Moscow State University
Faculty of Physics

Dedicated to the 270th Anniversary of Moscow State University

TWENTY-SECOND LOMONOSOV CONFERENCE ON ELEMENTARY PARTICLE PHYSICS

Mikhail Lomonosov
1711-1765

Moscow, August 21-27,2025

Faculty of Physics, Moscow State University
Joint Institute for Nuclear Research
Institute for Nuclear Research of Russian Academy of Sciences
Skobeltsyn Institute of Nuclear Research, Moscow State University
Bruno Pontecorvo Neutrino and Astrophysics Laboratory (MSU)
Ministry of Science and Higher Education of Russia
State Corporation ROSATOM
All-Russian Scientific Research Institute of Experimental Physics
National Centre for Physics and Mathematics (Sarov)

INTERREGIONAL CENTRE FOR ADVANCED STUDIES

Moscow State University

Faculty of Physics

Бруно Понтекорво

1913-1993

SEVENTEENTH INTERNATIONAL SCHOOL on NEUTRINO PHYSICS and ASTROPHYSICS

Moscow, August 21-27,2025

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Moscow State University, Moscow, August 21-27, 2025

Under the Patronage of the Rector
of Moscow State University
Victor Sadovnichy

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Programme of the 22nd Lomonosov Conference on Elementary Particle Physics
(duration of 25 /20-15/ minutes talks includes 5 /3/ minutes for discussion)
(remote talks are highlighted in blue)

21 August, Thursday

08.00 – 09.00 **Registration** (Hall in front of Central Physics Auditorium, Faculty of Physics, Moscow State University)

09.00 – 09.30 **Opening** (Conference Hall)

Andrey Fedyanin, Vice Rector of Moscow State University
Vladimir Belokurov, Dean of Faculty of Physics of Moscow State University
Grigory Trubnikov, Director of Joint Institute for Nuclear Research
Alexander Panin, Vice Director of Institute for Nuclear Research
Arkady Yukhimchuk, Russian Federal Nuclear Centre &
National Centre for Physics and Mathematics

Chair: Alexander Studenikin, Chairman of Organizing Committee, MSU

09.30 – 13.20 **MORNING SESSION** (Conference Hall)

09.30 I. Logashenko (Budker Inst. of Nucl. Phys.) *Anomalous magnetic moment of muon* (25 min)
09.55 B. Shwartz (Budker Inst. of Nucl. Phys.) *Muon (g – 2)/EDM experiment at J-PARC* (25 min)
10.20 I. Bozovic Jelisavcic (VINCA Inst. of Nucl. Sciences, Univ. of Belgrade) *A linear collider vision (for the future of Particle Physics)* (25 min)
10.45 F.-K. Guo (Inst. of Theor. Phys., CAS) *Near-threshold hadrons with heavy quarks* (25 min)

11.10 – 11.40 Tea break

11.40 V. Riabov (NRC «Kurchatov Inst.» - PNPI) *Status of experiments at NICA facility* (25 min)
12.05 J. Gao (IHEP, CAS) *CEPC project status* (25 min)
12.30 G. S. Huang (Univ. of Science and Technology of China) *Overview of BESIII physics* (25`)
12.55 Zh. Cao (IHEP, CAS) *Precision measurement of the spectra of cosmic ray individual species in PeV range* (25 min)

13.20 – 15.00 Lunch

15.00 – 17.30 **AFTERNOON SESSION** (Conference Hall)

15.00 C. Giunti (INFN, Turin) *The Gallium Anomaly* (25 min)
15.25 Yu. Kudenko (INR RAS) *Physics with accelerator neutrinos* (25 min)
15.50 H. Duyang (Shandong Univ.) *Status and perspectives of the JUNO experiment* (25 min)
16.15 Y. Farzan (Inst. for Research in Rundamental Sciences) *Searching for axial neutral current non-standard interactions of neutrinos by DUNE-like experiments* (25 min)
16.40 M. Giammarchi (INFN, Milan) *Antimatter gravitation and fundamental laws* (25 min)

17.30 – 23.30 **SPECIAL SESSION** (40^0)
Reception banquet will be held on board of a ship that will stream along the river across the central part of Moscow; the conference buses to the ship will depart from the entrance of the Faculty of Physics at **17.30**

22 August, Friday

The 17th International School on Neutrino Physics and Astrophysics

09.00 – 13.30 **MORNING SESSION** (Conference Hall)

09.00 A. Konovalov (Lebedev Phys. Inst. & MEPhI) *Review of CEvNS measurements* (25 min)
09.25 C. Ternes (INFN LNGS) *Testing neutrino electromagnetic properties with scattering experiments* (25 min)
09.50 O. Samoylov (JINR) *Search for exotic physics with the NOvA detectors* (25 min)
10.15 K. Kouzakov (MSU) *SATURNE experiment* (25 min)
10.40 D. Bisikalo (Inst. of Astronomy RAS & NCPhM) *Scientific programme of National Centre for Physics and Mathematics* (25 min)

11.05 – 11.35 Tea break

11.35 I. Zhitnikov (JINR) *The DANSS upgrade. Status and perspectives* (25 min)
12.00 D. Medvedev (JINR) *Resent results from the nuGeN experiment* (25 min)
12.25 S. Zavatarelli (INFN, Genoa) *Borexino results and its scientific legacy* (25 min)
12.50 V. Kazalov (INR RAS) *Status and perspectives of the AMoRE experiment* (25 min)
13.15 G. Li (Sun Yat-sen Univ.) *Constraints on neutrino nonstandard interactions from COHERENT, PandaX-4T and XENONnT* (25 min)

13.40 – 15.00 Lunch

15.00 – 16.15 **AFTERNOON SESSION** (Conference Hall)

15.00 A. De Roeck (Imperial College) *TeV neutrinos at the LHC* (25 min)
15.25 M. Dubinin (MSU) *Sterile neutrinos and dark matter in models with left-right chiral symmetry* (25 min)
15.50 Q. Lin (Univ. of Science and Techn. of China) *Status of dark matter direct detection experiments* (25 min)

16.15 – 16.40 Tea break

SESSION 22.08. A (Neutrino experiment)

16.40 P. Gorovtsov (Lebedev Phys. Inst.) *Searches for physics beyond the SM at DANSS* (15 min)
16.55 A. Shakirov (Nuclear Univ. MEPhI) *The RED-100 experiment: Recent results and future prospects* (15 min)
17.10 R. Samoilov (NRC «Kurchatov Inst.» - PNPI) *Status of Neutrino4+ setups at SM-3 reactor* (15 min)
17.25 J. Yang (Westlake Univ.) *RELICS reactor neutrino detection experiment* (15 min)
17.40 L. Delgadillo Franco (IHEP CAS) *Neutrino physics at TAO* (15 min)
17.55 I. El Atmani (Hassan II Univ. of Casablanca) *Calibration of neutrino detectors: Bridging engineering challenges to cosmic discoveries* (15 min)
18.10 A. Shvartsman (INR RAS) *Particle identification in highly segmented neutrino detector SuperFGD* (10 min)
18.20 V. Ashikhmin (INR RAS) *Current status of LVD experiment* (10 min)

SESSION 22.08. B (Theory)

16.40 N. Krasnikov (INR RAS) *Bounds on the Gell-Mann — Low function in quantum electrodynamics and the Wess-Zumino model* (15 min)
16.55 W. Horowitz (Univ. of Cape Town) *Finite system size corrections to the effective coupling in ϕ^4 scattering* (15 min)
17.10 I. Arraut (Univ. of Saint Joseph) *Symmetry arguments solving some important problems in physics* (15 min)
17.25 R. Nevzorov (Lebedev Phys. Inst.) *Generation of lepton asymmetry in the minimal composite Higgs model* (15 min)
17.40 M. Belyakova (Lebedev Phys. Inst.) *Interactions of Dirac dark matter fermions with nucleons in composite Higgs models* (10 min)
17.50 E. Karkaryan (Lebedev Phys. Inst.) *B-mesons oscillations: Applications of two-particle wave functions* (15 min)
18.05 S. Godunov (Lebedev Phys. Inst.) *Particle production via gamma-gamma fusion at hadron colliders with libepa* (15 min)
18.20 I. Akimov (Tomsk State Univ.) *Plasmon-polariton modes on a single electron wave packet* (15 min)
18.35 D. Gavrilov (Higher School of Economics) *Search for New Physics in CP violation in $b \to ccs$ and $b \to sss$ amplitudes interference* (15 min)

SESSION 22.08. C (Astrophysics & Detectors)

16.40 N. Vasiliev (SINP MSU) *Recent results of the Carpet-3 collaboration* (15 min)
16.55 G. Majumder (Tata Inst. of Fundamental Research) *Charge ratio of cosmic ray muons in momentum range $\sim$1 to 3 GeV/c* (15 min)
17.10 M. Vologzhin (Tomsk State Univ.) *Recent developments on ion transport simulation in Geant4* (15 min)
17.30 V. Lyamkin (NRC «Kurchatov Inst.» - PNPI) *Ultracold neutron source for research in fundamental physics at the PIK reactor* (15 min)
17.45 A. Fomin (NRC «Kurchatov Inst.» - PNPI) *The neutron beta decay installation for the reactor PIK* (15 min)
18.00 A. Shaikina (Gran Sasso Science Inst.) *SURFαCE: A cryogenic α detector for the radioactive contamination of material surfaces* (15 min)

19.00-20.00
Conference Hall

The 17th International School on Neutrino Physics and Astrophysics
MOVIE
"Maksimovich. The Story of Bruno Pontecorvo"
Screenwriter Giuseppe Mussardo
Directed by Diego Cenetiempo

23 August, Saturday

09.00 – 13.35 **MORNING SESSION** (Conference Hall)

09.00 A. Dzyuba (NRC «Kurchatov Inst.» - PNPI) *Recent results from LHCb* (25 min)
09.25 O. Kodolova (JINR) *News on QCD physics study with the CMS detector* (25 min)
09.50 E. Rogochaya (JINR) *Femtoscopy with ALICE at the LHC* (25 min)
10.15 F. Nemes (CERN) *The discovery of the odderon* (25 min)
10.40 V. Luong (JINR) *Overview of femtoscopic correlation measurements in the STAR experiment at RHIC* (25 min)

11.05 – 11.55 Tea break

11.30 X. Lyu (Univ. of CAS) *Recent experimental progress on hadron spectroscopy* (25 min)
11.55 R. Zhang (Lanzhou Univ.) *Hyperon physics at BESIII* (25 min)
12.20 D. Epifanov (Budker Inst. of Nucl. Phys.) *Tau physics at Belle II* (25 min)
12.45 V. Druzhinin (Budker Inst. of Nucl. Phys.) *Study of e^+e^- annihilation into hadrons with the SND detector at the VEPP-2000 collider* (25 min)
13.10 K. Todyshev (Budker Inst. of Nucl. Phys.) *R measurement at the KEDR experiment* (25 min)

13.35 – 15.00 Lunch

15.00 – 19.10 **AFTERNOON SESSION** (Conference Hall)

15.00 V. Ivanchenko (Tomsk State Univ.) *The Geant4 toolkit for the simulation of high luminosity experiments* (25 min)
15.25 N. Raicevic (Univ. of Montenegro) *Internal transverse motion described by TMD based and shower based generators* (25 min)
15.50 N. Pukhaeva (JINR) *Model of experiments for material science at ARIADNA* (25 min)

16.15 – 16.40 Tea break

SESSION 23.08. A (Colliders)

16.40 A. Drutskoy (Lebedev Phys. Inst.) *Physics at CEPC collider* (20 min)
17.00 D. Morozova (National Univ. of Science and Technology MISiS) *SND@LHC in 2025 and beyond* (15 min)
17.15 A. Gridin (JINR) *Study of the kaon partonic structure with high-pT prompt photon production process at the AMBER experiment at CERN* (20 min)
17.35 D. Madigozhin (JINR) *New measurement of $K^+ \to \pi^+ \nu \bar{\nu}$ branching ratio at the NA62 experiment* (20 min)
17.55 A. Tropina (JINR) *ATLAS Tile calorimeter: Performance and upgrade for HL-LHC conditions* (15 min)
18.10 A. Mufazalova (Higher School of Economics) *Charmed baryons at Belle and Belle II* (15 min)
18.25 N. Peters (Higher School of Economics) *Semileptonic B-decays at Belle and Belle II* (10 min)
18.35 M. Yasaveev (Higher School of Economics) *Quarkonium physics at Belle and Belle II* (10 min)

SESSION 23.08. B (Neutrino)

16.40 L. Bezrukov (INR RAS) *Observation of geo-antineutrino flux from potassium-40 decays and related problems for the physics of the Sun and the Earth* (20 min)
17.00 A. Sheshukov (BNO, INR RAS) *Search for neutrino signals from failed supernovae using BUST Data* (20 min)
17.20 L. Delgadillo Franco (IHEP CAS) *Neutrino Lorentz invariance violation from cosmic fields* (20 min)
17.40 M. Verkhovtsev (VNIIEF & MSU branch in Sarov & NCPM) *Practical applications of neutrinos* (20 min)
18.00 A. Ahriche (University of Sharjah) *Neutrino oscillation inside supernovae: Exact description* (15 min)
18.15 K. Dixit (Univ. of Johannesburg) *Echoes of sterile states: IceCube constraints on pseudo-Dirac neutrinos from distant sources* (15 min)
18.30 M. Danilchenko (MSU) *Probing neutrino decays into axion-like particles: Sensitivity of future neutrino experiments* (10 min)
18.40 M. Mustamin (Karadeniz Tech. Univ.) *Solar neutrino constraints on singly charged Higgs boson via elastic neutrino-electron scattering* (10 min)
18.50 K. Dixit (Univ. of Johannesburg) *Decaying neutrinos and the hidden hand of Majorana CP violating phase* (10 min)
19.00 J. Lu (National Univ. of Singapore) *Implications of* $|U_{\mu i}| = |U_{\tau i}|$ *in the canonical seesaw mechanism and associated flavor invariants* (15 min)

SESSION 23.08. C (Theory)

17.00 V. Turin (Orel State Univ.) *Generalization of equations of relativistic quantum mechanics and the problem of hierarchy of fermionic masses based on the analysis of chains of type mass-(in-mass)*^{N} (15 min)
17.15 N. Levin (Tomsk State Univ.) *Statistical mechanics of multi-Hamiltonian systems* (15 min)
17.30 P. Spirin (MSU) *Synchrotron radiation in odd-dimensional electrodynamics* (15 min)
17.45 V. Kuzminov (BNO, INR RAS) *Verification of a reliability of the* ^{213}*Po half-life results measured for decays on exited and ground levels* (15 min)
18.00 A. Aleshin (MSU) *Contextual nature of quantum randomness* (15 min)
18.15 V. Haurysh (Sukhoi State Tech. Univ. of Gomel) *Pionic decay of light mesons in the point form of Poincare-invariant quantum mechanics* (10 min)
18.25 M. Fil'chenkov (Peoples' Friendship Univ. of Russia) *Flights between habitable exoplanets* (10 min)
18.35 S. Kopylov (Moscow Polytech. Univ.) *Fundamental constants and equations of motion* (10 min)

24 August, Sunday

9.00 – 19.00 Bus excursion to Sergiev Posad

25 August, Monday

The 17th International School on Neutrino Physics and Astrophysics

09.00 – 13.40 **MORNING SESSION** (Conference Hall)

09.00 Z.-Z. Xing (IHEP CAS) *Rephasing invariants of CP violation for light and heavy Majorana neutrinos* (25 min)
09.25 D. Meloni (Univ. of Roma Tre) *Quark-lepton mixing and the leptonic CP violation* (25 min)
09.50 R. Mohanta (Univ. of Hyderabad) *Exploring physics beyond the Standard Model with neutrinos* (25 min)
10.15 S. Gariazzo (Univ. of Turin) *Neutrino non-standard scenarios in cosmology* (25 min)
10.40 M. Dvornikov (IZMIRAN) *Quantum field theory description of neutrino oscillations in external fields* (25 min)

11.05 – 11.30 Tea break

11.30 V. Petrov (NRC «Kurchatov Inst.» - IHEP) *On nucleon "Radii"* (25 min)
11.55 I. Aref'eva (Steklov Math. Inst.) *Entanglement entropy in QCD under extreme conditions* (25 min)
12.20 A. Kataev (INR RAS & JINR) *On the correlation between several perturbation theory representations of physical quantities in QCD* (25 min)
12.40 M. Djordjevic (Inst. of Physics Belgrade) *Exploring bulk QGP properties through high-pt theory and data* (25 min)
13.05 K. Stepanyantz (MSU) *All-loop equations for the renormalization group functions of supersymmetric theories* (25 min)

13.30 – 15.00 Lunch

SESSION 25.08. A1 (Holographic principle & QCD. Theory)

15.00 K. Rannu (Peoples' Friendship Univ. of Russia) *String tension and phase transitions in anisotropic HQCD with magnetic field* (15 min)
15.15 P. Slepov (Steklov Math. Inst.) *Jet quenching in holographic QCD in vicinity of the 1st order phase transitions* (15 min)
15.30 D. Stepanenko (Steklov Math. Inst.) *Black hole/Bose gase duality and entropic paradox* (15 min)
15.45 M. Usova (Steklov Math. Inst.) *On holographic beta-function for light quarks* (10 min)
15.55 R. Rogalyov (NRC «Kurchatov Inst.» - IHEP) *Free quarks and the Roberge-Weiss transition* (20 min)
16.15 V. Bornyakov (NRC «Kurchatov Inst.» - IHEP) *New results on gauge field decomposition in SU(3) gluodynamics* (15 min)
16.30 R. Zhokhov (IZMIRAN & NRC «Kurchatov Inst.» - IHEP) *Dualities of QCD phase diagram and inhomogeneous phases* (15 min)

16.45 – 17.10 Tea break

SESSION 25.08. A2 (Theory)

17.10 V. Chistiakov (MSU) *Deep learning algorithms for lattice field theory calculations* (20 min)
17.30 A. Arbuzov (JINR) *Partons in QED* (20 min)
17.50 U. Voznaya (JINR) *Effects of QED higher-order radiative correction in electron-positron annihilation processes at future colliders* (15 min)
18.05 A. Reshetnyak (Tomsk Polytech. Univ. & Tomsk State Pedag. Univ.) *On cubic interaction vertices for fermionic and bosonic higher-spin fields from string field theory* (20 min)
18.25 R. Riutin (NRC «Kurchatov Inst.» - IHEP) *Covariant reggeization in hadronic diffraction* (15 min)
18.40 A. Garat (Univ. of the Republic, Montevideo) *Geometrical interpretation in particle physics of isospin subalgebras in SU(3)* (15 min)
18.55 A. Alizzi Alnakishbandey (Budker Inst. of Nucl. Phys.) *Elementary atoms in spaces of constant curvature by the Nikiforov-Uvarov method* (15 min)

SESSION 25.08. B1 (Neutrino Physics)

15.00 A. Grigoriev (Moscow Inst. of Phys. and Tech.) *Spin light of neutrino in astrophysical media* (20 min)
15.20 M. Deka (JINR) *Neutrino spin oscillations in the vicinity of a black hole* (20 min)
15.40 P. Denton *Solar neutrinos and the strongest oscillation constraints on scalar NSI* (20 min)
16.00 D. Wang (MSU) *Neutrino geometric phase in non-dipolar magnetic fields* (10 min)
16.10 D. Shkirmanov (JINR) *Neutrino propagation in quantum field theory at short and long baselines* (20 min)
16.30 Y. Porto (ABC Federal Univ., Brazil) *The flavor composition of supernova neutrinos* (15 min)

16.45 – 17.10 Tea break

SESSION 25.08. B2 (Neutrino Physics)

17.10 V. Sinev (INR RAS) *Calculated antineutrino spectra from nuclear reactor fuel isotopes fission fragments conformed with experimentally measured ones* (15 min)
17.25 F. Lazarev (MSU) *Probe of transverse neutrino spin polarization with the electromagnetic interactions in neutrino scattering on electrons, nucleons and nuclei* (15 min)
17.40 M. Demirci (Karadeniz Tech. Univ.) *Solar neutrino constraints on U(1)' models via elastic neutrino-electron scattering* (15 min)
17.55 I. Stepantsov (MSU) *Ionizing collisions of solar neutrinos with helium* (10 min)
18.05 O. Basli (Bursa Uludag Univ.) *Solar neutrino constraints on neutrino millicharge from coherent elastic neutrino-nucleus scattering* (15 min)
18.20 P. Panda (Univ. of Hyderabad) *Quantum entanglement as a probe of neutrino oscillation parameters* (15 min)
18.35 A. Lichkunov (MSU) *Neutrino quantum decoherence in a fluctuating ALPs field* (15 min)
18.50 M.Vyalkov (Sarov MSU) *The formalism of open quantum systems in neutrino scattering on superfluid helium* (15 min)

SESSION 25.08. C1 (Colliders)

15.00 I. Pshenichnov (INR RAS) *Challenge of nuclear transmutation in heavy-ion colliders* (15`)
15.15 A. Lanyov (JINR) *Recent results in dimuon physics by the CMS experiment* (15 min)
15.30 R. Chistov (MIPT) *Production and rare decays of heavy flavour at CMS* (15 min)
15.45 A. Didenko (JINR) *Amplitude analysis of dicharmonium resonances* (15 min)
16.00 G. Fedotovich (Budker Inst. of Nucl. Phys.) *Cross section measurement of the process* $K_S K_L \pi^+ \pi^-$ *with CMD-3 detector* (15 min)
16.15 E. Solodov (Budker Inst. of Nucl. Phys.) *Study of the* $e^+e^- \to \pi^+\pi^-\pi^0\eta$ *reaction with CMD-3 at VEPP-2000* (15 min)
16.30 M.Ruan (IHEP CAS) *Jet origin identification and its impact on electron positron Higgs factory* (15 min)

16.45 – 17.10 Tea break

SESSION 25.08. C2 (Heavy Ion Collisions)

17.10 S. Petrushanko (SINP MSU & JINR) *New results on heavy-ion collisions by the CMS detector at the LHC* (20 min)
17.30 M. Tokarev (JINR) *Self-similarity of cumulative high-*p_T *hadron production in heavy ion collisions at high energies* (20 min)
17.50 D. Myagkov (MSU) *The nuclear deformation effect in the HYDJET++ azimuthal anisotropy simulations at the LHC energies short presentation* (15 min)
18.05 I. Borisov (Peter the Great St. Petersburg Polytech. Univ.) *Effective fractional parton energy loss in U+U collisions at the energy of √(s_NN)=193 GeV* (15 min)
18.20 S. Antsupov (Peter the Great St. Petersburg Polytech. Univ.) *Study of neutral K*(892) meson production in relativistic ion collisions at PHENIX* (15 min)
18.35 E. Bannikov (Peter the Great St. Petersburg Polytech. Univ.) *Measurements of neutral pion elliptic flow in small and large collision systems at PHENIX* (15 min)

26 August, Tuesday

09.00 – 13.35 **MORNING SESSION** (Conference Hall)

09.00 V. Dokuchaev (INR RAS) *Determination of valid gravity theory from observations of astrophysical black hole images* (25 min)
09.25 C. Bambi (Fudan Univ.) *Testing general relativity with black hole X-ray data* (25 min)
09.50 R. Ghosh (ICTS, Bangalore) *Universal constraints on black hole hairs: From no-short-hair theorems to observational signatures* (25 min)
10.15 P. Joshi (Ahmedabad Univ.) *Primordial naked singularities* (25 min)
10.40 A. Zakharov (NRC «Kurchatov Inst.» & JINR) *Shadows of galactic centers and circular photon orbits* (25 min)

11.05 – 11.30 Tea break

11.30 N. Krasnikov (INR RAS) *Light dark matter: Theory and experiment* (25 min)
11.55 D. Peshekhonov (JINR) *Latest results of the NA64 experiment at CERN* (25 min)
12.20 C. Ha (Chung-Ang Univ.) *Updates from the COSINE experiment* (25 min)
12.45 V. Prasad (Jilin Univ.) *Dark sector at BESIII* (25 min)
13.10 H. Lee (Inst. for Basic Science, Daejeon) *Dark matter search via annual modulation* (25 min)

13.35 – 15.00 Lunch

SESSION 26.08. A1 (Gravity & cosmology)

15.00 Y. Grats (MSU) *Vacuum polarization effects of pointlike impurity: Massive field* (20 min)
15.20 P. Pronin (MSU) *Quantization of affine-metric gravitational theory* (20 min)
15.40 M. Shatov (MSU) *The role of projective symmetries in quantum affine-metric theory of gravity* (15 min)
15.55 O. Zenin & **Yu. Pirogov** (NRC «Kurchatov Inst.» - IHEP) *Multiscalar-metric gravity: Merging gravity, dark energy and dark matter* (15 min)
16.10 V. Ivashchuk (People's Friendship Univ. & Rostest) *Photon sphere and quasinormal modes for a dyon black hole solution* (15 min)
16.25 A. Aynbund (Moscow Inst. of Phys. and Tech.) *Scalar field action under 4D isotropic cut-off and its cosmological impact* (10 min)

16.35 – 17.00 Tea break

SESSION 26.08. A2 (Gravity & cosmology)

17.00 T. Singh (Tata Inst. of Fundamental Research) *Theoretically motivated dark electromagnetism as the origin of relativistic MOND* (15 min)
17.15 I. Goldman (Afeka College, Tel Aviv) *Effects of neutron-antineutron transitions in neutron stars* (15 min)
17.30 E. Fedotova (SINP MSU) *Baryon asymmetry in the early Universe in SM extensions of the lepton sector* (15 min)
17.45 V. Volkova (INR RAS) *Non-singular cosmologies in Horndeski theories and their stability* (15 min)
18.00 A. Majumdar (S. N. Bose National Centre for Basic Sciences, Kolkata) *Effect of inhomogeneities on the propagation of gravitational waves from binaries of compact objects* (15 min)

18.15 M. Valencia Villegas (Inst. for Theor. and Math. Phys., MSU) *Luminality and non-decay of gravitational waves in scalar-tensor gravity* (15 min)
18.30 S. Mukherjee (BITS Pilani) *Stochastic background from hyperbolic encounters* (15 min)
18.45 A.K.Mehta (Univ. of California) *New binary black hole mergers in the LIGO-Virgo O3b data* (15 min)

SESSION 26.08. B1 (Dark Matter)

15.00 D. Rudik (Univ. of Naples & INFN) *First results from the Proto-0, the prototype of DarkSide-20k* (20 min)
15.20 A. Kopylov (INR RAS) *PHELEX: The experiment on the search for dark photons* (15 min)
15.35 P. Satunin (INR RAS) *Search for dark-matter axions beyond the quantum limit: The Cosmological Axion Sarov Haloscope (CASH) proposal* (20 min)
15.55 K. Homma (Hiroshima Univ.) *Prospects for axion-like particle searches in the meV mass range using a microwave–laser–mixed stimulated resonant photon collider* (20 min)
16.15 D. Kirpichnikov (INR RAS) *The rare events at fixed target experiments* (20 min)

16.35 – 17.00 Tea break

SESSION 26.08. B2 (Dark Matter)

17.00 D. Levkov (INR RAS & Inst. for Theor. and Math. Phys., MSU) *Kinetic growth of axion stars* (20 min)
17.20 E. Kriukova (INR RAS) *Pion bremsstrahlung as a new source for dark photons* (15 min)
17.35 N. Yokozaki (Zhejiang Univ.) *Spontaneous CP violation, sterile neutrino dark matter and leptogenesis* (15 min)
17.50 O. Seto (Hokkaido Univ.) *Freeze-in production of sterile neutrino dark matter in the gauged B-L model* (15 min)
18.05 A. D'yachenko (Petersburg Nucl. Phys. Inst. & Petersburg State Transport Univ.) *Rotation curves in our galaxy and new candidate particles for the role of dark matter particles* (15 min)
18.20 T. Suyama (Inst. of Science Tokyo) *Dark matter from inflationary quantum fluctuations* (15 min)
18.35 V. Padmanabhan Kovilakam (Univ. of Münster) *Realizations of minicharged particles: from neutrinos to dark matter* (15 min)
18.50 H. Mehta (Tata Inst. of Fundamental Research) *A diffused background of axion-like particles in the microwave sky* (15 min)

SESSION 26.08. C1 (Colliders)

15.00 S. Polikarpov (Lebedev Phys. Inst. & MEPhI & MIPT) *Spectroscopy of charm and beauty at CMS* (15 min)
15.15 S. Tolmachev (Budker Inst. of Nucl. Phys.) *Measurement of the process* $e^+e^- \to \pi^+\pi^-\pi^0$ *in the ω-meson energy region with the CMD-3 detector at the VEPP-2000* (15 min)
15.30 V. Zharova (INR RAS) *Investigation of compensation properties of the forward hadron calorimeter at the BM@N experiment* (10 min)
15.40 V. Volkov (INR RAS) *Performance study of the scintillation wall in the first BM@N physics run* (15 min)
15.55 D. Idrisov (INR RAS) *Bayesian approach for centrality determination in nucleus-nucleus collisions at the NICA energy range* (15 min)

16.10 Y.Wang (Shandong Univ.) *Simulation study of Σ^0 hyperons production from NICA-MPD experiment* (10 min)
16.20 M. Alizada (Baku State Univ.) *The next-to-leading order of the differential cross-section of the subprocess of annihilation of quark-antiquark pair $q\bar{q} \to g\gamma$ of promt photon production in proton-proton collisions at NICA energies* (15 min)

16.35 – 17.00 Tea break

SESSION 26.08. C2 (Colliders)

17.00 S. Savenkov (INR RAS) *Benchmarking hadronic models in Geant4 for detector simulations* (15 min)
17.15 A. Korobov (Budker Inst. of Nucl. Phys.) *The study of four charged pions production with CMD-3 detector at VEPP-2000 collider* (15 min)
17.30 A. Erofeev (Budker Inst. of Nucl. Phys.) *Study of the process $e^+e^- \to K^+K^-\pi^0$ with the CMD-3 detector* (15 min)
17.45 A. Semenov (Budker Inst. of Nucl. Phys.) *Study of the $e^+e^- \to K_SK_L\pi^0$ process up to 2 GeV with the CMD-3 detector at the VEPP-2000 collider* (15 min)

27 August, Wednesday

09.00 – 13.35 **MORNING SESSION** (Conference Hall)

09.00 M. Kuznetsov (INR RAS) *Highlights from the Telescope Array experiment* (25 min)
09.25 N. Budnev (Irkutsk State Univ.) *The present status and future of the TAIGA complex for cosmic ray physics, gamma-ray astronomy and astroparticle physics* (25 min)
09.50 S. N. Zhang (IHEP CAS) *Highlights of insight-HXMT results & the future eXTP mission* (25 min)
10.15 L. de Souza (Univ. of Sao Paulo) *Exploring the universe through high-energy multi-messenger astrophysics* (25 min)
10.40 S. Mukherjee (Tata Inst. of Fundamental Research) *Cosmology with dark standard sirens* (25 min)

11.05 – 11.30 Tea break

11.30 A. Dolgov (Novosibirsk State Univ. & JINR) *Cosmology with primordial black holes* (25 min)
11.55 E. Arbuzova (Dubna State Univ. & Novosibirsk State Univ.) *Lambda-term problem in contemporary universe* (25 min)
12.20 D. Gorbunov (INR RAS) *Sterile neutrino dark matter* (25 min)
12.45 D. Galtsov (MSU) *Black holes with linear dilaton asymptotic and integrability* (25 min)
13.10 A. Parameswaran (ICTS, Bangalore) *Cosmology using gravitationally lensed gravitational waves* (25 min)

13.35 – 15.00 Lunch

ROUND TABLE DISCUSSION
"Frontiers in Particle Physics"
(Conference Hall)

15.00 B. Shwartz (Budker Inst. of Nucl. Phys.) *Status and latest results of the Belle II experiment at SuperKEKB e+e- Collider* (25 min)
15.50 Q. Liu (Univ. of Chinese Academy of Sciences) *Progress on Super tau-charm facility* (25 min)
15.25 K. Postnov (Sternberg Astronomical Inst., MSU) *Search for ultralight dark matter in pulsar observations* (25 min)
16.15 L. Merlo (Autonomous Univ. of Madrid) *Mass generation for ALPs* (25 min)
16.40 A. Oralbaev (NRC Kurchatov Inst.) *DC-V: Double Chooz Latest Results* (25 min)
17.05 A. Cabrera (CNRS IN2P3) *CLOUD - new experiment project @ Chooz* (25 min)
17.30 A. Serebrov (NRC «Kurchatov Inst.» - PNPI) *Precision studies of neutron decay and physics of fundamental interactions* (25 min)

Closing of the 22nd Lomonosov Conference on Elementary Particle Physics

SPECIAL SESSION (40^0)

POSTER Session

S. Sedov (Sarov Inst. of Phys. and Tech., Branch of Nuclear Univ. MEPhI, Sarov) *On the kinetic mixing of the Weyl meson and vector bosons of the Standard Model*

M. Ostashova (Sternberg State Astronomical Inst., MSU) *Fractality of the space distribution of stars in the vicinity of the Sun according to Gaia DR2 data and its role in stellar system dynamics*

Y. Koskin (Nuclear Univ. MEPhI) *Background simulation in the RED-100 experiment at Kalinin NPP*

M. Ostashova (Sternberg State Astronomical Inst., MSU) *Influence of the fractal effects on kinetics of the stellar medium in the Solar neighborhood*

N. Agafonova (INR RAS) *Registration of atmospheric muons using the Large Volume Detector*

E. Zagirdinova (SINP MSU) *Search for neutrino electromagnetic properties in coherent neutrino scattering*

D. Sautner (Moscow Inst. of Physics and Techn. & Lebedev Phys. Inst.) *Pulse-shape analysis of signals from the HPGe detector for the vGeN experiment*

N. Mashin (Lebedev Phys. Inst.) *Initial study of millicharged particles detection with T2K segmented near detector SuperFGD*

P. Kudan (Skoltech) *The proton-pion model as a way to reduce complexity of the Standard model*

M. Verkhovtsev (VNIIEF & MSU branch in Sarov & NCPM) *Effects of neutrino non-standard interactions in coherent elastic scattering on atom*

E. Kovalevskaia (MSU) *Electromagnetic effects in deep inelastic scattering of high-energy neutrinos by nucleons*

A. Tsvirov (MSU) *Wave packet description of Majorana neutrino oscillations in a magnetic field*

I. Kozlovskaya (MSU branch in Sarov) *Spin oscillations in transversally moving matter with nonstandard interaction*