



PROGRAM

of Baikal Young Scientists' International School on Fundamental Physics (BSFP-2024)

“Physical processes in space and near-Earth space”

and the XVIII Conference of Young Scientists

“Interaction of fields and radiation with matter”

POSTER PRESENTATIONS

Discussion on Wednesday, September 4, 15:30–16:30

Section A. Astrophysics and Solar Physics	
A-1	Egorov Yaroslav I., V.G. Fainshtein (Irkutsk, Institute of Solar-Terrestrial Physics SB RAS) Velocity oscillations of CME and related shock
A-2	Zhmurkina Angelina D., L.K. Kashapova (Irkutsk, Institute of Solar-Terrestrial Physics SB RAS) Investigating parameters of accelerated electrons – sources of type iii radio bursts during a powerful solar flare
A-3	Isaeva Elena S, S.A. Yazev (Irkutsk, Irkutsk State University, Institute of Solar-Terrestrial Physics SB RAS) The flare excess of May 2024
A-4	Kobelev Pavel G., Y.B. Hamraev, V.G. Yanke (Moscow, Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radiowave Propagation of the Russian Academy of Sciences; Samarkand, Uzbek-Finnish Pedagogical Institute) Experimental evaluation of barometric effect of the neutron component of cosmic rays according to the Tashkent and Alma-Ata detectors
A-5	Krestyanskikh Maxim G., I.A. Perevalova (Irkutsk, Irkutsk State University) Hit selection and reconstruction of near-vertical muon tracks based on data from one string of the Baikal-GVD
A-6	Kuzmitsky Alexey V., A.A. Kochanov (Irkutsk, Institute of Solar-Terrestrial Physics SB RAS) Depth intensity relation and angular distribution of the high-energy atmospheric muons in water medium: new calculation
A-7	Rozhkova Daria V, L. K. Kashapova (Irkutsk, Institute of Solar-Terrestrial Physics SB RAS) Creating catalog of solar flares observed by the Siberian Radioheliograph: first results
A-8	Kirichkov Pavel N., M.L. Demidov (Irkutsk, Institute of Solar-Terrestrial Physics SB RAS) Forecasting space weather and solar wind based on synoptical maps of different observatories
A-9	Dimitriieva Polina O, V.P. Grinin (St. Petersburg, St. Petersburg State University) Quantitative analysis of spectra of UX Ori stars. Star UX Ori and CQ Tau

A-10	<p>Karachik Nina V, E.P. Minenko <i>(Uzbekistan, Tashkent, Ulugh Beg Astronomical Institute of Academy of Sciences of the Republic of Uzbekistan)</i> Investigation of the chromospheric network structures using data from the Chinese Space Observatory ASO-S: preliminary results</p>
A-11	<p>Sapraliev Mikhail E., D.I. Zavershinsky, N.E. Molevich <i>(Elista, Kalmyk State University named after B.B. Gorodovikov, Scientific Laboratory "Physics of the Sun")</i> Interactive service of geo-effective phenomena</p>

Section B. Physics of the Earth's atmosphere, including near-Earth space	
B-1	Xuan Qian , Yongqiang Yao, Hongshuang Wang (China, Beijing, National astronomical observatory, Chinese academy of sciences) The Study of Atmospheric Optical Turbulence
B-2	Belyuchenko Kupriyan V. , M.V. Klimenko, K.G. Ratovsky, V.V. Klimenko (Saint Petersburg, Saint Petersburg State University; Kaliningrad, Kaliningrad Branch of Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation RAS; Irkutsk, Institute of Solar-Terrestrial Physics SB RAS) Comparison between contributions of different altitude intervals to the response of regional electron content at high latitude to geomagnetic storms in spring
B-3	Dolgacheva Svetlana A. , A.S. Kalishin, T.D. Borisova (St. Petersburg, Arctic and Antarctic Research Institute) The possibility of organizing communication channels through a sporadic Es layer
B-4	Dolinin Aleksey A. , F.G. Sarafanov, Yu.V. Shlyugaev (Nizhny Novgorod, Federal Research Center A.V. Gaponov-Grekhov Institute of Applied Physics of the Russian Academy of Sciences, National Research Lobachevsky State University of Nizhny Novgorod) Measurement of the magnetic field of the Schumann wavelength range
B-5	Driga Maksim B. , A.Yu. Shikhovtsev, P.G. Kovadlo (Irkutsk, Institute of Solar-Terrestrial Physics SB RAS) Method of sunspot image localization in the focal plane of the Shack-Gartmann sensor using image normalization
B-6	Pereboeva Anna A. , T.E. Syrenova, V.R. Chertkova, R.V. Vasilyev (Irkutsk, EC "Point of future", Institute of Solar-Terrestrial Physics SB RAS) Analysis of wave disturbances in 557.7nm intensity recorded using all-sky cameras of the NHC ISTP SB RAS
B-7	Klimanova Anastasija A. , A. V. Timchenko, M. V. Klimenko (Kaliningrad, West Department of Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation, Russian Academy of Sciences) Ionograms with unique traces obtained at the observatory of WD IZMIRAN in 2023
B-8	Kostarev Danila V. , V.A. Pilipenko, O.V. Kozyreva (Irkutsk, Institute of Solar-Terrestrial Physics SB RAS) Impact of space weather on pipelines in high-latitude regions
B-9	Osipov Konstantin A. , A.B. Ishin (Irkutsk, Irkutsk National Research University) A method for recording local disturbances in the ionospheric electron density caused by the movement of the ISS using total electron content data

B-10	Timofeev Dmitriy N., V.A. Shishko, N.V. Kustova (<i>Tomsk, V.E. Zuev Institute of Atmospheric Optics SB RAS</i>) Investigating the atmospheric ice particles of complex shape within the physical optics approximation
B-11	Podlesnyi Stepan V., A.V. Mikhalev (<i>Irkutsk, Institute of Solar-Terrestrial Physics SB RAS</i>) Photometry of the Earth night atmosphere based on color CCD receiver
B-12	Raspopov Kirill R., I.K. Edemsky (<i>Irkutsk, Irkutsk National Research Technical University, Institute of Solar-Terrestrial Physics SB RAS</i>) Long-period variations of space weather indices
B-13	Vershinin Ivan M., I.Yu. Zudin, M.E. Gushchin, P.A. Mikryukov, Yu.V. Shlyugaev, A.A. Istomin (<i>Nizhny Novgorod, Federal Research Center A.V. Gaponov-Grekhov Institute of Applied Physics of the RAS</i>) Laboratory modeling of pulsed electromagnetic radiation of lightning discharges
B-14	Voronova Ekaterina A., K.G. Ratovsky (<i>Irkutsk, Institute of Solar-Terrestrial Physics SB RAS</i>) Diurnal variations in Es sporadic layer characteristics over Irkutsk
B-15	Ivonin Vladimir A., V.P. Lebedev (<i>Irkutsk, Institute of Solar-Terrestrial Physics SB RAS</i>) Analysis of variations in radar signal power from STARLINK satellites, according to Irkutsk incoherent scatter radar data
B-16	Serebrennikova Sophia A., V.A. Ivanova, A.V. Podlesnyi, M.V. Cedrik, A.I. Poddelsky (<i>Irkutsk, Institute of Solar-Terrestrial Physics SB RAS; Paratunka, Institute of Cosmophysical Research and Radio Wave Propagation FEB RAS</i>) Application of the new ionogram processor “IONOVIEW” for studying heliogeophysical events
B-17	Varzar Liliya S., A.M. Padokhin (<i>Moscow, Lomonosov Moscow State University</i>) Application of software-defined radio for monitoring of sudden ionospheric disturbances
B-18	Stukov Danila A., N. V. Yagova (<i>Moscow, Schmidt Institute of Physics of the Earth of the Russian Academy of Sciences (IPE RAS)</i>) Coherence timescales of the magnetic field pulsations in 1-5 mHz range in the magnetotail and night magnetosheath
B-19	Shelkov Alexey Dmitrievich, M.F. Artamonov (<i>Irkutsk, ISTP SB RAS</i>) NHC RAS Fabri-Perot Interferometers’ photometric calibration using stars

B-20	Leonenko, E.E. Grigorenko, L.M. Zelenyi (<i>Moscow, Space Research Institute</i>) Superthin current sheets in the Earth's magnetotail and associated energy dissipation during the growth phase of substorm observed by MMS spacecraft
B-21	Ryabov Alexander O. (<i>Nizhny Novgorod, N.I. Lobachevsky State University of Nizhny Novgorod</i>) Summary results of the SURA-SWARM program conducted in 2016-2022
B-22	Tkachev Iliia V., A.V. Konoshonkin, V.A. Shishko, D.N. Timofeev, N.V. Kustova (<i>Tomsk, V.E. Zuev Institute of Atmospheric Optics SB RAS</i>) Light scattering by atmospheric polyhedral crystals
B-23	Manina Alina S., V.V. Kalegaev, V.D. Nikolaeva, R.E. Sarajev, A.R. Ivanova, N.A. Vlasova (<i>Moscow, Moscow State University Faculty of Physics, Lomonosov Moscow State University Skobeltsyn Institute of Nuclear Physics</i>) Dynamics of the Earth's high-latitude magnetosphere during the period of geomagnetic activity 02/24/2023 - 03/22/2023
B-24	Makeev Andrey P., A.V. Nevzorov, S.I. Dolgiy (<i>Tomsk, V.E. Zuev Institute of Atmospheric Optics SB RAS</i>) Lidar observations of stratospheric aerosol and ozone over Tomsk
B-25	Kan Nadezhda V., V.A. Shishko, N.V. Kustova, A.V. Konoshonkin (<i>Tomsk, V.E. Zuev Institute of Atmospheric Optics SB RAS, National Research Tomsk State University</i>) Study of formation of a 46° halo when changing size of atmospheric ice hexagonal particles within the framework of physical optics method

Section C. Diagnostics of natural inhomogeneous media and mathematical modeling	
C-1	Aniutin Nikita D. (<i>Moscow, Russian New University</i>) Excitation of plasmon resonances on InGaAs plate by a plane electromagnetic wave
C-2	Buryak Nikolay V., I.A. Nosikov, M.V. Klimenko (<i>Kaliningrad, Immanuel Kant Baltic Federal University, Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation RAS</i>) Modern methods of trajectory optimization in inhomogeneous media
C-3	Danilchuk Ekaterina I., V.V. Demyanov (<i>Irkutsk, Institute of Solar-Terrestrial Physics SB RAS, Irkutsk State University</i>) Testing the carrier phase measurement detrending procedures and the calculation of ionospheric scintillation indices
C-4	Edemskiy Ilya K., A.V. Taschilin (<i>Irkutsk, Institute of Solar-Terrestrial Physics SB RAS</i>) Influence of description of the neutral atmosphere on modeling results of effects of the February 2022 magnetic storm
C-5	Kislitsina Marina A., A. A. Kislitsin (<i>Yoshkar-Ola, Volga State University of Technology</i>) Sensory diagnostics of the limiting frequency band of transionospheric channel under the influence of destabilizing factors of the ionosphere
C-6	Kopylov Evgeniy A., L. A. Bolbasova, A.Yu. Shikhovtsev, S.A. Potanin, A.M. Sachkov (<i>Moscow, Institute of Astronomy of the RAS, Moscow State University Faculty of Physic; Tomsk, V.E. Zuev Institute of Atmospheric Optics of SB RAS; Irkutsk, Institute of Solar-Terrestrial Physics SB RAS</i>) Astroclimate of the Terskol peak Observatory
C-7	Yu.E. Geints, Minina Olga V. (<i>Tomsk, V.E. Zuev Institute of Atmospheric Optics of SB RAS</i>) Structured filamentation of high-power femtosecond laser pulses in air. Numerical simulation
C-8	Nguyen Khac Hoang Duong, A.S. Poletaev (<i>Irkutsk, Irkutsk National Research Technical University</i>) Applying detrending methods for detecting the solar flare effects in amplitude variations of VLF signals
C-9	Podlesnyi Aleksei V., M.V. Cedrik, S.A. Serebrennikova, V.I. Kurkin (<i>Irkutsk, Institute of Solar-Terrestrial Physics SB RAS</i>) LFM-sounding network of ISTP SB RAS
C-10	Ermakov Vladislav Yu., V.P. Lebedev (<i>Irkutsk, Institute of Solar-Terrestrial Physics SB RAS</i>) Study of E directional properties of HF antennas based on near-field measurements obtained using a UAV

<p>C-11</p>	<p>Shikhovtsev Artem Yu., P.G. Kovadlo, A.V. Kiselev, A.A. Lezhenin <i>(Irkutsk, Institute of Solar-Terrestrial Physics SB RAS; Novosibirsk, Institute of Computational Mathematics and Mathematical Geophysics SB RAS)</i> Methods for estimating atmospheric characteristics as applied to ground-based astronomical telescopes</p>
<p>C-12</p>	<p>S.M. Bobrovnikov, E.V. Gorlov, V.I. Zharkov, Murashko Sergey N. <i>(Tomsk, V.E. Zuev Institute of Atmospheric Optics SB RAS, Tomsk State University)</i> Determining the energy and time parameters of laser radiation for effective excitation of phosphorus oxide molecules</p>