A. Journal Articles


Upper limits on gravitational waves from Scorpius X-1 from a model-based cross-correlation search in advanced LIGO data  

Colossal thermopower spin states and delocalization effects in single layered La_{1-x}Sr_xCoO,  

17. Ahlawat A., Sathe V.G.*  
Probing spin phonon coupling in magnetoelectric CaCu_Ti_O_NiFe_O  

Search for high-energy neutrinos from gravitational wave event GW151226 and candidate LVT151012 with ANTARES and IceCube  
Physical Review D 96, 22005 (2017)

19. Banerjee C., Singh M.P.  
Effect of polarization on the structure of electromagnetic field and spatiotemporal distribution of e^- e^+ pairs generated by colliding laser pulses spatiotemporal distribution  
Journal of Experimental and Theoretical Physics 125, 44531 (2017)

20. Bansal H.*, Tiwari M.K., Mittal R.*  
L sub-shell fluorescence cross-section measurements for elements Z = 62-67, at tuned photon energies  

Nanoscale self-recovery of resistive switching in Ar+ irradiated TiO_{2-x} films  

Impact of discharge current profile on the lasing efficiency of 46.9nm capillary discharge soft x-ray laser  
Laser Physics 27, 055003(1-5) (2017)

Effect of processing parameters on microstructural properties of lead magnesium niobates  
Acta Crystallographica Section B73, 1095-1104 (2017)

Surface plasmon band tailoring of plasmonic nanostructure under the effect of water radiolysis by synchrotron radiation  
Journal of Synchrotron Radiation 24, 43344 (2017)

Elemental investigation of the leaf and seed of coriander plant by synchrotron radiation x-ray fluorescence spectroscopy  

Role of initial heat treatment of the ferrite component on magnetic properties in the composite of ferrimagnetic Co_{x},Fe_{1-x}O ferrite and non-magnetic BaTiO_{3} oxide  

27. Chakravarty Uday, Chakravarty Usha  
Shape and collision frequency effect on heating of femtosecond laser pulse irradiated nanostructures
Vortex matter in highly strained Nb$_2$Zr$_{25}$: analogy with viscous flow of disordered solids

29. Chowdhury A., Dasgupta R., Majumder S.K. 
Changes in hemoglobin-oxygen affinity with shape variations of red blood cells

Improved generation of periodic optical trap arrays using noniterative algorithm

31. Das A.K., Misra P., Ajimsha R.S., Sahu V.K., Singh B. 
Electron interference effects and strong localization in Cu doped ZnO thin films materials science in semiconductor

Depth-resolved chemical speciation of a W-B,C multilayer structure

33. Das G., Khooha A., Singh A.K., Tiwari M.K. 
Probing nanostructured materials using X-ray fluorescence analysis

34. Das S., Sreeramulu K., Kumar A., Srinivasan B., Shinde R.S. 
Fast corrector magnets for fast orbit feedback system of Indus-2 synchrotron

Effect of Er and Dy on IR-visible up-conversion luminescence properties of (Er$_{13}$Dy$_{62}$La$_{28}$Zr$_{32}$Y$_{59}$)$_2$O$_{17}$ transparent ceramic

36. Dewangan S.*, Reghu T., Mandloi V., Shrivastava P. 
Review of pulsed modulator

37. Dewangan S.*, Reghu T., Mandloi V., Shrivastava P. 
Study of solid state long pulse converter modulator for klystron

Effect of Mg doping in SrSiO$_2$:Eu$^{2+}$ nanophosphors for blue and white emission at near-UV excitation

Influence of exposure to multiple brazing cycles on the integrity of OFE copper brazed joints

40. Gaur A.*, Kumar C.*, Shukla R., Maiti P.* 
Induced piezoelectricity in poly (vinylidene fluoride) hybrid as efficient energy harvester

Determination of impurities in graphite using synchrotron radiation based X-ray fluorescence spectrometry
Study of high temperature phase stability and phase transformation kinetics of sigma and parent alpha phase in Fe$_n$Cr$_m$(wt. %) alloy.

43. Haldar S., Dixit V.K., Vashisht G., Khamari S.K., Porwal S., Sharma T.K., Oak S.M.
Effect of carrier confinement on effective mass of excitons and estimation of ultralow disorder in Al$_{1-x}$Ga$_x$As/GaAs quantum wells by magneto-photoluminescence.
*Scientific Reports* 7, 4905(1-12) (2017)

44. Haldar S, Dixit V. K, Vashisht G., Porwal S., Sharma T., Prakash O., Raikar U.S.*
The effect of magnetic field on free and bound exciton luminescence in GaAs/AlGaAs multiple quantum well structures: a quantitative study on the estimation of ultra-low disorder.

Effect of oxygen partial pressure in deposition ambient on the properties of RF magnetron sputter deposited Gd$_2$O$_3$ thin films.
*Applied Optics* 56, 6114-6125 (2017)

46. Husain R., Ghodke A.D.
Analysis and correction of linear optics errors and operational improvements in the Indus-2 storage ring.
*Chinese Physics C* 41, 87002 (2017)

Study of two-phase magnetization reversal in patterned cobalt thin film.

Fluoride contamination sensor based on optical fiber grating technology.
*Optical Fiber Technology* 38, 136-141 (2017)

49. Jana D., Porwal S., Sharma T.K.
Identification of the spatial location of deep trap states in AlGaN/GaN heterostructures by surface photovoltage spectroscopy.
*Superlattices and Microstructures* 112, 249-256 (2017)

50. Jana D., Sharma T.K.
A correlation between the defect states and yellow luminescence in AlGaN/GaN heterostructures.
*Journal of Applied Physics* 122, 035101(1-9) (2017)

51. Jena S.K., Ghodke A.D., Senecha V.K.
Simulation of fast beam ion instability (FBII) in Indus-2 and its experimental observation.
*Journal of Instrumentation* 12, 41640 (2017)

52. Khamari S.K., Porwal S., Dixit V.K., Sharma T.K.
Estimation of electron spin polarization from circularly polarized photoluminescence in strained quantum wells.
*Journal of Applied Physics* 122, 025703(1-9) (2017)

53. Kintali S.R., Varshney G.K., Das K.
Effect of three pluronic polymers on the transport of an organic cation across a POPG bilayer studied by second harmonic spectroscopy.

Measurement of Coster-Kronig vacancy transfer factor of some lanthanides using monoenergetic x-ray photons.
*Vacuum* 144, 160-163 (2017)

Forming-free high-endurance Al/ZnO/Al memristor.
Measurement of L X-ray fluorescence cross-sections for \(^{58}\)W at excitation energies 12, 14, 15 and 16.5 keV with synchrotron radiation
* * * * Journal of Materials Chemistry C 5, 9611-9618 (2017)

57. Kumar R., Ghodke D.V., Senecha V.K.
Development of cold cathode are discharge filament based multi-cusp H ion source

Effects of laser peening on fretting wear behaviour of alloy 718 fretted against two different counterbody materials

Changes in physico-chemical properties of native and toasted defatted soy flour on submission to electron beam radiation
Food and Bioproducts Processing 105, 141-146 (2017)

60. Kumar Y.P., Negi S.S., Kamath M.P., Chatterjee S., Sharma S.D., Joshi A.S.
Interferometric focal length measurement of positive and negative lenses using a lateral-shearing cyclic path optical configuration setup and polarization phase-shifting interferometry
* * * * Applied Optics 56, 8414-8419 (2017)

Significant field emission enhancement in ultrathin nano-thorn covered NiO nano-petals
* * * * Journal of Astronomical Telescopes Instruments and Systems 4, 011002(1-9) (2017)
Studies on dielectric optical magnetic magnetic domain structure and resistance switching characteristics of highly c-axis oriented NZFO thin films
*Journal of Applied Physics 122*, 033902(1-10) (2017)

69. Prakash R., Jana A.R., Kumar Vinit 
Multipacting studies in elliptic SRF cavities

70. Preeti*, Pandey A., Selvamani R., Shekhar C.*, Gupta S.M. 
Investigation of phase and dielectric properties of lead nickel tantalate ceramics
*Ferroelectrics 517*, 90-96 (2017)

71. Rai V.N., Mukherjee C., Jain B. 
UV-Vis and FTIR spectroscopy of gamma irradiated polymethyl methacrylate

Phase transformation of [Co/Ti]₉₉ multilayer under swift heavy ion irradiation

73. Raj Mohan S., Singh M.P., Joshi M.P. 
Influence of film morphology on transient photocurrent pulse shape in organic thin films: a monte carlo study
*Journal of Self-Assembly and Molecular Electronics 1*, 1-16 (2017)

74. Ramesh T.*, Shinde R.S., Kumar S.S.*, Murthy S.R.* 
Y₃₋ₓGdₓFeₓO₅₀₋ₓ: controlled synthesis characterization and investigation of its magnetic properties

Band gap tuning in Si-SiO₂ nanocomposite: interplay of confinement effect and surface/interface bonding

76. Rani E., Ingale A.A., Sinha A.K. 
Interaction between CdS nanocrystals and PVP leading to co-operative growth of CdS-PVP nanocomposites: a Raman and AFM mapping study

77. Rathore R., Arora V., Singhal H., Mandal T., Chakera J., Naik P.A. 
Experimental and numerical study of ultra-short laser-produced collimated CuK x-ray source

Lasing transition at 1.06m emission in Nd³⁺-doped borate-based tellurium calcium zinc niobium oxide glasses for high-power solid-state lasers

79. Roy T., Chakrabarti A. 
Magnetic interactions and electronic structure of Pt₃Mnₓₙ₋ₓY₃Ga (Y = Cr and Fe) system: an ab-initio calculation
*Pramana: Journal of Physics 89*, 1-6 (2017)

80. Saha D., Misra P., Joshi M., Kukreja L. M. 
Comment on structural and electrical properties of atomic layer deposited Al-doped ZnO films advanced functional materials, 1702875 (2017)

81. Saha D., Misra P., Joshi M.P., Kukreja L.M. 
Investigating optical properties of atomic layer deposited ZnO/TiO₂ multi-stacked thin films above mott critical density
Progressive magnetic softening of ferromagnetic layers in multilayer ferromagnet-nonmagnet systems and the role of granularity
*Journal of Applied Physics 121, 213905(1-5) (2017)

83. Saini S.K., Dubey A.K., Pant P., Upadhyay B.N., Choubey A.
Study of laser drilled hole quality of yttria stabilized zirconia

84. Saini V.K., Kumar P., Sarangpani K.K., Dixit S.K., Nakhe S.V.
Development of a see-through hollow cathode discharge lamp for (Li/Ne) optagalvanic studies

85. Sanyal K.*, Khooha A., Das G., Tiwari M.K., Misra N.L.*
Direct determination of oxidation states of uranium in mixed-valent uranium oxides using total reflection x-ray fluorescence x-ray absorption near-edge spectroscopy
*Analytical Chemistry 89, 871-876 (2017)

86. Sarbadhikary P., Dube A.
Iodinated chlorin p6 copper complex induces anti-proliferative effect in oral cancer cells through elevation of intracellular reactive oxygen species
*Chemico-Biological Interactions 277, 137-144 (2017)

87. Sarbadhikary P., Dube A.
Spectroscopic investigations on the binding of an iodinated chlorin p(6)-copper complex to human serum albumin
*Photochemical & Photobiological Sciences 16, 1762-1770 (2017)

88. Sarbadhikarya P., Dube A.
Enhancement of radiosensitivity of oral carcinoma cells by iodinated chlorin p6 copper complex in combination with synchrotron x-ray radiation
*Journal of Synchrotron Radiation 24, 43405 (2017)

Performance of Co/Ti multilayers in a water window soft x-ray regime
*Applied Optics 56, 7525-7532 (2017)

Instantaneous area based online detection of bend generated error in a Raman optical fiber distributed temperature sensor
*IEEE Sensors Letters 1, 7000204(1-4) (2017)

Amplification or cancellation of Fano resonance and quantum confinement induced asymmetries in Raman line-shapes
*Physical Chemistry Chemical Physics 19, 31788-31795 (2017)

A revisit to the temperature dependence of electrical resistivity of α-Titanium at low temperatures
*Physica B: Condensed Matter 521, 175-177 (2017)

Depth selective crystallization study of CoFeB film on MgO
*Materials Research Express 4, 106404 (2017)

94. Sharma P.*, Bhardwaj R.*, Singh R.*, Kumar S., Mukherjee S.*
Investigation of formation mechanism of Li-P dual-acceptor doped p-type ZnO
Noninvasive assessment of cutaneous alterations in mice exposed to whole body gamma irradiation using optical imaging techniques
*Lasers in Medical Science* 32, 1535-1544 (2017)

96. Shrivastava R., Dube A.
Effect of the polyelectrolyte coating on the photothermal efficiency of gold nanorods and the photothermal induced cancer cell damage
*IET Nanobiotechnology* 11, 909-916 (2017)

97. Shukla R., Abhinandan L., Sharma S.
Supercritical CO₂ drying of poly (methyl methacrylate) photoresist for deep x-ray lithography: a brief note
*Journal of Micro/Nanolithography MEMS and MOEMS* 16, 034506(1-6) (2017)

Investigation on the structural linear/nonlinear optical and electrical characteristics of Cd- and Mn-doped polar lithium sulfate monohydrate crystals
*New Journal of Chemistry* 41, 12259-12267 (2017)

Investigation on the bulk growth of -LiIO₃ single crystals and the influence of pH on its structural morphological and optical characteristics

100. Singh A., Modi M.H., Jonnard P.*, Guen K.L.*, Andre J.M.*
Investigation of ZrC/Al interfaces in a Al/ZrC/Al/W waveguide-like structure by soft X-ray reflectivity technique

101. Singh D.*, Kumar R., Ganguli T., Major S.S.*
High resolution x-ray diffraction study of the substrate temperature and thickness dependent microstructure of reactively sputtered epitaxial ZnO films
*Materials Research Express* 4, 096405(1-9) (2017)

102. Singh G., Selvamani R., Tiwari V.S., Karnal A.K.
Spectroscopic investigations of Nd³⁺ doped PLZT ceramics on the basis of Judd-Ofelt theory
*Journal of Luminescence* 192, 1084-1088 (2017)

103. Singh N., Deo M.N.*, Roy S.B.
Optical investigation of niobium properties: electrical- and physical constants
*Physica C: Superconductivity and its Applications* 539, 43282 (2017)

104. Singh S.D., Porwal S., Sinha A.K., Ganguli T.
Surface photovoltage spectroscopy of an epitaxial ZnO/GaP heterojunction
*Semiconductor Science and Technology* 32, 055005(1-8) (2017)

105. Souradeep T.*, Raja S., Khan Z.*, Unnikrishnan C.S.*, Iyer B.*
LIGO-India - a unique adventure in Indian science
*Current Science* 113, 672-677 (2017)

106. Sreeramulu K., Das S., Ruwali K., Shinde R.S.
An approach to the development of open-type quadrupole magnets for Indus-2 electron storage ring

107. Sudheer, Mondal P., Rai V.N., Srivastava A.K.
A study of growth and thermal dewetting behavior of ultra-thin gold films using transmission electron microscopy

Effect of laser surface melting on the microstructure and pitting corrosion resistance of 304L SS weldment

Fabrication of tungsten Fresnel zone plates for hard x-rays using wet etching

110. Tomar S.S., Rawat A., Vyawahare P.D.*, Tokekar S.*
Study on QoS gains in migration from IPv4 to IPv6 internet

111. Tripathi A., Badapanda M.K., Upadhyay R., Lad M.
Wire survival test of crowbar less, high voltage DC, klystron bias powersupply

Effect of curcumin addition on the adsorption and transport of a cationic dye across DPPG-POPG liposomes probed by second harmonic spectroscopy
Langmuir 33, 8302-8310 8310 (2017)

B. Invited Talk

1. Barnwal S.
Capillary discharge soft x-ray laser
32nd National Symposium on Plasma Science & Technology (PLASMA-2017), Gandhinagar, Nov. 07-10, 2017

2. Bindra, K.S.
Research and technological developments in fiber lasers at RRCAT

3. Chari R.
Ultrafast optical response at nanoscale

4. Dasgupta R.
Raman spectroscopy of optically trapped erythrocytes

5. Dixit V.K.
Epitaxy of ultraclean and entangled heterostructures for advanced applications
International Conference on Thin Films (ICTF-2017), New Delhi, Nov. 14-17, 2017

6. Jain Akhilesh
High power solid-state radio frequency transmitters
14th IEEE India Council International Conference (INDICON-2017), Roorkee, Dec., 15-17, 2017

7. Jha S.N.
Ultraviolet photoelectron spectroscopy for thin film characterization
International Workshop on the Physics of Semiconductor Devices, New Delhi, Dec. 11-15, 2017

8. Joshi M.P.
Charge transport properties of polymer-nanoparticle composite thin films: experiment and simulation studies
International Conference on Nanotechnology (ICN:3I-2017), Roorkee, Dec., 06-08, 2017

9. Khan S.
Ultrafast dynamics of two-dimensional electron gas formed in an ALGaAs-GaAs heterostructure
DAE-BRNS Theme Meeting on Ultrafast Science 2017 (UFS-2017), Hyderabad, Nov. 02-04, 2017

10. Lad M.
High power RF Systems: operational experience and
challenges

**14th IEEE India Council International Conference (INDICON-2017), Roorkee, Dec, 15-17, 2017**

11. Misra Pankaj
Studies on resistive switching times in Au/NiO/Pt devices
*International Conference on Laser Deposition (iCOLD 2017)*, Chennai, Nov. 20-22, 2017

12. Naik P.A.
Ultra-short laser plasma interaction studies at RRCAT
*DAE-BRNS Theme Meeting on Ultrafast Science 2017 (UFS-2017)*, Hyderabad, Nov. 02-04, 2017

13. Prakash O.
Fiber bragg gratings fabrication and their utilization for sensor development

14. Sharma T.K.
Novel characterization methods for the investigation of MBE grown AlGaN/GaN heterostructures
*XIX International Workshop on the Physics of Semiconductor Devices*, Delhi, Dec. 11-15, 2017

15. Shinde R.S.
Techniques and instrumentation for characterization of high frequency magnetic materials in accelerators at RRCAT
*Thematic workshop on Techniques & Instrumentation in Materials Research (TIMR)*, Aug. 21-22, Indore

16. Shinde R.S.
Advanced trends in ferrite materials & devices technology in research & industry for the 21st century

17. Shrivastava P.
High power microwave systems for particle accelerators for IRFEL and irradiation applications

C. Seminar/Conference Presentations

**C.1 26th DAE-BRNS National Laser Symposium (NLS-26), Mumbai, Dec. 20-23, 2017**

Laser cutting of bellow lip weld joints during en-masse coolant channel replacement (EMCCR) campaign at KAPS-2 reactor

Nanosecond pulsed laser induced shape transformation of gold nanocubes into nanospheres studied from plasmonic response

Development of velocity map imaging spectrograph

Development and characterization of Plasma Mirror System for enhancing ultra-short laser pulse contrast

5. Bhardwaj V., Kumar Prabhat, Bairwa M., Singh Rajpal, Ekka B., Upadhyaya B.N., Bindra K.S.
Blast free oxygen assisted underwater laser cutting of up to 10 mm thick mild steel using pulsed Nd:YAG laser
Investigation of absorption and emission properties of Yb doped gadolinium yttrium calcium oxoborate (GdYCOB) single crystals for laser application

Effect of Cr co-doping on the optical absorption of Nd:YVO₄ single crystals grown in different oxygen partial pressures

Development of an in-situ Nd:YAG laser cutting technology for 18mm thick end fitting near roll joint area for PIE data of pressure tube at KAPS-1 reactor

Study and development of 500W all ceramic Nd:YAG laser

Synchronized triggering system and delay control for CVL MOPA operation using indigenous developed timing card

11. Bhawasar V., Khanwalkar J., Arya R.
TEC based temperature controller for electro-optic devices

Design & demonstration of a diode pump alkali (rubidium) laser at λ~ 795 nm

Automation of resonant ultrasound spectroscopy experiments

Evolution of laser cooled ⁸⁷Rb atom cloud in a time varying radio-frequency dressed

Amplification of q-switched pulses to more than 25 W average power in single mode Yb-doped dual stage all fiber amplifier

Parametric evaluation of weldments of Ti6Al4V using Nd:YAG pulsed Laser

Characterization of Au doped TiO₂ nanoparticles grown using liquid phase pulsed laser ablation method

Design and development of a push pull velocity interferometer (VISAR)

Investigation of rare earth doped double clad fibers and long period fiber gratings: applications for fiber laser and radiation dosimetry

Laser cleaning of Cr layer from fused silica mirror surface using ns pulses

Diabetes detection with laser tweezers
22. Daiya D., Patidar R.K., Moorti A., Benerji N.S., Joshi A.S., Naik P.A.
   A novel scheme of all reflective FROG using near 90
degree retro-reflector for single shot characterization of ultra-short laser pulses

   Spatially-offset Raman spectroscopic detection of urea adulteration in packaged milk samples

24. Dave I., Pant B., Raja S., Joshi A.S.
   Design and development of a laser scan micrometer

   Second harmonic generation of Nd:YAG laser output from LN:PMMA nanocomposites as a function of nanoparticles concentration and poling electric field

   Fabrication of Yb:YbO$_2$ transparent ceramic using Zr and La as sintering additives.

27. Deshmukh P., Satapathy S., Ahlawat A., Karnal A.K.
   Synthesis of Er, Dy codoped Y$_2$O$_3$ nanophosphor and fabrication of transparent ceramic

   The cooperative luminescence and energy transfer upconversion studies of Yb$^{3+}$ and Yb$^{3+}$/Nd$^{3+}$ Codoped oxyfluorosilicate glasses

   Improving the performance of SERS for detecting analytes of biomedical importance

30. Ganesh S.*, Kumar P., Saini V.K.
   Characterization of improved design hollow-cathode lamp for optogalvanic spectroscopy

31. Gorey A.*, Ansari M.S., Vasudevan S.*
   Frequency spectral analysis through continuous wave laser based photoacoustic (CWPA) technique: a phantom study

   Development of very high reflectance coatings with high damage threshold

33. Gupta Pradeep K., Singh C.P., Mukhopadhyay P.K., Bindra K.S.
   All-fiber, all-normal dispersion, 130fs Yb-doped mode locked fiber oscillator and its power scaling to 42W level

34. Gurram S., Daiya D., Patidar R.K., Benerji N.S., Kamath M.P., Joshi A.S.
   All-fiber Front end for High energy Lasers: Considerations of fiber optic components

35. Ittoop M.O., Saini S.*, Rawat B.S., Yadav R., Kumar Manoj, Kaul R.
   Series resonant converter based capacitor charging power supply for TEA CO$_2$ laser

   In-situ laser cutting of secondary shutdown system SS321 pipeline for replacement of double check valve at KKNPP-I reactor

   Investigating effects of solution treatment on powder bed laser additive manufactured Inconel 718

   Photoluminescence response of TiO$_2$ nanoparticles grown by CO$_2$ laser based gas-phase pyrolysis technique
Crystal growth, optical and laser studies of triphenylphosphine oxide 4-nitrophenol (TPNP) for nonlinear optical (NLO) applications

40. Khan S., Jayabalans J., Singh Asha, Khan S., Chari R.
Carrier dynamics near resonance in near surface single quantum wells using two colour pump-probe reflectivity

41. Khanwalkar J., Patel C.*, Arya R.
Electrical equivalent model of thermoelectric cooler for performance-simulation of temperature controllers

42. Khare R., Shukla P.K., Shrivastava V.K., Tiwari G.N.
Short-term, single-pulse, beam pointing stabilities of dye laser and its pump laser

43. Krishna H., Majumder S.K.
Studies on fluorescence photo-bleaching of urine for diagnosis of oral cancer

Czochralski growth of LiKB O crystal for NLO and thermoluminescence applications

Optical figure of merit of indigenously developed Neodymium doped phosphate laser glass.

Equation of state measurement using two frames shadowgraphy in mixed (Gold/Copper) step target

47. Kumar Avdhesh, Mishra Pushkar, Upadhyaya B.N., Bindra K.S.
Study of self-pulsing dynamics in all-fiber Yb-doped CW fiber laser with different Q-value of laser resonator and pumping configurations

48. Kumar J., Agrawal S.K., Prakash O., Dixit S.K., Nakhe S.V.
Development of high temperature (~ 900 °C) distributed fiber Bragg grating sensor

49. Kumar Manoj, Biswas A.K., Rana L.B., Yadav Rajiv, Kaul R.
Theoretical modeling of helium free TEA CO₂ laser: a new insight

Sub-surface Raman spectroscopic measurements in layered biological samples using the line focus of an axicon

51. Kumar P., Kumar S., Kumar J., Prakash O., Dixit S.K.
Fuel adulteration sensing using etched fiber Bragg grating sensor

52. Kumar Pankaj, Saini V.K., Purbia G.S., Prakash O., Dixit S.K., Nakhe S.V.
Studies on lithium excited state transition at 610.4 nm in a hollow cathode discharge

Raman spectroscopy of radiochromic films: an approach to low energy radiation dosimetry

54. Kumar P.Y., Negi S.S., Kamath M.P., Joshi A.S.
Interferometric straightness measurement using an optical wedge plate and cyclic path optical configuration setup.

55. Kushwaha P.K., Jayabalans J., Singh Asha, Gurung S., Chari R.
Effect of field distribution on linear and nonlinear optical response of CdTe quantum dot in presence of a silver nanosphere
56. Mahakud R., Kumbhkar U., Kumar S., Kumar J., Prakash O., Dixit S.K.
Fiber bragg gratings for cryogenic temperature sensing
57. Mandal T., Arora V., Moorti A., Chakeria J.A., Naik P.A.
Fast electron generation by ponderomotive force acceleration in high intensity laser foil interaction
58. Manasa P.*, Srihari T.*, Basavapoornima C.*, Joshi A.S., Jayasankar C.K.*
Spectroscopic investigations of Nd⁺⁺ ions in niobium phosphate glasses for solid state laser applications
Study on effect of laser shock peening on fatigue performance of 15-5 PH stainless steel
60. Mishra C., Chakraborty A., Rama S.P., Tiwari V.B., Mishra S.R.
On resolution of electromagnetically induced transparency signals in presence of magnetic field
Comparative studies on the performance of dye laser pumped by copper vapor laser and diode pumped solid state green laser
Laser additive manufacturing of molybdenum clad layers on copper substrate
Development of 500 W of single transverse mode all-fiber Yb-doped CW fiber laser at 1080 nm
Design optimization and deposition of laser beam combiner
Studies on Raman spectroscopy and optical coherence tomography of formalin-fixed and paraffin-embedded (FFPE) breast tissues
66. Naphade D., Singh Bhupinder
LCCL-T Resonant immittance converter (RIC) topology as constant current supply for capacitor charging in flash lamps
67. Narwat D., Upadhyayaa B.N., Arya R.
Development of microcontroller based tool controller unit for in-situ laser cutting system
68. Pai S.A., Padiyar A., Biswas B., Chouksey S.
Installation of the optica7l transport beamline for IRFEL at RRCAT
69. Pai S., Bhandare R., Pant B., Raja S, Joshi A.S.
FBTR fuel pin inspection system
70. Pal S., Kamparath R., Vashisht G., Kumar Ravi, Mukherjee C., Joshi A.S.
Study on AlGaAs and AlAs layers for application in crystalline high reflection coating at 800 nm
71. Pathak A.K., Tiwari Shradha, Deshpande P.P., Bhanage V.
Automation of atom chip experiments
72. Patidar R.K., Daiya D., Surjith S.*, Benerji N.S., Joshi A.S., Naik P.A.
A compact Nd: glass based TW laser with enhance spectral bandwidth of amplified ultrashort pulses
A diode pumped 4-pass Nd: YLF amplifier for front end of high energy laser system
74. Paul N., Singh C.P., Mukhopadhyay P.K., Bindra K.S.
Effect of spectral filtering in all-normal-dispersion modelocked fiber laser operating in dissipative soliton resonance regime

Study of laser shock peening of modified 9Cr-1Mo (P91) based ferritic steel

76. Rana L.B., Rawat B.S., Ittoop M.O., Yadav Rajiv, Kumar Manoj, Biswas A.K., Kaul R.
Development of a 300 W diffusion cooled CW CO2 laser for 3D printing

77. Sahu K., Patheja P., Soni S.*, Majumder S.K.
Investigation of photobiomodulation in an in vitro model of cellular stress using low level laser therapy

78. Saini V.K., Talwar S., Sarangpani K.K., Dixit S.K.
Studies on laser induced selective isotopes photoionization of lithium using in-house developed time of flight mass-spectrometer

A new scheme using anti-Stokes based self-referencing for simplified Raman optical fiber distributed temperature sensor

80. Saxena S., Bagchi S., Tayyab M., Chakera J.A., Naik P.A.
THz generation from laser-foil interaction

81. Saxena S., Bagchi S., Tayyab M., Chakera J.A., Naik P.A.
THz generation from two color laser produced plasmas in ambient atmosphere

Effect of non-stoichiometry on transparency of Nd:YAG ceramic: A laser-host material

83. Sharma A.K., Joshi A.S.
Design considerations and performance characteristics of a practical tiled grating laser pulse compressor for longer duration stretched pulses

84. Sharma A.K., Joshi A.S.
Experimental studies on estimation of inter and intra grating groove density errors of laser pulse compression gratings

Development of compact electro-optic modulator using KDP element fabricated from crystal grown by solute-feed based unidirectional technique

86. Sharma S.K., Singh A.J., Prasad B., Mukhopadhyay P.K., Bindra K.S.
Development of DPSS green laser at 9 kHz pulse repetition rate for dye laser pumping

87. Shrivastava R., Sahu K., Jain C.*, Majumder S.K.
Laser induced anti-bacterial effect of polyelectrolyte coated gold nanorods

88. Shrivastava V.K., Shukla P.K., Tiwari G.N., Khare R.
Improvement of spatial coherence of dye laser by intracavity capillaries

89. Shukla P.K., Shrivastava V.K., Tiwari G.N., Khare R.
Study on spatial coherence of narrow linewidth dye laser and its pump laser

90. Singh A.J., Sharma S.K., Prasad B., Mukhopadhyay P.K., Bindra K.S.
Development of high average power (260W) diode pumped intracavity frequency doubled AO Q-switched Nd:YAG green laser
91. Singh A., Jayabal J., Khan S., Chari R. 
Influence of the CdTe quantum dots on the electron thermalization process in Ag nanoprisms

92. Singh Amrendra, Narshnay N.K., Daiya D., Benerji N.S., Singh Bijendra, Joshi A.S. 
Corner cube retroreflector based resonator configuration in XeCl excimer laser

93. Singh Bhupinder, Nigam S. 
Spark gap based flashlamp driver for Nd:Glass laser amplifier

Generation of 40 W average power in multi stage Ytterbium doped all-fiber amplifier

95. Singh C.P., Gupta Pradeep Kumar, Singh A.J., Sharma S.K., Mukhopadhyay P.K., Bindra K.S. 
High energy, ultralong square pulses from passively mode locked all-normal dispersion Yb-doped fiber laser

Investigation on refractive index homogeneity of transparent Nd:YAG ceramic laser-host material using optical techniques

Investigating laser additive manufacturing of DELORO-50 bushes

98. Singh S., Tiwari V.B., Mishra S.R. 
Laser spectroscopy of Krypton atoms in an atomic beam loaded magneto-optical trap

Effect of transverse magnetic field on spectral profile of polarization spectroscopy signal

100. Singh Vivek, Shukla R., Mukherjee C., Tiwari V.B., Mishra S.R. 
Characterization of in-house fabricated atom chip for magnetic trapping of 87Rb atoms

Effect of Nd doping concentration on the absorption and emission properties of Nd: GdVO₄ single crystals for laser application

Polarized micrometer scale spatially-offset Raman spectroscopy (μ-SORS) for layered biological media

Development of plantar shear stress measurement set up based on fiber bragg grating sensors

104. Tiwari G.N., Shukla P.K., Mishra R.K., Shrivastava V.K., Khare R. 
Spatial coherence of indigenously developed copper bromide laser with off-axis unstable resonator

105. Tiwari S.K., Kumar P.Y., Negi S.S., Kamath M.P., Joshi A.S. 
Noncontact thickness measurement of plane-parallel optical glass plates using an axicon

106. Tiwari V.B., Singh S., Mishra S.R. 
Dual-isotope magneto-optical trap for cold fermionic (83Kr)-bosonic (84Kr) mixture

107. Subrahmanyam V.V.V., Talwar S., Shrivastava V.K., Sarangapani K.K. 
Development of dye laser oscillator-amplifier system operating at 670 nm with 1.2 mJ pulse energy
108. Varshnay N.K., Singh Amrendra, Patidar R.K., Benerji N.S., Singh Bijendra, Joshi A.S.  
Development of a compact high voltage exciter for ArF excimer laser

Terahertz (THz) radiation generation by non-linear photomixing of two x-mode rounded triangular laser pulses in corrugated magnetized plasma

110. Verma R.S., Kumar N.  
An active optical sorting approach for low desired particle concentration in the sample using holographic optical tweezers

Enhancement in usable volume of benzophenone NLO crystal for SHG applications by directly growing it along phase matching direction

112. Yadav R., Mahajan S., Rana L.B., Singh Bhupender, Kumar Manoj, Biswas A.K., Kaul R.  
Operation of 2 kW RF excited CW CO₂ laser: safety aspects

C.2 32nd National Symposium on Plasma Science & Technology (PLASMA-2017), Gandhinagar, Nov. 7-10, 2017

High resolution optical and x-ray spectroscopic study to understand fast electron generation and transport in relativistic laser plasma interaction

Exploring x-ray lasing in highly inoized carbon pinch plasma

3. Chakravarty U.  
Surface plasmon resonance in ultra-short laser irradiated grating target at relativistic intensities

4. Chakravarty U., Chaturvedi D.*  
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Study on generation and optimization of high order harmonic radiation from gas cell using 1 KHz laser system

Study on the role of electron trajectories in high order harmonic generation using single and two color laser fields

8. Kumar Rajnish, Pathak M., Ghodke D.V., Senecha V.K.  
Modelling and simulation of 13.56 MHz, RF-ignition system for RF based H⁻ ion source

Development of pulsed power system for large aperture plasma electrode pockell's cell

Spark gap triggering circuit for synchronized switching in ultra-compact capillary discharge plasma x-ray laser

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2. Chinthulal V.S.*, Dhamgaye V.P.
X-ray wave propagation simulation of x–ray focusing microstructures

3. Dhamgaye V.P., Khantwal N., Thakur B.S., Pavan Kumar Y., Kamath M.P., Rai S.K., Dhawan R., Utsumi Y.*
Development of carbon membrane based x-ray mask for x-ray LIGA microstructures

4. Shukla R., Kannojia H.K., Mukherjee C., Ram Sanker P., Thakur B.S., Pandey D.*
Challenges in fabrication of high aspect ratio electrostatic comb-drive using one-step x-ray lithography

C.6 International Conference on Nanotechnology: Ideas, Innovations and Initiative (ICN:3I-2017), Roorkee, Dec. 6-7, 2017

1. Chakravarty U.
Nanoplasmonics with ultra-short high intensity laser pulses

2. Gupta V.K., Ingale A., Ghokhale M.
Study of polytypism in InAs nanowires using resonance Raman spectroscopy

3. Kumar S.
Surface photovoltage and photoelectron spectroscopies of nano structure semiconductors

C.7 Others Seminars/Conference Presentation

1. Das G., Khooha A., Singh A.K., Tiwari M.K.
Depth resolved chemical speciation of a superlattice 66th Annual Denver X-ray Conference, Big Sky, Montana, USA, July 31-Aug. 4, 2017

Vacuum brazing of titanium/316L stainless steel transition joint for application in helium vessel of superconducting cavities
International Congress of the International Institute of Welding (IC-2017), Chennai, Dec. 7-9, 2017

3. Jena S.K., Ghodke A.D.
Improvements in stable beam operation of Indus-2 storage ring

Development of fused silica glass to metal sealed system for laser cooling of rubidium atoms
International conference on Expanding Horizons of Technological Applications of Ceramics and Glasses (EH-TACAG’17), Pune, Dec. 14-16, 2017

Local structural investigation of doped ZnO nanoparticles
International Conference on Accelerator in Materials and Medical Sciences (ICAMMS-2017), Oct. 5-7, 2017

Strain disorder: new degree of freedom to control structurally dissimilar magnetic phase separation in La$_{1-x}$Pr$_x$Ca$_{1-x}$MnO$_3$ epitaxial thin films
International Conference on Accelerator in
7. Patel A., Kale U., Shrivastava P., Pant K.K., Nerpagar P., Nayak V.*
10MW peak power RF system for a pulse radiolysis facility

Fabrication and characterization of W/B4C lamellar multilayer grating and NbC/Si multilayer phase-shift reflector
Proc. of SPIE, vol. 10386, Advances in X-Ray/EUV Optics and Components XII, San Diego, California, USA, Aug. 6-10, 2017

9. Roy T., Pandey D., Chakrabarti A.
Probing the possibility of coexistence of martensite transition and half-metallicity in Ni and Co-based full-Heusler alloys: an Ab initio calculation
International conference on Martensite Transformations (ICOMAT-2017), Chicago, Illinois, USA, July 9-14, 2017

10. Roychowdhury R.
Photoelectron spectropsy of GaP grown on Si, Ge and GaAs substrate
National Science Day Celebrations at UGC-DAE CSR, Indore, Dec. 14, 2017

11. Shalu C.*, Raj Mohan S., Joshi M.P., Singh V.
Role of casting solvent on the leakage current in PVP as a polymeric dielectric in OFET
Proc. 9th International Conference on Materials for Advanced Technologies (ICMAT2017), Singapore, June 18-23, 2017

Ultrafast shadowgraphy of plasma plumes using high order harmonics of Ti:Sapphire laser
DAE-BRNS Theme Meeting on Ultrafast Science (UFS-2017), Hyderabad, Nov. 02-04, 2017

Study of ZnO-CdS core shell nanostructures using synchrotron source
International Conference on Accelerator in Materials and Medical Sciences (ICAMMS-2017), Oct. 5-7, 2017

Superiority of localized surface plasmon resonance technique in characterization of ultra-thin metallic films
Nanophotonics and Micro/Nano Optics International Conference, Barcelona, Catolonia, Spain, Sept. 13-15, 2017

15. Tomar S.S., Rawat A., Vyavahare P.D.*, Tokekar S.*
A novel central arbiter to mitigate denial of service attacks on duplicate address detection in IPv6 networks

16. Verma R.S., Kumar N.
Opto electronic tweezers based smart sweeper for cells/micro-particles sorting
Optics and Photonics 2017(Internet session), Saratov Fall Meeting, Russia, Sept. 26-30, 2017

Note: * indicates author affiliation other than RRCAT, Indore.