

First Indian Space Weather Conference (ISWC-2022)

11-12 January 2022

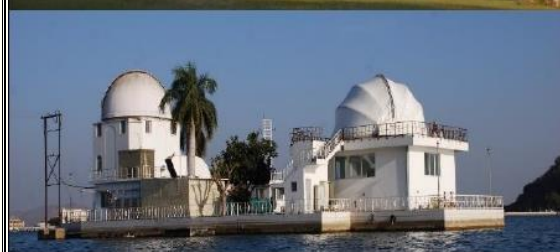
Physical Research Laboratory, Ahmedabad

Platinum Jubilee Celebrations of PRL

Program Schedule



<https://www.prl.res.in/iswc2022/>



Detailed Program Schedule

Day 1: 11 January 2022

09:00 – 09:30 Webex log in

09:30 – 10:15 : Inauguration of ISWC-2022

09:30 – 09:40	Welcome address by Prof. Anil Bhardwaj , <i>Director, PRL</i>
09:40 – 09:50	Overview of ISWC-2022 by Prof. D. Pallamraju , <i>Chairman, SOC</i>
09:50 – 10:05	Inaugural Address by Shri. A. S. Kiran Kumar , <i>Chairman, PRL Council of Management</i>
10:05 – 10:10	Inauguration of ISWC-2022 and release of Abstract Book
10:10 – 10:15	Vote of thanks by Dr. K. Venkatesh , <i>Convener</i>

10:15 – 10:30 : Break

Session 1: Space weather drivers and processes

Conveners : N. Srivastava, K. Sankarasubramanian, and D. Banerjee

10:30 – 11:35 : S 1.1 - Solar cycle studies

Chairs : D. Banerjee, N. Srivastava

10:30 – 10:45	Investigation on variation in solar wind Helium abundance during the last four solar cycles (ISWC220117001) <i>Yogesh, Physical Research Laboratory, Ahmedabad</i>
10:45 – 11:00	The unusual behavior of CMEs and solar wind in the last two decades that baffles heliospheric physicists (ISWC220167001) <i>Wageesh Mishra, Indian Institute of Astrophysics, Bengaluru</i>
11:00 – 11:15	Type II radio bursts and their association with coronal mass ejections (ISWC220067001) <i>Anshu Kumari, University of Helsinki, Finland</i>
11:15 – 11:20	Investigation on solar cycle dependence of interplanetary suprathermal populations (ISWC220049001) <i>Bijoy Dalal, Physical Research Laboratory, Ahmedabad</i>
11:20 – 11:25	DH Type II Radio Bursts During Solar Cycles 23 and 24: Frequency-Dependent Classification and Their Flare-CME Associations (ISWC220043001) <i>Patel Binal Dineshkumar, Physical Research Laboratory, Ahmedabad</i>
11:25 – 11:30	Solar Wind plasma parameters and magnetic field intensity in relation with Geomagnetic Storm intensity and Variability in Solar cycle 24 (ISWC220095001) <i>Priyank Srivastava, University of Lucknow, Lucknow</i>
11:30 – 11:35	Study of Most Energetic Solar Proton Event of 23rd Solar Cycle and Associated Secondary Neutrons (ISWC220010001) <i>Rajiv Shrikant Vhatkar, Shivaji University, Kolhapur</i>

11:35 – 12:30 : S 1.2 - Space weather forecasting models

Chairs : N. Srivastava, D. Banerjee

11:35 – 11:50	Modelling the magnetic vectors of ICMEs sequentially detected at radially aligned multiple spacecraft using INFROS (ISWC220132001) <i>Ranadeep Sarkar, University of Helsinki, Finland</i>
11:50 – 12:05	Exhaustive Machine Learning analysis on CMEs associated with flares and filaments (ISWC220162001) <i>Hemapriya Raju, Indian Institute of technology, Indore</i>
12:05 – 12:20	Modeling a Coronal Mass Ejection as a Magnetized Structure with EUHFORIA (ISWC220145001) <i>Sindhuja G, Indian Institute of Astrophysics, Bangalore</i>
12:20 – 12:25	A parametric study of performance of solar wind forecasting models during 2006 to 2011 (ISWC220072001) <i>Sandeep Kumar, Physical Research Laboratory, Ahmedabad</i>
12:25 – 12:30	Flattening of ICME Magnetic Cloud: An In-situ attestation (ISWC220143001) <i>Zubair Ibrahim Shaikh, Indian Institute of Geomagnetism, Mumbai</i>

12:30 – 13:00 : S 1.3 - Source regions of solar disturbances

Chairs : K. Sankarasubramanian, R. Ramesh

12:30 – 12:45	Cause of extreme eruptive events from solar active region NOAA 12673 - the source region of many powerful outbursts including the largest flare of solar cycle 24 (ISWC220150001) <i>Bhuwan Joshi, Udaipur Solar Observatory, Physical Research Laboratory, Udaipur</i>
12:45 – 12:50	What causes a failed solar eruption during an energetic HXR flare?: A multi-wavelength case study (ISWC220156001) <i>Prabir Kumar Mitra, Physical Research Laboratory, Ahmedabad</i>
12:50 – 12:55	Linkage of Geoeffective Stealth CME with the Coronal Plasma Channel and Jet-like Structure (ISWC220169001) <i>Sudheer Mishra, Indian Institute of Astrophysics, Bengaluru</i>

13:00 – 13:45 : LUNCH BREAK**13:45 – 14:45 : S 1.4 - Simulations of solar transients**

Chairs : R. Ramesh, K. Sankarasubramanian

13:45 – 14:00	Source region dynamics of solar coronal transients (ISWC220154001) <i>Ramit Bhattacharyya, Physical Research Laboratory, Ahmedabad</i>
14:00 – 14:15	Magnetic Reconnection and Particle Acceleration in High Lundquist Number Systems (ISWC220055001) <i>Arghyadeep Paul, Indian Institute of Technology, Indore</i>
14:15 – 14:30	Understanding the Particle Acceleration in ICME shocks (ISWC220058001) <i>Shanwlee Sow Mondal, Physical Research Laboratory, Ahmedabad</i>

14:30 – 14:35	Physics-based Algorithm for Solar Wind using Adaptive Numerical Framework (ISWC220029001) <i>Prateek Mayank, Indian Institute of technology, Indore</i>
14:35 – 14:40	Comparison of the Hall MHD and MHD evolution of a flaring solar active region (ISWC220134001) <i>Kamlesh Bora, Udaipur Solar Observatory, Physical Research Laboratory, Udaipur</i>

Session 2: Impact of space weather on the Earth's magnetosphere, ionosphere and thermosphere

Conveners : *D. Pallamraju, S. Gurubaran, D. Chakrabarty and Varun Sheel*

14:45 – 16:00 : S 2.1 - Response of the magnetosphere to solar forcing

Chairs : *S. Gurubaran, D. Chakrabarty*

14:45 – 15:00	What Fraction of the Outer Radiation Belt Relativistic Electron Flux at $L \approx 3-4.5$ Was Lost to the Atmosphere During the Dropout Event of the St. Patrick's Day Storm of 2015? (ISWC220130001) <i>Sneha Arunkumar Gokani, Space Physics Laboratory, VSSC, Trivnadrum</i>
15:00 – 15:15	The impact of two successive interplanetary shocks on plasmaspheric hiss waves using Van Allen Probes observations (ISWC220125001) <i>Suman Chakraborty, Northumbria University, UK</i>
15:15 – 15:30	Energetic Ion variations at near Earth plasma during Substorms events and associated magnetic field Dipolarization using Van Allen Probe observations (ISWC220170001) <i>Trunali Shah, Indian Institute of Geomagnetism, Mumbai</i>
15:30 – 15:45	Investigations on Space Weather correlated anomalies in Geosynchronous Spacecrafts during 2017-2021 (ISWC220080001) <i>Rajesh Kannan, Master Control Facility, Indian Space Research Organisation</i>
15:45 – 16:00	The supersubstorms (SML less than 2500 nT) of solar cycle 24: The sources, energy coupling and impacts on the solar wind-magnetosphere-ionosphere system (ISWC220074001) <i>Sritam Hajra, National Atmospheric Research Laboratory, Gadanki</i>

16:00 – 16:15 : Break

16:15 – 18:15 : S 2.2 - Space weather impact on the ionosphere/thermosphere system of planets

Chairs : *S. Gurubaran, D. Pallamraju*

16:15 – 16:30	High to Low Latitude Space Weather Coupling: Inferences from Study of Daytime E-region Ionospheric Zonal Drifts at 8.3 m scale size (ISWC220126001) <i>Tarun Kumar Pant, Space Physics Laboratory, VSSC, Trivandrum</i>
16:30 – 16:45	Asymmetric response of the low latitude ionosphere over East South Asia to 2015 solstice storms (ISWC220081001) <i>Bitap Raj Kalita, Dibrugarh University</i>
16:45 – 17:00	The response of the D and E regions of the equatorial ionosphere to solar flare events (ISWC220051001) <i>Ambili K M, Space Physics Laboratory, VSSC, Trivandrum</i>

17:00 – 17:15	Effects of geomagnetic storms on the gravity wave activity over low-latitudes (ISWC220113001) <i>Subir Mandal, Physical Research Laboratory, Ahmedabad</i>
17:15 – 17:30	On the August 2021 space weather event and its impact on Terrestrial ionosphere (ISWC220060001) <i>Smitha V Thampi, Space Physics Laboratory, VSSC, Trivandrum</i>
17:30 – 17:45	Super-fountain effect linked with 17 March 2015 geomagnetic storm manifesting distinct multi-layer stratification (ISWC220002001) <i>Venkatesh. K, Physical Research Laboratory, Ahmedabad</i>
17:45 – 18:00	Distinct Ionospheric response to three different geomagnetic storms during 2016 using GPS-TEC observations over the Indian equatorial and low latitude sectors (ISWC220009001) <i>Duvvu Lissa, Andhra University, Visakhapatnam</i>
18:00 – 18:15	Effects of 2020 September Geomagnetic Storm on the Nighttime Equatorial Ionization Anomaly (EIA) and Equatorial Plasma Bubbles (EPBs) as Observed by the GOLD Mission (ISWC220086001) <i>Deepak Kumar Karan, Laboratory for Atmospheric and Space Physics, University of Colorado, Boulder, USA</i>

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Day 2: 12 January 2022

09:30 – 10:00 Webex log in

10:00 – 11:30

PRL ka Amrut Vyakhyaan on

Societal and Economic Impacts of Space Weather

Speaker: Prof. Daniel N. Baker

Director, Laboratory for Atmospheric and Space Physics, University of Colorado

11:30 – 13:30 : S 2.2 - Space weather impact on the ionosphere/thermosphere system of planets (Contd.)

Chairs : T. K. Pant, Varun Sheel

11:30 – 11:45	Effect of geomagnetic storms on ionospheric ion densities and Temperatures over the low latitude Indian region as measured using ROCSAT-1 satellite (ISWC220062001) <i>Dinesh Kumar Sharma, Manav Rachna University, Faridabad</i>
11:45 – 12:00	Space weather study of Ionosphere during ascending phase of 25th solar cycle over Varanasi (ISWC220103001) <i>Mukulika Mondal, Banaras Hindu University, Varanasi</i>
12:00 – 12:15	Quantification of role of magnetic disturbance induced seed perturbations in modulating Equatorial Spread F day to day variability (ISWC220141001) <i>Sruthi T V, Space Physics Laboratory, VSSC, Trivandrum</i>
12:15 – 12:30	Characteristics of Martian Electron Density Profiles: MGS Observations (ISWC220122001) <i>Arti Bhardwaj, CSIR National Physical Laboratory, New Delhi</i>

12:30 – 12:35	Northward Propagation of Medium Scale Traveling Ionospheric Disturbances over Srinagar, J and K, India (ISWC220004001) <i>Aashiq Hussain Bhat, University of Kashmir, Srinagar</i>
12:35 – 12:40	The study of space weather using VLF wave (ISWC220106001) <i>Shashi Bhushan Singh, Department of Physics, Banaras Hindu University, Varanasi</i>
12:40 – 12:45	Ionospheric response to co-occurrence of solar flare and geomagnetic storm during September 2017 event (ISWC220087001) <i>Sardar Singh Rao, Udaipur Solar Observatory, PRL, Ahmedabad</i>
12:45 – 12:50	Studies of Ionospheric Scintillation during Quite Space Weather Conditions on Basis of Computed S4-Index Using IRNSS Receiver's Data at Low Latitude Station-Panhala, Maharashtra (ISWC220155001) <i>Karishma Maner, Smt. Kasturbai Walchand College, Sangli</i>
12:50 – 12:55	Ionospheric response to solar and interplanetary disturbances (ISWC220128001) <i>Bornali Chetia, Royal Global University, Guwahati</i>
12:55 – 13:00	Study of TEC variation over Kolhapur region recorded by NavIC/IRNSS during geomagnetic storms of September 2017 (ISWC220135001) <i>Supriya Sadashiv Kamble, Department of Physics Shivaji University, Kolhapur</i>
13:00 – 13:05	Mesosphere-Thermosphere temperature variability using TIMED SABER Satellite observations over Indian domain (ISWC220061001) <i>Sandhya K Nair, Space Physics Laboratory, VSSC, Trivandrum</i>
13:05 – 13:10	Effects of Solar eclipse of 21st June 2020 on Equatorial Ionosphere (ISWC220139001) <i>Lalitha G Krishnan, Space Physics Laboratory, VSSC, Trivandrum</i>
13:10 – 13:15	Investigation of the response of Martian upper atmosphere to the interplanetary coronal mass ejections during June 2018 (ISWC220127001) <i>V Venkataraman, Space Physics Laboratory, VSSC, Trivandrum</i>

13:15 – 14:15 : LUNCH BREAK

14:15 – 15:25 : S 2.3 - Modelling studies for Space Weather Research

Chairs : Varun Sheel, D. Chakrabarty

14:15 – 14:30	Deepening of radiation belt particles in South Atlantic Anomaly Region: A scenario over past 120 years (ISWC220069001) <i>Pankaj K Soni, Indian Institute of Geomagnetism, Mumbai</i>
14:30 – 14:45	Performance evaluation of machine learning based automatic CADI's ionogram scaling tool for Hyderabad Station during Geomagnetic Storm conditions in March 2015 (ISWC220120001) <i>Tanneeru Venkateswara Rao, KLEF and Balloon Facility of TIFR</i>
14:45 – 15:00	Regional Ionospheric TEC Modelling During Geomagnetic Storm in March 2015 - Data Fusion Using Multi-instrument Observations (ISWC220096001) <i>Suneetha Emmela, Koneru Lakshmaiah Education Foundation, Vijayawada</i>
15:00 – 15:15	Radiative Cooling by NO in Lower Thermosphere during Solar Storms associated HILDCAAs (ISWC220121001) <i>Alok Kumar Ranjan, Indian Institute of Technology Roorkee</i>

15:15 – 15:20	Prediction of Ionospheric Total Electron Content(TEC) Based on Empirical Mode Decomposition (EMD) and Long Short -Term Memory (LSTM) Neural Network (ISWC220105001) <i>Surajit Nath, Mahapurusha Srimanta Sankaradeva Viswavidyalaya, Nagaon, Assam</i>
15:20 – 15:25	D-region modelling using VLF observation during solar flares (ISWC220028001) <i>Tamal Basak, Amity University Kolkata</i>

15:25 – 15:40 : Break

Session 3: Space and ground instruments for space weather research

Conveners : A. K. Patra, R. Ramesh, T. K. Pant and T.P. Das

15:40 – 17:15 : S 3 - Space and ground instruments for space weather research

Chairs : A.K. Patra, T. P. Das, T. K. Pant

15:40 – 15:52	Characterizing Spectral Channels of Visible Emission Line Coronagraph of Aditya-L1 (ISWC220040001) <i>Ritesh Patel, ARIES, Nainital</i>
15:52 – 16:04	Recent developments in space weather research with high fidelity low-frequency spectro-polarimetric imaging using SKA-low precursor (ISWC220164001) <i>Devojyoti Kansabanik, National Centre for Radio Astrophysics, TIFR, Pune</i>
16:04 – 16:16	Ionospheric study using GMRT (ISWC220131001) <i>Sarvesh Mangla, Indian Institute of Technology Indore</i>
16:16 – 16: 28	A ground based GNSS network designed by Unsupervised Machine Learning Algorithm and NeQuick-G Model for Space Weather Studies over Indian region (ISWC220101001) <i>P Babu Sree Harsha, National Atmospheric Research Laboratory, Gadanki</i>
16:28 – 16:40	A case study of equatorial spread-F associated airglow depletions near the crest of ionization anomaly in India on 16 April 2012 (ISWC220153001) <i>Saranya P, Indian Institute of Geomagnetism, Mumbai</i>
16:40 – 16:52	On the assessment of day-to-day variability in the occurrence of equatorial plasma bubble (ISWC220083001) <i>Suman Kumar Das, National Atmospheric Research Laboratory, Gadanki</i>
16:52 – 17:04	IDEA payload on PS4 Orbital Platform: Development and On-orbit Performance (ISWC220073001) <i>Sreelatha P, Space Physics Laboratory, VSSC, Trivandrum</i>
17:04 – 17:15	Occurrence Characteristics of Ionospheric Scintillations over Indian region from Latitudinally-aligned Geodetic GPS Observations (ISWC220054001) <i>Sampad Kumar Panda, Koneru Lakshmaiah Education Foundation, Vijayawada</i>

17:15 – 18:15: Sessions' summary, feedback, and discussions on the way forward

Chair : Anil Bhardwaj