16th ITER International School - IIS2026

TOKAMAKS AS FUSION REACTORS

TUESDAY • 1 DECEMBER 2026

Poster	IIS No.	Presenter	Poster / Abstract Title
1	IIS-85	**LARS SCHIFFELER**	Simulation of Plasma-Wall Interaction Processes between Hydrogen Isotopes and Boron in Linear Plasma Devices using ERO2.0
2	IIS-94	**MASANORI SATO**	Controllability Analysis of a 14-Dimensional Coupled TMHD Port- Hamiltonian Tokamak Model and Numerical Control Experiments
3	IIS-67	**GENKI OYAFUSO**	Dependence of Proton-Beam Fusion Gain on Volumetric Proton Injection Rate in p–^{11}B Fusion Plasma
4	IIS-49	**ATSUFUMI ABE**	Numerical Analyzing of Natural Convection under Applied Magnetic Fields
5	IIS-126	**RYU ICHIKAWA**	Real-time State Estimation for the Positional Control of JT-60SA Plasmas Using Data Assimilation
6	IIS-71	**INDHU SURESH**	A Study on the Neutron-Induced Activation and Shutdown Dose Rate in the Shield Maintenance Gap of the R360 Pilot Plant
7	IIS-118	**RAVI GUPTA**	
8	IIS-157	**VAISHALI NAYAK**	
9	IIS-129	**SANDYASHREE R**	Boron Impurities in DIII-D Tokamak
10	IIS-130	**SAPTARSHI RAJAN SARKAR**	
11	IIS-125	**ROSHAN GEORGE**	
12	IIS-113	**RAHUL BABU KONERU**	
13	IIS-45	**ARPAN KHANDELWAL**	
14	IIS-62	**DEVARSHI AMITABH BRAHMAKSHATRIYA**	
15	IIS-58	**CHINGANGBAM AMUDON**	Electrostatic Turbulence Driven by Ion-acoustic Instability Along Magnetic Field Lines: A Vlasov-Poisson Study
16	IIS-50	**AYUSHI DHYANI**	Numerical Study and Optimization of Probe-Induced flow disturbance for molten Pb-Li local Velocity Measurement
17	IIS-86	**LAXYA V SAVALIYA**	Overview of Remote Handling and Robotics Technology Development Activities at IPR
18	IIS-133	**SHAILJA TIWARI**	Calculation of Tritium accidental release using atomic dispersion modelling code and RESRAD code
19	IIS-105	**NUPUR PARIKH**	Plasma wall interaction and its role in ion beam nanopatterning
20	IIS-163	**YASHKUMAR MISTRY**	Implementation of a Mini-CODAC system for operation of Experimental Helium Cooling Loop (EHCL)
21	IIS-47	**ARPITA VIPAT**	Impact of inlet channel rotation on liquid metal flow and pressure drop in a vertical manifold under strong magnetic field
22	IIS-107	**POOJA**	Collisionless phase-fluid simulations of low frequency electromagnetic wave-particle resonance in magnetized plasmas
23	IIS-114	**RAKESH MOULICK**	Numerical Investigations of Collective and Boundary Phenomena in Negative-Ion Plasmas
24	IIS-37	**AMRITA BHATTACHARYA**	Validation of an indigenous code for preliminary detection of ballooning modes within tokamak plasmas with MISHKA
25	IIS-65	**DODDI CHARITHA DURGA**	Studies of Defect Cluster Stability in Tungsten Using Molecular Dynamics Simulations

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Tokamaks as Fusion Reactors

WEDNESDAY • 2 DECEMBER 2026

Poster	IIS No.	Presenter	Poster / Abstract Title
26	IIS-41	**ANTON KHARCHEVSKII**	Local magnetic fields and plasma compression as an alternative to tokamak confinement
27	IIS-128	**SAMRIDHI**	CHARACTERISATION AND SHIELDING DESIGN OF NaI(Tl) SCINTILLATOR BASED HARD X-RAY DIAGNOSTIC FOR RUNAWAY ELECTRON MEASUREMENTS ON ADITYA-U TOKAMAK
28	IIS-33	**AMAN GAUTTAM**	Measurement of electron temperature and density of the edge plasma of ADITYA-U tokamak using Argon spectral line ratio
29	IIS-139	**SIBA PRASAD ACHARYA**	Multifractality and study of self-organized critical behaviour in various plasma discharges of Aditya-U tokamak
30	IIS-145	**SOUMITRA BANERJEE**	A Novel Disruption Mechanism During Plasma Current Ramp-Down in Tokamak
31	IIS-63	**DEVASI NARESHKUMAR VACHNARAM**	Investigation of mechanical vibration response of the ADITYA-U Thomson scattering mirror assembly during plasma discharges
32	IIS-92	**MANIK AGRAWAL**	Wall Conditioning of ST Vacuum Vessel Through RF-assisted Glow Discharge Cleaning
33	IIS-159	**VINOD HN**	Development of a Fixed-Frequency Microwave Reflectometer for Edge Density Fluctuation Measurement in the Aditya-U Tokamak
34	IIS-154	**UDIT PRAKASHBHAI VAVECHA**	Development and application of a 2D heat flux estimation code for infrared thermography of plasma-facing components in tokamaks
35	IIS-21	**SHEKAR GOUD THATIPAMULA**	Optimization of the vertical magnetic field for discharge initiation in the spherical tokamak at IPR
36	IIS-156	**URMIL THAKER**	Analysis and Estimation of Current Droop in the TF Power Supply for the IPR Spherical Tokamak Program
37	IIS-64	**DEVILAL KUMAWAT**	Investigation of Tearing Mode Instability Using Fast Visible Imaging Diagnostic in Aditya-U Tokamak
38	IIS-82	**KOMAL**	Suppression of runaway electron generation by early gas fuelling during plasma start-up in the ADITYA-U tokamak
39	IIS-56	**CHANDAN KUMAR SAHU**	Observations on breakdown characteristics and its localization in the spherical tokamak at IPR
40	IIS-79	**KAUSHAL PATEL**	Plasma Facing Components of Aditya-U Tokamak
41	IIS-155	**UMESHKUMAR CHANDULAL NAGORA**	Effect of short gas puff on electron density profile for Aditya-U tokamak Plasma
42	IIS-142	**SK INJAMUL HOQUE**	Experimental Investigation on Turbulence-Driven Broadening of Scrape-Off Layer Heat Flux Width in ADITYA-U Tokamak
43	IIS-123	**ROHIT KUMAR**	Integration of multiple high current power supplies for enhanced plasma operations in ADITYA-U tokamak
44	IIS-83	**KUMARPALSINH JADEJA**	Advanced GDC-Based Wall Conditioning in ADITYA-U Tokamak: Novel Approaches for Impurity and Fuel Retention Control
45	IIS-116	**RANA PRATAP YADAV**	ICRF Heating System in Aditya-U and SST-1
46	IIS-110	**PRANEEP TALUKDAR**	Thermal and ion transient shock response of W & W-Ta-V-Cr Compositionally Complex Alloy as Plasma Facing Material
47	IIS-52	**BHARAT HEGDE**	Automated Analysis of Voltage-Swept Langmuir Probe Data using MATLAB in the ADITYA-U Tokamak
48	IIS-162	**VISHAL SHARMA**	Effect of Electrode Biasing on Carbon Impurity Transport in the ADITYA-U Tokamak

THURSDAY • 3 DECEMBER 2026

Poster	IIS No.	Presenter	Poster / Abstract Title
49	IIS-44	**ARJUN RAO**	Topological Characterisation of Energetic-Ion Dynamics in a TAE-Perturbed Tokamak
50	IIS-151	**TASUKU IZUKA**	Probabilistic State Selection and Reduced Modeling of Bistable Plasma Turbulence
51	IIS-164	**YOSHINORI TASHIO**	Implementation of Neutral Beam Injection-Induced Fusion Reactions into the Steady-State Transport Code GOTRESS and Evaluation of Spatial Optimization
52	IIS-66	**GAURAV VERMA**	An Innovative, Modular Breeding Blanket Concept for Fusion Reactors: Design and Manufacturing Status
53	IIS-74	**JAYA KUMAR ALAGESHAN**	Gyrokinetic simulation of the effect of transient fueling on plasma turbulence in ADITYA-U tokamak
54	IIS-158	**VIBHOR KUMAR SINGH**	Investigation of core turbulence transport in super H-mode plasmas in DIII-D tokamak
55	IIS-27	**ABHISHEK KUMAR**	Electromagnetic Gyrokinetic Simulation of Turbulent Transport in DIII-D
56	IIS-29	**ABHISHEK TIWARI**	Ti/Te Dependence of Core Turbulence and Transport in DIII-D QH-Mode Plasmas
57	IIS-70	**HIREN PATEL**	Development of nonlinear ITG simulation in G2C3 code for DIII-D tokamak
58	IIS-160	**VINOD SAINI**	A Numerical Study of Drift-Tearing Mode in ADITYA-U Tokamak Using 3D Nonlinear MHD Code JOREK
59	IIS-146	**SOUVIK MONDAL**	Current-Driven Vorticity and Electromagnetic Merging of ELM Filaments
60	IIS-108	**PRACHI JAIN**	Integrated Predictive Modelling of Tokamak Plasma Discharge Evolution
61	IIS-121	**RITESH BUHA**	Effect of Impurity on Electron Temperature Gradient Turbulence
62	IIS-84	**KUSHAGRA NIGAM**	Simulations studies on ICRH heating scenarios for SST-Bharat Tokamak
63	IIS-88	**M SHEETAL**	Methods of Vessel Current Induced Error Field Compensation in Spherical Tokamak at IPR
64	IIS-38	**ANANYA KUNDU**	Modeling of Plasma Response to External Non-Resonant Magnetic Perturbations in ADITYA-U tokamak
65	IIS-57	**CHANDRA SEKHAR MOHANTA**	Effect of Plasma Shaping on Microtearing Mode in a Tokamak
67	IIS-69	**HARSHA SUDHAKARAN**	Global Gyrokinetic Simulations for Turbulence Control using Argon impurity in ADITYA-U tokamak
68	IIS-153	**TRIVESH KANT**	JOREK Modeling of Multiple Runaway Beam Termination and Thermal Loads in ITER Tokamak
69	IIS-165	**KAUSHALKUMAR PARIKH**	Study Of The Drift Excitations In The Pedestal Region Of The Magnetized Fusion Plasmas

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TOKAMAKS AS FUSION REACTORS

FRIDAY • 4 DECEMBER 2026

Poster	IIS No.	Presenter	Poster / Abstract Title
70	IIS-140	**SIDDESH M**	EXPERIMENTAL STUDY OF CHARGE-EXCHANGE (CEX) PLASMA AND SPACE CHARGE EFFECTS IN A BROAD-BEAM GRIDDED ION SOURCE
71	IIS-117	**RAVAL ZEEL NAISHADH**	Plasma-Assisted Cleaning of ITER First-Mirror Surrogate Surfaces Using RF and Bipolar Pulsed Plasmas
72	IIS-127	**SACHIN KUMAR**	Machine Learning-Assisted Design of a Faraday-Shielded Helicon Antenna System for Confined, High-Density Plasma Generation
73	IIS-91	**MAHIMA**	Transient LCR and Snowplow Modeling of a Tapered Coaxial Plasma Gun for Spheromak Formation
74	IIS-135	**SHEETAL SINGH**	Plasma-Surface Interaction in Metallic First Mirror Cleaning: RF Plasma versus Low Energy Ion-Beam Irradiation
75	IIS-96	**MAURYA SURAJ PANNALAL**	Role of magnetic field topology and poloidal limiter on the properties of a toroidal magnetized plasma
76	IIS-150	**TANMAY KARMAKAR**	Transition from zonal flows to streamers and associated edge fluctuations
77	IIS-48	**ARUNAAVA GHOSH**	Experimental and Modeling Studies of Flow Fluctuation Cycle in a Low Temperature Magnetized Toroidal Plasma
78	IIS-141	**SIDHARTH DASH**	Development of a visible range CCD camera based tomographic system for non-invasive beam and plasma diagnosis
79	IIS-97	**MAYANK KUMAR**	Dynamics of an Active Particle Orbiting a Passive Particle in DC Glow Discharge
80	IIS-101	**NEHA TRIPATHI**	Structure and Dynamics of Charged Dust Particles in the Presence of a Periodic Substrate
81	IIS-111	**PRASANTA AMAT**	Excitation of Solitons by Dusty Plasma Flow–Obstacle Interaction
82	IIS-103	**NISHANT BHARALI**	Experimental Investigation of Plasma Confinement and Neutron Production in Compact Cylindrical and Spherical IECF Devices
83	IIS-143	**SONA**	Lithium Wetting Optimization for the OLMAT High Heat Flux Facility
84	IIS-26	**A ABHIJITH**	Pressure dependent Hydrogen-assisted Embrittlement of Tungsten Heavy Alloy: Implications for Hydrogen-Isotope interactions in Fusion Materials
85	IIS-55	**BIBEKANANDA NAIK**	Influence of Floating and Grounded Grid Configurations on Plasma Characteristics, Ion Energy Distributions, and H^- Surface Conversion in an Expanding Hydrogen Plasma
86	IIS-46	**ARPAN KUMAR GOSWAMI**	In-Field Critical Current Anisotropy of Single Tapes and HTS Tape Stacks for Fusion Cable Applications