

October 4, Monday  
Conference Hall of BL/TP JINR  
Plenary Session

Chairman V. Voronov

- 10.00 **Malakhov A., Burov V.** (JINR)  
Opening  
10.20 **Itkis M.** (JINR)

**Quantum Chromodynamics at the Large Distances**

- 10.40 **Prokhorov L.** (Russia)  
On Nature of Symmetries

**Coffee break 11.00 – 11.30**

- 11.30 **Musalkhanov M.** (Uzbekistan)  
Heavy-light Quark Systems in the Instanton Vacuum  
12.00 **Voutier E.** (France)  
Polarized Electrons and Positrons for Hadron Imaging  
12.30 **Konopleva N.** (Russia)  
Gauge Fields and Gravity

**Break 13.00 – 14.00**

**Progress in experimental studies at the high energy accelerators**

Chairman A. Malakhov

- 14.00 **Punjabi V.** (USA)  
New Measurements of  $G_{Ep}/G_{Mp}$  to high  $Q^2$  at Jefferson Lab  
14.30 **Perdrisat C.F.** (USA)  
Measurements of  $G_{Ep}/G_{Mp}$  to high  $Q^2$  with 11 GeV Electrons at Jefferson Lab  
15.00 **Boucher J.** (France)  
Time-like Electromagnetic Proton Form Factors  
15.30 **Wojtsekhowski B.** (USA)  
Review of Neutron Form Factors

**Break 16.00 – 16.10**

Dubna, Russia  
Joint Institute for Nuclear Research

October 4, Monday  
Conference Hall of BL/TP JINR  
Plenary Session

Chairman V. Lukyanov

**Relativistic Heavy Ion Collisions.  
Structure Functions of Hadrons and Nuclei\***

- 16.10 **Malakhov A.** (JINR)  
Asymptotics in Relativistic Nuclear Physics  
16.30 **Baldin A.** (JINR)  
Collective Effects in Relativistic Nuclear Physics:  
Historic Survey and Prospects  
17.00 **Karmanov V.** (Russia)  
Solving Bethe-Salpeter Equation in Minkowski Space  
17.25 **Dorkin S.** (JINR)  
Heavy mesons in Bethe-Salpeter Approach  
17.45 **Rogochaya E.** (JINR)  
Bethe-Salpeter Approach with the Covariant Separable  
Kernel for the Electrodintegration of the Deuteron  
18.05 **Bondarenko S.** (JINR)  
Relativistic Properties of the Deuteron in the Bethe-Salpeter Approach  
18.25 **Molochkov A.** (Russia)  
Relativistic Structure of Nuclei  
18.50 End of the session  
19.00 **Welcome Party (BLTP Cafeteria)**

**\*Session in Honor of the 61th Birthday of Professor V. Burov**

Dubna, Russia  
Joint Institute for Nuclear Research

October 5, Tuesday  
Conference Hall of BL/TP JINR  
Parallel Session

Chairman C. Petrisat

### Relativistic Heavy Ion Collisions

- 9.00 **Vechnin V.** (Russia)  
Long-range Rapidity Correlations in the Model with Independent Emitters
- 9.20 **Vokal S.** (Slovakia)  
Pseudorapidity Spectra of Relativistic Particles Emitted in the Au and Pb Induced Reactions at High Energies
- 9.40 **Tchuvil'sky Yu.** (Russia)  
Pauli Repulsion Energy and the Properties of Door-Way States in Relativistic Central Heavy Ion Collisions

**Coffee break 10.40 – 11.10**

### Hadron spectroscopy

Chairman S. Getasimov

- 11.10 **Aslanyan P.** (JINR)  
J-PARC P02 project: "The Study of Exotic Multiquark States in Systems with  $\Lambda$ -Hyperons,  $K^0_s$ -Mesons and  $\gamma$  - Quanta"
- 11.50 **Khrykin A.** (JINR)  
The Case for the NN-decoupled Dibaryon  $d^*(1956)$
- 12.10 **Dineykhra M.** (JINR)  
Determination of the Mass Spectrum of (cb) Mesons with Relativistic Corrections
- 12.30 **Uzikov Yu.** (JINR)  
Formation of the  $^3S_0$  Diproton in the Reaction  $pp \rightarrow pp_s \pi^0$
- 12.50 **Jerusalimov A.** (JINR)  
Study of the Reaction  $np \rightarrow n p \pi^+ \pi^-$  at Intermediate Energies

**Break 13.10 – 15.00**

Dubna, Russia  
Joint Institute for Nuclear Research

October 5, Tuesday  
Blokhintsev Auditorium of BL/TP JINR  
Parallel Session

Chairman M. Tokarev

### Multiparticle dynamics

- 9.00 **Abramovsky V.A.** (Russia)  
The Different Inclusive Spectra of Proton-Proton and Proton-antiproton Collisions at  $\sqrt{s} = 900$  GeV
- 9.20 **Alakhverdyan A.** (JINR)  
The Kinematical Fit for Neutral Strange Particle Reconstruction
- 9.40 **Zborovsky Im.** (Czech Republic)  
Saturation of Hadron Production in Proton-(anti)Proton Collisions at Low Pr
- 10.20 **Dedovich I.** (JINR)  
P-adic Coverage Method in Fractal Analysis of Showers

**Coffee break 10.40 – 11.10**

Chairman V. Glagolev

- 11.10 **Slowinski B.** (Poland)  
Impact Parameter Estimation in Hadron-Nucleus Interactions at Intermediate Energies
- 11.30 **Eliseev S.** (JINR)  
Finite Formation Time of Hadrons and QGP Production: to be or not to be?
- 11.50 **D'yachenko A.** (Russia)  
On the Hardening of the Spectrum of High-Energy Particles Formed in Heavy Ion Collisions Considered within the Framework of the Hydrodynamic Approach
- 12.10 **Tokarev M.** (JINR)  
Search for Signature of Phase Transition and Critical Point in Heavy Ion Collisions
- 12.30 **Foofilov G.** (Russia)  
Long-range (Forward-backward) Pt and Multiplicity Correlations in ALICE in pp Collisions at 900 GeV
- 12.50 **Filinov V.** (Russia)  
Stochastic Simulations of Thermodynamic and Kinetic Properties of Strongly Coupled Quark-Qluon Plasmas in Feynman and Wigner Representation of Quantum Statistical Mechanics
- 13.10 **Kryazev N.** (Russia)  
Equation of State of Multi-Component Hadronic Gas with Van der Waals Correction and Phase Transition to Quark-Qluon Plasma

**Break 13.30 – 15.00**

Dubna, Russia  
Joint Institute for Nuclear Research

October 5, Tuesday  
 Conference Hall of BL/TP JINR  
 Parallel Session

*Polarization phenomena and spin physics*

Chairman V. Ladygin

- 15.00 **Piyadin S.** (JINR)  
 First Results on the Study of  $dp \rightarrow ppn$  Reaction at Internal Target Station at Nuclotron
- 15.20 **Ladygina N.** (JINR)  
 Study of the  $dp$ -Elastic Scattering at Relativistic Energies
- 15.40 **Salmira E.** (JINR)  
 Longitudinal Polarization of the Lambda and Antilambda Hyperons in DIS at COMPASS (2003-2004)
- 16.00 **Krasnov V.** (JINR)  
 Polarization Effects in Charge Pion Production at the NUCLOTRON Internal Target
- 16.20 **Lomov V.** (Russia)  
 Generalized Dynamics of Rarita-Schwinger Field
- 16.40 **Sitenko A.** (Belarus)  
 Spin-tensor Effects at Channeling and a Potential for Measuring Quadrupole Moments of Unstable Nuclei

*Coffee break 17.00 – 17.30*

*Hadron spectroscopy*

Chairman V. Karmanov

- 17.30 **Kaloshin A.** (Russia)  
 Mixing of Fermion Fields of Opposite Parities and Baryon Resonances
- 17.50 **Barabanov M.** (JINR)  
 Application of High Quality Antiproton Beam with Momentum Ranging from 1 GeV/c to 15 GeV/c to Study Charmonium and Exotics
- 18.10 **Radzhabov A.** (Russia)  
 Light-by-light Contribution of Scalar Mesons to  $(g-2)$  of the Muon
- 18.30 **Kuraev E.** (JINR)  
 Three jet production in peripheral  $\bar{p} - p$  collisions
- 18.50 **Egorov O.** (Russia)  
 Diffraction Dissociation (DD) Phenomena after Neutrino Nuclei Interactions and Cumulative Processes
- 19.10 **Troyan A.** (JINR)  
 Search for and Study of Low-Mass Scalar Mesons in the Reaction  $np \rightarrow n\pi^+\pi^-$  at the Impulse of Neutron Beam 3.83 GeV/c
- 19.30 End of the session

Dubna, Russia  
 Joint Institute for Nuclear Research

October 5, Tuesday  
 Blokhintsev Auditorium of BL/TP JINR  
 Parallel Session

*Applied use of relativistic beams*

Chairman A. Baldin

- 15.00 **Chilap V.** (Russia)  
 Basic Principles of a New Scheme of Electronuclear Method of Energy Production and Transmutation of Long-Lived Radioactive Wastes of Nuclear Power Plants Based on Nuclear Relativistic Technologies
- 15.20 **Bielewicz M.** (Poland)  
 Measurement Relevant to High Energy Neutron Spectrum by Application Yttrium Detectors in the U/Pb-Assembly Using 4 GeV Deuteron Beam from JINR Nuclotron (Dubna)
- 15.40 **Indrigh A.** (JINR)  
 Reaction Rates in  $^{237}\text{Np}$  Exposed to Spallation Neutrons in Pb Target and U-blanket System by Relativistic Deuterons of 4 GeV
- 16.00 **Kilim S.** (Poland)  
 A Method of Spallation Neutron Energy Spectrum Reconstruction with Yttrium Sample Activation
- 16.20 **Slowinski B.** (Poland)  
 Profiles and Fluctuations of Electromagnetic Cascades Produced by 100-3500 MeV Gamma Quanta in Heavy Amorphous Media

*Coffee break 17.00 – 17.30*

Chairman S. Tituniunikov

- 17.30 **Wagner V.** (Czech Republic)  
 Measurement of Neutron Field Produced Around Pb/U Setup Irradiated by Relativistic Light Ions
- 17.50 **Pronskikh V.** (JINR)  
 $(n, xn)$  and  $(n, \gamma)$  Reaction Rates in Iodine-129 Exposed to Spallation Neutrons of GAMMA-3 Setup
- 18.10 **Szata M.** (Poland)  
 Once Through Thorium Based Fuel Cycle Analysis of Acceleration Driven System for Energy Production and Radioactive Waste Transmutation-Impact on Economy Improvement
- 18.30 **Safironova A.** (Belarus)  
 Experimental Study of Neutron-Physical Characteristics of the U/Pb Assembly of Electronuclear Setup "Energy+ Transmutation"
- 18.50 **Patapenka A.** (Belarus)  
 Method and Results of the  $^{209}\text{Bi}(d, f)$  and  $^{209}\text{Bi}(d, xnpp)$  Reaction Cross Sections Measurements at 1.6 and 4 GeV Deuterons Beam
- 19.10 End of the session

Dubna, Russia  
 Joint Institute for Nuclear Research

October 6, Wednesday  
Conference Hall of BL/TP JINR  
Plenary Session

**Hadron spectroscopy**

Chairman O. Teryaev

- 9.00 **Achasov N.** (Russia)  
Life of Light Scalar Mesons: past, present, future
- 9.30 **Gerashinov S.** (JINR)  
Why Polarized Photonic Absorption Sum Rules Could be Interesting?
- 9.50 **Efimov G.** (JINR)  
Bound states and Quantum Field Theory
- 10.20 **Surovisev Yu.** (JINR)  
The  $f_2$ - and  $\rho_2$ -Mesons from Analysis of Multi-Channel Pion-Pion Scattering
- 10.40 **Uzikov Yu.** (JINR)  
Two Pion Production in the Reaction  $pd \rightarrow p d \pi^+ \pi^-$

**Coffee break 11.00 – 11.30**

**Polarization phenomena and spin physics**

Chairman A. Kovalenko

- 11.30 **Tomasi-Gustafsson E.** (France)  
Opportunities for QCD Studies with Exclusive Processes Induced by Antiprotons
- 11.50 **Teryaev O.** (JINR)  
New Manifestations of Axial Anomalies
- 12.30 **Bystrijskiy Yu.** (JINR)  
Bremsstrahlung and Pair Production Processes at Low Energies: Multidifferential Section and Polarization Phenomena
- 12.50 **Ladygin V.** (JINR)  
Recent Results with Polarized Deuterons and Polarimetry at NUCLOTRON-NICA
- 13.10 **Reznikov S.** (JINR)  
Deuteron Beam Polarimetry at NUCLOTRON-NICA
- 13.30 **Sharov V.** (JINR)  
Measurement of Spin-dependent np Observables Using High Intensity Polarized Deuteron Beams at the Nuclotron-M

**Break 13.50 – 15.00**

Dubna, Russia  
Joint Institute for Nuclear Research

October 6, Wednesday  
Conference Hall of BL/TP JINR  
Plenary Session

**Polarization phenomena and spin physics**

Chairman N. Piskunov

- 15.00 **Annand J.** (UK)  
Recoil Neutron Polarimetry at High Momenta
- 15.20 **Kunne F.** (France)  
Overview of Experimental Results on Nucleon Spin Structure from COMPASS
- 16.00 **Glagolev V.** (JINR)  
Differential Cross Section and Vector Analyzing Power in d-p Elastic Scattering at 2.0 GeV
- 16.20 **Gurchin Yu.** (JINR)  
Study of dp-elastic scattering with internal and extracted Nuclotron beams

**Coffee break 16.40 – 17.10**

**Structure functions of hadrons and nuclei**

Chairman P. Zaribin

- 17.10 **Nedorezov V.** (Russia)  
New GRAAL Data on Nucleon Photoabsorption in the Nucleon Resonance Energy Region
- 17.40 **Tomio L.** (Brazil)  
The Nucleon Structure Function in a Statistical Quark Model
- 18.10 **Kotikov A.** (JINR)  
Small-x Behavior of the Structure Function  $F_2$
- 18.40 **Ganzova E.** (Russia)  
The Electromagnetic Structure of Composite Systems at the Large Momentum Transfer
- 19.00 **Kudinov M.** (Russia)  
The Relativistic Electromagnetic Structure of the Nucleon
- 19.20 End of the session

Dubna, Russia  
Joint Institute for Nuclear Research

October 7, Thursday  
Conference Hall of BL/TP JINR  
Parallel Session

Chairman G. Feofilov

*Relativistic heavy ion collisions*

- 9.00 **Fadjev N.** (JINR)  
Asymptotic Freedom in Mechanics of Hadron Collisions at High Energies
- 9.20 **Krutenkova A.** (Russia)  
Cumulative to Evaporation Ratio in  $^{12}\text{C}$  Fragmentation
- 9.40 **Vasiliev T.** (JINR)  
High Pt Pion Spectra and Dihadron Correlations at CBM@SIS100
- 10.00 **Krylov A.** (Russia)  
Violation of Unitarity of the tree Approximation to the Glauber AA-Scattering Amplitude
- 10.20 **Mikhailov K.** (Russia)  
Femtoscopy Application of the New EPOS Model to the STAR Experiment
- 10.40 **Lyuboshitz V.** (JINR)  
Possible Effect of Mixed Phase and Deconfinement upon Spin Correlations in the  $(\Lambda \bar{\Lambda})$  Pairs Generated in Relativistic Heavy-Ion Collisions

**Coffee break 11.00 – 11.30**

Chairman V. Toneev

- 11.30 **Musulmanbekov G.** (JINR)  
On Hypernuclear State in High Energy Heavy Ion Collisions
- 12.00 **Radchenko N.** (Russia)  
Nucleus-Nucleus Collisions at Low Energies. The Effects from non Vacuum Exchange
- 12.20 **Baldina EI.** (Russia)  
Relativistic Description of Particle Production and Acceleration by Ion and Laser Beams
- 12.40 **Rogachevsky O.** (JINR)  
The Fractal Dimension Estimations for the Events of Au(Pb)+Emu Interactions
- 13.20 **Litvinenko A.** (JINR)  
The Centrality Determination for the NICA/MPD
- 13.40 **Bubelev En.** (JINR)  
On the Physical Improbability of the Nuclei Mutual Longitudinal Compression in Collisions at High and Moreover Super High Energies

**Break 14.00 – 15.00**

Dubna, Russia  
Joint Institute for Nuclear Research

October 7, Thursday  
Blokhtintsev Auditorium of BL/TP JINR  
Parallel Session

Chairman St. Gmuca

*Quantum Chromodynamics at the Large Distances*

- 9.00 **Kobushkin A.** (Ukraine)  
Two-photon exchange in electron deuteron scattering
- 9.20 **Gallo B.** (JINR)  
Weyl group, CP and the kink-like field configurations in the effective SU(3) gauge theory
- 9.40 **Koryakin V.** (Russia)  
To the Question on the Theory of Magnetic Charges and Quantum Chromodynamics at Large Distances
- 10.10 **Amalsky G.** (Russia)  
Explanation of Empirical Ratios  $\sigma_{\text{tot}} \approx 5\sigma_{\text{el}}$  and  $\sigma_{\text{tot}} \approx \sigma_{\text{tot}}^0 (\sqrt{s}/\sqrt{s_0})^{1/5}$  of N-N Cross-Sections at Energies  $\sqrt{s} = 5 - 10^4$  GeV and  $\sqrt{s} > \sqrt{s_0}$ ,  $\sqrt{s_0} \sim 70$  GeV
- 10.40 **Pestov I.** (JINR)  
Mathematical Principles Unifying General Relativity and Quantum Mechanics

**Coffee break 11.00 – 11.30**

*Studies of exotic nuclei in relativistic beams*

Chairman V. Nedorezov

- 11.30 **Krivenkov D.** (JINR)  
Peripheral Dissociation of Relativistic  $^{12}\text{C}$  Nuclei in Nuclear Track Emulsion
- 11.50 **Afanasyev S.** (JINR)  
Search Results for Eta-Mesic Nuclei in the d + C Reaction in JINR
- 12.10 **Gmuca St.** (Slovakia)  
Density Dependent Couplings in RMF Approach
- 12.30 **L'vov A.** (Russia)  
Search for Eta-Mesic Nuclei at the LPI Synchrotron
- 12.50 **Majling L.** (Czech Republic)  
Delayed Clusters Accompanying Non-Mesonic Weak Decay of the Hypernuclei. One- and Two-Nucleon Induced Processes
- 13.20 **Rossiyanskaya N.** (JINR)  
Formation of Heavy Hyperons and Antihyperons in DIS at the COMPASS Experiment

**Break 13.40 – 15.00**

Dubna, Russia  
Joint Institute for Nuclear Research

October 7, Thursday  
Conference Hall of BL/TP JINR  
Plenary Session

Chairman A. Shebeko

*Quantum Chromodynamics at the Large Distances*

- 15.00 **Makhalitiani N.** (JINR)  
Renomdynamics, Multiparticle Production, Negative Binomial Distribution and Riemann Zeta Function
- 15.30 **Kochelev N.** (JINR)  
Soft Pomeron Structure and Chromomagnetic Quark-Gluon Interaction
- 16.00 **Bogolubsky I.** (JINR)  
Gluon lumps revisited ?
- 16.20 **Gambold G.** (JINR)  
Infrared Behavior of QCD Running Coupling

**Coffee break 16.40 – 17.10**

Chairman A. Sorin

- 17.10 **Kosmachev O.** (JINR)  
Universal Constituents for Description of a Structure Both the Leptons and Hadrons
- 17.30 **Machavariani A.** (JINR)  
Two Body and three Body Field Theoretical Equations with and Without Quark Degrees of Freedom

17.50 End of the session

**19.00 Concert (Dubna Music School)**

Dubna, Russia  
Joint Institute for Nuclear Research

October 8, Friday  
Conference Hall of BL/TP JINR  
Plenary Session

Chairman Br. Slowinski

*Quantum Chromodynamics at the Large Distances*

- 9.00 **Shebeko A.** (Ukraine)  
Relativistic Interaction for Meson-Nucleon Systems in the Clothed-Particle Representation
- 9.25 **Nikolaev N.** (Germany)  
QCD Unitarily Cutting Rules for Nuclear Collisions
- 9.50 **Savin I.** (JINR)  
Azimutal assymetries in hadron production from longitudinal polarization target
- 10.20 **Smolyansky S.** (Russia)  
Role of Vacuum Polarization in the Annihilation Channel at the Presence of a Strong Laser Field
- 10.40 **Pervushin V.** (JINR)  
Universe as a Higgs Boson Factory

**Coffee break 11.00 – 11.30**

*Progress in experimental studies at the high energy accelerators*

Chairman V. Kekelidze

- 11.30 **Abraamyan Kh.** (JINR)  
Resonance Structure in the  $\Upsilon\Upsilon$  and  $\pi^0\pi^0$  Systems
- 12.00 **Suleimanov M.** (JINR)  
Search for a Signal on Phase Transition of Strongly Interacting Matter applying the random matrix approach
- 12.20 **Dryablov D.** (JINR)  
Identification of Xe Bunch at the JINR NUCLOTRON-M Accelerator by the Track Length Measurement Method
- 12.40 **Kurilkin A.** (JINR)  
Single and Double Pion Production in the np-Collisions at 1.25 GeV with HADES
- 13.00 **Kurilkin P.** (JINR)  
Cross Section for dp-Elastic Scattering at 1.25 GeV/u

**Break 13.20 – 15.00**

Dubna, Russia  
Joint Institute for Nuclear Research

October 8, Friday  
Conference Hall of BL/TP JINR  
Plenary Session

*Progress in experimental studies at the high energy accelerators*

Chairman S. Vokal

- 15.00 **Feofilov G.** (Russia)  
Onset of ridge phenomena in AA and pp collisions and percolation string model
- 15.20 **Maggiore M.** (Italy)  
Transverse Pariton Distribution Functions in Drell-Yan Processes at FAIR
- 15.40 **Kovalenko A.** (JINR)  
First Results on the SPS Beam Collimation with Bent Crystals

**Coffee break 16.10 – 16.40**

**Relativistic Heavy Ion Collisions.  
Cumulative processes**

Chairman A. Vodopyanov

- 16.40 **Shimanskij S.** (JINR)  
Study of the Cold Dense Baryonic Matter with Nonpolarized and Polarized Beams
- 17.20 **Titov A.** (JINR)  
Cumulative effects in strong electromagnetic fields
- 17.40 **Stavinskij A.** (Russia)  
Dense Cold Matter Study with special trigger at TWA, Nuclotron, NICA and FAIR
- 18.00 **Sharkov G.** (Russia)  
FLINT Experimental Data on Dense Gold Matter Search with Special Trigger
- 18.40 End of session

19.00 **Banquet (Scientists' Club)**

Dubna, Russia  
Joint Institute for Nuclear Research

October 9, Saturday  
Conference Hall of BL/TP JINR  
Plenary Session

*Accelerator facilities: status and perspectives.  
Progress in experimental studies at the high energy accelerators*

Chairman E. Tomasi-Gustafsson

- 9.00 **Zarubin P.** (JINR)  
Clustering in Dissociation of Relativistic  $^9\text{Be}$ ,  $^{12}\text{C}$ , and  $^{12}\text{N}$  nuclei
- 9.40 **Zelenski A.** (USA)  
Polarized Proton Beams in RHIC
- 10.20 **Vodopyanov A.** (JINR)  
Status of the LHC
- 10.50 **Rukoyatkin P.** (JINR)  
External beams at the Nuclotron facility: status and nearest tasks
- 11.10 **Kovalenko A.** (JINR)  
Nuclotron-M: Status and Perspectives

**Break 11.30 – 11.40**

Chairman V. Burov

- 11.40 **Malakhov A.** (JINR)  
Proton-Ion Complex "PROTION"
- 12.00 **Akulnichiev S.** (Russia)  
Novel Accelerator Technologies for Radiation Therapy
- 12.40 **Krasavin E.** (JINR)  
Biological Effect of Accelerated Heavy Ions
- 13.20 **Burov V., Malakhov A.** (JINR)  
Closing
- 13.30 **Coffee**

Dubna, Russia  
Joint Institute for Nuclear Research