



# The 4<sup>th</sup> State

Newsletter of the Institute for Plasma Research, Gandhinagar, Gujarat (India)

Issue 155

June 2026

## Highlights of the Issue

### Landmark achievement in ADITYA-U Tokamak



### Inverse Mirror Plasma Experimental Device



### राजभाषा उपलब्धि

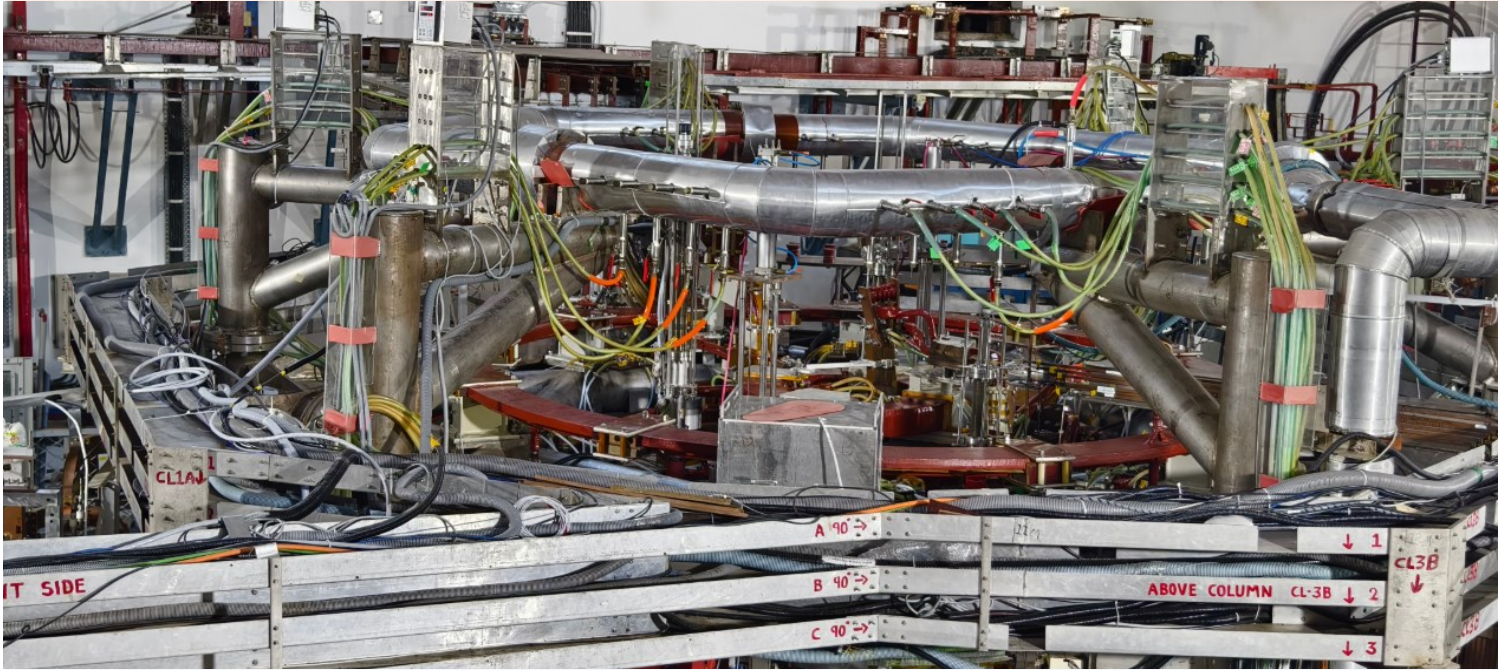


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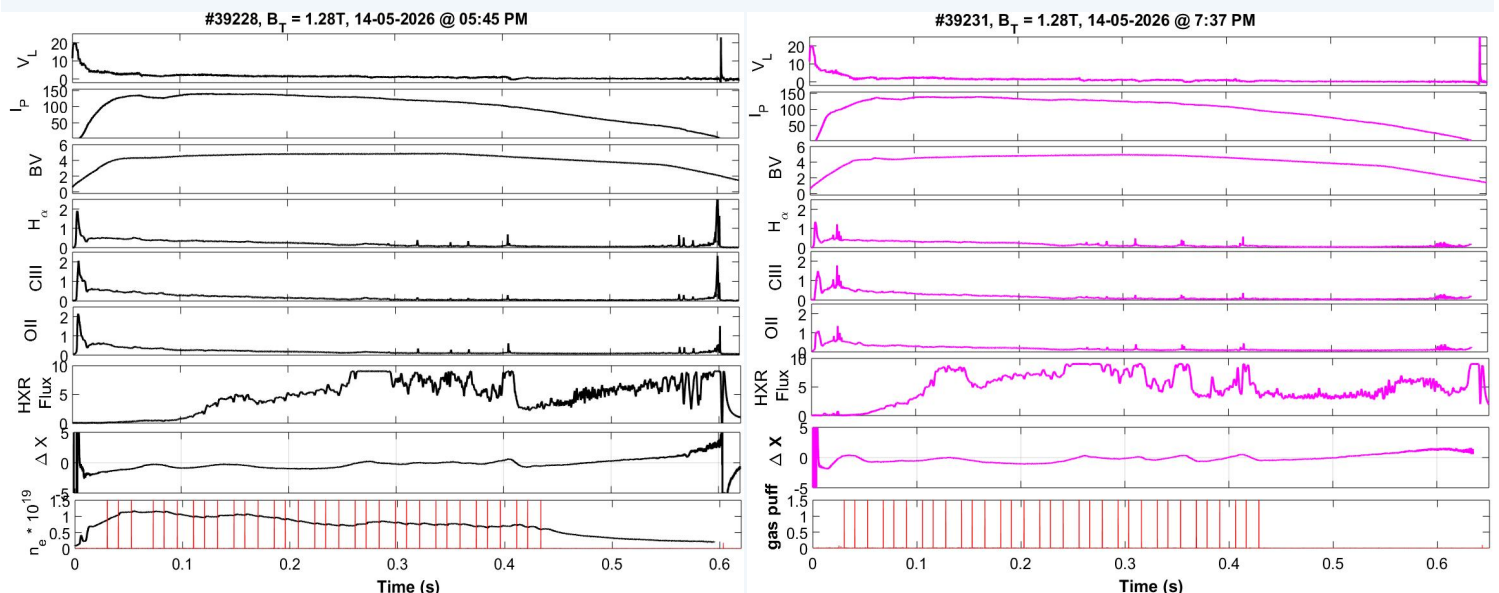
## Landmark Achievement in ADITYA-U Tokamak Plasma Discharge



ADITYA-U Tokamak

The **ADITYA-U Tokamak** at the Institute for Plasma Research (IPR) has recorded a breakthrough in plasma operations. Plasma operations has been successfully achieved with extended plasma pulse length **beyond 0.6 s**, achieving a new record maximum pulse length of  $\sim 0.643$  s (Shot #39231) with improved plasma current flattop in pure Ohmic Hydrogen circular plasmas (without LH). This is the **longest plasma pulse** achieved so far in the history of ADITYA/ADITYA-U tokamak operations. This achievement was realized through systematic optimization of the operating conditions, with the utilized volt-sec gradually increased from 67% to 72% of the total available 1.2 Vs. This includes improved wall conditioning using Ar + H<sub>2</sub> gas-mixture GDC, optimization of the resistance setting in the Ohmic circuit, and pre-programmed tuning of the Ip references and vertical field. As a result, a sequence of increasingly longer and repeatable discharges was obtained: 0.603 s, 0.624 s, and finally 0.643 s, demonstrating clear improvement in both **plasma performance and operational reproducibility**.

Importantly, these long-duration discharges are now being achieved repeatedly and reliably, reflecting substantial improvement in machine conditioning, operational robustness, and plasma control capability. The recent achievement further strengthens confidence in the optimized operating scenario developed by the team and provides a strong basis for future long-pulse plasma operation in ADITYA-U.

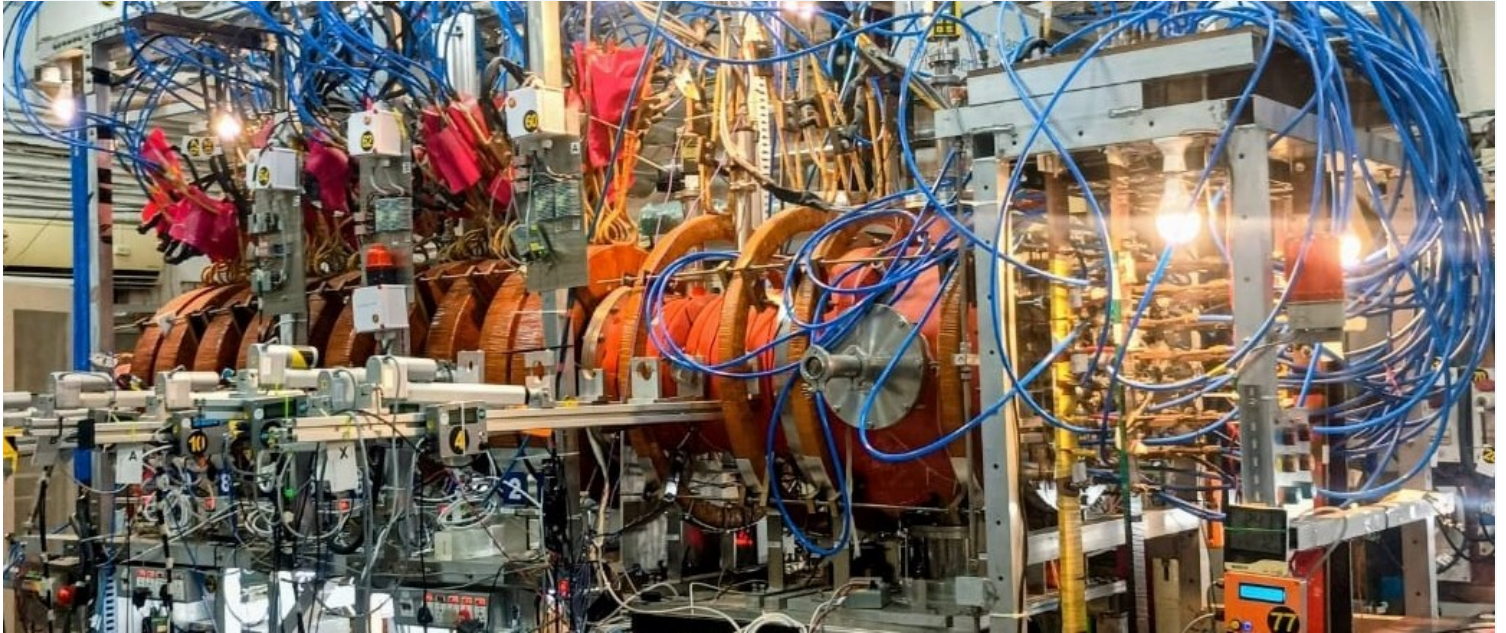


Time traces of ADITYA-U shot (#39228 & 39231)



## Study of Dynamic Interplay between Two important Flow Structures

Understanding and controlling turbulence is a major challenge in fusion plasmas, as it drives outward particle transport and reduces confinement. In magnetized plasmas with radial pressure gradients, drift-wave turbulence naturally develops and strongly affects transport.



[Inverse Mirror Plasma Experimental Device \(IMPED\)](#)

In our recent experiment in Inverse Mirror Plasma Experimental Device (IMPED), we study the dynamic interplay between two important flow structures: mean flows and zonal flows (ZFs). The mean flow is a steady  $E_r \times B$  flow driven by the equilibrium radial electric field, whereas zonal flows are low-frequency, nearly poloidally symmetric ( $k_\theta \approx 0$ ) flows generated by fluctuations in the low frequency radial electric field.

These two flows are spatially separated: zonal flows are localized where the oscillating electric field and Reynolds stress gradient peak, while mean flows are localized where the plasma potential gradient is maximum. The mean flow shear excites a coherent Kelvin–Helmholtz instability (KHI) at 5.6 kHz with mode number 5.

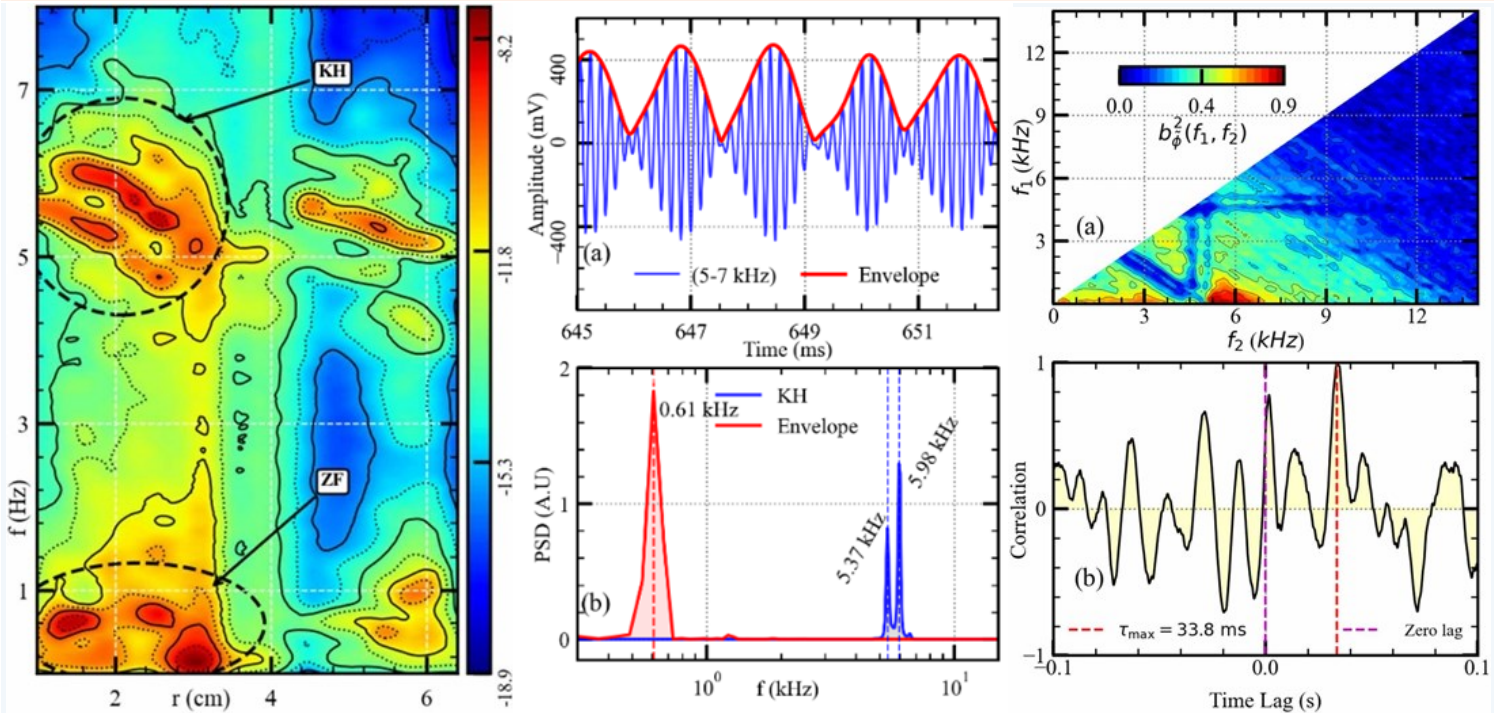
In contrast, a low-frequency ( $\sim 700$  Hz) zonal flow appears near regions of strong Reynolds stress gradients. At the zonal flow location, detailed temporal analysis shows that the ZF modulates the KHI, with its phase leading the instability. As the zonal flow weakens, the KHI amplitude increases, indicating energy transfer from the ZF to higher-frequency fluctuations.

Auto-bicoherence analysis confirms nonlinear coupling between the zonal flow, KHI, and their sidebands, this is further supported by amplitude correlation analysis. This highlights ZF's role in shaping the turbulence spectrum. Interestingly, the KHI at this location exhibits a lower mode number (mode 2), suggesting that it is a type of tertiary instability driven by zonal flow shear, while the primary KHI is driven by mean flow shear.

A key practical outcome of the study is the direct measurement of particle transport, which reveals three distinct regimes:

- Near the zonal flow region: particle transport is nearly zero
- At strong mean flow shear: particle transport becomes inward
- At the plasma edge: turbulent bursts dominate transport

These findings show that although both zonal flows and mean flows influence turbulence, mean flow shear plays a more dominant role in reducing outward transport under the present conditions.



(Left) Radial profile of potential fluctuation ( $\phi_r^1$ ) spectra. (Middle) (a) Band-pass filtered signal in the 5 to 7 kHz range (blue) and its instantaneous amplitude (red) obtained using the Hilbert transform, showing clear low-frequency modulation. (b) Power spectral density (PSD) of the KH mode (black) and the Hilbert-envelope signal (red), highlighting the coherent KH mode and the low-frequency modulation. (Right) (a) Auto-bicoherence of potential fluctuation ( $\phi_r^1$ ) at 2.4 cm, and (b) cross-correlation between ZF and KH frequency bands.

This work provides new experimental insight into the complex interaction between plasma flows and turbulence, supporting ongoing efforts toward improved plasma confinement and control. The observation of inward particle transport in regions of strong velocity shear is especially significant, as it indicates conditions favourable for improved confinement. Overall, the results demonstrate that plasma flows can effectively regulate turbulence and reduce transport losses—an essential requirement for efficient fusion confinement.

Reference: Karmakar, T., Roy, R., Lachhvani, L., Raju, D., Khodiyar, B., Chattopadhyay, P. K., & Sen, A. (2026). Zonal flow dynamics, modulation of mean-flow-driven fluctuations, and particle flux control in a linear magnetized plasma. [Nuclear Fusion, 66\(5\), 056023.](#)

## Invited Talk on MAG Payload onboard Aditya-L1 Solar Mission at CPP-IPR

An invited talk titled “*The First Indian Magnetic Field Measurements in Interplanetary Space: MAG Payload onboard Aditya-L1 Solar Mission*” was organized at Centre for Plasma Physics (CPP-IPR) on 18th May 2026.

The talk was delivered by Dr. Vipin Kumar Yadav, Scientist/Engineer SF, Space Physics Laboratory, Vikram Sarabhai Space Centre, Thiruvananthapuram and Principal Investigator, MAG, Aditya-L1 Solar Mission and Principal Investigator, VFGM, Venus Orbiter Mission. He is a former Research (PhD) Scholar at IPR.

In his talk, Dr. Yadav presented the MAG payload and its observations.



Dr. Vipin Yadav delivering his talk



Audience attending the invited talk

## An Expert talk on the occasion of World Intellectual Property Day 2026

AIC-IPR Plasmatech Innovation Foundation (Plasmatech), in association with the Institute Innovation Council (IIC) & Rajbhasha Karyanvayan Samiti (राजभाषा कार्यान्वयन समिति) of Institute for Plasma Research (IPR), organized an insightful talk titled “Building an IP Moat Around Your Innovation: How to Navigate the IP Landscape” as part of the celebrations for World Intellectual Property Day. Observed annually on April 26, and established by the World Intellectual Property Organization (WIPO) in 2000, the occasion aims to raise awareness about the role of patents, copyrights, trademarks, and industrial designs in fostering innovation and impacting everyday life. The expert session was conducted by Mr. Avi Garg, Partner at LEXORBIS, who brings nearly two decades of expertise in Intellectual Property Rights. During the session, Mr. Garg delivered an engaging lecture on IP landscaping and the strategic aspects of IP litigation, highlighting important “Dos and Don’ts” for innovators, researchers, and entrepreneurs. The event witnessed active participation from technical staff of IPR as well as emerging startup founders. The talk emphasized the growing importance of intellectual property protection in the deeptech ecosystem, where research and development efforts are highly intensive and innovation cycles are long. A well-defined IP strategy not only safeguards proprietary technologies but also creates strong entry barriers for competitors, enables market exclusivity, and enhances enterprise valuation. More importantly, a robust IP portfolio strengthens investor confidence and plays a crucial role in transforming scientific innovations into scalable and commercially successful ventures.



Dean (R&D) Dr. Paritosh Chaudhuri welcoming the expert Mr. Avi Garg (L). Audience attending the talk (R)



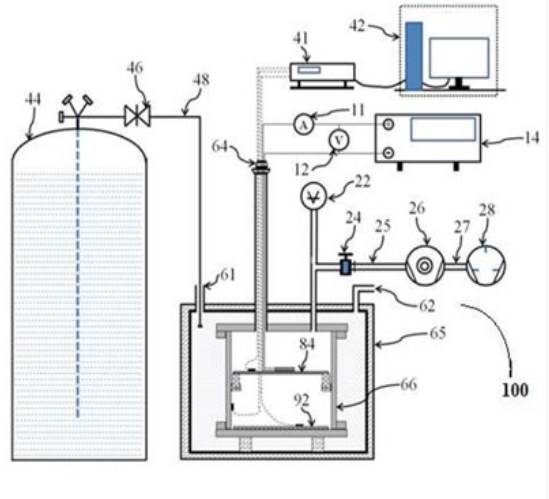
# Indian Patent Granted for invention on measurement of total hemispherical emissivity of an opaque material

Indian Patent no. 579862 titled “A system and method for measurement of total hemispherical emissivity of an opaque material” by Avijit Dewasi, Ranjana Gangradey, Samiran Mukherjee, Vishal Gupta, Rohan Dutta, Jyoti Shankar Mishra, Paresh Panchal, Pratikkumar Nayak was granted on 03 Feb 2026.

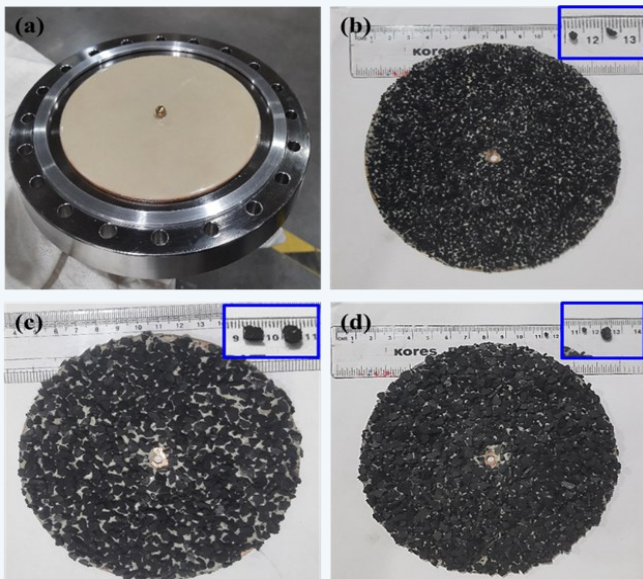
**About the Invention:** Present invention relates to a system and method for measurement of total hemispherical emissivity of opaque materials at cryogenic temperature to room temperature. The system comprises a metallic chamber, inside which a heat radiator and a sample is placed. A temperature monitor is connected to the system to display the temperature measured by the temperature sensors attached with. During the operation of the system, high vacuum is created inside the chamber. This vacuum chamber is placed inside a vessel which is then filled with liquid coolant. The system provides a simple sample mounting facility where the sample of any roughness can easily be mounted and demounted. The present invention calculates emissivity of the sample at an operated temperature (77-300 K). As compared to the existing arts, the present invention reduces the time by 30%-40%, required to reach the equilibrium below 3 hours. Moreover, the size of the vacuum chamber reduces three times as compared to the existing calorimetric technique-based emissivity measurement systems, thereby making the system more compact.

### Industrial applicability:

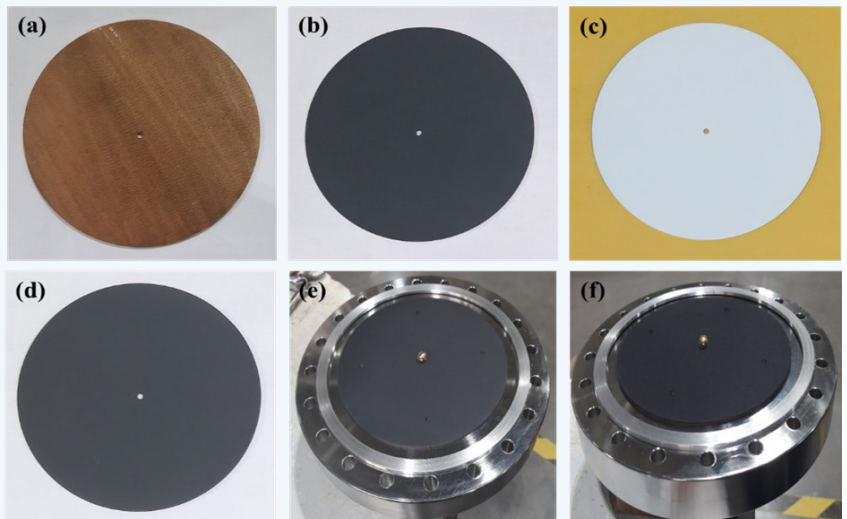
The present invention has a potential application in the domains of cryogenic systems such as cryopumps, cryo-transmission lines, cryo-plants, space simulation chamber, satellite test facilities, satellites, etc., where the material selection for desired low radiation heat load on such systems are required. The present invention will help the space industry to measure the emissivity at the application temperature, majorly at 80 K.



Patented Emissivity Measurement System



Top view of the samples (a) adhesive placed on the bottom flange of the vacuum chamber, (b) activated charcoal of small grains, (c) activated charcoal of large grains, and (d) activated charcoal of mix grains.



Top view of the sample (a) Copper plate with ~3.2 μm surface roughness, (b) Aeroglaze Z306, (c) SG121FD, (d) PU1, (e) Black paint (Flat) mounted on the bottom flange of the vacuum chamber, and (f) Black paint (Matte-finished) mounted on the bottom flange of the vacuum chamber.



## IPR's Participation in विज्ञान (Vigyan) TECH 2026

Representing the Department of Atomic Energy (DAE), IPR participated in the विज्ञान TECH 2026 event, held at BRIC-NII New Delhi to mark The National Technology Day on May 11, 2026, alongside other DAE units.

The exhibition and event was inaugurated by Union Minister of State (Independent Charge) for Science & Technology, Earth Sciences, PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr. Jitendra Singh, Govt of India.

A special message from Prime Minister Narendra Modi, delivered by Secretary, Department of Biotechnology Dr. Rajesh S. Gokhale, conveyed greetings on National Technology Day and commended the multi-ministerial collaboration in strengthening India's innovation ecosystem.

During the event IPR along with other exhibits has mainly showcased the following two technologies:

- Liquid Nitrogen cooled Cryo pump technology (AGASTYA®) in the theme of "Deep-Tech materials & advanced engineering technologies", and
- Technology for Plasma activated water treatment system (PlazNear™) in the theme of "Climate & Agri/ Food Technologies".

IPR stall was visited by a large number of visitors during the exhibition.



IPR Stall at the Exhibition



Dr. Jitendra Singh visiting the IPR Stall



Principal Scientific Adviser to the Govt of India Prof. Ajay Kumar Sood (2nd from Left), visited IPR Stall



Visitors visting the IPR Exhibits



## IPR at the National Symposium on Application of Plasma Physics in Sustainable Waste Management

A two-day national symposium on application of plasma physics in sustainable waste management and conservation was organized by Sankardev College, Shillong, sponsored by Meghalaya State Pollution Control Board, in collaboration with IPR and CPP-IPR on 14th and 15th May 2026. The main agenda of the symposium was to evaluate the possibility of establishment of a pyrolysis system at Shillong for waste disposal. Dr. Nirav Jamnapara from IPR gave a talk on “**Exploring waste to energy applications using RUDRA Plasma Pyrolysis Technology**” and Dr. Ngangom Aomoa from CPP-IPR gave a talk on “**Application of plasma interacting with water for wastewater treatment**”. A panel discussion was also held to access the requirements, issues and probable solutions for establishing the system at Shillong, in which Dr. Nirav Jamnapara was a panelist and Dr. Ngangom Aomoa was the moderator. The symposium concluded with a visit to the pyrolysis system at Assam Science and Technology University at Jalukbari, Guwahati. The symposium was attended by representatives of Meghalaya State Pollution Control Board including the Chairman, Member Secretary and Chief Environmental Engineer, Central Pollution Control Board, Shillong Municipality Board, Department of Health & Family Welfare, Industries and Academicians.



Dr. Nirav Jamnapara giving his talk (L) and he is receiving the certificate of appreciation (R)



Dr. Ngangom Aomoa moderating the panel discussion (L) and he is receiving the certificate of appreciation (R)



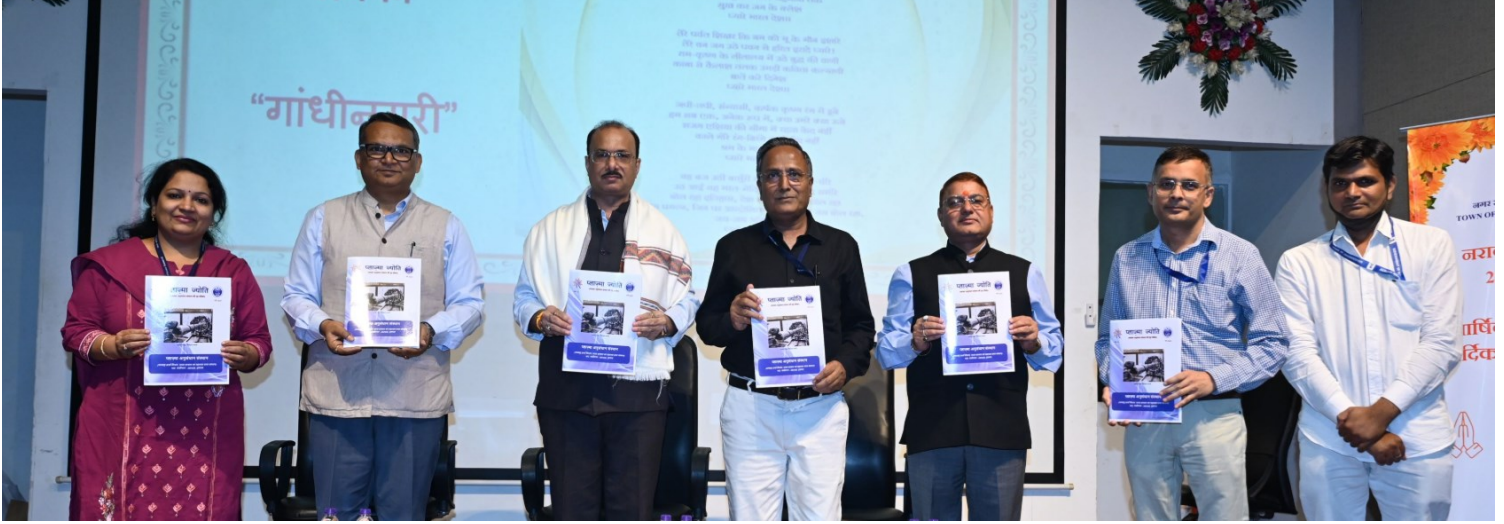
Audience attending the Symposium

## राजभाषा उपलब्धि

नगर राजभाषा कार्यान्वयन समिति (नराकास), गांधीनगर की 26वीं छमाही बैठक का आयोजन 28 अप्रैल 2026 को बड़ौदा एपैक्स अकादमी में सफलतापूर्वक संपन्न हुआ। यह बैठक गृह मंत्रालय के राजभाषा विभाग के श्री हरीश सिंह चौहान, उप निदेशक, पश्चिम कार्यान्वयन कार्यालय, मुंबई के मार्गदर्शन में आयोजित की गई। बैठक की अध्यक्षता नराकास, गांधीनगर के अध्यक्ष श्री सुनील सिन्हा ने की।

बैठक में विभिन्न केंद्रीय कार्यालयों, संगठनों एवं बैंकों के प्रमुखों, राजभाषा अधिकारियों तथा प्रतिनिधियों ने सक्रिय सहभागिता की। इस दौरान सदस्य कार्यालयों द्वारा प्रस्तुत छमाही प्रगति रिपोर्टों की समीक्षा की गई और राजभाषा के लक्ष्यों की प्राप्ति हेतु आवश्यक सुझाव एवं दिशा-निर्देश प्रदान किए गए। प्लाज्मा अनुसंधान संस्थान से डॉ. सूर्यकांत गुप्ता, सह-अध्यक्ष, राभाकास, डॉ. रितेश सुगंधी, सदस्य, राभाकास, डॉ. संध्या दवे, हिंदी अधिकारी, श्री मुकेश सोलंकी, हिंदी अनुवादक तथा विभिन्न प्रतियोगिताओं के विजेताओं ने इस बैठक में भाग लिया।

इस कार्यक्रम का एक प्रमुख आकर्षण नराकास गांधीनगर की हिंदी पत्रिका "गांधीनगरी" के पाँचवें अंक का विमोचन रहा, जिसे मंचासीन अतिथियों द्वारा किया गया। इस अंक में प्लाज्मा अनुसंधान संस्थान के वैज्ञानिक अधिकारियों की तीन रचनाएँ प्रकाशित हुई हैं। विशेष उल्लेखनीय है कि इस अवसर पर संस्थान की गृह पत्रिका "प्लाज्मा ज्योति" के 35वें अंक का गरिमामय विमोचन मंचासीन अतिथियों द्वारा किया गया।



संस्थान की गृह पत्रिका "प्लाज्मा ज्योति" के 35वें अंक का विमोचन करते हुए मंचासीन गणमान्य सदस्यों के साथ आईपीआर की टीम

समापन सत्र में वर्ष 2025-26 के लिए राजभाषा शील्ड पुरस्कार वितरित किए गए। ये पुरस्कार सदस्य कार्यालयों को राजभाषा के प्रभावी क्रियान्वयन में उत्कृष्ट प्रदर्शन के लिए प्रदान किए गए। स्वायत्त संस्थान/शैक्षणिक संगठन श्रेणी में **प्लाज्मा अनुसंधान संस्थान को तृतीय स्थान** प्राप्त कर प्रतिष्ठित राजभाषा शील्ड से सम्मानित किया गया है।



राजभाषा शील्ड पुरस्कार प्राप्त करते हुए डॉ. सूर्यकांत गुप्ता एवं संस्थान की टीम

## राजभाषा उपलब्धि



हिन्दी के सम्राट (सर्वश्रेष्ठ कार्यालय) सहभागिता के आधार पर संस्थान की ओर से द्वितीय पुरस्कार प्राप्त करते हुए डॉ. सूर्यकान्त गुप्ता

इस अवसर पर प्रसिद्ध साहित्यकार श्रीमती बिन्दु भट्ट को "भाषा सम्मान" से अलंकृत किया गया। साथ ही, सितंबर 2025 से मार्च 2026 के बीच नराकास, गांधीनगर के तत्वावधान में आयोजित विभिन्न प्रतियोगिताओं के विजेताओं को भी पुरस्कृत किया गया, जिनमें प्लाज्मा अनुसंधान संस्थान के कर्मचारियों ने उल्लेखनीय उपलब्धियाँ हासिल कर संस्थान का गौरव बढ़ाया। हमारे संस्थान के विजेताओं की सूची निम्नानुसार है:

क्रम सं.	विजेता का नाम	प्रतियोगिता का नाम	आयोजक कार्यालय का नाम	आयोजन की तिथि	पुरस्कार
1	श्रीमती ज्योति अग्रवाल	चित्र देखो और वर्णन करो	राष्ट्रीय सूचना विज्ञान केंद्र (NIC)	24 मार्च, 2026	द्वितीय
2	डॉ. रितेश सुगंधी	चित्र देखो और वर्णन करो	राष्ट्रीय सूचना विज्ञान केंद्र (NIC)	24 मार्च, 2026	प्रोत्साहन
3	श्री चिराग बी. भवसार	जल दिवस प्रतियोगिता	केंद्रीय जल आयोग	20 मार्च, 2026	द्वितीय
4	श्री कुलदीप कुमार	मौलिक / स्वरचित कविता	केंद्रीय विद्यालय संगठन	16 फरवरी, 2026	द्वितीय
5	प्लाज्मा अनुसंधान संस्थान	हिन्दी के सम्राट (सर्वश्रेष्ठ कार्यालय) सहभागिता के आधार पर	नराकास गांधीनगर	30 दिसंबर, 2025	द्वितीय
6	डॉ. रितेश सुगंधी	नारा लेखन	इंडियन ओवरसीज बैंक	03 दिसंबर, 2025	द्वितीय
7	श्री सचिन कुमार	राजभाषा प्रतियोगिता	होटल प्रबंधन संस्थान	30 सितंबर, 2025	प्रथम
8	डॉ. अनिल कुमार त्यागी	राजभाषा प्रतियोगिता	होटल प्रबंधन संस्थान	30 सितंबर, 2025	द्वितीय
9	श्री लक्ष्य सावलिया	राजभाषा प्रतियोगिता	होटल प्रबंधन संस्थान	30 सितंबर, 2025	तृतीय
10	श्री चिराग बी. भवसार	राजभाषा प्रतियोगिता	होटल प्रबंधन संस्थान	30 सितंबर, 2025	प्रोत्साहन
11	श्री पराग पंचाल	मेरा हिन्दी कार्यक्षेत्र	बैंक ऑफ इंडिया	23 सितंबर, 2025	द्वितीय
12	सुश्री प्रतिभा गुप्ता	मेरा हिन्दी कार्यक्षेत्र	बैंक ऑफ इंडिया	23 सितंबर, 2025	तृतीय



श्री सचिन, श्री चिराग भवसार एवं डॉ. रितेश सुगंधी प्रमाण पत्र प्राप्त करते हुए



श्री पराग पंचाल पुरस्कार प्राप्त करते हुए



## Past Events @ IPR

- ◆ **Dr. Santosh P. Pandya**, gave a talk on "Infrared Imaging Video Bolometer developed at IPR for ADITYA, ADITYA-U and SST-1" at 49th Diagnostics Topic Group Meeting under International Tokamak Physics and Engineering Activity (ITPEA), IPR, Gandhinagar, 7 - 10 April 2026
- ◆ **Ms. Rakhi**, gave a talk on "Effect of Intermittent Low Energy Ion Beam Sputtering on Triangular Structure at Elevated Temperature" on 23rd April 2026
- ◆ **Mr. Vinit Shukla**, gave a talk on "Design and Manufacturing of an Auxiliary Cold Box for the ITER Cryo-distribution System" on 27th April 2026
- ◆ **Dr. Ajeet K. Srivastav**, Visvesvaraya National Institute of Technology, Nagpur gave a talk on "Kirkendall porosity assisted densification during spark plasma sintering of nanocrystalline tungsten-based alloys" on 29th April 2026
- ◆ **Dr. Harsh Patel**, gave a talk on "Design and development of experimental setups for measuring anisotropic effective thermal conductivity and coefficient of thermal expansion of ceramic pebble beds for fusion blankets" on 30th April 2026
- ◆ **Ms. Anita Patel**, gave a talk on "MHD flow studies in a single and multichannel rectangular ducts in presence of flow obstacles" on 30th April, 2026
- ◆ **Ms. Priyavandana J. Rathod**, gave a talk on "Experimental Investigation on Interaction of Electromagnetic Waves with Over-dense Plasmas" on 4th May 2026
- ◆ **Mr. Rohit Sharma**, gave a talk on "Polytetrafluoroethylene (PTFE) plasma (Ar & O<sub>2</sub>) treatment via Bi-polar pulse power supply for hydrophobic application" on 07th May 2026
- ◆ **Dr. Vyom Desai**, gave a talk on "Feasibility study of synthesis of MAX phase materials for fusion and non-fusion applications" on 08th May 2026
- ◆ **Mr. Ashok D. Mankani**, gave a talk on "Design and Development of High Voltage DC Power Supply for the Nuclear Fusion Application: Overview & Challenges" on 11th May 2026
- ◆ **Dr. Gaurav Shukla**, gave a talk on "X-ray Calibration Source Development for Core Rotation Measurement in the ADITYA-U Tokamak and other Spectroscopic Diagnostics Development" on 12th May 2026
- ◆ **Mr. A. K. Sahu**, gave a talk on "Thermo-Hydraulic Analysis to Find Safe Operating Parameters for Turbine Start-Ups in Helium Liquefier Plant" on 13th May 2026
- ◆ **Dr. Shashank Singh**, gave a talk on "The Development of a Time of Flight Diagnostic for energy analysis of Neutral Particles in ADITYA-U Tokamak" on 15th May 2026
- ◆ **Mr. Rohit Kumar**, gave a talk on "Examination and repair procedures for different faults associated with magnetic coils in ADITYA-U tokamak" on 15th May 2026
- ◆ **Dr. Kamalakkannan. K**, gave a talk on "Radiation Damage and Defect Analysis of Feasible Plasma-Facing Components" on 18th May 2026
- ◆ **Mr. Uday Kumar**, gave a talk on "Quality Assurance and Regulatory Compliance Strategies in the Manufacturing of the ITER Cryodistribution System" on 19th May 2026
- ◆ **Dr. Shivam Kumar Mishra**, Anubal Fusion Private Limited, Gurugram, Haryana; Tata Institute of Fundamental Research, Hyderabad, gave a talk on "Adaptive Plasma Optics for High-Power Short Laser Pulses" on 20th May 2026



## Upcoming Events

- ◆ 26th Topical Conference on High Temperature Plasma Diagnostics (HTPD 2026), Cambridge, Massachusetts, USA, 7-11 June 2026; <https://plasmafusion.eventsair.com/htpd2026/>
- ◆ Joint IAEA/ENEA/EMFCSC Fusion School, Erice, Italy, 7-12 June 2026; <https://conferences.iaea.org/event/469/>
- ◆ 18th Kudowa Summer School "Towards Fusion Energy", Kudowa-Zdroj, Poland, 8-12 June 2026; <https://kudowaschool.ipplm.pl/>
- ◆ 2nd Fusion Neutronics Meeting (FNM2026), KIT Campus North, Karlsruhe, Germany, 8-12 June 2026; <https://indico.kit.edu/event/5433/overview>
- ◆ 31st Symposium on Plasma Physics and Technology (SPPT), Prague, Czech Republic, 15-18 June 2026; <https://www.plasmaconference.cz/>
- ◆ 10th International Workshop on Numerical Modelling of High Temperature Superconductors (HTS 2026), Edinburgh, Scotland, UK, 15-18 June 2026; <https://eng.ed.ac.uk/welcome-to-hts-2026>
- ◆ 5th International Conference Materials Challenges for Sustainable Nuclear Fission and Fusion Technologies (CIMTEC 2026), Perugia, Italy, 21-24 June 2026; <https://2026.cimtec-congress.org/ic-5-5th-international-conference>
- ◆ 2026 IEEE International Conference on Plasma Science (ICOPS), Lake Tahoe, Nevada, USA, 22-26 June 2026; <https://icops.ieee.org/icops2026/>
- ◆ 30th International Cryogenic Engineering Conference / International Cryogenic Materials Conference 2026 (ICEC 30/ICMC 2026), Daejeon, Korea, 22-26 June 2026; <https://icec30-icmc2026.org/>
- ◆ 2nd International Conference on Accelerators for Research and Innovation, Vienna, Austria, 22-26 June 2026; <https://conferences.iaea.org/event/426/>
- ◆ 52nd European Physical Society Conference on Plasma Physics (EPS-CPP), Edinburgh, Scotland, 29 June - 3 July 2026; <https://epsplasma2026.com/>

## Blood Donation Camp at IPR

**BLOOD DONATION CAMP**  
**Children Suffering from Thalassemia**  
Organized by  
**Institute for Plasma Research**

21 May 2026, Thursday | 10:00 am to 05:00 pm  
Seminar Hall, Institute for Plasma Research Bhat, Ahmedabad-Gandhinagar Road, Ahmedabad-382428.

In association with  
**INDIAN RED CROSS SOCIETY**  
Ahmedabad District Branch

IPR Staff Club in collaboration with Indian Red Cross Society organized a Blood Donation Camp on 21 May 2026. The camp was especially organized to help the children suffering from Thalassemia.

IPR employees, Research Scholars and other temporary staff voluntarily donated blood.

IPR donated a total of 80 units of blood during the camp.

## Blood Donation Camp at IPR



IPR affiliates donating blood during the blood donation camp

## Health Awareness Talk at IPR

IPR Staff Club organized a Health Awareness Talk on **“What is Heart Attack - Symptoms, Risk, Factors, Treatment, and Prevention”** by Dr. Jayesh S. Prajapati (MD, DM (Cardiology), FSCAI, FACC), Apollo Hospital, Gandhinagar on 08 May 2026



Staff Club President, Dr. Gaurab Bansal welcoming the guest speaker



Dr. Jayesh S. Prajapati



IPR Staff attending the Health Awareness Talk



## Superannuation

**Shri. Atish L Sharma**, Technical Supervisor-A, got superannuated from IPR on 31 May 2026 after nearly 35 years of service.

IPR wishes him a very Happy and Healthy retired life!!



## Know Your Colleague

**Dr. Rana Pratap Yadav** joined the Institute for Plasma Research (IPR) in December 2021 and is currently working in the High-Power ICRH Section as a Scientific Officer-E. He also serves as an Assistant Professor at the Homi Bhabha National Institute (HBNI), Mumbai. He holds Bachelor's and Master's degrees in Electrical and Electronics Engineering and has completed his Ph.D. from the IPR in June 2014 under the prestigious DAE Graduate Fellowship Scheme (DGFS), specializing in RF Engineering. After completing his Ph.D., Dr. Yadav joined the Thapar Institute of Engineering and Technology (TIET) as an Assistant Professor. In August 2017, he moved to the University of Oxford, U.K., as a Postdoctoral Research Fellow, where his work focused on the development of multi-static radar systems for tracking targets of tiny size and extremely low radar cross-section. He re-joined TIET and served as an Associate Professor until December 2021. Dr. Yadav specializes in RF and microwave system design and fabrication, with expertise in high-power RF amplifiers, transmission lines and matching networks, antennas, RF sensors and diagnostics, and radar and navigational systems.



Rana Pratap Yadav

In addition to his technical and research contributions, Dr. Yadav has taught undergraduate, postgraduate, and doctoral-level courses and has supervised eight M.Tech. and three Ph.D. theses (with two more currently under his supervision). He holds one granted Indian patent. As Principal Investigator (PI), he has led three major sponsored projects funded by esteemed agencies, including Board of Research in Nuclear Sciences, Department of Atomic Energy, (BRNS-DAE), Department of Science and Technology, (DST), and Anusandhan National Research Foundation (ANRF).

## IPR Newsletter Team

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