September 18, Monday Plenary Session BLTP Conference Hall

10.00-10.15 *Grigory Trubnikov, JINR* Opening

Chairman S. Bondarenko

10:15-10:55 Pavel Zarubin, JINR

Experimental research at the JINR Synchrophasotron (on the occasion of the 70th anniversary of the V.I. Veksler and A.M. Baldin Laboratory for High Energy Physics)

10:55-11:35 *Alexandr Malakhov, JINR* 30th anniversary of the Nuclotron

11:35-12:10 Group photo, coffee break

Chairman A. Malakhov

Memorial session dedicated to Professor V.V.Burov

12:10-12:30 Nelly Konopleva, Russia

V.V. Burov and Baldin Conference

12:30-12:50 Stepan Shimanskiy, JINR

From "FLUCTUONS" to multiqurk states in the nuclear matter

12:50-13:10 Serge Bondarenko, JINR

Professor V.V. Burov and relativistic few-body problem

13:10-14:30 Break

Chairman A. Borissov

14:30-15:10 Yury Kudenko, Russia

Neutrino physics: new results and prospects

15:10-15:50 Aleksandr Malakhov, JINR

Investigation of Relativistic Nuclear Collisions in the Four-velocity Space

15:50-16:00 Break

Chairman Yu. Kudenko

16:00-16:40 Alexander Zakharov, Russia/JINR

Neutron stars and black holes as laboratories of fundamental physics

16:40-17:20 Peter Lukin, Russia

Recent Results from the CMD-3 detector at the VEPP-2000 e+e- Collider

17:20-17:50 Alexander Borissov, Russia

Sigma hyperons production in pp and p-Pb collisions at LHC with ALICE

18-00 Welcome party (BLTP Cafeteria)

September 19, Tuesday Plenary Session BLTP Conference Hall

Chairman Yu. Dong

09:00-09:30 Viktor Riabov, Russia

Status and first physics capabilities of the MPD at NICA

09:30-10:00 Andrei Kataev, Russia

On manifestation of conformal symmetry and of its violation in perturbative QCD expressions

10:00-10:30 Valentin Zakharov, Russia

Hydro-gravity duality and limit of vanishing Newtonian constant

Coffee break 10:30-10:50

Chairman V. Riabov

10:50-11:20 Artem Korobitsin, JINR

STAR experiment results from BES program

11:20-11:50 Arkadiy Taranenko, JINR

Anisotropic collective flow measurements from LHC to SIS

11:50-12:10 Yubing Dong, China

On form factors of a spin-3/2 particle and its generalized parton distribution functions

12:10-12:50 Maria Patsyuk, JINR

Status of the Short-Range Correlation program at JINR

12:50-14:30 Break

September 19, Tuesday Parallel Session I BLTP Conference Hall

Nuclear astrophysics; Structure functions of hadrons and nuclei

Chairman Ts. Baatar

14:30-15:00 Vladimir Melezhik, JINR

Resonance amplification of nuclear reaction X(a,b)Y near a+X channel threshold

15:00-15:20 Ivan Karpikov, Russia

Reconstruction of the characteristics of a high-energy event detected by the Carpet-2 array in association with the GRB 221009A gamma-ray burst

15:20-15:40 Semyon Mikheev, Russia

Hyperonic interactions in neutron stars

15:40-16:10 Leonid Kaptari, JINR

Temperature Dependence of Gluon Propagators within a Rainbow Truncation of Dyson-Schwinger Equations

16:10-16:30 Coffee break

Progress in experimental studies in high energy centers

Chairman L. Kaptari

16:30-16:50 Evgeniy Kurbatov, Russia

SHiP experminet and the problem of high-dimensional Muon Shield optimization

16:50-17:10 Vladimir Zherebchevsky, Russia

New vertex detector systems for particle registration in high-energy physics and possible use these technologies for NICA experiments

17:10-17:30 Vladimir Bocharnikov, Russia

Performance study of the neutron reconstruction using HGN detector at the BM@N experiment

17:30-17:50 Baatar Tseepeldorj, Mongolia

Cumulative proton production in p+C interaction at 4.2 Gev/c and 10 GeV/c and the uncertainty principle

19:00 Concert (Scietific Club)

September 19, Tuesday Parallel Session II Blokhintsev Auditorium

Relativistic heavy ion collisions; NICA/MPD/SPD in JINR

Chairman G. Ganbold

14:30-14:50 Grigory Feofilov, Russia

Some highlights on studies of strangeness and charm in heavy ion collisions by ALICE at LHC

14:50-15:10 Ramin Barak, JINR

Study of the possibility of lambda hyperon and short-lived neutral kaon reconstruction in the BM@N experiment

15:10-15:30 Vasilii Plotnikov, JINR

Study of the pi+ and K+ production in ion-ion collisions at 3.2 GeV/n at the Nuclotron

15:30-15:50 Vadim Kolesnikov, JINR

Perspectives for the study of hyperon and hypernuclei production in heavy-ion collisions at NICA/MPD

15:50-16:10 Dilyana Suvarieva, Bulgaria/JINR

Optimization of techniques for lambda hyperon measurement at MPD/NICA

16:10-16:30 Coffee break

Relativistic heavy ion collisions

Chairman G. Feofilov

16:30-16:50 Natalia Kolomoyets, JINR

The Hubble constant in Heavy Ion Collisions

16:50-17:10 Egor Alpatov, Russia

Global polarization of Xi hyperons in Au+Au collissions in the STAR experiment

17:10-17:30 **Dmitrii Sychev, JINR**

Negative moment of inertia and rotational instability of gluon plasma

17:30-17:50 Valery Lyuboshitz, JINR

On the coherent inelastic binary and multiparticle processes in ultrarelativistic hadron-nucleus, photon-nucleus and nucleus-nucleus collisions

19:00 Concert (Scientific Club)

September 20, Wednesday

Excursions to Tver or NICA complex

September 21, Thursday Parallel Session I BLTP Conference Hall

Quantum chromodynamics at large distances

Chairman A. Kotikov

09:00-09:20 Vitalii Petrov, Russia

The possibilities of search for the local strong P-symmetry breaking in decay of charged a0 meson in $3\pi\pm$ decay channel

09:20-09:40 *Igor Anikin, JINR*

The Gorishni-Isaev vacuum integrations and UV(IR)-regime

09:40-10:00 Alexander Osipov, JINR

Light Quark Masses in the 1/Nc Nambu-Jona-Lasinio model

10:00-10:20 Lev Alimov, Russia

Associated J/psi+gamma production in high-energy limit of QCD

10:20-10:40 Anton Anufriev, Russia

Production of eta_c-mesons at high energy in proton-proton collisions

Coffee break 10:40-11:00

Quantum chromodynamics at large distances

Chairman I. Anikin

11:00-11:20 Anatoly Kotikov, JINR

On Fractional Analytic QCD beyond Leading Order

11:20-11:40 Gurjav Ganbold, JINR

Hidden-charm strong decays of charmonium-like state Y(4230)

11:40-12:00 Alexander Parkhomenko, Russia

Impact of Long-Distance Contributions on Semileptonic B+ -> pi+ l+ l- Decay

12:00-12:20 Vyacheslav Yukalov, JINR

Strong-coupling extrapolation of Gell-Mann-Low functions

12:20-12:40 Alexey Chernyshev, Russia

Associated production of heavy quarkonia and D mesons in the high energy factorization

12:40-13:00 Igor Obukhovsky, Russia

Transition amplitudes at high momentum transfer for electroexcitation of low lying nucleon resonances in a light-front quark model

13.00-14.30 Break

September 21, Thursday Parallel Session II Blokhintsev Auditorium

Relativistic heavy ion collisions, NICA/MPD/SPD in JINR

Chairman M. Mamaev

09:00-09:20 Yuri Kulchitsky, JINR

Femtoscopy in pp collisions at 13 TeV with ATLAS at LHC

09:20-09:40 Egor Bannikov, Russia

Hadron elliptic flow measurements at PHENIX

09:40-10:00 Alexander Demanov, Russia

Elliptic flow fluctuations at NICA energy range

10:00-10:20 Petr Parfenov, Russia

Performance study of the anisotropic flow measurements of identified charged hadrons with fixed-target mode of the MPD experiment at NICA

10:20-10:40 Evgeny Andronov, Russia

Azimuthal flow as a probe of color string fusion in p+p collisions

Coffee break 10:40-11:00

Relativistic heavy ion collisions; NICA/MPD/SPD in JINR

Chairman V. Kolesnikov

11:00-11:20 Mikhail Mamaev, Russia

Directed and elliptic flow of protons in the heavy ion collisions at 2-4 GeV

11:20-11:40 Vadim Volkov, Russia

Performance of BM@N Scintillation Wall in Xe+CsI@3.8 AGeV run

11:40-12:00 Marimuthu Natarajan, JINR

Observations of projectile neutrons in the relativistic fragmentations

12:00-12:20 *Ilya Segal, Russia*

Methods for centrality determination in heavy-ion collisions based on Monte-Carlo sampling of spectator fragments

12:20-12:40 Vladimir Kovalenko, Russia

Glauber modelling of the relativistic nuclear collisions at partonic level

12:40-13:00 Svetlana Belokurova, Russia

Multiplicity correlations in the model with string clusters in pp collisions at LHC energies

13:00-14:30 Break

September 21, Thursday Parallel Session III 2nd floor Auditorium

Applied use of relativistic beams

Chairman A. Baldin

09:00-09:20 Ivan Yudin, JINR

Investigations of transmutation of actinides 237Np, 238, 239Pu, 241Am at JINR accelerators within the framework of the programs "Energy - Transmutation" and "YASNAPP". Investigation of isomerism and yields of odd holmium nuclei (A = 156, 158, 160) when irradiating a 165Ho target at JINR accelerators within the framework of the programs "Energy - Transmutation" and "YASNAPP"

09:20-09:40 Yury Vaganov, JINR

JINR Investigation of the structure and of the yields of nuclei obtained using targets 238U, 209Bi at JINR accelerators: "Phasotron" (Ep=660 Mev) and "Linak-200" within the frame work of the programs "Energy - Transmutation" and "YASNAPP". Studies of superconducting properties of high-temperature conductors by methods of nuclear spectroscopy at the accelerator the NICA complex within the framework of the programs "Energy - Transmutation" and "YASNAPP"

09:40-10:00 Igor Pshenichnov, Russia

Proton and carbon-ion minibeam therapy: from modelling to treatment

10:00-10:20 Mihaela Paraipan, JINR

Energy Production in Subcritical Fission Reactors

10:20-10:40 Krystsina Husak, Belarus

Monte-Carlo simulation of quasi-infinite depleted uranium target irradiated by 1...10 GeV deuteron and proton beam

Coffee break 10:40-11:00

Chairman I. Pschenichnov

11:00-11:20 Artem Glebov, JINR

Analysis of dose-dependent effects based on the statistical significance data of the irradiation effect on neurogenesis in C57BL/6J mice

11:20-11:40 Pavel Lobachevsky, JINR

Radiobiological research on heavy ions in LRB JINR

11:40-12:00 **Sergey Shulga, JINR**

Measurements of the quark and gluon jet macro parameters with the CMS

12:00-12:20 Dmitry Dryablov, JINR

Three-arm spectrometer SCAN3 at the Nuclotron internal target

12:20-12:40 Boris Kostenko, JINR

On the possibility of observing weakly excited 6-quark states in d-d \rightarrow 6q+d scattering processes at the NICA SPD

12:40-13:00 Denis Artemenkov, JINR

Fragmentation features of Be, B nuclei in nuclear track emulsions

September 21, Thursday Parallel Session I BLTP Conference Hall

Structure functions of hadrons and nuclei

Chairman A. Parvan

14:30-14:50 Andrej Arbuzov, JINR

Parton distribution functions in QED

14:50-15:10 Aleksei Kampf, JINR

SANC capabilities at low angles Bhabha scattering

15:10-15:30 Vadzim Haurysh, Belarus

Radiative decay of pseudoscalar mesons in relativistic quark model

15:30-15:50 Vladimir Druzhinin, Russia

Study of e+e- annihilation into hadrons with SND at VEPP-2000

15:50-16:10 Gennady Lykasov, JINR

Gluon distribution in nucleon and its application to analysis of pp and AA collisions at high energies

16:10-16:30 Coffee break

Structure functions of hadrons and nuclei

Chairman A. Arbuzov

16:30-16:50 Olga Solovtsova, Belarus/JINR

Contributions of QED diagrams with vacuum polarization insertions to the lepton anomaly within the Mellin-Barnes representation

16:50-17:10 Maxim Malyshev, Russia

New results in kt-factorization for ep-processes

17:10-17:40 Artem Roenko, JINR

Mixed confinement-deconfinement phases in rotating gluon plasma

17:40-18:00 Vladimir Bytev, JINR

Differential equation approach in calculation of Feynman diagram

19:00 Banquet (VBLHEP Canteen)

September 21, Thursday Parallel Session II Blokhintsev Auditorium

Relativistic heavy ion collisions

Chairman S. Shimanskiy

14:30-14:50 Katerina Kazakova, Russia/JINR

The matrix method for estimating the background induced by the misidentification of a jet as a photon in pp collider experiment

14:50-15:10 Richard Lednicky, JINR

Probing a core of the interaction potential of two lambda-hyperons with femtoscopic correlations at LEP

15:10-15:30 Agniia Zviagina, Russia

Model investigation of transverse cumulants of different orders in nuclear-nuclear collisions

15:30-15:50 Oleg Rogachevskiy, JINR

Two particle correlations in ion collisions

15:50-16:10 Semyon Sidorov, Russia

Exotic Λ -hypernuclei: stability and charge symmetry breaking

16:10-16:30 Coffee break

Relativistic heavy ion collisions

Chairman O. Rogachevskiy

16:30-16:50 Sergey Kiselev, Russia

Hadronic resonance production with ALICE at the LHC

16:50-17:10 Alexander Mudrokh, JINR

MPD feasibility for the study of identified hadron spectra at sqrt(sNN) = 9.2 GeV

17:10-17:30 Egor Nedorezov, JINR

Description of charged particle dependence on transverse momentum with Tsallis-like distribution

17:30-17:50 Alexandru Parvan, JINR

Tsallis statistics with escort probabilities and transverse momentum distributions of hadrons

17:50-18:10 Mikhail Barabanov, JINR

Probing of exotic multiquark states in hadron and heavy ion collisions

19:00 Banquet (VBLHEP Canteen)

September 21, Thursday Parallel Session III 2nd floor Auditorium

NICA/MPD/SPD in JINR

Chairman A. Larionov

14:30-14:50 Slavomir Hnatic, JINR

New Developments in MPD Data Analysis Framework

14:50-15:10 Dmitrii Zinchenko, JINR

Development of the Vector Finder toolkit for track reconstruction in the BM@N experiment

15:10-15:30 Dmitry Baranov, JINR

Detailed Simulation of Inner Tracker for the first physics run in the BM@N experiment

15:30-15:50 Nurlan Barlykov, JINR

Simulation of silicon detectors of the MiniSPD setup

15:50-16:10 Sergey Mokhnenko, Russia

Generative machine learning approach for fast simulation of the Time Projection Chamber responses at the MPD detector

16:10-16:30 Coffee break

NICA/MPD/SPD in JINR

Chairman P. Parfeneov

16:30-16:50 Stanislav Vokál, Slovakia

The golden age of Dubna emulsion experiments

16:50-17:10 Yury Uzikov, JINR

Double spin correlations in elastic proton-proton and proton-neutron scattering at large angles in the reaction $dd \rightarrow pnpn$

17:10-17:40 Alexei Larionov, JINR

Fast proton interaction with a short-range NN correlation in 12C

17:40-18:00 Alexander Silenko, JINR

Prevalence of production of twisted particles in heavy-ion collisions

19:00 Banquet (VBLHEP Canteen)

September 22, Friday Parallel Session I BLTP Conference Hall

Structure functions of hadrons and nuclei

Chairman G. Prokhorov

09:00-09:20 Sergey Yurev, JINR

Relativistic generalization of the Faddeev-Yakubovsky equation and its application to the study of the helium-4 nucleus

09:20-09:40 Alexey Eskin, Russia

Energy levels of pionic and kaonic helium in variational approach

09:40-10:00 Fedor Martynenko, Russia

Hadronic light by light contribution in the muonium hyperfine splitting

10:00-10:20 Victor Robuk, JINR

A model of an elementary material object

10:20-10:40 Ibragim Alikhanov, Russia

Contribution from the CP-conjugate of the Glashow resonance to the total neutrinonucleus cross section

Coffee break 10:40-11:00

Polarization phenomena, spin physics

Chairman O. Teryaev

11:00-11:20 Georgy Prokhorov, JINR

Novel quantum phase transition in heavy ion collisions

11:20-11:40 Valery Troshin, Russia

Global polarization of lambda hyperons and its correlation with directed flow in the MPD experiment

11:40-12:00 Ivanhoe Pestov, JINR

Nature of Nuclear Matter

12:00-12:20 Anatoli Zelenski, Russia

Optically Pumped Polarized 3He++ Ion Source Development for RHIC/EIC

12:20-12:40 Gennadii Volkov, Russia

Generalization of the concept of unitarity in the quantum basis of color and three quark-lepton generations

12:40-13:00 Alexander Machavariani, Georgia/JINR

Relativistic field-theoretical approach of the vector meson resonance production in reaction $A+B \rightarrow V+X \rightarrow 1+2+X$ and determination of the location of the spin quantization axis of the vector meson-resonance V via the cross sections of the subreactions $A+B \rightarrow V+X$ and $V \rightarrow 1+2$

13.00-14.30 Break

September 22, Friday
Parallel Session II
Blokhintsev Auditorium

Relativistic heavy ion collisions

Chairman E. Kokoulina

09:00-09:20 **Dorota Kotlorz, JINR**

NLO pQCD analysis of semi-inclusive pion and kaon production in proton-proton and heavy-ion collisions at the STAR and NICA kinematics. Tests of the parametrizations of Fragmentation Functions

09:20-09:40 Anna Kraeva, Russia

Two-Pion Femtoscopic Correlations in Au+Au Collisions at sqrt(sNN) = 3 GeV from STAR

09:40-10:00 Vinh Luong, JINR

Identical Pion Interferometry from Au+Au Collisions at sqrt(sNN) = 3.2, 3.5, and 3.9 GeV in the STAR Experiment at RHIC

10:00-10:20 Olga Shaposhnikova, Russia

Open and hidden strangeness with kaons and ϕ -mesons in Bjorken energy density approach for central A+A collisions from SPS to LHC

10:20-10:40 Konstantin Mikhaylov, Russia/JINR

Femtoscopic correlations of charged kaons in Au-Au collisions at BES-I STAR energy region with the UrQMD model

Coffee break 10:40-11:00

Quantum chromodynamics at large distances, Dynamics of multiparticle productionChairman A. Taranenko

11:00-11:20 Vladimir Uzhinsky, JINR

Tuning of Geant4 FTF model using NA61/SHINE experimental data

11:20-11:40 Elena Kokoulina, JINR

Active role of gluons in multiparticle production

11:40-12:00 Sergey Borzakov, JINR

Experiments to search for singlet deuteron and problem of the dineutron

12:00-12:20 Vladimir Kurbatov, JINR

Resolution of Spd Detector in the Search of Dibarions with small energy excitations

12:20-12:40 Fedor Guber, Russia

The Development of High Granular Neutron Time-of-Flight Detector for the BM@N Experiment

12:40-13:00 Nikolay Karpushkin, Russia

Time-over-threshold method based on the time properties of plastic scintillators equipped with silicon photomultipliers for the BM@N High-Granular Neutron detector 13.00-14.30 Break

September 22, Friday Parallel Session III 2nd floor Auditorium

NICA/MPD/SPD in JINR

Chairman A. Litvinenko

09:00-09:20 Yuri Murin, JINR

Modern microelectronics to NICA projects

09:20-09:40 Sofiya Sokolova, JINR

Wide-gap Resistive Plate Chamber for the trigger system of the TOF MPD test bench

09:40-10:00 Genadii Milnov, JINR

Status of the Luminosity Detector for the NICA/MPD

10:00-10:20 Katherin Shtejer, JINR

Local polarimetry with inclusive neutral pions in SPD at NICA

10:20-10:40 Viacheslav Kulikov, Russia

Calibration methods for half-sectors of the MPD/NICA electromagnetic calorimeter on cosmic ray muons

Coffee break 10:40-11:00

NICA/MPD/SPD in JINR

Chairman V. Kulikov

11:00-11:30 Anatoly Litvinenko, JINR

Beams collision monitoring and luminosity measurements in the interaction point at MPD/NICA

11:30-11:50 Sultan Musin, Russia

Centrality determination method based on observables from TPC and FHCal at MPD/NICA

11:50-12:10 Alexander Strizhak, Russia

Energy calibration of Forward Hadron Calorimeter at MPD with cosmic muons

12:10-12:30 Evgeny Usenko, Russia

The TOT methode with pulse former based on Raised-cosine filter

12:30-12:50 Arseniy Zakharov, Russia

Materials selection of the SPD Beam-Beam Counter scintillator detector prototype

September 22, Friday Parallel Session I BLTP Conference Hall

Polarization phenomena, spin physics

Chairman Yu. Uzikov

14:30-14:50 Anton Druzhinin, JINR

New drift chambers for ALPOM-2 experiment

14:50-15:10 Evgeny Tsyplakov, Russia/JINR

Spin flipping of a deuteron beam by correcting quadrupoles in Nuclotron/JINR

15:10-15:30 Vladimir Kondratyev, JINR

Structure and synthesis of magnetized heavy nuclei

15:30-15:50 Nikolay Piskunov, JINR

Beam polarimetry in the NICA collider using a proton cluster target

15:50-16:10 Dmitry Kirillov, JINR

Measurement of analyzing power in n+CH scattering at 3.75 GeV/c

16:10-16:30 Coffee break

Polarization phenomena, spin physics

Chairman N. Piskunov

16:30-16:50 Alexander Titov, JINR

Non-linear processes in electron-laser and photon-laser interactions

16:50-17:10 *Oleg Selyugin JINR*

Dependence of structure of of elastic scattering amplitude on Mandelstam variables at high energies

17:10-17:30 Daria Volkova, JINR

Invariants for angular distributions in lepton pair production

17:30-17:50 Yury Filatov, Russia

Preservation of the proton polarization up to 3.5 GeV/c in the Nuclotron at JINR using correcting dipoles and a weak solenoid

17:50-18:10 **Roman Shindin, JINR**

Search for Polarized Phenomena at Nuclotron

September 22, Friday Parallel Session II Blokhintsev Auditorium

Dynamics of multiparticle production

Chairman V. Vechernin

14:30-14:50 Anton Baldin, JINR

Basic concepts of relativistic nuclear physics formulated by A.M.Baldin and their development as applied to the acceleration complex NICA

14:50-15:10 Elina Baldina, JINR

Self-similarity approach in relativistic physics

15:10-15:30 Mikhail Tokarev, JINR

On a signature of phase transition in heavy ion nuclear matter

15:30-15:50 Tatiana Dedovich, JINR

Search for Fractal Structures in Monte - Carlo AuAu Events at Energy √sNN = 200 GeV by SePaC Method

15:50-16:10 Khachik Abraamyan, JINR

Observation of structures at \sim 17 and \sim 38 MeV/c2 in the $\gamma\gamma$ invariant mass spectra in pC, dC, and dCu collisions at plab of a few GeV/c per nucleon

16:10-16:30 Coffee break

Dynamics of multiparticle production

Chairman M. Tokarev

16:30-16:50 Vladimir Vechernin, Russia

Cumulative production at central rapidities and large transverse momenta at NICA

16:50-17:10 Stanislav Smolyansky, Russia

Radiation Accompanying the Schwinger Effect in the Graphene

17:10-17:30 Alexander D'yachenko, Russia

Emission of cumulative protons, pions, kaons and antiprotons in collisions of heavy ions of intermediate energies based on the non-equilibrium hydrodynamic approach

17:30-17:50 Alexander Jerusalimov, JINR

The study of the reaction np->nppi+pi- at the incident momenta P_0>3Gev/c

17:50-18:10 Nugzar Makhaldiani, JINR

Semi-Inclusive Distributions and Statistical Potentials

September 23, Saturday Plenary Session BLTP Conference Hall

Chairman S. Bondarenko

09:00-09:40 Andrei Zaitsev, JINR

Overview of unstable states studies in fragmentation of relativistic nuclei

09:40-10:20 Stepan Shimanskiy, JINR

From cumulative processes to cold superdense baryon matter

10:20-10:40 Oleg Kouznetsov, JINR

Studies of the nucleons structure using the SIDIS azimuthal angle asymmetries calculated with modified double ratios of numbers of the hadrons

10:40-11:20 Victor Braguta, JINR

Influence of relativistic rotation on QCD properties

11:20-11:30 Alexandr Malakhov, JINR

Closing