

## TECHNICAL REPORTS (TR) 2019-20

Validation of Smartex-C Vacuum Vessel Heating Results with FEM Radiation Analysis

RITESH KUMAR SRIVASTAVA, MANOJ KUMAR GUPTA, BHARAT R. DOSHI, LAVKESH T. LACHHVANI, MANU BAJPAI and YOGESH YEOLE  
IPR/TR-541/2019 (APRIL 2019)

CAE v1.1 - A Code for Magnetic Field Due to Arbitrary Electromagnets

DIVYANG R. PRAJAPATI and GATTU RAMESH BABU  
IPR/TR-542/2019 (MAY 2019)

Parallel & Distributed Computing (PDC) Using Low Cost, Compact and Portable Raspberry Pi Mini-Cluster: Pradyut

DEEPAK AGGARWAL, PRASHANT KUMAR, HARISH CHARAN, HEMANT JOSHI and N. C. PATEL  
IPR/TR-543/2019 (MAY 2019)

PLC based Data Acquisition and Control System for SST-1 Pumping Facility

KALPESHKUMAR R. DHANANI, PARAVASTU YUVAKIRAN, SIJU GEORGE, DILIP C. RAVAL and ZIAUDDIN KHAN  
IPR/TR-544/2019 (MAY 2019)

Design, Development and High Power Testing of a 3.7 GHz, 125 kW RF Vacuum Window for LHCD System of ADITYA-U Tokamak

YOGESH M. JAIN, P. K. SHARMA, P. R. PARMAR, KIRANKUMAR AMBULKAR and HARISH V. DIXIT  
IPR/TR-545/2019 (JUNE 2019)

LabVIEW Based Data Archival and Processing System for ICRH Experiment

RAMESH JOSHI, H. M. JADAV, SUNIL KUMAR and HIGH POWER ICRH SYSTEMS DIVISION  
IPR/TR-546/2019 (JUNE 2019)

Design, Erection, Testing and Commissioning of 220V DC, 50A Float Charger (FC), 100 A Float cum Boost battery Charger (FCBC) at 132kV IPR Substation

CHANDRA KISHOR GUPTA, SUPRIYA NAIR, PRAKASH PARMAR and CHIRAG BHAVSAR  
IPR/TR-547/2019 (JUNE 2019)

Revised Design of Signal Conditioning Electronics for SST-1 Thomson Scattering Detection Sub-System

VISHNU CHAUDHARI, JINTO THOMAS and H. C. JOSHI  
IPR/TR-548/2019 (July 2019)

A Hierarchal Approach to Extract Application Logs with Visualization in a Containerized Environment

SHARAD JASH, R. GANESH, TASMAY D. RACHHADIA and PURVA. K. SHAH  
IPR/TR-549/2019 (July 2019)

Thermohydraulic Analysis of Flexible Cryostat towards Cryoline for Superconducting Cables

M. GHATE, H. AGRAVAT, V. TANNA, U. PRASAD and R. SRINIVASAN  
IPR/TR-550/2019 (July 2019)

Design & Development of Instrumentation & Control System for Lead-Lithium MHD Experimental Loop

T. SRINIVAS RAO, S. VERMA, A. SARASWAT, D. MOHANTA, A. PATEL, S. GUPTA and R. BHATTACHARYAY  
IPR/TR-551/2019 (July 2019)

A Comparison of Computational Fluid Dynamics (CFD) Simulation and Experimental Results of Plasma Pyrolysis Reactor

HARDIK MISTRY, A. N. MISTRY, DEEPAK SHARMA, P. V. MURUGAN, A. SANGHARIYAT, V. JAIN, C. PATIL, B. K. PATEL, S. PATNAIK, P. CHAUDHURI, S. K. NEMA and SHASHANK CHATURVEDI  
IPR/TR-552/2019 (July 2019)

Effect of Plasma Processed Ti-Al Coating on Oxidation Resistance and Tensile Behavior of Ti6Al4V

TEJAS PAREKH, PAYANK PATEL, C. SASMAL and N. I. JAMNAPARA  
IPR/TR-553/2019 (July 2019)

Python based Post Processing/Data Analysis Utility for Ka-band Reflectometer

MANISHA BHANDARKAR, IMRAN MANSURI, JJU. BUCH, SURYA KUMAR PATHAK and KIRTI MAHAJAN  
IPR/TR-554/2019 (August 2019)

Validation of Phase Measurement using Digital IQ Technique on Down Converted IF Signal

DIPAL SONI, KUMAR RAJNISH and SRIPRAKASH VERMA  
IPR/TR-555/2019 (August 2019)

Design of Trans-Impedance Amplifier for Avalanche Photo-Diode Detector and LabVIEW based Automated Testing for Laser Assisted Applications

VISHNU CHAUDHARI, BHUMIKA ISARANI, H. C. JOSHI and USHA NILKANTHAN  
IPR/TR-556/2019 (August 2019)

Evaluation of ModSecurity for Implementation of Secure Web Application Firewall

SHARAD JASH  
IPR/TR-557/2019 (September 2019)

Testing and Performance Evaluation of Signal Conditioning Electronics Boards for SST-1 Thomson Scattering Detection Sub-System

VISHNU CHAUDHARI, JINTO THOMAS and H. C. JOSHI  
IPR/TR-558/2019 (October 2019)

An Overview of High Current Fast Response Power Supplies for the Fusion Machines

N. RAJAN BABU and R. B. JADEJA  
IPR/TR-559/2019 (October 2019)

Development of High Voltage Series Switch Technology for the Microwave Tube Anode Power Supply Pulsing Application

N. RAJAN BABU, B. K. SHUKLA and R. B. JADEJA  
IPR/TR-560/2019 (November 2019)

Vacuum Equipments Requirement for Prototype Basic Symmetric Chamber and Horizontal Access Module Chamber in Indian Laser Interferometer Gravitational Wave Observatory (LIGO)

S. SUNIL  
IPR/TR-561/2019 (November 2019)

Design and Assessment of Basic Symmetric Chamber (BSC) for Laser Interferometer Gravitational-Wave Observatory (LIGO)-India Project

RAKESH KUMAR, MANOJ KUMAR GUPTA and ZIAUDDIN KHAN  
IPR/TR-562/2019 (December 2019)

Hardware Integration of Stepper Drives Based Digital Control System for Probes Positioning

V. TANK, P. K. SRIVASTAVA, R. SUGANDHI, S. JAISWAL, K. KARMUR, V. SOUMYA, PRABHAKAR SRIVASTAV, A. K. SANYASI and L. M. AWASTHI  
IPR/TR-563/2019 (December 2019)

Design and Analysis of Liquid Nitrogen Cooled Sorption Cryopump for SST-1 Tokamak

VISHAL GUPTA, RANJANA GANGRADEY, SAMIRAN S. MUKHERJEE, JYOTI SHANKAR MISHRA, PRATIK A. NAYAK, PARESH PANCHAL, VIPUL L. TANNA, YUVAKIRAN PARAVASTU, DILIP C. RAVAL, ZIAUDDIN KHAN, SIJU GEORGE and PRASHANT L. THANKEY

IPR/TR-564/2019 (December 2019)

Mechanical Characterization of Steel Tendons for Actuation of Robotic Systems

JIGNESH CHAUHAN, PRAMIT DUTTA, RAVI RANJAN TIWARI and KRISHAN KUMAR GOTEWAL

IPR/TR-565/2020 (January 2019)

ANTYA High Performance Computing (HPC) System at IPR

DEEPAK AGGARWAL, ARVIND MOHAN SINGH, HEMANT JOSHI, GOVIND LOKHANDE, PRASHANT KUMAR, JUGAL CHOWDHURY, SWAPNALI KHAMARU, PAWANDEEP KAUR, RUPAK MUKHERJEE, VINOD SAINI, JASWANT PANCHUMARTI, GAURAV GARG, AGRAJ ABHISHEK, GURSHARN SINGH, HARDIK MISTRY, SRIKANTA SAHU, YOGESH JAIN, RAJARAMAN GANESH and R. SRINIVASAN

IPR/TR-566/2020 (February 2020)

3D Magneto-Structural Analysis of Magnetic Pulse Welding

A. AMARDAS and BHARAT R. DOSHI

IPR/TR-567/2020 (February 2020)

Evaluating Various Open Source Software Tools for Tracking System Issues and Usage of “Redmine” Software Tool

HITESH K. GULATI, ARNAB DASGUPTA and AMIT K. SRIVASTAVA

IPR/TR-568/2020 (February 2020)

ECE RADIOMETER SYSTEM FOR ADITYA-UPGRADE

VARSHA. S. and S. K. PATHAK

IPR/TR-569/2020 (March 2020)