National Space Science Symposium 2026

PS-3

Solar and Planetary Sciences

Daily Schedule

Chairperson: **Dr. Dibyendu Chakrabarti,** PRL, Ahmedabad
Convener: **Dr. Shyama**, URSC, Bengaluru
Co-convener: **Dr. Mohammad Hassan,** SPO, ISRO HQ, Bengaluru
Rapporteur: **Dr. S Vijayan,** PRL, Ahmedabad

Day-1 (23.02.2026) Monday

Technical Session - 1 (1415 - 1600 Hrs)

Chair: Dibyendu Chakrabarty
Co-Chair: Girijesh Gupta

Oral Presentations

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS377 (Lead Talk)	Coronal magnetometry through Hanle effect in EUV spectral lines	K. Nagaraju
2.	NSSS2026ABS029	Dynamics of Reconnection Nanojets in Eruptive and Confined Solar Flares	Anna Bura
3.	NSSS2026ABS675	Estimating physical parameters of filaments using Bayesian Inference	Upasana Baweja
4.	NSSS2026ABS232	Connecting spicules and propagating coronal disturbances using radiative MHD simulations of the solar atmosphere	Sankalp Srivastava
5.	NSSS2026ABS176	Seismological applications of 3-min slow magnetoacoustic waves propagating along individual umbral fan loops	Ananya Rawat
6.	NSSS2026ABS061	Estimating Solar Wind Velocities Using Spacecraft Radio Signals	Keshav Aggarwal
7.	NSSS2026ABS704	Towards a Solar Imaging X-ray Spectrograph: Science Drivers and Feasibility	Sreejith P

Poster presentations (1600 - 1730 Hrs)

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS283	Estimation of Solar Differential Rotation through SFD image observed by NoRH	Vivek Kumar Singh
2.	NSSS2026ABS092	Investigating propagation of small-scale flare heat flux in the lower and upper atmosphere of solar active region	Girjesh Gupta
3.	NSSS2026ABS479	Differential Rotation of the Solar Photosphere Observed Through SDO HMI	Satish Chandra
4.	NSSS2026ABS485	Study of Chromospheric components Mg II lines and Solar Lyman alpha during Solar Cycles 22 to 24	P. R. Singh

5.	NSSS2026ABS760	Relation Between UV Emission and Magnetic Complexity in NOAA 14056	Munjiba M M
6.	NSSS2026ABS265	Long-term Study of Active Longitudes from Kodaikanal Ca II K data	Dibya Kirti Mishra
7.	NSSS2026ABS316	Investigating Nonlinear Quenching Effects on Polar Field Buildup Using Physics-Informed Neural Networks	Jithu J Athalathil
8.	NSSS2026ABS397	An Investigation into the Solar Origins of Geoeffective Coronal Mass Ejections from 1997 to 2024	Saurabh Tripathi
9.	NSSS2026ABS555	Type II radio bursts and their source sizes	D. E. Morosan
10.	NSSS2026ABS714	White-Light Continuum Across the Balmer Jump: Coordinated SUIT, HEL1OS, IRIS, and AIA Observations of the 2024 October 3 Flare	Soumya Roy
11.	NSSS2026ABS736	Probing Coronal Magnetism and Space Weather with the Wide-Band Solar Radio Spectrograph (WBSRS): A Ground-Based Full-Stokes Instrument at USO–PRL	Kushagra Upadhyay
12.	NSSS2026ABS839	ASPEX-STEPS Data Pipeline: From Raw Measurements to Science-Ready Products	Jacob Sebastian
13.	NSSS2026ABS749	A high-frequency type II radio burst associated with an intense X2.3 class flare	Divya Paliwal
14.	NSSS2026ABS762	Space Weather during Extremely Disturbed Geomagnetic Conditions and Associated Cosmic Rays Intensity Variation	Subhash Chandra Kaushik
15.	NSSS2026ABS099	A Comparative Study of Near Earth Solar Wind Parameters during Different Solar Epoch	Gulfam
16.	NSSS2026ABS037	Analysis of solar flare and sunspots on 4th Jan 2025 and its effect on space weather	Akash Vinod Shirke
17.	NSSS2026ABS087	EdgeDeploy-SolarNet: Compact Deep Learning for Real Time Solar Flare Prediction	Amrit Roy
18.	NSSS2026ABS350	On-orbit performance of Aditya L1 solar array	Neha Jain
19.	NSSS2026ABS345	Real-time Regional Forecasting of CME Impacts in India using Aditya-L1 and GNSS Signals	Preksha Choudhury

Day-2 (24.02.2026) Tuesday

Technical Session-2 (1145 - 1315 Hrs)

Chair: K. Sankarasubramanian
Co-Chair: Sreejith P

Oral Presentations

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS427	ASPEX-STEPS on board Aditya-L1: Configuration, Performance and High-energy particle measurements from the Sun-Earth L1 point	Bijoy Dalal
2.	NSSS2026ABS525	Multi-directional investigations of suprathermal ions during quiet and disturbed times using ASPEX/Aditya L1 measurements	Aakash Gupta
3.	NSSS2026ABS557	Strong energization of solar energetic particles as evident from measurements by ASPEX-STEPS on board Aditya-L1	Bijoy Dalal
4.	NSSS2026ABS668	A spatio-temporal hybrid deep learning model for forecasting multiple solar wind parameters at L1 point	Santanu Maity

Technical Session-3 (1415 - 1600 Hrs)

Chair: K. Sankarasubramanian
Co-Chair: Sreejith P

Oral Presentations

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS150	An intense geomagnetic storm originated from stealth Coronal Mass Ejection: remote and in situ observations by near radially aligned spacecraft	P Vemareddy
2.	NSSS2026ABS273	A Comparative Analysis of Earth Magnetopause Response During the Mothers Day Storm Based on Multi Satellite Data	Amar Deep
3.	NSSS2026ABS106	Geomagnetic storm induced attitude disturbance in GEO spacecraft	R. Subramani
4.	NSSS2026ABS110	Impact of space weather parameters on evolution of GEO Transfer Orbit - a sensitivity analysis	M. R. Rajesh Kannan

Poster presentations (1600 - 1730 Hrs)

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS536	A Study of the Impact of Solar flare X-ray flux and Interplanetary Conditions on the Geomagnetic Field and Their Effects Across Different Latitudes	Gopika S. Vijayan
2.	NSSS2026ABS458	Long Term Variability of Cosmic Ray Diurnal Anisotropy	Ambika Singh
3.	NSSS2026ABS589	Effects of Magnetic Clouds on Geo magnetic fields	S.G.Singh
4.	NSSS2026ABS248	Long-term trend analysis on degradation of solar cells due to space weather	Mullapudi Balaram
5.	NSSS2026ABS151	Characterization of plasma boundaries of Mars during CME event May 17-19, 2024	Pranjali Padhye
6.	NSSS2026ABS227	Automated Detection of Solitary Waves Using MAVEN Spacecraft Data	Sahil Pandey
7.	NSSS2026ABS234	Generation of Magnetosonic Waves in Planetary Ionospheres	Amrutha
8.	NSSS2026ABS489	Seasonal Evolution of Titan's Middle Atmosphere as simulated by the Titan Weather Research and Forecasting Model	N. Koushik
9.	NSSS2026ABS416	Enabling Safe Martian Landings through Dust Storm Monitoring with Radio Occultation Payloads	Kumar Harshit
10.	NSSS2026ABS791	A Comparative Study of Venusian Atmospheric Structure using Models and Observations	Jayadev Pradeep
11.	NSSS2026ABS777	Characterization of Solar Event–Induced Range Spread in the Martian Ionosphere from MARSIS Gaussian Width Analysis	Yaswanth Ch
12.	NSSS2026ABS243	Detection of Na, K and other species in the lunar atmosphere	Yogita Patel
13.	NSSS2026ABS254	Nonlinear analysis of Ion-acoustic Solitary Waves in Martian Induced Magnetosphere	Nivedita Chakraborty
14.	NSSS2026ABS548	Ablation of meteorite across inner solar system planets	Srirag Nambiar

15.	NSSS2026ABS159	Deciphering Biosignatures in Hypersaline Environments: Insights from the Rann of Kutch as a Martian Analogue	Kanak B. Sharma
16.	NSSS2026ABS385	A Comparative Chemical Alteration Study of Jezero and Gale Craters Using Perseverance and Curiosity Rover Data	Aritra Barua
17.	NSSS2026ABS708	Geological Mapping Automation Guided by Multi-mission Datasets	Shubhangi Singh
18.	NSSS2026ABS053	A new approach in pulse amplitude measurement technique for radiation or particle detectors	Arpit Patel
19.	NSSS2026ABS699	Design and Development of Electronics subsystem for PRATHIMA payload for ISRO – JAXA (LUPEX Rover) Chandrayaan -5 Mission	Mohit Kumar Soni
20.	NSSS2026ABS732	Optimization of experimental parameters in Laser Induced Breakdown Spectroscopy of Rock Samples	Swetapuspa Soumyashree

Day-3 (25.02.2026) Wednesday

Technical Session - 4 (1145 - 1315 Hrs)

Chair: Mohammad Hasan
Co-Chair: N V Rao

Oral Presentations

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS861 (Lead Talk)	Space Weather Effects on Venus Ionosphere – The Indian Venus Mission	Varun Sheel
2.	NSSS2026ABS097	Digital cloud tracking of Venusian clouds for atmospheric winds	Dr. Abhineet Shyam
3.	NSSS2026ABS469	Exploring Internal Gravity Waves in Venus s Atmosphere with Akatsuki Observations	Ancy Jerald
4.	NSSS2026ABS351	Characterization of the Topside Ionospheric Bulge in the Venusian Ionosphere	Satyandra M. Sharma
5.	NSSS2026ABS478	Magnetotail effect of electron plasma density from RAMBHA-LP payload of Pragyan rover	Soumyasree Guin

Technical Session - 5 (1415 - 1600 Hrs)

Chair: Mohammad Hasan
Co-Chair: N V Rao

Oral Presentations

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS508 (Lead Talk)	Influence of Water Ice Clouds on Martian Oxygen Corona over Tharsis and Hellas	Supratim Chatterjee
2.	NSSS2026ABS580	Impact of 2024 Space-Weather Events on the Martian Ionosphere: A Comparative Analysis	Sahil Semwal
3.	NSSS2026ABS665	Probing the Nightside Martian Ionosphere during the passage of Stealth CME and CIR Events	Arnob Sarkar
4.	NSSS2026ABS694	Local Time and Altitude Variations of Protonated Ions in the Upper Atmosphere of Mars: Roles of Thermospheric CO2 and Chemical Pathways	Kritika Joshi
5.	NSSS2026ABS216	Investigation of Martian UV Dayglow Emissions in the Southern Hemisphere during Solar Quiet-time Conditions: Insights from Multi-year MAVEN-IUVS Observations	Aadarsh Raj Sharma

6.	NSSS2026ABS463	On the effect of H3plus ions on the characteristics of electrostatic solitary waves and double layers in Ganymede observed by Juno Spacecraft	R. Rubia
7.	NSSS2026ABS109	CHANDRAYAAN-3: ATMOSPHERIC CORRECTIONS TO RAW TRACKING DATA	Garima Aggarwal

Poster Presentations (1600 - 1730 Hrs)

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS654	Lunar Sodium abundances at Shiv Shakti point during magnetotail from Chandrayan-3 APXS	Moumita Roy
2.	NSSS2026ABS471	Analysis of Aero-braking on Venus	Vikram V
3.	NSSS2026ABS552	Design, Development and Performance Evaluation of Different Configurations of Lightning Instrument for VEnus (LIVE)	S. Jitarwal
4.	NSSS2026ABS740	Venus Radiation environment monitor on-board Venus Orbiter Mission	Sushil Kumar
5.	NSSS2026ABS738	Probing the Venusian ionosphere using a topside radar sounder	N. V. Rao
6.	NSSS2026ABS751	Olivine basalts of Western Oceanus Procellarum	Nabamita Chaudhuri
7.	NSSS2026ABS036	Determination of lunar gamma continuum and lunar neutron leakage fluxes for different lunar compositions using GEANT4	Shipra
8.	NSSS2026ABS420	Tracking magma ascent and storage in the martian crust with P zoning in olivines	Arka Pratim Chatterjee
9.	NSSS2026ABS419	Linking planetary scale spatio temporal trends in magma compositions and volcanic resurfacing on Mars	Arka Pratim Chatterjee
10.	NSSS2026ABS445	Spectral Analysis Across Chandrayaan Mission Landing Sites: A Comparative Study	Harshaditya Gaur
11.	NSSS2026ABS752	Palaeo-volatile Deposits: Implications for In-Situ Resource Utilization and Human Exploration of the Moon	Mishal K T and Deepak Dhingra
12.	NSSS2026ABS570	Terraforming the mars for humans colonization: Problems and How we can solve it.	Parv Mangal

13.	NSSS2026ABS275	Late Amazonian Volcanism, Tectonism, and Boulder Fall Activities in the Elysium Volcanic Complex, Mars	Vivek Krishnan
14.	NSSS2026ABS124	Vegetation on planet Mars: Solutions for soil fertility challenges	Kuramapu Prem Sai Mahesh
15.	NSSS2026ABS785	Imaging the Lunar Regolith with Apollo 17 Seismic Profiling Data and Prospects for Chandrayaan-3	Mrinmoy Tamuli
16.	NSSS2026ABS663	Proterozoic Stromatolites as Keys to Early Life Detection Strategies in Astrobiology	Preeti K.
17.	NSSS2026ABS852	Compositional Stratigraphy of Mare Basalt	Somnath Adak
18.	NSSS2026ABS440	A novel method for detection and characterization of lunar pyroclastic deposits	Dibyendu Misra
19.	NSSS2026ABS160	Dancing Lunar Dust: Electrostatic Detachment and Dynamics	Trinesh Sana
20.	NSSS2026ABS669	Retrieval of Atmospheric Optical Depth using shadow method from high-resolution orbiter images (HiRISE)	Farzana Shaheen
21.	NSSS2026ABS659	Spatiotemporal Evolution of Elysium Volcanic Province: A Geochemical and Geophysical Perspective	A. Rani

Day-4 (26.02.2026) Thursday

Technical Session - 6 (1145 - 1315 Hrs)

Chair: Deepak Dhingra
Co-Chair: Megha Bhatt

Oral Presentations

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS661 (Lead Talk)	Terrestrial Analogue Sites in India and Their Implications for Planetary Exploration	Rajesh V J
2.	NSSS2026ABS501	Crater Rim-Breaching Events as an Indicator of Paleofloods on Mars	Rishav Sahoo
3.	NSSS2026ABS050	Magma Chamber Longevity on Mars and its Controls on Crustal Structure and Composition	Arka Pratim Chatterjee
4.	NSSS2026ABS658	Hydrated Minerals and Clay Minerals of Meridiani Planum, Mars: An Integrated Geomorphological and Spectral Analysis Using Multi-Resolution Orbital Datasets	Rozi Baishya
5.	NSSS2026ABS494	Cerberus Tholi region, Mars: Record of Volcanism, Glacial, Fluvial, and seismic activities	Vijayan S
6.	NSSS2026ABS522	Martian analogues from the Indian subcontinent: Implications for hydrological activity on Mars	Anil Chavan
7.	NSSS2026ABS411	cosmic ray exposure ages of meteorites	Ramakant R. Mahajan
8.	NSSS2026ABS321	Mineralogical, chemical, and isotopic study of Martian meteorite NWA 7397	Amit Basu Sarbadhikari

Technical Session - 7 (1415 - 1600 Hrs)

Chair: Deepak Dhingra
Co-Chair: Megha Bhatt

Oral Presentations

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS276 (Lead Talk)	New constraints on water ice content in the near surface of Cabeus crater floor near the lunar South Pole using Chandrayaan-2 DFSAR data	Sriram S. Bhiravarasu
2.	NSSS2026ABS496	Spectral Insights into Carbonaceous Chondrites Origins: Correlating Main-Belt Asteroids with CV Chondrites	A P Singh

3.	NSSS2026ABS271	A new global tectonic map of the moon with inclusion of newly identified lobate scarps	Abhisek Mishra
4.	NSSS2026ABS834	First Ever Circular Polarization Ratio (CPR) and Radar Scattering Maps of Lunar Poles in L-band using Full-Polarimetric DFSAR data from Chandrayaan-2	Tathagata Chakraborty
5.	NSSS2026ABS655	Ancient, now obliterated impact basins on the Moon: Host to recent volcanic activity	Neeraj Srivastava
6.	NSSS2026ABS829	Fossilized Lunar Swirls: An Intriguing New Possibility and Its Implications	Deepak Dhingra
7.	NSSS2026ABS842	Global-Scale Mapping of Lunar Sodium Using Integrated X-Ray and Near-Infrared Spectroscopy	Megha Bhatt
8.	NSSS2026ABS402	The antiquity of feldspathic highland materials of Chandrayaan-3 soil and its potential geochemical match with lunar meteorites	Dwijesh Ray
9.	NSSS2026ABS717	Indian on the Moon by 2040: Science strategy for implementation and sustenance	Megala S

Poster presentations (1600 - 1730 Hrs)

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS848	Assessing the Vulnerability of Lunar Polar Ice to Human-Induced Thermal Perturbations	Preksha Choudhury
2.	NSSS2026ABS652	Exploring the Mineralogical Diversity of the Lunar South Pole: Insights from Chandrayaan Datasets	Suyash Sharma
3.	NSSS2026ABS787	Spatial and temporal variation of wrinkle ridge forming processes in the Mare Tranquillitatis: constraints from comprehensive morphometric and chronometric analysis	Shubham Magar
4.	NSSS2026ABS358	L-Band Radar Study of Irregular Mare Patches on the Moon: Sosigenes, Hyginus, and Cauchy-5	Deepa Kumari
5.	NSSS2026ABS322	Petrogenesis of Poikilitic Shergottite NWA 1950: Unravelling Martian Mantle Sources	Varsha M. Nair
6.	NSSS2026ABS374	Modelling Thermophysical Environment of Lunar Poles: Implications to Future Exploration	G. Ambily
7.	NSSS2026ABS770	Shock-Driven Chemical Processing of Lunar Analogues	Roshan Nath

8.	NSSS2026ABS437	Towards Understanding Bright and Dark Patterns of Lunar Swirls at the Global Scale	Subhangini Soni and Megha Bhatt
9.	NSSS2026ABS562	Brill crater Moon: Insights into Polar Region Volatiles	Rama Subramanian V
10.	NSSS2026ABS521	Micro-Raman Study of Graphite in IAB Iron Meteorites	Vikram Goyal
11.	NSSS2026ABS497	Hydrothermal Evolution of CM Chondrites : A Closed-System Simulation	Antariksha Mitra
12.	NSSS2026ABS529	CraterMorpho: A customized toolbox for Automatic extraction of morphometric parameters and classification of Lunar craters using Chandrayan-2 TMC-2 images	Mimansa Sinha
13.	NSSS2026ABS802	Crater morphometry and scattering behaviour as a tool to understand lunar south polar PSRs	Sachana Sathyan
14.	NSSS2026ABS520	Origin of meteoritic organics: insights from Insoluble Organic Matter Analogues	S. Natrajan
15.	NSSS2026ABS523	Melt Inclusions: Estimation of initial mantle magma source composition from melt inclusions in Martian Meteorites	Manoj Jat
16.	NSSS2026ABS500	Diverse carbon phases of insoluble organic matter (IOM) in enstatite meteorites: Existence of Nanoglobules and Graphitised carbons	Neha
17.	NSSS2026ABS745	Design and Development of electronics for Dust Experiment Onboard POEM-3	Rashmi
18.	NSSS2026ABS804	Discovery of high-pressure phases in shock lithified Lunar meteorite NWA 10989	Garima Arora
19.	NSSS2026ABS559	Origins and Transport Mechanisms of Olivine-Rich Lithologies in the Montes Haemus Region on the Moon	Suyash Sharma
20.	NSSS2026ABS547	Unravelling shallow crustal structure of Mars from Insight SEIS	Prathmesh Tari
21.	NSSS2026ABS753	Systematic Mapping and Study of Irregular Mare Patches on The Mare Vaporum and Mare Tranquillitatis on the Nearside of The Moon	Madhura Muralidharan
22.	NSSS2026ABS710	Overview of Chandrayaan-4 Mission and plan for sample utilization	S. Megala

Day - 5 (27.02.2026) Friday

Technical Session - 8 (1145 - 1315 Hrs)

Chair: Neeraj Srivastava
Co-Chair: Vijayan S

Oral Presentations

SN	Abstract ID	Title of Abstract	First Author
1.	NSSS2026ABS670 (Lead Talk)	Nickel Abundances Measured by Chandrayaan-3 APXS Reveal Primitive Mantle Signatures at Shiv Shakti Statio	Rishitosh K. Sinha
2.	NSSS2026ABS584	First in-situ thermophysical measurements of high latitude lunar regolith by Chandra's Surface Thermophysical Experiment (ChaSTE) instrument onboard Chandrayaan-3 lander	Nizy Mathew
3.	NSSS2026ABS301	Changing Perspectives of Thermophysics, Water-ice and Volatiles on the Moon from Chandrayaan-3's in-situ observations	Durgaprasad K
4.	NSSS2026ABS183	Thermophysical properties of lunar regolith at Chandrayaan-3 landing site using in-situ observations from ChaSTE onboard Chandrayaan-3 lander	R. Renju
5.	NSSS2026ABS418	Concept Design of Impact Flux Monitor for Hypervelocity Particle Characterization in the Lunar Exosphere	Kiran Lakshmipathaiah
6.	NSSS2026ABS544	LUNAR NEAR SURFACE PLASMA ENVIRONMENT RESULTS FROM RAMBHA LP ONBOARD CHANDRAYAAN 3 LANDER	Manju G
7.	NSSS2026ABS295	Development of Data Archive Migration Plan from PDS3 to PDS4 for Chandrayaan 1 Terrain Mapping Camera and Hyper Spectral Imager	Ajay Kumar Prashar
8.	NSSS2026ABS428	Miniaturized Neutral and Ion Mass Spectrometer for the Future Space Missions	Shiv Kumar Goyal
9.	NSSS2026ABS705	Simulations to understand spectral emissions from planetary analogue samples analyzed through LIBS technique	Prashant Kumar

10.	NSSS2026ABS775	Investigating Rocket Exhaust-Induced Spectral Variations on the Moon: Insights from M3 and IIRS Data	Marylina Das