

# PROGRAM

OF THE 18<sup>TH</sup> WORKSHOP

“SOLAR INFLUENCES ON THE MAGNETOSPHERE, IONOSPHERE,  
AND ATMOSPHERE”

Primorsko, Bulgaria, 08-12 June 2026

## Monday 08.06.2026

09:00 – 09:30 Opening and Award Ceremony

### FIRST MONDAY SESSION

Chair: *Atila Ozguc*

09:30 – 09:50 *Sokoloff D.*, Solar Activity Cycles During Grand Minima in a Simple Solar Dynamo Model

09:50 – 10:10 *Muraközy J.*, Long-Term Asymmetries in Solar Activity

10:10 – 10:30 *Teneva D.*, Declining Phase of the 11-year Solar Cycle and Structure of the White-Light Corona

10:30 – 10:50 *Romoli M.*, Solar Orbiter’s Insights into the Solar Activity: A Metis Coronagraph Perspective

10:50 – 11:10 Coffee break

### SECOND MONDAY SESSION

Chair: *Nat Gopalswamy*

11:10 – 11:30 *Katsova M.M.*, The Cyclic Variation in the Great Soft X-Ray Solar Flare Occurrence

11:30 – 11:50 *Kolotkov D.* Can EUV Power-Spectral Indices Reveal Imminent Solar Flares?

11:50 – 12:10 *Yashiro S.*, Soft X Ray Flux Estimation for Behind the Limb Solar Flares Using Recent STEREO/EUVI Observations

12:10 – 12:30 *Rabiu B.*, On the Investigation of the Variability of the Ionosphere over Africa – A Review: Instruments, Research Results, Modelling and International Cooperation

**12:30 – 12:50** *Bezrukovs V.*, Microwave Spectral Solar Observations at Irbene: Advances in Automation and Imaging with RT-32

**12:50 Lunch**

## Tuesday 09.06.2026

### FIRST TUESDAY SESSION

Chair: *Ali Kilcik*

**09:30-09:50** *Şahin S.S.* Statistical Study of Type-II Spicules Utilizing Chromospheric Imaging Data from the Goode Solar Telescope

**09:50-10:10** *Gopalswamy N.*, A Value-added List of Large Solar Energetic Particle Events

**10:10-10:30** *Dachev Ts.* Bulgarian Instruments for Aircraft, Space and Ground Based Radiation Dosimetry and Their Main Scientific Results

**10:30-10:50** *Semkova J.* Multi-Spacecraft and Multi-Instrument Observations of the Martian Radiation Environment During Solar Cycles 24 and 25

**10:50-11:10 Coffee break**

### SECOND TUESDAY SESSION

#### Special Session: China Space Station (CSS)

Chair: *Simeon Asenovski*

**11.10-11:30** *Wang Ke*, Space Science and Utilization of CMSP: Prosperity & Sustainable Development for Humankind

**11:30-11:50** *Wei Zhang*, Research Progress and Planning for Microgravity Sciences on China Space Station

**11:50-12:10** *Miao Dong*, Resources and Perspectives of International Cooperation in Space Science and Utilization

**12:10-12:30** *Discussion*

**12:30 Lunch**

## POSTER SESSION 1

*Asenovski S., Georgieva K., Kirov B.* Heliospheric and Geomagnetic Conditions During Recent Solar Cycle Minima

*Bojilova R., Mukhtarov P.* Verification of Empirical Models for Forecasting Critical Ionospheric Frequencies in the Conditions of Geomagnetic Storms on 12- 13 November 2025

*Dechev M., Simić Z., Bachev R., Strigachev A.* Solar Drivers of Space Weather: Building Cross-Border Observatory Facilities and Network

*Georgieva K., Kirov B., Asenovski S.* Why Was the CME Productivity Enhanced During the Declining Phase of Solar Cycle 24? A Possible Role of Sunspot Magnetic Fields

*Kesri K., Louis C.K., Waters J.E., Rutala M.J., Cecconi B., Boudouma A., Prangee R., Zarka P., Jackman C.M., Kurth W.S.* Interaction of Solar Wind with the Jovian Magnetosphere

*Kirov B., Georgieva K., Asenovski S.* Relationship between Sunspot Magnetic Field Strength, CME Activity, and Geomagnetic Storms with Sudden Commencement

*Koleva K., Duchlev P., Nacheva Y.* Kinematics of the Prominence Eruption on May 27, 2013, Observed from Three Viewpoints

*Komendant V.* Statistical Analysis of the B-Star Drag Term and Solar and Geomagnetic Activity Indices

*Sakan N.M., Simić Z., Srećković V.A., Dechev M.* Development of Hydrogen - Helium Mixture Modeling, Application to Solar Plasma

*Yankova K., Dimitrijević M., Srećković V., Vujčić V.* Solar-Like Corona of the Thin Disk in the AGN

## Wednesday, 10.06.2026

### FIRST WEDNESDAY SESSION

Chair: *Elena Grigorenko*

09:30-09:50 *Despirak I.V.* Interplanetary Drivers of Different Types of Magnetospheric Substorms

09:50-10:10 *Stefan C.*, Space-Time Evolution of Solar Cycle 25 Intense Geomagnetic Storms

10:10-10:30 *Kilcik A.*, Chaotic Behavior of Selected Solar and Geomagnetic Activity Indices during the Last Three Solar Cycles

10:30-10:50 *Gromova L.I.*, Extreme Space Weather Events of May and October 2024: High Latitude Geomagnetic Effects

## 10:50-11:10 Coffee break

### SECOND WEDNESDAY SESSION

Chair: *Tsvetan Dachev*

11:10-11:30 *Vujčić V.* The VAMDC Ecosystem: Enabling Solar Atmospheric Physics through Interoperable Atomic and Molecular Data

11:30-11:50 *Raykova L.*, Geomagnetic Substorm Signatures at Mid-Latitudes: The March 23, 2023 Case Study from Panagyurishte

11:50-12:10 *Tsulukidze L.*, Multiscale Dynamics of Intense Geomagnetic Storms, Observations from Dusheti, Georgia in Early 2024

12:10-12:30 *Jelev G.*, Determining the Influence of Solar Radiation on the Dynamics of Lake Srebarna's Water Surface Area through Remote Sensing

## 12:30 Lunch

### POSTER SESSION 2

*Bachev R., Strigachev A., Dechev M.* Photometric Reverberation Mapping through Theory-Agnostic Fitting of the Light Curves

*Boneva D., Yankova Kr., Dimitrijević M.* Sources and Mechanisms of Activity of the Solar-Type Dwarf Star 61 Cyg A

*Bouzekova-Penkova A.* Influence of Solar Activity on Aluminum Alloy AA7075 (B95)

*Mosna Z., Koucka Knizova P.* Observation of Sporadic E During Enhanced Geomagnetic Activity

*Tonev P.* Examination of Extremely Big Mesospheric Electric Fields from Rocket-Borne Measurements on October 21 1989

*Tonev P.* Peculiar Oscillations of Atmospheric Electric Field Preceding SEP of April 15 2001 – Interpretation

*Sargsyan B., Chilingarian A.* Forecasting of Hard SEP Events by Simultaneous Detection of Charged and Neutral GLE Fluxes at Aragats

*Shkevov R., Zolnikova N.N., Mikhailovskaya L.A., Metodiev K.* Mechanism of Preresonant Electrons Acceleration in Heliosphere and Solar Plasma

*Simic Z., Samurovic S., Pavlovic R., Cvetkovic Z., Damljanovic G.* Light Pollution – New Measurements: the UrbObsBel Project

*Tsvetkova M., Filchev L.* Deep Learning Architectures for Monitoring Spruce Forest Health via Sentinel-2 Multi-Spectral Data: A Review of Current Trends

*Zolnikova N.N., Shkevov R., Mikhailovskaya L.A.* Some Examples of Reflectionless Propagation of Electromagnetic Waves in Nonuniform Space Plasma

## Thursday, 11.06.2026

### FIRST THURSDAY SESSION

Chair: *Jordanka Semkova*

09:30-09:50 *Sreckovic V.* First Major Eruption of Solar Cycle 25: Impacts of the 3 July 2021 X1.59 Solar Flare on the Ionosphere

09:50-10:10 *Abraham S.A.*, AE-Index Based Model for Predicting Ionosphere - Thermosphere Region Density Fluctuations

10:10-10:30 *Savić M.*, Research Activities in Cosmic Ray and Space Weather Physics at the Belgrade Muon Station, Institute of Physics Belgrade, Serbia

10:30-10:50 *Chilingarian A.*, GLE 77 Charged-Particle Spectrum: Four-Region Interpretation

### 10:50-11:10 Coffee break

Chair: *Viktor Bengin*

11:10-11:30 *Georgiev G.*, Study Radio-Propagation Characteristics Of 3m Band with SYMORAIA-VHF Project

11:30-11:50 *Dimitrijević M.S.*, Data on Broadening of C I Spectral Lines by Collisions with Charged Particles for Solar Plasma Investigation

11:50-12:10 *Grigorenko E.E.*, Multistep Electron Acceleration in Multiple Dynamic Electron-Scale Current Sheets

12:10-12:30 *Podgorny A.*, Main Magnetic Lines of the Pre-flare Arcade Surface with Increased Current Density: Analysis of the Field Configuration Obtained by MHD Simulation to Determine the Position of the Solar Flare

### 12:30 Lunch

### POSTER SESSION 3

*Dobrica V., Mares C., Mares I., Demetrescu C.* — The Imprint of Solar Variability on Climate Indices

*Ivanova E., Koleva K.* From Space to Land: Impact of Two Large Solar Events on Key Climate Indicators from Land Surface Stations Globally

*Karapetyan T., Abovyan S., Pokhsraryan D., Sargsyan B.* SEVAN Light Spectrometer for Solar Physics and High-Energy Atmospheric Physics: Data Processing and Modelling

*Krastev K., Semkova J., Koleva R., Benghin V., Drobjshhev S.* Cosmic Ray Detection Using the Liulin-MO Instrument aboard ExoMars Trace Gas Orbiter: Numerical Analysis

*Nikolov I.* Research of the Impact of Solar Activity over Upper Atmospheric and Stratospheric Layers (10 - 30 km) and Testing Aerospace Equipment by Aerostat with Autonomous Returning Module

*Nikolov N.* Atmospheric Dosimetry

*Potužníková K., Koucká Knížová P.* Troposphere–Ionosphere Coupling During Warm-Season Derecho-Associated Mesoscale Convective Systems in Central Europe

*Werner R., Guineva V., Raykova L., Bojilova R., Petkov B.* Development of the Total Ozone Column over Sofia Between 1979 and 2022

## Friday, 12.06.2026

**Chair: *Venera Dobrica***

09:30-09:50 *Minev M.*, Ground-Based Monitoring of Global Solar Radiation and UV Irradiance

09:50-10:10 *Shafirkin A.*, New Trends in the Assessment of the Space Radiation Hazard

10:10-10:30 *Georgiev G.*, A New Framework for Data Analysis and Exploration from the Liulin-MO at ExoMars Trace Gas Orbiter

10:30-10:50 *Tsvetkov Ts.*, Mini Neutron Monitor at National Astronomical Observatory: Calibration and First Measurements

### 10:50-11:10 Coffee break

11:10-11:30 *Guineva V.*, Study of the Midlatitude Positive Bays observed at the Bulgarian station Panagyurishte during the SC25 Maximum

11:30-11:50 *Veretenenko S.*, Influence of Strong Solar Proton Events of the 23rd Solar Cycle on the High-Latitudinal Atmosphere of the Northern Hemisphere

11:50-12:10 *Gopalswamy, N.*, COURSE – SCOSTEP's new scientific program

12:10-12:30 **Organizational matters and Closing of the Workshop**