

UPDATED SYMPOSIUM PROGRAM:**Monday, 19 September**08:00 – 08:15 **Introduction****Session 1 : Solar and stellar dynamo as a driver of space climate (Conv. Kristof Petrovay)**08:15 – 08:45 **Maarit Korpi-Lagg** (Invited review), Aalto University, Finland
*Origin of long-term variations in solar and stellar dynamos*08:45 – 09:15 **Jörn Warnecke** (Invited review), Max Planck Institute for Solar System Research, Germany
*Solar and stellar dynamos as the driver of space climate*09:15 – 09:30 **Sanghita Chandra**, Indian Institute of Science Education and Research Kolkata, India
*Periodic behavior driven by meridional circulation during solar grand minima episodes*09:30 – 10:05 **Coffee break****Session 2 : Long-term solar activity (Conv. Paul Charbonneau)**10:05 – 10:35 **Alexei Pevtsov** (Invited review), National Solar Observatory, USA
*Long-term solar activity*10:35 – 10:50 **Shreya Bhattacharya**, Royal Observatory of Belgium, Belgium
*Diagnosing and calibrating the multi-century Sunspot Number Series*10:50 – 11:05 **Kristof Petrovay**, ELTE Eötvös Loránd University, Hungary
*Solar activity in the 16th century*11:05 – 11:35 **Frédéric Clette** (Invited review), Royal Observatory of Belgium, Belgium
*Sunspot number, group number and F10.7: new insights*11:35 – 11:55 **Victor Carrasco** (Solicited), University of Extremadura, Spain
*On improvements in the future version of the revised collection of sunspot group numbers*11:55 – 12:10 **Ilya Usoskin**, University of Oulu, Finland
*Solar cyclic activity reconstruction now extends to cover the last millennium*12:10 – 13:25 **Lunch****Session 3 : Special solar-terrestrial events and extremes (Conv. Hugh Hudson)**13:25 – 13:55 **Florian Mekhaldi** (Invited review), British Antarctic Survey, UK
*An ice-core perspective on extreme solar particle events*13:25 – 13:45 **Nicolas Brehm** (Solicited), ETH Zürich, Switzerland
*Detection of solar events by using radiocarbon in tree-rings*13:45 – 14:05 **Hisashi Hayakawa** (Solicited), Nagoya University, Japan
*Revisiting the Carrington space weather event with archival investigations*14:05 – 14:20 **Alexander Mishev**, University of Oulu, Finland
*Assessment of terrestrial effects during strong and extreme SEPs using neutron monitor records***Session 4 : Solar photosphere and chromosphere (Conv. Robertus Erdelyi)**14:20 – 14:40 **Marianna Korsós** (Solicited), Aberystwyth University, UK
*How the magneto-Rossby waves could be used to identify upcoming intense flare and CME seasons?*14:40 – 14:55 **W. Dean Pesnell**, NASA Goddard Space Flight Center, USA
*Properties of Polar Faculae in the HMI Era*14:55 – 15:25 **Coffee break**

Session 4 : Solar photosphere and chromosphere (Conv. Robertus Erdelyi)

~~15:55 – 16:25 Sami Solanki (Invited review), Max Planck Institute for Solar System Research, Germany
Results from Remote Sensing instruments on Solar Orbiter — **CANCELED**~~

15:25 – 17:00 **Kalevi Mursula**, University of Oulu, Finland
1-min review of posters

Reception talks

17:00 – 17:30 **Michal Ostrowski**, Jagiellonian University, Poland
History of Astronomy in Krakow

17:30 – 18:00 **Alexander Ruzmaikin**, Jet Propulsion Laboratory, California Institute of technology, USA
Space Climate Legacy of Joan Feynman

18:00 **Reception and poster viewing**

Tuesday, 20 September

Session 5 : Solar corona and solar wind (Conv. Pete Riley and Kalevi Mursula)

- 08:00 – 08:30 **Duncan Mackay** (Invited review), University of St Andrews, UK
Long-term Global Non-potential Simulations of the Solar Corona Using Magnetofrictional Techniques and MHD Simulations
- 08:30 – 09:00 **Gordon Petrie** (Invited review), National Solar Observatory, USA
The Global Photospheric and Coronal Magnetic Field According to Different Synoptic Magnetographs: Comparisons and End-to-end Calibrations
- 09:00 – 09:15 **Błażej Kuźma**, KU Leuven, Belgium
COCONUT MHD coronal model as a basis for EUHFORIA 2.0 space weather forecast
- 09:15 – 09:30 **Karen Meyer**, University of Dundee, UK
The role of active region decay in energising the corona
- 09:30 – 09:50 **Ken'ichi Fujiki** (Solicited), Institute for Space-Earth Environmental Research (ISEE), Nagoya University, Japan
Reconstruction of the global solar wind structure using interplanetary scintillation observation and coronal magnetic field parameters obtained from PFSS extrapolation
- 09:50 – 10:10 **Czeslaw Porowski** (Solicited), Space Research Centre of the Polish Academy of Sciences, Poland
A New 3D Solar Wind Speed and Density Model Based on IPS
- 10:10 – 10:40 **Coffee break**

Session 6 : Solar TSI/SSI (Conv. Natasha Krivova)

- 10:40 – 11:10 **Erik Richard** (Invited review), Laboratory for Atmospheric and Space Physics, University of Colorado, USA
Advancements in Solar Irradiance Measurements and Long-term Data Continuity
- 11:10 – 11:40 **Theodosios Chatzistergos** (Invited review), Max Planck Institute for Solar System Research, Germany
Irradiance reconstructions from modern and historical Ca II observations
- 11:40 – 12:00 **Shin Toriumi** (Solicited), Japan Aerospace Exploration Agency, Japan
Sun-as-a-star observations to characterize stellar active regions and universal atmospheric heating mechanism
- 12:00 – 12:15 **Martin Snow**, South African National Space Agency, South Africa
SORCE SOLSTICE: Seventeen Years, Eighteen Versions
- 12:15 – 12:30 **Sowmya Krishnamurthy**, Max Planck Institute for Solar System Research, Germany
Solar irradiance variability in the near-UV Ca II H & K lines
- 12:30 – 12:45 **Kalevi Mursula**, University of Oulu, Finland
Curious long-term increase of the visual band of the solar spectrum in TAV2 and TSIS-1 SIM datasets

Session 7 : Solar wind, HMF and CRs (Conv. Nat Gopalswamy)

- 12:45 – 13:15 **Stefan Hofmeister** (Invited review), Leibniz Institute for Astrophysics Potsdam, Germany
Our current understanding of the solar wind
- 13:15 – 13:35 **Diana Besliu-Ionescu** (Solicited), Astronomical Institute of the Romanian Academy, Romania
High-speed streams in the solar wind

14:00 **Wieliczka Salt Mine Excursion**

19:00 **Conference Dinner**

Wednesday, 21 September

Session 7 : Solar wind, HMF and CRs (Conv. Nat Gopalswamy)

- 08:00 – 08:15 **Anna Wawrzaszek**, Space Research Centre of the Polish Academy of Sciences, Poland
Dependence of Intermittency of Fast and Slow Solar Wind from the Radial Distance, Heliospheric Latitude, and Solar Cycle
- 08:15 – 08:30 **Stefaan Poedts**, KU Leuven, Belgium
Advanced CME flux-rope models in EUHFORIA
- 08:30 – 08:50 **Lan Jian** (Solicited), NASA Goddard Space Flight Center, USA
Solar Wind Stream Interaction Regions: Radial Evolution and Solar Cycle Variations
- 08:50 – 09:10 **Grzegorz Michalek** (Solicited), Astronomical Observatory of Jagiellonian University, Poland
The CME rate and implications for the heliospheric magnetic structure and space weather based on data from 1996
- 09:10 – 09:25 **Nat Gopalswamy**, NASA Goddard Space Flight Center, USA
Properties of Coronal Holes Causing Intense Geomagnetic Storms in Solar Cycles 23 and 24
- 09:25 – 09:40 **Renata Modzelewska**, Siedlce University, Poland
Periodic variations of GCR intensity and anisotropy related to solar rotation by ACE/CRIS, STEREO, SOHO/EPHIN and neutron monitors observations during solar minima 23/24 and 24/25
- 09:40 – 09:55 **Marek Siluszyk**, Siedlce University, Poland
On Delay Time Problem of Galactic Cosmic Rays - Experimental and Theoretical Study
- 09:55 – 10:10 **Jozsef Kota**, University of Arizona, USA
Galactic Cosmic Rays as Remote Probes of the Inner and Outer Heliosphere
- 10:10 – 10:40 **Coffee break**

Session 8 : Solar wind-magnetosphere-ionosphere interaction (Conv. Kalevi Mursula)

- 10:40 – 11:10 **Rajkumar Hajra** (Invited review), Indian Institute of Technology Indore, India
Supersubstorms and Extremely Intense Geomagnetically Induced Currents in the Subauroral Region
- 11:10 – 11:25 **Jan Lastovicka**, Institute of Atmospheric Physics, Czech Academy of Sciences, Czechia
What is happening with solar activity indices - and ionospheric implications?
- 11:25 – 11:40 **Lidia Nikitina**, Natural Resources Canada, Canada
Extreme variations of the ionospheric total electron content in the course of a solar cycle - Statistical analysis
- 11:40 – 11:55 **Agnieszka Gil**, Siedlce University, Poland
Relationships between strong geomagnetic storms and electric grid failures in Poland using the geoelectric field as a GIC proxy during the first half of the Solar Cycle 24
- 11:55 – 12:10 **Hanna Rothkaehl**, Space Research Centre of the Polish Academy of Sciences, Poland
New possibilities of diagnostics of the near-Earth plasma environment
- 12:10 – 12:25 **Dalia Burešová**, Institute of Atmospheric Physics, Czech Academy of Sciences, Czechia
Large-scale traveling ionospheric disturbances over eastern Europe
- 12:25 – 12:40 **Marcin Grzesiak**, Space Research Centre of the Polish Academy of Sciences, Poland
Probing space plasma with LOFAR
- 12:40 – 12:55 **Mariusz Pożoga**, Space Research Centre of the Polish Academy of Sciences, Poland
Scintillation spectral index measurements with PL610 LOFAR station
- 12:55 – 14:00 **Lunch**

Session 9 : Particle effects to climate and atmosphere (Conv. Miriam Sinnhuber)

- 14:00 – 14:30 **Monika Szlag** (Invited review), Finnish Meteorological Institute, Finland
EPP effect on stratospheric composition, dynamics and surface climate
- 14:30 – 15:00 **Lynn Harvey** (Invited review), University of Colorado, USA
The role of the polar vortex in Sun-Earth coupling via the descent of EPP-produced NO_x
- 15:00 – 15:15 **Mikhail Vokhmianin**, University of Oulu, Finland
Long-term prediction of Sudden Stratospheric Warmings with Geomagnetic and Solar Activity
- 15:15 – 15:30 **Miriam Sinnhuber**, Karlsruhe Institute of Technology, Germany
An assessment of the impact of radiation belt electron precipitation onto the middle atmosphere
- 15:30 – 15:50 **Mario Bisi** (Solicited), UKRI STFC RAL Space, UK
Space-Weather Ground-Based Radio Observations in the Context of the Heliosphere-Earth system
- 15:50 – 16:10 **Coffee break**

Session 10 : Solar TSI/SSI effects to ground and stratosphere (Conv. Bernd Funke)

- 16:10 – 16:40 **Annika Drews** (Invited review), Danish Meteorological Institute, Denmark
The Sun's role for decadal climate predictability
- 16:40 – 17:10 **Wenjuan Huo** (Invited review), GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany
A pacemaker role of the 11-year solar cycle in tropical Pacific decadal variability

Session 11 : Special reviews

- 17:10 – 17:40 **Sandra Chapman** (Invited review), University of Warwick, UK
Space weather variation within and across multiple solar cycles- a solar cycle 'clock'
- 17:40 – 18:10 **Martin Mlynczak** (Invited review), NASA Langley Research Center, USA
Twenty years of observations of the energy budget of the mesosphere and lower thermosphere
- 18:10 – 18:40 **Jiajia Liu** (Invited review), Queen's University Belfast, UK
Solar Coronal Jets: Energy, Twist and the Solar Cycle

Thursday, 22 September

Session 11 : Special reviews

08:00 – 08:30 **Fusa Miyake** (Invited review), Institute for Space-Earth Environmental Research (ISEE), Nagoya University, Japan
Extreme solar energetic particle events recorded in cosmogenic nuclides data

Session 10 : Solar TSI/SSI effects to ground and stratosphere (Conv. Bernd Funke)

08:30 – 09:00 **Sandip Dhomse** (Invited review), University of Leeds, UK
An Ambiguous Nature of Solar Cycle Signal in the Stratospheric Ozone

Session 12 : Solar effects to upper atmosphere and troposphere (Conv. Radan Huth and Martin Mlynczak)

09:00 – 09:30 **Liyang Qian** (Invited review), National Center for Atmospheric Research, USA
Solar Irradiance Effects on the Upper Atmosphere On Time Scales from Solar Rotation to Climate Change

09:30 – 10:00 **Jose Vaquero** (Invited review), University of Extremadura, Spain
Searching the best data to understand Sun-Climate relationships

10:00 – 10:30 **Coffee break**

10:30 – 10:50 **Mirela Voiculescu** (Solicited), University Dunarea de Jos Galati, Romania
How does Troposphere respond to Sun's mood changes?

10:50 – 11:05 **Jone Edvartsen**, University of Bergen, Birkeland Center for Space Science, Norway
The Mansurov Effect: Statistical significance, the role of autocorrelation and non-stationary behavior

11:05 – 11:20 **Pawel Jujeczko**, Space Research Centre of the Polish Academy of Sciences, Poland
The lightning activity over Poland during different solar activity as seen from the ground and space

11:20 – 11:35 **Radan Huth**, Institute of Atmospheric Physics, Czechia
Effects of the 11-year solar cycle on correlation and teleconnection structures in tropospheric circulation

Discussion Session

11:40 – 12:30

14:00 **Krakow sightseeing with local guides**