

National Space Science Symposium

2026

PS-4

Astronomy and Astrophysics

Daily Schedule

Chairperson: **Dr. Anandmayee Tej**, IIST, Trivandrum

Convener: **Dr. Sarita Vig**, IIST, Trivandrum

Co-convener: **Dr Girish V**, SPO, ISRO HQ, Bengaluru

Rapporteur: **Ms Ritwika Chatterjee**, URSC, Bengaluru

Day- 1 (23.02.2026 Monday)

Technical Session- 1 (1415 - 1600 Hrs)

Chair: Dr. Sarita Vig

Oral Presentations

SN	Abstract ID	Title of Abstract	First Author
1	NSSS2026ABS164	From Gas to Stars: Scaling Laws and Conversion Efficiencies in Dense Cluster-Forming Clumps (Lead talk)	Manash Samal
2	NSSS2026ABS225	Unraveling the Feedback-regulated Star Formation Activities around the Expanding Galactic Mid-infrared Bubble HKS2019 E71	Aayushi Verma
3	NSSS2026ABS236	Dissecting Massive Stars in the SMC Shell with UVIT: From Main-Sequence to Stripped Binaries	Sipra Hota
4	NSSS2026ABS188	ATOMS and QUARKS: Gas kinematics in massive protocluster G318.049plus00.086: Evidence of competitive accretion	Shivani Gupta
5	NSSS2026ABS192	TRAO Survey of the Nearby Filamentary Molecular Clouds the Universal Nursery of Stars TRAO FUNS IV Filaments and Dense Cores in the W40 and Serpens South Regions of Aquila	Satyajeet Moharana
6	NSSS2026ABS162	The ALMA-QUARKS study: Evidence of an Explosive Molecular Outflow in IRAS 15520-5234	Ariful Hoque

Poster Presentations (1600 - 1730 Hrs)

SN	Abstract ID	Title of Abstract	First Author
1	NSSS2026ABS239	Astrosat detection of Lyman continuum leakers at z 1-2	Suraj Dhiwar
2	NSSS2026ABS284	Unravelling the kinematic morpholgy of the Small Magellanic Cloud	Dhanush S R
3	NSSS2026ABS229	Investigating Spectral Lag Evolution and Pulse Correlations in Gamma-Ray Bursts	Khushboo Sharma
4	NSSS2026ABS080	Joint Investigation in Optical and X-ray Galaxies-AGN connection	Navya Saraswat
5	NSSS2026ABS076	Investigating the Relationship between Black Hole Mass and Galaxy Dynamics in Seyfert Type II via Spectropolarimetry Data	Jashanpreet Singh Dingra
6	NSSS2026ABS184	Epeak and Alpha Correlation in Time Resolved GRB spectra: A Bottom to top Approach with Synchrotron and Inverse Compton Models	Pragyan Pratim Bordoloi
7	NSSS2026ABS713	Investigating the temporal and spectral nature of Mrk 590 through multiwavelength signatures	Arya Sudhakaran

8	NSSS2026ABS226	Periodic signal in chaos: detection of quasi periodic oscillations in the blazar 3C 454.3	Karan Dogra
9	NSSS2026ABS231	Unveiling Cold Accretion Streams Through a Partial Lyman Limit System	Sumukha R Bharadwaj
10	NSSS2026ABS344	Some Consequences of MONG for Tidal Forces in Fornax cluster	Louise Rebecca
11	NSSS2026ABS484	Role of CMB Photon Density in Shaping AGN Jet Emissions Across Cosmic Time	Aditya Sharma
12	NSSS2026ABS117	Baryonic Ecosystem IN Galaxies BEINGMgII III Cool gas reservoirs at 03 z 16 in the Dark Energy Survey	Reena Chaudhary
13	NSSS2026ABS119	Constraining the Hubble parameter with the 21-cm brightness temperature signal in a universe with inhomogeneities	Subhadeep Mukherjee
14	NSSS2026ABS126	Bar Formation in Low-Surface-Brightness Galaxies: Testing the Role of Dark Matter Halo Spin	Neha
15	NSSS2026ABS175	Broadband Spectral Modeling of Blazars: Constraining the Lorentz Factor and Gamma-Ray Emission Site	Ajay Sharma
16	NSSS2026ABS190	Quantifying uncertainties in CatWISE 2020 quasar survey: Is there really a cosmic dipole anomaly.	Masroor Bashir
17	NSSS2026ABS142	Physics of the fractal-nature of star formation in nearby galaxies	Shashank Gairola
18	NSSS2026ABS516	Unveiling the 2024 Outburst of the SMC Pulsar RX J0032.9-7348: Broadband Timing and Spectral Insights	Birendra Chhotaray
19	NSSS2026ABS252	Investigating Temporal Features in 200 Swift GRB Afterglows: A Comparative Study of UVOT and XRT Data	Amit Kumar
20	NSSS2026ABS130	Exploring the Diversity of Type Iax Supernovae: Insights from SN 2022eyw and Ongoing Studies	Hrishav Das

Day- 2 (24.02.2026 Tuesday)

Technical Session- 2 (1145 - 1315 Hrs)

Chair: Prof. K P Singh

Oral Presentations

SN	Abstract ID	Title of Abstract	First Author
1	NSSS2026ABS863	Multi-Messenger Astronomy and SED Modeling of Blazars: A tool to understand the cosmic accelerators in our universe (Lead talk)	Sunil Chandra
4	NSSS2026ABS438	Revisiting the Boundaries of Radio Relics: Insights from uGMRT, and MeerKAT Observations	Nasmi S Anand

Short Oral Presentations

Note: Abstracts with short oral presentation will have to make poster presentation as well either on same day or on a different day. Please see the poster session details on all days to find your poster presentation timing. (6X5 = 30 min)

S N	Abstract ID	Title of Abstract	First Author
1	NSSS2026ABS212	Signatures of gas inflow and infall in a massive star forming region G339.88-1.26 .	Tunir Kundu
2	NSSS2026ABS835	Developing an XMM-Newton Pipeline for Galaxy Cluster X-ray Analysis: A Framework Inspired by ClusterPyXT	Riya Rathore
3	NSSS2026ABS409	A Low cost Instructional Interferometer using DIY Horn Antenna	Sangeetha A
4	NSSS2026ABS792	Small telescope astronomy : lessons from PRL's 50cm telescope and indigenous supporting equipments	Alka
5	NSSS2026ABS439	Probing the Epoch of Reionization with the uGMRT Band-2: Challenges and Opportunities in Foreground Mitigation	Rashmi Sagar
6	NSSS2026ABS388	Search for Megaparsec size Giant Radio Sources from TIFR GMRT Sky Survey	Netai Bhukta

Technical Session- 3 (1415 - 1600 Hrs)

Chair: Dr. Sachindra Naik

Oral Presentations

SN	Abstract ID	Title of Abstract	First Author
1	NSSS2026ABS296	AstroSat, Chandra, and HST Observations of two nearby galaxies: NGC 3627 and NGC 4321 (Lead talk)	Dr. K. P. Singh
2	NSSS2026ABS131	Dwarf-dwarf interactions and their impact on Star formation	Rakshit Chauhan

4	NSSS2026ABS156	Role of Galaxy Cluster Environments in Shaping Galactic Outflows: Insights from Abell 2199	Chandan Watts
5	NSSS2026ABS083	Tracing Galaxy Evolution through Interactions in Roberts Quartet with MUSE and Multiwavelength Observations	Saili Keshri
6	NSSS2026ABS498	Probing Radio Source Populations with uGMRT Deep Field Observations	Pritam Hore

Poster Presentations (1600 - 1730 Hrs)

S N	Abstract ID	Title of Abstract	First Author
1	NSSS2026ABS318	Study of legacy deep fields using UVIT	Pranjal Chaturvedi
2	NSSS2026ABS841	Estimating the Hubble Constant and the Age of the Universe Using Cepheid and Type Ia Supernovae Host Galaxies	Rajaabirami Rajakumar
3	NSSS2026ABS404	Probing Planck Era Physics through CMB Polarization: A Review with Computational Insights	Sreenandan K J
4	NSSS2026ABS309	Variability Study of the blazar OI 158 with TESS during its Dec 2021 neutrino emission events	Shubham Kishore
5	NSSS2026ABS060	Study on gravitational waves from binary mergers and constraints on the Hubble parameter	Rishav Laloo
6	NSSS2026ABS277	Dark Matter Degenerate Object: 33 Polyhymnia	Arun Kenath
7	NSSS2026ABS289	Investigating Polarization characteristics of GRB200503A and GRB201009A	Divita Saraogi
8	NSSS2026ABS077	Bar Structure Identification In Galaxies Using CNNs	Rajit Shrivastava
9	NSSS2026ABS825	Fabrics of Space-Time: The Structural Dynamics of Space-Time Fabrics and Their Cosmological Implications on Inter Universe Interaction(Part I)	Noor Mohammadi
10	NSSS2026ABS439	Probing the Epoch of Reionization with the uGMRT Band-2: Challenges and Opportunities in Foreground Mitigation	Rashmi Sagar
11	NSSS2026ABS388	Search for Megaparsec size Giant Radio Sources from TIFR GMRT Sky Survey	Netai Bhukta
12	NSSS2026ABS138	Thermonuclear X-ray burst and disc reflection from accreting millisecond X-ray pulsar SRGA J144459.2-604207	Manoj Mandal
13	NSSS2026ABS784	Supernova Remnants to Stellar Mergers: A Study of Neutron Stars and Their Cosmic Significance	Anshika Mittal
14	NSSS2026ABS396	Systematic Effects of Chaotic Magnetic Fields on Neutron Star Tidal Deformability: Implications for Gravitational Wave Constraints on Dense Matter	Debarshi Mukherjee
15	NSSS2026ABS810	Understanding the CSM asymmetries of Interacting Supernovae	Naveen Dukiya

16	NSSS2026ABS095	Multi-wavelength study of an extremely X-ray variable WLQ SDSSJ1539: a dive into the radio properties of WLQs	Ayushi Chhipa
17	NSSS2026ABS327	From Design to Deployment: Opto-Mechanical Insights into Backend Instrumentation for the PRL 2.5m Telescope for Reliable On-Sky Operations	Kevikumar A. Lad
18	NSSS2026ABS639	Probing Star Formation and Feedback in Galactic Star-Forming Complexes Across the Spectrum	Harmeet Kaur
19	NSSS2026ABS382	Daksha: On Alert for High Energy Transients	Ashwin Devaraj

Day- 3 (25.02.2026 Wednesday)

Technical Session- 4 (1145 - 1315 Hrs)

Chair: Dr. Rwitika Chaterjee

Oral Presentations

SN	Abstract ID	Title of Abstract	First Author
1	NSSS2026ABS592	Characterizing Flare Occurrence and Chromospheric Activity in M Dwarfs (Lead talk)	Rajpurohit
2	NSSS2026ABS441	A Multi Functional Robotic Pickup Arm Positioning Pipeline for TIFR-ARIES Multi Object Optical to Near-infrared Spectrograph for the 3.6m DOT	Dr. Saurabh Sharma
3	NSSS2026ABS703	High-Resolution Spectroscopy of a Blue Straggler Candidate: Evidence from Binarity and Lithium	Krittika Roy
4	NSSS2026ABS833	Accretion Outbursts: A Challenge for Theory, and a Probe of Star-Disk Evolution	Koshvendra Singh

Technical Session- 5 (1415 - 1600 Hrs)

Chair: Dr. Manash Samal

Oral Presentations

SN	Abstract ID	Title of Abstract	First Author
1	NSSS2026ABS158	Photospheric radius expansion and X-ray reflection in thermonuclear burst from the neutron star X-ray binary 4U 1702-429 (Lead talk)	Sachindra Naik
3	NSSS2026ABS174	Photoionization Modeling of Nova V476 Scuti: Formation of Optically Thin Dust	Sakshi Chaudhary
4	NSSS2026ABS320	To Be or not to Be: Recurrent Nova M31N 2017-01e a BeWD System in M31	Shatakshi Chamoli
5	NSSS2026ABS856	Dust Factories of the Universe – The Role of Red Supergiants in Cosmic Dust Production	Das Sujit
6	NSSS2026ABS647	Photometric and Evolutionary Analysis of the sdB Binary System Lan 646	Devarapalli Shanti Priya

Short Oral Presentations

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1	NSSS2026ABS190	Quantifying uncertainties in CatWISE 2020 quasar survey: Is there really a cosmic dipole anomaly.	Masroor Bashir
2	NSSS2026ABS318	Study of legacy deep fields using UVIT	Pranjal Chaturvedi

3	NSSS2026ABS342	Probing the Atmosphere of the Hot Jupiter KELT-7 b with JWST Transmission Spectroscopy	Aman Das
4	NSSS2026ABS309	Variability Study of the blazar OI 158 with TESS during its Dec 2021 neutrino emission events	Shubham Kishore
5	NSSS2026ABS077	Bar Structure Identification In Galaxies Using CNNs	Rajit Shrivastava

Poster Presentations (1600 - 1730 Hrs)

SN	Abstract ID	Title of Abstract	First Author
1	NSSS2026ABS649	A comprehensive study of Cygnus Loop Supernova Remnant	Rupesh Behera
2	NSSS2026ABS481	Interpretation of high energy neutrino observations through the primordial black hole evaporation	Prabhav Singh
3	NSSS2026ABS633	Influence of Planetary Migration on Mean-Motion Resonance and Substructure Formation in Protoplanetary Disks	Ribanda Marbaniang
4	NSSS2026ABS763	Mid-Infrared Variability of Young Stellar Objects: NEOWISE-Based Classification and Long-Term Trends.	Shubham Yadav
5	NSSS2026ABS286	Stable Anisotropic Star Model in Generalized Tolman-Kuchowicz Spacetime with Nonlinear Quadratic Equation of State	Hemani R. Acharya
6	NSSS2026ABS046	Exoplanet Classification Thourgh Vision Transformer	Anupma Choudhary
7	NSSS2026ABS020	Investigating the Kinematics of Molecular Gas in Cometary Globule L1616	Puja Porel
8	NSSS2026ABS306	Prediction of H40alpha properties in star-forming region: A machine learning approach	Antara Dey
9	NSSS2026ABS461	UV-bright Stellar Populations in Galactic Globular Clusters	Ranjan kumar
10	NSSS2026ABS203	From Radiation Driven Implosion to Cloud Cloud Collisions: Star Formation in Feedback Dominated Environments	Rishi C
11	NSSS2026ABS255	A980 and the Germanium Puzzle: New Clues from an Extreme Helium Star	Ajay Kumar Saini
12	NSSS2026ABS067	Study of Correlation between Accretion and Outflow in Young Stellar Objects	Manojit Chakraborty
13	NSSS2026ABS213	Investigating Cloud-Cloud Collisions and Hub-Filament Systems: Pathways to Massive Star Formation	Arup Kumar Maity
14	NSSS2026ABS237	Probing the Interstellar Medium of NGC 7380: Toward a Determination of the Gas-to-Dust Ratio	Pryanshu Basur
15	NSSS2026ABS660	Investigative studies of five short-period totally eclipsing binaries in search of third bodies	Shanti Priya Devarapalli

16	NSSS2026ABS379	A Robust and Automated Planning and Scheduling Framework - XPoViewer	Thameemunnisha
17	NSSS2026ABS262	Impact of calibration errors and instrumental noise for SKA1-Low on HI 21-cm maps from the Epoch of Reionization	Samit Kumar Pal
18	NSSS2026ABS342	Probing the Atmosphere of the Hot Jupiter KELT-7 b with JWST Transmission Spectroscopy	Aman Das
19	NSSS2026ABS731	Volatile Snowlines in Taurus Disks: Chemical Zonation and the Origins of Planetary System Diversity	Soumik Kar

Day- 4 (26.02.2026 Thursday)

Technical Session- 6 (1145 - 1315 Hrs)

Chair: Dr. Yogesh Chandra Joshi

Oral Presentations

SN	Abstract ID	Title of Abstract	First Author
1	NSSS2026ABS169	Co-evolution of Supermassive Black Holes and their Host Haloes (Lead talk)	Mahavir Sharma

Short Oral Presentations

Note: Abstracts with short oral presentation will have to make poster presentation as well either on same day or on a different day. Please see the poster session details on all days to find your poster presentation timing. (9X5 = 45 min)

SN	Abstract ID	Title of Abstract	First Author
1	NSSS2026ABS327	From Design to Deployment: Opto-Mechanical Insights into Backend Instrumentation for the PRL 2.5m Telescope for Reliable On-Sky Operations	Kevikumar A. Lad
2	NSSS2026ABS649	A comprehensive study of Cygnus Loop Supernova Remnant	Rupesh Behera
3	NSSS2026ABS763	Mid-Infrared Variability of Young Stellar Objects: NEOWISE-Based Classification and Long-Term Trends.	Shubham Yadav
4	NSSS2026ABS020	Investigating the Kinematics of Molecular Gas in Cometary Globule L1616	Puja Porel
5	NSSS2026ABS306	Prediction of H40alpha properties in star-forming region: A machine learning approach	Antara Dey
6	NSSS2026ABS203	From Radiation Driven Implosion to Cloud Cloud Collisions: Star Formation in Feedback Dominated Environments	Rishi C
7	NSSS2026ABS255	A980 and the Germanium Puzzle: New Clues from an Extreme Helium Star	Ajay Kumar Saini
8	NSSS2026ABS237	Probing the Interstellar Medium of NGC 7380: Toward a Determination of the Gas-to-Dust Ratio	Pryanshu Basur
9	NSSS2026ABS363	Multiwavelength study of star formation within molecular clouds	Soumita Chakraborty

Technical Session- 7 (1415 - 1600 Hrs)

Chair: Dr. A. Tej

Oral Presentations

SN	Abstract ID	Title of Abstract	First Author
1	NSSS2026ABS043	Multi-band and Multi-instrument study of the transiting exoplanets (Lead talk)	Yogesh Chandra Joshi
2	NSSS2026ABS356	Detection and Characterization of TOI-6651b: A Dense Sub-Saturn in the Neptunian Ridge Using PARAS-2	Rishikesh Sharma
3	NSSS2026ABS199	Tracing the cause of Abundance Discrepancies in PNe	K. Khushbu

Short Oral Presentations

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SN	Abstract ID	Title of Abstract	First Author
1	NSSS2026ABS239	Astrosat detection of Lyman continuum leakers at z 1-2	Suraj Dhiwar
2	NSSS2026ABS713	Investigating the temporal and spectral nature of Mrk 590 through multiwavelength signatures	Arya Sudhakaran
3	NSSS2026ABS117	Baryonic Ecosystem IN Galaxies BEINGMgII III Cool gas reservoirs at 03 z 16 in the Dark Energy Survey	Reena Chaudhary
4	NSSS2026ABS130	Exploring the Diversity of Type Iax Supernovae: Insights from SN 2022eyw and Ongoing Studies	Hrishav Das
5	NSSS2026ABS095	Multi-wavelength study of an extremely X-ray variable WLQ SDSSJ1539: a dive into the radio properties of WLQs	Ayushi Chhipa
6	NSSS2026ABS119	Constraining the Hubble parameter with the 21-cm brightness temperature signal in a universe with inhomogeneities	Subhadeep Mukherjee
7	NSSS2026ABS175	Broadband Spectral Modeling of Blazars: Constraining the Lorentz Factor and Gamma-Ray Emission Site	Ajay Sharma
8	NSSS2026ABS073	Feasibility Simulation Study of an Adaptive Optics FPGA Spectrometer for Exoplanetary Atmospheres and Transient Astronomy	Sahela Khalid

Poster Presentations (1600 - 1730 Hrs)

SN	Abstract ID	Title of Abstract	First Author
1	NSSS2026ABS776	A Metrics-Based Catalogue of Potentially Habitable Exoplanets	Samridhi Dwivedi
3	NSSS2026ABS363	Multiwavelength study of star formation within molecular clouds	Soumita Chakraborty
4	NSSS2026ABS212	Signatures of gas inflow and infall in a massive star forming region G339.88-1.26 .	Tunir Kundu
5	NSSS2026ABS288	From Bubble to Cluster: Probing the Evolutionary History of BDS2003-52	Mamta
6	NSSS2026ABS835	Developing an XMM-Newton Pipeline for Galaxy Cluster X-ray Analysis: A Framework Inspired by ClusterPyXT	Riya Rathore
7	NSSS2026ABS430	Robotic DIMM for Mt Abu Observatory site	Neelam J S S V Prasad
8	NSSS2026ABS858	Development of a GUI-Controlled Fiber Positioner System for a Multi-Object Spectrograph	Nitish Singh
9	NSSS2026ABS758	Development of Short Wave Infrared Imaging System (SIRIS) for 1.2m telescope at PRL Mt Abu Observatory	Deekshya R.S
10	NSSS2026ABS013	Understanding SSM-IMRIs with LIGO-Virgo and Einstein Telescope	Devesh Giri
11	NSSS2026ABS409	A Low cost Instructional Interferometer using DIY Horn Antenna	Sangeetha A
12	NSSS2026ABS324	Design and Development of Scrambler for precision Doppler spectroscopy	Kapil Bharadwaj
14	NSSS2026ABS632	Indian Optical Telescopes and Their Role for High Resolution of Stellar Objects	Km Nitu Rai
15	NSSS2026ABS792	Small telescope astronomy : lessons from PRL's 50cm telescope and indigenous supporting equipments	Alka
16	NSSS2026ABS073	Feasibility Simulation Study of an Adaptive Optics FPGA Spectrometer for Exoplanetary Atmospheres and Transient Astronomy	Sahela Khalid
17	NSSS2026ABS467	Pre-Explosion Variability and the Period-Luminosity Relation of Type II Supernova Progenitors in Spitzer IRAC Bands	Snigdha Sarmah
18	NSSS2026ABS180	Spectral nature of Sco X 1 observed using the X ray SPECtroscopy and Timing XSPECT payload onboard XPoSat	V. P. Shyam Prakash
19	NSSS2026ABS347	Investigating Oscillation Modes in Dark Matter-Enriched Neutron Stars	Vivek Baruah Thapa

Day- 5 (27.02.2026 Friday)

Technical Session- 8 (1145 - 1315 Hrs)

Chair: Dr. Mahavir Sharma

Oral Presentations

SN	Abstract ID	Title of Abstract	First Author
1	NSSS2026ABS593	Characteristic studies of seven totally eclipsing marginal contact binaries using ground and space based observations (Lead talk)	J. Rukmini
2	NSSS2026ABS354	Formation Flying for a Deci-Hz Gravitational Wave Mission	Sayantan Pal
3	NSSS2026ABS635	Exploring GRB Localisation Capability of Proposed Daksha Mission using Coded Mask Imaging with its Low-Energy Detectors	Ashish Kumar Mandal
4	NSSS2026ABS692	A Wide Field X-ray Imaging and Spectroscopic mission using Lobster-eye optics: Performance parameters from a concept design	Debbijoy Bhattacharya
5	NSSS2026ABS549	Aperture Masking Interferometry for 3.6m DOT	Tushar Ubarhande