



## PUBLICATIONS (JAN. 2011-JUNE 2011)

### A. Journal Articles

1. Ahlawat Sunita, Verma Ravi Shanker, Dasgupta R., Gupta Pradeep Kumar  
Long-distance optical guiding of colloidal particles using holographic axilens  
*Applied Optics 50*, 1933-1940 (2011)
2. Ahsan M.N.\* , Paul C.P., Kukreja L.M., Pinkerton A.J.\*  
Porous structures fabrication by continuous and pulsed laser metal deposition for biomedical applications; modelling and experimental investigation  
*Journal of Materials Processing Technology 211*, 602-609 (2011)
3. Arora P., Chattopadhyay M.K., Sharath Chandra L.S., Sharma V.K., Roy S.B.  
Temperature and magnetic field induced multiple magnetic transitions in DyAg<sub>2</sub>.  
*Journal of Physics Condensed Matter 23*, 056002-9 (2011)
4. Bhatnagar P., Joshi S., Sharma H.K., Yadav R.D.S., Shukla S.K.  
Operational experiences of titanium sublimation pump and sputter ion pump power supplies in Indus facility  
*Journal of the Instrument Society of India 40*, (2011)
5. Bhattacharjee M.\* , Ashok P.C. \*, Rao K. Divakar, Majumder S.K., Verma Y., Gupta P.K.  
Binary tissue classification studies on resected human breast tissues using optical coherence tomography image  
*Journal of Innovative Optical Health Sciences 4*, 59-66(2011)
6. Bindra K.S., Singh C.P.\* , Oak S.M., Sailaja R.\* , Bisht P.B.\*  
Effect of nonlinear absorption in estimation of order of nonlinear optical process by fluorescence intensity.  
*Optics and Laser Technology 43*, 1486-1490 (2011)
7. Borage M.B., Nagesh K.V.\* , Bhatia M.S.\* , Tiwari S.\*  
Analysis and design of a higher-order T-type resonant convertor as a constant-current power supply  
*IET Power Electron 4*, 72-80 (2011)
8. Borage M.B., Nagesh K.V. \*, Bhatia M.S.\* , Tiwari Sunil  
Resonant immittance converter topologies  
*IEEE Transactions on Industrial Electronics 58*, 971-978 (2011)
9. Chakravarty U., Arora V., Chakera J.A., Naik P.A., Srivastava H., Tiwari P., Srivastava A., Gupta P.D.  
X-ray enhancement in a nanohole target irradiated by intense ultrashort laser pulses  
*Journal of Applied Physics 109*, 053301-7 (2011)
10. Chakravarty U., Ganeev R.A.\* , Naik P.A., Chakera J.A., Babu M.\* , Gupta P.D.
- Nano-ripple formation on different band-gap semiconductor surfaces using femtosecond pulses  
*Journal of Applied Physics 109*, 084347-8 (2011)
11. Chakravarty U., Naik P.A., Rao B.S., Arora V., Singhal H., Bhalerao G.M., Sinha A.K., Tiwari P., Gupta P.D.  
Enhanced soft X-ray emission from carbon nanofibers irradiated with ultra-short laser pulses  
*Applied Physics B: Lasers and Optics 103*, 571-577 (2011)
12. Chatterjee K\*, Ghodke D.V., Chandra A.\* , Al-Haddad K.\*  
Modified one-cycle controlled load compensator  
*IET Power Electronics 4*, 481-490 (2011)
13. Chatterjee S., Kumar Y.P.  
Measurement of the surface profile of a curved optical surface with rotation phase-shifting lateral shear cyclic path optical configuration  
*Applied Optics 50*, 2823-2830 (2011)
14. Chatterjee S., Kumar Y.P.  
Measurement of wedge angle of a transparent parallel plate using quasi-monochromatic light source and phase shifting interferometry .  
*Optics Communications 284*, 57-63 (2011)
15. Claude L.S., Banerjee A.  
A variational approach to the dirichlet boundary condition: application to confined H<sup>-</sup>, He and Li  
*Journal of Physics B: At. Mol. Opt. Phys. 44*, 105003, (2011)
16. Dasgupta R., Verma Ravi Shanker, Ahlawat Sunita, Chaturvedi D., Gupta Pradeep Kumar  
Long-distance axial trapping with Laguerre Gaussian beams  
*Applied Optics 50*, 1469-1476 (2011)
17. Dasgupta R., Ahlawat S., Verma R.S., Gupta P.K.  
Optical orientation and rotation of trapped red blood cells with Laguerre-Gaussian mode  
*Optics Express 19*, 7680-7688 (2011)
18. Dasgupta R., Verma R.S., Ahlawat Sunita, Uppal A., Gupta Pradeep Kumar  
Studies on erythrocytes in malaria infected blood sample with Raman optical tweezers  
*Journal of Biomedical Optics 16*, 1-9 (2011)
19. Detty A.P., Kukreja L.M., Singh B.N., Sathe V.G., Shripathi T., Pillai V.P., Mahadevan  
Correlation of Raman and photoluminescence spectra of Al<sub>2</sub>O<sub>3</sub> capped silicon nanoparticles grown by reactive pulsed laser deposition  
*Journal of Nano- and Electronic Physics 3*, 73.22 (2011)
20. Dinakaran S.\* , Verma S., Das S.J.\* , Bhagavannarayana G.\* , Kar S., Bartwal K.S.



## PUBLICATIONS (JAN. 2011-JUNE 2011)

- Determination of crystalline perfection, optical indicatrix, birefringence and refractive-index homogeneity of ZTS crystals  
*Applied Physics B: Lasers and Optics* 103, 345-349 (2011)
21. Dinakaran S.\*, Verma Sunil, Das S.J.\*  
Solubility, crystal growth, morphology, crystalline perfection and optical homogeneity of lithium p-nitrophenolate trihydrate, a semiorganic NLO crystal  
*Crystal Engineering Communication* 13, 2375-2380 (2011)
22. Dixit V.K., Singh S.D., Porwal S., Kumar Ravi, Ganguli T., Srivastava A.K., Oak S.M.  
Determination of band offsets in strained InAs<sub>x</sub>P<sub>1-x</sub>/InP quantum well by capacitance voltage profile and photoluminescence spectroscopy  
*Journal of Applied Physics* 109, 083702-7 (2011)
23. Dixit V.K., Neishi K.\*, Akao N.\*, Koike J.\*  
Structural and electronic properties of a Mn oxide diffusion barrier layer formed by chemical vapor deposition  
*IEEE Transactions on Device and Materials Reliability* 11, 295-302 (2011)
24. D'Souza S.W.\*, Dhaka R.S.\*, Rai A.\* , Maniraj M.\* , Nayak J.\* , Singh S.\* , Schlagel D.L.\* , Lograsso T.A.\* , Chakrabarti A., Barman S.R.\*  
Surface study of Ni<sub>2</sub>MnGa(100)  
*Materials Science Forum* 684, 215-230 (2011)
25. Dube A., Sharma S.\* , Gupta P.K.  
Tumor regression induced by photodynamic treatment with chlorin p 6 in hamster cheek pouch model of oral carcinogenesis: Dependence of mode of tumor cell death on the applied drug dose  
*Oral Oncology* 47, 467-471 (2011)
26. Elizabeth V.\* , Kanter E.M.\* , Majumder S.K., Keller M.D.\* , Beaven R.B.\* , Rao G.G.\* , Jansen A.M.\*  
Effect of normal variations on disease classification of Raman spectra from cervical tissue  
*Analyst* 136, 1-7 (2011)
27. Ganeev R.A.\* , Naik P.A., Singhal H. , Chakera J.A., Kumar M., Joshi M.P., Srivastava A.K., Gupta P.D.  
High-order harmonic generation in carbon-nanotube-containing plasma plumes  
*Physical Review A - Atomic, Molecular, and Optical Physics* 83, 013820-7 (2011)
28. Ganeev R.A.\* , Naik P.A., Chakera J.A., Singhal H., Pramanik N.C.\* , Abraham P.A.\* , Panicker N.R.\* , Kumar M.\* , Gupta P.D.  
Carbon aerogel plumes as an efficient medium for higher harmonic generation in the 40-90 nm range  
*Journal of the Optical Society of America B: Optical Physics* 28, 360-364 (2011)
29. Ganeev R.A.\* , Chakera J.A., Naik P.A., Singhal H., Khan R.A., Gupta P.D.  
Resonance enhancement of single even harmonic of laserradiation in tin-containing plasma using intensity variation of two-color pump  
*Journal of the Optical Society of America B: Optical Physics* 28, 1055-1061 (2011)
30. Gaur A.\* , Johari A.\* , Shrivastava B.D.\* , Gaur D.C.\* , Jha S.N., Bhattacharyya D.\* , Poswal A.\* Deb S.K.  
On the method of calibration of the energy dispersive EXAFS beamline at Indus-2 and fitting theoretical model to the EXAFS spectrum  
*Sadhana* 36, 339-348 (2011)
31. Gaur A.\* , Shrivastava B.D.\* , Gaur D.C. \* , Prasad J.\* , Srivastava K. \*, Jha S.N., Bhattacharyya D.\* , Poswal A.\* , Debe S.K.  
EXAFS study of binuclear hydroxo-bridged copper(II) complexes  
*Journal of Coordination Chemistry* 64, 1265-1275 (2011)
32. Gupta R.K., Sinha A.K., Raja Sekhar B.N., Srivastava A.K., Singh G., Deb S.K.  
Synthesis and characterization of various phases of cobalt oxide nanoparticles using inorganic precursor  
*Applied Physics A: Materials Science and Processing* 103, 13-19 (2011)
33. Jain V.\* , Bhandarkar U.V.\* , Joshi S.C., Krishnagopal S.  
Analytical study of higher order modes of elliptical cavities using oblate spheroidal eigenvalue solution  
*American Physical Society* 14, 042002-12 (2011)
34. Joshi M.A.\* , Jathar M.R., Mehrotra S.C.\*  
Distributed system for weather data collection through TINI microcontroller  
*International Journal of Environmental Science and Development* 2, 70-72 (2011)
35. Kamal C., Banerjee A., Ghanty T.K. \* Chakrabarti A.  
Interesting periodic variations in physical and chemical properties of homonuclear diatomic molecules  
*International Journal of Quantum Chemistry* (2011)
36. Khamari S.K., Dixit V.K., Oak S.M.  
Numerical simulation of inverse spin Hall spectra in Pt/GaAs hybrid structure  
*Journal Of Physics D: Applied Physics* 44, 265104-7 (2011)
37. Khamari S.K., Dixit V.K. , Ganguli T., Porwal S., Singh S.D., Kher S., Sharma R.K., Oak S.M.  
Effect of <sup>60</sup>Co gamma-ray irradiation on electrical properties of GaAs epilayer and GaAs p-i-n diode  
*Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms* 269, 272-276 (2011)



## PUBLICATIONS (JAN. 2011-JUNE 2011)

38. Kiran S.R.\*, Gandhi B.K.\*, Dwivedi D.K.\* , Paul C.P., Kukreja L.M.  
Erosive wear behaviour of laser clad surfaces of Ni and Co based alloys  
*Journal of Tribology and Surface Engineering* 2, 33-40 (2011)
39. Krishnan S., Bindra K. S.  
A sensitive and high dynamic range laser energy meter  
*Measurement Science and Technology* 22, 085901 (2011)
40. Kukreja L.M., Misra P., Das A.K., Sartor J.\*, Kalt H.\*  
Anomalous optical processes in photoluminescence from ultrasmall quantum dots of ZnO  
*Journal of Vacuum Science & Technology A* 29, 03A1201-8 (2011)
41. Kukreja L.M., Chaturvedi A., Singh B.N., Detty A.P.\* , Pillai V.P.M.\* , Sartor J.\* , Kalt H.\* , Klingshirn C.\*  
Studies on Uv photoluminescence from pulsed laser deposited ensembles of capped silicon nanoparticles  
*International Journal of Nanoscience* 10, 167-170 (2011)
42. Kumar M.\* , Rajpalke M.K.\* , Roul B. \*, Bhat T.N.\* , Misra P., Kukreja L.M., Sinha Neeraj\*, Kalghatgi A.T.\* , Krupanidhi S.B.\*  
Temperature-dependent photoluminescence of GaN grown on  $\beta$  Si<sub>3</sub>N<sub>4</sub>/Si (1 1 1) by plasma-assisted MBE  
*Journal of Luminescence* 131, 614-619 (2011)
43. Kumar N., Varma G.D., Nath R., Srivastava A.K.  
Synthesis of ordered ZnO nanowire arrays from aqueous solution using AAO template  
*Applied Physics A: Materials Science and Processing* 1-6 (2011)
44. Kumar Ravi, Ganguli T., Chouhan V., Dixit V.K.  
The study of microstructure of III-V polar on non-polar heterostructures by XRD  
*Journal of Nano-and Electronics Physics* 3, 17-25 (2011)
45. Kumar Y.P., Chatterjee S.  
Measurement of longitudinal displacement using lateral shearing cyclic path optical configuration setup and phase shifting interferometry  
*Applied Optics* 50, 1350-1355 (2011)
46. Laskar M.R.\* , Ganguli T., Rahman A.A.\* , Mukherjee A.\* , Hatui N.\* , Gokhale M. R.\* , Bhattacharya A.\*  
Distorted wurtzite unit cells: determination of lattice parameters of nonpolar a-plane AlGaN and estimation of solid phase Al content  
*Journal of Applied Physics* 109, 013107-8 (2011)
47. Laskar M.R.\* , Ganguli T., Rahman A.A.\* , Arora A.\* , Hatui N.\* , Gokhale M.R.\* , Ghosh S.\* , Bhattacharya A.\*  
Anisotropic structural and optical properties of a -plane (11 2-0) AlInN nearly-lattice-matched to GaN  
*Applied Physics Letters* 98, 181108-3 (2011)
48. Laskar M.R.\* , Ganguli T., Hatui N.\* , Rahman A.A.\* , Gokhale M.R.\* , Bhattacharya A.\*  
High-resolution X-ray diffraction investigations of the microstructure of MOVPE grown a-plane AlGaN epilayers.  
*Journal of Crystal Growth* 315, 208-210 (2011)
49. Laskar M.R.\* , Ganguli T., Kadir A.\* , Hatui N.\* , Rahman A.A.\* , Shah A.P.\* , Gokhale M.R.\* , Bhattacharya A.\*  
Influence of buffer layers on the microstructure of MOVPE grown a-plane InN.  
*Journal of Crystal Growth* 315, 233-237 (2011)
50. Lavanya M.R.\* , Chakrabarti A., Kshirsagar R. J.\* , Kamal C., Banerjee A.  
Density functional study of  $\alpha$ -amino acids: structural, energetic and vibrational properties  
*Mol. Phys.* 109, 875 (2011)
51. Le Sech C.\* , Banerjee A.  
A variational approach to the dirichlet boundary condition: application to confined H-, He and Li  
*Journal of Physics B: Atomic, Molecular and Optical Physics* 44, 105003- (2011)
52. Malav H.\* , Maheshwari K.P.\* , Senecha V.  
Analytical and numerical investigation of the effect of pulse shape of intense, few-cycles TM01 laser on the acceleration of charged particles  
*Indian Journal of Pure and Applied Physics* 49, 251-256 (2011)
53. Mane M.L.\* , Dhage V.N.\* , Sundar R., Ranganathan K., Oak S.M., Shengule D.R.\* , Jadhav K.M.\*  
Effects of Nd:YAG laser irradiation on structural, morphological, cation distribution and magnetic properties of nanocrystalline CoFe<sub>2</sub>O<sub>4</sub>  
*Applied Surface Science* 257, 8511-8517 (2011)
54. Manekar M., Chatopadhyay M.K., Roy S. B. Glassy dynamics in magnetization across the first order ferromagnetic to antiferromagnetic transition in Fe<sub>(0.955)</sub>Ni<sub>(0.045)</sub>Rh.  
*Journal of Physics: Condensed Matter* 23, 086001-7 (2011)
55. Misra N.L.\* , Dhara S. \* , Das A., Lodha G.S., Aggarwal S.K., Varga I.\*  
Trace determination of uranium in fertilizer samples by total reflection X-ray fluorescence  
*Pramana - Journal of Physics* 76, 357-360 (2011)
56. Misra P., Kukreja L.M Zinc Oxide Nanostructures: Growth, Characterizations and Applications  
*Journal of Science* 8, 37-41 (2011)
57. Mukhopadhyay P.K., Sharma S.K., Singh A., Oak S.M.  
Note: A simple technique for reduction of the fall time and enhancement of the peak power of diode side-pumped



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- intracavity frequency doubled repetitively Q-switched green laser pulse  
*Review of Scientific Instruments* 82, 046113-3 (2011)
58. Nayak M., Lodha G.S.  
Optical response near the soft x-ray absorption edges and structural studies of low optical contrast system using soft x-ray resonant reflectivity  
*Journal of Atomic, Molecular, and Optical Physics* 1-23 (2011)
59. Nigam S., Aneesh K., Navathe C.P., Gupta P.D.  
A diagnostic system for electrical faults in a high current discharge plasma setup  
*Review of Scientific Instruments* 82, 024702-8 (2011)
60. Pandit P., Satapathy S., Gupta P.K.  
Effect of La substitution on conductivity and dielectric properties of  $\text{Bi}_{1-x} \text{La}_x \text{FeO}_3$  ceramics: an impedance spectroscopy analysis  
*Physica B: Condensed Matter* 406, 2669-2677 (2011)
61. Pandya S.\*, Sherif S.\* , Sharath Chandra L.S., Ganesan V.\*  
Magneto-transport studies of  $\text{FeSe}_{0.9-x} \text{M}_x$  ( $\text{M} = \text{Si}, \text{Sb}$ )  
*Superconductor Science and Technology* 24, 045011-8 (2011)
62. Prakash O., Kumar J., Mahakud R., Saxena P., Dubey V.K., Dixit S.K., Mittal J.K.  
Influence of dye gain medium flow on the wavelength jitter and the drift of high repetition rate-Single mode dye lasers  
*Optics and Laser Technology* 43, 1475-1481 (2011)
63. Prasad Y.B.S.R., Nigam S., Aneesh K., Barnwal S., Tripathi P.K., Naik P.A., Navathe C.P., Gupta P.D.  
Generation of intense soft X-rays from capillary discharge plasmas  
*Sadhana* 36, 349-355 (2011)
64. Raghu T., Kumar M., Biswas A.K., Kukreja L.M.  
A sensitive arc detection technique for reliable operation of high repetition rate TEA CO<sub>2</sub> laser  
*Optics & Laser Technology* 43, 904-910 (2011)
65. Rajpalke M.K.\* , Bhat T.N.\* , Roul B. \*, Kumar M., Misra P., Kukreja L.M. , Sinha N. \*, Krupanidhi S.B.\*  
Growth temperature induced effects in non-polar a-plane GaN on r-plane sapphire substrate by RF-MBE.  
*Journal of Crystal Growth* 314, 5-8 (2011)
66. Rajpalke M.K.\* , Bhat Thirumaleshwara N.\* , Roula B.\* , Kumara M.\* , Misra P., Kukreja L.M., Sinha N.\* , Krupanidhi S.B.  
**Temperature dependent photoluminescence of GaN grown on  $\beta\text{-Si}_3\text{N}_4/\text{Si}(111)$  by plasma-assisted MBE**  
*J. Luminescence* 131, 614-9 (2011)
67. Rai R.N., Mudunuri S.R.\* , Reddi R.S.B.\* , Kumar Satuluri V.S.A.\* , Ganeshmoorthy S.  
Crystal growth and nonlinear optical studies of m-dinitrobenzene doped urea  
*Journal of Crystal Growth* 321, 72-77 (2011)
68. Raja K.\* , Verma S., Karmakar S., Kar S., Das S.J.\* , Bartwal K.S.  
Synthesis and characterization of magnetite nanocrystals  
*Crystal Research and Technology* 46, 497-500 (2011)
69. Ramaniah L.M.\* , Chakrabarti Aparna, Kshirsagar R.J.\* , Kamal C., Banerjee A.  
Density functional study of a-amino acids: structural, energetic and vibrational properties  
*Molecular Physics* 109, 875-89 (2011)
70. Ramesh T.\* , Shinde R.S., Murthy S.R.\*  
Synthesis and characterization of  $\text{NiCoMnCuFe}_{1.96}\text{O}_4$  for circulator application  
*Journal of Magnetism and Magnetic Materials* 323, 1593-1598 (2011)
71. Roy G.B.  
Chiral Salarg and its metal complex: unique extrinsic fluorophores  
*Spectrochimica Acta - Part A Molecular and Biomolecular Spectroscopy* 79, 423-427 (2011)
72. Sagdeo A., Rai S., Srivastava A.K., Lodha G.S., Rawat R.\* , Guen K.Le\*, Jonnard P.\*  
Origin of step-like behavior in the Co/Si system  
*Journal of Physics: Condensed Matter* 23, 246004-8 (2011)
73. Saini R.K.\* , Srivastava A.K., Gupta P.K., Das K.  
pH dependent reversible aggregation of Chitosan and glycol-Chitosan stabilized silver nanoparticles  
*Chemical Physics Letters* 511, 326-330 (2011)
74. Satapathy S. , Verma P.\* , Gupta P.K., Mukherjee C., Sathe V.G. \*, Varma K.B.R.\*  
Structural, dielectric and ferroelectric properties of multilayer lithium tantalate thin films prepared by sol gel technique  
*Sadhana* 519, 1803-1808 (2011)
75. Selvamani R., Singh G., Sathe V., Tiwari V.S., Gupta P.K.  
Dielectric, structural and Raman studies on  $(\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3)_{1-x}(\text{BiCrO}_3)_x$  ceramic.  
*Journal of Physics Condensed Matter* 23, 055901-9 (2011)
76. Senthil A\*, Ramasamy P.\* , Verma S.  
Investigations on the SR method growth, etching, birefringence, laser damage threshold and dielectric characterization of sodium acid phthalate single crystals  
*Journal of Crystal Growth* 318, 757-761 (2011)



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77. Sharma A.K., Smedley J.\*, Tsang T.\* , Rao T.\*  
Formation of subwavelength grating on molybdenum mirrors using a femtosecond Ti:sapphire laser system operating at 10 Hz  
*Review of Scientific Instruments* 82, 033113-7 (2011)
78. Sharma T.K., Towe E.\*  
Impact of strain on deep ultraviolet nitride laser and light-emitting diodes  
*Journal of Applied Physics* 109, 086104-3 (2011)
79. Sharma T. K. and Towe E,  
Why are nitride lasers limited to the spectral range from 340 to 530 nm  
*Phys. Status Solidi C* 8, 2366 (2011)
80. Sharma V.K., Chattopadhyay M.K., Sharath Chandra L.S., Roy S.B.  
Elevating the temperature regime of the large magnetocaloric effect in a Ni Mn In alloy towards room temperature  
*Journal of Physics D: Applied Physics* 44, 145002-6 (2011)
81. Singh G.\* , Tiwari V.S.\* , Tiwari P., Srivastava A.K., Gupta P.K.  
Effect of oxidant-to-fuel ratios on phase formation of PLZT powder; prepared by gel-combustion.  
*Journal of Alloys and Compounds* 509, 4127-4131 (2011)
82. Singh Amarjeet, Mukhopadhyay P.K., Sharma Sunil Kumar, Ranganathan K., Oak S.M.  
Continuous-wave green beam generation by intracavity frequency doubling of diode-side-pumped Nd:YAG laser  
*IEEE Journal of Quantum Electronics* 47, 398-405 (2011)
83. Singh S.D., Dixit V.K., Khamari S.K., Kumar Ravi, Srivastava A.K., Ganguli T., Oak S.M.  
Conduction band offset and quantum states probed by capacitance voltage measurements for InP/GaAs type-II ultrathin quantum wells  
*Journal of Applied Physics* 109, 073702-6 (2011)
84. Singh S.P.\* , Modi M.H., Srivastava P.  
Study of the optical response of Si-rich a-SiNx : H thin film near Si L2,3-edge using soft x-ray reflectivity.  
*Journal of Physics D: Applied Physics* 44, 215501-6 (2011)
85. Sinha G.\* , Prabhu S.S.  
Analytical model for estimation of eddy current and power loss in conducting plate and its application  
*Physical Review Special Topics - Accelerators And Beams* 14, 062401-10 (2011)
86. Sreekumar G.\* , Louie Frobel P.G.\* , Sreeja S.\* , Suresh S.R.\* , Mayadevi S. \* , Muneera C.i.\* , Suchand Sandeep C.S.\* , Philip R. \* , Mukharjee C.  
Nonlinear absorption and photoluminescence emission in nanocomposite films of Fuchsine Basic dye-polymer system  
*Chemical Physics Letters* 506, 61-65 (2011)
87. Srivastava A., Verma Y., Rao K.D., Gupta P. K.  
Determination of elastic properties of resected human breast tissue samples using optical coherence tomographic elastography  
*Strain* 47, 75-87 (2011)
88. Srivastava H., Tiwari P., Srivastava A.K., Porwal S., Deb S.K.  
Water-vapour-assisted growth of ZnO nanowires on a zinc foil and the study of the effect of synthesis parameters  
*Semiconductor Science and Technology* 26, 085030-8 (2011)
89. Tarafder A.\* , Annapurna K.\* , Chaliha R.S.\* , Satapathy S., Tiwari V.S., Gupta P.K., Karmakar B.\*  
Second harmonic generation in ferroelectric LiTaO<sub>3</sub> and KNbO<sub>3</sub> containing bulk nano glass-ceramics  
*Journal of Nonlinear Optical Physics and Materials* 20, 49-61 (2011)
90. Tiwari A.K., Poddar D.R.\* , Das B.N. \*  
Centered inclined slot coupling between waveguides with coplanar axes  
*International Journal of RF and Microwave Computer-Aided Engineering* 21, 52-58 (2011)
91. Tiwari S.K., Mishra S.R., Ram S.P.  
Generation of a variable-diameter collimated hollow laser beam using metal axicon mirrors  
*Optical Engineering* 50, 014001-4 (2011)
92. Tripathi S.\* , Gehlot M. \* , Hussain J.K. \* , Mishra G.\* , Kumar V., Chouksey S.  
Field integral measurement of a six period undulator in a pulsed wire set up.  
*Optics Communications* 284, 350-357 (2011)
93. Upadhyaya B.N., Kumar A., Chakravarty U., Oak S.M., Shenoy M.R.\* , Thyagarajan K.\*  
Analysis of output pulse characteristics in Q-switched Yb doped fiber laser  
*IEEE Journal of Quantum Electronics* 47, 786-794 (2011)
94. Varghese N.\* , Vinod K.\* , Rahul S.\* , Anees P.\* , Devadas K.M.\* , Thomas S.\* , Sundaresan A.\* , Barman Roy S., Syamaprasad U.\*  
Effect of carbon substitution on the superconducting properties of nanocarbon-, nanodiamond- and nano-SiC-doped MgB<sub>2</sub>  
*Journal of the American Ceramic Society* 94, 1133-1137 (2011)
95. Vargas E.\* , Kanter E.M.\* , Majumder S.K., Keller M.D.\* , Beaven R.B.\* , Rao G.G.\* , Jansen A.M.\*  
Effect of normal variations on disease classification of Raman spectra from cervical tissue  
*Analyst* 136, 2981-2987 (2011)
96. Verma S., Muralidhar K.\*



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- Determination of forced convection parameters by interferometric imaging of the concentration field during growth of KDP crystals  
*Optics and Lasers in Engineering* 49, 915-923 (2011)
97. Verma Y., Nandi P.\* , Rao K. Divakar, Sharma Mrinalini, Gupta Pradeep Kumar  
Use of common path phase sensitive spectral domain optical coherence tomography for refractive index measurements  
*Applied Optics* 50, E7-E12 (2011)
- B. Invited Talk**
1. Chaudhari S.  
Network technologies & internet technologies  
*Orientation Programme for TGTs (Computer Science)*, May 9-13, 2011, Indore
  2. Dixit V.K., Singh S. D and Oak. S. M.  
Materials for infrared detections: bulk, quantum wells, dots and dot in well structures  
*International Conference on Semiconductor Materials and Devices (ISSMD)*, Jan. 28-30, 2011, Vadodra
  3. Fakhri A. A.  
Synchrotron radiation source Indus-1 and Indus-2  
*Emerging Interfaces of Physics and Technology*, Mar. 28-30, 2011, Ujjain
  4. Fatnani P.  
EPICS based control and data acquisition in accelerators  
*Symposium on Advanced Measurement Techniques and Instrumentation (SAMTI-2011)*, Feb. 02-04, 2011, Mumbai
  5. Kant P.  
Synchrotron radiation sources Indus-1 & Indus-2  
*National Summit on the Use of Hindi for Technical and Scientific Awareness*, Jan. 27-28, 2011, Gandhinagar
  6. Khare G.  
Advance MS word features & client and server side scripting  
*Orientation Programme for TGTs (Computer Science)*, May 9-13, 2011, Indore
  7. Khare G.  
e-Governance  
*Hindi Vayyanik Sangoshti*, Mar. 25, 2011, Indore
  8. Khare P., Kush P., Gilankar S.G., Jain V., Ghosh R., Jain A., Narayanan A.L.  
Technical challenges in cryomodule design  
*Theme Meeting on Challenges of Mechanical Engineering for Superconducting Accelerators*, March 25<sup>th</sup> - 26<sup>th</sup>, 2011, Kolkata
  9. Kukreja L.M.  
Optical processes in ZnO quantum dots  
*International Conference on Semiconductor Materials and Devices (ISSMD)*, Jan. 28-30, 2011, Vadodra
  10. Kukreja L.M.  
Materials science with Lasers: some reminiscences  
*Materials Research Society of India (MRSI) Medal Lecture at 22<sup>nd</sup> Meeting of MRSI and Theme Symposium on Light Weight Materials – Monolithic to Composites*, Feb. 14-16, 2011, Bhopal
  11. Kukreja L.M.  
Optical properties of ZnO quantum dots  
*National Science Day Lecture UGC-DAE Consortium for Scientific Research*, Feb. 28, 2011, Indore
  12. Kukreja L.M.  
Photoluminescence from multilayer thin films of ZnO quantum wells and quantum dots  
*7<sup>th</sup> International Symposium on Transparent Oxide Thin Films for Electronics and Optics (TOEO-7)*, Mar. 14-16, 2011, Tokyo, Japan
  13. Kukreja L.M.  
Lasers in manufacturing technology  
*Interaction Meet on Utilization of Laser Technology in Industry and Medicine*, Apr. 28-29, 2011, Indore
  14. Kukreja L.M.  
Ultra-small quantum dots of ZnO  
*4<sup>th</sup> IEEE International Nano-Electronics Conference (INEC)*, Jun. 21-24, 2011, Tao-Yuan, Taiwan,
  15. Rawat A.  
Green data centers  
*National Conference on Green IT for e-Pragati*, Apr. 28-29, 2011, Indore
  16. Rawat A.  
Managing requirements for safety critical applications  
*Seminar on Software Requirements Engineering*, June 27, 2011, Indore
  17. Rawat H.S.  
Studies with laser cooled and trapped atoms  
*2<sup>nd</sup> DAE-BRNS Symposium on Atomic, Molecular and Optical (AMO) Physics*, Feb. 22 to 25, 2011, Dharwad
  18. Shinde R.S.  
Engineering challenges in the design & development of composite magnetic circuits for tuning of high power ferrite circulator  
*National Conference on Magnetic Materials & Applications*, Jan. 24-31, 2011, Kolkata
  19. Singh Gurnam  
Status of Indus-2 synchrotron radiation source  
*Indian Particle Accelerator Conference (InPAC-2011)*, 15-18 Feb., 2011, New Delhi
  20. Singh Sanjay  
Introduction to HTML & advanced HTML orientation



# PUBLICATIONS (JAN. 2011-JUNE 2011)

**Orientation Programme for TGTs (Computer Science),**  
May 9-13, 2011, Indore

21. Tiwari V.B.  
Laser cooling and trapping I and II  
**Winter School on Recent Trends in Physics of Atoms, Molecules and Lasers**, Jan. 09 to 31, 2011, Varanasi

## C. Seminars/Conference Presentation

**C1. Proc. Indian Particle Accelerator Conference (InPAC-2011), New-Delhi, 15-18 Feb., 2011**

1. Abdurrahim, Jain V.K., Ghodke A.D., Singh Gurnam  
Optimization of Ti coating thickness for Indus-2 injection kicker ceramic chamber
2. Aditya L.\*, Shinde R.S.\* , Pareek P., Prabhu S.S.  
Characterization of nickel iron core materials for efficient pulsed septum of Indus-2
3. Aditya L., Ahlawat M., Singh Karan, Shinde R.S.  
Thermo magnetic and electromagnetic properties of rare earth microwave garnets for high power circulator
4. Bagre M., Yedle A., Maurya T., Yadav A., Puntambekar A., Kokil S., Kane G.V., Joshi S.C., Mohania P., Singh .H.G., Shrivastava P.  
Manufacturing of 1.3 GHz single cell copper cavity
5. Borage M.B., Tiwari S.  
On the development of 30 kVA, 430 hHz sine wave inverter for DC accelerator application
6. Bhange N.J., Gothwal P., Fatnani P., Shukla S.K.  
Distributed remote temperature monitoring system for Indus-2 vacuum chambers
7. Chouksey S., Nair H., Sathe V.G., Dhamgya V., Jaganath M., Sinha A.K., Lodha G.S., Singh Gurnam  
Construction of Beamline Radiation Shielding Hutes for Indus-2 Synchrotron Radiation Source
8. Chouksey S., Lal S., Gupta Saket, Kumar Arvind, Biswas B., Parihar S.S., Pant K.K., Krishnagopal S.  
Design and fabrication of a 476 Mhz sub-harmonic buncher cavity
9. Chouksey S., Suhane S.K., Parihar S.S., Singh Gurnam  
Operational experience of compressed air system for large accelerator complex
10. Fakhri A.A., Kant P., Ghodke A.D., Singh G.  
Low emittance electron beam optics commissioning in Indus-2
11. Goswami S.G., Sandha R.S., Choudhary R.S., Dwivedi J., Wanmode Y.D., Shrivastava P., Thakurta A.C.
12. Gupta Saket Kumar, Biswas B., Pant K.K., Kumar Arvind, Chouksey S.  
Thermal and structural analysis of PWT LINAC structures
13. Garg A.D., Karnewar A.K., Joshi D.K., Puntambekar T.A.  
Design of X-ray Diagnostic Beamline for Indus-2 Storage Ring
14. Husain R., Ghodke A.D., Singh Gurnam  
Beam dynamics with new booster dipoles
15. Husain R., Ghodke A.D., Singh Gurnam  
Exploring storage ring lattices: Indus-1 and Indus-2
16. Design, fabrication and initial testing of prototype plasma chamber for H- ion source  
Jain V., Senecha V.K., Mishra D.A., Kumar Ajeet, Jain S.K. Joshi S.C.
17. Jain S.K., Senecha V., Mishra D., Joshi S.C.  
Electron cyclotron resonance plasma diagnostics to study microwave power coupling with Langmuir probe
18. Jana P.K., Shrivastava P., Kumar V.  
RF coupler design of 352.2 MHz RFQ
19. Jena S.K., Ghodke A.D., Singh Gurnam  
Study of ion trapping phenomena in Indus-2 storage ring
20. Kaul R., Shinde R.S., Senthil Kumar S., Tiwari P., Sing Gurvinderjeet, Ganesh P., Kumar H., Gupta R.K., Sharma S.D., Aditya L., Prabhu S.S.  
Characterization of detonation sprayed alumina coating for improved performance of septum magnet coils of Indus-2
21. Kumar Pradeep, Ghodke A.D., Singh Gurnam  
Studies of beam lifetime in Indus-2 electron storage ring
22. Kush P.K., Khare P., Gilankar S.G., Jain V., Ghosh R., Jain A., Lakshminarayanan A.\* , Hocker A.\* , Poloubotko V.\*  
Design of horizontal test stand (HTS-2) for SCRF cavities at RRCAT
23. Khare P., Kush P.K., Gilankar S.G., Jain V., Ghosh R., Jain A., Lakshminarayanan A.\* , Peterson T.\* , Ginsburg C.M.\* , Grimm C.\* , Kerby J.\* , Orlov Y.\*  
Design efforts for cryomodule of 650MHz SCRF cavities at RRCAT
24. Kush P.K., Doohan R.S., Gupta Prabhat K., Sharma R.C., Ghosh R., Kumar Manoj, Gupta P.D.  
India's first indigenously developed helium liquefier
25. Lulani N., Agrawal R.K., Merh B., Fatnani P., Husain R., Ghodke A.D.



## PUBLICATIONS (JAN. 2011-JUNE 2011)

- Global COD correction for Indus-2: scheme & implementation
26. Lulani N., Gangopadhyay S., Sheth Y., Barpande K., Srivatava B.S.K., Fatnani P. Improvements in Indus timing control system and experience with FPGA based delay generator
27. Mahawar A., Mohania P., Shrivastava P. Design and development of L-Band Solid state pulsed 200W amplifier
28. Merh B., Agrawal R.K., Gangopadhyay S., Yadav R.P., Barpande K., Fatnani P. Operational experience with SCADA system based controls for Indus-2
29. Mohania P., Mahawar A., Shrivastava P. Design and development of 1kW pulsed S-Band solid state power amplifier
30. Mohania P., Rajput V., Baxy D., Agrawal A., Mahawar A., Singh K.A.P., Shrivastava P. Design and development of RF system for vertical test stand for characterization of superconducting RF cavities
31. Ojha A., Yadav Surendra, Holikatti A.C., Puntambekar T.A., Pithawa C.K. Beam position measurement in transport line-1 of Indus accelerator
32. Pareek P., Singh K., Shinde R.S. Development of Eddy current probe for measurement of titanium coating thickness on ceramic vacuum chamber of Indus-2 kicker magnets
33. Prajapati S.K., Fakhri A.A., Ghodke A.D., Singh Gurnam Modified bunch filling scheme for Indus-2
34. Saini R.S., Biswas B., Pant K.K., Ghodke A.D., Singh Gurnam Electron beam optics design of variable energy beam transport line for a tunable infra-red free electron laser at RRCAT
35. Saini R.S., Ghodke A.D., Singh Gurnam Scheme for beam energy spread measurement of 20 MeV microtron
36. Shinde R.S., Gaud V., Pareek P., Ahlawat M., Singh K., Das S., Senthil Kumar S., Prabhu S.S. Restoration of pulsed septum magnets for 2.5 GeV storage ring (Indus-2)
37. Shinde R.S.\*., Gaud V., Pareek P., Senthil Kumar S. Up-gradation of booster injection kicker magnets for reduced beam coupling impedance
38. Shinde R.S., Pareek P., Gaud V., Ahlawat M., Sharma S.D., Prabhu S.S.
- Studies of prototype transmission line extraction kicker magnet for booster synchrotron
39. Singh Alok, Koli M., Borage M.B., Tiwari S. New power supplies for quadrupole magnets in transport line - 2 in Indus
40. Singh Gurnam, Hannurkar P.R., Shukla S.K., Thakurta A.C., Prabhu S.S., Puntambekar T.A., Fatnani P., Ghodke A.D., Lad M., Shinde R.S., Tiwari S.R., Shrivastava P., Dwivedi J., Kulkarni S.S., Mundra G., Deb S.K., Navathe C.P., Gupta P.D. Status of Indus-2 synchrotron radiation source
41. Shrivastava P., Wanmode Y.D., Mulchandani J., Baxy D., Mohania P., Rajput V., Acharya M., Bhisikar A., Mahawar A., Agrawal A., Singh H.G., Raghu T. Progress in development of high power pulsed microwave systems, high voltage modulators and associated technologies for particle accelerators
42. Srivastava B.S.K., Fatnani P. Web based electronic logbook for Indus-2
43. Srivastava V.K., Senecha V.K., Mishra D.A., Kumar Ajeet, Jain S.K., Banwari R., Joshi S.C. Design and fabrication of prototype 3-electrode H- ion extraction system for ion source
44. Tripathi A., Badapanda M.K., Borage M.B., Upadhyay R., Hannurkar P.R. DSP controlled filament power supply for 1 MW, 352.2 MHz klystron
45. Yadav Surendra, Holikatti A.C., Puntambekar T.A. Software development for Indus-1 bunch filling pattern measurement

### C2. Others Seminars/Conference Presentation

1. Aggarwal R., Ingale A., Pal S., Oak S.M. Intersubband Plasmon - Phonon Coupling in GaAsP/AlGaAs Single Quantum Well: A Raman Spectroscopy study  
*Proceedings of the 55th DAE Solid State Physics Symposium 2010*; AIP Conf. Proc. 1349, 1101-1102 (2011)
2. Aneesh P.M.\*., Jayaraj M.K.\*., Ajimsha R.S., Kukreja L.M. Photoluminescence from multilayer thin films of ZnO quantum wells and quantum dots  
*Proc. 7th International Symposium on Transparent Oxide Thin Films for Electronics and Optics*, March 14 – 16, Tokyo, 172 (2011)
3. Chaubey S., Kher S., Oak S.M. Radiation and taper tuning of LPG for highly sensitive strain measurement  
*IEEE Proc. of 7<sup>th</sup> International workshop on Fiber Optics and Passive Components*, July 13-15, 2011, Ecole



## PUBLICATIONS (JAN. 2011-JUNE 2011)

- Polytechnique de Montreal (WFOPC-2011)
4. Chaubey S., Kher S., Oak S.M.  
Tailoring long period grating for achievement of TAP, a technique for development of improved sensors  
*Proc. of DAE-BRNS Symposium on Atomic, Molecular and Optical Physics*, Feb. 22-25, 2011, Dharwad
5. Chaudhari S., Tomar S.S., Rawat A.  
Design, implementation and analysis of multi layer, multi factor authentication (MFA) setup for webmail access in multi trust networks  
*International Conference on Emerging Trends in Networks and Computer Communications (ETNCC-2011)*, Apr., 22-24, 2011, Udaipur
6. Ganesh P., Sundar R., Kumar H., Kaul R., Ranganathan K., Haedoo P., Kukreja L.M., Oak S.M., Dasari S.\*,  
Raghvendra G.\*  
Laser peening study on spring steel for automotive applications  
*Proc. International conference on World Class Materials & Manufacturing Technologies*, March 8 – 10, Mumbai, 57 (2011)
7. Kak A., Mishra R.K., Tiwari G.N., Nakhe S.V., Lala A.  
Design and fabrication of semi-sealed quartz laser tube for copper bromide laser  
*17<sup>th</sup> National Conference of Indian Society for Scientific Glass Blowers*, May 2-3, 2011, Kottayam
8. Kak A., Kher A.M., Nigam S., Lala A.  
Coaxial glass to metal seal as electrical feedthrough for capillary discharge system  
*17<sup>th</sup> National Conference of Indian Society for Scientific Glass Blowers*, May 2-3, 2011, Kottayam
9. Kannan Rajesh M. R., Tata B. V. R., Dasgupta R., Ahlawat S., Gupta P.K.  
Optical trapping of thermo-responsive microgel particles by holographic optical tweezers  
*Optics II: A Conference on Light*, May 23-25, 2011, Calicut
10. Khare P., Kush P K, Chaube R, Jain V, Lakshminarayanan A\*  
Indian efforts at easier manufacturing of cryomodule  
*Tesla Technology Collaboration Meeting*, Feb. 2011, New Delhi
11. Krishna H., Majumder S.K., Gupta P.K.  
Development and utilization of optical spectroscopy for diagnosis of cancer  
*Interaction Meet on the Utilization of Laser Technology in Industry and Medicine*, Apr. 28-29, 2011, Indore
12. Peterson T.\* , Foley M\*, Ginsburg C.\* , Grimm C.\* , Kerby J.\* , Orlov Y.\* , Ghosh R., Gilankar S.G., Jain A., Khare P.,  
Kush P.K., Laxminarayanan A.L.  
650 Mhz cryomodules for Project x at Fermilab - requirements and concepts  
*15<sup>th</sup> International Conference on Radio Frequency Superconductivity Conference (SRF-II)*, July 2011, Chicago, USA
13. Puntambekar A., Bagre M., Jain V., Gupta R.K., Sandha R.S., Kane G.V., Sharma S.D., Dwivedi J., Shrivastava P., Joshi S.C., Gupta P.D., Sahni V.C.\* Potukuchi P.N.\* , Sacharias J.\* , Mistri K.K.\* , Kanjilal D.\* , Khabiboulline T.\* , Rowe R.\* , Cooper C.\* , Ozelis J.\* , Foley M.\* , Mishra S.\*  
Development of 1.3 GHz prototype Niobium single cell superconducting cavity under IIFC collaboration  
*Proceedings of the Particle Accelerator Conference (PAC'II)*, Mar. 28 to Apr. 1, 2011, New York, USA
14. Peterson T.\* , Foley M.\* , Ginsburg C.\* , Grimm C.\* , Kerby J.\* , Orlov Y.\* , Ghosh R., Gilankar S.G., Jain A., Khare P.,  
Kush P.K., Laxminarayanan A.  
650 Mhz cryomodules for project x at Fermilab - requirements and concepts  
*15<sup>th</sup> International Conference on Radio Frequency Superconductivity Conference (SRF-II)*, July 2011, Chicago, USA
15. Purohit N\*, Borage M.B, Tiwari S., Phulambrikar S.P.\*  
Design of AC to DC converter for high power application  
*Proc. AEEE-2011*, Feb. 24-25, 2011, Indore
16. Shrivastava P., Baxy D., Wanmode Y.D., Rajput V., Mohania P., Mahawar A., Acharya M., Mulchandani J.  
Research, design and development activities on high power pulsed RF/ microwave systems and test facilities for particle accelerators  
*IEEE International Vacuum Electronics Conference*, Feb. 21-24, Bangalore
17. Suhane S.K., Sharma N.K., Raghavendra S., Joshi S.C., Das S., Kush P.K., Sahni V.C., Gupta P.D., Sylvester C.\* , Rabehl R.\* , Ozelis J.\* , Ginsburg C.M.\* , Carcagno R.\* , Mishra S.\*  
Engineering design of vertical test stand cryostat  
*Particle Accelerator Conference, PAC-II*, Mar. 28 to Apr. 01, 2011, New York, USA
18. Wanmode Y.D., Mulchandani J., Acharya M., Bhisikar A., Singh H.G., Shrivastava P.  
A high voltage test stand for electron gun qualification for LINACs pulsed high power microwave Sect.  
*IEEE International Vacuum Electronics Conference*, p. 517-518, Feb. 21-24, Bangalore

### C3. Book chapter

Dasgupta R., Gupta P.K.  
Optical tweezers and cytometry, Chapter 13 in *Advanced Optical Flow Cytometry: Methods and Disease Diagnoses*  
Ed. by V.V. Tuchin, Wiley VCH, 2011. pp.363-386.