

# National Space Science Symposium 2026

## PS-5

### Enabling Technologies for Space Exploration

#### Daily Schedule

Chairperson: **Dr. Mehul Pandya**, SAC, Ahmedabad  
Convener: **Dr. N RAghu**, DTDI, ISRO HQ, Bengaluru  
Co-convener: **Shri Dinakar P Vajja**, SPL, Thiruvananthapuram  
Rapporteur: **Dr. Arpita Gajaria**, SAC, Ahmedabad

**Day-1 (23.02.2026) Monday**

**Technical Session-1 (1415 - 1600 Hrs)**

**Chair: Dr. Mehul Pandya**

**Co-Chair: Mr. Raghu Ningthoujam**

**Oral Presentations**

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS711	Design of S band RF Diplexers for Spacecraft Testing applications	Raja Sharma
2.	NSSS2026ABS133	Design and Realization of Single ended Subharmonic Mixer at K Band	Doki Venkata Vinay Kumar
3.	NSSS2026ABS315	Reconfigurable multimode digital modem for spacecraft TTC applications employing a highly reliable reprogrammable flash based FPGA	Shravani Y
4.	NSSS2026ABS331	Design of integrated waveguide to microstrip filter transition for mm-wave space applications	Rahul Menon
5.	NSSS2026ABS636	Miniature programmable High voltage DC DC converter for Space application	Manan Shah
6.	NSSS2026ABS335	Cost effective TMTC system for nanosatellite missions in Low Earth Orbit	Mohanbabu K
7.	NSSS2026ABS796	Redundant Spatial Orientation Estimation Using IMU Sensors and EKF	Vedant Kothari
8.	NSSS2026ABS349	Sustainable software development practices for mission critical space software	Savitha A
9.	NSSS2026ABS541	Chip-scale Rubidium Vapour Cell based Atomic Magnetometer	Ishan Gunjal
10.	NSSS2026ABS575	Simulation-Based Analysis of Inter-Satellite Link Requirements for Satellite Constellations	PVB Shilpa
11.	NSSS2026ABS353	Optical Design of Compact Off Axis Three Mirror Anastigmat Telescope for Earth Observations	Madhavi Thakre

**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.

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS170	Vibrational-Structural Analysis using Nanomaterials for re-entry module	Geetanjali Sambhaji
2.	NSSS2026ABS122	Biofilm or Melanin-Based Lightweight Radiation Shielding for CubeSats	Bivanjit Paul

3.	NSSS2026ABS618	Diagnostic systems for electric thruster characterization at Large Vacuum Test Facility	Vara Prasad K
4.	NSSS2026ABS697	Distance-Based Localization and Vision-Guided Landing for Autonomous Planetary Rotorcraft	Atharva Sunil Chavan
5.	NSSS2026ABS346	High Precision Indigenous Hybrid Optical Encoder for Satellite Applications	Ponmalar M

**Poster presentations (1600 - 1730 Hrs)**

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS293	First Light Results of the DMD based Multi Object Spectrograph	Vineeth Valsan
2.	NSSS2026ABS820	Autonomous Rover and Swarm-Assisted Sample Return with Dust-Resistant and Soft Robotic Arm Mechanisms for Next-Generation Planetary Exploration	Ananta
3.	NSSS2026ABS361	In-Situ Resource Utilization for sustained human presence on Mars	Arun Nyamagoudar
4.	NSSS2026ABS436	Iono Delay of Super Storm, 10th May, 2024-A Comparison of Equator and Pole	Shubhadeep Biswas
5.	NSSS2026ABS017	Technology Design And Simulation Of Mars Habitat For Human Settlement	Shubham Bagade
6.	NSSS2026ABS300	Elevating India's Cosmic Odyssey : AI Driven Sustainable Communication Architectures for Deep Space Exploration	Devanshi Verma
7.	NSSS2026ABS845	Electromagnetic Dust Shielding for Lunar Surface Applications	Devansh Bhatia
8.	NSSS2026ABS847	Origami-Inspired Expandable Habitats for Lunar Surface Missions	Devansh Bhatia
9.	NSSS2026ABS472	Renewable and Hybrid Power Architectures for Human Deep Space Exploration	Manoj Kumar Singh
10.	NSSS2026ABS139	Development of Communication System Technologies for Deep Space Exploration	Yogesh Parth
11.	NSSS2026ABS818	Space Weather RADio (SWARA) Polarimeter - A radio and plasma wave payload for future Indian Space missions	Mugundhan Vijayaraghavan
12.	NSSS2026ABS240	Liquid Breathing G Protection for Human Piloted Hypersonic Entry: Perfluorocarbon Ventilation with One Atmosphere Suit	Allen John Darin J
13.	NSSS2026ABS292	Geant4-based application to calculate dosimetric parameters of Galactic Cosmic Rays	Vivek Kaushik

**Day-2 (24.02.2026) Tuesday**

**Technical Session-2 (1145 - 1315 Hrs)**

**Chair: Dr. Mehul Pandya**

**Co-Chair: Mr. Dinakar Prasad Vajja**

**Oral Presentations**

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS332 (Lead Talk)	Bhaskaracharya Observatory for Search of Exoplanets A futuristic space mission for the search of Earth Twins	Abhijit Chakraborty
2.	NSSS2026ABS823	Vacuum Pyrolysis Characterisation of Lunar Regolith Simulant	Dr. Ganesh P
3.	NSSS2026ABS259	SEAMS: A space mission dedicated to ultra-low frequency radio observations	Abhirup Datta
4.	NSSS2026ABS837	Hybrid Dust Mitigation System For Solar Panels On Lunar And Martian Surfaces.	Yashasvi C Patil
5.	NSSS2026ABS587	Evolution of a unique method for thermal conductivity measurement of Lunar Regolith using ChaSTE probe in Chandrayaan 3 mission.	Fazil Mohammad1
6.	NSSS2026ABS747	Self-cleaning strategy for solar panels in the dusty Lunar/Martian environment	Nazeer Ahmad
7.	NSSS2026ABS750	Operations-aware Tisserand Graphs for Arbitrary Multi-Planet Flyby Chains	Sourav Ghosh
8.	NSSS2026ABS291	Polarization study of Platinum coated mirrors in EUV for Spectropolarimeter	Savitha M S
9.	NSSS2026ABS132	Real-time data broadcast system for dissemination of astronomical events detected by satellite to ground	Rahul G Waghmare
10.	NSSS2026ABS743	Advancements in the Airglow Photometry/Imaging Experiment for upcoming Space Missions: Transition from CCD to High-Speed CMOS Detectors and Prototype Development	R. Pathak
11.	NSSS2026ABS115	Dynamic UV sky simulation with transient M dwarf Flares	Akshank Tyagi

**Short oral presentations**

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SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS293	First Light Results of the DMD based Multi Object Spectrograph	Vineeth Valsan
2.	NSSS2026ABS820	Autonomous Rover and Swarm-Assisted Sample Return with Dust-Resistant and Soft Robotic Arm Mechanisms for Next-Generation Planetary Exploration	Ananta
3.	NSSS2026ABS361	In-Situ Resource Utilization for sustained human presence on Mars	Arun Nyamagoudar

**Technical Session-3 (1415 - 1600 Hrs)**

**Chair: Shri Sivasubramony S**

**Co-Chair: Ms. Arpita Gajaria**

**Oral Presentations**

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS204 (Lead Talk)	Transcriptomic Profiling of C2C12 Cells Exposed to Microgravity and Radiation: Identifying Stress-Responsive Genes and Therapeutic Targets	Subhrajit Barua
2.	NSSS2026ABS545	ECHO Capsule: A Narrative Mental Systems Check-Up	Dr Ch N Sowgandhi
3.	NSSS2026ABS134	High temperature crystal growth experiments under microgravity on board the International Space Station and Recoverable Satellite: A leap towards space manufacturing	Nirmal Kumar Velu
4.	NSSS2026ABS450	Human rating in space operations	Dr YS Dahiya
5.	NSSS2026ABS103	Design of Crew Quarters Structure for Bharatiya Antariksha Station	Priyansh Jain
6.	NSSS2026ABS065	Smart Autonomous Health Monitoring Space Suit with predictive Safety System for Astronauts	Peddireddy Akhila
7.	NSSS2026ABS514	Medical Emergency Simulation in Space Analogue Experiment: Implication for Human Spaceflight Missions	Dr Polash Sannigrahi
8.	NSSS2026ABS513	Head-Down Tilt Bed Rest as a Microgravity Analogue: Quantifying Physiological Responses Over Seven Days	Dr Divya N

9.	NSSS2026ABS257	Ergonomic Evaluation of Space Station Crew Quarters Using Virtual Fit Mapping and Indian Anthropometric Data	Hitesh Arvindan R
10.	NSSS2026ABS667	Enhancement of an Antecedent Lunar Landing Pad Fabrication System via Material Optimization and Advanced Device Integration	Atharva Deshmukh
11.	NSSS2026ABS246	Physics of space physiology - 2: The precarious biosphere of life support systems	Gp Capt P Biswal

### **Short oral presentations**

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SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS139	Development of Communication System Technologies for Deep Space Exploration	Yogesh Parth
2.	NSSS2026ABS818	Space Weather RADio (SWARA) Polarimeter - A radio and plasma wave payload for future Indian Space missions	Mugundhan Vijayaraghavan
3.	NSSS2026ABS240	Liquid Breathing G Protection for Human Piloted Hypersonic Entry: Perfluorocarbon Ventilation with One Atmosphere Suit	Allen John Darin J
4.	NSSS2026ABS292	Geant4-based application to calculate dosimetric parameters of Galactic Cosmic Rays	Vivek Kaushik

### **Poster Presentations (1600 - 1730 Hrs)**

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS611	Cognova: A Novel Task-based Approach for Real-Time Cognitive Training and Stress Assessment Framework for Human Spaceflight Missions	Jyoti
2.	NSSS2026ABS772	regenerative mechanical energy	Yogesh verma
3.	NSSS2026ABS362	Removal of Space Debris Using a DRM: A Hypothesis	Subhomoy Dutta
4.	NSSS2026ABS805	Development of an ICN-based autonomous satellite swarm communication system for efficient inter-satellite data relay and ground transmission.	Abi .R
5.	NSSS2026ABS755	Next-Generation Satellite Communication Networks for Crewed Space Missions: Architecture, Challenges and Enabling Technologies	Bhimeswara Rao M
6.	NSSS2026ABS449	An Analytical Review of Different Spacecraft Docking Techniques	Ashish Kumar Sharma

7.	NSSS2026ABS032	SPACE BASED SOLAR POWER AND ITS OPPORTUNITIES, CHALLENGES, AND FUTURE PROSPECTS	Pratiksha Madiwalayya Gaddigimath
8.	NSSS2026ABS782	SolForge - Harnessing the Solar Energy Architecturally	Mr. Adwitiya
9.	NSSS2026ABS249	A Low-Cost Satellite Testing Apparatus for ADCS	Abhirup Datta
10.	NSSS2026ABS238	Integrated Self-Destruct Satellites: A Built-In End-of-Life Debris Mitigation Solution	Anmol Gandhi
11.	NSSS2026ABS189	Stability Analysis with Bode and Nyquist plot for DC DC converters	Rupali Sahu
12.	NSSS2026ABS290	Spacecraft configuration systems based on electric Propulsion systems with robotic arms	Vinod Kumar Gupta
13.	NSSS2026ABS170	Vibrational-Structural Analysis using Nanomaterials for re-entry module	Geetanjali Sambhaji
14.	NSSS2026ABS122	Biofilm or Melanin-Based Lightweight Radiation Shielding for CubeSats	Bivanjit Paul
15.	NSSS2026ABS618	Diagnostic systems for electric thruster characterization at Large Vacuum Test Facility	Vara Prasad K
16.	NSSS2026ABS697	Distance-Based Localization and Vision-Guided Landing for Autonomous Planetary Rotorcraft	Atharva Sunil Chavan
17.	NSSS2026ABS346	High Precision Indigenous Hybrid Optical Encoder for Satellite Applications	Ponmalar M
18.	NSSS2026ABS307	Optimization of spacecraft mmmod shield mass through critical diameter predictions from ESA and NASA BLE equations	Umesh Singh
19.	NSSS2026ABS816	Space Situational Awareness tool backed artificial intelligent agent	Harsha M

**Day-3 (25.02.2026) Wednesday**

**Technical Session-4 (1145 - 1315 Hrs)**

**Chair: Dr. Mehul Pandya**

**Co-Chair: Dr. Girach Imran A**

**Oral Presentations**

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS780 (Lead Talk)	Assessment of Structural Integrity of Propellant Tanks using Acoustic Emission Technique	Amzad Amin Rahul
2.	NSSS2026ABS822	Rotating detonation engine	Om Unnithan
3.	NSSS2026ABS062	Design and Analysis of a Variable Pitch Propeller UAV for VTOL Applications	Pakhee Sinha
4.	NSSS2026ABS177	Thermal Analysis of Propellant Storage in Orbital Environments Using ANSYS	Om karini Sarkar
5.	NSSS2026ABS600	Realisation of orbital platform in upper stage for space exploration	K V Krishna Kumar
6.	NSSS2026ABS677	Hot Stage Separation Contact Dynamics: A Simplified Rigid Body Approach	Jiljo K Moncy
7.	NSSS2026ABS426	Development of Ultra high temperature Ceramics ZrB <sub>2</sub> -SiC from Zircon mineral by Thermal Plasma Process	K Jayasankar
8.	NSSS2026ABS515	Liner Erosion Profile Measurements and Estimation for a High Power Stationary Plasma Thruster	Panuganti Shekhar
9.	NSSS2026ABS789	High Performance Burn Rate Modifier for Sugar Rocket Propellant	Sanjay Ganesh
10.	NSSS2026ABS278	An FPGA-SDR Platform for Real-Time Spectrum Sensing and Dynamic Modulation Recognition in Satellite Communication Links	Anismita Biswas

**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.**

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS220	Space Saathi : Design and Simulation of an Autonomous Collision Prediction and Avoidance System for Space objects.	Sumedh S Bhat
2.	NSSS2026ABS066	Space-based debris detection, tracking, and orbit determination in the LEO environment	Shubhi Tiwari

3.	NSSS2026ABS068	Ballistic shields for spacecraft protection against Micrometeoroids and Orbital Debris	Dr Rajeev Chaturvedi
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**Technical Session-5 (1415 - 1600 Hrs)**

**Chair: Dr. Mehul Pandya**

**Co-Chair: Mr. Raghu Ningthoujam**

**Oral Presentations**

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS446 (Lead Talk)	Mission Design for MARS orbiter Mission with Aerobraking	Vikram Vishwanath
2.	NSSS2026ABS179	A novel technique for interactive web-based visualization and analysis of GNSS-R Data	Chopda Mayur Dahyabhai
3.	NSSS2026ABS398	Mineral Diversity mapping in Nidar region, Ladakh using Hyperspectral Imaging Spectroscopy	Saptarshi Lohia
4.	NSSS2026ABS364	Compact Fabry Perot Cavity Based Planar Antenna array for S-Band Space Applications	Neha Agrawal
5.	NSSS2026ABS838	High Density Power Supply for Cooler Driver Electronics in IDDCA Systems	Himanshu Gupta
6.	NSSS2026ABS267	Novel Cost Effective Indigenous Design Approach for Ku band Waveguide Circulator and Termination for Space Applications	Rahul Gupta
7.	NSSS2026ABS862	Material Compatibility and performance Optimization of Iodine-Fed Hall effect Thrusters for Small Satellite Constellations	Urjita S.
8.	NSSS2026ABS434	Generalized On-Board SAA Algorithm	Thameemunnisha
9.	NSSS2026ABS615	Compressed Sensing Framework for ECG Signal Processing in Space Exploration Missions	Anmol Jain
10.	NSSS2026ABS247	Physics of space physiology - 1: human effects of the physical forces of spaceflight	Squadron Leader Gaurab Ghosh
11.	NSSS2026ABS786	Microgravity Assisted Crystallization of Macro and small Pharmaceutical Molecules	Dhavalkumar Solanki

**Short oral presentations**

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SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS135	Comparative Analysis of Adaptive Filtering Techniques for DVB OFDM Receivers in Satellite Communication Systems	Zarana Barot
2.	NSSS2026ABS129	Radiation Tolerant SWaP-C efficient SerDes-FPGA Interoperability for ISRO's Space Systems	Nirbhay Tyagi
3.	NSSS2026ABS279	Optimization and Development of an Electron Cyclotron Resonance Plasma Thruster for Orbital and Space Missions	Shubhankur Suvansh
4.	NSSS2026ABS104	Unveiling On-Orbit Solar Panel Performance: Investigating Double Peaks in Photocurrent Dynamics	Prachi Bisht
5.	NSSS2026ABS360	Formulation and Simulation of Multi-Orbit Transfer Dynamics for Efficient Orbital Transfer Vehicles	Archana Menon

**Poster Presentations (1600 - 1730 Hrs)**

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS086	Radiation Testing and Characterization of Radiation Hardened Dual Port SRAM	Pramod Mishra
2.	NSSS2026ABS105	Artificial intelligence based risk assessment of commercial-of-the-shelf part for a satellite mission	Sachin Barthwal Siva Kumar Ambati
3.	NSSS2026ABS056	Fault Tolerant Server Tuning for Latency Sensitive Applications	KM Deepshikha
4.	NSSS2026ABS082	Identifying Stable Elliptical Frozen Orbits for Lunar Exploration	Parthiban P
5.	NSSS2026ABS114	Space Gravitational Wave Observatory Around Earth	Priyansh Jain
6.	NSSS2026ABS304	Reference Attitude design and analysis for Chandrayaan-3 Spacecraft	Manish Gupta
7.	NSSS2026ABS220	Space Saathi : Design and Simulation of an Autonomous Collision Prediction and Avoidance System for Space objects.	Sumedh S Bhat
8.	NSSS2026ABS066	Space-based debris detection, tracking, and orbit determination in the LEO environment	Shubhi Tiwari
9.	NSSS2026ABS068	Ballistic shields for spacecraft protection against Micrometeoroids and Orbital Debris	Dr Rajeev Chaturvedi
10.	NSSS2026ABS135	Comparative Analysis of Adaptive Filtering Techniques for DVB OFDM Receivers in Satellite Communication Systems	Zarana Barot
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12.	NSSS2026ABS279	Optimization and Development of an Electron Cyclotron Resonance Plasma Thruster for Orbital and Space Missions	Shubhankur Suvansh;
13.	NSSS2026ABS104	Unveiling On-Orbit Solar Panel Performance: Investigating Double Peaks in Photocurrent Dynamics	Prachi Bisht
14.	NSSS2026ABS360	Formulation and Simulation of Multi-Orbit Transfer Dynamics for Efficient Orbital Transfer Vehicles	Archana Menon
15.	NSSS2026ABS260	Automatic Parameterization of Ionospheric Plasma Structures from All-sky Airglow Images using Computer Vision and Deep Learning Techniques	Jeevan Upadhyaya 1
16.	NSSS2026ABS101	Signal Parameter Estimation for Detector Systems Using Machine Learning on FPGA	Bhumi Patel
17.	NSSS2026ABS553	ARUN-SSW: An Upcoming Solar Radio Imaging Facility	Anshu Kumari
18.	NSSS2026ABS680	Design and Development of RF drive electronics for m/q scanning in the mass spectrometer	Pankaj Kushwaha
19.	NSSS2026ABS765	Quick prediction of spacecraft dynamics using AI/ML	Akash Aditya

**Day-4 (26.02.2026) Thursday**

**Technical Session-6 (1145 - 1315 Hrs)**

**Chair: Dr. Mehul Pandya**

**Co-Chair: Mr. Dinakar Prasad Vajja**

**Oral Presentations**

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS849 (Lead Talk)	Achieving Centimeter-Level Accuracy in Autonomous UAV Navigation	Dhruv Bhardwaj
2.	NSSS2026ABS210	Automating spacecraft operations through discriminator loss based anomaly detection in spacecraft telemetry	Deepan M
3.	NSSS2026ABS583	Self-Supervised Deep Learning based Approach for Change Detection using High-Resolution SAR Imagery	Vatsalya Gupta
4.	NSSS2026ABS387	A comparative study of Deep learning based feature correspondence for Chandrayaan mission optical payload image fine registration	Rohit Mishra
5.	NSSS2026ABS790	Machine Learning Models for Solar-Terrestrial Disturbance Prediction in Satellite Operations	Aadya Maheshwari
6.	NSSS2026ABS035	Development, assembly, calibration and testing of the payload NUTEx designed for UV transient sky studies	Shubham Ghatul
7.	NSSS2026ABS039	Indigenous Development of Integrated Detector Cooler Assembly for Infrared Focal Plane Arrays	Ankur Jain
8.	NSSS2026ABS800	Solar Occultation Experiments (SOE) for Probing Venusian Atmosphere: A Simulation Framework	Sunil kumar S.V
9.	NSSS2026ABS709	Development of a hard X-ray Compton polarimeter for small satellite mission	Adalja Hiteshkumar
10.	NSSS2026ABS739	The Fusion of Generative and Agentic AI Next Generation Atmospheric and Space Science Research	Pinaki Ranjan Sarkar
11.	NSSS2026ABS258	Evaluation of quantized deep learning models on edge hardware towards automated rover navigation on planetary bodies	Jai Singla

**Short oral presentations**

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SN	Abstract ID	Title of Abstract	First Author
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2.	NSSS2026ABS101	Signal Parameter Estimation for Detector Systems Using Machine Learning on FPGA	Bhumi Patel
3.	NSSS2026ABS553	ARUN-SSW: An Upcoming Solar Radio Imaging Facility	Anshu Kumari
4.	NSSS2026ABS680	Design and Development of RF drive electronics for m/q scanning in the mass spectrometer	Pankaj Kushwaha

**Technical Session-7 (1415 - 1600 Hrs)**

**Chair: Dr. Mehul Pandya**

**Co-Chair: Mr. Raghu Ningthoujam**

**Oral Presentations**

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS594 (Lead Talk)	Quantum Secure Military CanSat	Milan Bhat
2.	NSSS2026ABS406	Thermal Actuation and Capacitive Feedback Sensor Based Refocusing Mechanism for Optical Payloads	Tanishka Chauhan
3.	NSSS2026ABS219	Dual-gimbal-antenna system for interplanetary missions	Dhruti Ranjan Gaan
4.	NSSS2026ABS850	Attitude design for Instrument calibration of Aditya-L1 using celestial X-ray beacons	Madhav Haridas M.K.
5.	NSSS2026ABS662	Incoherent Polarization Beam Combining and its application in active optical remote sensing systems	Abhishek A
6.	NSSS2026ABS828	Quantifying the Impact of Perturbations on Earth–Mars Transfer Trajectory	Sidhartha AJ
7.	NSSS2026ABS843	Self-Healing Lunar Concrete Using Microbial Biopolymers	Devansh Bhatia
8.	NSSS2026ABS733	Venus Solar Soft X-ray Spectrometer (VS3) on-board Venus Orbiter Mission	Nishant Singh
9.	NSSS2026ABS245	Orbital Electrically-Pumped Laser System for Active Space Debris Remediation	Rajnandni Bharti

10.	NSSS2026ABS809	Dynamic Reinforcement Learning for effective Sensor Tasking in Space Situational Awareness	Harsha M
11.	NSSS2026ABS551	Design and Optimization of a Three-Stage Planetary Gearbox for Space-Grade Gear Rotary Actuators.	Jyotirmoy Haloi and Dr. Tanmay Dutt Mathur
12.	NSSS2026ABS337	High precision multi laser tracker measurement system for ground docking simulation experiments	Sudhanshu Tiwari

### **Short oral presentations**

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SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS844	Quantum-Entangled Navigation System for Deep-Space Applications	Devansh Bhatia
2.	NSSS2026ABS765	Quick prediction of spacecraft dynamics using AI/ML	Akash Aditya
3.	NSSS2026ABS487	Real-Time Anomaly Detection in Satellite Engineering Sensors	Sayantan Ghosh
4.	NSSS2026ABS173	Computational Analysis of Fluidic Thrust Vector Control for Efficient Nozzle Design in Aerospace Propulsion	Samhitha V
5.	NSSS2026ABS328	Design and development of a Waypoint guidance system for a sounding rocket	Anish Kumar
6.	NSSS2026ABS241	Biomimetic Rotating Detonation Engine Shark Skin Textured Combustor for Pressure Gain Propulsion	Tumma Anusha

### **Poster Presentations (1600 - 1730 Hrs)**

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS679	Enhancing Reliability of Space-based Plasma Science Data through Designed Electronic Calibration for future space missions	Pankaj Kumar Kushwaha
2.	NSSS2026ABS556	Development of X-ray Optics for Future Indian Astronomy Missions at PRL	Neeraj K. Tiwari
3.	NSSS2026ABS855	A Brief Review, Challenges and Development Trends in Quantum Key Distribution Protocols	Venugopal S
4.	NSSS2026ABS844	Quantum-Entangled Navigation System for Deep-Space Applications	Devansh Bhatia
5.	NSSS2026ABS487	Real-Time Anomaly Detection in Satellite Engineering Sensors	Sayantan Ghosh
6.	NSSS2026ABS173	Computational Analysis of Fluidic Thrust Vector Control for Efficient Nozzle Design in Aerospace Propulsion	Samhitha V
7.	NSSS2026ABS328	Design and development of a Waypoint guidance system for a sounding rocket	Anish Kumar

8.	NSSS2026ABS241	Biomimetic Rotating Detonation Engine Shark Skin Textured Combustor for Pressure Gain Propulsion	Tumma Anusha
9.	NSSS2026ABS642	HybridFusionLog: A Unified Template–Parameter–Context Framework for Space System Anomaly Detection	Swayam Kalburgi
10.	NSSS2026ABS191	Naarad: Secure On-Premise AI Assistant for Astronaut Support and Space Mission Autonomy	Shaik Mohammed Muzammil Ali
11.	NSSS2026ABS408	Space Refuelling Stations: A Comprehensive Review for Deep Space Exploration	Ateet Roy
13	NSSS2026ABS526	Dynamic launch environment simulation for solar array used in Human Space Flight mission of ISRO	Shilpi Sharma

**Day-5 (27.02.2026) Friday**

**Technical Session-8 (1145 - 1315 Hrs)**

**Chair: Dr. Mehul Pandya**

**Co-Chair: Ms. Arpita Gajaria**

**Oral Presentations**

<b>SN</b>	<b>Abstract ID</b>	<b>Title of Abstract</b>	<b>First Author</b>
1.	NSSS2026ABS372 (Lead Talk)	AI-enabled Autonomous Rover Navigation and a Case Study on Chandrayaan-3 Pragyan	K. Suresh
2.	NSSS2026ABS453	A Novel Refueling Mechanism with Self Hold Feature for Future Docking Systems	Nirmit Nitin Mestry
3.	NSSS2026ABS477	A Feedback-Controlled Underactuated Soft Robotic Gripper for Space Applications	Ankit Sharma
4.	NSSS2026ABS857	Configuration Design of External Robotic Arm – An Enabling technology for sustainable Space Station	V. Sri Pavan Ravi Chand