Section A. Quantum field theory

**Plenary presentations**

PLA1 Aspects of D-brane dynamics in supergravity backgrounds  
I. Bandos, D. Sorokin

PLA2 Vacuum condensates, dynamical masses, ether wind  
P.I. Fomin

PLA3 On BPS preons and M-theory  
I.A. Bandos, J.A. de Azcárraga

PLA4 The method of unitary clothing transformations in quantum field theory: the bound-state problem and the S-matrix  
A. Shebeko

**Oral presentations**

OA1 On (super)twistor string and its superspace(time) formulation  
I.A. Bandos, J.A. de Azcárraga, C. Miquel-España

OA2 Noncommutative geometry and Lorentz symmetry in supersymmetric spaces  
A.A. Zheltukhin

OA3 Magnetic monopole and CP violation at finite temperature  
Yu.A. Sitenko, A.V. Solovyov, N.D. Vlasii

OA4 Second quantization method in the presence of bound states of particles in non-relativistic quantum electrodynamics and statistical physics  
S.V. Peletminskii, Yu.V. Slyusarenko

OA5 Hidden supersymmetry in quantum bosonic systems  
M.S. Plyushchay

OA6 LEGO of Dynkin diagrams in dimensionally reduced supergravities  
A.J. Nurmagambetov

OA7 On geometrical relativistic actions in supermanifolds, squeezed states and relativistic wave equations  
D.J. Cirilo-Lombardo

OA8 Clothed particles and mass renormalization in quantum field theory  
V.Yu. Korda, A.V. Shebeko

OA9 Grassmann-odd Nambu bracket on Grassmann algebra  
D.V. Soroka

OA10 On some properties of 2-D Weyl equation for charged massless spin $\frac{1}{2}$ particle  
I.E. Ovcharenko, Yu.P. Stepanovsky

OA11 Integrable string models of hydrodynamical type in terms of chiral currents  
V.D. Gershun

OA12 Correlation functions in BCS-BEC transition region of nuclear matter  
A.A. Isayev

OA13 Group properties of osp$(2|1;\mathbb{C})$ gauge transformations  
K. Ilyenko

**Poster presentations**

PA1 On E11 of M-theory and its dynamical realization  
A.J. Nurmagambetov

PA2 To the theory of a non-linear neutral scalar field with spontaneous broken symmetry  
Y.M. Poluektov

PA3 Clothed particle representation in quantum field theory: boost generators of the Poincare group  
V.Yu. Korda, P.A. Frolov

PA4 Vertex clothing in quantum field theory  
V.Yu. Korda, I.V. Yeletskaia

PA5 Electronic properties of disclinations in carbon nanostructures  
Yu.A. Sitenko, N.D. Vlasii

PA6 The symmetry, connecting the processes in 2- and 4-dimensional space-times, and the value $\alpha_0 = \frac{1}{4}\pi$ for the bare fine structure constant  
V.I. Ritus

PA7 Regular set-theoretical supermatrix solutions for quantum Yang-Baxter equation  
A. Sadovnikov

PA8 On investigations of the systems of Einstein-Maxwell-Dirac-Yang-Mills equations beyond the perturbation theory  
V.P. Olyeynik

PA9 Pseudo-Majorana Spinors and Supersymmetry  
A.N. Petrash
Section B. Elementary particle theory

Plenary presentations

PLB1 The high-Z hydrogen-like atom: a model for polarized structure functions
X. Artru, K. Benhizia

PLB2 From theory to experiment: hadron electromagnetic form factors in space-like and time-like regions
E. Tomasi-Gustafsson, G. I. Gakh, A. P. Rekalo

PLB3 Application of the Drell-Yan form of the cross section to colliders. Relativistic generalization of black disk optical theorem
E. A. Kuraev

Oral presentations

OB1 N-spheres in general relativity: black holes, wormholes and gravastars
O. B. Zaslavskii

OB2 Two-photon-exchange effects in electron-proton elastic scattering
A. V. Afanasev

OB3 The spontaneous generation of magnetic fields at high temperature in SU(2)-gluodynamics on a lattice
V. I. Demchik, V. V. Skalozub

OB4 Charged and neutral kaon production in electron-positron annihilation
S. A. Ivashyn, A. Yu. Korchin

OB5 Pseudo-scalar photon mixing in a magnetized medium
A. K. Ganguly

OB6 New model-independent analysis of LEP2 data for Bhabha process and searching for \(Z^0\) signals
A. V. Gulov, V. V. Skalozub

OB7 T-odd correlations in \(B^0 \to \Delta^+ K^+\) decays
V. A. Kovalchuk

OB8 Elimination of Power Divergences in Consistent Model for Spinless and High-Spin Particle Interactions
Yu. V. Kulish, E. V. Rybachuk

Poster presentations

PB1 Photon-photon scattering and a search for light pseudoscalars
A. V. Afanasev

PB2 Covariant spin amplitudes in relativistic fermion scattering
M. V. Bondarenko

PB3 Some Attempts at Systematizing the Masses of the Elementary Particles
Erik Cerven

PB4 On the uniqueness of the Born-Infeld action
D. J. Cirilo Lombardo

PB5 New higher spin multiplets
S. A. Fedoruk, E. A. Ivanov

PB6 Polarization phenomena in processes \(eN \to eN\) and \(e^+ e^- \leftrightarrow N\bar{N}\) in presence of two-photon exchange
G. I. Gakh, E. Tomasi-Gustafsson

PB7 Parity nonconservation in trinucleon bound states
V. V. Kotlyar

PB8 Single-spin asymmetries in electron-proton and photon-proton scatterings in the Bethe-Heitler processes induced by loop corrections
A. V. Afanasev, M. I. Konchatnij, N. P. Merenkov

PB9 Quantum computations: fundamentals and algorithms
S. A. Duplij, I. I. Shapoval

PB10 Radiation reaction and renormalization for a photon-like charged particle
Yu. Yaremko

PB11 Atom-Field Interaction in Noncommutative Space
C. Yuce

PB12 About neutron acceleration in uniform electromagnetic fields
Yu. P. Stepansky, Y. Y. Zanimonskiy

PB13 2-body Dirac equation and light meson spectra
A. Duviryak
PC7 The effects of rainbow scattering and orbiting of fast electrons by crystal atomic string, by nanotube field and by the field of highly charged ions N.F. Shul'ga, V.I. Truten' ..............................

PC8 Significance of the coherent length in radiation processes at beam-beam collisions N.F. Shul'ga, D.N. Tyutyunnik ............................................

PC9 Angular and polarization characteristics of ultrarelativistic electron radiation in a thin crystal A.S. Fomin, S.P. Fomin...........................................

PC10 Trident production in crystals under planar channeling conditions M.G. Shatnev ........................................................................

Section D. QED processes in strong fields

Plenary presentations

PLD1 Polarization phenomena in a multiple Compton backscattering process A.P. Poltitseyn ...........................................................

PLD2 The dice and pulsars V.M. Kontorovich ................................................

Oral presentations

OD1 Mass zeros of the fermionic determinant in QED4 M.P. Fry ..........................................................

OD2 Graviton scattering on a Newtonian center as a restriction on possible 3-graviton vertices A.Nikishov ..........................................................  

OD3 Radiative corrections in high energy Compton scattering M.I. Konchatnij, N.P. Merenkov ..........................................................

OD4 Femtosecond scanning, chopping and length measurement of electron bunches by laser pulses and principles of femtosecond oscilloscopes E.D. Gazazian, K.A. Ispirian, M.K. Ispirian, D.K. Kalantaryan, D.A. Zakaryan ..........................................................

OD5 Self-localized excitation in large-alpha quantum electrodynamics I.D. Feranchuk, S.I. Feranchuk ..........................................................

OD6 Resonant photoproduction of e+e− pair with photon emission in strong magnetic field P.I. Fomin, R.I. Khodorov ..................................................

OD7 The electron scattering by a nucleus in the strong pulsed laser field S.P. Roshchupkin, S.S. Starodub ..........................................................

OD8 New perturbation theory in QED G.M. Filipov ..........................................................
Section E. Nonlinear dynamics

Poster presentations

OD9 New possible areas of the development of PXR physics
A.S.Kubankin, V.A.Likhachev, N.N.Nasonov, P.N.Zhukova

OD10 Focusing of radiation from relativistic particle
A.V.Shchagin

OD11 Eikonal approximation in the transition radiation theory
V.V.Svyshchenko, N.F.Shul’ga

OD12 Resonant two-photon emission of an electron in the field of an electromagnetic wave
A.I.Voroshilo, S.P.Roshchupkin, O.I.Denisenko

Poster presentations

PD1 Path integral quantization of electromagnetic field in dispersive dielectrics
A. Bechler

PD2 Resonant two-photon annihilation of an e−e+ pair in the laser field
O.I. Denisenko, S.P.Roshchupkin

PD3 Orientation dependence of the multiple scattering of relativistic particles in a wolfram and germanium crystals: a computer experiment
V.I.Efremov, Yu.L.Pivovarov

PD4 The interpretation of wave function in quantum electrodynamics
V.V.Musakhanyan

PD5 On pressure in expanding Universe model
S.S.Sannikov-Proskuryakov

PD6 Some problems in a theory of early Universe evolution
S.S.Sannikov-Proskuryakov

PD7 Spontaneous particle production rate in a strongly inhomogeneous field
A.V.Zayakin

PD8 Circular polarization of the high energy electron bremsstrahlung with account of the second Born approximation
V.V.Svyshchenko, N.F.Shul’ga

PD9 Interference effect in the light amplification phenomenon in the Coulomb scattering of nonrelativistic electrons in a two-mode laser field
V.A.Tsybul’nik, S.P.Roshchupkin, S.S.Starodub

Plenary presentations

PLE1 Candle burnup in a fast reactor core and relating nonlinear problems
H.Sekimoto
Section F. Kinetic theory

Plenary presentations

PLF1 Quantum relaxation under the influence of non-Markovian stationary noises with infinite memory range: exact results
I.Goychuk, P.Hänggi .................................................................

PLF2 Fundamentals of Levy Flights
A.V.Chechkin, V.Yu.Gonchar, J.Klafter, R.Metzler .................................................................

Oral presentations

OF1 To kinetics of boson systems with non-zero boson field
A.I.Sokolovsky ........................................................................

Poster presentations

PF1 Statistical mechanics in noncommutative spaces
S.A.Alavi ........................................................................................

PF2 Dependence of physical properties of nucleotides solute in water on their placement in codons and determinative degree
A.Yu.Berezniny, S.A.Dupli .................................................................

PF3 Probabilistic dynamical model of fragmentation process in size space
R.E.Brodskij, Yu.P.Virchenko .................................................................

PF4 On the Pulsar Secondary Electron-Positron Plasma Production in Low-Energy Region
V.M.Kontorovich, A.B.Flanchik .................................................................

PF5 Hydrodynamic-type transport equation hierarchy for a fluid with a smooth central interparticle interaction
V.A.Humenyuk, M.V.Tokarchuk .................................................................

PF6 The possibility of registration of second sound waves in isotopic enriched diamond single crystal
V.D.Khodusov, D.M.Litvinenko .................................................................
Section G. Phase transitions in condensed matter

Plenary presentations

PLG1 On the role of frustration in formation of the heterogeneous liquid phase
A.S.Bakai

PLG2 On the theory of electron motion in crystal
V.G.Barvakhter, E.D.Belokolos, A.V.Dmitriev, A.V.Samar

Oral presentations

OG1 Spontaneous parity breaking in the theory of modulated structures
A.V.Babich, S.V.Berezovskiy, V.F.Klepikov

OG2 Dynamic theory of condensed matter with regard to the molecules size and shape
A.S.Abyzov, J.W.P.Schmelzer

OG3 Selection of states and fluctuations under the first order phase transition
V.V.Slezov

OG4 Quantum nature of non-fermi charge carriers for pseudogap state of high-Tc superconductors
G.G.Sergeeva

OG5 Nucleation and Spinodal Decomposition in Finite Domains
A.S.Abyzov, J.W.P.Schmelzer

OG6 Droplet critical evolution induced by shock waves
V.N.Kondratyev

OG7 Modeling the precipitation kinetics in systems with strong heterophase fluctuations
A.A.Turkin, A.S.Bakai

OG8 Thermodynamic interpretation of the fragmentation phenomenon in nanopores
G.R.Vakili-Nejad, M.Salavati-Niassary

OG9 Thermodynamic Properties of C60
G.R.Vakili-Nejad, M.Salavati-Niassary

OG10 Magnetic ordering in manganites: super-exchange versus double exchange
A.B.Beznosov
**Poster presentations**

PG1  A general method for solution of some problems of motion stabilization and destabilization
V.G.Baryakhtar, E.D.Belokolos, A.V.Samar  

PG2  Coexistence Phenomenon of Low Temperature Magnetism and Superconductivity in Bi-Pb-Sr-Ca-Cu-O-I High Temperature Superconductors
V.V.Bunda  

PG3  Molecular dynamics simulation of the phase transitions in liquid carbon
M.S.Byshkin, A.A.Turkin, A.S.Bakai  

PG4  Transient kinetics of homogeneous nucleation
M.P.Fateev  

PG5  Crystal lattice, electronic structure and charge ordering in Nd$_{2/3}$Ca$_{1/3}$MnO$_3$
E.I.Fertman, D.V.Sheptyakov, A.B.Beznosov, V.A.Desenko  

PG6  Phase transitions in moving systems: vortices in superconductors
M.Gitterman  

PG7  The low-temperature phase of the disordered finite-size 2D XY model
O.Kapikranian, B.Berche, Yu.Holovatch  

PG8  On the universality class of 3D magnets with long-range-correlated disorder
D.Ivaneyko, B.Berche, J.Ilnytskyi, Yu.Holovatch  

PG9  About crossover's number near a critical point of real systems
D.Yu.Ivanov  

PG10  Magnetodynamics for nuclear magics in magnetar crusts

PG11  Relativity caused by one phonon decay into three in anisotropic and isotropic phonon systems of He II
I.N.Adamenko, K.E.Nemchenko, V.A.Slipko, A.F.G.Wyatt  

PG12  Creation of phonons and rotons in superfluid helium by a solid's phonons incident normal to the interface
I.N.Adamenko, K.E.Nemchenko, I.V.Tanatarov  

PG13  On the microscopic theory of undamped flows in Bose-systems
A.P.Ivashin, Yu.M.Poluektov  

PG14  The Structure Deformation Influence on the Correlated Motion of Tetrahedral Groups in [N(CH$_3$)$_4$]$_2$MeCl, (Me=Zn, Cu, Mn) crystals
S.A.Sveleba, I.M.Katerynych, O.V.Semotyuk, I.M.Kunya, I.V.Karpa, Yu.I.Pankivskyi  

PG15  The low-temperature phase of the disordered finite-size 2D XY model
O.Kapikranian, B.Berche, Yu.Holovatch  

PG16  On the universality class of 3D magnets with long-range-correlated disorder
D.Ivaneyko, B.Berche, J.Ilnytskyi, Yu.Holovatch  

PG17  Paramagnetic tunneling state concept of the low-temperature magnetic anomalies of insulating glasses
A.A.Borisenko, A.S.Bakai  

**Section H. Physics of quantum liquids**

**Oral presentations**

OH1  On Zone Theory of Super-Fluid He-II
P.I.Fomin, A.P.Fomina  

OH2  Consideration the influence of electric field on the propagation of first and second sound waves in superfluid helium
V.D.Khodusov, D.M.Litvinenko  

OH3  Relaxation caused by one phonon decay into three in anisotropic and isotropic phonon systems of He II

OH4  On the microscopic theory of spin-S Bose-Einstein condensate in a magnetic field
A.S.Peletminskii, S.V.Peletminskii  

OH5  Spin-triplet superfluidity of neutron matter with the Skyrme forces in a strong magnetic field near Tc
A.N.Tarasov  

OH6  Creation of phonons and rotons in superfluid helium by a solid’s phonons incident normal to the interface
I.N.Adamenko, K.E.Nemchenko, I.V.Tanatarov  

OH7  Cluster formation in the system of gravitating Fermi and Bose particles
B.I.Lev, K.V.Grigorishin  

OH8  Melting of ultrathin lubricant film with deformational defect of shear modulus
A.V.Khomenko, I.A.Lyashenko  

OH9  On the quantum-field description of many-particle system with the spontaneously broken symmetries
Y.M.Poluektov  

OH10  Phonon dynamics of CsH$_2$PO$_4$ crystal at phase transitions
Ya.Shchur  

OH11  The ideal gas of hydrogen-like atoms response to the perturbation by the external electromagnetic field
Yu.V.Slyusarenko, A.G.Sotnikov  

**Poster presentations**

PH1  About magnetic properties of superfluid dense neutron matter with the Skyrme interactions at zero temperature
A.N.Tarasov  

PH2  On the universal class of 3D magnets with long-range-correlated disorder
D.Ivaneyko, B.Berche, J.Ilnytskyi, Yu.Holovatch  

PH3  The Structure Deformation Influence on the Correlated Motion of Tetrahedral Groups in [N(CH$_3$)$_4$]$_2$MeCl, (Me=Zn, Cu, Mn) crystals
S.A.Sveleba, I.M.Katerynych, O.V.Semotyuk, I.M.Kunya, I.V.Karpa, Yu.I.Pankivskyi  

PH4  Paramagnetic tunneling state concept of the low-temperature magnetic anomalies of insulating glasses
A.A.Borisenko, A.S.Bakai  

PH5  On the microscopic theory of undamped flows in Bose-systems
A.P.Ivashin, Yu.M.Poluektov  

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