A. Journal Articles

1. Ahlawat S., Dasgupta R., Verma R.S., Kumar V.N.*, Gupta P.K.
Optical sorting in holographic trap arrays by tuning the inter-trap separation
Journal of Optics 14, 1-12 (2012)

2. Ansari M.S., Ravindranath S.V.G.*, Bhatia M.S.*, Patidar R.K., Navathe C.P.
Application of wavelet transform for analysis of radiated electromagnetic interference in a high power terawatt laser setup
Indian Journal of Science and Technology 5, 3647-3650 (2012)

3. Arora P., Chattopadhyay M. K., Sharath Chandra L.S., Sharma V. K., Roy S.B.
Multiple magnetic transitions in Ag-substituted $DyPt_2$
Journal of Applied Physics 112, 033906 (2012)

4. Banik S., Bendounan A.*, Thamizhavel A.*, Arya A.*, Risterucci P.*, Sirotti F.*, Sinha A.K., Dhar S.K.*, Deb S.K.
Electronic structure of $EuCu_2Ge_2$ studied by resonant photoemission and x-ray absorption spectroscopy
Physical Review B - Condensed Matter and Materials Physics 86, 085134-8 (2012)

5. Banik S., Barman S.*, Rai S.K., Phase D.M.*, Srivastava A.K., Das G.P.*, Deb S.K.
Electronic structure of buried Co-Cu interface studied with photoemission spectroscopy
Journal of Applied Physics 112, 103702 (2012)

6. Bhalerao G.M.*, Singh M.K., Sinha A.K., Ghosh H.
Optical redshift in the Raman scattering spectra of Fe-doped multiwalled carbon nanotubes: experiment and theory
Physical Review B 86, 1-6 (2012)

7. Biswal R., Agrawal P.K., Mishra G.K., Dixit S.K., Nakhe S.V.
Analysis of pulsed discharge characteristics of solid-state switch (Igbt) based 16 Khz repetition rate, 100w average power copper Hbr lasers
Journal of Russian Laser Research 33, 319-335 (2012)

8. Biswal R., Agrawal P.K., Dixit S.K., Nakhe S.V.
Study on the purification of hydrogen bromide gas by fractional distillation technique and its effect on improvement of copper hydrogen bromide laser performance
Optical Engineering 51, 114203-8 (2012)

9. Bommali R. K.*, Singh S.P.*, Rai S.K., Mishra P., Sekhar B.R.*, Prakash G. V.*, Srivastava P.
Excitation dependent photoluminescence study of Si-rich a SiN_x:H thin films
Journal of Applied Physics 112, 123518 (2012)

10. Chakravarty U., Naik P.A., Gupta P.D.
Electric field enhancement at multiple densities in laser irradiated nanotube plásma.
Pramana - Journal of Physics 79, 443-456 (2012)

11. Chakravarty U. , Arora V., Naik P.A., Chakera J.A., Srivastava H., Srivastava A., Varma G.D.*, Kumbhare S.R., Gupta P.D.
Enhancement of Kα emission through efficient hot electron generation in carbon nanotubes on intense laser pulse irradiation
Journal of Applied Physics 112, 1-6 (2012)

12. Chatterjee S., Kumar Y. Pavan
Self-referenced technique for the determination of meridional figure errors of a toroidal mirror with a sagnac interferometer
Applied Optics 51, 7308-7313 (2012)

13. Chatterjee S., Kumar Y. Pavan, Singh Rishipal
Simple technique for fabrication of Nd-phosphate laser glass rods for high power lasers
Journal of Optics 41, 187-197 (2012)

14. Chatterjee S., Kumar Y. Pavan
Simple technique for the accurate internal measurement of a right angle with a polarization phase-shifting, lateral shearing, cyclic path optical configuration
Optical Engineering 51, 073601-6 (2012)

15. Chouksey S.
Development of beamline radiation shielding hutch for Indus-2 synchrotron radiation source
Indian Journal of Pure & Applied Physics 50, 782-784 (2012)

16. Chowdhury P.*, Kulkarni P.D.*, Krishnan M.*, Barshilia H.C.*, Sagdeo A., Rai S.K., Lodha G.S., Sridhara Rao D.V.*
Effect of coherent to incoherent structural transition on

magnetic anisotropy in Co/Pt multilayers
Journal of Applied Physics 112, 1-8 (2012)

17. Das A., Gupta R.K., Modi M.H., Mukherjee C., Rai S.K., Bose A., Ganguli T., Joshi S.C., Lodha G.S., Deb S.K.
Fine structures in refractive index of sapphire at the $L_{11,111}$ absorption edge of aluminum determined by soft X-ray resonant reflectivity.
Applied Optics 51, 7402-7410 (2012)

18. Das A.K., Misra P., Ajimsha R.S., Bose A., Joshi S.C., Phase D.M.*, Kukreja L.M.
Studies on temperature dependent semiconductor to metal transitions in ZnO thin films sparsely doped with Al.
Journal of Applied Physics 112, 103706 (2012)

19. Dasgupta R., Ahlawat S., Gupta P.K.
Microfluidic sorting with a moving array of optical traps
Applied Optics 51, 4377-4387 (2012)

20. Detty A.P.*, Kukreja L.M., Singh B.N., Sathe V.G.*, Shripathi T.*, Pillai V.P.M.*
Correlation of Raman and photoluminescence spectra of Al $_2O_3$ capped silicon nanoparticles grown by reactive pulsed laser deposition.
Journal of Nano- and Electronic Physics 3, 323-329 (2012)

21. Dixit V.K., Kumar S., Singh S.D., Porwal S., Sharma T.K., Oak S.M.
Band alignment and quantum states of $InAs_xP_{1-x}$/InP surface quantum wells investigated from ultraviolet photoelectron spectroscopy and photoluminescence
Materials Letters 87, 69-72 (2012)

22. Dixit V.K., Khamari S.K., Tyagi T., Singh S.D., Porwal S., Kumar R., Mukherjee C., Mondal P, Srivastava A.K., Sharma T.K., Oak S.M.
Evaluation of electronic transport properties and conduction band offsets of InAs/$In_xGa_{1-x}As$/GaAs dot-in-well structures
Journal of Physics D: Applied Physics 45, 365104 (2012)

23. Dwivedi R.*, Verma A.*, Prasad R.*, Bartwal K.S.
Effect of microwave on distribution of Zr^{4+} and Ti^{4+} during sol~gel synthesis of $ZrTiO_4$ nanoparticles
Optical Materials 35, 33-37 (2012)

24. Garg A.*, Nathwani R.K., Holikatti A.C., Karnewar A.K., Tyagi Y., Yadav S., Puntambekar T.A., Navathe C.P.
Measurement of bunch length in Indus-1 storage ring using fast photodiode
Review of Scientific Instruments 83, 113304 (2012)

25. Gaur A.*, Gaur P.*, Sharma D.*, Sharma D.K.*, Singh N., Malik B.P.*
Study of transmittance dependence closed-aperture Z-scan curves in the materials with nonlinear refraction and strong absorption
Optik 123, 1583-1587 (2012)

26. Ghodke A.D., Husain R., Kumar P., Yadav S., Puntambekar T.A.
Measurement of parameters in Indus-2 synchrotron radiation source
Review of Scientific Instruments 83, 103303 (2012)

27. Gupta P., Ganguli T., Gupta A.*, Sinha A.K., Deb S.K., Svec Jr. P.*, Franco, V.*
Influence of isochronal annealing on the microstructure and magnetic properties of Cu-free HITPERM $Fe_{40.5}Co_{40.5}Nb7B_{12}$ alloy
Journal of Applied Physics 111, 113518 (2012)

28. Jain Akhilesh, Hannurkar P.R., Sharma D.K., Gupta A.K., Tiwari A.K., Lad M., Kumar R., Gupta P.D., Pathak S.K.
Design and characterization of 50 kW solid-state RF amplifier
International Journal of Microwave and Wireless Technologies 4, 595-603 (2012)

29. Jangir R., Porwal S., Tiwari P., Mondal P., Rai S.K., Ganguli T., Oak S.M., Deb S.K.
Photoluminescence study of b-Ga_2O_3 nanostructures annealed in different environments
Journal of Applied Physics 112, 034307 (2012)

30. Jayabalan J., Singh Asha, Khan S., Chari R.
Third-order nonlinearity of metal nanoparticles: isolation of instantaneous and delayed contributions
Journal of Applied Physics 112, 1035241-7 (2012)

31. Kar S., Bairagi S.*, Debnath C., Verma S., Bartwal K.S.
Thermoluminescence studies on c-irradiated Mn:$Li_2B_4O_7$ single crystals
Applied Physics Letters 101, 1-4 (2012)

32. Kaur K.*, Deep K.*, Bansal M.*, Tiwari M.K., Mittal R.*
Peak energy shift with fertilization in mint plants: EDXRF measurements with synchrotron photon source
Archives of Applied Science Research 4, 2152-2160 (2012)

33. Khan S., Nayak M.K., Haridas G., Sarkar P.K.*
Evaluation of ozone concentration for a white beam line hutch at Indus-2 synchrotron radiation source
Indian Journal of Pure & Applied Physics 50, 840-842 (2012)

34. Khandelwal A., Sharma V.K., Sharath Chandra L.S., Arora P., Chattopadhyay M.K., Roy S.B.
The magnetic properties across the martensitic transition in the $Co_{38}Ni_{34}Al_{28}$ alloy
Journal of Magnetism and Magnetic Materials 324, 729-734 (2012)

35. Kohli D.K., Singh Rashmi, Singh M.K., Singh Ashish, Khardekar R.K.,Ramsankar P., Tiwari P., Gupta P.K.
Study of carbon aerogel-activated carbon composite electrodes for capacitive deionization application
Desalination and Water Treatment 49, 130-135 (2012)

36. Kolli B.*, Mishra S.P.*, Joshi M.P., Raj Mohan S., Dhami T.S., Samui A.B.*
Synthesis and characterization of linear polymers for non linear optics through click chemistry route
Advanced Materials Research 584, 8-12 (2012)

37. Krishna H, Majumder S.K., Gupta P.K.
Range-independent background subtraction algorithm for recovery of Raman spectra of biological tissue
Journal of Raman Spectroscopy 43, 1884-1894 (2012)

38. Krishnan S., Shuklal V, Bindra K.S., Bhanage V.P., Oak S.M.
Development of a stepper motor driven laser ablation system
Journal of the Instrument Society of India 42, 1-3 (2012)

39. Kulkarni N.S
Design of a 10 MeV, 352.2 MHz drift tube linac
Pramana - Journal of Physics 79, 263-274 (2012)

40. Kumar A.S.*, Sundar R., Raman G.S.*, Kumar H.*, Gnanamoorthy R.*, Kaul R., Ranganathan K., Oak S.M., Kukreja L.M.
Fretting wear behavior of laser peened Ti-6Al-4V
Tribology Transactions 55, 615-623 (2012)

41. Lal S., Paul C.P., Prem Sing, C.H., Bhargava P., Mishra S.K., Raghuvanshi V.K., Kukreja L.M., Deb S.K.
Parametric dependence and characterization of laser brazed copper-stainless steel joints
Advanced Materials Research 585, 450-454 (2012)

42. Mahakud R., Prakash O, Kumar J., Nakhe S.V., Dixit S.K.
Analysis on the effect of UV beam intensity profile on the refractive index modulation in phase mask based fiber Bragg grating writing
Optics Communications 285, 5351-5358 (2012)

43. Mane M.L.*, Dhagea V.N.*, Shirsatha S.E.*, Sundar R., Ranganathan K., Oak S.M., Jadhav K.M.*
Nd:YAG laser irradiation effects on the structural and magnetic properties of polycrystalline cobalt ferrite
Journal of Molecular Structure 1035, 27-30 (2012)

44. Manekar M., Sharma V.K., Roy S.B.
Thermo-magnetic history effects in the giant magnetostriction across the first-order transition and minor hysteresis loops modeling in $Fe_{0.955}Ni_{0.045}Rh$ alloy
Journal of Physics: Condensed Matter 24, 216004 (2012)

45. Misra P., Sharma T.K., Porwal S., Kukreja L.M.
Response to Comment on Room temperature photoluminescence from ZnO quantum wells grown on (0001) sapphire using buffer assisted pulsed aser deposition
Applied Physics Letters 101, 256102 (2012)

46. Modi M.H., Rai S.K., Mourad I,*, Schaefers F.*, Lodha G.S.
NbC/Si multilayer mirror for next generation EUV light sources
Optics Express 20, 15114-15120 (2012)

47. Mondal K, Ghanty T.K.*, Banerjee Arup, Chakrabarti A., Kamal C.
Density functional investigation on the structures and properties of Li atom doped Au_{20} cluster
Molecular Physics, 1-120 (2012)

48. Mondal S.*, Singh S.P.*, Hussain K.*, Choubey A., Upadhyay B.N., Datta P.K.*
Efficient depolarization-loss-compensation of solid state lasers using only a Glan-Taylor polarizer
Optics and Laser Technology 45, 154-159 (2012)

49. Nakhe S.V., Raju D.V.S.
Booster circuit enables reliable solenoid operation
EDN Magazine 57, 50-51 (2012)

50. Navathe C.P., Ansari M.S., Nigam S., Sreedhar N., Singh B., Chandra R.
Control system for a bipolar capacitor bank of a high-power Nd:Glass laser chain
IEEE Transactions on Plasma Science 40, 1898 - 1906 (2012)

51. Nayak M.K., Sahani P.K., Khare M., Sahu T.K., Haridas P., Dev V., Dashora S., Dhamgaye V., Haridas G., Sarkar P.K.
Experimental investigation of synchrotron and Bremsstrahlung dose at lithography beam line of Indus-2 SRS
Indian Journal of Pure & Applied Physics 50, 829-831 (2012)

52. Nundy U.* Kumar Manoj
Generation of tunable 16 ~m radiation from CO_2 by cascade lasing
Pramana: Journal of Physics 79, 1425-1441 (2012)

53. Naidu R.V.M.*, Subrahmanyam A.*, Verger A.*, Jain M.K.*, Rao Bhaskara S.V.N., Jha S.N., Phase D.M.*.
Grain boundary carrier scattering in ZnO thin films: a study by temperature-dependent charge carrier transport measurements
Journal of Electronic Materials 41, 660-664 (2012)

54. Rai V.N.
Theoretical aspect of enhancement and saturation in emission from laser produced plasma
Laser and Particle Beams 30, 621-631 (2012)

55. Rajendiran P., Parihar Y.S., Pattnaik J.K.
Information use pattern of laser science and technology researchers: a cited references study
IASLIC Bulletin 57, 82-88 (2012)

56. Ramesh T.*, Shinde R.S., Murthy S.R.*
Nanocrystalline gadolinium iron garnet for circulator applications
Journal of Magnetism and Magnetic Materials 324, 3668-3673 (2012)

57. Rao B.S., Arora V., Naik P.A., Gupta P.D.
Study of fast electron jet produced from interaction of intense laser beam with solid target at oblique incidence
Physics of Plasmas 19, 113118 (2012)

58. Rao K.D.*, Upadhyaya P.*, Sharma M., Gupta P.K.
Noninvasive imaging of ethanol-induced developmental defects in zebrafish embryos using optical coherence tomography
Birth Defects Research Part B: Developmental and Reproductive Toxicology 95, 1-7 (2012)

59. Rao P.N., Nayak M., Lodha G.S., Rai S.K., Srivastava A.K., Modi M.H., Sagdeo A.
Fabrication and evaluation of large area Mo/Si Soft x-ray multilayer mirrors at Indus SR facilities
Advances in Optical Technologies, 1-8 (2012)

60. Reddy T.S., Borage M.B., Wanmode Y.D., Shrivastava P.
Improved expression for estimation of leakage inductance in E core transformer using energy method
Advances in Power Electronics, 635715 (2012)

61. Reghu T., Kumar Manoj, Verma A. , Mandloi V., Kukreja L.M.
A double output pulsed high current thyratron driver
Review of Scientific Instruments 83, 115108 (2012)

62. Roy S.B., Sharath Chandra L.S., Chattopadhyay M.K., Tiwari M.K., Lodha G.S., Myneni G.R.*
A study on the effect of tantalum-impurity content on the superconducting properties of niobium materials used for making superconducting radio frequency cavities
Superconductor Science and Technology 25, 115020 (2012)

63. Sahani P.K., Haridas G., Sarkar P.K.
Simulation of absorbed dose rate due to synchrotron radiation and shielding thickness for radiation safety at INDUS-2 using FLUKA
Indian Journal of Pure & Applied Physics 50, 818-820 (2012)

64. Sahani P.K., Haridas G., Sarkar P.K.
Simulations of photoneutron spectra due to incident high energy electrons on tungsten target using FLUKA.

Indian Journal of Pure & Applied Physics 50, 863-866 (2012)

65. Saini R.K.*, Das K.
Picosecond spectral relaxation of curcumin excited state in a binary solvent mixture of toluene and methanol
The Journal of Physical Chemistry B 554, 57-59 (2012)

66. Samanta K.*, Arora A.K.*, Ravindran T.R.*, Ganesamoorthy S., Kitamura K.*, Takekawa S.*
Raman spectroscopic study of structural transition in $Sr_xBa_{1-x}Nb_2O_6$ single crystals
Vibrational Spectroscopy 62, 273-278 (2012)

67. Sharath Chandra L.S., Chattopadhyay M.K., Roy S.B.
Evidence for two superconducting gaps in the unconventional superconductor $PrPt_4Ge_{12}$
Philosophical Magazine 92, 3866 (2012)

68. Sharath Chandra L.S., Chattopadhyay M.K., Roy S.B.
Critical current density and vortex pinning in the two gap superconductor $PrPt_4Ge_{12}$
Superconductor Science and Technology 25, 105009 (2012)

69. Satapathy S., Mukherjee C., Shaktawat T.*, Gupta P.K., Sathe V.G.*
Blue shift of optical band-gap in $LiNbO_3$ thin films deposited by sol~gel technique
Thin Solid Films 520, 6510-6514 (2012)

70. Selvamani R., Singh G., Tiwari V.S., Gupta P.K.
Oxygen vacancy related relaxation and conduction behavior in (1- x) NBT-x$BiCrO_3$ solid solution
Physica Status Solidi A 209, 118-125 (2012)

71. Selvamani R., Singh Gurvinderjit, Sinha A.K., Tiwari A.K.
Oxidation state of chromium in $(Na_{0.5}Bi_{0.5}TiO_3)_{(1-x)}(BiCrO_3)_x$ solid solution: investigated by XAS and impedance spectroscopy
Journal of Materials Science 47, 2011-2015 (2012)

72. Sharma D.*, Gaur P., Malik B.P.*, Singh Nageshwar, Gaur A.*
Intensity dependent nonlinear absorption in direct and indirect band gap crystals under nano and picosecond Z-scan
Optics and Photonics Journal 2, 98-104 (2012)

73. Sharma V.K., Najim M.*, Srivastava A.K., Varma G.D.*
Structural and magnetic studies on transition metal (Mn,Co) doped ZnO nanoparticles
Journal of Magnetism and Magnetic Materials 324, 683-689 (2012)

74. Shukla R., Lim L-C*, Gandhi P.*
X-pod: a small footprint multi-legged piezoelectric single-crystal unimorph-based actuator concept
Smart Materials and Structures 21, 065015 (2012)

75. Shukla V., Singh C.P., Srivastava A.K., Bindra K.S.
Studies on optical limiting characteristics of silicon nanoparticles synthesized by laser ablation
Journal of Nanoscience and Nanotechnology 12, 644-649 (2012)

76. Siewert M.*, Gruner M.E.*, Hucht A.*, Herper H.C.*, Dannenberg A.*, Chakrabarti A., Singh N.*, Arroyave R.*, Entel P.*
A first-principles investigation of the compositional dependent properties of magnetic shape memory heusler alloys
Advanced Engineering Materials 14, 530-546 (2012)

77. Singh Alok , Borage M.B., Tiwari S.R., Thakurta A.C.
On the development of high power DC-DC step-down converter with energy recovery snubber
Advances in Power Electronics 2012, 806738-10 (2012)

78. Singh Bijendra
Efficient copper vapor laser using metal (Cu, Ag) chlorides in thermal insulation and performance with new prism resonator configurations
Review of Scientific Instruments 83, 123101 (2012)

79. Singh N., Patel H.K., Dixit S.K., Vora H.S.
Design, modeling, and performance evaluation of a novel dye cell for a high repetition rate dye laser
Review of Scientific Instruments 83, 1-8 (2012)

80. Singh S.D., Ajimsha R.S., Sahu V., Kumar R., Misra P., Phase D.M.*, Oak S.M., Kukreja L.M., Ganguli T., Deb S.K.
Band alignment and interfacial structure of ZnO/Ge heterojunction investigated by photoelectron spectroscopy
Applied Physics Letters 101, 212109 (2012)

81. Singh S.D., Kumar R., Mukherjee C., Mondal P., Srivastava A.K., Ganguli T., Sharma T.K., Oak S.M.
Elastic-relaxation-induced barrier layer thickness undulations in InP/GaAs type-II quantum well superlattice structures
Semiconductor Science and Technology 27, 1-9 (2012)

82. Singh S.D., Porwal S., Sharma T.K., Oak S.M.
Signature of optical absorption in highly strained and partially relaxed InP/GaAs type-II quantum well superlattice structures.
Journal of Applied Physics 112, 093505 (2012)

83. Singh S. *, Rawat S.*, Muthu E.S., D'Souza S.W.*, Suard E.*, Senyshyn A.*, Banik S., Rajput P.*,Bhardwaj S.*, Awasthi A.M.*, Ranjan R.*, Arumugam S.*, Schlagel D.L.*, Lograsso T.A, Chakrabarti A., Barman S.R.*
Spin-valve-like magnetoresistance in Mn_2NiGa at room temperature
Physical Review Letters 109, 246601 (2012)

84. Sinha A.K., Gupta R.K., Deb S.K.
A correlation between structural and optical properties of cobalt oxide nanoparticles for various annealing conditions
Applied Physics A: Materials Science and Processing 108, 607-613 (2012)

85. Sivaraman B.*, Raja Sekhar B.N., Jones N.C*, Hoffmann S.V.*, Mason N.J.*
VUV spectroscopy of formamide ices
Chemical Physics Letters 554, 57-59 (2012)

86. Sundar R., Kumar H., Kaul R., Ranganathan K., Tiwari P., Kukreja L.M., Oak S.M.
Studies on laser peening using different sacrificial coatings
Surface Engineering 28, 564-568 (2012)

87. Sure J.*, Shankar A.R.*, Upadhyay B.N., Mudali U.K.*
Microstructural characterization of plasma sprayed Al_2O_3-40 wt.% TiO_2 coatings on high density graphite with different post-treatments
Surface and Coatings Technology 206, 4741-4749 (2012)

88. Tripathy S.P.*, Verma D., Sunil C., Haridas G., Sarkar P.K.
Measurement of high energy neutrons (E > 50 MeV) at electron accelerators of Indus accelerator complex using bismuth fission
Indian Journal of Pure & Applied Physics 50, 843-846 (2012)

89. Verma D., Nayak M.K., Sahani P.K., Kumar V., Dev, V., Khan S., Sahu T.K., Dashora S., Khare M., Mahapatra D S, Haridas G., Sarkar P.K.
Residual radioactivity measurements at Indus accelerator complex
Indian Journal of Pure & Applied Physics 50, 825-828 (2012)

90. Vijayan N.*, Bhagavannarayana G.*, Halder S.K.*, Verma S., Philip, J.*, Philip R.*, Rathi B.*
X-ray topography, photopyroelectric and two-photon absorption studies on solution grown benzimidazole single crystal
Applied Physics A: Materials Science & Processing, 1-4 (2012)

91. Xavier J.*, Dasgupta R., Ahlawat S., Joseph J.*, Gupta P.K.
Controlled formation and manipulation of colloidal lattices by dynamically reconfigurable three dimensional interferometric optical traps
Applied Physics Letters 101, 201101 (2012)

92. Yadav R.P., Varde P.V.*, Nataraj P.S.V.*, Fatnani P., Navathe C.P.
Model-based tracking for agent-based control systems in the case of sensor failures
International Journal of Automation and Computing 9, 561-569 (2012)

B. Invited Talk

1. Banerjee A.
Properties of doped gold clusters
DAE-BRNS Symosium on Atomic, Molecular, and Optical Physics, Kolkata, Dec. 14-17, 2012

2. Fatnani P.
Indus-2 control system: a closer perspective
9th International Workshop on Personal Computers and Particle Accelerator Controls (PCaPAC-2012), Kolkata, Dec. 4-7, 2012

3. Ghosh Haranath
Iron based superconductors: an overview

National Conference on Advances in Materials Science and Technologies, Warangal, Nov. 19-21, 2012

4. Gupta P.K.
Laser applications current trends
Laser World of Photonics India, Mumbai, Sept. 14, 2012

5. Gupta P.K.
Photonics in medicine and biology
National Workshop on Photonics in Medicine and Biology, Manipal, Aug. 20-22, 2012

6. Kamal C.
DFT softwares and limitations
School on Density Functional Theory as a part of 27th National Symposium on Plasma Science & Technology (Plasma-2012), Puducherry, Dec. 10-13, 2012

7. Kukreja L.M.
Pulsed laser deposition: a perspective
4th SERC School on Laser Produced Plasmas: Physics and Technology, Indore, Jul. 10, 2012

8. Kukreja L.M.
Semiconductor - metal transition in ZnO thin films sparsely doped with Al
Walther – Meissner Seminar of Bavarian Academy of Sciences, Garching, Germany, Jul. 27, 2012

9. Kukreja L.M.
Laser rapid manufacturing and peening: recent developments
HiLASE Project Seminar of Czech Academy of Sciences, Prague, Czech Republic, Aug. 1, 2012

10. Kukreja L.M.
Applications of lasers in science and for society
Laser Physics Seminar at Devi Ahilya University, **Indore,** Sept. 22, 2012

11. Kukreja L.M.
Further insight into size dependent band-gap of ZnO quantum dots
4th International Conference on Advanced Nanomaterials (ANM - 2012), Madras, Oct. 17-19, 2012

12. Kukreja L.M.
Atomic layer deposition of thin films and nanostructures
5th SERC School on New Developments in Microfabrication with Focus on Synchrotron Radiation based Deep X-ray Lithography at RRCAT, Indore, Oct. 29-Nov. 03, 2012

13. Kukreja L.M.
Surface modification and thin film deposition using pulsed lasers: recent experiments at RRCAT, Indore
Theme Meeting on Structure & Thermodynamics of Emerging Materials (STEM-2012): Challenges and Issues in Surface Modification, Thin-films and Coatings, Kalpakkam, Nov. 5-6, 2012

14. Kukreja L.M.
Semiconductor to metal transitions in aluminum doped ZnO films
Japan Society for Promotion of Science (JSPS) Seminar, Nagasaki, Japan, Nov. 15, 2012

15. Kukreja L.M.
Recent developments in laser materials processing
Seminar of the Laser Society of Japan, Fukuoka, Japan, Nov. 16, 2012

16. Kukreja L.M.
Lasers in materials science: recent experiments at RRCAT
Japan Society for Promotion of Science (JSPS) Lecture at Institute of Laser Engineering, *Osaka, Japan*, Nov. 22, 2012

17. Kukreja L.M.
Luminescent silicon nano-particles grown by pulsed laser deposition: an overview
Winter Workshop on Engineering at Nano-scale, *Indore,* December 10-12, 2012

18. Kukreja L.M.
Basic photoluminescence processes in Rh6G dye molecules interacting with gold nanoparticles grown by liquid phase pulsed laser ablation
Interdisciplinary Symposium on Materials Chemistry, **Mumbai,** Dec. 11-15, 2012

19. Shukla R.
Design and development of microtransducers
5th SERC School on New Developments in Microfabrication with Focus on Synchrotron

Radiation based Deep X-ray Lithography at RRCAT, Indore, Oct. 29-Nov. 03, 2012

C. Seminar/Conference Presentation

C1. Journal of Physics: Conference Series, 390: International Symposium on Vacuum Science & Technology, & its Applications (IVS 2012) Kolkata, Feb. 15-17, 2012

1. Bansod T., Sindal B.K., Kumar K.V.A.N.P.S., Shukla S.K.
   Evaluation of Ti-Zr-V (NEG) thin films for their pumping speed and pumping capacity

2. Gupta S.K., Chouksey S.
   Vacuum system design for twenty-cell PWT Linac structure

3. Kak A., Kher A., Vishwakarma S.C., Kumar Abhay, Gandhi M., Radheshyam P., Kumar Ajay, Abhinandan L.
   Fabrication of an ultra high vacuum compatible Faraday cup for qualification of electron gun for 10 kW industrial LINAC

4. Kumar K.V.A.N.P.S., Bansod T., Mukherjee C., Singh G., Tiwari P., Sindal B.K., Shukla S.K.
   Characterization of titanium-zirconium-vanadium non evaporable getter coated vacuum chambers

5. Sindal B.K., Kumar K.V.A.N.P.S., Bansod T., Shukla S.K.
   Development and UHV testing of LN_2 cooled titanium sublimation pump

6. Singh Rajvir, Pant K.K., Lal Shankar, Yadav D.P., Garg S.R., Raghuvanshi V.K., Mundra G.
   Vacuum brazing of accelerator components

7. Tripathi P.K., Singh Rajvir , Bhatnagar V.K., Sharma S.D., Sharma Sanjay, Sisodia B., Yedle K., Kushwaha R.P., Sebastin S., Mundra G.
   Design, fabrication, and performance testing of a vacuum chamber for pulse compressor of a 150 TW Ti:sapphire laser

8. Yadav D.P., Kaul R., Sankar P. Ram, Kak A., Ganesh P., Shiroman R., Singh R., Singh A.P., Tiwari P., Abhinandan L., Kukreja L.M., Shukla S.K.
   A study on brazing of Glidcop® to OFE Cu for application in photon absorbers of Indus-2

C2. National Symposium on Instrumentation (NSI-37), Chandigarh, Oct. 30 - Nov. 1, 2012

1. Agrawal S.K., Mishra R.K., Nakhe S.V.
   Automatic precise synchronization control for laser chain

2. Bhawsar V., Khanwalkar J., Arya R., Oak S.M.
   Control and user interface for solid state temperature controller for electro-optic devices

3. Dubey V.K., Saxena P., Singh Inderjeet, Vora H.S., Navathe C.P.
   Fiber optics based RF signal transmission for FEL

4. Jain R., Vora H.S., Navathe C.P.
   Integrated energy scan and data acquisition system for micro probe experiments at Indus-2

5. Khanwalkar J., Shryner P., Arya R., Oak S.M.
   Performance analysis of TEC-based water chiller unit

6. Mokhariwale A., Agrawal S.K., Saini V.K., Nakhe S.V.
   Wavelength scanner for precision tuning of pulsed dye laser

7. Ramteke S., Saxena P., Singh Inderjeet, Khandare V., Shrivastava U.K., Singh Rajvir, Mundra G.
   A job temperature profile monitor system for vacuum brazing furnace at RRCAT

8. Singh Inderjeet, Saxena P., Vora H.S., Navathe C.P.
   A low cost flood monitoring system for Indus beam lines

9. Tiwari S., Valecha A., Ansari M.S., Bhanage V., Dhawan R., Rai S., Lodha G.S., Navathe C.P.
   Automation of ion beam sputtering (IBS) system for depositing thin films and multilayers

10. Upadhyay J., Singh B., Sreedhar N., Sharma M.L., Navathe C.P.
    Development of a gated grid optical streak camera

11. Tyagi Y., Garg A., Puntambekar T.A., Ghodke A.D., Kant P.
    Measurement and analysis of electron transverse beam profile using Synchrotron light at Indus-1

C3. 9th International Workshop on Personal Computers and Particle Accelerator Controls (PCaPAC-2012), Kolkata, Dec. 4-7, 2012

1. Jain L., Bhanage V.P., Ansari M.A., Navathe C.P.
   Control scheme for remote operation of magnet power supplies

2. Merh B., Agrawal R.K., Barpande K.G., Fatnani P., Navathe C.P.
   API manager implementation and its use for Indus accelerator control

3. Mishra R., Agrawal R.K., Fatnani P., Merh B., Navathe C.P.
   Data logging system upgrade for Indus accelerator

4. Saifee K., Chauhan A., Fatnani P., Gothwal P., Navathe C.P.
   Fast data acquisition system for booster supplies readback

5. Srivastava B.S.K., Agrawal R.K., Barpande K.G., Fatnani P., Navathe C.P.
   FLogbook: from concept to realization

6. Tomar S.S., Chaudhari S., Maurya V.K., Chouhan H.S., Rawat A.
   Design development and analysis of a comprehensive open source system for proactive management of security aspects of a control network

7. Vora H.S., Saxena P., Dubey V.K., Singh Inderjeet Singh, Navathe C.P., Sinha A.K., Upadhyay A., Singh M.N., Ganguli T., Narayana C., Deb S.K.
   Master slave topology based, remotely operated, precision X-ray beam profiler and placement system for high pressure physics experiment at Indus 2 beam line

C4. 27th National Symposium on Plasma Science & Technology, Puducherry (Plasma-2012), Dec. 10-13, 2012

1. Barnwal S., Prasad Y.B.S.R., Nigam S., Aneesh K., Naik P.A., Chakera J.A., Sharma M.L., Navathe C.P., Gupta P.D.
   Measurement of the coherence of a soft X-ray laser by interferometry

2. Chakravarty U., Naik P.A., Chakera J.A., Gupta P.D.
   A novel technique to obtain surface plasma electron density and temperature of semiconductor surfaces excited by ultrashort laser pulses

3. Kumar M., Singhal H., Chakera J.A., Naik P.A., Sendhil Raja S., Gupta P.D.
   Effect of laser intensity on the spatial coherence of high order harmonic radiation generated from plasma plume

4. Kumar M., Yadav P., Chakera J.A., Rai S.K., Naik P.A., Lodha G.S., Gupta P.D.
   Low pressure RF discharge plasma for cleaning of carbon contamination on optics

5. Rao B.S., Moorti A., Chakera J.A., Naik P.A., Gupta P.D.
   Laser Wake-field acceleration in laser produced plasma plume target

6. Rathore R., Arora V., Chakera J.A., Rai S.K., Vora H.S., Naik P.A., Gupta P.D.
   Polycapillary optics for x-ray diffraction studies with laser produced plasma x-ray source

C5. Others Seminars/Conference Presentation

1 Achary S. N.*, Patwe S.J.*, Tyagi A.K.*, Bose P.P.*, Mittal R.*, Shinde A.B.*, Krishna P.S.R.*, Chaplot S.L.*, Narayana C.*, Pradhan G.K.*, Banik S., Deb S.K.
Pressure and temperature dependent structure of zircon type $ThGeO_4$
Journal of Physics: Conference Series 377: 23rd International Conference on High Pressure Science and Technology (AIRAPT-23), Mumbai, 2012

2. Adhikari B.*, Sinnarkar D., Jain Rajiv
   Volume estimation of potato using simple capacitive sensor method
   National Conference on Intelligent Systems (NCIS - 2012), Indore, Oct., 5, 2012

3. Agrawal P.K., Mishra R.K., Nakhe S.V.
   Studies on conducted emission generated by IGBT and magnetic pulse compressor based high voltage pulse power supply for copper vapor laser
   12th International Conference on Electromagnetic Interference & Compatibility - (INCEMIC-2012), Bangalore, Dec. 6-7, 2012

4. Ahlawat M., Shinde R.S.
Development of wide band complex permeability measurement set-up
AIP Conference Proceeding Volume 1512: Solid State Physics, Proceedings of the 57th DAE Solid State Physics Symposium, Mumbai, Dec. 3-7, 2012

5. Ahlawat S., Uppal A., Dasgupta R., Das K., Gupta P.K.
Optically trappable surface enhanced Raman spectroscopy probes with non-spherical nanoparticles
23rd International Conference on Raman Spectroscopy (ICORS-2012), Bangalore, Aug. 12-17, 2012

6. Astadjov D.*, Prakash O.
Experimental verification of focusability of coherent annular beams
17th International School on Quantum Electronics "Laser physics and applications" Nessebar, Bulgaria, Sept. 24-28, 2012

7. Astadjov D.*, Prakash O.
Spatial coherence of low-cost 532 nm green lasers
17th International School on Quantum Electronics "Laser physics and applications" Nessebar, Bulgaria, Sept. 24-28, 2012

8. Dasgupta R., Xavier J.*, Ahlawat S., Joseph J.*, Gupta P.K.
Optical trapping with low numerical aperture objective lens
Photonics Global Conference 2012, Singapore, Dec. 13-16, 2012

9. Dhami T.S., Joshi M.P., Raj Mohan S., Dubey P.*, Kukreja L.M.
Comparative study on optoelectronic properties of nanocomposites of PbS nanoparticles and MDMO-PPV polymer: Ligand capped vs in-situ generated PbS
DAE-BRNS International Symposium on Materials Chemistry(ISMC 2012), Mumbai, Dec. 11-15, 2012

10. Ganesh P., Kaul R., Kumar H., Sasikala G.*, Gopal V.*, Tiwari P., Prem Singh C.H., Rai S., Prasad R.C., Kukreja L.M.
Studies on toughness and fatigue characterization of laser rapid manufactured structures of AISI 316l stainless steel
Proceedings International Welding Symposium (IWS 2k12), Mumbai, Oct. 30-Nov. 1, 2012

11. Jayabalan J., Singh Asha, Khan Salahudin, Chari R.
Effect of pump depletion on transient absorption signal in metal nanoparticles
11th Photonics Series of Biennial International Conference, Chennai, Dec. 9-12, 2012

12. Joshi S.C., Roy S.B., Hannurkar P.R., Kush P., Puntambekar A., Shrivastava P., Mundra G., Dwivedi J., Khare P., Gupta P.D.
R&D activities on high intensity superconducting proton linac at RRCAT
26th International Linear Accelerator Conference (LINAC12), Tel Aviv, Israel, Sept. 9-14, 2012

13. Khan K.M.*, Krishna H.*, Majumder S.K., Gupta P.K.
Raman spectroscopic detection of urea in turbid media
23rd International Conference on Raman Spectroscopy, Bangalore, Aug. 12-17, 2012

14. Khare J., Satapathy S., Joshi M.P., Kukreja L.M.
Impedance spectroscopy of Yttria stabilized zirconia nanoparticles synthesized using laser vaporization method
DAE-BRNS International Symposium on Materials Chemistry(ISMC 2012), Mumbai, Dec. 11-15, 2012

15. Krishna H.*, Majumder S.K., Sidramesh M.*, Chaturvedi P.*, Gupta P.K.
Variation of in vivo Raman spectra over different anatomical locations of normal oral cavity and its effect on oral tissue classification
23rd International Conference on Raman Spectroscopy, Bangalore, Aug. 12-17, 2012

16. Kumar M., Modi M.H., Singhal H., Chakera J.A., Gupta R.K., Naik P.A., Lodha G.S., Gupta P.D.
Measurement of absolute diffraction efficiency of a variable line spaced grating using reflectivity beamline
AIP Conference Proceedings 1447: Solid State Physics: Proceedings of the 56th DAE Solid State Physics Symposium, Kattankulathur, 2012

17. Kumar Shailendra, Mukherjee C.
Role of plasmons in improved photovoltaic devices : nano clusters of Sn and SnO_x in SnO_2 films
Journal of Physics: Conference Series 365: International Conference on Recent Trends in Physics (ICRTP 2012), Indore, Feb. 2-8, 2012

18. Lal Sohan, Paul C.P., Premsingh C.H., Bhargava P., Mishra S.K., Kukreja L.M., Deb S.K.
Parametric dependence and characterization of laser brazed copper-stainless steel joints
International Conference on Advanced Material Processing - Challenges and Opportunities, Roorkee, Nov. 2-5, 2012

19. Mehar S.K.*, Sinnarkar D., Jain Rajiv
E-Learning - a step towards green computing
National Conference on Intelligent Systems (NCIS - 2012), Indore, Oct., 5, 2012

20. Mondal P., Babu M., Mukherjee C., Kamparath R., Srivastava A.K.
In-situ TEM studies on grain growth and glassy transition in nanoscale MgF2/Cu/Si structure
Solid State Physics, Proceedings of the 57th DAE Solid State Physics Symposium, Mumbai, Dec. 3-7, 2012

21. Moorti A., Rao B.S., Chakera J.A., Naik P.A., Gupta P.D.
Progress on experimental studies on laser-driven plasma based electron acceleration at RRCAT, India
5th International Conference "ICUIL 2012", Mamaia, Romania, Sept.16-21, 2012

22. Mundra S.*, Sinnarkar D., Jain Rajiv
Conceptual design of web portal using open source software for diagnostic centre
National Conference on Intelligent Systems (NCIS - 2012), Indore, Oct., 5, 2012

23. Naik P.A., Arora V., Bagchi S., Prasad Y.B.S.R., Barnwal S., Gupta P.D.
Laser induced shock studies at RRCAT, Indore
Journal of Physics: Conference Series 377: 23rd International Conference on High Pressure Science and Technology (AIRAPT-23), Mumbai, 2012

24. Nayak M., Lodha G.S.
Probing spectroscopic like information using resonant scattering
AIP Conference Proceedings 1451: India Vacuum Society Symposium on Thin Films: Science & Technology, Mumbai, 2012

25. Nayak M., Rao P.N., Lodha G.S.
Magnetron sputtering system for fabrication of X-ray multilayer optics
AIP Conference Proceedings 1451: India Vacuum Society Symposium on Thin Films: Science & Technology, Mumbai, 2012

26. Padiyar A.S., Paul C.P., Kumar Atul, Mundra G., Kukreja L.M.
Numerical simulation of temperature and thermal stress distributions during laser rapid manufacturing of multilayer Ti-SS transition joint
International Conference of Processing and Fabrication of Advanced Materials (PFAM-21), Guwahati, Dec. 10-13, 2012

27. Pradhan G.K.*, Narayana C.*, Deb S.K., Pages O.*, Firszt F.*, Paszkowicz W.*
Pressure induced metallization in $Zn_{1-x}Be_x$ Se ternary mixed crystals
Journal of Physics: Conference Series 377, 1-6 (2012)

28. Paul C.P., Mishra S.K., Premsingh C.H., Bhargava P., Singh Gurvinderjit, Kukreja L.M.
Study on erosion wear behavior of laser rapid manufactured tungsten carbide reinforced nickel matrix on 316L stainless steel
International Conference of Processing and Fabrication of Advanced Materials (PFAM-21), Guwahati, Dec. 10-13, 2012

29. Raj Mohan S., Singh M.P., Joshi M.P., Kukreja L.M.
Monte Carlo simulation of charge transport in disordered organic systems: a modified free edge boundary condition
DAE-BRNS International Symposium on Materials Chemistry(ISMC 2012), Mumbai, Dec. 11-15, 2012

30. Raj Mohan S., Singh M.P., Joshi M.P., Kukreja L.M.
Monte Carlo simulation of charge transport in disordered organic thin films: applicability of Meyer-Neldel rule for extracting energetic disorder
Solid State Physics, Proceedings of the 57th DAE Solid State Physics Symposium, Mumbai, Dec. 3-7, 2012

31. Rajan A., Joshi B.K.*, Rawat A.
Analysis of process distribution in HPC cluster using HPL
2nd IEEE International Conference on Parallel, Distributed and Grid Computing 2012 (PDGC 2012), Solan, Dec., 6-8, 2012

32. Rajan A., Joshi B.K.*, Rawat A.
Critical analysis of HPL performance under different process distribution patterns
CSI 6th International Conference on Software Engineering (CONSEG-2012), Indore, Sep., 5-7, 2012

33. Ramesh T. Bhardwaj S., Shinde R.S., Murthy S.R.
Nanocrystalline Ni-Al ferrites for High frequency Applications
Solid State Physics, Proceedings of the 57th DAE Solid State Physics Symposium, Mumbai, Dec. 3-7, 2012

34. Rao P.N., Nayak M., Lodha G.S., Rai S.K., Srivastava A.K.
Fabrication and evaluation of large area soft X-ray multilayer mirrors
AIP Conference Proceedings 1451: India Vacuum Society Symposium on Thin Films: Science & Technology, Mumbai, 2012

35. Sharma A.K., Daiya D., Patidar R.K., Raghuramaiah M., Joshi A.S., Naik P.A., Gupta P.D.
Development of a tiled pulse compressor for 50 TW hybrid OPCPA based Nd:glass laser system
5th International Conference "ICUIL 2012", Mamaia, Romania, Sept.16-21, 2012

36. Sharma A.K., Patidar R.K., Naik P.A., Gupta P.D.
Simulation of a highly stable broadband optical parametric amplifier under pump depletion
5th International Conference "ICUIL 2012", Mamaia, Romania Sept.16-21, 2012

37. Singh Rashmi, Singh Ashish, Singh M.K., Kohli D.K., Gupta P.K.
Pt loaded carbon aerogel catalyst for catalytic exchange between water and hydrogen gas
National Conference on Carbon Materials 2012 (CCM 12), Mumbai, Nov. 1-3, 2012

38. Sinnarkar D., Thander P.K., Rajan A., Rawat A.
Optimizing the utilization of commercial scientific application software packages
National Conference on Intelligent Systems (NCIS - 2012), Indore, Oct., 5, 2012

39. Vachhani D.M., Pant K.K., Arya R., Oak S.M.
A 600J/s, 1225V, constant current capacitor charging power supply for flash lamp pumped Pulsed Nd:YAG Laser using High - Frequency LCL-T Resonant Converter
Proc. NLS-20, National Laser Symposium, Chennai, 2012

40. Xavier J.*, Dasgupta R., Ahlawat S., Joseph J.*, Gupta P.K.
Dynamically reconfigurable interferometric optical tweezers: tailoring 3D colloidal lattices and tunable micromachines
Photonics 2012, Chennai, , Dec. 9-12, 2012

41. Yadav P.K., Nayak M., Lodha G.S., Rai S.
Growth study of ion assisted evaporated molybdenum thin films
AIP Conference Proceedings 1451: India Vacuum Society Symposium on Thin Films: Science & Technology, Mumbai, 2012

42. Yadav S., Holikatti A.C., Ojha A., Tyagi Y., Puntambekar T.A., Navathe C.P.
Development of the system for longitudinal coupled bunch modes measurement at Indus-2
International Beam Instrumentation Conference (IBIC2012), **Tsukuba, Japan,** Oct. 1-4, 2012

C6. Conference (Poster)

1. Mondal K., Kamal C., Chakrabarti A., Banerjee A., Ghanty T.K.
Tuning the properties of tetrahedral Au20 cluster by Li doping
Interdisciplinary Symposium on Materials Chemistry (ISMC2012), Mumbai, Dec. 11-15, 2012

2. Shukla R., Jain V., Dhamgaye V.P., Lodha G.S.
Developing high aspect ratio comb-drive using synchrotron radiation at Indus-2
DAE-SSPS Symposium 2012, Mumbai, Dec. 3-7, 2012