

## CONTENTS

<b>Foreword .....</b>	<b>1545</b>
<i>Сисакян А. Н.</i>	
<b>Жизнь и деятельность Н. Н. Боголюбова .....</b>	<b>1547</b>

### PLENARY SESSION

<i>Araki H.</i>	
<b>Dynamics and Potentials .....</b>	<b>1557</b>
<i>Aref'eva I. Ya.</i>	
<b>Catalysis of Black Holes/Wormholes Formation</b>	
<b>in High-Energy Collisions .....</b>	<b>1562</b>
<i>Ebert D., Faustov R. N., Galkin V. O.</i>	
<b>Low-Energy Properties of Hadrons in the Relativistic</b>	
<b>Quark Model .....</b>	<b>1579</b>
<i>Erler J., Kleinig W., Klüpfel P., Kvasil I., Nesterenko V. O., Reinhard P.-G.</i>	
<b>Self-Consistent Mean-Field Description of Nuclear Structure</b>	
<b>and Dynamics — A Status Report .....</b>	<b>1588</b>
<i>Jansen K.</i>	
<b>The Quest for Solving QCD: Simulations at Light Quark Masses .....</b>	<b>1597</b>
<i>Shaposhnikov M.</i>	
<b>Cosmology versus Standard Model .....</b>	<b>1606</b>
<i>Stoitsov M.</i>	
<b>Nuclear Density Functional Theory .....</b>	<b>1616</b>
<i>Voronov V. V., Jolos R. V., Arsenyev N. N., Severyukhin A. P.</i>	
<b>Pair correlations and the Time-Dependent Hartree–Fock–Bogoliubov</b>	
<b>Method in the Theory of Nuclear Structure .....</b>	<b>1626</b>
<i>Yngvason J.</i>	
<b>The Interacting Bose Gas: A Continuing Challenge .....</b>	<b>1638</b>
<i>Zagrebnov V. A.</i>	
<b>Boson Random Point Processes and Condensation .....</b>	<b>1649</b>

---

**SESSION «QUANTUM FIELD THEORY  
AND THEORY OF ELEMENTARY PARTICLES»**

<i>Achasov N. N.</i>	
<b>Light Scalar Mesons as Manifestation of Spontaneously</b>	
<b>Broken Chiral Symmetry .....</b>	<b>1663</b>
<i>Andrianov A. A., Andrianov V. A., Espriu D.</i>	
<b>Parity Violation in QCD-Motivated Hadronic Models</b>	
<b>at Extreme Conditions.....</b>	<b>1672</b>
<i>Arbuzov B. A., Volkov M. K.</i>	
<b>Bogoliubov Compensation Approach in QCD and</b>	
<b>in the Electroweak Theory.....</b>	<b>1681</b>
<i>Бакулов А. П.</i>	
<b>Пересуммирование в дробно-аналитической теории</b>	
<b>возмущений КХД.....</b>	<b>1688</b>
<i>Bednyakov A. V.</i>	
<b>Three-Loop Running of the Strong Coupling Constant and</b>	
<b>the Mass of the <math>b</math> Quark in the Supersymmetric QCD .....</b>	<b>1696</b>
<i>Bogolubov N. N. (Jr.), Prykarpatsky A. K.</i>	
<b>The Vacuum Structure and Special Relativity Revisited:</b>	
<b>A Field Theory No-Geometry Approach within the Lagrangian</b>	
<b>and Hamiltonian Formalisms .....</b>	<b>1702</b>
<i>Blaschke D., Buballa M., Radzhabov A. E., Volkov M. K.</i>	
<b>Nonlocal Quark Model beyond Mean Field .....</b>	<b>1718</b>
<i>Bulavin L. A., Jenkovszky L. L., Troshin S. M., Tyurin N. E.</i>	
<b>Critical Phenomena in High-Energy Lepton- and</b>	
<b>Hadron-Induced Reactions.....</b>	<b>1724</b>
<i>Selyugin O. V., Cudell J.-R.</i>	
<b>Asymptotics of <math>S</math> Matrix and Unitarization.....</b>	<b>1731</b>
<i>Ebert D., Faustov R. N., Galkin V. O.</i>	
<b>Masses of Heavy Tetraquarks with Hidden Charm and Bottom .....</b>	<b>1736</b>
<i>Fadin V. S., Fiore R., Grabovsky A. V., Papa A.</i>	
<b>Low-<math>x</math> Evolution Equations in Möbius Representation .....</b>	<b>1742</b>
<i>Gasser J., Haefeli Ch., Ivanov M. A., Schmid M.</i>	
<b>Relations between <math>SU(2)</math>- and <math>SU(3)</math>-LECs</b>	
<b>in Chiral Perturbation Theory .....</b>	<b>1749</b>
<i>Kalmykov M. Yu., Kniehl B. A.</i>	
<b>All-Order <math>\varepsilon</math> Expansions of Hypergeometric Functions</b>	
<b>of One Variable .....</b>	<b>1754</b>

<i>Kataev A. L., Kim V. T.</i>	
<b>Peculiar Features of the Relations between Pole and Running</b>	
<b>Heavy-Quark Masses and Estimates of the <math>O(\alpha_s^4)</math> Contributions</b>	<b>1760</b>
<i>Kotikov A. V.</i>	
<b>The Property of Maximal Transcendentality in the <math>\mathcal{N} = 4</math> SYM</b>	<b>1768</b>
<i>Kozlov G. A.</i>	
<b>Unparticles in Gauge Theory</b>	<b>1773</b>
<i>Kozlov G. A.</i>	
<b>The Gauge Unparticles («Ungluons»)</b>	<b>1779</b>
<i>Krasnikov N. V.</i>	
<b>Fields with Continuously Distributed Mass</b>	<b>1788</b>
<i>Das C. R., Laperashvili L. V., Tureanu A.</i>	
<b>Astrophysical Implications of the Superstring-Inspired</b>	
<b><math>E_6</math> Unification and Shadow Theta-Particles</b>	<b>1793</b>
<i>Mir-Kasimov R. M.</i>	
<b>Generating Function for Extended Jacobi Polynomials,</b>	
<b>Noncommutative Differential Calculus and Relativistic Energy</b>	
<b>and Momentum Operators</b>	<b>1800</b>
<i>Mnatsakanova M. N., Vernov Yu. S.</i>	
<b>Reconstruction Theorem and Cluster Properties of Wightman</b>	
<b>Functions in Noncommutative Quantum Field Theory</b>	<b>1806</b>
<i>Reshetnyak A. A.</i>	
<b>Towards Lagrangian Formulations of Mixed-Symmetry Higher</b>	
<b>Spin Fields on AdS-Space within BFV-BRST Formalism</b>	<b>1812</b>
<i>Sissakian A., Shevchenko O., Ivanov O.</i>	
<b>QCD Analysis of DIS and SIDIS Data</b>	<b>1819</b>
<i>Slavnov D. A.</i>	
<b>Double-Slit Experiment and Bogoliubov's Causality Principle</b>	<b>1825</b>
<i>Stępień L. T.</i>	
<b>On Some Classes of Exact Solutions of Scalar</b>	
<b>Born-Infeld Equation</b>	<b>1831</b>
<i>Surovtsev Yu. S., Branz T., Gutsche T., Lyubovitskij V. E.</i>	
<b>The Model-Independent Analysis Indications for Spectroscopy</b>	
<b>of Scalar Mesons. Proof for the <math>K_0^*(900)</math></b>	<b>1836</b>
<i>Tsirova N. A., Karmanov V. A., Mathiot J.-F.</i>	
<b>Structure of the Nucleon in Chiral Effective Theory</b>	
<b>on the Light Front</b>	<b>1842</b>