



The 5th International Symposium on Cosmic Rays and Astrophysics

**Tuesday, 24 June 2025 - Thursday, 26 June 2025
National Research Nuclear University MEPhI**

Programme



Tuesday 24 June 2025

Registration to the ISCRA-2025 Symposium (09:00 – 10:00)

The Hall of B-100 Lecture Room

Opening Ceremony of the ISCRA-2025 Symposium (10:00 – 10:10)

Overview Talks (10:10 – 11:30)

10:10	Highlights of Recent Progress in UHE Gamma-Ray Astronomy with LHAASO	LIU, Ruoyu <i>Nanjing University</i>
10:40	Progress of Giant Radio Array for Neutrino Detection (GRAND)	ZHANG, Yi <i>PMO CAS</i>
11:10	Instrumentation of the GRAPES-3 Muon Telescope	RAMESH K <i>Tata Institute of Fundamental Research</i>

Poster Session + Coffee Break (11:30 – 12:00)

Cosmic rays (nuclei, gammas, neutrinos) of very high energies (> 100 TeV) (12:00 – 13:30)

12:00	Proposal for a next generation astronomy neutrino telescope	CHEN, Mingjun <i>IHEP</i>
12:30	Hybrid detection of Cosmic Rays with ENDA-64	GAO, Wei <i>IHEP</i>
12:45	ENDA-INR extensive air shower experiment	KYRINOV, Kirill <i>INR RAS</i>
13:00	On primary cosmic ray energy spectrum beyond 10 PeV measured with ENDA-INR	STENKIN, Yuri <i>INR RAS</i>
13:15	Nonmonotonic change with energy of the mean logarithmic mass of cosmic rays in the knee region: the mechanism of formation of this feature and sources of particles	VOLKOV, Nikolay <i>ASU</i>

Lunch Break (13:30 – 14:30) MEPhI Dining Halls

Cosmo- and geophysical aspects of cosmic rays at the ground level (14:30 – 16:15)

14:30	On solar sources of interplanetary disturbances leading to high-energy magnetospheric electron enhancements in geostationary orbit	KRYAKUNOVA, Olga <i>Institute of Ionosphere</i>
14:45	Solar-diurnal anisotropy of cosmic rays for 71 years of observations	SHLYK, Nataly <i>IZMIRAN</i>
15:00	The LVD Experiment: 1992 to present	AGAFONOVA, Natalia <i>INR RAS</i>
15:15	Proton acceleration rate required for the GLE events of the 24th and 25th solar cycles	STRUMINSKY, Alexei <i>IKI</i>



15:30	Comparison of GLE event of 11 May 2024 and magnetospheric effect 5 November 20-23	CHILINGARIAN, Ashot YerPhi
15:45	A New Approach to Ground Level Enhancement analysis	CHELIDZE, Ksenia MEPhi
16:00	Dynamo&oscillation effects in supernova neutrino spectra	KONDRATYEV, Vladimir JINR

Poster Session + Coffee Break (16:15 – 16:45)

Cosmic rays (nuclei, gammas, neutrinos) of very high energies (> 100 TeV) **(16:45-18:30)**

16:45	The positioning system for Baikal-GVD	AVRORIN, Alexander INR RAS
17:00	Studying of the muon energy spectrum in the Baikal-GVD neutrino telescope	LISITSIN, Mikhail MEPhi
17:15	Поиск совпадений нейтрино на БПСТ с сигналами гравитационно-волновых детекторов LIGO, Virgo и KAGRA во время их 4-го наблюдательного периода	UNATLOKOV, Islam BNO INR RAS
17:30	Ultra-high energy cosmic rays from the Galactic center	ZIRAKASHVILI, Vladimir IZMIRAN
17:45	Diffusive shock acceleration: nonclassical model of cosmic ray transport	LAGUTIN, Anatoly ASU
18:00	Cosmic ray acceleration up to hundreds of TeV in young massive star clusters: 3D MHD simulations	KALYASHOVA, Maria Ioffe Institute
18:15	Acceleration of Protons to Very High Energies in Double-Torus Pulsar Wind Nebulae	FURSOV, Aleksandr Ioffe Institute



Wednesday 25 June 2025

Cosmic rays (nuclei, gammas, neutrinos) of very high energies (> 100 TeV) (10:00 – 11:30)

10:00	Recent results from the GRAPES-3 experiment	BALAKRISHNAN, Hari Haran <i>Tata Institute of Fundamental Research</i>
10:30	Метод определения энергии гамма квантов по данным АЧТ в эксперименте TAIGA на основе анализа существенных признаков, выделяемых с помощью автоэнкодеров	GRES, Elizaveta <i>ISU</i>
10:45	EAS Maximum Depth from the Space-Time Structure of Cherenkov Light Based on the TAIGA-HiSCORE Data	TERNOVOY, Mark <i>ISU</i>
11:00	Поиск источников гама - излучения высокой энергии по данным установки TAIGA-HiSCORE	SVESHNIKOVA, Lubov <i>SINP MSU</i>
11:15	Investigations of extensive air showers in the Experimental complex NEVOD	YUZHAKOVA, Elena <i>MEPhI</i>

Poster Session + Coffee Break (11:30 – 12:00)

Cosmic rays (nuclei, gammas, neutrinos) of very high energies (> 100 TeV) (12:00 – 13:30)

12:00	Is Lorentz Invariance Violation the Key to the Muon Puzzle?	SHAROFEEV, Andrey <i>MSU / INR RAS</i>
12:15	Investigating the properties of the EAS simulated with LIV pair production cross-sections	NIKOLAENKO, Roman <i>MEPhI</i>
12:30	Primary cosmic rays energy spectrum by the 3 years data of the TAIGA-HiSCORE array	PROSIN, Vasily <i>SINP MSU</i>
12:50	Mass Composition of Cosmic Rays in the 0.8–2 EeV Energy Range: Muon Measurements from the Upgraded Yakutsk EAS Array	KSENOFONTOV, Leonid <i>ShICRA SB RAS</i>
13:10	Energy spectrum and mass composition of the primary cosmic rays based on the intensity of muon bundles detected in the NEVOD-DECOR experiment	BOGDANOV, Aleksei <i>MEPhI</i>

Lunch Break (13:30 – 14:30) MEPhI Dining Halls

Cosmic rays (nuclei, gammas, neutrinos) of very high energies (> 100 TeV) (14:30 – 16:30)

14:30	The Baikal-GVD Neutrino Telescope: Current Status and Selected Results	DZHILKIBAEV, Zhan-Arys <i>INR RAS</i>
14:50	Hybrid complex of TAIGA-1 - current status and development prospects	BUDNEV, Nikolay <i>ISU</i>



15:10	The Yakutsk EAS Array: Advancing Cosmic Ray Research Through Modernization and Future Development	KSENOFONTOV, Leonid ShICRA SB RAS
15:30	Tien Shan Experimental Complex: Current Status, New Results, and Development Prospects	RYABOV, Vladimir FIAN
15:50	Исследование астрофизических источников космического излучения сверхвысоких энергий на комплексе установок «Ковер-3»	PETKOV, Valeriy INR RAS
16:10	Prospects of the development of the Experimental Complex NEVOD	KHOKHLOV, Semyon MEPhI

Symposium Photo

Poster Session + Coffee Break (16:30 – 17:00)

Cosmic rays (nuclei, gammas, neutrinos) of very high energies (> 100 TeV) (17:00-18:00)

17:00	Expansion Possibilities of the Baikal-GVD Neutrino Telescope	AYNUTDINOV, Vladimir INR RAS
17:20	Проект астрофизического комплекса TAIGA-100	KUZMICHEV, Leonid SINP MSU
17:40	The orbital telescope system ERA: Extreme Relativistic Astrophysics	KLIMOV, Pavel SINP MSU

Discussion (18:00 – 19:00)



Thursday 26 June 2025

Cosmic rays (nuclei, gammas, neutrinos) of very high energies (> 100 TeV) (10:00 – 11:30)

10:00	Analysis of the time structure of extensive air showers with $E \leq 10^{16}$ eV based on data from the Horizont-T facility at the Tien Shan high-mountain scientific station of the Lebedev Physical Institute	SAMOILOV, Mikhail LPI RAS
10:15	The results of the development of the setup of SPHERE-3 for studying the composition of the PCR in the field of 1-1000 PeV. The status of 2025.	CHERNOV, Dmitry SINP MSU
10:30	Estimation of the capabilities of the SPHERE-3 Cherenkov telescope by determining the parameters of the primary cosmic particles	BONVECH, Elena SINP MSU
10:45	The blazar origin of the KM3-230213A ultra high energy neutrino event	DZHATDOEV, Timur INR RAS
11:00	Ultra-high-energy event KM3-230213A constraints on Lorentz Invariance Violation in neutrino sector	SATUNIN, Petr INR RAS
11:15	Finding strangelets in cosmic rays from HESS J1731-347, a possible strange quark star	DAS, Chitta Ranjan JINR

Poster Session + Coffee Break (11:30 – 12:00)

Cosmo- and geophysical aspects of cosmic rays at the ground level (12:00 – 13:30)

12:00	SEVAN particle detector network for Solar, Atmospheric physics, and Space Weather research	CHILINGARIAN, Ashot YerPhi
12:30	A network of muon hodoscopes for monitoring of the processes of "space" and atmospheric weather	YASHIN, Igor MEPhI
12:45	Forbush-decreases in 2024 according to the data of the PRISMA-36 and "Neutron" facilities	GROMUSHKIN, Dmitry MEPhI
13:00	Forbush effect of magnetic storm 10-12 May 2025	RIABOVA, Svetlana IPE RAS, IDG RAS
13:15	Geomagnetic cutoff rigidity in neutron monitors locations	KRUCHININ, Pavel MEPhI

Lunch Break (13:30 – 14:30) MEPhI Dining Halls

Cosmic rays (nuclei, gammas, neutrinos) of very high energies (> 100 TeV) (14:30 – 16:30)

14:30	Status of the large-scale coordinate detector TREK for investigation of muon bundles in inclined extensive air showers	ZADEBA, Egor MEPhI
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14:45	The project of a ground-based wide-angle EAS Cherenkov light imaging detector for PCR mass composition study in the 1-1000 PeV energy range	CHERNOV, Dmitry SINP MSU
15:00	Modeling of the production of the observed primary positrons by the nearest bow shock pulsar PSR J0437-4715	PETROV, Aleksei Ioffe Institute
15:15	Search for ultrahigh-energy gamma rays from gamma-ray bursts using the Carpet-3 EAS array	ROMANENKO, Viktor INR RAS
15:30	Carpet-3 detection of a photon-like air shower with estimated primary energy above 100 TeV in a spatial and temporal coincidence with GRB 221009A	KARPIKOV, Ivan INR RAS
15:45	High-energy photonuclear reactions contribution to the ground-level muon content of extensive air showers	MARTYNENKO, Nickolay MSU / INR RAS
16:00	Mean shower depth and interaction characteristics	KHEYN, Lev SINP MSU
16:15	The systematics of the theoretical studies of the muon excess in UHECR	NIKOLAENKO, Roman MEPhI

Poster Session + Coffee Break (16:30 – 17:00)

Session dedicated to the memory of R.P. Kokoulin and Yu.I. Stozhkov (17:00-18:00)

Closing Ceremony of the ISCRA-2025 Symposium (18:00 – 18:15)

Closing Cocktail (18:15-20:00)



Posters (24 – 26 June 2025)

#	Title	Presenter
Cosmic rays (nuclei, gammas, neutrinos) of very high energies (> 100 TeV)		
1	Carpet-3 EAS array efficiency estimates	VASILIEV, Nikita SINP MSU
2	Development of method for determining the heavy ion characteristics using solid-state detectors (glasses, minerals)	STARKOVA, Elena LPI RAS
3	Разделение изотопов водорода в эксперименте ОЛВЭ по форме адронного каскада	RAKHIMCHANOVA, Karina SINP MSU
4	Modeling of extensive air showers in PYTHIA 8.3 with modified hadronic interaction characteristics	ABDUNAZAROV, Mardon MEPhI
5	EAS arrival direction reconstruction in the ENDA-INR experiment	KYRINOV, Kirill INR RAS
6	Симуляция регистрации сигнала от гамма-всплеска на наземных телескопах TAIGA-IACT	RAZUMOV, Alexander SINP MSU
7	Potential sites for deployment of the TAIGA-100 project	IVANOVA, Anna ISU
8	Влияние методов предобработки данных атмосферных черенковских телескопов на точность восстановления параметров ШАЛ	KRYUKOV, Alexander SINP MSU
9	Development of the method for the assessment of EAS primary particle mass by the data of both the direct Cherenkov light detector and the snow-reflected light telescope of the SPHERE-3 setup	CHERKESOVA, Olga SINP MSU
10	Modernization of database and algorithms for processing events in the Yakutsk EAS array	LEBEDEV, Konstantin SHICRA SB RAS
11	Yakutsk EAS array. Current status	LEBEDEV, Konstantin SHICRA SB RAS
12	Elaboration of the method for the primary energy estimation by the EAS image in the telescope of snow-reflected Cherenkov light of the SPHERE-3 setup	KOLODKIN, Timofey SINP MSU
13	Selection of the cosmic ray's light component from data of the TAIGA-IACT facility in the stereo observing mode	VOLCHUGOV, Pavel SINP MSU
14	Optimization of the model of the direct and snow-reflected Cherenkov light detector SPHERE-3	IVANOV, Vladimir SINP MSU
15	Multicomponent EAS studies involving the hardware and software system for storing and analyzing large volumes of the Experimental complex NEVOD data	KHOMCHUK, Evgeniy MEPhI
16	Characteristics of the extensive air showers detected with the URAN array	ZHEZHERA, Svetlana MEPhI
17	Track reconstruction in the Cherenkov water calorimeter NEVOD	BUSEL, Darya MEPhI
18	Analysis of the energy deposit of EAS cores in the Cherenkov water calorimeter NEVOD	KARETNIKOVA, Tatyana MEPhI



19	The project of the hybrid detector for the multicomponent studies of extensive air showers	VOLKOV, Evgenii MEPhI
20	Feasibility study of an onshore detector system for joint registration of EAS with Baikal-GVD	KRAVCHENKO, Evgeniy NSU
21	SEVAN particle detector network for Solar, Atmospheric physics, and Space Weather research	CHILINGARIAN, Ashot YerPhI
22	Чувствительность атмосферных черенковских телескопов TAIGA при обработке в стереорежиме для регистрации протяженного гамма-источника	POSTNIKOV, Evgeny SINP MSU
23	Manufacturing of mirrors for atmospheric Cherenkov telescopes	SHAIKOVSKII, Andrei JINR
24	Separation of Muon Component of Extensive Air Showers in Multipurpose Detector of Muons	TROSHIN, Ivan MEPhI

Cosmo- and geophysical aspects of cosmic rays at the ground level

25	On the usability of small-scale scintillation muon telescopes	BELOV, Semyon IZMIRAN
26	March 24th, 2024 Forbush effect: cosmic ray variations spectra, anisotropy and magnetospheric current system parameters	KOVALEV, Ivan ISTP SB RAS
27	Studying the relationship between cosmic rays and atmospheric electricity at the Tunka-Grande scintillation array: status and prospects	MALAKHOV, Stanislav ISU
28	Development of silicone rubber-based scintillators for different particles recording	KULESHOV, Denis INR RAS
29	Numerical simulation of atmospheric neutrino production	YULBARISOV, Rustam MEPhI
30	Mobile muon hodoscope for investigating the structure of objects using the muonography method	TSELINENKO, Maxim MEPhI
31	Cherenkov water detector of the TAIGA-100 observatory	GUDELEV, Maxim MEPhI
32	Low-energy cosmic ray flux reconstruction using ground-based neutron monitors	LAGOIDA, Ilya MEPhI
33	The atmospheric ionization rate estimation during solar proton events	MAURCHEV, Evgenii IZMIRAN
34	Potassium influence on Earth's mantle convection and Borexino data	KARPIKOV, Ivan INR RAS

