

## List of Publications and reports of Mr. Ekansh Mishra

1. **Ekansh, Mishra**, Dheeraj Sharma, Nitesh Mishra, Pritam S. Bagduwal, Pankaj Gothwal, Nitesh Tiwari and Mahendra Lad, “*Auto-configurable Clock Divider for Digital Low-Level Radio Frequency System of Infrared Free Electron Laser*” Indian Particle Accelerator Conference (InPAC), March, 2023.
2. M Prasad, Pritam S Bagduwal, Nitesh Mishra, **Ekansh Mishra**, Dheeraj Sharma, Pankaj Gothwal, Nitesh Tiwari & Mahendra Lad, “*Design, Development and RF Characterization of Tunable RF Cavity for LLRF Control Systems*”, Indian Particle Accelerator Conference (InPAC), March, 2023.
3. Nitesh Mishra, Pritam S. Bagduwal, Nitesh Tiwari, Dheeraj Sharma, Pankaj Gothwal, **Ekansh Mishra**, M. Prasad and Mahendra Lad, “*Design and Development of PLC Based RF Cavity Tuner System for 31.6MHz RF Cavities in Indus complex*”, Indian Particle Accelerator Conference (InPAC), March, 2023.
4. Dheeraj Sharma, Pritam S. Bagduwal, **Ekansh Mishra**, Nitesh Mishra, Pankaj Gothwal, Nitesh Tiwari & Mahendra Lad, “*Digitally Controlled Precision RF Signal Synthesis for LLRF Applications*”, Indian Particle Accelerator Conference (InPAC), March, 2023.
5. Nitesh Tiwari, Pritam S. Bagduwal, Dheeraj Sharma, **Ekansh Mishra**, Nitesh Mishra, Pankaj Gothwal, M Prasad and Mahendra Lad, “*Operational experience of Digital LLRF system for particle accelerators at RRCAT*”, Indian Particle Accelerator Conference (InPAC), March, 2023.
6. Pritam S. Bagduwal, Dheeraj Sharma, **Ekansh Mishra**, Nitesh Mishra, Pankaj Gothwal, Nitesh Tiwari and Mahendra Lad, “*Design and Development of Up-Graded Digital RF Gap Voltage and Phase Regulation Control Systems*”, Indian Particle Accelerator Conference (InPAC), March, 2023.
7. Pankaj Gothwal, Nitesh Mishra, Pritam S. Bagduwal, **Ekansh Mishra**, Dheeraj Sharma, Nitesh Tiwari and Mahendra Lad, “*Prototype Development of Digital Controllers for Multi-Module Current Sharing Power Supply for RF Amplifiers*”, Indian Particle Accelerator Conference (InPAC), March, 2023
8. **Ekansh Mishra**, Dheeraj Sharma, Nitesh Mishra, Pritam S. Bagduwal, Pankaj Gothwal, Nitesh Tiwari and M. Lad, “*Automated, contactless startup of Digital Low-Level Radio Frequency System of Indus-2*”, Indian Particle Accelerator Conference (InPAC), March, 2022.
9. Dheeraj Sharma, Pritam Singh Bagduwal, Nitesh Mishra, **Ekansh Mishra**, Nitesh Tiwari and Mahendra Lad, “*Design and Development of Digital Multichannel LLRF Control for Booster Synchrotron & Indus-1 SRS*”, Indian Particle Accelerator Conference (InPAC), March, 2022.
10. Nitesh Mishra, Pritam S. Bagduwal, **Ekansh Mishra**, Dheeraj Sharma, Pankaj Gothwal, Nitesh Tiwari and Mahendra Lad, “*Design, Development and Installation of PLC Based RF Power Monitoring and Protection System for Booster Synchrotron and Indus-1 SRS*”, Indian Particle Accelerator Conference (InPAC), March, 2022.
11. Nitesh Tiwari, Pritam S. Bagduwal, Dheeraj Sharma, **Ekansh Mishra**, Nitesh Mishra, Pankaj Gothwal, M.Prasad and Mahendra Lad, “*Design and Development of Digital Low level RF System for RFQ at RRCAT*”, Indian Particle Accelerator Conference (InPAC), March, 2022

12. Pankaj Gothwal, Nitesh Mishra, Pritam S Bagduwal, **Ekansh Mishra**, Dheeraj Sharma, Nitesh Tiwari and Mahendra Lad, “*Design and Development of Real Time Event Monitoring & Detection System for Low Level RF Control System*”, Indian Particle Accelerator Conference (InPAC), March, 2022
13. Pritam Singh Bagduwal, Nitesh Tiwari, Dheeraj Sharma, Nitesh Mishra, **Ekansh Mishra**, M. Prasad, Pankaj Gothwal and M. Lad, “*Design and Development Methodologies of LLRF Systems for Accelerators at RRCAT*”, Indian Particle Accelerator Conference (InPAC), March, 2022
14. Pritam Singh Bagduwal, Nitesh Tiwari, Dheeraj Sharma, Nitesh Mishra, **Ekansh Mishra**, Pankaj Gothwal and M. Lad, “*Commissioning of Upgraded 31.6 MHz RF System in Booster Synchrotron and Indus-1*”, Indian Particle Accelerator Conference (InPAC), March, 2022
15. Rajesh Keshwani, C I Sujo, Sandeep Bhrade, Mayur Sutar, Dheeraj Sharma, **Ekansh Mishra**, and Gopal Joshi, “*Installation and Commissioning of RF protection and Interlock System at HTS facility, RRCAT*”, Indian Particle Accelerator Conference (InPAC), March, 2022
16. Lad M., Kumar R., Jain A., Jain M.K., Badapanda M.K., Tiwari N., Raghu T., Wanmode Y.D., Tiwari A.K., Sharma D.K., Mohania P., Arora R.K., Deo R.K., Bohrey A, Gupta A.K., Bagduwal P.S., Gothwal P.K., Prasad M., Upadhyay R, Mahawar A, Tripathi A., Acharya M., Patel A., Kumar N., Mulchandani J.K., Pathak K., Sharma D., **Mishra E.**, Tyagi R.K., Mishra N., Pandey A., Rathi S., Kanyal G., “*RF systems development, commissioning and operation at RRCAT - an overview*”, Indian Particle Accelerator Conference (InPAC), March, 2022
17. Rishi Verma, **Ekansh Mishra**, Prosenjit Dhang, Basanta Kumar Das, Manraj Meena Lakshman Rongali and Archana Sharma, “*Development and characterization of compact plasma focus based portable fast neutron generator*”, Plasma Sci. Technol., IOPscience, 22, 115506 (9pp), 2020.
18. R.Verma, **E.Mishra**, P. Dhang, M. Meena, L. Rongali, JMVVS Arvind, S.K. Sharma, and A. Sharma “*Fast High current capacitor banks for electromagnetic pulse welding for fuel assembly applications*”, DAE BRNS Conference on Indigenous Fuel Program in India (INFPIN-2019 D18-20).
19. Prosenjit Dhnag, Rishi Verma, **Ekansh Mishra**, Manraj Meena, and Archana Sharma, “*Non-Invasive identification and quantification elements by D-D pulsed neutron generator*” 14 Biennial DAE BRNS Symposium Nuclear and Radiochemistry (NUCAR-2019)
20. **E. Mishra**, R. Verma, P. Dhang, M. Meena, L. Rongali and A. Sharma, “*Development of moving-arc switch for high charge transfer applications*”, National workshop on Pulsed Power Technology for EM Launcher and other Applications, 2018, ARDE, DRDO.
21. VenkataRatnam M, Surender Kumar Sharma, JMMV Aravind, Shobhna Mishra, Renu Rani, Ramanand Raman, **Ekansh Mishra**, Rishi Verma and Archana Sharma “*Electromagnetic Welding Facilities for Welding of Tubular Expansion and Compression Joints for Industrial Application*”, International Symposium on Joining of Materials (SOJOM), April, 2018
22. Rishi Verma, Prosenjit Dhnag, **Ekansh Mishra**, Rohit Shukla, Pankaj Deb, Manraj Meena, Karuna Sagar, Sunil A Swamy, Raghunath Acharya and Archana Sharma,

*“Non-Invasive identification and quantification of elements by intense neutron burst irradiation from Plasma Focus device”*, International Conference on Advanced Applications of Radiation Technology by NAARI (NICSTAR-2018)

23. S. K. Sharma, Renu Rani, Shobhna Mishra, JMVVS Aravind, R Raman, Sukant Mishra, E Mishra, R Verma, R Das, B K Bas and Archana Sharma, *“Electromagnetic Welding of SS alloy – SS316L tube to SS316L rod and the weld characterization”* International conference on Advances in Materials and Processing Technologies (AMPT), Chennai, December 2017.
24. Ekansh Mishra, R. Verma, P. Deb, S.A. Swamy, M. Meena, K. Sagar and A. Sharma, *“Design, Development and Installation of Pulsed High Current Test Facility”*, 3<sup>rd</sup> IEEE International Conference on Condition Assessment Techniques in Electrical Systems (CATCON 2017).
25. Rishi Verma, Rohit Shukla, Ekansh Mishra, Prosenjit Dhang, Premananda Dey, Karuna Sagar, Manraj Meena and Archana Sharma, *“Indigenous development of pulsed neutron generators for analytical applications”*, BARC News Letter, March-April 2017.
26. Rishi Verma, Ekansh Mishra, Karuna Sagar, Manraj meena and Anurag Shyam, *“Design and characterization report on development of plasma focus device based intense pulsed neutron source”*, BARC (Restricted) Report NO. BARC/2016/R/006.
27. Rishi Verma, Ekansh Mishra, Prosenjit Dhang, Karuna Sagar, Manraj meena and Anurag Shyam, *“Development and characterization of high yield transportable pulsed neutron source with efficient and compact pulsed power system”*, Rev. of Sci. Instrum., pp.095102-10, Vol. 87, 2016.
28. Ekansh Mishra, Rishi Verma, Karuna Sagar, Manraj meena and D. Venkeshwarlu, *“Design and development of high current test bed utilizing four parallel connected railgap switches in synchronized multichannel operation”*, National Symposium on Plasma Science and Technology (Plasma-2016), PSSI and Bharthiyar University, Dec 2016.
29. Ekansh Mishra, Rishi Verma, Karuna Sagar, Manraj meena and D. Venkeshwarlu, *“Characterization of cold cathode Thyatron switch”*, National Symposium on Plasma Science and Technology (Plasma-2016), PSSI and Bharthiyar University, Dec 2016.
30. Rishi Verma, Ekansh Mishra, Karuna Sagar, Manraj meena and D. Venkeshwarlu, *“Development of moving-arc switches for high charge transfer applications”*, National Symposium on Plasma Science and Technology (Plasma-2016), PSSI and Bharthiyar University, Dec 2016.
31. Rishi Verma, Ekansh Mishra, Karuna Sagar, Manraj meena and Anurag Shyam, *“Design, development and characterization of an optically isolated triggering module for high charge transfer ignitron switches”*, National Symposium on Plasma Science and Technology (Plasma-2016), PSSI and Bharthiyar University, Dec 2016.
32. Rishi Verma, Ekansh Mishra, Karuna Sagar, Manraj meena and Anurag Shyam, *“Development of compact Marx based flash X-ray source”*, BARC External Report NO. BARC/2016/E/006.
33. Ekansh Mishra, Rishi Verma, Karuna Sagar, Manraj meena and Anurag Shyam, *“Design and development of six-channel transmission line transformer for synchronized multi-channel operation of parallel connected railgap switches”*, BARC

External Report NO. BARC/2016/E/007.

34. Prosenjit Dhnag, Rishi Verma, **Ekansh Mishra**, Karuna Sagar, Manraj Meena, and Archana Sharma, “*Design and Development of Indium Activation Counter for Fast Burst of Neutron Yield Measurement from Plasma Focus Device*” National Symposium on Plasma Science and Technology (Plasma-2016), PSSI and Bharthiyar University, Dec 2016.
35. Prosenjit Dhnag, Rishi Verma, **Ekansh Mishra**, Karuna Sagar, Manraj Meena, and Archana Sharma, “*An explicit technique for anisotropy measurement in neutron emission from Plasma Focus Device by foil activation*” National Symposium on Plasma Science and Technology (Plasma-2016), PSSI and Bharthiyar University, Dec 2016.
36. R. Shukla, A. Shyam, R. Verma, **E. Mishra**, M. Meena, K. Sagar and P. Dhang, “*Result of Ultracompact Plasma Focus Operating in Repetitive Burst-Mode*” IEEE Transaction on Plasma Science Vol. 43 no. 8 pp.2354-2358, Aug 2015
37. **Ekansh Mishra**, Rishi Verma, Karuna Sagar, Manraj meena and Anurag Shyam, “*Triggering System for synchronized multichannel operation of four parallel connected railgap switches*”, National Symposium on Plasma Science and Technology (Plasma-2015), PSSI and Saha Institute of Nuclear Physics, Dec 2015.
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39. Rishi Verma, **Ekansh Mishra**, Karuna Sagar, Manraj meena and Anurag Shyam, “*Experimentations on Relativistic Magnetron as high power microwave source*”, National Symposium on Plasma Science and Technology (Plasma-2015), PSSI and Saha Institute of Nuclear Physics, Dec 2015.
40. Rishi Verma, **Ekansh Mishra**, Karuna Sagar, Manraj meena and Anurag Shyam, “*Resonant Tesla Driven Repetitive X-ray Emission Source*”, BARC External Report NO. BARC/2015/E/005.
41. Rishi Verma, **Ekansh Mishra**, Karuna Sagar, Manraj meena and Anurag Shyam, “*Development of low inductance triggerable sparkgap switch for fast switching applications*”, BARC External Report NO. BARC/2015/E/004.
42. Rishi Verma, **Ekansh Mishra**, Karuna Sagar, Manraj meena and Anurag Shyam, “*Pulsed high voltage measurements with compact coaxial capacitive sensors*”, BARC External Report NO. BARC/2015/E/003, June 2015.
43. **Ekansh Mishra**, Rishi Verma, R. Shukla, K. Sagar, M. Meena and A. Shyam, “*Design and development of triggering system for synchronized multi-channel operation of parallel-connected Railgap switches*”, IEEE International Symposium on Discharge and Electrical Insulation in Vacuum (ISDEIV-2014), Oct 2014.
44. Rishi Verma, **E.Mishra**, R. Shukla, P. Banerjee, T. Prabharan, K. Sagar, M. Meena and A. Shyam, “*Design and development of a portable flash X-ray source driven by battery powered compact Marx generator*”, IEEE International Symposium on Discharge and Electrical Insulation in Vacuum (ISDEIV-2014), Oct 2014
45. Pankaj Deb, SK Sharma, B Adhikary, T Prabaharan, R Shukla, R Verma, **E Mishra** and A. Shyam, “*Design and development of compact pulsed power driver for electron beam experiments*”, IEEE International Symposium on Discharge and Electrical

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46. T Prabakaran, A Shyam, R Verma, R Shukla, P Banerjee, S Sharma, R Das, P Deb, B Das, **E. Mishra**, B Adhikary, Meena Sagar, “*Ultrafast co-axial Marx generator delivering 800ps risetime high voltage pulse for vacuum breakdown studies*”, IEEE International Symposium on Discharge and Electrical Insulation in Vacuum (ISDEIV-2014), Oct 2014
47. R Shukla, A Shyam, R Verma, P Deb, E Mishra and M Meena, “*Generation of EM radiations using intense electron beam produced in vacuum*” IEEE International Symposium on Discharge and Electrical Insulation in Vacuum (ISDEIV-2014), Oct 2014
48. **Ekansh Mishra**, Rishi Verma, Manraj meena, Karuna Sagar and Aanurg Shyam, “*Synchronization of railgap switches for 1.2MJ ‘RUDRA’ capacitor bank*”, National Symposium on Plasma Science and Technology (Plasma-2014), PSSI and Mahatma Gandhi University, Dec 2014.
49. R.Verma, **E.Mishra**, R. Shukla, P. Banerjee, M. Meena, K. Sagar and A. Shyam, S. Pahari, S. Madhavan, N. Shiv and S. Chaturvedi, “*Experiments on hypervelocity electromagnetic implosion of cylindrical liners*”, National Symposium on Plasma Science and Technology (Plasma-2014), PSSI and Mahatma Gandhi University, Dec 2014.
50. Rishi Verma, **Ekansh Mishra**, Karuna Sagar, Manraj Meena and Anurag Shyam, “*Transmission Line Transformer for reliable and low-jitter triggering of a railgap switch*”, Rev. of Sci. Instrum., pp.095117-1-6, Vol. 85, Sep 2014.
51. Rishi Verma, Rohit Shukla, Surender Kumar Sharma, Partha Banerjee, Rashmita Das, Pankaj Deb, Basantya Das, **Ekansh Mishra**, Biswajit Adhikary, Karuna Sagar, Manraj Meena and Anurag Shyam, “*Characterization of High Power Microwave Radiation by an Axially Extracted Vircator*”, IEEE Transaction on Electron Devices Vol. 61 no. 1pp.141-146, Jan 2014.
52. Rishi Verma, **E. Mishra**, R. Shukla, K. Sagar, M. Meena, and A. Shyam “*Design and development of fast pulsar for initiating multichannel breakdown in railgap switch*” National symposium on plasma science and technology (Plasma-2013), PSSI and KIIT, Dec.2013
53. Rishi Verma, R. Shukla, S Sharma, B K Das, **E. Mishra**, K. Sagar, M. Meena, and A. Shyam, “*Design and development of high flux pulsed neutron source for applications*”, National symposium on plasma science and technology (Plasma-2013), Dec 2013.
54. **Ekansh Mishra**, “*Analysis of Steganography Techniques*”, National Conference on Recent Trends in Electronics and Electrical Engineering (NCRTEEE 2011), May 2011.