

# U Plenary

22.04.2024

08:30 - 12:30 Participants registration

12:30 - 13:30 **Lunch break**

## Main Conference Hall

### Plenaries | Chair Vladimir Semenov

13:30 - 13:45 Conference opening

13:45 - 14:45 **Tatevossian Ruben** Macroseismic studies: Historical earthquakes  
*Solicited talk*

14:45 - 15:45 **Kiselev Andrey** Yesterday, today, and tomorrow of the Earth's climate system  
*Solicited talk*  
**Online**

15:45 - 16:15 **Coffee break**

16:15 - 17:15 **Kubyshkina Daria** Beyond the Solar System: methods of detection, characterisation, and classification of exoplanets  
*Solicited talk*

17:15 - 18:15 Concert by Sergei Pulinets

18:15 - 19:30 Welcome refreshment

# OLD Ozone Layer Dynamics

24.04.2024

## Atmospheric Physics Dept, Room 314

### Chair Smyshlyaev S.P.

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|---------------|--|--|
| 09:30 - 09:50 | <b>Nerobelov Georgii</b> , Timofeyev Yuri, Polyakov Alexander, Rozanov Eugene, Virolainen Yana                                   | Analysis of the quality of current forecasts of total ozone behavior in the 21st century   |
| 09:50 - 10:10 | <b>Popov Andrey</b> , Gavrilov Nikolai, Shiokawa Kazuo   | Climatology of mesoscale perturbations of OH and O <sub>2</sub> rotational temperature in Rikubetsu, Shigaraki and Sata                            |
| 10:10 - 10:30 | <b>Imanova Anastasia</b> , Rozanov Eugene, Smyshlyaev Sergey   | Comparative analysis of photolysis rates calculated using Cloud-J and LibRadran tools  |
| 10:30 - 10:50 | <b>Kriukovskikh Ekaterina</b> , Polyakov Alexander, Virolainen Yana, Nerobelov Georgy, Timofeyev Yuri                            | Measurements of the total ozone column by the IKFS-2 instrument for the period of operation from 2015 to 2022 on board the «Meteor-M» №2 satellite |
| 10:50 - 11:10 | <b>Efimov Matvey</b> , Gavrilov Nikolai  | Parameters of sudden stratospheric warmings from the reanalysis database jra-55  |
| 11:10 - 11:30 | <b>Akishina Svetlana</b> , Virolainen Yana, Polyakov Alexander, Timofeyev Yury, Nerobelov Georgy, Zubov Vladimir, Rozanov Eugene | The variability of stratospheric gases in the vicinity of St. Petersburg   |

11:30 - 12:00 **Coffee break**

### Chair Divin A.V.

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| 12:00 - 12:20 | <b>Akishina Svetlana</b> , Polyakov Alexander, Virolainen Yana                     | Information content of the outgoing thermal radiation spectra with respect to vertical ozone distribution  |
| 12:20 - 12:40 | <b>Smyshlyaev Sergei</b> , Usacheva Margarita, Rozanov Eugene, Zubov Vladimir      | Numerical modeling of simultaneous changes of ozone content in the lower and middle atmosphere in the past, present and future                             |
| 12:40 - 13:00 | <b>Bordovskaia Iuliia</b> , Timofeyev Yuriy, Virolainen Yana, Poberovskii Anatolij | Analysis of the synergetic ground-based MW+IR method for determining vertical profiles of ozone content  |
| 13:00 - 13:20 | <b>Zubov Vladimir</b> , Rozanov Eugene, Mironov Andrey                             | The vertical profiles of O <sub>3</sub> , CH <sub>4</sub> , and N <sub>2</sub> O into the polar stratosphere of the SH. Model investigation with CCM SOCOL |

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| 13:20 - 13:40 | <b>Usacheva Margarita,</b><br>Rozanov Eugene, Smyshlyaev<br>Sergey, Zubov Vladimir | Sensitivity of the ozone content and temperature<br>to different forcing                                    |
| 13:40 - 14:00 | <b>Lukianova Renata</b>  | Formation of the extreme Arctic stratospheric<br>polar vortex of winter 2019/2020 and related<br>ozone loss |

14:00 - 15:00      **Lunch break**

**Sightseeing trip to Kronstadt – from 15:00**

# PERM Paleomagnetism and Rock Magnetism

23.04.2024

Earth Phys Dept, Room 507

## Paleomagnetism I | Chair Alexei Didenko

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|---------------|--|--|
| 09:00 - 09:20 | <b>Pavlov Vladimir</b> , Lebedev Ivan  | Paleosecular variations indicate the specific mode of geodynamo operation during the Cretaceous Normal Polarity Superchron |
| 09:20 - 09:40 | <b>Pasenko Aleksandr</b> , Lebedev Ivan, Dudanova Varvara, Sirotn Kirill, Zaika Georgy                             | Paleomagnetism of rocks of the Okhotsk-Chukotka volcanic-plutonic belt of the Krest Bay (Chukotka): questions and tasks    |
| 09:40 - 10:00 | <b>Lebedev Ivan</b> , Pasenko Alexander  | Late Cretaceous-Cenozoic tectonic history of Chukotka according to new paleomagnetic data                                  |
| 10:00 - 10:20 | <b>Anosova Maiia</b> , Shcherbakova Valentina, Zhidkov Grigoriy, Shcherbakov Valeriy, Lebedev Ivan, Latyshev Anton | High-Latitude paleointensities after the end of the Cretaceous Normal Superchron from the Okhotsk-Chukotka Volcanic Belt   |
| 10:20 - 10:40 | <b>Shcherbakova Valentina</b> , Zhidkov Grigoriy, Shcherbakov Valeriy, Afinogenova Natalia                         | Geomagnetic paleointensity at ~1.75 Ga of Paleoproterozoic volcanic rocks from the Ukrainian Shield                        |

10:40 - 11:10 **Coffee break**

## Loess, paleoclimate, and magnetism | Chair Andrei Kosterov

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| 11:10 - 11:50 | <b>Kazansky Alexey</b>  | Rock-magnetic indicators of climate in subaerial deposits, how do they work?<br><b>Solicited talk</b>                                     |
| 11:50 - 12:10 | <b>Meshcheriakova Olga</b> , Khormali Farhad, Kurbanov Redjep, Kazansky Alexey  | Rock magnetic characteristics of loess -soil series in Tajikistan (based on materials from the study of the reference section Khonako-II) |
| 12:10 - 12:30 | <b>Peskov Aleksey</b> , Didenko Aleksey, Klimin Mikhail, Karetnikov Anatolii, Arkhipov Mikhail, Tikhomirova Anna, Tsygankova Viktoria | Paleomagnetic and rock magnetic studies on peats from the Nerpichiy bay coast, Southwestern Priokhotie                                    |
| 12:30 - 12:50 | <b>Trubikhin Valeriy</b> , Vardanyan Hasmik, Stakhovskaya Rita  | Record of climatic and paleomagnetic events of the late Holocene in takyr deposits of western Turkmenistan                                |

12:50 - 13:50 **Lunch break**

## Rock magnetism I | Chair Alexey Kazansky

|               |  |   |
|---------------|--|---|
| 13:50 - 14:10 | <b>Didenko Alexei</b> , Nosyrev Mikhail, Arkhipov Mikhail, Gilmanova Gulshat, Krutikova Valeriya | Deep structure model of the Taragai area of the Sutarsky ridge (Lesser Khingan) from geophysical field and magnetic petrology data interpretation |
| 14:10 - 14:30 | <b>Pozhidaeva Daria</b>  | Changes in rock magnetic data in Late Pleistocene-Holocene sediments of the glacial lake Sosednee (Upper Kolyma region)                           |
| 14:30 - 14:50 | <b>Leonova Mariia</b> , Markov Gennady   | Can the traces of the impact events in the sedimentary sequences be recorded by rockmagnetic properties?  |
| 14:50 - 15:10 | <b>Sergienko Elena</b> , Kharitonskii Petr, Gareev Kamil, Yanson Svetlana, Dubeshko Danil        | Study of biomineralization of iron oxyhydroxides by magnetometric methods   |

15:10 - 15:40

**Coffee break**

### Rock magnetism II | Chair Vladimir Pavlov

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|---------------|--|--|
| 15:40 - 16:00 | Shcherbakov Valery, <b>Sycheva Natalia</b>   | Theory of anhysteretic remanent magnetization of randomly oriented single-domain grains                    |
| 16:00 - 16:20 | <b>Shcherbakov Valeriy</b> , Gribov Sergey, Tselmovich Vladimir, Afinogenova Natalia | Experiments on samples carrying a sum of laboratory induced TRM and TCRM imparted perpendicular each other |
| 16:20 - 16:40 | <b>Belokon Valery</b> , Dyachenko Olga, Lapenkov Roman                               | Heat capacity of spin glasses in the model of random interaction fields                                    |
| 16:40 - 17:00 | <b>Kosterov Andrei</b>   | When magnetite is truly magnetite?   |

24.04.2024

09:30 - 13:00

Poster viewing

GC2024-  
PERM005

**Pilipenko Olga**, Tsetlin Yuri

Rockmagnetic and archaeomagnetic investigations of ceramics of the multilayer archaeological site Ivanovskoe III

GC2024-  
PERM009

**Pilipenko Olga**, Markov Gennady, Tsetlin Yuri, Afinogenova Natalya

Thellier's experiments on artificial ceramics to determine the magnitude of the magnetic field

GC2024-  
PERM020

Shcherbakova Valentina, **Zhidkov Grigoriy**, Afinogenova Natalia

Ultralow geomagnetic paleointensity at ~2 Ga of Paleoproterozoic igneous rocks from the Ukrainian Shield

GC2024-  
PERM041

**Sirotn Kirill**, Aleksandr Pasenko, Lebedev Ivan, Dudanova Varvara

Volcanogenic rocks of the Kresta Bay (Chukotka): petrographic studies in the context of substantiating the nature of the paleomagnetic signal

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| GC2024-<br>PERM051 | <b>Latyshev Anton</b> , Latanova Elena, Anosova Maiia, Bergal-Kuvikas Olga, Belyaev Alexey  | Paleomagnetism and Anisotropy of Magnetic Susceptibility in the Late Quaternary Lava Flows from the Tolmachev Dol area (the Southern Kamchatka)   |
| GC2024-<br>PERM058 | <b>Fedyukin Ivan</b> , Zhang Rui, Pavlov Vladimir, Pasenko Alexandr   | AMS study of the evolution of the Middle-Late Ordovician sea basin in the North of the Siberian platform  |
| GC2024-<br>PERM012 | <b>Fattakhova Leysan</b> , Kuzina Dilyara, Antonenko Vadim  | Magnetic properties of the soil cover of active arable lands  |
| GC2024-<br>PERM048 | <b>Meshcheriakova Olga</b> , Kononov Yuri, Kurbanov Rejep, Ivanov Andrew, Timireva Svetlana   | Rock magnetic characteristics of loess-soil series in the Azov region (Beglitsa and Chumbur-Kosa sections)  |
| GC2024-<br>PERM008 | <b>Minyuk Pavel</b> , Pozhidaeva Dasha  | Iron sulfides in the lacustrine sediments of North-East Russia  |
| GC2024-<br>PERM045 | <b>Iliushin Iliia</b> , Kharitonov Vladimir, Afremov Leonid   | Dependence of the magnetic properties of the metal/metal oxide system on the degree of oxidation  |
| GC2024-<br>PERM023 | <b>Iusupova Anastasiia</b> , Kuzina Dilyara   | Holocene paleoclimate history of the lakes Bolshoe and Maloe Miassovo (Southern Urals) based on magnetic and geochemical investigations   |
| GC2024-<br>PERM036 | <b>Kosareva Lina</b> , Kosarev Victor, Kuzina Dilyara, Yusupova Anastasia, Nourgalieva Nuriia, Antonenko Vadim  | Local, regional and global components of environmental variability of the Southern Urals in the Neopleistocene-Holocene on the basis of petromagnetic parameters of modern lakes sediments                    |
| GC2024-<br>PERM037 | <b>Kuzina Dilyara</b> , Shcherbakov Valery, Salnaia Natalia, Yusupova Anastasiia, Nurgaliev Danis   | Relative paleointensity of geomagnetic field obtained from the sediments of Lake Shira (Khakassia)  |
| GC2024-<br>PERM034 | <b>Khosnullina Tansylu</b> , Piskarev Alexey, Elkina Daria, Gusev Evgeny  | Paleomagnetic studies of marine sediments collected from the northern Barents Sea during the 2023 expedition  |
| GC2024-<br>PERM055 | <b>Elkina Daria</b> , Gusev Evgeny, Ryabchuk Daria, Piskarev Alexey, Sergeev Alexander, Gostenina Anna, Khosnullina Tansylu, Yarzhembosky Yaroslav, Krylov Alexey | Paleomagnetic studies of marine sediments of the Russian Arctic seas under the project of state geological mapping of the territory and continental shelf of the Russian Federation at a scale of 1:1,000,000 |
| GC2024-<br>PERM043 | <b>Iosifidi Alexandr</b> , Salnaia Natalia  | Devonian deposits of the southern Timan: Paleomagnetic data   |

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| GC2024-<br>PERM057 | <b>Pavlov Vladimir</b> , Zhang Rui,<br>Fedyukin Ivan, Pasenko<br>Alexandr                        | Current update of the magnetostratigraphic scheme of the key Ordovician section of the Moyero River and the behavior of the geomagnetic field on the eve of the Moyero superchron                           |
| GC2024-<br>PERM059 | Rudko Dmitrii, Zhang Rui,<br><b>Pavlov Vladimir</b>  | Cyclostratigraphic study of the Upper Cambrian deposits of the Kulyumbe key section (NW of the Siberian platform) aimed to constrain the duration of magnetic zones and $\delta^{13}\text{C}$ SPICE anomaly |
| GC2024-<br>PERM015 | Golovanova Inessa,<br><b>Salmanova Raushaniya</b> ,<br>Danukalov Konstantin, Parfiriev<br>Nikita | A cyclostratigraphic study of the Katav Formation, (Upper Riphean, Southern Urals)  |
| GC2024-<br>PERM027 | <b>Danukalov Konstantin</b> ,<br>Golovanova Inessa, Parfiriev<br>Nikita, Salmanova Raushaniya    | Study of the morphology of geomagnetic reversals in the Late Riphean Katav Formation. New results   |

13:00 - 14:00

**Lunch break**

**Sightseeing trip to Kronstadt – from 15:00**

25.04.2024

**Earth Phys Dept, Room 507**

**Paleomagnetism II | Chair Dilyara Kuzina**

|               |   |  |
|---------------|---|--|
| 09:00 - 09:20 | <b>Kovalenko Dmitry</b> , Buzina<br>Margarita   | Problems of paleomagnetism in the Altai-Sayan region and Mongolia  |
| 09:20 - 09:40 | <b>Kovalenko Dmitry</b> , Yarmolyuk<br>Vladimir, Kozlovsky Alexander,<br>Buzina Margarita     | Paleomagnetism of the Phanerozoic Sequences of the Central Part of the Central Asian Fold Belt                 |
| 09:40 - 10:00 | <b>Golovanova Inessa</b> ,<br>Danukalov Konstantin, Parfiriev<br>Nikita, Salmanova Raushaniya | Current issues of paleomagnetism of the Katav Formation (Upper Riphean, Southern Urals)                        |
| 10:00 - 10:20 | <b>Parfiriev Nikita</b> , Danukalov<br>Konstantin, Golovanova Inessa,<br>Salmanova Raushaniya | Test of intraformational conglomerates for the Katav Formation of the Upper Riphean (Southern Urals). New data |
| 10:20 - 10:40 | <b>Lubnina Nataliya</b> , Bychkov<br>Andrey   | Remagnetization during hydrothermal process: paleomagnetic data and geodynamic consequences                    |

10:40 - 11:10

**Coffee break**

**Magnetostratigraphy | Chair Vladimir Vodovozov**

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|---------------|---|--|
| 11:10 - 11:50 | <b>Guzhikov Andrey</b>  | Magnetostratigraphic method in geology: current state, problems and the ways to their solutions<br><b>Solicited talk</b> |
| 11:50 - 12:10 | <b>Dudanova Varvara</b> ,<br>Konstantinov Evgeniy,<br>Veselovskiy Roman, Pasenko<br>Aleksandr | The Matuyama-Brunhes reversal in the loess-paleosol series of the Otkaznoe section (Terek-Kuma Lowland)                  |
| 12:10 - 12:30 | Shelepov Dmitry, <b>Guzhikov Andrey</b>   | Magnetostratigraphy of the Danian stage from the Saratov Volga region  |
| 12:30 - 12:50 | <b>Gnibidenko Zinaida</b> , Marinov<br>Vladimir, Levicheva Aleksandra,<br>Semakov Nicolay     | Cretaceous Magnetostratigraphy of the Severnaya Sosva River (Northern Urals)<br><b>Online</b>                            |

12:50 - 13:30 **Lunch break**

**Paleomagnetism III | Chair Inessa Golovanova**

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| 13:30 - 13:50 | <b>Luzan Margarita</b> , Metelkin<br>Dmitriy, Bragin Vasiliy   | Analysis of the Devonian paleomagnetic direction distribution in the Minusa basin  |
| 13:50 - 14:10 | <b>Salnaia Natalia</b> , Alexandr<br>Iosifidi  | Devonian paleomagnetic data on the East European Platform in the context of the problem of complicated magnetic field record and the presence of atypical Devonian components<br><b>Online</b>   |
| 14:10 - 14:30 | <b>Vodovozov Vladimir</b>  | Paleomagnetism of Mesoproterozoic intrusive complexes of the Bunger Hills (East Antarctica)  |
| 14:30 - 14:50 | <b>Fedyukin Ivan</b> , Shatsillo<br>Andrey, Romanyuk Tatyana,<br>Latysheva Irina, Novikova<br>Anastasia, Kuznetsov Nikolay | Paleomagnetic data of Jurassic igneous rocks of the Greater Caucasus: comparison with Lesser Caucasus  |
| 14:50 - 15:10 | <b>Doroshenkov Mikhail</b>   | Prospects of studying and possibilities of indication of catastrophic flood deposits by petromagnetic methods  |
| 15:10 - 15:30 | <b>Ushakov Dmitrii</b> , Lebedev<br>Ivan, Pavlov Vladimir  | Influence of orientation errors associated with the use of a magnetic compass on the accuracy of determining the position of the paleomagnetic pole and the amplitude of paleosecular variations |

15:30 - 16:00 **Coffee break**

**Geomagnetism | Chair Andrei Kosterov**

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| 16:00 - 16:20 | <b>Sanchez Rodriguez Cesar Julio</b> , Merkurjev Sergei | Study of the structure and evolution of the axial zone of the Carlsberg Ridge |
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| 16:20 - 16:40 | <b>Starchenko Sergey</b>                        | RMS velocities and magnetic fields in the Earth's liquid core  |
| 16:40 - 17:00 | <b>Starchenko Sergey,</b><br>Yakovleva Svetlana | Statistics of dipole and non-dipole geomagnetic energy   |
| 17:00 - 17:20 | <b>Riabova Svetlana</b>                         | Spectral analysis of geomagnetic field variations at the Eskdalemuir Observatory in the range of 2-41 years<br><b>Online</b> |
| 17:20 - 17:50 | General discussion, PERM section closing        |  |

# SG Seismology and Geodynamics

23.04.2024

## Data processing and analysis methods | Chair Vladimir Troyan

### Blue Hall

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| 09:00 - 09:20 | <b>Fedorov Ivan</b> , Fedorov Andrey, Asming Vladimir  | Experiments on the use of seismic and infrasound methods for remote recording of snow avalanches  |
| 09:20 - 09:40 | <b>Isaev Igor</b> , Guskov Artem, Osbornev Ivan, Osbornev Eugeny, Rodionov Eugeny, Shimelevich Mikhail, Dolenko Sergey   | Using the transfer learning approach in neural network solution of inverse problems of exploration geophysics   |
| 09:40 - 10:00 | <b>Polovkov Viacheslav</b> , Terekhina Yana, Ponomarenko Andrey, Kudinov Artem, Bulanova Irina, Rakhimov Emil, Tokarev Mikhail, Gorbachev Sergei, Solovyova Marina | Technology for surface waves processing recorded using seismic streamers to study the upper part of the Pechora Sea shelf section   |
| 10:00 - 10:20 | <b>Ponassenko Svyatoslav</b>   | Automated system for seismological monitoring   |
| 10:20 - 10:40 | <b>Ponomarenko Andrey</b> , Stanyulis Alexander, Polovkov Viacheslav, Troyan Vladimir  | On the geophone coupling function in marine research  |
| 10:40 - 11:05 | <b>Coffee break</b>  |   |
| 11:05 - 11:35 | <b>Kitov Ivan</b> , Sanina Irina   | On the current state and prospective of waveform cross correlation in seismic studies: improvements in signal detection, parameter estimation, relative location, and identification of seismic sources<br><b>Solicited talk</b><br><b>Online</b> |
| 11:35 - 11:55 | <b>Sychev Vladimir</b> , Sycheva Nailia  | Nonextensive analysis of earthquakes and man-made impacts   |
| 11:55 - 12:15 | <b>Baranov Sergey</b> , Shebalin Peter, Motorin Alexander  | Earthquake Productivity<br><b>Solicited talk</b>  |
| 12:15 - 12:35 | <b>Malyshkin Timur</b> , Gordeev Nikita  | Development of a method for identifying surface faults using active and passive sensors in remote sensing data  |

12:35 - 12:55      **Lobodenko Ivan**, Fihieva Luiza, Malofeev Aleksey, Menschikova Viktoria

Solving direct and inverse geophysics and geodynamics problems in site selection, construction and operation of nuclear power plants in accordance with federal norms and rules for the atomic energy use

**Online**

**Fiber optics in geophysics. Distributed acoustic sensing (DAS) | Chair Konstantin Kislov**

12:55 - 13:20      **Kislov Konstantin**

Fiber optics in geophysics. Distributed acoustic sensing (DAS)

Solicited talk

**Lunch break**

14:20 - 14:40      **Tezиков Artemii**, Chugaev Aleksandr, Trapeznikova Anna

Spectral analysis of passive DAS data for monitoring of an undermined massif at a salt deposit

Solicited talk

**Online**

14:40 - 15:00      **Nikitin Sergei**, Spiridonov Egor, Bengalskiy Danil, Kharasov Danil, Ashkar Georgiy, Kostenko Mikhail, Kislov Konstantin, Nanii Oleg, Starovoyt Yuriy, Treshchikov Vladmir

Applications of fiber optical DAS equipment for teleseismic observations and tomography tasks in seismology

15:00 - 15:20      **Ilnskiy Dmitry**, Gorshkov Boris, Simikin Denis

Application of a distributed acoustic measurement system for active and passive seismic studies

Solicited talk

15:20 - 15:40      **Belov Mikhail**, Tokarev Mikhail, Potemka Andrey

The Lomonosov Moscow State University experience in fiber optic sensors technology

**Coffee break**

**Distributed acoustic sensing & Poster viewing**

GC2024-SG047      Kislov Konstantin, Ashkar Georgy, Bengalskii Danil, Gravirov Valentin, **Kostenko Mikhail**, Kharasov Danil, Vasiliev Alexey, Treshchikov Vladimir

Demonstration of the capabilities of Distributed Acoustic Sensing technology

GC2024-SG013      Ashkar Georgy, Bengalskii Danil, **Gravirov Valentin**, Kislov Konstantin, Kostenko Mikhail, Kotov Andrey, Presnov Dmitry, Spiridonov Egor, Shurup Andrey

Full-Scale Testing of the Use of Distributed Acoustic Sensing (DAS) Technology to Determine Ice Cover Parameters

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| GC2024-SG015  | <b>Gravirov Valentin</b> , Kislov Konstantin  | Advantages and Disadvantages of Distributed Acoustic Sensing Technology for Geophysics Tasks                                 |
| GC2024-SG042  | Kislov Konstantin, <b>Dmitrienko Maxim</b>  | Performance of Seismic Observations by DAS Technology in Different Environments  |
| 16:55 - 17:15 | <b>Coffee break</b>   |  |
| GC2024-SG008  | <b>Gravirov Valentin</b> , Pershin Sergey, Sobisevich Alexey, Grishin Michail, Likhodeev Dmitry, Myasnikov Andrey | The Influence of Earthquakes on the Temperature Regime of Rocks  |
| GC2024-SG012  | <b>Gravirov Valentin</b> , Likhodeev Dmitry   | Precision Rock Temperature Monitoring System   |
| GC2024-SG014  | <b>Gravirov Valentin</b>  | Digital Data Acquisition Systems for Data Capturing of Geophysical Information: Methods for Testing Performance in the Field |
| GC2024-SG044  | <b>Kislov Konstantin</b> , Marchenkov Alexey  | Designing a side-by-side experiment to compare low-power impulsive artificial seismic sources                                |
| GC2024-SG021  | Gravirov Valentin, Sobisevich Alexey, Zhostkov Ruslan, Presnov Dmitry, <b>Kotov Andrey</b>                        | Ice Geo-Hydroacoustic Buoy   |
| GC2024-SG022  | Gravirov Valentin, <b>Kotov Andrey</b> , Presnov Dmitry, Nuzhdaev Ivan, Toshchov Sergey                           | Study of the Internal Structure of Geothermal Deposits in the Southern Part of the Kamchatka Peninsula                       |
| GC2024-SG045  | <b>Kasimova Victoria</b> , Chebrov Danila, Kopylova Galina  | Integrated geophysical observations at the Petropavlovsk-Kamchatsky test site, Kamchatka Peninsula                           |
| GC2024-SG037  | Solovieva Maria, Kopylova Galina, Korkina Galia, Bulatova Nadezhda, <b>Kasimova Victoria</b>                      | Disturbances of the lower ionosphere during strong seismic activity in 2023-2024 as observed on the Kamchatka peninsula      |

24.04.2024

## Blue Hall

### Processes in earthquake sources | Chairs Alena Filippova & Vladimir Troyan

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| 09:00 - 09:25 | <b>Filippova Alena</b>                                       | Seismic moment tensor: a review<br><i>Solicited talk</i>                        |
| 09:25 - 09:40 | <b>Filippova Alena</b> , Burlakov Ilya, Fomochkina Anastasia | Focal mechanisms of earthquakes occurred in 1927-2022 in the East Arctic region |

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| 09:40 - 10:00 | <b>Sokolova Inna</b> , Aristova Irina,<br>Komekbayev Darkhan          | Study of the wave pattern of various nature events from the area of the Novaya Zemlya Test Site according to historical seismic and infrasound records by Central Asia stations |
| 10:00 - 10:20 | <b>Zotov Oleg</b> , Guglielmi Anatol,<br>Zavyalov Alexey, Klain Boris | Energy flows and the spatio-temporal structure in the earthquake source<br><b>Online</b>  |
| 10:20 - 10:40 | <b>Petrova Nataliya</b> ,<br>Gabsatarova Irina, Kurova Anna           | Distance corrections to surface-wave magnitudes of Far East shallow earthquakes<br><b>Online</b>  |
| 10:40 - 11:00 | <b>Fomochkina Anastasia</b> ,<br>Filippova Alena                      | Source parameters of earthquakes in the Laptev Sea (1996, 1997 and 2023) from surface wave records  |

11:00 - 11:20 **Coffee break**

### Regional Seismicity | Chair Vladimir Troyan

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|---------------|---|---|
| 11:20 - 11:35 | <b>Sokolova Inna</b> , Gabsatarova Irina, Berezina Anna, Kopnichev Yuri, Aristova Irina | Uqturpan earthquake with $M_w=7.0$ on January 22, 2024, in the south of the Tien Shan                     |
| 11:35 - 11:50 | <b>Motorin Alexander</b> , Baranov Sergey, Shebalin Peter                               | Aftershock domain estimation by first aftershocks on the example of the Khibiny deposits<br><b>Online</b> |
| 11:50 - 12:10 | Burmin Valeriy, <b>Petrosyan Goharik</b>  | Some Features of Earthquakes Distribution in Turkmenistan<br><b>Online</b>                                |
| 12:10 - 12:30 | <b>Tsiareshchanka Kseniya</b> , Aronov Arkady, Bialiayeva Victoriia, Martinovich Yuliya | Seismic effects of industrial explosions in a granite quarry in Belarus                                   |

12:30 - 12:50 **Coffee break**

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| 12:50 - 13:05 | <b>Sokolova Inna</b> , Gabsatarova Irina, Berezina Anna, Pershina Elena | The source and consequences of the Kungey earthquake on March 4, 2024 ( $m_p=5.8$ ) in the Northern Tien Shan region   |
| 13:05 - 13:20 | <b>Zvereva Anastasia</b> , Skorkina Anna                                | The relationship between $M_w$ and other magnitude scales for earthquakes of the North Caucasus                        |
| 13:20 - 13:35 | Zvereva Anastasia, <b>Klianchin Andrey</b>                              | Earthquake on January 24, 2024 in the in the region of Krasnodar city (North-West Caucasus) with $M_w=4.1$ , $I_0=4-5$ |

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| 13:35 - 13:50 | <b>Surkov Vadim</b> , Pilipenko Vyacheslav, Sorokin Valery, Yashchenko Aleksey | Ionospheric perturbations caused by a complex of atmospheric acoustic waves radiated during and after earthquakes |
| 13:50 - 14:05 | <b>Surkov Vadim</b>  | Theoretical models of atmospheric and ionospheric anomalies that can be interpreted as earthquake precursors      |

14:05 - 15:00 **Lunch**

**Sightseeing trip to Kronstadt — from 15:00**

25.04.2024

### Rock Mechanics and Mining Sciences | Chair Valerii Khimulia

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|---------------|---|---|
| 09:00 - 09:20 | <b>Khimulia Valerii</b> , Karev Vladimir, Barkov Svyatoslav | Comprehensive study of stress effect on filtration-capacitance properties of underground gas storage reservoirs using geomechanical and CT-based approach |
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**Online**

#### Blue Hall

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| 09:20 - 09:40 | <b>Kovalenko Yury</b> , Barkov Svyatoslav, Khimulia Valerii | Experimental study of mechanical and filtration processes in low-permeability reservoir rocks of Verkhnevilyuchanskoye oil and gas condensate field at implementation the method of directional unloading of the reservoir |
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**Online**

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| 09:40 - 10:00 | <b>Ivanov Zakhar</b> , Panteleeva Arina, Golosov Andrey | The influence of layer orientation on the mechanical properties of 3D printed models |
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**Online**

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| 10:00 - 10:20 | <b>Kozhevnikov Evgenii</b> , Turbakov Mikhail, Riabokon Evgenii, Guzev Mikhail, Qi Chengzhi, Li Xiaozhao | Comparative analysis of the reduction in permeability under loading in laboratory and field conditions |
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**Online**

10:20 - 10:40 **Coffee break**

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| 10:40 - 11:00 | <b>Panteleeva Arina</b> , Ivanov Zakhar, Kozhevnikov Evgenii | The influence of rock conductivity on the of detached particles size distribution during filtration and cyclic loading |
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**Online**

|               |  |   |
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| 11:00 - 11:20 | <b>Riabokon Evgenii</b> , Turbakov Mikhail, Evgenii Kozhevnikov, Guzev Mikhail | Modelling the influence of acoustic vibrations on the movement of plastic particles through rocks |
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**Online**

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| 11:20 - 11:40 | <b>Panteleev Ivan, Zaitsev Aleksey</b> , Ustinov Konstantin, Shevtsov Nikolay, Valeriy Khimulya, Mubassarova Virginiya, Karev Vladimir, Kovalenko Yuri | A Kaiser Damage-Memory Effect in Sandstone under Cyclic and Rotated Triaxial Stresses<br><b>Online</b>  |
| 11:40 - 12:00 | <b>Zaitsev Aleksey</b> , Demus Michael, Kourov Roman, Fukalov Anton  | The Equilibrium State of a Hollow Horizontal Orthotropic Thick-walled Cylinder, which is Subject to a Nonuniform Internal Lateral Pressure and Weight Forces<br><b>Online</b> |
| 12:00 - 12:20 | <b>Goev Andrey</b>   | Upper mantle – classic ideas and new insights<br><b>Solicited talk</b>  |

### Earth's Structure | Chairs Andrey Goev & Vladimir Troyan

|               |  |   |
|---------------|--|---|
| 12:20 - 12:40 | <b>Usoltseva Olga</b> , Ovtchinnikov Vladimir            | Lateral variations in travel times of reflected from the inner core waves and their connection with thermal and gravitational fields                          |
| 12:40 - 13:00 | <b>Sokolova Inna</b> , Kopnichev Yuri, Khachikyan Galina | Temporal variations of S wave attenuation field structure in the region of Zaili Alatau ridge: possible correlation with solar activity and large earthquakes |

### 13:00 - 14:00 Lunch break

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| 14:00 - 14:20 | <b>Filippov Sergey</b> , Abramova Darya                                    | Lithospheric magnetic anomalies over the Anatolian Plate (Turkey) as a reflection of the crust-mantle interaction processes<br><b>Solicited talk</b> |
| 14:20 - 14:40 | <b>Vakarchuk Roman</b>   | Typification of the Earth's Crust  |
| 14:40 - 15:00 | <b>Filippov Sergey</b> , Filippova Alena, Sokolova Tatiana, Pankratov Oleg | Lithospheric magnetic sources in the East Arctic region  |
| 15:00 - 15:20 | <b>Koroleva Tatiana</b> , Zarochentsev Andrey                              | Experience of determining S-wave velocities beneath the Caucasus from surface waves dispersion curves with the use of high-performance computing     |

### 15:20 - 15:40 Coffee break

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| 15:40 - 16:00 | <b>Filippova Alena</b> , Sokolova Elena, Filippov Sergey, Bolshakov Egor | Integrated geophysical modeling of the lower crustal - upper mantle structure in the area of the Yenisei-Khatanga trough |
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| 16:00 - 16:20 | <b>Egorushkin Igor</b> , Koulakov Ivan, Jakovlev Andrey, Huang Hsin-Hua, Gordeev Eugeny, Abkadyrov Ilyas, Chebrov Danila | Insights into the crustal structure beneath Central Kamchatka revealed by ambient noise tomography<br><b>Online</b> |
| 16:20 - 16:40 | <b>Sannikov Konstantin</b> , Lyskova Evgenia, Sannikov Alexander   | New data on radial anisotropy in the European region from surface waves   |

26.04.2024

## Blue Hall

### Geodynamic Processes | Chair Alena Filippova

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| 09:30 - 09:50 | <b>Rodkin Mikhail</b>                  | Earthquake forecast algorithm based on the set of typical anomalies obtained in the general vicinity of large earthquake                   |
| 09:50 - 10:10 | <b>Mikheeva Anna</b> , Kalinnikov Igor | On the possibilities and problems of using creepex as a characteristic of the seismogenic environment stress-strain state<br><b>Online</b> |
| 10:10 - 10:30 | <b>Sycheva Nailia</b> , Rebetsky Yuriy | Research of the features of seismicity and seismotectonic deformations of some areas of the Altai-Sayan mountain region                    |
| 10:30 - 10:50 | <b>Rodkin Mikhail</b>                  | The role of geodynamics and the deep fluid regime in seismicity, and oil and ore generation processes                                      |

10:50 - 11:20 **Coffee break**

### Earth Phys Dept, Room 507

|               |  |   |
|---------------|--|---|
| 11:20 - 11:40 | Kopylova Galina, Serafimova Yulia, <b>Kasimova Victoria</b>          | Precursors of strong earthquakes in Kamchatka (according to data from 2005-2022)  |
| 11:40 - 12:00 | <b>Strelnikov Andrei</b>   | Paleoseismological studies of the Jungal depression<br><b>Online</b>  |
| 12:00 - 12:20 | <b>Sycheva Nailia</b> , Mansurov Artur                               | Comparing estimates of crustal deformation in Altai-Sayan mountain region based on seismic and GNSS data  |
| 12:20 - 12:40 | <b>Novikov Victor</b> , Kulkov Dmitry, Parov Stanislav, Gorynin Ivan | A possible thermal mechanism of electromagnetic earthquake triggering: Insight from laboratory press experiments and field estimations<br><b>Online</b> |



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|---------------|---|---|
| 12:40 - 13:00 | <b>Bataleva Elena</b> , Nepeina Kseniia, Matiukov Vitalii | Manifestation of the earthquake of January 23, 2024 (Northern China) in the components of the electromagnetic field (Northern Tien Shan)<br><b>Online</b> |
| 13:00 - 13:20 | <b>Morozov Alexey</b> , Asming Vladimir                   | Relocation of Early Instrumental Earthquakes in the Arctic<br><b>Online</b>   |

13:20 - 15:00 **Lunch break**

## Interpretation of Geophysical Fields | Chair Vladimir Troyan

### Blue Hall

|               |   |   |
|---------------|---|---|
| 15:00 - 15:20 | <b>Daurbayeva Gulbanu</b> , Lukianova Renata, Siylkanova Akkenzhe | Variations of the electron density in the topside ionosphere during the earthquake on January 22, 2024 in Central Asia<br><b>Online</b>   |
| 15:20 - 15:40 | <b>Akbashev Rinat</b> , Makarov Evgeniy                           | Experiment on physical modeling of ash clouds with simultaneous recording of the atmospheric electric potential gradient<br><b>Online</b> |
| 15:40 - 16:00 | <b>Vishniakov Dmitrii</b> , Lygin Ivan                            | On correlation of magnetic field variations with large seismic events<br><b>Online</b>  |
| 16:00 - 16:20 | <b>Riabova Svetlana</b> , Shalimov Sergey                         | Measured by magnetometers patterns of the ionospheric response to seismic events in the Philippines on December, 2023<br><b>Online</b>    |

16:20 - 16:50 **Coffee break**

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| 16:50 - 17:10 | <b>Pashayan Romela</b>                                       | Graphic representation of the parameters of hydrogeochemical composition of mineral water in central Armenia<br><b>Online</b>    |
| 17:10 - 17:30 | <b>Zotov Leonid</b> , Sidorenkov Nikolay, Bizouard Christian | Chandler wobble changes in 2020s<br><b>Online</b>  |
| 17:30 - 17:50 | <b>Riabova Svetlana</b>                                      | Response of the upper ionosphere to the earthquake in the Sea of Japan on January 1, 2024 (preliminary results)<br><b>Online</b> |
| 17:50 - 18:10 | <b>Petrushov Andrey</b> , Smirnov Vladimir                   | Anomalies of RTL function and Gutenberg-Richter parameter preceding earthquakes in California                                    |

18:10 - 18:30

**Riabova Svetlana**, Shalimov  
Sergey

Tsunami driven internal gravity waves after  
Great Japan Earthquake

**Online**

# STP Solar-Terrestrial Physics

23.04.2024

## Main Conference Hall

### Magnetospheric dynamics, storms and substorms | Chair: Apatenkov S.V.

|               |   |  |
|---------------|---|--|
| 09:00 - 09:20 | <b>Lavrukhin Alexander</b> ,<br>Alexeev Igor  | Aurora boundaries during magnetic storm  |
| 09:20 - 09:40 | <b>Manina Alina</b> , Kalegaev<br>Vladimir, Nikolaeva Vera,<br>Sarajev Roman, Ivanova<br>Alexandra, Vlasova Natalya | Dynamics of the Earth's high-latitude magnetosphere during a magnetic storm on 02.27.2023  |
| 09:40 - 10:00 | <b>Saladukhin Ihar</b> , Aronov<br>Genady, Aronov Arkady, Laziuk<br>Valiantsina, Pustoshilo Larisa                  | Analysis of the magnetic storms and variations of the geomagnetic field components at the Pleshchenitsy Observatory, Republic of Belarus |
| 10:00 - 10:20 | <b>Bryzhakhina Diana</b> ,<br>Apatenkov Sergey  | Observation of stationary current sheet in the magnetosphere   |

### 10:20 - 10:35 Coffee break

### Magnetospheric dynamics, storms and substorms | Chair: Apatenkov S.V.

|               |   |  |
|---------------|---|--|
| 10:35 - 10:55 | <b>Antonova Elizaveta</b> ,<br>Ovchinnikov Ilya, Naiko Daniil,<br>Kirpichev Igor, Vorobjev<br>Vyacheslav, Yagodkina Oksana,<br>Stepanova Marina | Plasma sheet turbulence and topology of magnetospheric domains<br><b>Online</b>  |
| 10:55 - 11:15 | <b>Petrashchuk Aleksandr</b> ,<br>Klimushkin Dmitri, Mager Pavel  | Numerical analysis of ballooning modes in Earth's magnetosphere and their connections with MHD oscillation branches      |
| 11:15 - 11:35 | <b>Leonenko Makar</b> , Grigorenko<br>Elena, Zelenyi Lev  | Strong electrostatic fluctuations associated with intense electric currents in the plasma sheet of the Earth magnetotail |
| 11:35 - 11:55 | <b>Troshichev Oleg</b> , Dolgacheva<br>Svetlana, Sormakov Dmitry,<br>Stepanov Nikita  | Different origin of magnetic disturbances evaluated by AL index in course of the growth and expansion substorm phases    |

### 11:55 - 12:10 Coffee break

### Magnetospheric dynamics, storms and substorms | Chair: Kubyshkina M.V.

|               |  |  |
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| 12:10 - 12:30 | <b>Shukhtina Maria</b> , Sergeev<br>Victor, Nikolaev Alexander,<br>Stepanov Nikita | Relationship between dipolarizations and Energetic Electron injections at the Geosynchronous orbit |
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| 12:30 - 12:50 | <b>Sergeev Viktor</b> , Stepanov Nikita, Ogawa Yasunobu, Rozanov Eugene | Local time distribution and activity dependence of extreme electron densities in the auroral D-region as an image of energy-dependent energetic electron precipitation |
| 12:50 - 13:10 | <b>Stepanov Nikita</b> , Sergeev Victor, Ogawa Yasunobu                 | On the influence of the long-term history of magnetospheric activity on the precipitation of energetic electron fluxes into the D layer of the auroral ionosphere      |
| 13:10 - 13:30 | <b>Ievlenko Igor</b> , Parnikov Stanislav                               | Dynamics of the proton aurora and current sheet in the magnetosphere. Ground-based and satellite observations  |
|               |   | <b>Online</b>  |

13:30 - 14:30 **Lunch break**

**Magnetospheric dynamics, storms and substorms | Chair: Semenov V.S.**

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| 14:30 - 15:10 | <b>Kalegaev Vladimir</b> , Basilevskaya Galina, Vlasova Nataliya, Grankin Dmitry, Gruzdov Danil, Demekhov Andrey, Ivanova Alexandra, Kaportseva Ksenia, Mironova Irina, Myagkova Irina, Popova Tatiana, Rosanov Eugeny, Shugay Yulia, Yahnina Tatiana | Acceleration and losses of the outer radiation belt energetic electrons during period of long duration auroral activity<br><i>Solicited talk</i> |
| 15:10 - 15:30 | <b>Gruzdov Danil</b> , Kalegaev Vladimir, Vlasova Natalia, Ivanova Alexandra, Andrey Demekhov, Galina Bazilevskaya, Yahnina Tatyana   | Spatial-energy dependencies of maximum electron fluxes of the outer radiation belt during geomagnetic activity<br><b>Online</b>                  |
| 15:30 - 15:50 | <b>Ivanova Alexandra</b> , Kalegaev Vladimir, Basilevskaya Galina, Vlasova Natalia, Gruzdov Danil, Demekhov Andrey, Kaportseva Ksenia, Mironova Irina, Myagkova Irina, Shugay Yulia, Yahnina Tatyana  | Features of energetic electron precipitation of different mechanisms from the outer radiation belt during geomagnetic disturbances               |

15:50 - 16:05 **Coffee break**

**Magnetospheric dynamics, storms and substorms | Chair Divin A.V.**

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| 16:05 - 16:45 | <b>Pilipenko Vyacheslav</b> , Kozyreva Olga, Sakharov Yaroslav | Is the global MHD modeling of the magnetosphere adequate for GIC prediction?<br><i>Solicited talk</i> |
| 16:45 - 17:05 | <b>Kostarev Danila</b>   | Impact of space weather on pipelines in high latitude regions   |

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| 17:05 - 17:25 | <b>Belakhovsky Vladimir</b> ,<br>Pilipenko Vjacheslav, Sakharov<br>Yaroslav, Selivanov Vasiliy | Extreme growth of GIC in power lines on the Kola Peninsula and in Karelia during 11 years of observations<br><br><b>Online</b> |
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| 17:25 - 17:45 | <b>Marchuk Roman</b> , Mishin<br>Vladimir, Klibanova Yuliya,<br>Penskikh Yuri, Mikhalev<br>Alexander | Features of development of geomagnetic activity and night sky airglow at mid-latitudes during the 20 Dec 2015 storm |
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| 17:45 - 18:00 | <b>Coffee break</b> |  |
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**Brief oral presentation of posters | Chair: Kubyshkina M.V.**

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|-------------------|---|--|
| GC2024-<br>STP078 | <b>Zotov Oleg</b> , Klain Boris,<br>Kurazhkovskaya Nadezhda,<br>Kurazhkovskii Alexander | Hysteresis cycles and invariance of the <i>Dst</i> index form during geomagnetic storm development |
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| GC2024-<br>STP004 | <b>Kozyreva Olga</b> , Pilipenko<br>Vyacheslav, Myagkova Irina,<br>Belakhovsky Vladimir | Correspondence between the dynamics of the outer radiation belt, auroral oval, and ULF power |
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| GC2024-<br>STP035 | <b>Demekhov Andrei</b> , Yahnina<br>Tatyana, Popova Tatyana,<br>Kalegaev Vladimir, Lubchich<br>Andris, Ivanova Alexandra,<br>Gruzdov Danil | Influence of wave properties on energetic charged particle precipitation during a magnetic storm of 10-16 October 2017 |
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| GC2024-<br>STP037 | <b>Yahnina Tatiana</b> , Demekhov<br>Andrey, Kalegaev Vladimir,<br>Bazilevskaya Galina, Gruzdov<br>Danil, Ivanova Aleksandra | Dynamics of energetic electrons and protons precipitation according to data from low-orbit satellites of the NOAA/POES and Meteor M2 during a magnetic storm on October 10-16, 2017 |
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| GC2024-<br>STP052 | <b>Popova Tatyana</b> , Yahnina<br>Tatyana, Demekhov Andrey | A study of the influence of geomagnetic field asymmetry on relativistic electron fluxes at low Earth orbit altitudes |
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| GC2024-<br>STP011 | <b>Despirak Irina</b> , Kleimenova<br>Natalia, Gromova Lyudmila,<br>Lubchich Andris | Global location of the maximum of very intense substorms |
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| GC2024-<br>STP013 | <b>Lubchich Andris</b> , Despirak<br>Irina, Kleimenova Natalia,<br>Setsko Pavel, Malysheva<br>Lyudmila | Polar substorms and solar activity |
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| GC2024-<br>STP064 | Kurazhkovskaya Nadezhda,<br><b>Klain Boris</b> , Kurazhkovskii<br>Alexander | Effect of interplanetary conditions and auroral activity on intermittency regularities of <i>Pi3</i> irregular geomagnetic pulsations |
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| GC2024-<br>STP065 | Kurazhkovskaya Nadezhda,<br><b>Klain Boris</b> , Kurazhkovskii<br>Alexander | The effect of the carrier frequency decreasing of serpentine emission in the polar cap during weak geomagnetic activity |
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## Main Conference Hall

### Magnetospheric dynamics, storms and substorms | Chair: Zolotova N.V.

|               |   |   |
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| 09:30 - 09:50 | <b>Myagkova Irina</b> , Shiroky Vladimir, Vladimirov Roman, Gadzhiev Ismail, Dolenko Sergey | Prediction of the state of the Earth's magnetosphere using machine learning in SINP MSU Space Weather Analysis Center |
| 09:50 - 10:10 | <b>Erkaev Nikolai</b>   | Dayside magnetosheath properties related to the magnetic reconnection   |
| 10:10 - 10:30 | <b>Tsyganenko Nikolai</b> , Semenov Vladimir, Erkaev Nikolai, Gubaidulin Nikita             | Magnetic fields and electric currents around the dayside magnetopause as inferred from large sets of in situ data     |
| 10:30 - 10:50 | <b>Apatenkov Sergey</b>   | Space weather effects on low altitude satellite orbits  |

### 10:50 - 11:05 Coffee break

### Magnetospheric waves | Chair: Zolotova N.V.

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| 11:05 - 11:25 | <b>Nikitenko Alexander</b> , Fedorenko Yuriy, Kleimenova Natalia, Gromova Liudmila, Malysheva Liudmila, Beketova Elena | Auroral hiss on Spitsbergen and "polar" substorms<br><b>Online</b>  |
| 11:25 - 11:45 | <b>Mikhailova Olga</b> , Mager Pavel   | The first experimental confirmation of the existence of a near-equatorial resonator for ion-ion hybrid modes in the magnetosphere |
| 11:45 - 12:05 | <b>Grach Veronika</b> , Demekhov Andrei  | Interaction of Relativistic Electrons with Electromagnetic Ion-Cyclotron Wave Packets of a Finite Length                          |
| 12:05 - 12:25 | <b>Ismagilov Valery</b> , Kopytenko Yury   | Investigation of Pc5 geomagnetic pulsations on two-dimensional network of stations  |

### 12:25 - 12:40 Coffee break

### Magnetospheric waves and Sun-Earth connections| Chair: Zolotova N.V.

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| 12:40 - 13:00 | <b>Vlasov Aleksandr</b> , Kozlov Daniil   | Determining the transverse structure of Alfvén waves recorded by the Van Allen Probes satellites by means of the "phase portraits" technique |
| 13:00 - 13:20 | <b>Semenov Vladimir</b> , Kubyshkin Igor, Kubyshkina Marina, Tsyganenko Nikolai, Erkaev Nikolai | The role of the ring current in the Dungey cycle from the point of view of Stokes' theorem   |

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| 13:20 - 13:40 | <b>Paramonik Igor</b> , Divin Andrey, Rumenskich Marina, Chibranov Aleksey, Shaikhislamov Ildar, Semenov Vladimir | The ions counterclockwise motion near the diamagnetic cavity edge                |
| 13:40 - 14:00 | <b>Ragulskaya Maria</b> , Obridko Vladimir  | 24th and 25th cycles of solar activity: features and predictors<br><b>Online</b> |

14:00 - 15:00

**Lunch break**

**Sightseeing trip to Kronstadt — from 15:00**

25.04.2024

### Main Conference Hall

#### Ionosphere and atmosphere | Chair: Mironova I.A.

|               |   |   |
|---------------|---|---|
| 09:30 - 09:50 | <b>Savelyeva Natalia</b> , Pilipenko Vyacheslav | Study of ionospheric variations before the great Tohoku earthquake in search of precursors of catastrophic earthquakes<br><b>Online</b> |
| 09:50 - 10:10 | <b>Denisenko Valery</b> , Bakhmetieva Nataliya  | The ionospheric electric field variations caused by the release of radon from the ground  |
| 10:10 - 10:30 | <b>Liperovskaya Elena</b> , Rodkin Mikhail      | Spatiotemporal features of seismoionospheric anomalies in the F-layer, Japan region   |
| 10:30 - 10:50 | <b>Kirillov Andrey</b>                          | Electronically excited molecular nitrogen in the upper and middle atmospheres of Titan and Earth  |

10:50 - 11:05

**Coffee break**

#### Ionosphere and atmosphere | Chair: Mironova I.A.

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| 11:05 - 11:25 | <b>Dashkevich Zhanna</b> , Ivanov Vladimir  | Time dependent physicochemical model of ionospheric components excitation during auroral events |
| 11:25 - 11:45 | <b>Dashkevich Zhanna</b> , Ivanov Vladimir  | Variation of the effective recombination coefficient during auroral electron precipitation      |
| 11:45 - 12:05 | <b>Klimov Pavel</b> , Nikolaeva Vera, Shchelkanov Konstantin, Saraev Roman, Sigaeva Ksenia, Belov Alexander, Murashov Alexei, Kozelov Boris, Roldugin Alexei, Sharakin Sergei | UV-microbursts of atmospheric emission in auroral zone  |

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| 12:05 - 12:25 | <b>Kotikov Andrey</b> , Nikolaeva Vera, Klimov Pavel, Shchelkanov Kostantin | Geomagnetic conditions during UV-microbursts measurements by PAIPS photometer |
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12:25 - 12:40 **Coffee break**

**Ionosphere and atmosphere | Chair: Divin A.V.**

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| 12:40 - 13:00 | <b>Mironova Irina</b> , Grankin Dmitry, Rozanov Eugene, Kalegaev Vladimir, Bazilevskaya Galina, Ivanova Alexandra, Yahnina Tatiana, Demekhov Andrey | Forced atmospheric-ionospheric effects by precipitation of energetic electrons during a magnetic storm on October, 2017 |
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| 13:00 - 13:20 | <b>Grankin Dmitry</b> , Mironova Irina, Rozanov Eugene | The response of the ionosphere and upper atmosphere to the energetic particles precipitation. |
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| 13:20 - 13:40 | <b>Bessarab Fedor</b> , Kurdyaeva Yuliya, Borchevkina Olga, Klimenko Maxim | Spatial features of the ionospheric disturbance caused by a meteorological squall |
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**Online**

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| 13:40 - 14:00 | <b>Belyuchenko Kupriyan</b> , Klimenko Maxim, Ratovsky Konstantin, Vesnin Artyom, Klimenko Vladimir | Identification of spatial area that gives main contribution to positive storm-time response in high-latitude regional electron content |
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14:00 - 15:00 **Lunch break**

**Ionosphere and atmosphere | Chair: Divin A.V.**

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| 15:00 - 15:20 | <b>Medvedeva Irina</b> , Ratovsky Konstantin | Long-term variations in characteristics of upper neutral atmosphere and ionosphere from spectrometric and radio sounding measurements |
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| 15:20 - 15:40 | <b>Larchenko Alexey</b> , Nikitenko Alexander, Lebed Olga, Fedorenko Yury | The influence disturbances in the ionosphere caused by electron precipitation on the propagation of VLF signals |
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| 15:40 - 16:00 | <b>Pulinets Sergey</b> , Budnikov Pavel, Pulinets Maria | Identification and filtration of different sources of the ionosphere variability |
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16:00 - 16:15 **Coffee break**

**Brief oral presentation of posters | Chair: Mironova I.A.**

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| GC2024-STP066 | <b>Potapov Alexander</b> , Guglielmi Anatol, Feygin Felix | On ponderomotive acceleration of heavy ions in magnetospheric plasma |
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| GC2024-STP027 | <b>Petrashchuk Aleksandr</b> , Klimushkin Dmitri, Mager Pavel | On the dispersion properties of coupled Alfvén and slow waves in two-dimensionally inhomogeneous model of the magnetosphere |
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| 16:21 - 16:24 | <b>Veretenenko Svetlana,</b><br>Dmitriev Pavel   | Long-term effects of solar activity on extratropical cyclone movement in different regions of the North Atlantic  |
| GC2024-STP026 | <b>Titova Mariia</b>   | The technique of processing of radiotechnical and geophysical information about conditions of satellite radio signal propagation for studying lithospheric-ionospheric manifestations |
| GC2024-STP040 | <b>Egorov Ivan,</b><br>Blagoveshchenskaya Nataly,<br>Borisova Tatiana, Kalishin<br>Aleksei   | The features of small-scale artificial field-aligned irregularities, induced by the O- and X-mode HF pumping by the EISCAT/Heating facility   |
| GC2024-STP044 | <b>Ljubchich Vladimir,</b> Ivanov<br>Nikita, Shapovalova Julia   | Distortion of the results of impedance measurements interpretation on the Kola Peninsula due to the proximity of ionospheric sources of the natural electromagnetic field             |
| GC2024-STP042 | <b>Denisenko Valery,</b> Klimenko<br>Maxim, Klimenko Vladimir,<br>Anisimov Sergei, Frank-<br>Kamenetsky Alexandr,<br>Nagorskiy Petr, Pustovalov<br>Konstantin, Pilipenko<br>Viacheslav, Smirnov Sergey | Mathematical simulation of the atmospheric electric field disturbances caused by a magnetic storm   |
| GC2024-STP010 | <b>Mandrikova Oksana,</b> Fetisova<br>Nadezhda   | Analysis of the ionospheric parameter dynamics during increased geomagnetic activity and strong earthquakes in Kamchatka  |
| GC2024-STP012 | <b>Despirak Irina,</b> Setsko Pavel,<br>Lubchich Andris, Sakharov<br>Yaroslav, Selivanov Vasiliy   | Large pulses of solar wind dynamic pressure and the appearance of intense GICs  |
| GC2024-STP075 | <b>Ostrovskii Victor,</b><br>Kadyshevich Elena   | PFO-CFO Theory of Solar System Formation and Transformation: Foundation, method, explanations, proofs, and predictions  |

26.04.2024

## Main Conference Hall

### New experiments and Methods | Chair: Zolotova N.V.

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| 09:30 - 09:50 | Mandrikova Oksana,<br><b>Mandrikova Bogdana</b> | Method for detecting sporadic manifestations of solar activity in cosmic ray variations<br><br><b>Online</b>                              |
| 09:50 - 10:10 | <b>Svertilov Sergey</b>                         | Multi-satellite constellation of Moscow university "Sozvezdie-270" for monitoring of space weather effects and electromagnetic transients |

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| 10:10 - 10:30  | <b>Bogomolov Vitalii</b>   | Solar gamma-ray spectrometers on MSU cubesats: experimental methodology and first results  |
| 10:30 - 10:50  | <b>Kholodkov Kirill</b> , Burov Vyacheslav, Kondratov Andrey, Aleshin Igor                     | Efforts of China-Russia Consortium at Global Aviation Space-Weather Service  |
| 10:50 - 11:05  | <b>Coffee break</b>  |  |
| <b>Space climate and Sun-Earth connections   Chair: Semenov V.S.</b> |  |  |
| 11:05 - 11:25  | <b>Polukhina Sofia</b> , Kashapova Larisa  | Limb Flare with Failed Eruption<br><b>Online</b>   |
| 11:25 - 11:45  | <b>Gorbunova Ksenia</b>  | Two-dimensional hydrodynamic outflow from exoplanets   |
| 11:45 - 12:05  | <b>Vakhrusheva Anna</b> , Shugay Yulia, Kaportseva Ksenia, Ereemeev Valeriy, Kalegaev Vladimir | Two-dimensional cone models of geoeffective coronal mass ejections   |
| 12:05 - 12:25  | Kadyshevich Elena, <b>Ostrovskii Victor</b>  | Determining role of the solar protuberance activity in the Earth's climate current warming   |
| 12:25 - 12:40  | <b>Coffee break</b>  |  |
| <b>Space climate and Sun-Earth connections   Chair: Semenov V.S.</b> |  |  |
| 12:40 - 13:00  | <b>Riabova Svetlana</b>  | Geophysical effects caused by the flyby and explosive destruction of the fireball on September 02, 2023<br><b>Online</b>               |
| 13:00 - 13:20  | <b>Vladimirov Roman</b> , Shirokiy Vladimir, Barinov Oleg, Dolenko Sergey, Myagkova Irina      | Multistage time series forecasting algorithm based on machine learning methods used to forecast the state of the earth's magnetosphere |
| 13:20 - 13:40  | <b>Cherniakov Sergei</b>   | Winter effects of a night meteor explosion in high latitudes   |
| 13:40 - 14:40  | <b>Lunch break</b>   |  |
| <b>Space climate and Sun-Earth connections   Chair: Semenov V.S.</b> |  |  |
| 14:40 - 15:00  | <b>Novikov Victor</b> , Sorokin Valery   | Space weather and seismic activity: Possible triggering of earthquakes by strong solar flares of X-class<br><b>Online</b>              |
| 15:00 - 15:20  | <b>Kropotina Julia</b> , Bykov Andrei  | The impact of rotational discontinuities on ions acceleration at the Earth's bow shock   |

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| 15:20 - 15:40 | <b>Kupriyanova Elena,</b><br>Mikhalchuk Agneshka   | Quasi-periodic fast propagating wave trains as a seismological tool for plasma structures in the solar corona |
| 15:40 - 16:00 | <b>Malkin Evgeniy,</b> Cherneva Nina, Kazakov Evgeniy, Cherneva Veronika, Makhlai Dmitriy, Akbashev Rinat, Sannikov Dmitriy, Malkina Olga, Lichtenberger Janos, Koronczay David, Andreeva Marina | Recording of whistlers during Bezmyanniy and Shiveluch volcano eruptions                                      |
| 16:00 - 16:30 | Discussion   |   |
| 16:30 - 16:45 | Conference closing   |   |