labarraque, Elias Kakoulidis, Eugenia Lampi, Della Wai-meい Sin, Chuen-shing Mok, Siu-kay Wong, Yiu-chung Yip, **Shankar Gopala Aggarwal**, **Prabhat K Gupta**, Yanbei Zhu, Shin-ichi Miyashita, Yong-Hyeon Yim, Osman Zakaria, Judith Velina Lara Manzano, Richard Shin, Milena Horvat and Charun Yafa  
*Metrologia* 50 08004
18. Appearance and disappearance of superconductivity in SmFe<sub>1x</sub>Ni<sub>x</sub>AsO (x ¼ 0.0e1.0) 197  
**Anand Pal**, S.S. Mehdi, Mushahid Husain, **V.P.S. Awana**

*Solid State Sciences* 15 (2013) 123e128

## CONTENTS

---

19. Appearance of superconductivity in layered LaO<sub>0.5</sub>F<sub>0.5</sub>BiS<sub>2</sub> 203  
**V.P.S. Awana, Anuj Kumar, Rajveer Jha, Shiva Kumar Singh, Anand Pal, Shruti, J.Saha, S.Patnaik**
- Solid State Communications* 157(2013) 21–23
20. Appreciable Magnetic Moment and Energy Density in Single-Step Normal Route Synthesized MnBi 206  
**Nithya R. Christopher, Nidhi Singh, Shiva Kumar Singh, Bhasker Gahtori, S.K. Mishra, A. Dhar, V.P.S. Awana**
- J Supercond Nov Magn* (2013) 26:3161–3165
21. Assessment of energy generation potentials of MSW in Delhi under different technological options 211  
**Monojit Chakraborty, Chhemendra Sharma, Jitendra Pandey, Prabhat K. Gupta**
- Energy Conversion and Management* 75 (2013) 249–255
22. Assigning RF/DC Transfer Difference to High Frequency Voltage Primary Standard up to 1 GHz at NPLI 218  
**S. Ahmad, B. Pal, P. S. Negi and A. K. Bandyopadhyay**
- MAPAN-Journal of Metrology Society of India* (June 2013) 28(2):113–117
23. Atypical dielectric behavior in sol–gelderived fine grain PZT/CeO<sub>2</sub> nanocomposites 223  
**Puja Goel, Ashok Manikrao Biradar**
- Journal of Physics and Chemistry of Solids* 74(2013) 854–861
24. Automation and Evaluation of Two Different Techniques to Calibrate Precision Calibrators for Low Frequency Voltage Using Thermal Devices 231  
**B. Pal, S. Ahmad and A. K. Govil**
- MAPAN-Journal of Metrology Society of India* (March 2013) 28(1):31–36
25. Band structure, density of states, and crystal chemistry of ZrGa<sub>2</sub> and ZrGa<sub>3</sub> single crystals 237  
A.H. Reshak, G. Lakshminarayana, J. Ebothe, A.O. Fedorchuk, M.F. Fedyna, H. Kamarudin, P. Mandracci, **S. Auluck**
- Journal of Alloys and Compounds* 556 (2013) 259–265
26. Barium: An Efficient Cathode Layer for Bulk-heterojunction Solar Cells 244  
**Vinay Gupta, Aung Ko Ko Kyaw, Dong Hwan Wang, Suresh Chand, Guillermo C. Bazan, Alan J. Heeger**
- Scientific Reports / 3 : 1965*
27. Bienzyme-Functionalized Monodispersed Biocompatible Cuprous Oxide/Chitosan Nanocomposite Platform for Biomedical Application 250  
Jay Singh, Manish Srivastava, **Appan Roychoudhury**, Dong Won Lee, Seung Hee Lee, B. D. Malhotra
- J. Phys. Chem. B* 2013, 117, 141–152

## CONTENTS

---

28. Biocompatible nanostructured magnesiumoxide-chitosan platform for genosensing application 262  
**Manoj Kumar Patel, Md.Azahar Ali, Md.Zafaryab, Ved Varun Agrawal, M. Moshahid Alam Rizvi, Z.A.Anasari, S.G.Anasari, Bansi D. Malhotra**
- Biosensors and Bioelectronics 45(2013)181–188*
29. Biofunctional magnetic nanotube probe for recognition and separation of specific bacteria from a mixed culture 270  
Vinod Kumar, Gopal Nath, **Ravinder. K. Kotnala**, Preeti S. Saxena and Anchal Srivastava
- RSC Adv., 2013, 3, 14634–14641*
30. Biological delignification of paddy straw and Parthenium sp. using a novel micromycete Myrothecium roridum LG7 for enhanced saccharification 278  
Rameshwar Tiwari, Sarika Rana, Surender Singh, Anju Arora, Rajeev Kaushik, **Ved Varun Agrawal**, Anil Kumar Saxena, Lata Nain
- Bioresource Technology 135 (2013) 7–11*
31. Biomedical applications of carboxymethyl chitosans 283  
Laxmi Upadhyaya, **Jay Singh**, Vishnu Agarwal, Ravi Prakash Tewari
- Carbohydrate Polymers 91 (2013) 452– 466*
32. Bipolar resistive switching properties of Ti-CuO/(hexafluoro-hexaperihexabenzocoronene)- Cu hybrid interface device: Influence of electronic nature of organic layer 299  
Bharti Singh, B. R. Mehta, Deepak Varandani, **Govind**, A. Narita, X. Feng, K. Müllen
- Journal of Applied Physics 113, 203706 (2013)*
33. Bulk superconductivity at 5K in Nd<sub>0.5</sub>F<sub>0.5</sub>BiS<sub>2</sub> 307  
**Rajveer Jha, Anuj Kumar, Shiva Kumar Singh, V. P. S. Awana**
- AIP Conf. Proc. 1512, 1106 (2013)*
34. Carboxylated multiwalled carbon nanotubes based biosensor for aflatoxin detection 309  
**Chandan Singh, Saurabh Srivastava, Md. Azahar Ali, Tejendra K. Gupta, Gajjala Sumana, Anchal Srivastava, R.B. Mathur, Bansи D. Malhotra**
- Sensors and Actuators B 185 (2013) 258– 264*
35. Carrier transport in magnesium diboride: Role of nano-inclusions 317  
A. M. Awasthi, S. Bhardwaj, **V. P. S. Awana**, A. Figini Albisetti, G. Giunchi, A. V. Narlikar
- Applied Physics Letters 103, 112601 (2013)*
36. Cationic poly(lactic-co-glycolic acid) iron oxide microspheres for nucleic acid detection† 322  
**Chandra Mouli Pandey, Aditya Sharma, Gajjala Sumana, Ida Tiwari, Bansи Dhar Malhotra**
- Nanoscale, 2013, 5, 3800–3807*

## CONTENTS

---

37. Characterization and Evaluation of Thermal Stability and Uniformity of a Liquid Temperature Bath Containing a Toluene Heat Pipe **A. Rani, S. C. Bhatt, D. D. Shivagan, Y. P. Singh**  
*MAPAN-Journal of Metrology Society of India (March 2013) 28(1):41–50*
38. Characterization of laser beams for cesium atomic fountain experiment **S B Purnapatra, P Arora, S Yadav, A Agarwal, A Sen Gupta**  
*Indian Journal of Pure & Applied Physics Vol. 51, September 2013, pp. 615-620*
39. Characterization of ZnSe single crystal grown by VBT using two zone tubular furnace: An excellent material for optoelectronic devices **Mohd. Shkir, N. Vijayan, Mohd. Nasir, M.A. Wahab, G. Bhagavannarayana**  
*Optik 124 (2013) 985– 989*
40. Characterization of ZnTe single crystal grown by Vertical Bridgman Technique using two zone tubular furnace: An important material for optoelectronic devices **Mohd Shkir, G. Bhagavannarayana, M.A. Wahab, K.K. Maurya**  
*Optik 124 (2013) 1995– 1999*
41. Charge compensation assisted enhanced photoluminescence derived from Li-codoped MgAl<sub>2</sub>O<sub>4</sub>: Eu<sup>3+</sup> nanophosphors for solid state lighting applications **Subhajit Saha, Swati Das, Uttam Kumar Ghorai, Nilesh Mazumder, Bipin Kumar Gupta, Kalyan Kumar Chattopadhyay**  
*Dalton Trans., 2013, 42, 12965*
42. Colossal humidoresistance in ceria added magnesium ferrite thin film by pulsed laser deposition **R.K. Kotnala, Jyoti Shah, Rekha Gupta**  
*Sensors and Actuators B 181 (2013) 402– 409*
43. Common effect of chemical and external pressures on the magnetic properties of RCoPO (R = La, Pr) **G. Prando, P. Bonfa` , G. Profeta, R. Khasanov, F. Bernardini, M. Mazzani, E. M. Brüning, A. Pal, V. P. S. Awana, H.-J. Grafe, B. Böuchner, R. De Renzi, P. Carretta, S. Sanna**  
*Physical Review B 87, 064401 (2013)*
44. Comparative Analysis of Different Air Density Equations **G. Mandal, A. Kumar, D. C. Sharma, H. Kumar**  
*MAPAN-Journal of Metrology Society of India (March 2013) 28(1):51–62*
45. Comparative study of magnetic and magnetotransport properties of Sm<sub>0.55</sub>Sr<sub>0.45</sub>MnO<sub>3</sub> thin films grown on different substrates **Manoj K. Srivastava, Sandeep Singh, P. K. Siwach, Amarjeet Kaur, V. P. S. Awana, K. K. Maurya, H. K. Singh**  
*AIP Advances 3, 052118 (2013)*

## CONTENTS

---

46. Comparison of Transfer Standard Industrial Lamps against PTB assigned Radiance Temperature of Vacuum and Gas Filled Tungsten Strip Lamps **A. Rani, Y. P. Singh** 411  
*MAPAN-Journal of Metrology Society of India (June 2013) 28(2):129–140*
47. Compositional engineering of BaTiO<sub>3</sub>/(Ba,Sr)TiO<sub>3</sub> ferroelectric superlattices N. Ortega, **Ashok Kumar**, Oscar Resto, O. A. Maslova, Yu. I. Yuzyuk, J. F. Scott, and Ram S. Katiyar 424  
*Journal of Applied Physics 114, 104102 (2013)*
48. Conducting grain boundaries enhancing thermoelectric performance in doped Mg<sub>2</sub>Si **Saravanan Muthiah, Jiji Pulikkotil, A. K. Srivastava, Ashok Kumar, B. D. Pathak, Ajay Dhar, R. C. Budhani** 434  
*Appl. Phys. Lett. 103, 053901 (2013)*
49. Conducting Polymer Coated Textile Based Multilayered Shields for Suppression of Microwave Radiations in 8.2–12.4 GHz Range **Parveen Saini, Veena Choudhary** 439  
*J. APPL. Polym. Sci 2013, DOI: 10.1002/APP.38994*
50. Conversion of Industrial Bio-Waste into Useful Nanomaterials Meiyazhagan Ashokkumar, Narayanan Tharangattu Narayanan, **Bipin Kumar Gupta, Arava Leela Mohana Reddy, Avanish Pratap Singh, S. K. Dhawan**, Bangaru Chandrasekaran, Dinesh Rawat, Saikat Talapatra, Pulickel M. Ajayan, Palanisamy Thanikaivelan 447  
*ACS Sustainable Chem. Eng. 2013, 1, 619–626*
51. Co-precipitation synthesis and photoluminescence properties of K<sub>2</sub>GdZr (PO<sub>4</sub>)<sub>3</sub>:Eu<sup>3+</sup>–a deep red luminomagnetic nanophosphor **Santa Chawla, Ravishanker, Rajkumar, A.F.Khan, R.K.Kotnala** 455  
*Journal of Luminescence 136(2013)328–333*
52. Covalent immobilization of xylanase produced from *Bacillus pumilus* SV-85S on electrospun polymethyl methacrylate nanofiber membrane **Pankaj Kumar, Ashish Gupta, Sanjay R. Dhakate, Rakesh B. Mathur, Sushil Nagar, Vijay K. Gupta** 461  
*Biotechnology and Applied Biochemistry 60,2, (2013)*
53. Crystal growth, structural, crystalline perfection, optical and mechanical properties of Nd<sup>3+</sup> doped sulfamic acid (SA) single crystals **Mohd. Shkir, B.Riscob, V.Ganesh, N.Vijayan, Rahul Gupta, J.L.Plaz, E. Dieguez, G.Bhagavannarayana** 469  
*Journal of Crystal Growth 380(2013)228–235*
54. Crystal growth, structural, thermal, optical and laser damage threshold studies of 8-hydroxyquinolinium hydrogen maleate single crystals G. Peramaiyan, P.Pandi, **N.Vijayan, G.Bhagavannarayana, R. Mohan Kumar** 477  
*Journal of Crystal Growth 375(2013)6–9*

## CONTENTS

---

55. Crystalline perfection, optical and third harmonic generation analyses of non-linear optical single crystal of L-lysine acetate 481  
**Neelam Rani, N. Vijayan, Kanika Thukral, K.K. Maurya, D. Haranath, G. Bhagavannarayana, S. Verma, M.A. Wahab**
- Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 105 (2013) 192–199
56. Crystallochemical affinity and optical functions of ZrGa<sub>2</sub> and ZrGa<sub>3</sub> compounds 489  
A.H. Reshak, I.V. Kityk, J. Ebothe, A.O. Fedorchuk, M.F. Fedyna, H. Kamarudin,  
**S. Auluck**
- Journal of Alloys and Compounds* 546 (2013) 14–19
57. DC and AC susceptibility studyofsol–gelsynthesized Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>8</sub>pd superconductor 495  
**Devina Sharma, Ranjan Kumar, V.P.S.Awana**
- Ceramics International* 39(2013)1143–1152
58. Design and development of low-power driven hybrid electroluminescent lamp from carbon nanotube embedded phosphor material 505  
**Deepika Yadav, Savvi Mishra, Virendra Shanker, D. Haranath**
- Journal of Alloys and Compounds* 581 (2013) 632–635
59. Design, development and fabrication of 50 kN force standard machines to provide national traceability in force measurement to the industries 509  
**S.K. Jain, S.S.K. Titus, Rajesh Kumar and Kamlesh K. Jain**
- Journal of Scientific & Industrial Research Vol. 72, June 2013, pp. 333-339*
60. Designing of conducting polymer composites for shielding of microwave radiations 517  
**Parveen Saini, Sunil Kumar Barala, Manju Arora, R. K. Kotnala**
- AIP Conf. Proc. 1536, 1237 (2013)*
61. Designing of multiwalled carbon nanotubes reinforced polyurethane composites as electromagnetic interference shielding materials 520  
**T. K. Gupta, B. P. Singh, Satish Teotia, Varun Katyal, S. R. Dhakate, R. B. Mathur**
- J Polym Res (2013) 20:169*
62. Determination and Validation of Average Value of National Standard of DC Voltage Using Different Methods at CSIR-NPLI 527  
**Babita, Satish, Ajeet Singh and A. K. Saxena**
- MAPAN-Journal of Metrology Society of India (June 2013) 28(2):99–104*
63. Development of free standing anodes of high aspect ratio carbon materials for rechargeable Li-ion batteries 533  
**Priyanka H. Maheshwaria, C. Nithya, Shilpa Jain, R.B. Mathura**
- Electrochimica Acta* 92 (2013) 55–63
64. Diacetylene bridged triphenylamines as hole transport materials for solid state dye sensitized solar cells 542  
Miquel Planells, Antonio Abate, Derek J. Hollman, Samuel D. Stranks,  
**Vishal Bharti, Jitender Gaur, Dibyajyoti Mohanty, Suresh Chand, Henry J. Snaith, Neil Robertson**  
*J. Mater. Chem. A, 2013, 1, 6949*

## CONTENTS

---

65. Dielectric properties of Fe-doped TiO<sub>2</sub> nanoparticles synthesised by sol–gel route 554  
**Davinder Singh, Poonam Yadav, Nafa Singh, Chander Kant, Mahesh Kumar, Sunil D. Sharma, K. K. Saini**
- Journal of Experimental Nanoscience, 2013 Vol. 8, No. 2, 171–1183*
66. Direct radiative effects of an unseasonal dust storm at a western Indo Gangetic Plain station Delhi in ultraviolet, shortwave, and longwave regions 569  
**Sachchidanand Singh, S. Naseema Beegum**
- Geophysical Research Letters, Vol. 40, 2444–2449, 2013*
67. Dispersion of the linear and nonlinear optical susceptibilities of disilver germanium sulfide from DFT calculations 575  
**A. H. Reshak, H. Kamarudin, S. Auluck**
- J Mater Sci (2013) 48:1955–1965*
68. Early Holocene monsoonal fluctuations in the Garhwal higher Himalaya as inferred from multi-proxy data from the Malari paleolake 586  
Pradeep Srivastava, Anil Kumar, Akanksha Mishra, Narendra K. Meena, Jayant K. Tripathi, Y.P. Sundriyal, **Rajesh Agnihotri**, Anil K. Gupta
- Quaternary Research 80 (2013) 447–458*
69. Effect of 100 keV N<sup>+</sup> ion irradiation on the organic single crystal of hippuric acid for nonlinear optical applications 599  
**Neelam Rani, N. Vijayan, Suraj Karan Jat, K.K. Maurya, P. Kumard, A.P. Gnana Prakash, G. Bhagavannarayana, M.A. Wahab**
- Radiation Effects & Defects in Solids, 2013 Vol. 168, No. 9, 705–716,*
70. Effect of Al Concentration on Photoluminescence Properties of Sol-Gel Derived Hydrogen Annealed ZnO 612  
Firoz Khan, Sadia Ameen, Minwu Song, Mushahid Husain, **Abdul Mobin**, Hyung Shik Shin
- Met. Mater. Int., Vol. 19, No. 2 (2013), pp. 245~250*
71. Effect of annealing temperature on Raman spectra of TiO<sub>2</sub> nanoparticles 618  
Mohan Chandra Mathpal, Anand Kumar Tripathi, **Manish Kumar Singh**, S.P. Gairola, S.N. Pandey, Arvind Agarwal
- Chemical Physics Letters 555 (2013) 182–186*
72. Effect of crucible design on crystalline perfection and the enhanced optical properties of benzimidazole single crystals grown by the vertical Bridgman technique 623  
**B. Riscob, N. Vijayan, Mohd Shakir, M. A. Wahab, G. Bhagavannarayana**
- J. Appl. Cryst. (2013). 46, 276–278*
73. Effect of degradation on electronic properties of polymer solar cells 626  
**Ankita Gaur, Pankaj Kumar**
- Polym. Adv. Technol. 2013, 24 630–637*

## CONTENTS

---

74. Effect of doping of cesium carbonate on electron transport in Tris(8-hydroxyquinolinato) aluminum 634  
**Priyanka Tyagi, Ritu Srivastava, Arunandan Kumar, Suneet Tuli, M.N. Kamalasanan**
- Organic Electronics 14 (2013) 1391–1395*
75. Effect of excess Mg and nano-additives on the superconducting properties of weakly connected bulk MgB<sub>2</sub> 640  
**P. P. S. Bhadauria, Anurag Gupta, Hari Kishan, A. V. Narlikar**
- J. Appl. Phys. 113, 063908 (2013);*
76. Effect of ion beam irradiation on the corrosion behavior of the melt spun ribbon Ti60Ni40 - Erratum [J. Non-Cryst. Solids 357 (2011) 966–969] 647  
Shubhra Mathur, Rishi Vyas, Rohit Jain, Praveen Kumar, K. Sachdeva, S.K. Sharma
- Journal of Non-Crystalline Solids 376 (2013) 238*
77. Effect of KOH on glycine phosphite single crystal grown by the SR method 648  
**S. Supriya, S. Kalainathan, G. Bhagavannarayana**
- Journal of Physics and Chemistry of Solids 74(2013)70–74*
78. Effect of length of carbon nanotubes on electromagnetic interference shielding and mechanical properties of their reinforced epoxy composites 653  
**B. P. Singh, Kamal Saini, Veena Choudhary, Satish Teotia, Shailaja Pande, Parveen Saini, R. B. Mathur**
- J Nanopart Res (2014) 16:2161*
79. Effect of Mg doping on the growth aspects, crystalline perfection, and optical and thermal properties of congruent LiNbO<sub>3</sub> single crystals 664  
**B. Riscob, Indranil Bhaumik, S. Ganesamoorthy, R. Bhatt, N. Vijayan, A. K. Karnal, M. A. Wahab, G. Bhagavannarayana**
- J. Appl. Cryst. (2013). 46, 1854–1862*
80. Effect of Nd doping on the magnetic properties of charge-ordered Bi<sub>0.6-x</sub>NdxCa<sub>0.4</sub>MnO<sub>3</sub> ( $0.0 \leq x \leq 0.6$ ) perovskite manganites 673  
Kamlesh Yadav, M.P. Singh, **H.K. Singh**, F.S. Razavi, G.D. Varma
- Appl Phys A (2013) 111:845–851*
81. Effect of polarization on spectral anomalies of diffracted stochastic electromagnetic beams 681  
**Stuti Joshi, B K Yadav, Manish Verma, Mohd Shahid Khan, H C Kandpal**
- J. Opt. 15 (2013) 035405 (5pp)*
82. Effect of p-Toluenesulfonate on Inhibition of Overoxidation of Polypyrrole 686  
**Amit Kumar, Rajiv K. Singh, Khushboo Agarwal, Hari K. Singh, Pankaj Srivastava, Ramadhar Singh**
- J. Appl. Polym. Sci. 2013, DOI: 10.1002/APP.39182*
83. Effect of rare earth ions on the properties of glycine phosphite single crystals 695  
K. Senthilkumar, S. Moorthy Babu, Binay Kumar, **G. Bhagavannarayana**  
*Journal of Crystal Growth 362(2013)343–348*

## CONTENTS

---

84. Effect of reduction of trap charge carrier density in organic field effect transistors by surface treatment of dielectric layer 702  
**Janardan Dagar, Vandana Yadav, Priyanka Tyagi, Rajiv Kumar Singh, C. K. Suman, Ritu Srivastava**
- Journal of Applied Physics 114, 224504 (2013)*
85. Effect of silane flow rate on structural, electrical and optical properties of silicon thin films grown by VHF PECVD technique 707  
**Jhuma Gope, Sushil Kumar, S. Sudhakar, C.M.S. Rauthan, P.C. Srivastava**
- Materials Chemistry and Physics 141 (2013) 89e94*
86. Effect of sodium chloride on the properties of ZTS single crystals 713  
M. Selvapandiyan, J. Arumugam, P. Sundaramoorthi, **S. Sudhakar**
- Journal of Alloys and Compounds 558 (2013) 34–38*
87. Effect of thermal annealing on Boron diffusion, micro-structural, electrical and magnetic properties of laser ablated CoFeB thin films 719  
**G. Venkat Swamy, Himanshu Pandey, A. K. Srivastava, M. K. Dalai, K. K. Maurya, Rashmi, R. K. Rakshit**
- AIP Advances 3, 072129 (2013);*
88. Effect of voltage sweep direction on the performance evaluation of P3HT:PCBM solar cells 727  
**Pankaj Kumar, Abhishek Sharma, Dwijendra Pratap Singh**  
Prog. Photovolt: Res. Appl. 2013; 21:950–959
89. Effective improvement of the properties of light weight carbon foam by decoration with multi-wall carbon nanotubes 737  
**Rajeev Kumar, Sanjay R. Dhakate, Tejendra Gupta, Parveen Saini, Bhanu P. Singh, Rakesh B. Mathur**
- J. Mater. Chem. A, 2013, 1, 5727–5735*
90. Effective passivation of silicon surface by AZO films: Application in bifacial solar cells 746  
Firoz Khan, Seong-Ho Baek, **S.N. Singh, P.K. Singh**, Jae Hyun Kim
- Solar Energy 97 (2013) 474–483*
91. Effects of long-term tillage and drainage treatments on greenhouse gas fluxes from a corn field during the fallow period 756  
**A. Datta, P. Smith, R. Lal**
- Agriculture, Ecosystems and Environment 171 (2013) 112–123*
92. Efficient solution-processed small molecule: Cadmium selenide quantum dot bulk heterojunction solar cells 769  
**Vinay Gupta, Tanvi Upreti, Suresh Chand**
- Applied Physics Letters 103, 253901 (2013)*
93. Efficient Solution-Processed Small-Molecule Solar Cells with Inverted Structure 774  
Aung Ko Ko Kyaw, Dong Hwan Wang, **Vinay Gupta, Jie Zhang, Suresh Chand**, Guillermo C. Bazan, Alan J. Heeger
- Adv. Mater. 2013, 25, 2397–2402*

## CONTENTS

---

94. Electric, dielectric and ac electrical conductivity study of nanocrystalline cobalt substituted Mg–Mn ferrites synthesized via solution combustion technique 780  
Gagan Kumar, Sucheta Sharma, **R.K. Kotnala, Jyoti Shah**, Sagar E. Shirasath, Khalid M. Batoo, M. Singh
- Journal of Molecular Structure 1051 (2013) 336–344*
95. Electrical and mechanical properties of PMMA/reduced graphene oxide nanocomposites prepared via in situ polymerization 789  
Sandeep Nath Tripathi, **Parveen Saini**, Deeksha Gupta, Veena Choudhary
- J Mater Sci (2013) 48:6223–6232*
96. Electronic and optical features of the mixed crystals Ag0.5Pb1.75Ge(S1–xSex)4 799  
A. H. Reshak, Y. M. Kogut, A. O. Fedorchuk, O. V. Zamuryeva, G. L. Myronchuk, O. V. Parasyuk, H. Kamarudin, **S. Auluck**, K. J. Plucinskig, Jiri Bila
- J. Mater. Chem. C, 2013, 1, 4667*
97. Electronic band structure of LaO1–xFxBiS2: A recently invented family of superconductors 809  
**Jagdish Kumar**, P. K. Ahluwalia, **V. P. S. Awana**
- AIP Conf. Proc. 1512, 1156 (2013)*
98. Electronic Structure of Quaternary Chalcogenide Ag2In2Ge(Si)S6 Single Crystals and the Influence of Replacing Ge by Si: Experimental X-Ray Photoelectron Spectroscopy and X-Ray Diffraction Studies and Theoretical Calculations 811  
A. H. Reshak, O. Y. Khyzhun, I. V. Kityk, A. O. Fedorchuk, H. Kamarudin, **S. Auluck**, O. V. Parasyuk
- Science of Advanced Materials Vol. 5, pp. 1–12, 2013*
99. Electronic structure, charge density, and chemical bonding properties of C11H8N2O o-methoxydicyanovinylbenzene (DIVA) single crystal 823  
A. H. Reshak, H. Kamarudin, I. V. Kityk, **S. Auluck**
- J Mater Sci (2013) 48:5157–5162*
100. Electronic structure, density of electronic states, and the chemical bonding properties of 2,4-dihydroxyl hydrazone crystals (C13H11N3O4) 829  
A. H. Reshak, H. Kamarudin, **S. Auluck**
- J Mater Sci (2013) 48:3805–3811*
101. Electrophoretically deposited reduced graphene oxide platform for food toxin detection 836  
**Saurabh Srivastava**, Vinod Kumar, **Md Azahar Ali**, **Pratima R. Solanki**, Anchal Srivastava, **Gajjala Sumana**, Preeti Suman Saxena, **Amish G. Joshi**, B. D. Malhotra
- Nanoscale, 2013, 5, 3043*
102. Electrospun composite nanofiber-based transmucosal patch for anti-diabetic drug delivery 845  
**A. Sharma, A. Gupta**, G. Rath, A. Goyal, **R. B. Mathur**, **S. R. Dhakate**
- J. Mater. Chem. B, 2013, 1, 3410*

## CONTENTS

---

103. Electrostatic charge dissipation and electromagnetic interference shielding response of polyaniline based conducting fabrics 854  
**Parveen Saini, Veena Choudhary**
- Indian Journal of Pure & Applied Physics Vol. 51, February 2013, pp. 112-117*
104. Emissions estimates of PAH from biomass fuels used in rural sector of Indo-Gangetic Plains of India 860  
**D.P. Singh, Ranu Gadi, T.K. Mandal, T. Saud, M. Saxena, S.K. Sharma**
- Atmospheric Environment 68 (2013) 120e126*
105. Energy Relay from an Unconventional Yellow Dye to CdS/ CdSe Quantum Dots for Enhanced Solar Cell Performance 867  
**Remya Narayanan, Amrita Das, Melepurath Deepa, Avanish Kumar Srivastava**
- ChemPhysChem 2013, 14, 4010 – 4021*
106. Energy transfer process between exciton and surface plasmon: Complete transition from Forster to surface energy transfer 880  
**Arunandan Kumar, Priyanka Tyagi, Ritu Srivastava, D. S. Mehta, M. N. Kamalasan**
- Appl. Phys. Lett. 102, 203304 (2013)*
107. Engineering polarization rotation in ferroelectric bismuth titanate 886  
Amritendu Roy, Rajendra Prasad, **Sushil Auluck**, Ashish Garg
- Appl. Phys. Lett. 102, 182901 (2013)*
108. Enhanced dielectric and electro-optical properties of a newly synthesised ferroelectric liquid crystal material by doping gold nanoparticle-decorated multiwalled carbon nanotubes 891  
**Shashank Tripathi, Jai Prakash, Achu Chandran, Tilak Joshi, Anil Kumar, Ajay Dhar, Ashok M. Biradar**
- Liquid Crystals, 2013 Vol. 40, No. 9, 1255–1262,*
109. Enhanced Efficiency Parameters of Solution-Processable Small-Molecule Solar Cells 900  
Depending on ITO Sheet Resistance  
Dong Hwan Wang , Aung Ko Ko Kyaw , **Vinay Gupta** , Guillermo C. Bazan, Alan J. Heeger
- Adv. Energy Mater. 2013, 3, 1161–1165*
110. Enhanced electromagnetic interference shielding effectiveness of polyaniline functionalized carbon nanotubes filled polystyrene composites 905  
**Parveen Saini, Veena Choudhary**
- J Nanopart Res (2013) 15:1415*
111. Enhanced low field magnetoresistance in Sr<sub>2</sub>Fe<sub>1-x</sub>Ag<sub>x</sub>MoO<sub>6</sub> double perovskite system 912  
**R.P. Aloysius, Meena Dhankhar, R.K. Kotnala**
- Journal of Alloys and Compounds 574 (2013) 335–339*
112. Enhanced magnetic and magnetoelectric properties of In and Co codoped BiFeO<sub>3</sub> 917  
nanoparticles at room temperature  
**G. S. Arya, R. K. Kotnala, N. S. Negi**
- J Nanopart Res (2014) 16:2155*

## CONTENTS

---

113. Enhanced microwave shielding and mechanical properties of high loading MWCNT–epoxy composites 928  
**B. P. Singh, Prasanta, Veena Choudhary, Parveen Saini, Shailaja Pande, V. N. Singh, R. B. Mathur**
- J Nanopart Res (2013) 15:1554*
114. Enhanced performance of organic photovoltaic devices by incorporation of tetrapod-shaped CdSe nanocrystals in polymer–fullerene systems 940  
**Razi Ahmad, Vikas Arora, Ritu Srivastava, Sameer Sapra, and Modeeparampil N. Kamalasanan**
- Phys. Status Solidi A 210, No. 4, 785–790 (2013)*
115. Enhanced superconducting performance of melt quenched Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>8</sub> (Bi-2212) superconductor 946  
**Jagdish Kumar, Devina Sharma, P.K. Ahluwalia, V.P.S. Awana**
- Materials Chemistry and Physics 139 (2013) 681e688*
116. Enhanced UV Emission in ZnO/ZnS Core Shell Nanoparticles Prepared by Epitaxial Growth in Solution 954  
**Simmi Sharma, Santa Chawla**
- Electronic Materials Letters, Vol. 9, No. 3 (2013), pp. 267-271*
117. Enhancement in magnetic and dielectric properties of La and Pr co substituted BiFeO<sub>3</sub> 959  
Amit Srivastava, **H.K. Singh, V.P.S. Awana, O.N. Srivastava**
- Journal of Alloys and Compounds 552 (2013) 336–344*
118. Enhancement of critical current density for nano (n)-ZnO doped MgB<sub>2</sub> superconductor 968  
Intikhab A. Ansari, M. Shahabuddin, Nasser S. Alzayed, Khalil A. Ziq, A.F. Salem, **V.P.S. Awana, H. Kishan**
- Physica C 495 (2013) 208–212*
119. Entry of chiral phthalimides with significant second order nonlinear optical and piezoelectric properties 973  
Anil K. Singh, Ram Kishan, **N. Vijayan, V. Balachandran, Taruna Singh, Hemendra K. Tiwari, Brajendra K. Singh, Brijesh Rathi**  
*RSC Adv., 2013, 3, 14750–14756*
120. Epidemiological study on healthy subjects affected by agriculture cropresidue burning episodes and its relation with their pulmonary function tests 982  
Ravinder Agarwal, Amit Awasthi, Nirankar Singh, Susheel K. Mittal, **Prabhat Kumar Gupta**
- International Journal of Environmental Health Research, 2013 Vol. 23, No. 4, 281–295*
121. Evaluation of purity with its uncertainty value in high purity lead stick by conventional and electro-gravimetric methods 997  
**Nahar Singh, Niranjan Singh, S Swarupa Tripathy, Daya Soni, Khem Singh, Prabhat K Gupta**

*Chemistry Central Journal 2013, 7:108*

## CONTENTS

---

122. Evidences of magneto-electric coupling in BFO–BT solid solutions 1007  
Manish Kumar, S. Shankar, **R.K. Kotnala**, Om Parkash
- Journal of Alloys and Compounds* 577 (2013) 222–227
123. Exciton quenching by diffusion of 2,3,5,6-tetrafluoro- 7,7',8,8'-tetra cyano quino dimethane and its consequences on joule heating and lifetime of organic light-emitting diodes 1013  
**Priyanka Tyagi**, Arunandan Kumar, Lalat Indu Giri, **Manas Kumar Dalai**, Suneet Tuli, M. N. Kamalasanan, **Ritu Srivastava**
- Optics Letters* / Vol. 38, No. 19 / October 1, 2013
124. Expanded graphite–nanoferrite–fly ash composites for shielding of electromagnetic pollution 1017  
**Monika Mishra, Avanish Pratap Singh, S.K. Dhawan**
- Journal of Alloys and Compounds* 557 (2013) 244–251
125. Experimental Facilities to Monitor Various Types of Atmospheric Parameters in the Radio and Atmospheric Sciences Division (RASD) of CSIR-National Physical Laboratory 1025  
**M. V. S. N. Prasad, C. Sharma, B. C. Arya, T. K. Mandal, S. Singh, M. J. Kulshrestha, R. Agnihotri, S. K. Mishra, S. K. Sharma**
- MAPAN-Journal of Metrology Society of India* (September 2013) 28(3):193–203
126. Experimental investigations of different force measuring systems 1036  
**Harish Kumar**, Chitra Sharma
- Indian Journal of Pure & Applied Physics* Vol. 51, June 2013, pp. 393-398
127. Experimental study on modulation of Stokes parameters on propagation of a Gaussian Schell model beam in free space 1042  
**Manish Verma**, P. Senthilkumaran, Joby Joseph, **H. C. Kandpal**
- Optics Express* Vol. 21, No. 13, 15432, 1 July 2013
128. Fabrication of Artificially Stacked Ultrathin ZnS/MgF<sub>2</sub> Multilayer Dielectric Optical Filters 1048  
Garima Kedawat, Subodh Srivastava, Vipin Kumar Jain, **Pawan Kumar, Vanjula Kataria, Yogyata Agrawal, Bipin Kumar Gupta**, Yogesh K. Vijay
- ACS Appl. Mater. Interfaces* 2013, 5, 4872–4877
129. Fabrication of copper matrix composites reinforced with carbon nanotubes using a combination of molecular-level-mixing and high energy ball milling 1055  
**Sunil Kumar Singhal**, Maneet Lal, Indu Sharma, **Rakesh Behari Mathur**
- Journal of Composite Materials* 2013 47: 613
130. Fabrication of dual excitation dual emission phosphor with plasmonic enhancement of fluorescence for simultaneous conversion of solar UV and IR to visible radiation 1065  
**Santa Chawla, M. Parvaz, Vineet Kumar, Zubair Buch**
- NewJ.Chem.*, 2013, 37, 3991

## CONTENTS

---

131. Fabrication of ZnS:Cr nanoparticles with superparamagnetism and fluorescence properties 1072  
**Santa Chawla, Simmi Sharma, Jyoti Shah**
- Materials Letters* 108(2013) 189–192
132. Facile green synthesis of nickel nanostructures using natural polyol and morphology dependent dye adsorption properties† 1076  
Anujit Ghosal, **Jyoti Shah, Ravinder K. Kotnala**, Sharif Ahmad
- J. Mater. Chem. A*, 2013, 1, 12868
133. Faster and highly luminescent ferroelectric liquid crystal doped with ferroelectric BaTiO<sub>3</sub> nanoparticles 1088  
**Prasun Ganguly, A. Kumar, Shashank Tripathi, D. Haranath, A. M. Biradar**
- Appl. Phys. Lett.* 102, 222902 (2013)
134. Ferrofluid/Activated Carbon Composites For Water Purification and EMI Shielding Applications 1092  
**S.K. Barala, M.Arora, Chandni Puri, K.K. Saini, R.K.Kotnala, P.K.Saini**
- Magnetohydrodynamics* Vol. 49 (2013), No. 3-4, pp. 277–281
135. Few layer graphene synthesized by filtered cathodic vacuum arc technique 1098  
**Omvir Singh Panwar and Ajay Kumar Kesarwani, Sanjay Rangnath Dhakate and Bhanu Pratap Singh, Rajib Kumar Rakshit, Atul Bisht, Sreekumar Chockalingam**
- J. Vac. Sci. Technol. B* 31, 040602 (2013)
136. Final report of key comparison CCM.P-K12 for very low helium flow rates (leak rates 1103  
K. Jousten, K. Arai, U. Becker, O. Bodnar, F. Boineau, J. A. Fedchak, V. Gorobey, Wu Jian, D. Mari, **P. Mohan, J. Setina, B. Toman, M. Vičar, Yu Hong Yan**
- Metrologia* 50 07001 doi:10.1088/0026-1394/50/1A/07001
137. Formation mechanism, electronic properties & microwave shielding by nano-structured polyanilines prepared by template free route using surfactant dopants 1153  
**Parveen Saini, Manju Arora**
- J. Mater. Chem. A*, 2013, 1, 8926
138. Formation of double ring patterns on Co<sub>2</sub>MnSi Heusler alloy thin film by anodic oxidation under scanning probe microscope 1163  
**Vijaykumar Toutam, Himanshu Pandey, Sandeep Singh, R. C. Budhani**
- AIP Advances* 3, 022124 (2013)
139. Forster resonance energy transfer and carbon dots enhance light harvesting in a solid-state quantum dot solar cell 1170  
Remya Narayanan, Melepurath Deepa, **Avanish Kumar Srivastava**
- J. Mater. Chem. A*, 2013, 1, 3907
140. Generation of AuGe nanocomposites by co-sparking technique and their photoluminescence properties 1182  
**Shubhra Kala, Ralf Theissmann, Frank Einar Kruis**

## CONTENTS

---

141. Geranyl acetate synthesis catalyzed by *Thermomyces lanuginosus* lipase immobilized on electrospun polyacrylonitrile nanofiber membrane 1194  
**A. Gupta, S.R. Dhakate, M. Pahwa, S. Sinha, S. Chand, R.B. Mathur**
- Process Biochemistry* 48 (2013) 124–132
142. Giant coercivity enhancement and dimensional crossover of superconductivity in Co<sub>2</sub>FeSi-NbN nanoscale bilayers 1204  
**Anurag Gupta, Gyanendra Singh, Dushyant Kumar, Hari Kishan, R. C. Budhani**
- Applied Physics Letters* 103, 182602 (2013)
143. Gold-Nanoparticle-Decorated Boron Nitride Nanosheets: Structure and Optical Properties 1209  
**Sunil K. Singhal, Veeresh Kumar, K. Stalin, Amit Choudhary, Satish Teotia Gade B. Reddy, Rakesh B. Mathur, Surinder P. Singh, Renu Pasricha**
- Part. Part. Syst. Charact.* 2013, 30, 445–452
144. Graphene oxide-chitosan nanocomposite based electrochemical DNA biosensor for detection of typhoid 1217  
**Anu Singha, Gaurav Sinsinbar, Meenakshi Choudhary, Veeresh Kumar, Renu Pasricha, H.N. Verma, Surinder P. Singh, Kavita Arora**
- Sensors and Actuators B* 185 (2013) 675–684
145. Growth and characterization of hexaaquacobalt(II) dipotassium tetrahydrogen tetra-o-phthalate tetrahydrate crystals 1227  
**K. Muthu, G. Bhagavannarayana, C.K. Mahadevan, S.P. Meenakshisundaram**
- Materials Chemistry and Physics* 139 (2013) 623e628
146. Growth and design of novel nonlinear optical material (NLO) – Glycine barium nitrate potassium nitrate (GBNPN) crystal 1233  
**M.N. Ravishankar, M.A. Ahlam, R. Chandramani, N. Vijayan, A.P. Gnana Prakash**
- Optik* 124 (2013) 3204–3207
147. Growth and structural investigation of new polycrystalline Ga<sub>3</sub>Se<sub>4</sub> semiconductor: Evaluation of its dielectric properties 1237  
**M.M. Abdullah, Preeti Singh, D.P. Singh, G. Bhagavannarayana, M.A. Wahab**
- Optik* 124 (2013) 3215–3218
148. Growth of ADP-KDP mixed crystal and its optical, mechanical, dielectric, piezoelectric and laser damage threshold studies 1241  
**P. Rajesh, P. Ramasamy, G. Bhagavannarayana**
- Journal of Crystal Growth* 362 (2013) 338–342
149. Growth of CZTS by co-sputtering and sulfurization for solar cell applications 1246  
**N. Muhunthan, Om Pal Singh, V.N. Singh**
- Proc. SPIE* 8923, *Micro/Nano Materials, Devices, and Systems*, 89232H (December 7, 2013)
150. Growth of CZTS Thin Films by Cospattering of Metal Targets and Sulfurization in H<sub>2</sub>S 1256  
**N. Muhunthan, Om Pal Singh, Son Singh, V. N. Singh**

*International Journal of Photoenergy Volume 2013, Article ID 752012, 7 pages*

## CONTENTS

---

151. Growth of indium nitride nanopetal structures on indium oxide buffer layer 1264  
**Vidya N. Singh, G. Partheepan, Brijesh Kumar, Ankur Khare**
- Mater. Express, Vol. 3, No. 4, 2013*
152. Growth, electronic absorption and vibrational spectral analysis of semiorganic nonlinear optical material potassium acid phthalate: A scaled quantum mechanical force fieldstudy 1269  
S. Alen, D.Sajan, **N.Vijayan**, K.Chaitanya, Ivan Nemec, V.Bena Jothy
- Journal of Molecular Structure 1040 (2013)155–163*
153. Growth, HR-XRD, optical, thermal, luminescence and nonlinear optical studies of novel organic nonlinear optical crystal: l-Threonine formate 1278  
Hanumantharao Redrothu, S. Kalainathan, **G. Bhagavannarayana**
- Optik 124 (2013) 3718– 3722*
154. Growth, nonlinear optical, thermal, dielectric and laser damage threshold studies of semiorganic crystal: Monohydrate piperazine hydrogen phosphate 1283  
P. Krishnan, K. Gayathri, **G. Bhagavannarayana**, S. Gunasekaran, G. Anbalagan
- Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 102 (2013) 379–385*
155. Growth, spectral, thermal, dielectric, mechanical, linear and nonlinear optical,birefringence, laser damage threshold studies of semi-organic crystal: Dibrucinium sulfate heptahydrate 1290  
P. Krishnan, K. Gayathri, **G. Bhagavannarayana**, V. Jayaramakrishnan, S. Gunasekaran ,G. Anbalagan
- Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 112 (2013) 152–160*
156. Growth, structural, optical and laser damage threshold studies of organicpcolinium picrate monohydrate single crystals 1299  
P. Pandi, G. Peramaiyan, **G. Bhagavannarayana**, R. Mohan Kumar, R. Jayavel
- Optik 124 (2013) 5792– 5796*
157. Growth, structure, crystalline perfection and characterization of Mg(II)-incorporated tris(thiourea)Zn(II) sulfate crystals: Enhanced second harmonic generation (SHG) efficiency 1304  
K. Muthu, **G. Bhagavannarayana**, S.P. Meenakshisundaram
- Journal of Alloys and Compounds 548 (2013) 201–207*
158. High density aligned Si nanowires synthesized using electroless etching 1311  
**N. Singh, A. K. Srivastava, K. N. Sood, Ajay Dhar**
- Materials Technology Volume: 28 Issue: 4 Pages: 199-204 Published: Jul 2013*
159. High permittivity polyaniline–barium titanate nanocomposites with excellent electromagnetic interference shielding response 1318  
**Parveen Saini, Manju Arora, Govind Gupta, Bipin Kumar Gupta, Vidya Nand Singh, Veena Choudhary**  
*Nanoscale, 2013, 5, 4330*
160. High strain rate behavior of multi-walled carbon nanotubes–polycarbonate composites 1325  
Prashant Jindal, **Shailaja Pande**, Prince Sharma, Vikas Mangla, **Anisha Chaudhury, Deepak Patel, Bhanu Pratap Singh, Rakesh Behari Mathur**, Meenakshi Goyal  
*Composites: Part B 45 (2013) 417–422*

## CONTENTS

---

161. High temperature dielectric and magnetic response of Ti and Pr doped BiFeO<sub>3</sub> ceramics 1331  
Virendra Kumar, Anurag Gaur, Neha Sharma, **Jyoti Shah, R.K.Kotnala**
- Ceramics International* 39(2013)8113–8121
162. High yield synthesis and characterization of aqueous stable zinc oxide nanocrystals using 1340  
various precursors  
**G. Swati, Savvi Mishra, Deepika Yadav, R.K. Sharma, Dileep Dwivedi, N. Vijayan,**  
**J.S. Tawale, V. Shanker, D. Haranath**
- Journal of Alloys and Compounds* 571 (2013) 1–5
163. High-efficiency, low cost Si solar cells 1345  
**Jeyakumar Ramanujam, Amit Verma**
- Abstracts Of Papers Of The American Chemical Society*  
245 Meeting Abstract: 758-ENFL, Apr 7 2013  
Conference: 245th National Meeting of the American-Chemical-Society (ACS)
164. Highly c-axis oriented growth of GaN film on sapphire (0001) by laser molecular beam 1347  
epitaxy using HVPE grown GaN bulk target  
**S. S. Kushvaha, M. Senthil Kumar, K. K. Maurya, M. K. Dalai, and Nita D. Sharma**
- AIP Advances* 3, 092109 (2013)
165. Highly Efficient Bienzyme Functionalized Biocompatible Nanostructured Nickel 1357  
Ferrite–Chitosan Nanocomposite Platform for Biomedical Application  
Jay Singh, **Appan Roychoudhury**, Manish Srivastava, Vidhi Chaudhary, Radha  
Prasanna, Dong Won Lee, Seung Hee Lee, **B. D. Malhotra**
- J. Phys. Chem. C* 2013, 117, 8491–8502
166. Highly Efficient Bienzyme Functionalized Nanocomposite-Based Microfluidics 1369  
Biosensor Platform for Biomedical Application  
**Md. Azahar Ali, Saurabh Srivastava, Pratima R. Solanki, Venu Reddy, Ved V.**  
**Agrawal, CheolGi Kim, Renu John, Bansi D. Malhotra**
- Scientific Reports* / 3 : 2661 / DOI: 10.1038/srep02661
167. Highly efficient green light harvesting from Mg doped ZnO nanoparticles: Structural and 1378  
optical studies  
Sarla Sharma, Rishi Vya, Neha Sharma, Vidyadhar Singh, Arvind Singh, **Vanjula**  
**Kataria, Bipin Kumar Gupta , Y.K. Vijay**
- Journal of Alloys and Compounds* 552 (2013) 208–212
168. Highly sensitive and pulse-like response towards ethanol of Nb doped TiO<sub>2</sub> nanorods 1383  
based gas sensors - Corrigendum [Sens. Actuators: B. Chem. 171–172C (2012) 899–906]  
**Sujata Singh, Harjeet Kaur, V.N. Singh, Kiran Jain, T.D. Senguttuvan**  
*Sensors and Actuators B* 176 (2013) 1205
169. Highly sensitive biofunctionalized nickel oxide nanowires for nanobiosensing 1384  
applications  
**Pratima R. Solanki, Md. Azahar Ali, Ved V. Agrawal, A. K. Srivastava, R.**  
**K. Kotnala, B. D. Malhotra**

*RSC Advances*, 2013, 3, 16060

## CONTENTS

---

170. Hydrostatic pressure effect on Tc of new BiS<sub>2</sub>-based Bi<sub>4</sub>O<sub>4</sub>S<sub>3</sub> and Nd<sub>0.5</sub>F<sub>0.5</sub>BiS<sub>2</sub> layered superconductors 1392  
G. Kalai Selvan, M. Kanagaraj, S. Esakki Muthu, **Rajveer Jha, V. P. S. Awana**,  
S. Arumugam
- Phys. Status Solidi RRL* 7, , No. 7, 510–513 (2013)
171. Hydrothermal conditions on Sn<sub>0.95</sub>Co<sub>0.05</sub>O<sub>2</sub>: nanostructures, ferromagnetism and optical behavior 1396  
Jasneet Kaur, N. S. Negi, **R. K. Kotnala**, Kuldeep Chand Verma
- J Sol-Gel Sci Technol* (2013) 65:411–419
172. Immuno-CoPS (conducting paper strips) for futuristic cost-effective cancer diagnostics 1405  
**Saurabh Kumar, Kishore Kumar Jagadeesan, Amish G. Joshi, Gajjala Sumana**
- RSC Advances*, 2013, 3, 11846
173. Impact of Gd Doping on Morphology and Superconductivity of NbN Sputtered Thin Films 1413  
**Rajveer Jha, Jeevan Jyoti, V.P.S. Awana**
- J Supercond Nov Magn* (2013) 26:3069–3074
174. Impact of quenched disorder on magnetotransport properties in Nd<sub>0.55-x</sub>Sm<sub>x</sub>Sr<sub>0.45</sub>MnO<sub>3</sub> thin films 1420  
**Manoj K. Srivastava, Amarjeet Kaur, H. K. Singh**
- AIP Conf. Proc.* 1512, 722 (2013)
175. Impact of sintering temperature on room temperature magneto-resistive and magneto-caloric properties of Pr<sub>2/3</sub>Sr<sub>1/3</sub>MnO<sub>3</sub> 1422  
**Ramesh Chandra Bhatt, Shiva Kumar Singh, P.C. Srivastava, S.K. Agarwal, V.P.S. Awana**
- Journal of Alloys and Compounds* 580 (2013) 377–381
176. Impact of strain on metamagnetic transitions in Sm<sub>0.5</sub>Sr<sub>0.5</sub>MnO<sub>3</sub> thin films 1428  
**M. K. Srivastava, A. Kaur, K. K. Maurya, V. P. S. Awana, H. K. Singh**
- Appl. Phys. Lett.* 102, 032402 (2013);
177. Impacts of increasing ozone on Indian plants 1433  
E. Oksanen, V. Pandey, A.K. Pandey, S. Keski-Saari, S. Kontunen-Soppela, **C. Sharma**
- Environmental Pollution* 177 (2013) 189e200
178. Improved direct comparison calibration of small angle blocks 1445  
**M. Arif Sanjid**
- Measurement* 46 (2013) 646–653
179. Improved electromagnetic interference shielding effectiveness of light weight carbon foam by ferrocene accumulation 1453  
**Rajeev Kumar, Sanjay R. Dhakate, Parveen Saini, Rakesh B. Mathur**
- RSC Advances*, 2013, 3, 4145

## CONTENTS

---

180. Improved nanoindentation and microwave shielding properties of modified MWCNTreinforced polyurethane composites 1460  
**Tejendra K. Gupta, Bhanu P. Singh, Sanjay R. Dhakate, Vidya N. Singh, Rakesh B. Mathur**
- J. Mater. Chem. A, 2013, 1, 9138*
181. Improved surface properties of  $\beta$ -SiAlON by diamond-like carbon coatings 1472  
**Atul Bisht, Sreekumar Chockalingam, R.K. Tripathi, Neeraj Dwivedi, Saurabh Dayal, Sushil Kumar, O.S. Panwar, Jagdish Chand, Sandeep Singh, Ajay Kesarwani**
- Diamond & Related Materials 36 (2013) 44–50*
182. In situ growth and ab initio optical characterizations of amorphous Ga<sub>3</sub>Se<sub>4</sub> thin film: A new chalcogenide compound semiconductor thin film 1479  
**M.M. Abdullah, Preeti Singh, Mohd Hasmuddin, G. Bhagavannarayana, M.A. Wahab**
- Scripta Materialia 69 (2013) 381–384*
183. Induced dielectric relaxation and enhanced electro-optic parameters in Ni nanoparticles – ferroelectric liquid crystal dispersions 1484  
**Puja Goel, P.L. Upadhyay, A.M. Biradar**
- Liquid Crystals, 2013 Vol. 40, No. 1, 45–51*
184. Induced magnetism and magnetoelectric coupling in ferroelectric BaTiO<sub>3</sub> by Cr-doping synthesized by a facile chemical route 1491  
**Jyoti Shah, Ravinder K. Kotnala**
- J. Mater. Chem. A, 2013, 1, 8601*
185. Influence of argon dilution on the growth of amorphous to ultra nanocrystalline silicon films using VHF PECVD process 1499  
**Jhuma Gope, Sushil Kumar, S. Sudhakar, Kalpana Lodhi, C.M.S. Rauthan, P.C. Srivastava**
- Journal of Alloys and Compounds 577 (2013) 710–716*
186. Influence of Cr<sup>3+</sup> ion on the structural, ac conductivity and magnetic properties of nanocrystalline Ni-Mg ferrite 1506  
Mohd. Hashim, Alimuddin, **Shalendra Kumar**, Sagar E. Shirasath, **R.K. Kotnala, Jyoti Shah**, Ravi Kumar
- Ceramics International 39(2013)1807–1819*
187. Influence of emitter bandgap on interdigitated point contact back heterojunction (a-Si:H/c-Si) solar cell performance 1519  
**R. Jeyakumar, T.K. Maiti, Amit Verma**
- Solar Energy Materials & Solar Cells 109(2013)199–203*
188. Influence of MgSO<sub>4</sub> doping on the properties of zinc tris-thiourea sulphate (ZTS) single crystals 1524  
M. Selvapandian, J. Arumugam, P. Sundaramoorthi, **S. Sudhakar**
- Journal of Alloys and Compounds 580 (2013) 270–275*

## CONTENTS

---

189. Influence of Ni<sup>2+</sup> substitution on the structural, dielectric and magnetic properties of Cu–Cd ferrite nanoparticles 1530  
Mohd. Hashim, Alimuddin, Sagar E. Shirsath, **R.K. Kotnala**, Sher Singh Meena, Shalendra Kumar, Aashis Roy, R.B. Jotania, Pramod Bhatt, Ravi Kumar  
*Journal of Alloys and Compounds* 573 (2013) 198–204
190. Influence of Replacing Si by Ge in the Chalcogenide Quaternary Sulfides Ag<sub>2</sub>In<sub>2</sub>Si(Ge)S<sub>6</sub> on the Chemical Bonding, Linear and Nonlinear Optical Susceptibilities, and Hyperpolarizability 1537  
A. H. Reshak, I. V. Kityk, O. V. Parasyuk, H. Kamarudin, **S. Auluck**  
*J. Phys. Chem. B* 2013, 117, 2545–2553
191. Influence of silver and graphite on zinc oxide nanostructures for optical application 1546  
**J.S. Tawale**, A. Kumar, A. Mohan, **A.K. Srivastava**  
*Optical Materials* 35 (2013) 1335–1341
192. Influence of Silver Incorporation on the Structural and Electrical Properties of Diamond-Like Carbon Thin Films 1553  
**Neeraj Dwivedi, Sushil Kumar, J. David Carey, R. K. Tripathi, Hitendra K. Malik, M. K. Dalai**  
*ACS Appl. Mater. Interfaces* 2013, 5, 2725–2732
193. Influence of sulfurization temperature on physical properties of Cu<sub>2</sub>ZnSnS<sub>4</sub> thin films 1562  
T. Narayana, Y. P. Venkata Subbaiah, **P. Prathap**, Y. B. K. Reddy, K. T. Ramakrishna Reddy  
*Journal of Renewable and Sustainable Energy* 5, 031606 (2013)
194. Influence on ferromagnetic resonance signal of perpendicular magnetic anisotropic Co/Pt bilayer thin film due to microwave induced spin-Hall effect 1570  
**Saood Ahmad, Jyoti Shah, Nitin K. Puri, P. S. Negi, R. K. Kotnala**  
*Appl. Phys. Lett.* 103, 032405 (2013);
195. Infrared spectroscopic and electron paramagnetic resonance studies on Dy substituted magnesium ferrite 1575  
K. K. Bamzai, Gurbinder Kour, Balwinder Kaur, **ManjuArora, R.P.Pant**  
*Journal of Magnetism and Magnetic Materials* 345 (2013) 255–260
196. Intense red-emitting multi-rare-earth doped nanoparticles of YVO<sub>4</sub> for spectrum conversion towards improved energy harvesting by solar cells 1582  
**Vineet Kumar, A F Khan, Santa Chawla**  
*J. Phys. D: Appl. Phys.* 46 (2013) 365101 (9pp)
197. Interaction Studies of Anticancer Drug Lomustine with Calf Thymus DNA using Surface Enhanced Raman Spectroscopy 1591  
**R. Mehrotra, D. K. Jangir, S. Agarwal, B. Ray, P. Singh, A. K. Srivastava**  
*MAPAN-Journal of Metrology Society of India (December 2013)* 28(4):273–277

## CONTENTS

---

198. International Comparison EURO.QM-S5 / 1166:Carbon Dioxide Mixtures in Nitrogen: 1596  
Final report  
Florbel A. Dias, Gonçalo Baptista, Agata Rakowska, Teo Chin Chye, Teo Beng Keat, Darek Cieciorka, Cristiane Augusto, Tsai-Yin Lin, Bernhard Niederhauser, Judit Fükö, Ratirat Sinweeruthai, **Prabha Johri**, Fatma Akcadag, Tanıl Tarhan, Adriaan M.H. van der Veen, Janneke van Wijk
- Metrologia 50 08017 doi:10.1088/0026-1394/50/1A/08017*
199. Investigating Temperature Distribution of Two Different Types of Blackbody Sources 1636  
Using Infrared Pyrometry Techniques  
**A. Rani, R. S. Upadhyay, Y. P. Singh**
- MAPAN-Journal of Metrology Society of India (June 2013) 28(2):91–98*
200. Investigation of structural, dielectric, magnetic and antibacterial activity of Cu-Cd-Ni-FeO<sub>4</sub> nanoparticles 1644  
Mohd. Hashim, Alimuddin, SagarE.Shirsath, S.S.Meena, **R.K.Kotnala**, Ameena Parveen, AashisS.Roy, ShalendraKumar, Pramod Bhatt, Ravi Kumar
- Journal of Magnetism and Magnetic Materials 341(2013)148–157*
201. Investigation on one-pot hydrothermal synthesis, structural and optical properties of ZnS quantum dots 1654  
N.S. Nirmala Jothi, **Amish G. Joshi**, R. Jerald Vijay, A. Muthuvinayagam, P. Sagayaraj
- Materials Chemistry and Physics 138 (2013) 186e191*
202. Investigation on structural, optical, thermal, mechanical and dielectric properties of L-proline cadmium chloride monohydrate single crystals: An efficient NLO material 1660  
Preeti Singh, Mohd. Hasmuddin, **Mohd. Shakir, N. Vijayan**, M.M. Abdullah, V. Ganesh, M.A. Wahab
- Materials Chemistry and Physics 142 (2013) 154e164*
203. Ion irradiation studies of silver/amorphous carbon nanocomposite thin film 1671  
**R. Singhal**, J.C. Pivin, R. Chandra, D.K. Avasthi
- Surface & Coatings Technology 229 (2013) 50–54*
204. Ionospheric F2 region: Variability and sudden stratospheric warmings 1676  
**A. K. Upadhyaya, K. K. Mahajan**
- Journal Of Geophysical Research: Space Physics, Vol. 118, 6736–6750,*
205. Kinetically controlled growth of gallium on stepped Si (553) surface 1691  
**Mukesh Kumar, Syed Khalid Pasha, Govind**
- Applied Surface Science 283 (2013) 1071– 1075*
206. Label-free detection of cardiac troponin-I using gold nanoparticles functionalized single-walled carbon nanotubes based chemiresistive biosensor 1697  
**Rajesh, Vikash Sharma, Nitin K. Puri, Rajiv K. Singh, Ashok M. Biradar, Ashok Mulchanadani**
- Applied Physics Letters 103, 203703 (2013)*

## CONTENTS

---

207. Linear and nonlinear optical properties of semiorganic single crystal: l-Alanine cadmium chloride (LACC) 1701  
P. Kalaiselvi, S. Alfred Cecil Raja, **N. Vijayan**
- Optik* 124 (2013) 6978– 6982
208. Linear and Nonlinear Optical Susceptibilities and the Hyperpolarizability of Borate LiBaB9O15 Single-Crystal: Theory and Experiment 1706  
A. H. Reshak, Xuean Chen, **S. Auluck**, H. Kamarudin, Jan Chyský, A. Wojciechowski, I. V. Kityk
- J. Phys. Chem. B* 2013, 117, 14141–14150
209. Linear, non-linear optical susceptibilities and the hyperpolarizability of the mixed crystals Ag0.5Pb1.75Ge(S1xSex)4: experiment and theory 1716  
A. H. Reshak, Y. M. Kogut, A. O. Fedorchuk, O. V. Zamuruyeva, G. L. Myronchuk, O. V. Parasyuk, H. Kamarudin, **S. Auluck**, K. J. Plucinski, Jiri Bila
- Phys. Chem. Chem. Phys.*, 2013, 15, 18979
210. Liquid-crystal phase-shifting lateral shearing interferometer with improved fringe contrast for 3D surface profilometry 1724  
Dalip Singh Mehta, Mohammad Inam, **Jai Prakash, A. M. Biradar**
- Applied Optics Vol. 52, No. 25 1 September 2013*
211. Local electromagnetic properties of magnetic pnictides: a comparative study probed by NMR measurements 1732  
M Majumder, K Ghoshray, **A Pal, V P S Awana**
- J. Phys.: Condens. Matter* 25 (2013) 196002 (10pp)
212. Low temperature dc electrical conduction in reduced lithium niobate single crystals 1742  
**Ajay Dhar, Nidhi Sing, RajivK.Singh, Ramadhar Singh**
- Journal of Physics and Chemistry of Solids* 74(2013)146–151
213. Luminomagnetic K<sub>2</sub>Gd<sub>1-x</sub>Zr(PO<sub>4</sub>)<sub>3</sub>: Tbx 3p phosphor with intense green fluorescence and paramagnetism 1748  
**Raj Kumar, Ravi Shanker, Ravinder Kumar Kotnala, and Santa Chawla**
- Phys. Status Solidi A* 210, No. 9, 1933–1937 (2013)
214. Magnesium oxide grafted carbon nanotubes based impedimetric genosensor for biomedical application 1753  
**Manoj Kumar Patel, Md.Azahar Ali, Saurabh Srivastava, Ved Varun Agrawal, S.G. Ansari, Bansi D. Malhotra**
- Biosensors and Bioelectronics* 50 (2013)406–413
215. Magnetic and magnetoresistance studies of the evolution of the magnetic layer structure with Co layer thickness in electrodeposited Co-Cu/Cu multilayers 1761  
Subir Kumar Ghosh, Prashanta Chowdhury, **Anjana Dogra**
- Journal of Magnetism and Magnetic Materials* 327(2013)121–124

## CONTENTS

---

216. Magnetic CrX and MnX (X = Si, Ge, and As) nanowires: Stability enhancement and linearization 1765  
Anu Bala, Poorva Singh, Tashi Nautiyal, **Sushil Auluck**
- Journal of Alloys and Compounds* 547 (2013) 138–146
217. Magnetic resonance and electrical properties of p-toluene sulphonic acid doped polyaniline 1775  
**Manju Arora, S. K. Arya, Sunil Kumar Barala, Parveen Saini**
- AIP Conf. Proc.* 1536, 1235 (2013)
218. Magnetic switching of ferroelectric domains at room temperature in multiferroic PZTFT 1777  
D.M. Evans, A. Schilling, **Ashok Kumar**, D. Sanchez, N. Ortega, M. Arredondo, R.S. Katiyar, J.M. Gregg, J.F. Scott
- Nature Communications* / 4:1534 / DOI: 10.1038/ncomms2548
219. Magnetic, transport and magnetoresistance behavior of Ni doped La<sub>0.67</sub>Sr<sub>0.33</sub>Mn<sub>1-x</sub>Ni<sub>x</sub>O<sub>3</sub> (0.00 <= x <= 0.09) system 1784  
Maneesha Gupta, **R.K. Kotnala**, Wasi Khan, Ameer Azam, A.H.Naqvi
- Journal of Solid State Chemistry* 204 (2013) 205–212
220. Magnetite decorated activated carbon composites for water purification 1792  
**Sunil Kumar Barala, Manju Arora, Parveen Saini**
- AIP Conf. Proc.* 1536, 1244 (2013)
221. Magnetization reversal studies in structurally tailored cobalt nanowires 1795  
Daljit Kaur, Sujeet Chaudhary, Dinesh K. Pandya, **Rekha Gupta, R.K. Kotnala**
- Journal of Magnetism and Magnetic Materials* 344(2013)72–78
222. Magnetoelectric coupling-induced anisotropy in multiferroic nanocomposite (1-x)BiFeO<sub>3</sub>-xBaTiO<sub>3</sub> 1802  
**Rekha Gupta, Jyoti Shah, Sujeet Chaudhary, Sukhbeer Singh, Ravinder K. Kotnala**
- J Nanopart Res* (2013) 15:2004
223. Magneto-transport and Magnetic Susceptibility of SmFeAsO<sub>1-x</sub>F<sub>x</sub> (x = 0.0 and 0.20) 1811  
**R.S. Meena, Anand Pal, Shiva Kumar, K.V.R. Rao, V.P.S. Awana**
- J Supercond Nov Magn* (2013) 26:2383–2389
224. Magnetotransport and thermal properties characterization of 55 K superconductor 1819  
SmFeAsO<sub>0.85</sub>F<sub>0.15</sub>  
Amit Srivastava, **Anand Pal**, Saurabh Singh, C. Shekhar, **H. K. Singh, V. P. S. Awana**, O. N. Srivastava
- AIP Advances* 3, 092113 (2013)
225. Mass-size distribution of PM10 and its characterization of ionic species in fine (PM2.5) and coarse (PM1022.5) mode, New Delhi, India 1832  
**Khem Singh, S. Tiwari, A. K. Jha, Shankar G. Aggarwal, D. S. Bisht, B. P. Murty, Zahid H. Khan, Prabhat K. Gupta**
- Nat Hazards* (2013) 68:775–789

## CONTENTS

---

226. Mechanism of homeotropic alignment of ferroelectric liquid crystals doped with ferrofluid and applications 1848  
**Tilak Joshi, Shri Singh, Amit Choudhary, R. P. Pant, A. M. Biradar**
- Appl. Phys. Lett.* 103, 034110 (2013);
227. Mediator-free microfluidics biosensor based on titania–zirconia nanocomposite for urea detection 1853  
**Saurabh Srivastava, Md. Azahar Ali, Pratima R. Solanki, Pandurang M. Chavhan, Manoj K. Pandey**, Ashok Mulchandani, Anchal Srivastava, Bansi D. Malhotra
- RSC Advances*, 2013, 3, 228
228. Mesoporous silica/polyphosphoric acid (SBA-15/PPA) nanocomposites for acylation of naphthalene 1861  
**Divya Sachdev, Amit Dubey**
- Catalysis Communications* 39 (2013) 39–43
229. Metrological performance evaluation of force standard machines using intercomparison as a measure at National Physical Laboratory, India 1866  
**Harish Kumar, Anil Kumar**
- Current Science*, Vol. 105, No. 8, 25 October 2013
230. Mg<sub>3</sub>Sb<sub>2</sub>-based Zintl compound: a non-toxic, inexpensive and abundant thermoelectric material for power generation 1872  
**A. Bhardwaj, A. Rajput, A. K. Shukla, J. J. Pulikkotil, A. K. Srivastava, A. Dhar, Govind Gupta, S. Auluck, D. K. Misra, R. C. Budhani**
- RSC Advances*, 2013, 3, 8504
231. Microfluidic-integrated biosensors: Prospects for point-of-care diagnostics 1885  
Suveen Kumar, Saurabh Kumar, **Md. Azahar Ali**, Pinki Anand, **Ved Varun Agrawal**, Renu John, Sagar Maji and Bansi D. Malhotra  
*Biotechnol. J.* 2013, 8, 1267–1279
232. Microstructural and electrochemical impedance characterization of bio-functionalized ultrafine ZnS nanocrystals-reduced graphene oxide hybrid for immunosensor applications 1899  
**Sujeet K. Mishra, Avanish K. Srivastava, Devendra Kumar, Ashok M. Biradar, Rajesh**
- Nanoscale*, 2013, 5, 10494
233. Microstructure and surface morphology evolution of pulsed laser deposited piezoelectric BaTiO<sub>3</sub> films 1909  
Yuan Zhou, Chee-Sung Park, Chun-Hsien Wu, Deepam Maurya, Mitsuhiro Murayama, **Ashok Kumar**, R. S. Katiyar and Shashank Priya
- J. Mater. Chem. C*, 2013, 1, 6308
234. Model for the J-V characteristics of degraded polymer solar cells 1918  
**Pankaj Kumar, Ankita Gaur**
- J. Appl. Phys.* 113, 094505 (2013)

## CONTENTS

---

235. Molecularly imprinted polyaniline-polyvinyl sulphonic acid composite based sensor for para-nitrophenol detection 1926  
**Abhijit Chandra Roy, V.S. Nisha, Chetna Dhand, Md. Azahar Ali, B.D. Malhotra**
- Analytica Chimica Acta* 777 (2013) 63– 71
236. Multiband superconductivity and nanoscale inhomogeneity at oxide interfaces 1935  
S. Caprara, J. Biscaras, N. Bergeal, D. Bucheli, S. Hurand, C. Feuillet-Palma, A. Rastogi,  
**R. C. Budhani**, J. Lesueur, and M. Grilli
- Physical Review B* 88, 020504(R) (2013)
237. Multiferroic and optical properties of Pr-substituted bismuth ferrite ceramics 1940  
Vikash Singh, Subhash Sharma, R. K. Dwivedi, Manoj Kumar, **R. K. Kotnala**
- Phys. Status Solidi A* 210, No. 7, 1442–1447 (2013)
238. Multi-photon absorption effect and intra-molecular charge transfer of donor-p-acceptor chromophore ethyl p-amino benzoate 1946  
D. Sajan, **N. Vijayan**, K. Safakath, Reji Philip, M. Karabacak
- Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 108 (2013) 197–210
239. Multiple quantum criticality in a two-dimensional superconductor 1960  
J. Biscaras, N. Bergeal, S. Hurand, C. Feuillet-Palma, A. Rastogi, **R. C. Budhani**, M. Grilli, S. Caprara, J. Lesueur
- Nature Materials* Vol 12 June 2013
240. Multiwalled carbon nanotube/cement composites with exceptional electromagnetic interference shielding properties 1968  
**Avanish Pratap Singh, Bipin Kumar Gupta, Monika Mishra, Govind, Amita Chandra, R.B. Mathur, S.K. Dhawan**
- Carbon* 56 (2013) 86–96
241. Nanoporous alumina (c- and a-phase) gel cast thick film for the development of trace moisture sensor 1979  
Manju Pandey, Prabhash Mishra, Debdulal Saha, K. Sengupta, **Kiran Jain**, S. S. Islam
- J Sol-Gel Sci Technol* (2013) 68:317–323
242. Nanostructured graphene/Fe<sub>3</sub>O<sub>4</sub> incorporated polyaniline as a high performance shield against electromagnetic pollution 1986  
Kuldeep Singh, Anil Ohlan, Viet Hung Pham, Balasubramaniyan R., **Swati Varshney**, Jinhee Jang, Seung Hyun Hur, Won Mook Choi, Mukesh Kumar, **S. K. Dhawan**, Byung-Seon Kong, Jin Suk Chung
- Nanoscale*, 2013, 5, 2411
243. Nanostructured magnesium oxide biosensing platform for cholera detection 1997  
**Manoj K. Patel, Md. Azahar Ali, Ved V. Agrawal, Z. A. Ansari, S. G. Ansari, B. D. Malhotra**
- Appl. Phys. Lett.* 102, 144106 (2013)

## CONTENTS

---

244. New Thiophene-Based Donor–Acceptor Conjugated Polymers Carrying Fluorene or Cyanovinylene Units: Synthesis, Characterization, and Electroluminescent Properties Maluvadi G Murali, Udayakumar Dalimba, **Vandana Yadav, Ritu Srivastava** 2002
- Polymer Engineering & Science Volume 53, Issue 6, pages 1161–1170, June 2013*
245. NiO-based nanostructures with efficient optical and electrochemical properties for high-performance nanofluids **Jitendra Gangwar, Kajal Kumar Dey, Surya Kant Tripathi, Meher Wan, Raja Ram Yadav, Rajiv Kumar Singh, Samta, Avanish Kumar Srivastava** 2013
- Nanotechnology 24 (2013) 415705 (15pp)*
246. NPLI Cesium Atomic Fountain Frequency Standard: Preliminary Results **Poonam Arora, Subhajit Banerjee Purnapatra, Aishik Acharya, Ashish Agarwal, Suchi Yadav, Kavindra Pant, Amitava Sen Gupta** 2028
- IEEE Transactions On Instrumentation And Measurement, VoL. 62, No. 7, July 2013 p.2037-2042*
247. Nucleation kinetics, growth, mechanical, thermal and optical characterization of sulphamic acid single crystal **Suraj Karan Jat, N. Vijayan, Anuj Krishna, J. Philip, Sunil Verma, Igor Bdikin, Budhendra Singh, G. Bhagavannarayana, S. K. Halder** 2034
- CrystEngComm, 2013, 15, 10034*
248. Observation of Nd<sup>3+</sup> visible line emission in ZnO:Nd<sup>3+</sup> prepared by a controlled reaction in the solid state **K Jayanthi, Sunkara V Manorama, Santa Chawla** 2044
- J. Phys. D: Appl. Phys. 46 (2013) 325101 (7pp)*
249. Optical and electro-catalytic studies of nanostructured thulium oxide for vitamin C detection Jay Singh, Manish Srivastava, Appan Roychoudhury, Dong Won Lee, Seung Hee Lee , **B.D. Malhotra** 2051
- Journal of Alloys and Compounds 578 (2013) 405–412*
250. Optical response of ferroelectric liquid crystals doped with metal nanoparticles **Shashank Tripathi, Prasun Ganguly, D. Haranath, W. Haase, A. M. Biradar** 2060
- Appl. Phys. Lett. 102, 063115 (2013)*
251. Optical Spectra and Band Structure of Ag<sub>x</sub>Ga<sub>x</sub>Ge<sub>1-x</sub>Se<sub>2</sub> (x = 0.333, 0.250, 0.200, 0.167) Single Crystals: Experiment and Theory A. H. Reshak, O. V. Parasyuk, A. O. Fedorchuk, H. Kamarudin, **S. Auluck, J. Chysky** 2064
- J. Phys. Chem. B 2013, 117, 15220–15231*
252. Optimization Control on Growth Morphology, Lattice Scale Features and Optical Response of Al-Incorporated ZnO Nano-Needles **Jitendra Gangwar, Jaehyun Kim, Ajay Kumar, Divyanshu Bhatnagar, Karuppanan Senthil, Surya Kant Tripathi, Kijung Yong, Avanish Kumar Srivastava** 2076
- Nanosci. Nanotechnol. Lett. 2012, Vol. 4, No. 8, 1-6*

## CONTENTS

---

253. Organic and inorganic markers and stable C-, N-isotopic compositions of tropical coastal aerosols from megacity Mumbai:sources of organic aerosols and atmospheric processing **S. G. Aggarwal, K. Kawamura, G. S. Umarji, E. Tachibana, R. S. Patil, P. K. Gupta** 2082  
*Atmos. Chem. Phys., 13, 4667–4680, 2013*
254. Overall expanded uncertainty estimation in polaron concentration of p-toluene sulfonic acid doped polyaniline by EPR spectroscopy **Manju Arora, Parveen Saini** 2096  
*Indian Journal of Pure & Applied Physics Vol. 51, November 2013, pp. 758-764*
255. Overview of the Gas and Aerosol Metrology **C. J. Tsai, S. G. Aggarwal** 2103  
*MAPAN-Journal of Metrology Society of India (September 2013) 28(3):141–143*
256. Parametric sensitivity analysis of factors affecting sound insulation of double glazing using Taguchi method **Naveen Garg, Anil Kumar, Sagar Maji** 2106  
*Applied Acoustics 74 (2013) 1406–1413*
257. Performance evaluation of chemistry transport models over India **K. Krishna Moorthy, S. Naseema Beegum, N. Srivastava, S.K. Satheesh, Mian Chin, Nadege Blond, S. Suresh Babu, S. Singh** 2114  
*Atmospheric Environment 71 (2013) 210e225*
258. Phase control of nanostructured iron oxide for application to biosensor **Rachna Sharma, Ved Varun Agrawal, A. K. Srivastava, Govind, Lata Nain, Mohd Imran, Soumya Ranjan Kabi, R. K. Sinha, Bansi D. Malhotra** 2130  
*J. Mater. Chem. B, 2013, 1, 464*
259. Photoluminescence and time-resolved spectroscopy in multiferroic BiFeO<sub>3</sub>: Effects of electric fields and sample aging **Avneesh Anshul, Ashok Kumar, Bipin K. Gupta, R. K. Kotnala, J. F. Scott, R. S. Katiyar** 2142  
*Appl. Phys. Lett. 102, 222901 (2013)*
260. Photonic spectral modulation in bacteriorhodopsin molecules and optimization of signal wavelength **Parag Sharma** 2147  
*Optik 124 (2013) 7003– 7006*
261. Pinhole mediated electrical transport across LaTiO<sub>3</sub>/SrTiO<sub>3</sub> and LaAlO<sub>3</sub>/SrTiO<sub>3</sub> oxide hetero-structures **Pramod Kumar, Anjana Dogra, Vijaykumar Toutam** 2152  
*Applied Physics Letters 103, 211601 (2013)*
262. Planar Hall effect in electrodeposited CoCu/Cu multilayer **Anjana Dogra, P. Chowdhury, S.K. Ghosh, S.K. Gupta, G. Ravikumar** 2156  
*Appl Phys A (2013) 111:323–328*

## CONTENTS

---

263. Platinum nanoflowers decorated three-dimensional graphenecarbon nanotubes hybrid with enhanced electrocatalytic activity 2162  
**Rajesh, Rajat K. Paul, Ashok Mulchandani**
- Journal of Power Sources 223 (2013) 23e29*
264. Polymeric stabilization of hybrid nanocomposites: a comparison between in situ and ex situ-grown CuInS<sub>2</sub> in poly(3-hexylthiophene) polymer 2169  
**Aneeta Kharkwal, Shailesh N. Sharma, Kiran Jain, Leena Arora, Parul Chawla, A. K. Singh, S. Chand**
- Colloid Polym Sci (2013) 291:2607–2617*
265. Practical Concerns Associated with Single-Number Ratings in Measuring Sound Transmission Loss Properties of Partition Panels 2180  
**Naveen Garg, Anil Kumar, Sagar Maji**
- Archives Of Acoustics Vol. 38, No. 1, pp. 115–124 (2013)*
266. Preparation and characterization chemistry of nano-crystalline Ni–Cu–Zn ferrite 2190  
Mohd Hashim, Alimuddin, Sagar E. Shirsath, Shalendra Kumar, Ravi Kumar, Aashis S. Roy, **Jyoti Shah, R.K. Kotnala**
- Journal of Alloys and Compounds 549 (2013) 348–357*
267. Preparation, characterization and application of RF sputter deposited boron doped silicon dioxide thin films 2200  
Ruchi Tiwari, Sudhir Chandra, **B.R.Chakraborty**
- Materials Science in Semiconductor Processing 16 (2013) 2013–2020*
268. Probing a highly efficient dual mode: down– upconversion luminescence and temperature sensing performance of rare-earth oxide phosphors† 2208  
A. K. Singh, S. K. Singh, **Bipin Kumar Gupta**, Rajiv Prakash, S. B. Rai
- Dalton Trans., 2013, 42, 1065*
269. Probing the structure, morphology and multifold blue absorption of a new red-emitting nanophosphor for LEDs 2216  
**Savvi Mishra, R. Rajeswari, N. Vijayan, V. Shanker, M. K. Dalai, C. K. Jayasankar, S. Surendra Babu, D. Haranath**
- J. Mater. Chem. C, 2013, 1, 5849*
270. Pulse-like highly selective gas sensors based on ZnO nanostructures synthesized by a chemical route; Effect of In doping and Pd loading [SNB 166–167C (2012) 678–684] : Corrigendum 2223  
**Puneet Singh, V.N. Singh, Kiran Jain, T.D. Senguttuvan**
- Sensors and Actuators B 178 (2013) 700*
271. Quantum dots based platform for application to fish freshness biosensor 2224  
**K. Kamil Reza, Manish Kumar Singh, Surendra K. Yadav, Jay Singh, Ved Varun Agrawal, B.D. Malhotra**
- Sensors and Actuators B 177 (2013) 627– 633*

## CONTENTS

---

272. Quantum Dots Self Assembly Based Interface for Blood Cancer Detection 2231  
**Aditya Sharma, Gajjala Sumana, Sameer Sapra, Banshi Dhar Malhotra**
- Langmuir 2013, 29, 8753–8762*
273. Raman spectra, photoluminescence, magnetism and magnetoelectric coupling in pure and 2241  
Fe doped BaTiO<sub>3</sub> nanostructures  
**Kuldeep Chand Verma, Vinay Gupta, Jaspreet Kaur, R.K. Kotnala**
- Journal of Alloys and Compounds 578 (2013) 5–11*
274. Red Upconversion Luminescence and Paramagnetism in Er/Yb Doped SnO<sub>2</sub> 2248  
**Shweta Sharma, Jyoti Shah, R.K. Kotnala, Santa Chawla**
- Electron. Mater. Lett., Vol. 9, No. 5 (2013), pp. 615-620*
275. Reduction Of Wo<sub>3</sub> To Wc Nanoparticles By The Reflux Reaction 2254  
R. Kumar, A. Kumar, **S. Singh**, and O. P. Pandey
- Materials Science, Vol. 49, No. 1, July, 2013 (Ukrainian Original Vol. 49, No. 1, January–February, 2013)*
276. Reentrant superconductivity in HoNi<sub>5</sub>-NbN-HoNi<sub>5</sub> nanostructures 2263  
**Gyanendra Singh, P. C. Joshi, Z. Hossain, R. C. Budhani**
- EPL, 103 (2013) 47013*
277. Residual thermal desorption studies of Ga adatoms on trenched Si(5 5 12) surface 2269  
Praveen Kumar, **Mahesh Kumar, S.M. Shivaprasad**
- Applied Surface Science 282 (2013) 348– 350*
278. Robust Multifunctional Free Standing Polypyrrole Sheet for Electromagnetic Shielding 2272  
**Swati Varshney, Anil Ohlan, Kuldeep Singh, V. K. Jain, V. P. Dutta, S. K. Dhawan**
- Science of Advanced Materials Vol. 5, pp. 1–10, 2013*
279. Role of base pressure on the structural and nano-mechanical properties of 2282  
metal/diamond-like carbon bilayers  
**Neeraj Dwivedia, Sushil Kumar, Hitendra K. Malik**
- Applied Surface Science 274 (2013) 282– 287*
280. Role of convection in hydration of tropical UTLS: implication of AURA MLS long-term 2288  
observations  
**S. Jain, A. R. Jain, T. K. Mandal**
- Ann. Geophys., 31, 967–981, 2013*
281. Role of Minor Groove Width and Hydration Pattern on Amsacrine Interaction with DNA 2316  
**Deepak K. Jangir, Suman Kundu, Ranjana Mehrotra**
- PLOS ONE Vol 8 ( 7) Article Number: e69933 JUL 29 2013*
282. Role of nanocrystalline ZnO coating on the stability of porous siliconformed on textured 2325  
(1 0 0) Si  
**Daisy Verma, Shailesh N. Sharma, Aneeta Kharkwal, G. Bhagavannarayana, Mahesh Kumar, Shiv Nath Singh, Parakram Kumar Singh, Syed Sazad Mehdi, Mushahid Husain**
- Applied Surface Science 285P (2013) 564– 571*

## CONTENTS

---

283. Role of NPL-India in Nanotechnology and Nanometrology 2333  
**A. K. Srivastava**
- MAPAN-Journal of Metrology Society of India (December 2013) 28(4):263–272*
284. Role of oxygen annealing on charge order and insulator metal transition in Pr<sub>0.58</sub>Ca<sub>0.42</sub>MnO<sub>3</sub> thin films 2344  
**Vasudha Agarwal, H. K. Singh**
- AIP Conf. Proc. 1512, 712 (2013);*
285. Room temperature ferromagnetism and structural characterization of Fe,Ni co-doped ZnO nanocrystals 2346  
Pooja Dhiman, Khalid Mujasam Batoo, **R.K. Kotnala**, Jagdish Chand, M. Singh
- Applied Surface Science 287 (2013) 287–292*
286. Room temperature low field magnetoresistance in Sr<sub>2</sub>FeMoO<sub>6</sub>/ZnxFe<sub>1-x</sub>O<sub>4</sub> composites 2353  
**Nitu Kumar**, Geetika Khurana, Anurag Gaur, **R. K. Kotnala**
- J. Appl. Phys. 114, 053902 (2013)*
287. Room Temperature Nanoscale Ferroelectricity in Magnetoelectric GaFeO<sub>3</sub> Epitaxial Thin Films 2358  
Somdutta Mukherjee, Amritendu Roy, **Sushil Auluck**, Rajendra Prasad, Rajeev Gupta, Ashish Garg
- Physical Review Letters 111, 087601 (2013)*
288. Room-temperature single phase multiferroic magnetoelectrics: Pb(Fe,M)x(Zr,Ti)(12x)O<sub>3</sub> [M5Ta, Nb] 2364  
Dilsom A. Sanchez, Nora Ortega, **Ashok Kumar**, G. Sreenivasulu, Ram S. Katiyar, J. F. Scott, Donald M. Evans, Miryam Arredondo-Arechavala, A. Schilling, J. M. Gregg
- J. Appl. Phys. 113, 074105 (2013)*
289. Selective emitter formation by laser doping of spin-on sources 2371  
**P. Prathap**, J. Bartringer, A. Slaoui
- Applied Surface Science 278 (2013) 173–179*
290. Sensitivity Enhancement of Concurrent Technique of Acoustic Impedance Measurement 2378  
**D. Joshi, A. Kumar, R. Gupta, S. Yadav**
- MAPAN-Journal of Metrology Society of India (June 2013) 28(2):79–83*
291. Significance and implications of airborne sound insulation criteria in building elements for traffic noise abatement 2383  
**Naveen Garg, Anil Kumar**, Sagar Maji
- Applied Acoustics 74 (2013) 1429–1435*
292. Silver nanoprism enhanced fluorescence in YVO<sub>4</sub>:Eu<sup>3+</sup> nanoparticles 2390  
**Zubair Buch, Vineet Kumar**, Hitesh Mamgain, **Santa Chawla**
- Chem. Commun., 2013, 49, 9485*

## CONTENTS

---

293. Silver Nanoprisms Acting as Multipolar Nanoantennas under a Low-Intensity Infrared Optical Field Exciting Fluorescence from Eu<sup>3+</sup> 2393  
**Zubair Buch, Vineet Kumar, Hitesh Mamgain, Santa Chawla**
- J. Phys. Chem. Lett.* 2013, 4, 3834–3838
294. Simulation approach for optimization of device structure and thickness of HIT solar cells to achieve 27% efficiency 2398  
**Neeraj Dwivedi, Sushil Kumar, Atul Bisht, Kamlesh Patel, S. Sudhakar**
- Solar Energy* 88 (2013) 31–41
295. Single crystal growth of ninhydrin by unidirectional Sankaranarayanan–Ramasamy (SR) method by using a glass ampoule for nonlinear optical applications 2409  
**Neelam Rani, N. Vijayan, B. Riscob, Suraj Karan Jat, Anuj Krishna, Subhasis Das, G. Bhagavannarayana, Brijesh Rathi, M. A. Wahab**
- CrystEngComm*, 2013, 15, 2127
296. Solar global ultraviolet and broadband global radiant fluxes and their relationships with aerosol optical depth at New Delhi 2415  
**Tarannum Bano, Sachchidanand Singh, N. C. Gupta, Thomas John**
- Int. J. Climatol.* 33: 1551–1562 (2013)
297. Sol-gel derived nanostructured niobium pentoxide thin films for electrochromic applications 2427  
**Amita Verma, P K Singh**
- Indian Journal of Chemistry Vol. 52A, May 2013, pp. 593-598*
298. Sol–gel-derived nanocrystalline aluminum-doped zinc oxide thin films for use as antireflection coatings in silicon solar cells 2435  
**Amita Verma, Narayanasamy Vijayan**
- J. Mater. Res., Vol. 28, No. 21, Nov 14, 2013*
299. Spatial variation of chemical constituents from the burning of commonly used biomass fuels in rural areas of the Indo-Gangetic Plain (IGP), India 2441  
**T. Saud, M. Saxena, D.P. Singh, Saraswati, Manisha Dahiya, S.K. Sharma, A. Datta, Ranu Gadi, T.K. Mandal**
- Atmospheric Environment* 71 (2013) 158e169
300. Spectroscopic studies of the effects of anticancer drug mitoxantrone interaction with calf-thymus DNA 2453  
**Shweta Agarwal, Deepak Kumar Jangir, Ranjana Mehrotra**
- Journal of Photochemistry and Photobiology B: Biology* 120 (2013) 177–182
301. Spin polarized carrier injection from full Heusler alloy Co<sub>2</sub>MnSi into superconducting NbN 2459  
Dushyant Kumar, P. C. Joshi, Z. Hossain, **R. C. Budhani**
- Appl. Phys. Lett.* 102, 112409 (2013)

## CONTENTS

---

302. Spin polarized carrier injection from full Heusler alloy Co<sub>2</sub>MnSi into superconducting NbN [Appl. Phys. Lett. 102, 112409 (2013)] : Erratum Dushyant Kumar, P. C. Joshi, Z. Hossain, **R. C. Budhani**
- Applied Physics Letters 103, 189902 (2013)*
303. Spin polarized hole transport in poly(2-methoxy, 5-(2-ethylhexyloxy)- 1,4-phenylenevinylene) 1,4- Manju Shukla, **Pankaj Kumar**
- Solid-State Electronics 80 (2013) 63–66*
304. Spin resonance investigations on water-based magnetite ferrofluid **A. Shankar, M. Chand, S. Kumar, V. N. Singh, G. A. Basheed, S. Thakur, R. P. Pant**
- Magnetohydrodynamics 49, No. 3/4, 310-316, 2013*
305. Strange hardness characteristic of hydrogenated diamond-like carbon thin film by plasma enhanced chemical vapor deposition process Neeraj Dwivedi, **Sushil Kumar**, Hitendra K. Malik
- Appl. Phys. Lett. 102, 011917 (2013)*
306. Strategies to prepare TiO<sub>2</sub> thin films, doped with transition metal ions, that exhibit specific physicochemical properties to support osteoblast cell adhesion and proliferation Marshal Dhayal, Renu Kapoor, Pavana Goury Sistla, **Ravi Ranjan Pandey**, Satabisha Kar, **Krishan Kumar Saini**, Gopal Pande
- Materials Science and Engineering C 37 (2014) 99–107*
307. Structural and impedance spectroscopic studies on biofunctionalized poly(pyrrole-co-pyrrolepropionic acid) film **Nidhi Puri, Sujeet K. Mishra, Asad Niazi, Ashok M. Biradar, Rajesh**
- Synthetic Metals 169 (2013) 18– 24*
308. Structural and multiferroic properties of Bi<sub>1-x</sub>In<sub>x</sub>FeO<sub>3</sub> (0≤x≤0.20) nanoparticles G. S. Arya, **R. K. Kotnala**, N. S. Negi
- J. Appl. Phys. 113, 044107 (2013)*
309. Structural and Nano-Mechanical Properties of Nanostructured Diamond-Like Carbon Thin Films **Saurabh Dayal, Sushil Kumar, Neeraj Dwivedi, Sreekumar Chockalingam, C. M. S. Rauthan, O. S. Panwar**
- Met. Mater. Int., Vol. 19, No. 3 (2013), pp. 405~410*
310. Structural details, electrical properties, and electromagnetic interference shielding response of processable copolymers of aniline **Parveen Saini**, Veena Choudhary
- J Mater Sci (2013) 48:797–804*
311. Structural investigation of idarubicin–DNA interaction: Spectroscopic and molecular docking study **Sonika Charak, Ranjana Mehrotra**
- International Journal of Biological Macromolecules 60 (2013) 213– 218*

## CONTENTS

---

312. Structural ordering driven anisotropic magnetoresistance, anomalous Hall resistance, and its topological overtones in full-Heusler Co<sub>2</sub>MnSi thin films 2520  
**Himanshu Pandey, R. C. Budhani**
- J. Appl. Phys.* 113, 203918 (2013)
313. Structural, Dielectric and Electrical Studies of Ba<sub>4</sub>CaRTi<sub>3</sub>Nb<sub>7</sub>O<sub>30</sub> (R = Eu, Dy) Ferroelectric System 2529  
**Prasun Ganguly, A. M. Biradar, A. K. Jha**
- Key Engineering Materials* Vol. 547 (2013) pp 41-48
314. Structural, Dielectric, Ferroelectric and Magnetic Properties of Bi<sub>0.80</sub>A<sub>0.20</sub>FeO<sub>3</sub> (A = Pr, Y) Multiferroics 2539  
Vikash Singh, Subhash Sharma, R.K. Dwivedi, Manoj Kumar, **R.K. Kotnala**, N.C. Mehra, R.P. Tandon
- J Supercond Nov Magn* (2013) 26:657–661
315. Structural, dielectric, magnetic and ferroelectric properties of (PbTiO<sub>3</sub>)(0.5)-(Co<sub>0.5</sub>Zn<sub>0.5</sub>Fe<sub>2</sub>O<sub>4</sub>)(0.5) composite 2544  
Anshu Sharma, **R.K. Kotnala**, N.S.Negi
- Physica B* 415(2013)97–101
316. Structural, magnetic and XPS studies of Sn<sub>0.95</sub>Co<sub>0.05</sub>O<sub>2-0.05</sub> and Sn<sub>0.95</sub>Fe<sub>0.05</sub>O<sub>2-0.05</sub> nanoparticles 2551  
Jasneet Kaur, Kunal Sahni, Vikas Kumar, Kartik Thakur, **R.K. Kotnala**, Kuldeep Chand Verma
- Philosophical Magazine*, 2013 Vol. 93, No. 4, 356–365,
317. Structural, optical and thermal properties of Zr–Fe co-doped congruent LiNbO<sub>3</sub> single crystals 2561  
**B. Riscob, R. Bhatt, N. Vijayan, Indranil Bhaumik, S. Ganesamoorthy, M. A. Wahab, Rashmi , G. Bhagavannarayana**
- J. Appl. Cryst.* (2013). 46, 601–609
318. Structural, optical, morphological and electrical characteristics of polyaniline for device applications 2570  
I D Sharmaa, **P K Saini**, V K Sharma
- Indian Journal of Engineering & Materials Sciences* Vol. 20, April 2013, pp. 145-149
319. Structural, vibrational, optical and magnetic properties of sol–gel derived Nd doped ZnO nanoparticles 2575  
Sunil Chauhan, Manoj Kumar, Sandeep Chhoker, S. C. Katyal, **V. P. S. Awana**
- J Mater Sci: Mater Electron* (2013) 24:5102–5110
320. Studies of structural, third order nonlinear optical and laser damage threshold properties of diethylammonium p-hydroxybenzoate single crystal 2584  
P. Pandi, G. Peramaiyan, R. Mohan Kumar, **G. Bhagavannarayana**, R. Jayavel
- Appl Phys A* (2013) 112:711–717

## CONTENTS

---

321. Studies on growth, structural, optical and mechanical properties of xylenol orange dye admixedure l-arginine phosphate single crystal 2591  
**G. Peramaiyan, P. Pandi, N. Vijayan, G. Bhagavannarayana, R. Mohan Kumar**
- Optik 124 (2013) 4058– 4063*
322. Studies on stability of bi-functional P3HT:PCBM:rubrene optoelectronic devices 2597  
**Ankita Gaur, Pankaj Kumar**
- Appl Phys A (2013) 111:877–886*
323. Studies on the effect of nickel on growth, structural, optical, electrical, thermal and mechanical properties of l-valinium picrate 2607  
**K. Russel Raj, G. Bhagavannarayana, P. Murugakoothan**
- Optik 124 (2013) 493– 500*
324. Study of 2,3,5,6-tetrafluoro-7,70,8,80- tetracyano quinodimethane diffusion in organic light emitting diodes using secondary ion mass spectroscopy 2615  
**Priyanka Tyagi, Manas Kumar Dalai, C. K. Suman, Suneet Tuli, Ritu Srivastava**
- RSC Adv., 2013, 3, 24553*
325. Study of EPR,optical properties and dcconductivity ofVO<sub>2+</sub> ion doped TiO<sub>2</sub>.R<sub>2</sub>O.B<sub>2</sub>O<sub>3</sub> (R =Liand K)glasses 2622  
**A. Agarwal, S.Khasa, V.P.Seth, M.Arora**
- Journal of Alloys and Compounds 568 (2013)112–117*
326. Study of ferromagnetic-metal type Sr<sub>2</sub>FeMoO<sub>6</sub> + xAg (x = 0–10 wt%) composites 2628  
**Nitu Kumar, R.P. Aloysius, Anurag Gaur, R.K. Kotnala**
- Journal of Alloys and Compounds 559 (2013) 64–68*
327. Study of Ni and Zn doped CeOFeAs: Effect on the structural transition and specific heat capacity 2633  
**S.J. Singh, Jai Prakash, A. Pal, S. Patnaik, V.P.S. Awana, A.K. Ganguli**
- Physica C 490 (2013) 49–54*
328. Study of shifting of recombination zone in multi-emissive layer organic light emitting devices and its effect on color stability 2639  
**Priyanka Tyagi, Ritu Srivastava, Arunandan Kumar, SuneetTuli, M. N.Kamalasan**
- Journal of Luminescence 136 (2013)249–254*
329. Study of Standard Mica Capacitors with Respect to Time and Temperature 2645  
**M. Saleem, M. A. Ansari, Jyotsana, A. K. Saxena**
- MAPAN-Journal of Metrology Society of India (March 2013) 28(1):25–29*
330. Study of structural and magnetic properties of (CoeCu)Fe<sub>2</sub>O<sub>4</sub>/PANI composites 2650  
Mohd. Hashim, Alimuddin, Sagar E. Shirsath, S.S. Meena, **R.K. Kotnala**, Shalendra Kumar, Pramod Bhatt, R.B. Jotania, Ravi Kumar
- Materials Chemistry and Physics 141 (2013) 406e415*

## CONTENTS

---

331. Study of structural transformation in TiO<sub>2</sub> nanoparticles and its optical properties 2660  
Anand Kumar Tripathi, **Manish Kumar Singh**, Mohan Chandra Mathpal, Sheo Kumar Mishra, Arvind Agarwal
- Journal of Alloys and Compounds* 549 (2013) 114–120
332. Superconductivity at 5K in NdO0.5F0.5BiS<sub>2</sub> 2668  
**Rajveer Jha, Anuj Kumar, Shiva Kumar Singh, V. P. S. Awana**
- J. Appl. Phys.* 113, 056102 (2013)
333. Superconductivity in BiS<sub>2</sub> based Bi<sub>4</sub>O<sub>4</sub>S<sub>3</sub> novel compound 2672  
**Shiva Kumar Singh, Anuj Kumar, Shruti, G. Sharma, S. Patnaik, M. Husain, V.P.S. Awana**
- AIP Conf. Proc.* 1512, 1104 (2013)
334. Superplastic behavior and microstructural stability of friction stir processed AZ91C alloy 2674  
**Vipin Jain**, Rajiv S. Mishra, Gouthama
- J Mater Sci* (2013) 48:2635–2646
335. Superplasticity and microstructural stability in a Mg alloy processed by hot rolling and friction stir processing 2686  
**V. Jain**, R.S. Mishra, R. Verma, E. Essadiqi
- Scripta Materialia* 68 (2013) 447–450
336. Surface modified ZnO nanoparticles: structure, photophysics, and its optoelectronic application 2690  
**Punita Singh , O. P. Sinha, Ritu Srivastava, A. K. Srivastava**, Som V. Thomas, **K. N. Sood, M. N. Kamalasan**
- J Nanopart Res* (2013) 15:1758
337. Synthesis and characterization of a novel copolymer of glyoxal dihydrazone and glyoxal dihydrazone bis(dithiocarbamate) and application in heavy metal ion removal from water 2699  
**Jitender Gaur, Shilpa Jain**, Rohit Bhatia, Arun Lal, Narendra Kumar Kaushik
- J Therm Anal Calorim* (2013) 112:1137–1143
338. Synthesis and characterization of blue longlasting BaCa<sub>2</sub>Al<sub>8</sub>O<sub>15</sub>:Eu<sup>2+</sup>, Dy<sup>3+</sup> phosphor 2706  
A. N. Yerpude, S. J. Dhoble, **D. Haranath**
- Luminescence* 2013; 28: 437–441
339. Synthesis and characterization of covalently-grafted graphene–polyaniline nanocomposites and its use in a supercapacitor 2711  
Mukesh Kumar, Kuldeep Singh, **Sundeep K. Dhawan**, Kannan Tharanikkarasu, Jin Suk Chung, Byung-Seon Kong, Eui Jung Kim, Seung Hyun Hur
- Chemical Engineering Journal* 231 (2013) 397–405

## CONTENTS

---

340. Synthesis and characterization of novel Fe@ZnO nanosystem 2720  
Pooja Dhiman, Jagdish Chand, Amit Kumar, **R.K. Kotnala**, Khalid Mujasam Batoo,  
M. Singh
- Journal of Alloys and Compounds* 578 (2013) 235–241
341. Synthesis and characterizations of Ni<sub>2</sub>p substituted cobalt ferrite nanoparticles 2727  
Mohd. Hashim, Alimuddin, Shalendra Kumar, Sagar E. Shirasath, **R.K. Kotnala**,  
**Jyoti Shah**, Ravi Kumar
- Materials Chemistry and Physics* 139 (2013) 364e374
342. Synthesis and Superconductivity of New BiS<sub>2</sub> Based Superconductor PrO<sub>0.5</sub>F<sub>0.5</sub>BiS<sub>2</sub> 2738  
**Rajveer Jha, Anuj Kumar, Shiva Kumar Singh, V.P.S. Awana**
- J Supercond Nov Magn* (2013) 26:499–502
343. Synthesis of CdS nanocrystals in poly(3-hexylthiophene) polymer matrix: optical and structural studies 2742  
**Vikash Agrawal, Kiran Jain, Leena Arora, S. Chand**
- J Nanopart Res* (2013) 15:1697
344. Synthesis of hydrophilic carbon black; role of hydrophilicity in maintaining the hydration level and protonic conduction 2756  
Vikrant Sahu, Shashank Shekhar, Preety Ahuja, **Govind Gupta**, Sushil Kumar Singh,  
Raj Kishore Sharma, Gurmeet Singh
- RSC Advances*, 2013, 3, 3917
345. Synthesis, Characterization, And Electroluminescent Characteristics Of Mixed-Ligand Zinc(Ii) Complexes 2764  
Vandna Nishal, Amit Kumar, Partap S. Kadyan , Devender Singh, **Ritu Srivastava**,  
Ishwar Singh, **Modeeparampil N. Kamalasanan**
- Journal Of Electronic Materials, Vol. 42, No. 6, 2013*
346. Synthesis, growth, and characterization of iminodiacetic acid monohydrochloride 2770  
A semi-organic single crystal for optical limiting applications  
**N. Vijayan, N. Rani, G. Madhurambal, G. Bhagavannarayana, B. Rathi, R. Philip, K. Safakath, S. C. Mojumdar**
- J Therm Anal Calorim* (2013) 112:1113–1119
347. Synthesis, growth, crystalline perfection of 4-bromo-40dimethylamino benzylideneaniline (BDMABA) and photons absorption of BDMABA crystal 2777  
A. Subashini, **G. Bhagavannarayana**, K. Ramamurthi
- Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 104 (2013) 403–408
348. Synthesis, Structural and Luminescent Properties of Novel Eu<sup>3+</sup>:Y<sub>2</sub>CaZnO<sub>5</sub> 2783  
Nanophosphor for White Light-Emitting Diodes  
R. Rajeswari, L. Jyothi, C. K. Jayasankar, S. Surendra Babu, **N. Vijayan, D. Haranath**
- Science of Advanced Materials* Vol. 5, pp. 1–7, 2013

## CONTENTS

---

349. Synthetic Strategies for Free & Stable N-Heterocyclic Carbenes and Their Precursors 2790  
**Rohit Bhatia, Jitender Gaur, Shilpa Jain, Arun Lal, Brijesh Tripathi, Pankaj Attri, Narender Kumar Kaushik**
- Mini-Reviews in Organic Chemistry, 2013, 10, 180-197*
350. Tailoring magnetic and photoluminescence properties in ZnS/ZnO core/shell nanostructures through Cr doping 2808  
**Santa Chawla, Simmi Sharma, R.K. Kotnala**
- Applied Surface Science 284 (2013) 33– 39*
351. Temperature tuned defect induced magnetism in reduced graphene oxide 2815  
Geetika Khurana, Nitu Kumar, **R. K. Kotnala**, Tashi Nautiyal, R. S. Katiyar
- Nanoscale, 2013, 5, 3346*
352. Temporal and spatial variation of equatorial ionization anomaly by using multistation ionosonde data for the 19th solar cycle over the Indian region 2821  
**Sneha Yadav, R.S. Dabas, Rupesh M. Das, A.K. Upadhyaya, A.K. Gwal**
- Advances in Space Research 51 (2013) 1253–1265*
353. Ternary zinc complexes as electron transport and electroluminescent materials 2834  
**Amit Kumar, Ritu Srivastava, Arunandan Kumar, Vandna Nishal, Pratap S. Kadyan, M.N. Kamalasan, Ishwar Singh**
- Journal of Organometallic Chemistry 740 (2013) 116e122*
354. The development and characterization of a square ring shaped force transducer 2842  
**Harish Kumar, Chitra Sharma, Anil Kumar**
- Meas. Sci. Technol. 24 (2013) 095007 (9pp)*
355. The effect of size distribution on viscoelastic properties of ferrofluid 2851  
**M. Chand, S. Kumar, A. Shankar, Sonia, Komal Jain, S. Singh, R. P. Pant**
- Magnetohydrodynamics 49, No. 3/4, 489-494, 2013*
356. The response of sporadic E-layer to the total solar eclipse of July 22, 2009 over the equatorial ionization anomaly region of the Indian zone 2857  
**Sneha Yadav, Rupesh M. Das, R.S. Dabas, A.K. Gwal**
- Advances in Space Research 51 (2013) 2043–2047*
357. The role of ferrocene on the enhancement of the mechanical and electrochemical properties of coal tar pitch-based carbon foams 2862  
**Rajeev Kumar, Sanjay R. Dhakate, Rakesh B. Mathur**
- J Mater Sci (2013) 48:7071–7080*
358. The size induced effect on rheological properties of Co-ferrite based ferrofluid 2872  
**Mahesh Chand, Sandeep Kumar, Ajay Shankar, Rajni Porwal, R.P. Pant**
- Journal of Non-Crystalline Solids 361 (2013) 38–42*

## CONTENTS

---

359. Thermal, Structural and Optical Analyses of Benzimidazole Single Crystal Grown with Organic Dopants for Nonlinear Optical Applications 2877  
**N.Vijayan, G. Madhurambal, G. Bhagavannarayana, K. K.Maurya, S. C. Mojumdar**
- Res. J. Chem. Environ. Vol.17 (7) July (2013)*
360. Thickness dependent functional properties of PbZr0.52Ti0.48O<sub>3</sub>/La0.67Sr0.33MnO<sub>3</sub> heterostructures 2886  
D. Barrionuevo, N. Ortega, **A. Kumar**, R. Chatterjee, J. F. Scott, R. S. Katiyar  
*Journal of Applied Physics 114, 234103 (2013)*
361. Thiophene-based donor–acceptor conjugated polymer as potential optoelectronic and photonic material 2896  
Maluvadi G Murali, Udayakumar Dalimba, **Vandana Yadav, Ritu Srivastava, K Safakath**  
*J. Chem. Sci. Vol. 125, No. 2, March 2013, pp. 247–257*
362. Time evolution photoluminescence studies of quantum dot doped ferroelectric liquid crystals 2908  
**A Kumar, S Tripathi, A D Deshmukh, D Haranath, P Singh, A M Biradar**
- J. Phys. D: Appl. Phys. 46 (2013) 195302 (7pp)*
363. Tin Oxide Quantum Dot Based DNA Sensor for Pathogen Detection 2915  
**Manoj K. Patel, Jay Singh, Manish K. Singh, Ved Varun Agrawal, S. G. Ansari, B. D. Malhotra**
- Journal of Nanoscience and Nanotechnology Vol. 13, 1671–1678, 2013*
364. Traceability Issue in PM2.5 and PM10 Measurements 2923  
**S. G. Aggarwal, S. Kumar, P. Mandal, B. Sarangi, K. Singh, J. Pokhriyal, S. K. Mishra, S. Agarwal, D. Sinha, S. Singh, C. Sharma, P. K. Gupta**
- MAPAN-Journal of Metrology Society of India (September 2013) 28(3):153–166*
365. Understanding and arresting degradation in highly efficient blue emitting BaMgAl10O<sub>17</sub>:Eu<sup>2+</sup> phosphor-A longstanding technological problem 2937  
**Ravi Shanker, A.F.Khan, Raj Kumar, H.Chander, V.Shanker, Santa Chawla**
- Journal of Luminescence 143 (2013)173–180*
366. Utilization of residual CdCl<sub>2</sub> in CBD-CdS to realize grain growth in CdTe: A novel route 2945  
B. Ghosh, D. Ghosh, S. Hussain, **B.R. Chakraborty, M.K. Dalai, G. Sehgal, R. Bhar, A.K. Pal**
- Materials Research Bulletin 48 (2013) 4711–4717*
367. Vibration Induced Due To Acoustic Excitation In Diffuse Field Conditions 2952  
**Naveen Garg, Sagar Maji**
- Acoustics Australia Vol. 41, No. 3, December 2013, 2019-224*
368. X-ray photoelectron spectrum, X-ray diffraction data, and electronic structure of chalcogenide quaternary sulfide Ag<sub>2</sub>In<sub>2</sub>GeS<sub>6</sub>: experiment and theory 2958  
A. H. Reshak, I. V. Kityk, O. V. Parasyuk, A. O. Fedorchuk, Z. A. Alahmed, N. AlZayed, H. Kamarudin, **S. Auluck**
- J Mater Sci (2013) 48:1342–1350*

## CONTENTS

---

369. X-ray topography, photopyroelectric and two-photon absorption studies on solution grown benzimidazole single crystal 2967  
**N. Vijayan, G. Bhagavannarayana, S.K. Halder, S. Verma, J. Philip, R. Philip, Brijesh Rathi**
- Appl Phys A (2013) 110:55–58*
370. Yearly variability of rain attenuation over a communication link at 13 GHz during monsoon months over Indian eastern region 2971  
**S K Sarkar, M M Gupta, A K De**
- Indian J Phys (January 2013) 87(1):1–7*
371. Zirconia nanoparticles/ferroelectric liquid crystal composites for ionic impurity-free memory applications 2978  
**Achu Chandran, Jai Prakash, Prasun Ganguly, Ashok M. Biradar**  
*RSC Advances, 2013, 3, 17166*