

**A. Journal Articles**

1. Abbott B.P.\*, Bhandare R., Dave I., George J., Pai S.A., Pant B.C., Rajan C, Raja S. et al.  
GW170817: Measurements of neutron star radii and equation of state  
*Physical Review Letters* **121**, 161101(1-16) (2018)
2. Abbott B.P.\*, Bhandare R., Dave I., George J., Pai S.A., Pant B.C., Rajan C, Raja S. et al.  
Search for subsolar-mass ultracompact binaries in Advanced LIGO's first observing run  
*Physical Review Letters* **121**, 231103 (2018)
3. Abbott B.P.\*, Bhandare R., Dave I., George J., Pai S.A., Pant B.C., Rajan C., Raja S. et al.  
Constraints on cosmic strings using data from the first Advanced LIGO observing run  
*Physical Review D* **97**, 102002 (2018)
4. Abbott B.P.\*, Bhandare R., Dave I., George J., Pai S.A., Pant B.C., Rajan C, Raja S. et al.  
Search for tensor, vector, and scalar polarizations in the stochastic gravitational-wave background  
*Physical Review Letters* **120**, 201102 (2018)
5. Acharya M., Shrivastava P.  
A 100 kV 20 A 1 ms long pulse solid-state Marx modulator for klystron  
*Nuclear Instruments & Methods in Physics Research: Section A* **905**, 96-103 (2018)
6. Ahlawat A., Satapathy S., Shirolkar M.M.\*, Li J.\*, Kha A.A.\*, Deshmukh P., Hang H.\*; Choudhary R.J.\*, Karnal A.K.  
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*Applied Nano Materials* **1**, 3196–3203 (2018)
7. Antony A.\*, Poornesh P.\*, Kityk I.V.\*, Ozga K.\*, Sanjeev G.\*, Petwal V.C.\*, Verma V.P., Dwivedi J.  
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*CrystEngComm* **20**, 6502-6518 (2018)
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Phase control of Schwinger pair production by colliding laser pulses  
*Physical Review A* **98**, 032121(1-8) (2018)
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*Journal of Environmental Chemical Engineering* **6**, 2248-2261 (2018)
10. Bindra K.S., Upadhyaya B.N.  
Applications of high power solid state lasers in nuclear power programme  
*Proceedings of the National Academy of Sciences India Section A* **88**, 375-386 (2018)
11. Chakravarty U., Chaturvedi D.\*  
Hydrodynamic time scale of resonance in intense laser irradiated nano-plasma of different geometries  
*International Journal of Scientific Research in Physics and Applied* **6**, 1-8 (2018)
12. Chakravarty U., Chaturvedi D.\*  
Nonlinear absorption of ultrashort ultrahigh intensity laser pulses in fullerene  
*AIP Advances* **8**, 125016 (2018)
13. Chandra L.S.S., Chattopadhyay M.K., Chandra J., Manekar M.A., Pandey S.K.\*, Venkatesh R.\*, Roy S.B.  
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*Superconductor Science and Technology* **31**, 1-7 (2018)
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Multiferroicity and magnetoelastic coupling in alpha-

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*Materials Science for Energy Technologies* **1**, 77-83 (2018)
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Crystal and magnetic structure of novel Brownmillerite, Ca<sub>2</sub>Fe<sub>0.875</sub>Cr<sub>0.125</sub>GaO<sub>5</sub> : An approach towards natural GMR layers in bulkmetal oxides  
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Observation of Kondo behavior in the single crystals of Mn-doped Bi<sub>2</sub>Se<sub>3</sub> topological insulator  
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Enhancing the potency of surface hydroxyl groups of graphene oxide for selective oxidation of benzyl alcohol  
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Electrochemical behaviour of ZnO-AC based nanocomposite electrode for supercapacitor  
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Development of adaptive variable boundary based real coded genetic algorithm for online optimization of beam excitation level for Indus-2 tune measurement system  
***Journal of Instrumentation* 13, P07028 (2018)**
118. Yogi P.\*, Saxena S.K.\*, Chaudhary A.\*, Pathak D.K.\*, Mishra S.\*, Mondal P., Joshi B.\*, Sagdeo P.R.\*, Kumar R.\*  
Porous silicon's fractal nature revisited  
***Superlattices and Microstructures* 120, 141-147 (2018)**
- B. Patents**
1. Badapanda M.K.  
High voltage DC power supply for high power radio frequency amplifiers  
US Patent No.: US 100,27,122 B2, dated 17.07.2018
2. Kher S., Chaubey S., Kishore J., Oak S.M.  
Optical rare-earth doped fiber long period grating based ionizing radiation dose sensor device.  
Patent No. US 10,101,467 B2, dated 16.10.2018
- C. Invited Talks**
1. Banik S.  
Photoelectron spectroscopy at Indus 1 and Indus 2 synchrotron source, RRCAT.  
***Theme meeting on Synchrotron Based Characterization Techniques***, Noida, Sep. 4-5, 2018
2. Bindra K.S.  
Lasers and Laser Physics  
***DAE-BRNS Workshop on Laser Additive Manufacturing and Allied Technologies (LAMAT-2018)***, Indore, Oct. 8-12, 2018.
3. Chakera J.A.  
Ultrashort XUV/X-ray generation and its applications  
***DAE-BRNS Theme Meeting on Ultrafast Science (UFS-2018)***, Indore, Oct. 22-24, 2018
4. George J.  
Development of ultra narrow linewidth NPRO laser  
***27<sup>th</sup> DAE BRNS National Laser Symposium (NLS-27)***, Indore, Dec. 3-6, 2018
5. Ingale A.  
Investigations on surface and interface of nanostructures using Raman and AFM mapping  
***7th International Conference on Perspectives in Vibrational Spectroscopy, (ICOPVS-2018)***, Mumbai, Nov. 25-29, 2018
6. Jayabalan J.  
Ultrafast charge transport in hybrid nanomaterials  
***DAE-BRNS Theme Meeting on Ultrafast Science (UFS-2018)***, Indore, Oct. 22-24, 2018
7. Pant K.K.  
An infra-red FEL based user facility for materials research  
***DAE-BRNS Theme Meeting on Ultrafast Science (UFS-2018)***, Indore, Oct. 22-24, 2018
8. Mishra S.R.  
Cooling, trapping and manipulating atoms  
***27<sup>th</sup> DAE BRNS National Laser Symposium (NLS-27)***, Indore, Dec. 3-6, 2018
9. Mishra S.R.  
Trapping and manipulation of atoms  
***International Conference on Quantum and Atom Optics***, Patna, Dec., 16-18, 2018
10. Mishra S.R.  
Controlling atoms using electromagnetic fields  
***National Conference on Electrical and Electronics Measurements (NCEEM-2018)***, Sep., 19-20, 2018, New Delhi

11. Modi M.H.  
Soft x-ray beamline and applications  
*Winter school on synchrotron techniques in materials science*, Kolkata, Oct. 25-31, 2018
12. Modi M.H.  
Near edge soft x-ray reflectivity: a tool to determine compositional details in thin films of compound materials  
*Theme meeting on Synchrotron Based Characterization Techniques*, Noida, Sep. 4-5, 2018
13. Moorti A.  
Laser driven tsunami in plasma: an advanced electron accelerator  
*27<sup>th</sup> DAE-BRNS National Laser Symposium (NLS-27)*, Indore, Dec. 3-6, 2018
14. Mukhopadhyay P.K.  
Generation and amplification of dissipative solitons in fiber laser  
*DAE-BRNS Theme Meeting on Ultrafast Science (UFS-2018)*, Indore, Oct. 22-24, 2018
15. Mukhopadhyay P.K.  
Generation and amplification of optical pulses in diverse temporal formats from modelocked Ytterbium doped fiber laser  
*4th International Conference on Emerging Electronics (ICEE)*, Bangalore, Dec. 16-19, 2018
16. Nakhe S.V.  
Lab to land initiatives in laser labs at RRCAT  
*27<sup>th</sup> DAE-BRNS National Laser Symposium (NLS-27)*, Indore, Dec. 3-6, 2018
17. Paul C.P.  
Laser additive manufacturing – systems and processes and additive manufacturing (AM) overview and global perspective  
*DAE-BRNS Workshop on Laser Additive Manufacturing and Allied Technologies (LAMAT-2018)*, Indore, Oct. 8 -12, 2018.
18. Paul C.P.  
Modelling of laser additive manufacturing process  
*DAE-BRNS Workshop on Laser Additive Manufacturing and Allied Technologies (LAMAT-2018)*, Indore, Oct. 8 -12, 2018.
19. Paul C.P.  
Laser additive manufacturing paving way to industry 4.0  
*GIAN Course on Laser assisted surface Micro and Nano fabrication*, Indore, July 8-14, 2018
20. Rao B.S.  
Betatron oscillations of energetic electrons and emission of femtosecond X-rays In laser wakefield acceleration  
*33<sup>rd</sup> National Symposium on Plasma Science & Technology (PLASMA-2018)*, Delhi, Dec. 4- 7 , 2018
21. Shinde R.S.  
Indigenous design & development of microwave ferrite & garnets for high power circulators at RRCAT  
*National Symposium on Vacuum Electronic Devices and Applications, (VEDA-2018)*, Guwahati, Nov. 22-24, 2018
22. Shrivastava P.  
Indigenous development of high performance, high reliability RF/ microwave systems for particle accelerators  
*National Symposium on Vacuum Electronic Devices and Applications, (VEDA-2018)*, Guwahati, Nov. 22-24, 2018
23. Upadhyaya B.N.  
Practical challenges and limitations in the development of high power CW fiber lasers  
*International Conference on Fiber Optics and Photonics (PHOTONICS 2018)*, New Delhi, Dec. 12-15, 2018

24. Verma Y.  
Optical coherence tomography and its biomedical imaging applications  
*27<sup>th</sup> DAE-BRNS National Laser Symposium (NLS-27)*, Indore, Dec. 3-6, 2018

**D. Seminar/Conference Presentations**

**D.1 DAE-BRNS Theme Meeting on Ultrafast Science (UFS-2018), Indore, Oct. 22-24, 2018**

1. Gurung S., Singh A., Chari R., Jayabalan J.  
Effect of ultrafast charge carrier transport on transient absorption in a metal-semiconductor hybrid nanostructure
2. Khana S., Khana S., Sinha N., Jayabalan J., Charia R.  
Effect of hole tunneling on ultrafast spin relaxation dynamics in near-surface quantum well
3. Krishnamurthy S.\*, Makur K.\*, Tayyab M., Bagchi S., Mandal T., Ramakrishna B.\*, Chakera J.A., Naik P.A., Gupta P.D.  
Pointing stability control of laser driven ion sources
4. Kumar M., Singhal H., Ansari A., Chakera, J.A.  
High resolution electron time of flight spectrograph for temporal characterization of ultrashort high order harmonic pulses
5. Singh A., Chari R., Jayabalan J.  
Effect of proximity of CdTe quantum dots on the ultrafast transient absorption of Ag nanoplatelets
6. Singhal H., Kumar M., Ansari A., Chakera J.A.  
High order harmonic generation of Ti:Sapphire laser from neon filled gas cells

**D.2 27<sup>th</sup> DAE-BRNS National Laser Symposium (NLS-27), Indore, Dec. 3-6, 2018**

1. Aarathy E.R.\*, Vashisht G., Haldar S., Roychowdhury R., Porwal S., Chatterjee A., Khakha A., Khamari S.K., Sharma T.K., Dixit V.K.  
Investigations on InGaAs/GaAs quantum well based symmetric and asymmetric waveguide laser diode structures
2. Agrawal D.K., Bairwa M.K., Singh R., Paul B., Jain R.K., Singh R., Saini B.K., Kumar P., Beshra J., Upadhyaya B.N., Sah S.K., Bhawsar V., Raju A. A., Narwat D., Kushwaha S., Arya R., Ghosh S.\*, Saraswat P.\*, Wackchure S.\*, Barot R.R.\*, Bhave K.M.\*, Ravi S.\*, Mudgal N.\*, Jadhav V.\*, Sanyal D.N.\*, Bindra K.S.  
Gas-assisted underwater laser cutting of pressure tube stubs of pressurized heavy water reactors
3. Ahlawat S., Singh A., Sharma S.K., Mukhopadhyay P.K., Bindra K.S.  
Stainless steel coloration using diode pumped solid state green nanosecond laser
4. Ansari A., Kumar M., Singhal H., Chakera J.A.  
Study of higher order harmonic generation with argon gas by the variation of gas cell length
5. Arora V., Mandal T., Moorti A., Chakera J.A.  
K- $\alpha$  X-ray emission spectroscopy in a high contrast ultrashort laser interaction with thin foil target for fast electron characterization
6. Bagchi S., Tayyab M., Moorti A., Chakera J.A.  
Short lived radio-isotope production using protons accelerated by ultra-short, high intensity laser pulses
7. Bairwa M.K., Singh R., Bhardwaj V., Paul B., Shukla V., Jain R.K., Agrawal D.K., Saini B.K., Kumar Prabhat, Raju A.A., Bhawsar V., Arya R.,

- Upadhyaya B.N., Bindra K. S.  
Development of ceramic reflector based 1 kW average power pulsed Nd:YAG laser with fiber optic beam delivery
8. Bhardwaj K., Ram S.P., Singh S., Tiwari V.B., Mishra S.R.  
Loading cold  $^{87}\text{Rb}$  atoms in an optical lattice
9. Bhargava P., Paul C.P., Ittoop M.O., Singh C.H.P., Kumar S., Singh B., Bindra K.S.  
Indigenous development of robot assisted laser additive manufacturing at RRCAT
10. Bhatt R., Bhaumik I., Ganesamoorthy S.\*, Chandran V.\*, M. Soharab, Sajith B.K., Saxena A., Karnal A.K.  
Growth of Co doped  $\text{LiNbO}_3$  single crystals and investigation of optical absorption and thermo-optic coefficient
11. Bhaumik I., Bhatt R., Sajith B.K., Vijayan A. \*, Saxena A., Soharab M., Sharma S.K., Karnal A.K.  
Growth of large diameter congruent lithium tantalate single crystal and fabrication of prototype laser energy meter
12. Biswal R., Mishra G.K., Agrawal S.K., Dixit S.K., Nakhe S.V.  
Studies on the effects of ethane concentration in a diode pump alkali (rubidium) laser
13. Biswal R., Rai A.K., Soni J.K., Hedao P., Ranganathan K., Bindra K.S., Nakhe S.V.  
Study of micro-drilling on molybdenum foil using nanosecond pulsed Nd:YAG laser
14. Chaubey S., Kishore J., Saxena Manoj, Kher S., Dixit S.K.  
Development of long period fiber gratings for gamma radiation sensing in nuclear waste processing and food irradiation units
15. Choubey A., Ali S., Hedao P., Soni J.K., Biswal R., Ranganathan K., Bindra K.S.  
Enhancement of p-polarized output power in diode pumped CW Nd:YAG rod laser with Y-cavity geometry
16. Chouhan H.\*, Chatterjee A., Agnihotri V.K., Taya P., Sharma T.K.  
Optical characterization of GaN epitaxial layers grown by the indigenously developed Nitride MOVPE system
17. Daiya D., Patidar R.K., Moorti A., Benerji N.S., Joshi A.S.  
Optical tiling alignment using wedge plate shearing interferometer
18. Dalal A., Kumar N., Alka, Khan K.M., Majumder S.K.  
Inverse spatially-offset Raman spectroscopy with collimated ring illumination - a novel scheme for improved depth probing
19. Das K., Uppal A., Varshney G., Kintali S., Bose B., Majumder S.K.  
Determination of trace levels of mercury in aqueous solutions using gold nanostars as a probe - a spectrophotometric study
20. Dcunha N.A.\*, Yadav R., Kumar M., Rana L.B., Rawat B.S., Ittoop M.O., Kaul R.  
V-fold diffusion cooled  $\text{CO}_2$  laser automation using a programmable logic controller & supervisory control and data acquisition software
21. De B.K.\*, Verma S., Rao B.T., Singh R., Sathe V.G.\*, Kaul R.  
Studies on Raman scattering of ZnO-Au/Ag nanocomposite prepared by nanosecond pulsed laser irradiation
22. Debnath C., Kar S., Sharma S.K., Verma Sunil, Bartwal K.S., Tiwari V.S., Karnal A.K.

- Synthesis and optical characterization of trans-stilbene/PMMA composite for detector application
23. Denny J., Jinoop A.N., Paul C.P., Singh C.H.P., Kumar U., Bindra K.S.  
Fatigue behaviour of nickel based superalloys fabricated by laser additive manufacturing using directed energy deposition with two different rastering patterns
  24. Deshmukh P., Satapathy S., Chauhan A.\*, Ahlawat A., Khan A.A., Karnal A.K.  
Investigation of upconversion mechanism in Er and Er, Yb CO-doped Strontium Silicate Nanophosphors
  25. Dutta S.B.\*, Krishna H., Gupta S.\*, Majumder S.K.  
Studies on photo-bleaching of urine for improved signal-to-noise ratio of the Raman signal
  26. George J., Arjun K.\*, Shreevathsa C.S.\*, Khursheed M., Rajan C., Chaturvedi M., Pant B.C., Raja S.S., Joshi A.S.  
A novel method to measure transmission and internal losses in NPRO laser
  27. Gorey A.\*, Ansari M.S., Bhagat P.\*, Phatak S.\*, Sharma N.\*, Vasudevan S.\*  
Differentiation of malignant and benign breast lesions through continuous wave laser based photoacoustic technique
  28. Gupta P.K., Singh C.P., Mukhopadhyay P.K., Bindra K.S.  
Development of 60W average power all-fiber, Yb doped mode locked oscillator amplifier
  29. Gurram S., Daiya D., Patidar R.K., Varshnay N.K., Sharma J., Singh A., Benerji N.S., Joshi A.S.  
Fiber optic front end system for high energy laser: identification of design parameters, considerations and criteria
  30. Haldar S., Vashisht G., Porwal S., Sharma T.K., Dixit V.K.  
Effect of magnetic field on the radiative recombination efficiency of excitons and trions in GaAs/AlGaAs quantum well
  31. Jain R. K., Singh Rajpal, Bairwa M., Paul B., Saini B.K., Ekka B., Beshra J., Upadhyaya B.N., Sah S.K., Bhawsar V., Arya R., Sanyal D.N.\*, Barot R.R., Hansora M.P., Vhora S.F.\*, Bindra K.S.  
Laser cutting of stuck north end of S-7 coolant channel of KAPS-2 reactor
  32. Jinoop A.N., Yadav S., Paul C.P., Kumar U., Singh C.H.P., Bindra K.S.  
Laser additive manufacturing of overhang walls using direct energy deposition
  33. Joshi O.P., Singh B., Maskawade S.  
Data logger for femtosecond laser oscillator stage of table-top terawatt laser system
  34. Kalita S.\*, Punde S.\*, Dcunha N.\*, Kumar M., Biswas A.K., Ingale A., Goutam U.K., Rana L.B., Kaul R.  
Synthesis and characterization of N-doped TiO<sub>2</sub> nanoparticles grown by CO<sub>2</sub> laser based gas-phase pyrolysis technique
  35. Kamalesh T.\*, Karuppasamy P.\*, Pandian M.S.\*, Ramasamy P.\*, Verma S.  
Growth, optical and laser damage threshold properties of 4-dimethylaminopyridinium 4-nitrophenolate 4-nitrophenol (DMAPNP) for NLO applications
  36. Kamath M.P., Sanyal D.N.\*, Kumar Y.P., Tiwari S.K., Rishipal, Negi S.S., Saxena P., Singh I., Jain R., Gupta S., Gupta R.K., Saleem S., Bhanage V. P., Arya R. and Joshi A.S.  
Design and development of remotely operated laser-based system for calandria tube sag measurements of pressurised heavy water reactor

37. Karmakar S., Rai A.\*, Khan S., Pathak S.K., Gupta S.M., Tiwari V.S., Karnal A.K.  
Optical and densification investigation of Cr-doped alumina (ruby) ceramic
38. Karupphasamy P.\*, Kamalesh T.\*, Pandian M.S.\*, Ramasamy P.\*, Verma S.  
Unidirectional growth and characterizations of SHG active 2-Aminopyridinium 4- Nitrophenolate 4-nitrophenol (2APNP) single crystals for NLO applications
39. Khare R., Tiwari G.N., Shrivastava V.K., Shukla P.K., Murugan M., Kak A., Gupta R.K.  
Design and development of iron hollow-cathode discharge tube for laser optogalvanic spectroscopy
40. Kishore J., Saxena M.K., Kumar S., Mahakud R., Kher S., Dixit S.K.  
Development of a fiber Bragg grating based stand-alone strain measurement system for cryogenic environment
41. Krishnamurthy S.\*, Tayyab M., Makur K.\*, Ramakrishna B.\*, Bagchi S., Mandal T., Chakera J.A., Naik P.A.  
Ion source perturbation and control in intense laser plasma interaction
42. Kumar A., Kuruvilla A., Chakravarty U., Singh R., Upadhyaya B.N., Bindra K. S.  
Development of 43 W of all-fiber tm-doped CW fiber laser at 1940 nm
43. Kumar A., Singh A., Jain S., Kulkarni A.P., Patidar R.K., Satapathy S., Prasad Y.B.S.R., Benerji N.S., Chakera J.A., Joshi A.S.  
Linearity of PVDF detector and mass distribution of Aluminium-flyer with its velocity
44. Kumar H., Singh C.H.P., Kumar U., Nagpure D., Paul C.P., Bindra K.S.  
Laser additive manufacturing of multi-material clad layers using directed energy deposition: a route for joining of dissimilar materials
45. Kumar J., Agrawal S.K., Kumar K.V.A.N.P.S., Mahakud R., Kumbhkar U., Yadav D.P., Prakash O., Dixit S.K., Nakhe S.V.  
Development of FBG based distributed sensor system for temperature profile monitoring of dipole chamber of Indus-2
46. Kumar M., Rana L.B., Ittoop M.O., Singh B., Yadav R.K., Biswas A. K., Kaul R.  
Refurbishment of imported RF excited sealed-off CO<sub>2</sub> lasers used for providing high security features on passports and stamp papers
47. Kumar P., Kumar J., Kumar S., Purbia G.S., Kumbhkar U., Om Prakash, Dixit S.K.  
Studies on the detection of petrol adulteration using tilted fiber Bragg grating
48. Kumar P.Y., Tiwari S.K., Singh S., Rishipal, Daiya D., Muralidharan G., Kamath M.P., Sanyal D.N.\*, Tripathi A. K.\*, Ahmed I.\*, Jaffarullah S.N.\*, Kaware S.K.\*, Deshmukh A.B.\*, Gupta N.\*, Pal R. \*, Kumar V.\*, Gupta R.K., Joshi A.S.  
Non-contact sag measurement technique of nuclear reactor calandria tube using expanded He-Ne laser beam
49. Kumar S., Kumar J., Agrawal A.K., Singh B., Purbia G.S., O.Prakash, Dixit S.K., Nakhe S.V.  
Effect of synchrotron x-ray radiation on fiber Bragg gratings written in hydrogen loaded telecommunication and Erbium doped fiber
50. Kunwar H.S. \*, Verma S., Rao B.T., Sathe V.G. \*, Kaul R.  
Surface enhanced Raman scattering based dye molecular detection using silver and gold nanoparticles
51. Mahakud R., Kumar J., Kumbhkar U., O.Prakash, Dixit S.K.

- Thermal characterisation of long period fiber gratings written by 255 nm UV beam
52. Mandal T., Arora V., Moorti A., Chakera J.A.  
On fast electron energy spectra and its scaling in high intensity laser interaction with dense plasma
53. Mandloi C.S., Mishra S.K., Paul C.P., Bindra K.S.  
Development of co-axial wire feeding system for laser additive manufacturing
54. Mishra G.K., Kumar U., Singh C.H.P., Kumar A., Paul C.P., Bindra K.S.  
Laser additive manufacturing using direct energy deposition of alumina
55. Mishra S., Hazra D., Moorti A., Chakera J.A.  
Design and development of a broad-range magnetic spectrograph for laser plasma electron accelerator
56. Mishra S.K., Mandloi C.S., Paul C.P., Bindra K.S.  
Development of laser additive manufacturing system using powder bed fusion technology
57. Misra P., Kumar A., Jain R.K., Singh R., Upadhyaya B.N., Bindra K.S.  
Development of 700 W of single transverse mode all-fiber Yb-doped CW fiber laser at 1080 nm
58. Narwat D., Upadhyaya B.N., Arya R.  
Development of microcontroller based tool controller for in-situ laser cutting of circular weld joints
59. Nayak S.K., Mishra S.K., Mandloi C.S., Jinoop A.N., Paul C.P., Bindra K.S.  
Parametric investigation on indigenously developed powder bed fusion based laser additive manufacturing using SS 316L
60. Nigam S., Barnwal S., Aneesh K., Sharma M.L., Prasad Y.B.S.R., Tripathi P.K., Chakera J.A.  
Performance of ultra-compact repetitive capillary discharge soft X-ray laser
61. Pandey B.K.\*, Sinha A.K., Gopal R.\*  
Study magnetic character of  $Mn_2O_7$  nanocrystals synthesized by pulsed laser ablation
62. Patel H.S., Majumder S.K.  
Generating a curved photonic nanojet with asymmetric illumination
63. Pathak S.K., Khan S.\*, Karmakar S., Gupta S.M., Tiwari V.S., Karnal A.K.  
Effect of sintering aids on optical absorption and densification of Cr- $Al_2O_3$  ceramics, a lasing material
64. Patidar R.K., Daiya D., Kulkarni A.P., Varshnay N.K., Jain S., Singh A., Gurram S., Benerji N.S., Joshi A.S.  
A high gain pre-amplifier for front end of high energy laser system
65. Paul B., Saini B.K., Saxena S.K.\*, Kumar Y.\*, Bairwa M.K., Singh R., Shukla V., Bhardwaj V., Jain R. K., Kumar S., Narwat D., Bhawsar V., Arya R., Dash A.\*, Upadhyaya B.N., Bindra K.S.  
Development of pulsed Nd:YAG laser system for welding of Iodine-125 brachytherapy sources
66. Punde S.\*, Kalita S.\*, Kumar M., Biswas A.K., Rana L.B., Kaul R.  
Factors affecting the reproducibility of  $TiO_2$  nanoparticles synthesized by  $CO_2$  laser based gas pyrolysis technique
67. Rai A.K., Biswal R., Bhaker A.K., Raza R.\*, Khan M.A.\*, Sundar R.\*, Rai S.K., Nagpure D.C., Ranganathan K., Sinha S.K.\*, Bindra K.S.  
Effect of laser shock peening on surface residual stress in Zr-2.5Nb alloy
68. Rai A.K., Singh C.H.P., Biswal R., Ganesh P., Rai S.K., Paul C.P., Ranganathan K., Bindra K.S.  
Laser surface alloying of Inconel 718 with amorphous boron



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102. Tiwari S.K., Negi S.S., Kumar Y.P., Kamath M.P., Joshi A.S.  
Generation of elliptical Bessel beams
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triggering multiple Xe flash lamps in high energy, high power lasers

104. Verma S., De B.K. \*, Rao B.T., Singh R., Sathe V.G. \*, Kaul R.  
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105. Verma S., Managre J.\*, Debnath C., Kar S., Bartwal K.S., Tiwari V.S., Karnal A.K.  
Development and application of dual-wavelength interferometric diagnostic to simultaneously quantify thermal and concentration driving forces during TGS crystal growth from solution
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Remote operation of 2.0 kW RF excited FAF CO<sub>2</sub> laser system

**D.3 33<sup>rd</sup> National Symposium on Plasma Science & Technology (PLASMA- 2018), Delhi, Dec. 4- 7, 2018**

1. Chakravarty U., Vishnuraj R.\*, Biji P.\*  
Simple estimation of X-Ray enhancement due to broadband surface plasmon resonance in micro-flower targets irradiated by intense pulses
2. Hazra D., Mishra S., Moorti A., Khan R.A., Chakera J.A.  
Generation of quasi-monoenergetic electron beams through direct laser acceleration using ionization induced injection in high-Z mixed gas target
3. Singhal H., Rathore R., Ansari A., Chakera J.A.  
Time resolved X-ray diffraction study in GaAs crystal

4. Varshney P., Upadhayay A., Saxena V.  
Terahertz radiation generation by two cosh-Gaussian (ChG) laser beams with graphite nanoparticles

**D.4 International Conference on Fiber Optics and Photonics (Photonics-2018), New Delhi, Dec. 12-15, 2018**

1. Antony A.\*, P. Poornesh\*, Kityk I.V.\*, Sanjeev G.\*, Petwal V.C., Verma V.P., Dwivedi J.  
Electron beam induced enhancement in third harmonic process of spray coated Mn: ZnO nanostructures
2. C. Shalu \*, Yadav N.\*, Bhargava K.\*, Joshi M.P., Singh V.\*  
Dual wavelength tuned organic photo-detector fabricated with the blends of P3HT and DH6T
3. Gurung S., Singh A., Chari R., Jayabalan J.  
Signature of particle-particle interaction in plasmon peaks of Ag-CdTe hybrid nanostructures
4. Khana S., Sinha N., Khan S., Jayabalana J., Singh A., Chari, R.  
Ultrafast spin relaxation in near-surface quantum well
5. Kher S., Chaubey S., Saxena M., Kishore J., Dixit S.K.  
Specialty fibers and fiber devices based gamma radiation sensors for radiotherapy applications
6. Kumar J., Kumar S., Prakash Om, Dixit S. K., Nakhe S. V.  
Studies on the effect of 1 MGy radiation dose on the performance of FBG temperature sensors
7. Paul, N., Singh C.P., Gupta P.K., Mukhopadhyay P.K., Bindra K.S.  
Investigation of stimulated Raman scattering in mode-locked ytterbium-doped fiber amplifier setup

**D.5 Other Seminar/Conference Presentations**

1. Badapanda M.K., Tripathi A., Upadhyay R., Lad M.  
24-pulse input system of a solid state modular -100 kV, 25 A dc power supply  
*15<sup>th</sup> IEEE India Council International Conference (INDICON 2018)*, Coimbatore, Dec. 16-18, 2018
2. Darji H.\*, Vashisht G., Roychowdhury R., Haldar S., Khamari S.K., Dixit V.K., Sharma T.K.  
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*National Conference on Physics and Chemistry of Materials (NPCM-2018)*, Indore, Dec.27-28, 2018
3. Ghosh A., Ghosh H.  
Density functional theory based first principles electronic structure study on 112 Fe based superconductors: Fermiology and Lifshitz transition  
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4. Haldar S., Vashisht G., Ghosh U.K., Jaiswal A.K., Porwal S., Khakha A., Sharma T.K., Dixit V.K.  
Development of a simple cost-effective maskless-photolithography system  
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5. Khan A.A., Satapathy S., Ahlawat A., Srihari V., Karnal A.K.  
Effect of Er<sup>+3</sup> doping on spin reorientation temperature of SmFeO<sub>3</sub> orthoferrite  
*International Conference on Magnetic Materials and Applications (ICMAGMA-2018)*, Bhubaneswar, Dec. 9-13, 2018
6. Rao B.S., Kim H.T.\*, Shin J.H.\*, Oh K.H.\*, Jeon J.H.\*, Nam C.H.\*  
Controlled laser wakefield electron acceleration driven by elliptically shaped femtosecond high power laser beam  
*45th European Physical Society Conference on Plasma Physics (EPS-2018)*, Prague, July 2-6, 2018
7. Singh R., Bhartiya S., Singh A., Agarwal R.\*, Baretha N.\*, Kohli D.K., Singh M.K., Karnal A.K.  
Investigation of corrosion of carbon aerogels synthesized by different routes for fuel cell application  
*Materials & Technologies for Energy Conversion & Storage (M-TECS 2018)*, Mumbai, Sept. 26-29, 2018

**Note: '\*' indicates author affiliation other than RRCAT, Indore**