

# PROGRAM

OF THE 16<sup>TH</sup> INTERNATIONAL WORKSHOP

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

PRIMORSKO, BULGARIA, 03-07 JUNE 2024



## MONDAY, JUNE 3

### 09:15 – 09:30 OPENING OF THE WORKSHOP

09:30 – 09:50 Rozelot J.P., **A particularly intriguing solar sub-surface layer: the leptocline.**

09:50 – 10:20 Chilingarian A., **Approaching the maximum of the 25th solar activity cycle: as seen by particle detectors' networks**

10:20 – 10:40 Gopalswamy N., Akiyama S., Xie, H., [The backreaction of the reduced heliospheric pressure and its implications for the strength of solar cycle 25](#)

10:40 – 11:00 Gerceker K., Kilcik A., [Prediction of Solar Cycle 25 Using Simplex Projection Method: A Long-Term Analysis Based on F10.7 Index Data](#)

### 11:00 – 11:20 COFFEE BREAK

11:20 – 11:40 Shlyk N.S., Belov A.V., Obridko V.N., Abunina M.A., Abunin A.A., **Abnormal Quasi-Recurrent Variations of Cosmic Rays in September 2014–February 2015**

11:40 – 12:00 Tirnakci M., Asenovski S., Kilcik A., [Investigation of Potential Sources of SEPs](#)

12:00 – 12:20 Semkova J., Koleva R., Benghin V., Krastev K., Matviichuk Yu., Tomov . , Bankov N., Maltchev St., Dachev TS., Mitrofanov I., Kozyrev A., Golovin D., Mokrousov M., Litvak M., Lukianov N., Shurshakov V., Drobyshev S., [Observation of solar energetic particle events in Mars orbit during the inclination of 25th solar cycle](#)

12:20 – 12:40 Podgorny A. I., Podgorny I. M., **Extended surface of magnetic field lines passing through a chain of current density maxima: results of MHD simulation above the active region**

### 12:40 – 15:00 LUNCH BREAK

## Special Session **BLU**

## **TUESDAY, JUNE 4**

09:30 – 10:00 Malandraki O. E., Posner A., Karavolos M., Tziotziou K., Smanis F., Laurenza M., Barzilla J., Semones E., Whitman K., Leila Mays M., Didigu C., Stubenrauch C.J., Heber B., Kuehl P., Maksimovic M., Krupar V., Milas N., **HESPERIA REleASE+: Improving Solar Proton Event Forecasting by means of Automated Recognition of Type-III Radio Bursts**

10:00 – 10:20 Krasnoselskikh V., Zaslavsky A., Artemyev A., Froment C., Dudok de Wit J., Raouafi N.E., Agapitov O.V., Bale S.D., Verniero J.L., [Ion Kinetics of Plasma Interchange Reconnection in the Lower Solar Corona](#)

10:20 – 10:40 Dzhililov N., [Supersonic shear MHD instabilities in anisotropic solar wind plasma](#)

10:40 – 11:00 Kolotkov D., **Multi-wavelength quasi-periodic pulsations as a new proxy of electric current systems in stellar flares**

11:00 – 11:20 **COFFEE BREAK**

11:20 – 11:40 Jebaraj I.C., Krasnoselskikh V., Pulupa M., Magdalenic J., Bale S.D., [Fundamental–Harmonic Pairs of Interplanetary Type III Radio Bursts](#)

11:40 – 12:00 Kilcik A., Calisir M., [Relationship Between Physical Parameters of Umbral Dots Measured in Twenty-one Sunspot Umbras and the Solar Cycle](#)

12:00 – 12:20 Tsvetkov Ts., Petrov N., Zlatev R., [Total Solar Eclipse of 2024 April 8 and Polarization of the Solar Corona](#)

12:20 – 12:40 Elias A.G., Zossi B.S., Duran T., Medina F.D., **On the long-term stability of the association between foF2 and solar EUV proxies**

12:40 – 15:00 **LUNCH BREAK**

### **Special Session **BLU****

**17:00 – 19:00 POSTER SESSION I**

Muraközy J., **Dynamics and lifetime of solar active regions**

Zolnikova N.N., Shkevov R., Mikhailovskaya L.A., **Charged particles Cherenkov acceleration in the vicinity of resonance**

Shkevov R., Zolnikova N.N., Mikhailovskaya L.A., **Energy exchange study at resonance mechanism of wave-particle interactions**

Kobylinski Z., Wysokinski A., **On the Long-Term Consistency of the Magnetic D Component registered at the Swider and Several Nearby Observatories (1921-1967)**

Wysokinski A., Kobylinska A. Kobylinski Z., **Fatima Storm on 25–26 Jan 1938 as seen by Polish Swider and Several Other Magnetic European Observatories**

Mořna Z., Koucká Knížová P., Kouba D., Urbář, Chum J., Mielich J., Verhulst T., Barta V., Berényi K.A., Podolská K., Bojilova R., Georgieva K., Potužníková K., Kirov B., **March and April 2023 ionospheric storms in the period of rising solar activity in Solar Cycle 25**

Komendant V.H., Koshkin N.I., Ryabov M.I., Sukharev A.L., **Application of the B-star drag term coefficient to analyze the influence of solar and geomagnetic activity on the upper atmosphere of the Earth during the period of 23-24 solar cycles**

## **WEDNESDAY. JUNE 5**

09:30 – 09:50 Sokoloff, D.D., Yushkov, E.V., **Solar dynamo models with a hemispheric asymmetry**

09:50 – 10:10 Katsova M.M., Obridko V.N., Sokoloff D.D., Emelianov N.V., **Is there a synchronizing influence of planets on the cyclic solar and stellar activity?**

10:10 – 10:30 Obridko, V.N., Shibalova, A.S., Sokoloff D.D., **Large-scale magnetic field and the nature of the Gnevyshev Gap**

10:30 – 10:50 Ozguc A., Kilcik A., [Temporal Variation of 10.7 cm Solar Radio Flux and Selected Cosmic, Geomagnetic, and Interplanetary Indicators during Solar Cycle 24](#)

10:50 – 11:10 Walker S.N., Balikhin M.A., [Forecast of the energetic electron environment of the radiation belts](#)

11:10 – 11:30 **COFFEE BREAK**

11:30 – 11:50 Grigorenko E., Leonenko M., Zelenyi L., [Intense Electric Currents and Energy Conversion Observed at Electron Scales in the Plasma Sheet during Propagation of High-Velocity Ion Bulk Flows](#)

11:50 – 12:10 Lavrukhin A.S., Alexeev I.I., **Equatorward aurora boundary during magnetic storm**

12:10 – 12:30 Demetrescu C., Stefan C., Dobrica V., [On some solar-activity-driven terrestrial processes](#)

12:30 – 14:00 **LUNCH BREAK**

## **Special Session **BLU****

## **THURSDAY, JUNE 6**

09:30 – 09:50 Stefan C., Dobrica V., [A comprehensive analysis of the geomagnetic storms](#)

09:50 – 10:10 Despirak I.V., Kleimenova N.G., Gromova L.I., Lubchich A.A., **Some features of very intense magnetic substorms**

10:10 – 10:30 Gromova L.I., Kleimenova N.G., Gromov S.V., Malysheva L.M., **Moderate magnetic storm expected as a typical space weather event in the era of lower solar activity**

10:30 – 10:50 Koucká Knížová P., Chum J., Urbář J., Truhlík V., Kuechelbacher L., Hannawald P., Schmidt C., Sabine W., Mackovjak S., [Quiet ionosphere](#)

**10:50 – 11:10 COFFEE BREAK**

11:10 – 11:30 Rabiú B., Akerele A., Okoh D., Kascheyev A., Nava B., Oyeyemi E., Olugbon B., Akinpelu J., Ajani O., **On the variability of the Doppler Frequency Shift of a trans-ionospheric radio wave over Nigeria**

11:30 – 11:50 Potužníková K., Koucká Knížová P., Chum J., Kouba D., Mošna Z., Georgieva K. Kirov B., [Impact of tropospheric severe weather events on ionospheric disturbances during different phases of Solar Cycle](#)

11:50 – 12:10 Belakhovsky V.B., Pilipenko V.A., Sakharov Y.A., Selivanov V.N., **The extreme growth of the GIC in power lines of the Kola Peninsula and Karelia during 11 years of observations**

12:10 – 12:30 Dobrica V., Demetrescu C., Stefan C., [Surface geoelectric field over Romania associated to supermagnetic storms of March 1989 and November 2003](#)

12:30 – 13:00 Liu H., Yao Zh., Fu Yu., Feng J., **Bioregenerative Life Support System (BLSS) to support humans living in space**

**13:00 – 15:00 LUNCH BREAK**

**15:00 – 17:00 AFTERNOON DISCUSSION 1**

- Regional, European and international programs on space weather research and applications
- Key areas of research on space weather in the organizations.
- Discussion of joint projects

**17:00 – 19:00 POSTER SESSION II**

Atanasova M., Bojilova R., **Possible post-seismic effects in some of geophysical quantities related to the earthquake on 29 December**

Bojilova R., Mukhtarov P., **Seasonal peculiarities of TEC response at low latitudes during selected geomagnetic storms**

Guinea V., Werner R., Bojilova R., Raykova L., Atanassov A., Valev D., **Analysis of substorms related to strong MPB at Panagjurishte station in 2022**

Veretenenko S., Dmitriev P., **Comparative analysis of solar activity influences on trajectories of extratropical cyclones in different regions of the North Atlantic**

Raykova L., **Analysis of the relationship between solar activity and temperature changes in the constant temperature zone of four Bulgarian caves and their nearby cities Smolyan, Vratsa, and Lovech.**

Krastev K., Semkova J., Kopleva R., Benghin V., Drobijshchev S., **An assessment of the radiation risk in orbit around Mars, based on measurements by the Lyulin instrument and numerical simulations**

Despirak I.V. Setsko P.V., Lubchich A.A., Hajra R., Sakharov Ya.A., Lakhina G., Selivanov V.N., Tsurutani B.T., **Geomagnetically induced currents during a complex space weather event**

## **FRIDAY, JUNE 7**

09:30 – 09:50 Tonev P., [Hypothetic Explanation of Peculiar Atmospheric Electric Response to SEP at High Latitudes. Experimental Evidence](#)

09:50 – 10:10 Chapanov Ya., Ron C., Vondr k J., [Solar influence on Chandler period](#)

10:10 – 10:30 Didenko K., Koval A., Gavrilov N., Golovko A., Ermakova T., **Numerical simulation of the influence of solar activity variations on the global atmospheric circulation**

10:30 – 11:00 Georgieva K., Kirov B., Asenovski S., [Comparison of the 19/20 and 20/21 centuries Gleissberg minima](#)

**11:00 – 11:30 COFFEE BREAK**

11:30 – 11:50 Dachev T. P., Sapundjiev P. V., Tomov B. T., Matviichuk Y. N., Mitev M. M., Jordanova M. M., Krezhov K. A.P **Dose rate and flux measurements during a travel from Bulgarian Antarctic Base on Livingston Island to Sofia, Bulgaria**

11:50 – 12:10 Werner R., Valev D., Guineva V., Kirillov A.S., [Global and hemispheric temperature prognoses for the near future](#)

12:10 – 12:20 Guineva V., [Worldwide geomagnetic activity during the May 11, 2024 solar event](#)

12:20 – 12:40 Asenovski S., **Surface air temperature reaction to the May 11, 2024 solar event**

**12:40 – 13:00 CLOSING OF THE WORKSHOP**

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