

# Detailed Technical Programme

Day 1 (27<sup>th</sup> November, 2024)

8:30 - 09:30	REGISTRATION	Kanad
9:30 - 10:30	INAUGURAL SESSION	

11:30 - 13:00	Technical Session - 1	Chairman:	Kanad
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11:30 -12:15 Plenary Talk - 1 - Dr. V. Narayanan (LPSC-ISRO)

Topic: Cryogenic Propulsion Systems in Indian Space Programme

12:15-13:00

Talk by Life time Achievement Awardee

14:00 – 16:00	Technical Session - 2	Chairman:	Kanad
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Invited Talks

14:00-14:20	ID-171	Uttam Bhunia	Cold testing and Performance evaluation of QWR cryomodule for Post Acceleration of Rare Isotope Beam at VECC Kolkata
14:20-14:40	ID-261	S Raghavendra	2 K Test Facilities for Superconducting RF cavities at RRCAT
14:40-15:00	ID-263	P. S. Ghosh	Research Activities of Process Equipment and Design Laboratory at Cryogenic Engineering Centre at IIT Kharagpur on Space Propulsion

Contributory Talks

15:00-15:15	ID-69	Atul Garg	Conceptual design of current leads for liquid nitrogen cooled copper coils in SST-1
15:15-15:30	ID-79	J. S. Mishra	Application of cryogenics in developing pellet injectors for fueling and plasma control in magnetically confined fusion devices
15:30-15:45	ID-81	Bhargav Choksi	Performance results of upgraded Cryogenic System with 4 Cryo-condensation pumps during 0.2 to 0.7 MW Positive Neutral beam Operation
15:45-16:00	ID-122	Nidhin. S. L	Design and Manufacturing of 4K Cryostat for Superconducting Wavelength Shifter

14:00 - 16:00	Technical Session - 3	Chairman:	Helios
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Invited Talks

14:00-14:20	ID-265	S. Panigrahi	Design features of Cryogenic Turbo Pump
14:20-14:40	ID-221	Vivek Kr. Singh	Preliminary Studies on Sub-Kelvin Colling Solution for Space Applications
14:40-15:00	ID-252	Manu Varrier	Mathematical Modelling of cryogenic engine and its applications
15:00-15:20	ID-262	S. Kasthuriengan	Experimental and theoretical studies on warm up of thermal masses from 4 K to 300 K for Magnetic Resonance Imaging Applications

#### Contributory Talks

15:20-15:35	ID-130	Maria Sagajan. T	Long term storage and transfer of cryogenic propellants in space environment
15:35-15:50	ID-246	Divyang Bohra	3D Printed Gas Foil Bearings for Cryogenic Turbopumps in Cryogenic Propulsion-A Novel Approach
15:50-16:05	ID-90	U. G. P. S. Sachan	Development Testing and Magnetic Measurement of 1.5 Tesla MRI Magnet for Human Extremeties

**14:00 – 16:00 Technical Session - 4 Chairman: Nitron**

#### Invited Talks

14:00-14:20	ID-135	R. J. Thomas	Performance evaluation of different parameters of REBCO-based HTS Superconductor Cables
14:20-14:40	ID-235	S. Senthilnathan	SQUID-Based Magnetocardiography (MCG): a noninvasive tool to study cardiac activity
14:40-15:00	ID-266	Pintu Das	A closed cycle cryostat based single shot He-3 facility for experiments at 300 mK

#### Contributory Talks

15:00-15:15	ID-244	H. Bahirat	Force Measurements for Axial Superconducting Magnetic Bearing
15:15-15:30	ID-139	Vidur Raj	Superconducting NbN Nanowire based Mid-IR Single Photon Detectors
15:30-15:45	ID-226	Anuj Kumar	Anomalous magnetization behavior of RECrO <sub>3</sub> (RE = Nd Sm Eu and Gd) Orthocromites
15:45-16:00	ID-234	Lata Bisht	Utilization of low T <sub>c</sub> SQUID magnetometer in TDEM measurement for geophysical exploration

**16:30 - 18:00 Technical Session - 5 Chairman: Kanad**

#### Invited Talks

16:30-16:50	ID-236	Prashant	Applications of Cryogenic Engineering in Refrigerated Transport
16:50-17:10	ID-258	Pavitra Sandilya	Cryogenics for Energy Storage and Carbon Capture
17:10-17:30	ID-233	D. K. Agarwal	Investigation of Direct contact condensation of cryogenic fluid

#### Contributory Talks

17:30-17:45	ID-166	Sanjay Kr. Gajera	Brazing of stainless steel to OFHC copper using BVAg-8 silver paste by vacuum Brazing technique
17:45-18:00	ID-144	A. Chakravarty	Development of a cryo-adsorption based helium recovery system

**16:30 - 18:00 Technical Session - 6 Chairman: Helios**

#### Invited Talks

16:30-16:50	ID-55	K V Srinivasan	Understanding the Possibility of Extending the Helium Liquefier Operation Under the Critical Impurity Level
16:50-17:10	ID-145	Mukesh Goyal	An Update on the development of Cryogenic Systems at CrTD BARC
17:10--17:30	ID-196	Ananta Kumar Sahu	Commissioning results of indigenous helium plant of capacity 200 W at 4.5 K and plan to upgrade to 1 kW
17:30-17:50	ID-212	Upendra Behera	Cryogenic research activities at Centre for Cryogenic Technology IISc Bangalore

#### Contributory Talks

17:50-18:05	ID-156	Ankit Jain	Development and Commissioning of LHP100 helium liquefier/refrigerator
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**16:30 –18:00 Technical Session - 7 Chairman: Uttam Bhunia and Rijo Jacob Thomas Nitron**

#### Invited Talks

16:30-16:50	ID-103	Upendra Prasad	High temperature superconducting magnet for magnetic fusion: R&D update and plan
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#### Contributory Talks

16:50-17:05	ID-157	A. Rai	Surface Processing of Niobium Quarter Wave Resonators for the IUAC Linac
17:05-17:20	ID-173	Ashutosh Pandey	Recent Operation of the Superconducting Linear Accelerator for User Experiments at luac

17:20-17:35	ID-260	A. Bhardwaj	Development of SS316L End-Group for Bg 0.9 650MHz Superconducting Cavity
17:35-17:50	ID-271	Sumit Kumar Nayak	Development of High-Temperature Superconducting Switches (YBCO) for Next-Gen MRI Applications

## Day 2 (28th, November, 2024)

<b>9:30 - 10:10</b>	<b>Technical Session - 8</b>	<b>Chairman:</b>	<b>Kanad</b>
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**Plenary Talk - 2 - Dr. David Grillot**

**Topic: ITER Helium Cryogenic System installation and commissioning status**

<b>10:15 - 11:05</b>	<b>Technical Session - 9</b>	<b>Chairman:</b>	<b>Kanad</b>
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**Contributory Talks**

10:15-10:30	ID-230	Sachindra Kumar Rout	Development of helium compressor for GM and GM - type pulse tube refrigerator
10:30-10:45	ID-179	Krunal Mistry	Evaluation of Hydrogen Liquefier options for large-scale liquefaction
10:45-11:00	ID-242	Indranil Ghosh	Computational studies on sorption hydrogen compressor

<b>10:15 - 11:05</b>	<b>Technical Session - 10</b>	<b>Chairman:</b>	<b>Helios</b>
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**Invited Talks**

10:15-10:35	ID-253	S. Mahapatra	The Dilution Refrigerator: A crucial Tool for Development of Quantum Technologies
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**Contributory Talks**

10:35-10:50	ID-104	Venkatesh Dasari	An alternate approach to modelling of cryogenic heat exchangers
10:50-11:05	ID-194	Dipanshu Bansal	Design and Analysis of continuous heat exchanger for dilution refrigerators

<b>10:15 - 11:05</b>	<b>Technical Session - 11</b>	<b>Chairman:</b>	<b>Nitron</b>
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**Contributory Talks**

10:15-10:30	ID-209	Anand Pal	Exploring the mysterious pseudo gap in high- <i>t<sub>c</sub></i> cuprate superconductors
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10:30-10:45	ID-251	Nidhi Choudhary	Analysis of superconducting and optical properties in atomic layer deposition and sputtered thin films for next-generation single-photon detectors.
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**Invited Talks**

10:45-11:05	ID-267	Sanjoy Chouksey	Superconducting Radio Frequency Cavities Development at RRCAT: Technological issues and Challenges
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**11:30 - 13:00**

**Technical Session - 12**

**Chairman:**

**Oxys**

**Poster Session - 1**

**101. Large and Medium Scale Helium Refrigeration & Liquefaction**

ID-70	T. K. Maiti	Simulation of a helium liquefier model under various off-design mixed mode operations with and without LN2 pre-cooling
ID-75	Pradip Panchal	Migration of Control System for Oil Removal System of Helium Refrigerator cum Liquefier System
ID-84	O. Chandratre	Procedure of Helium Turbine Assembly with Indigenous liquid Helium Cold Box Pressure Test and Leak Test
ID-113	P. Brahmbhatt	Study of effect of Isenthalpic Joule-Thomson valve and Isentropic wet expander on Refrigeration Capacity of Helium Plant
ID-147	A. A. Shinde	Product And Process Optimisation In The Development Of High-Flow Charcoal Adsorber For Cryogenic Application
ID-149	Arijit Das	A test setup of 2k heat exchanger for evaluating its thermo-hydraulic performance
ID-161	Hitesh R Kavad	Measurement of impurities in helium gas at different locations in operation of indigenously developed helium liquefier plant at IPR

**102. Cryogenics systems for accelerators and fusion devices**

ID-58	Pankil Shah	Experience on Overhauling of Helium Reciprocating compressor
ID-61	Rohit Kumar	Cryogenic Distribution Performance Assessment for an 80K Thermal Shield in a Large-Scale Cryostat
ID-62	Rakesh Kr. Patel	Cryogenics Aspects of Proposed Liquid Nitrogen Cooled Copper Coils of SST-1

ID-64	G. Mahesuria	Upgradation of Wonderware Intouch SCADA software for SST-1 cryogenics system
ID-67	Dikens Christian	Operational experience of 12 kA/16 VDC switch mode power supply for testing MgB <sub>2</sub> shunt with HTS current leads at IPR
ID-72	Vivek Sharma	Simulative Analysis of Friction Factor Correlations for Subcooled Cryogenic Fluids Using ANSYS Fluent
ID-80	M. Ghate	Design fabrication installation and testing of a cold bore vertical cryostat for High temperature superconducting magnets
ID-85	Ankit Tiwari	Design of Relief System for Accidental Scenarios of HB 650MHz Cryomodule
ID-89	Nirmalya Datta	Safe storage handling and use of compressed gas in cryogenic plant at VECC

### **103.Cryocoolers and their application**

ID-53	K. V. Srinivasan	Design Optimization and study of Fluid Dynamics for the Porous Multi-Layered Porous and Hybrid Regenerators for Cryogenic Applications
ID-83	Paresh Panchal	Characterization of the cryostat configuration for Argon pellet freezing experiments
ID-96	Brindaban Ghosh	Thermal Analysis of Recondenser for Helium Liquefaction using Cryocooler
ID-133	Sarvesh Kashyap	Design and Preliminary Testing of the Stirling Pulse Tube Cryocooler
ID-150	Kallol Mukherjee	Development of an optical cryostat for Raman Spectroscopy.
ID-188	Prabhakara S	Experimental investigation of pressure drop across regenerator at cryogenic temperature
ID-191	Darshit Parmar	Mixed Refrigerant Joule-Thomson (MRJT) cryocooler for medical applications
ID-199	Kashif Akber	Systematic Parametric Study of Regenerators in Cryocoolers using REGEN 3.3
ID-208	A. H Hulibandi	Computational analysis of trapezoidal shaped permanent magnet linear motor for cryocoolers
ID-229	S. K. Rout	Development of single stage GM Cryocooler at C V Raman Global University Bhubaneswar

### **104.Cryogenics for Space**

ID-184	Siddhant Jaisal	Design Studies of Flexure bearing for Space Grade Cryocooler Pressure Wave Generator (PWG)
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ID-195	Omkar Parit	Ortho-Para Hydrogen Conversion in Space Applications: A Review of Challenges and Solutions
ID-201	A. L Hareendran	Experimental measurement and study of thrust generated by Magneto Plasma Dynamic Thruster (MPDT)
ID-219	Gautam Ranjan	Design of Nb3Ti-based Superconducting Magnet for Adiabatic Demagnetisation Refrigerator
ID-220	R. P.Sharma	Performance Evaluation of Tungsten Magneto-resistive Heat Switch Using Adaptive Neuro-Fuzzy Inference System and Artificial Neural Network Models

#### **105.Dilution Refrigerator**

ID-151	M. K. R. Pulagam	Design and development of an indigenous gas gap switch
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#### **107.Heat and Mass Transfer at low temperature**

ID-57	H. Nimavat	Heat-in-leaks investigation and its resolution in large Cryogenic Storage tanks
ID-169	Javed Akhter	Parametric study on the Two-Phase Heat transfer in a Microchannel using CFD
ID-181	Rohan Kundu	CFD based investigation of evaporation behavior in water and liquid cryogen
ID-243	Shrabani Ghosh	Effect of stacking sequence of epoxy-based GFRP laminates on its thermal conductivity measurement at low temperature

#### **108.Cryogenics for medical and food application**

ID-112	Manan Gulati	Thermal and CFD Analysis of a Liquid Nitrogen-Based Refrigerated Transport Container
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#### **109.Cryogenics for Industrial Application**

ID-111	D. Sinnarkar	Design failure mode and effect analysis of liquid nitrogen based refrigerated transportable standalone container
ID-125	Pavitra Sandilya	A preliminary study to determine the charging cut-off temperature in a packed bed cryogenic energy storage system
ID-128	Abhishek Singha	ANN-based prediction of solid-vapor equilibria for N2-CO2 system relevant to cryogenic carbon capture

#### **110.Novel/Futuristic applications of cryogenics**

ID-190	Binet Monachan	Experimental Investigation on the Influence of Mutual Capacitance and Channel Width on the Performance of a Cryogenic Two-Phase Flow Meter
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#### **111.Cryogenic instrumentation and control**

ID-71	Ramesh Kr. Joshi	Open Source Prototype DAQ Application For Lab level Cryogenics Experiments
ID-82	Niraj Chaddha	Cost effective open-cycle cryostat using liquid nitrogen for studying cryogenic properties of a systems
ID-110	S. C. Patidar	In house Development of a Liquid Nitrogen Level Probe with Transmitter
ID-178	Abdul Nazer K H	Monte Carlo simulation-based analysis of cryo-panel array design for LN2 cryo-adsorption vacuum pumps using MolFlow+
ID-186	H. K. Raj	Design and implementation of a capacitance measurement circuit for ECT sensors in cryogenic two-phase flow applications
ID-187	Chinnu V K	Comparative simulation studies on displacement amplifier compliant mechanism for actuation applications in low temperatures

### **112.Other novel applications**

ID-123	Md. W. Siddiqui	Replacement of R23 with Lower GWP Refrigerant R472A in Ultra Low Temperature (ULT) Refrigeration System
ID-153	Tapas Kr. Nandi	Development of an experimental setup for testing of a pressure wave refrigerator

### **201.Superconducting magnets for Accelerators and Fusion Programs**

ID-63	Swati Roy	Study on arcing incidences in SST-1 PF superconducting magnet bus-bars and current leads
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### **202.Superconducting cavities for Accelerators**

ID-115	Abhishek Jain	Weld Parameters Development for Fabrication of 650 MHz SCRF Cavity using Pulsed Nd:YAG Laser
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### **203.LTS/HTS superconducting material**

ID-99	Yogendra Singh	Fabrication and characterization of MgB <sub>2</sub> /Nb superconducting strand
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### **204.Superconducting Magnets for research application**

ID-95	Piyush Raj	Development and testing of novel hybrid CICC joint
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### **205.Superconductivity for Power Applications**

ID-136	Abhishek Kumar	Design and Simulation of Partially Superconducting Synchronous Generator using 2G HTS Tape
ID-205	Divya Kr. Sharma	Development of Cryogenic Test Facility for High Temperature Superconducting (HTS) Pole Coils of MW level HTS Synchronous Motors

### **206.Superconducting MRI magnet**



ID-200	Sumit Kr. Chand	HTS Tape joining techniques and its I-V characterization at 77 K
ID-211	Neha Sharma	4K GM-cryocooler based test rig for characterization of superconducting joints for Conduction-Cooled MRI Magnet

**14:00 - 14:40**      **Technical Session - 13**      **Chairman:**      **Kanad**

**Plenary Talk – 3: Prof. Richard Magdalena Stephan**

**Topic: Superconducting Magnetic Levitation (SML): A New Generation of Urban Maglev Vehicles**

**14:45 - 16:15**      **Technical Session - 14**      **Chairman:**      **Kanad**

**Invited Talks**

14:45-15:05	ID-249	A. Narayan	Aspects of configuration design and mechanical integration of LOX-LH2/LOX-kerosene rocket engines
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**Contributory Talks**

15:05-15:20	ID-106	Avinash Kr. Yadav	An integrated thermodynamic model for liquid oxygen tank pressurisation system during a rocket engine operation
15:20-15:35	ID-264	Vivek S	Numerical and experimental investigation of bowing in large diameter liquid oxygen feed lines
15:35-15:50	ID-174	S. R. Mohanty	Second-order study of micro-Stirling cryocooler with corrected regenerator temperature: performance and loss analysis
15:50-16:05	ID-138	I. Maheshwari	Thermal performance evaluation of microwave remote sensing satellite tile antenna in radiation mode using a gaseous nitrogen based thermal vacuum system.

**14:45 - 16:15**      **Technical Session - 15**      **Chairman: Ranjana Gangradey and Vivek Kumar Singh**      **Helios**

**Invited Talks**

14:45-15:05	ID-247	Sunil Kr. Sarangi	Design of a GM-type Pulse Tube Cryo-cooler for an Entry-level Research Cryostat
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**Contributory Talks**

15:05-15:20	ID-68	Sujaan Khan	Design analysis to pre-cool the cold mass using a 4K PT cryocooler
15:20-15:35	ID-238	Upendra Behera	Development of indigenous single-stage and two-stage mechanical drive GM cryocooler
15:35-15:50	ID-119	D. R. Singh	Cryocooler Development at RRCAT: Challenges and Achievements

15:50-16:05	ID-222	A. Badgujar	Theoretical and Experimental Investigation of Stirling type Pulse Tube Cryocooler with a Cold Phase Shifter
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<b>14:45 - 16:15</b>	<b>Technical Session - 16</b>	<b>Chairman:</b>	<b>Nitron</b>
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**Invited Talks**

14:45-15:05	ID-269	M.Chorowski	Design, production and commissioning challenges of helium cryogenic distribution systems
15:05-15:25	ID-121	Nitin Shah	India's contribution to the cryogenic system of ITER and present status
15:25-15:45	ID-146	A. Chakravarty	A Helium Refrigerator for Hydrogen Liquefaction: Prospects and Possibilities

**Contributory Talks**

15:45-16:00	ID-141	Sandip Pal	Progress Update for the cryogenic system of the RIB e-Linac facility
16:00-16:15	ID-160	Naveen Kumar	Conceptualisation and design of a new rotor bearing system for ultra-high speed cryogenic turboexpander

<b>16:45 - 18:30</b>	<b>Technical Session - 17</b>	<b>Chairman:</b>	<b>Kanad</b>
<b>Industry Session</b>			

16:45-17:05	<b>Platinum</b>	Inox India Ltd.
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17:05-17:20		Stirling Cryogenics BV, Netherlands
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17:20-17:35		Apollo Heat Exchangers Private LTD.
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17:35-17:50	<b>Gold</b>	Noblegen Cryogenics India Private Ltd.
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17:50-18:05		Linde Kryotechnik AG
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18:05-18:20		FDGsi India Private Ltd.
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## Day 3 (29th, November, 2024)

**9:00 - 9:40**      **Technical Session - 18**      **Chairman:**      **Kanad**

**Plenary Talk – 4: Dr. Lionel Quettier**

**Topic: The Iseult 11.7T Whole Body MRI odyssey**

**9:45 - 11:10**      **Technical Session - 19**      **Chairman:**      **Oxys**

**Poster Session - 2**

### **101. Large and Medium Scale Helium Refrigeration & Liquefaction**

ID-162	Nawratan Kumar	Experimental results of pressure drop of Cryogenic Filter for helium gas to use in helium liquefier plant
ID-143	Sandip Pal	Development of test setup for the turboexpanders and plate-fin heat exchangers
ID-170	N. A. Ansari	LHP100 helium liquefier cryogenic piping flexibility analysis
ID-172	S. K. Bharti	Design of a new test set-up for experimental evaluation of Spiral Groove Thrust Bearings
ID-176	M. Jadhav	Studies on cryogenic turboexpanders for LHP100 Helium liquefier
ID-214	Ananta Sahu	Thermo-hydraulic analysis to find safe flow parameters of turbine start-ups in helium plant operation
ID-203	Upendra Behera	Indigenous development of cryocooler based helium liquefier

### **102. Cryogenics systems for accelerators and fusion devices**

ID-92	Arvind Tomar	Design and development of pressure drop test facility for solenoid coils
ID-100	Pratik Kumar	Experimental evaluation of hydrogen gas sticking coefficients on cryogenic panels for cryo-pump development
ID-155	Gaurav Agrawal	Thermal analysis of strongback for HB650 MHz cryomodule at RRCAT
ID-159	Jitendra Kumar	Development and initial experiments of super fluid helium cryoplant "SHP20"
ID-164	Gaurav Purwar	Enhancement of the Electrical Power Distribution Network for the 1.3 kW at 4.5K Helium Cryo Plant and LN2 Pre-Cooling System at IPR
ID-60	L.N. Srikanth. G	Periodic testing of liquid nitrogen storage vessels

ID-116      Manoj Kumar      Design optimization and numerical analysis of pillow plate panel for cryogenic application

### **103.Cryocoolers and their application**

ID-239      Debashis Panda      Characterization of regenerator matrix materials in the range of 30 K to 4.2 K temperatures towards the development of miniature pulse tube cryocoolers for space applications

ID-248      Debashis Pasa      A quasi-one-dimensional numerical model of GM-type pulse tube cryo-refrigerator

ID-134      Om Khairnar      Mathematical Modeling and CFD Analysis of Cryocooler Performance for a Low-Capacity Helium Purification System.

ID-165      S. A. M. Krishna      Experimental Analysis On Refrigeration System Based On Adsorption Employing Characteristic Physical Adsorbent Serviceable Braces

ID-202      Archana B Suresh      CFD simulation of an integral type free piston Stirling cryocooler with multi-mesh regenerator

ID-204      Sijo K K      Parametric and CFD analysis of a two-stage free piston Stirling cooler working at 70 K

ID-228      Vardhan J. Shah      Modelling and Analysis of Moving Magnet Type Linear Compressors

ID-232      S. Saha      Development of HTS current lead for cryo-cooler based Superconducting Magnet.

### **104.Cryogenics for Space**

ID-107      Niranjana K. Sabu      Numerical study of cryogenic cavitation in a venturi for low exit pressure

ID-109      Deep Kant Raj      Investigation of flow behaviour in a vertical cryogenic feedline with stagnant fluid

ID-148      Khalid Rashid      Study the effect of vortex chamber geometry on spray characteristics of closed type swirl injector for high thrust cryogenic liquid rocket engine

ID-175      Alok Palatasingh      Performance analysis of compact Joule-Thomson cryocooler using Aspen-HYSYS optimization tool

### **106.LNG and Liquid Hydrogen as Fuel**

ID-185      E. Arun Kishore      Comparative Analysis of Steady-State and Transient Heat Transfer Models for LNG Tank Insulation in Maritime Transportation

### **107.Heat and Mass Transfer at low temperature**

ID-180	Yogendra Kuwar	Theoretical estimation of heat in-leak and boil-off in the Cryogenic storage system
ID-223	Vivek Kr. Singh	Mathematical Modelling of Nitrogen Axial Grooved Heat Pipe for Potential Space Applications
ID-237	D.Mohanty	Transient heat transfer analysis of low-temperature packed-bed for Cryogenic Energy Storage system

#### **108.Cryogenics for medical and food application**

ID-131	Vivek Wagadiya	Design and Numerical Analysis of Cryogenic Distillation Column for Extraction of Liquid Oxygen
ID-91	U. G. P. S. Sachan	Persistent Mode operation and NMR Measurements in 1.5 Tesla MRI Magnet

#### **109.Cryogenics for Industrial Application**

ID-257	Pavitra Sandilya	Prospects for improving the TRL of cryogenic carbon capture
ID-241	Indranil Ghosh	Open-cell metal foam as an anti-sloshing baffle

#### **111.Cryogenic instrumentation and control**

ID-189	Praveen Topagi	Development of calibration facilities for cryogenic temperature sensors and mass flow meter measurements
ID-197	N. Venugopal	Inverse Approach for RRR Measurement in Thin-Film Nb-Coated SRF Cavities Using Planar Inductor Eddy Current Sensors
ID-255	M. D. Shetty	Development of Helium Gas Management System for Cryogenic plant in LabVIEW for TIFR Mumbai
ID-54	H.J. Dave	Design of Distributed Control and Data Acquisition System of Cryogenics Plant System
ID-88	A. K. Sikdar	Field emission point for high magnetic field operation at cryogenic temperature
ID-114	Moni Banaudha	Development of Instrumentation to evaluate the heat conducting property of different material at cryogenic temperatures
ID-124	R. N. Dutt	Automation of Liquid Nitrogen Tank Level and Pressure Control for Detector Filling System for the INGA facility at IUAC.

#### **112.Other novel applications**

ID-240	Abhinav Singh	Numerical Study of a Two-turn Nitrogen Pulsating Heat Pipe
ID-245	H.Bahirat	A Spider Structure for Conduction Cooled Coils

#### **201.Superconducting magnets for Accelerators and Fusion Programs**

ID-167	Chirag Dodiya	Operational protocol of superconducting magnet system of SST-1
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**202.Superconducting cavities for Accelerators**

ID-207	Sandeep R. Nair	Preliminary EB Welding and RRR studies on Niobium for SSR Cavity development for MEHIPA-1
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ID-231	P. Priyadarshini	Surface Processing Facility for MEHIPA-1 Superconducting Cavities
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**204.Superconducting Magnets for research application**

ID-108	Anees Bano	Experimental study of various joint configuration of HTS GdBCO tape for superconducting magnet application
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**205.Superconductivity for Power Applications**

ID-206	Divya Kr. Sharma	Estimation of Machine Parameters of 8 MW HTS Synchronous Motor using FEM based Electromagnetic Analysis
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ID-227	Farukh Khan	Development of High-Temperature Superconductor Current Lead for Cryogen-free Superconducting Magnet System
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ID-198	Arijeet Roy Chowdhury	Design and electromagnetic analysis of HTS based shielded iron core type Inductive SFCL
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**206.Superconducting MRI magnet**

ID-210	A. K. Goswami	4K GM cryocooler based test rig for characterization of superconducting switches for Conduction- Cooled MRI magnet
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**208.Other novel applications**

ID-132	Vyom Saxena	Occupational Safety Aspects in Superconductivity Research and Applications
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<b>11:30-13:10</b>	<b>Technical Session - 20</b>	<b>Chairman:</b>	<b>Kanad</b>
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**Invited Talks**

11:30-11:50	ID-102	Vipul kumar Tanna	Cryogenic Cooling Options for steady state Nuclear Fusion Devices
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11:50-12:10	ID-225	R. Gangradey	The Cryopump AGASTYA A step towards Self Reliance
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**Contributory Talks**

12:10-12:25	ID-86	R. K. Sharma	Process analysis and sizing of heat exchangers used in LN2 cooled external helium purifier
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12:25-12:40	ID-87	Prabhat Kr. Gupta	Design and flow distribution analysis of helium dryer for external purification system
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12:40-12:55	ID-105	Rohan Dutta	Integration of LNG regasification and Cryogenic Energy Storage systems towards addressing cold-loss during regasification intermittent renewable energy and CCU
12:55-13:10	ID-224	S. S. Sisodia	Thermal Characterization of Thermal Heat Switch for Space Cryogenic Instruments

<b>11:30-13:10</b>	<b>Technical Session - 21</b>	<b>Chairman:</b>	<b>Helios</b>
	<b>Thesis Session</b>		

11:30-11:55	ID-192	M. M. Jadhav	Theoretical and Experimental Investigations on Radial Turbomachines for Helium Cryogenic Systems
11:55-12:20	ID-193	B. Nitin	Significance of support system and liquid sloshing on the storability of pure cryogens in dewars
12:20-12:45	ID-117	Ankit Anand	Optimal design development and testing of HTS-based superconducting magnet for energy storage application
12:45-13:10	ID-137	Nitin Bairagi	Study of MgB <sub>2</sub> based superconducting current feeders system for fusion devices

<b>11:30-13:10</b>	<b>Technical Session - 22</b>	<b>Chairman:</b>	<b>Nitron</b>
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**Contributory Talks**

11:30-11:45	ID-73	Joydip Nandi	Quality factor enhancement of detection electronics of Penning trap at cryogenic temperature
11:45-12:00	ID-93	A. K. Sikdar	Dielectric measurement at low temperature using indigenously built open cycle cryostat
12:00-12:15	ID-154	S. K.Jain	Commissioning of MPROGICON PLC for Control and Instrumentation of LHP100 Helium Liquefier
12:15-12:30	ID-158	T. K. Bhattacharyya	VECC Superconducting Cyclotron Cryogen Delivery Control System Operational experience and various upgrades
12:30-12:45	ID-270	Joby Antony	The IUAC Cryogenic control room and some recent machine learning tests
12:45-13:00	ID-120	Garkki B	Dynamic analysis of AC loss in HTS SMES integrated with DFIG during voltage disturbances using field-circuit interaction method

