

National Academy of Sciences of Ukraine
Bogolyubov Institute for Theoretical Physics
Young Scientists Council

III Young Scientists Conference

Modern Problems of Theoretical Physics

**December 21-23, 2011
Kyiv, Ukraine**

Program

Kyiv 2011

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Taras Shevchenko National University of Kyiv*

Dr. Yuri V. Shtanov

*Head of the Laboratory for Astrophysics and Cosmology,
Bogolyubov Institute for Theoretical Physics, NAS of Ukraine*

Program

Wednesday, December 21, 2011

9-00 – 10-00	<i>Registration</i>
10-00	<i>Opening of the Conference</i>
10-15 – 13-50	<i>Mathematical Physics</i>
15-00 – 19-00	<i>Astrophysics and Cosmology</i>
19-00	<i>Welcome Party</i>

Thursday, December 22, 2011

10-00 – 12-00	<i>Physics of Biological Macromolecules</i>
12-20 – 17-15	<i>Condensed Matter Physics</i>
17-30 – 20-00	<i>Poster section</i>

Friday, December 23, 2011

9-45 – 13-15	<i>Statistical Theory of Many-Body Systems</i>
14-00 – 17-30	<i>Nuclear and Elementary-Particle Physics</i>
17-30 – 17-45	<i>Jury Consultation. Closing of the Conference</i>
18-00	<i>Foot Excursion around evening Kyiv</i>

Wednesday, December 21, 2011

9-00 Registration

10-00 Opening

Anatoly G. Zagorodny,

Academician of the NAS of Ukraine, Director of the

Bogolyubov Institute for Theoretical Physics, NAS of Ukraine

Mathematical Physics (part I)

Chair: Anatoly G. Zagorodny

10-15 Petro I. Holod

“Academician Ostap S. Parasiuk and mathematical physics in Ukraine”

National University of “Kyiv-Mohyla Academy”

10-30 Petro I. Holod

Lecture “Hidden symmetries and dynamical groups in quantum mechanics and quantum field theory”

National University of “Kyiv-Mohyla Academy”

11-30 P. Gavrylenko, N. Iorgov, O. Lisovyy

“Form factors of twist fields in the lattice Dirac theory”

O.1 *Taras Shevchenko National University of Kyiv, Faculty of Physics*

11-45 D.V. Uvarov

“AdS₄×CP³ superstring in AdS-light-cone gauge”

O.2 *Akhiezer Institute for Theoretical Physics, NSC “Kharkov Institute of Physics and Technology”*

12-00 Iu.V.Nidaiev, J.Teschner

“Modular double of U_q(sl₂) from quantized Teichmueller spaces”

O.3 *Taras Shevchenko National University of Kyiv, Faculty of Physics*

12-15 V.D. Gladush, D.A. Kulikov

“Bound states in the field of a naked Reissner-Nordström singularity”

O.4 *Oles Honchar Dnipropetrovs’k National University*

12-30 COFFEE

Mathematical Physics (part II)

Chair: Oleksandr M. Gavrilik

12-50 **K.G. Kravchuk, A.K. Vidybida**

O.5 “Output stream of inhibitory binding neuron with delayed feedback is not a Markovian one”

Bogolyubov Institute for Theoretical Physics, NAS of Ukraine

13-05 **Yu.A. Mishchenko, A.M. Gavrilik**

O.6 “Entanglement in composite bosons realized by deformed oscillator”

Bogolyubov Institute for Theoretical Physics, NAS of Ukraine

13-20 **Robet R. Lompay, A.N. Petrov**

O.7 “Manifestly covariant equations for the Klein and Noether identities, generalized Noether current and superpotential in the diffeomorphic invariant classical field theories with torsion ”

Uzhgorod National University

13-35 **Robet R. Lompay**

O.8 “A new conserved tensorial current in the bimetric formulation of background independent field theories”

Uzhgorod National University

13-50 **LUNCH**

Astrophysics and Cosmology (Part I)

Chair: Alexei M. Boyarsky

15-00 **Yu.V. Shtanov**

Lecture “Physics of the early Universe”

Bogolyubov Institute for Theoretical Physics, NAS of Ukraine

16-00 **O.S. Tomalak, Yu.V. Shtanov**

O.9 “Gravity-wave production during magnetic instability in the early Universe”

Taras Shevchenko National University of Kyiv, Physics Faculty

16-15 **A.G. Ivashko**

O.10 “Sterile neutrinos, their role in the early Universe confronted with the accelerator searches”

Lorentz Institute for Theoretical Physics, Leiden, The Netherlands

16-35 **G.Yu. Ivashchenko, O.O. Torbaniuk**

O.11 “Lyman-alpha forest in spectra of distant quasars as a tool for large-scale structure study”

Taras Shevchenko National University of Kyiv, Astronomical Observatory

16-55 **O.M. Sergijenko, G.Yu. Ivashchenko**
“Markov chain Monte-Carlo method and estimation of parameters:
O.12 technique and applications”
Ivan Franko National University of Lviv, Astronomical Observatory

17-10 **COFFEE**

Astrophysics and Cosmology (Part II)

Chair: Yurii V. Shtanov

17-30 **D.I. Malyshev, D.A. Iakubovskiy**
“Cosmic rays □ an overview of current status and perspectives”
O.13 *Bogolyubov Institute for Theoretical Physics, NAS of Ukraine*

17-50 **A.V. Zhiglo**
“Modeling deflagration in Type Ia supernova”
O.14 *Akhiezer Institute for Theoretical Physics, NSC “Kharkov Institute of
Physics and Technology”*

18-10 **V.O. Masliukh, B.I. Hnatyk**
“The cosmic rays acceleration before Sedov-Taylor stage of the very
O.15 energetic supernova expansion”
Taras Shevchenko National University of Kyiv, Faculty of Physics

18-25 **Ie.Yu. Vovk, A.Yu. Neronov**
“GeV variability of blazars: constrains on the emission region sizes”
O.16 *Geneva University, INTEGRAL Science Data Centre*

18-45 **A.I. Sery**
“Compton rotation in quantizing magnetic field”
O.17 *Brest State A.S. Pushkin University*

19-00 ***Welcome party***

Thursday, December 22, 2011

Physics of Biological Macromolecules

Chair: Sergey N. Volkov

9-45	A.V. Shestopalova
Lecture	“Computational experiment in molecular biophysics: from quantum chemistry to molecular dynamics” <i>Usikov Institute of Radiophysics and Electronics, NAS of Ukraine, Kharkiv</i>
10-45	S. M. Perepelytsya, S.N. Volkov
O.18	“Conformational vibrations of Z-DNA” <i>Bogolyubov Institute for Theoretical Physics, NAS of Ukraine</i>
11-00	P.P. Kanevska, S.N. Volkov
O.19	“Role of conformational bistability in mechanism of DNA deformation” <i>Bogolyubov Institute for Theoretical Physics, NAS of Ukraine</i>
11-15	M.M. Lazarenko, O.M. Alekseev, S.O. Alekseev
O.20	“Phase transitions in the aliphatic molecular crystals – topological soliton contribution” <i>Taras Shevchenko National University of Kyiv, Faculty of Physics</i>
11-30	O.M. Alekseev, L.M. Garkusha, S.U. Tkachev, Yu.F. Zabashta
O.21	“Kinetic properties of water-sodium chloride-saccharide liquid systems” <i>Taras Shevchenko National University of Kyiv, Faculty of Physics</i>
11-45	Anton O. Vasylenko, Vladimir I. Vysotski, Valentina Vassilenko
O.22	“New methods of heat concentration during local hyperthermia of biological objects” <i>Taras Shevchenko National University of Kyiv, Faculty of Radiophysics</i>

12-00 COFFEE

Condensed Matter Physics (part I)

Chair: Vadim M. Loktev,

12-20	D.D. Sheka
Lecture	“Nanomagnets and nanomagnetism” <i>Taras Shevchenko National University of Kyiv, Faculty of Radiophysics</i>
13-20	K.V. Grigorishin, B.I. Lev
O.23	“Nonlocal free energy of a spatially inhomogeneous superconductor” <i>Bogolyubov Institute for Theoretical Physics, NAS of Ukraine</i>

13-35 **O.I.Dmytruk, V.I.Sugakov**
“Movement and amplification of condensed exciton phases' pulses in
O.24 semiconductor quantum wells”
Taras Shevchenko National University of Kyiv, Faculty of Physics

13-50 **LUNCH**

Condensed Matter Physics (part II)

Chair: Sergiy G. Sharapov

14-45 **A.V. Babich, L.N. Kitcenko**
“Critical phenomena and critical dimensions in anisotropic systems with
O.25 higher order parameters nonlinearities”,
Institute of Electrophysics and Radiation Technologies, NAS of Ukraine

15-00 **S.O. Ponomaryova, O.P. Ponomaryov, Yu.N. Koval**
“Estimation of volume change at electron-topological phase transitions
O.26 in pure metals with intermediate valence”
G.V. Kurdumov Institute of Metal Physics, NAS of Ukraine

15-15 **M.Y. Kovalevsky, V.T. Matskevych**
“Anisotropy of hydrodynamic Green functions and polarization structure
O.27 of acoustic spectra in nematic liquid crystals”
*Akhiezer Institute for Theoretical Physics, NSC “Kharkiv Institute of
Physics and Technology”*

15-30 **T.O.Turiv, A. M.Brodin, V.G.Nazarenko, I.Lazo, O.D.Lavrentovich**
“Anomalous diffusion of colloidal particles in a nematic liquid crystal”
O.28
Institute of Physics, NAS of Ukraine

15-45 **A.A. Stupka**
“Electromagnetic theory of sound in solid”
O.29
Oles Honchar Dnipropetrovsk National University

16-00 **S.A. Sokolovsky**
“To transport phenomena in insulators”
O.30
Prydniprov's'ka State Academy of Engineering and Architecture

16-15 **K. Snizhko, V. Cheianov, S. Simon**
“Route to the Pfaffian state in the bilayer graphene”
O.31
Taras Shevchenko National University of Kyiv, Faculty of Physics

16-30 **Sergey Marchenko**
“Trions and xinters in carbon nanotubes”
O.32
I.I.Mechnikov Odessa National University

16-45 **A. M. Volkov, V.P. Kravchuk, D. D. Sheka, Y. B. Gaididei**
“Origin of the vortex antivortex superlattices in nanomagnetism”
O.33
Taras Shevchenko National University of Kyiv, Faculty of Radiophysics

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- 17-00** **O. V. Pylypovskyi, D. D. Sheka, Yu. B. Gaididei**
“Structure of the Bloch point in spherical nanoparticle”
O.34 *Taras Shevchenko National University of Kyiv, Faculty of Radiophysics*
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17-15 **COFFEE**

Posters

17-30 – 20-00

Mathematical Physics

- P.1.** **O.V. Kulish, O.M. Vasiliev**
“Modeling of synaptic transmission”
Taras Shevchenko National University of Kyiv, Faculty of Physics
-

Astrophysics and Cosmology

- P.2.** **I.M. Bormotova**
“The motion of the probe particle in Reissner-Nordström field under nonzero cosmological constant”
Oles Honchar Dnipropetrovsk National University
-
- P.3.** **I.M. Bormotova**
“The motion of the probe particle in nonlinear scalar field under nonzero cosmological constant”
Oles Honchar Dnipropetrovsk National University
-
- P.4.** **A.A. Stupka, E.M. Kopteva**
“Time equation for gravitational field as classical limit for general relativity” *Oles Honchar Dnipropetrovsk National University*
-
- P.5.** **O.O. Iegurnov, M.P. Korkina**
“Space curvature for spherically symmetric models of perfect fluid”
Oles Honchar Dnipropetrovsk National University
-
- P.6.** **A.V. Kudinova, A.I. Zhuk, M.V. Eingorn**
“Gravitational interaction in the multidimensional brane world models”
I.I. Mechnikov Odessa National University
-
- P.7.** **O. A. Lemets, D. A. Yerokhin**
“Interacting agegraphic dark energy models as an approach to solving some cosmology problems”
Akhiezer Institute for Theoretical Physics, NSC “Kharkiv Institute of Physics and Technology”
-
- P.8.** **O. A. Lemets, D. A. Yerokhin**
“Nonmonotonic dynamics of the universe with interacting dark energy on the holographic background”
Akhiezer Institute for Theoretical Physics, NSC “Kharkiv Institute of Physics and Technology”
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- P.9.** **O.V. Vasylenko, G.Yu. Ivashchenko, A.V. Tugay**
 “Angular clustering of photometrically classified quasar candidates from SDSS NBCKDE”
Taras Shevchenko National University of Kyiv, Faculty of Physics
-
- P.10.** **G.Yu. Ivashchenko, O.M. Sergijenko, O.O. Torbaniuk**
 “Improved composite spectra of quasars within the HI Ly α -forest region” *Taras Shevchenko National University of Kyiv, Faculty of Physics*
-
- P.11.** **O.M. Sergijenko**
 “Dark-age 21 cm power spectrum in cosmological models with sterile neutrinos as dark matter”
Ivan Franko National University of Lviv, Astronomical Observatory
-
- P.12.** **D.A. Iakubovskiy, A.M. Boyarsky**
 “Search for sterile neutrino dark matter in X-rays”
Bogolyubov Institute for Theoretical Physics, NAS of Ukraine
-
- P.13.** **S.I. Vilchinskii, V.M. Gorkavenko, I.V Rudenok**
 “The influence of the non-zero value of θ_{13} mixing angle on the parameters of the neutrino modification of the Standard Model (vMSM)”
Taras Shevchenko National University of Kyiv, Faculty of Physics
-
- P.14.** **M.Ye. Sydorenko, A.M. Boyarsky**
 “Magnetic field instability and chiral asymmetry in early Universe”
Taras Shevchenko National University of Kyiv, Faculty of Physics
-
- P.15.** **M.V. Sidorenko, B.I. Hnatyk, V.V. Marchenko**
 “The cosmic rays stochastic acceleration in a relativistic blazar jets deceleration regions”
Taras Shevchenko National University of Kyiv, Faculty of Physics
-
- P.16.** **Iu.V Babyk**
 “The deprojection in the study of images of the galaxy clusters”
Taras Shevchenko National University of Kyiv, Faculty of Physics
-
- P.17.** **D.A. Rogozin, B.I. Hnatyk**
 “Nonthermal radiation of the superconducting cosmic strings”
Taras Shevchenko National University of Kyiv, Faculty of Physics
-

Physics of Biological Macromolecules

- P.18.** **Ya.V. Shashel, A.V. Shestopalova**
 “DNA deformability in the process of indirect protein-nucleic interaction”
V.N. Karazin Kharkiv National University
-
- P.19.** **Iu.N Blyzniuk**
 “Formation of intermolecular hydrogen bonds in hetero- complexes of biologically active compounds probed by vibrational spectroscopy”
Institute of Radiophysics and Electronics, NAS of Ukraine
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- P.20.** **P.I. Kutova, S.M. Perepelytsya, O.M. Alekseyev**
 “Electro-conductivity of DNA water solutions with NaCl excess salt”
O.O. Bogomoletz Institute of Physiology, NAS of Ukraine
-
- P.21.** **O.O. Missura, T.Yu. Nikolaienko, L.A. Bulavin, D.M. Hovorun**
 “Energetics of the DNA backbone A-B transition: the role of phosphate group” *Taras Shevchenko National University of Kyiv, Faculty of Physics*
-
- P.22.** **L. Bulavin, V. Korolovych, L. Poshyvailo, V. Gubanov, D. Melenevskiy, A. Derzhypolskiy, Y. Kuzovkov**
 “Application of dynamic and Raman light scattering for characterization water based nanofluids”
Taras Shevchenko National University of Kyiv, Faculty of Physics
-
- P.23.** **G. Verbinska, O. Aktan, E. Lugovskoi, E. Makogonenko, O. Zagorodnia, A. Britan, O. Korobko**
 “Study of fibrin assembly by evaporating droplet of fibrinogen-thrombin solution”
Taras Shevchenko National University of Kyiv, Faculty of Physics
-
- Condensed Matter Physics*
-
- P.24.** **A.F. Dyadenchuk**
 “Atomic hydrogen sensor based on porous ZnS”
Berdiansk State Pedagogical University
-
- P.25.** **D.A. Kukusta, V.N. Antonov**
 “Resonant magnetic x-ray scattering in LaMnO₃: first-principle calculations”
G.V. Kurdumov Institute for Metal Physics, NAS of Ukraine
-
- P.26.** **A.I. Kvasniyk**
 “Passing of electromagnetic waves through ionic crystals which are under strong mechanical pressure”
Institute for Nuclear Research, NAS of Ukraine
-
- P.27.** **V.O. Leonov, E.G. Petrov, Ye.V. Shevchenko**
 “Photocurrent in molecular diode”
Bogolyubov Institute for Theoretical Physics, NAS of Ukraine
-
- P.28.** **P.V. Makhlaichuk**
 “Nature of the hydrogen bond in water”
I.I. Mechnikov Odessa National University
-
- P.29.** **A.S. Polyak**
 “Impact of anion and cation groups on CO₂ solubility in ionic liquids”
Odessa State Academy of Refrigeration
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- P.30.** **V.Loзовski, V.Piatnytsia**
 “The physical treatment of the repulsive part of the potential energy of the interaction between the dielectric nanoparticles”
Institute of High Technologies, Taras Shevchenko National University
-
- P.31.** **K.O. Shchebetovska, A.I. Yakimenko, S.I. Vilchynskii, M.Weyrauch**
 “Bright solitons in two-component Bose-Einstein condensates”
Taras Shevchenko National University of Kyiv, Faculty of Physics
-
- P.32.** **O. Shtanko, A. Boyarsky, K. Snizhko**
 “Quantum field theory and microscopic description of fractional quantum Hall effect”
Taras Shevchenko National University of Kyiv, Faculty of Physics
-
- P.33.** **M.A. Stetsenko, Ya.A. Suchikova**
 “The theoretical model of early stages porous formation of indium phosphide”
Berdiansk State Pedagogical University
-
- P.34.** **O.Yu. Zubkov, V. I. Marenkov**
 “Electronic characteristics of microscopically inhomogeneous materials with volume-filling nano-defects”
I.I.Mechnikov Odessa National University
-
- P.35.** **V. M. Pergamenshchik, V. A. Uzunova**
 “Symmetry-based classification of the elastic dipoles in colloidal nematostatics”
Institute of Physics, NAS of Ukraine
-
- P.36.** **R.V. Romanik, M.P. Kozlovskii**
 “Critical behavior of a three-dimensional Ising-like model in an external field”
Institute for Condensed Matter Physics, NAS of Ukraine
-

Statistical Theory of Many-Body Systems

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- P.37.** **R.V. Bogdanov**
 “The Monte Carlo computer simulation of magnetron discharge with two sputtering zones”
Taras Shevchenko National University of Kyiv, Faculty of Radiophysics
-
- P.38.** **K.A. Chalyy, A.L. Severin, A.V. Chalyi**
 “The angle of neutrons' refraction of binary liquid mixture in critical region”
Taras Shevchenko National University of Kyiv, Faculty of Physics
-
- P.39.** **O.L. Kapitanchuk, V.I. Teslenko**
 “Kinetic cooperativity in irreversible process”
Bogolyubov Institute for Theoretical Physics, NAS of Ukraine
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- P.40. B.P. Kosarevich, I.O. Anisimov, M.J. Soloviova**
 “PIC simulation of the initial stage of the beam-plasma discharge in Helium”
Taras Shevchenko National University of Kyiv, Faculty of Radiophysics
-
- P.41. M.V. Kozachok**
 “Equilibrium molecular dynamics and mean first passage time analysis of the separation of exhaust gases at high temperatures by silica nanoporous membranes”
Bogolyubov Institute for Theoretical Physics, NAS of Ukraine
-
- P.42. Dmitry Mishagli**
 ”Influence of screening effects on the grain charge in dusty plasma with neutral buffer gas” *I.I. Mechnikov Odessa National University*
-
- P.43. O.V.Samchuk, O.I.Kelnyk**
 “Electron current instability for microplasma discharge inside the dielectric cell with additional electron source”
Taras Shevchenko National University of Kyiv, Faculty of Radiophysics
-
- P.44. A.V. Sokolov**
 “Optical characteristics of correlated plasmas”
I.I. Mechnikov Odessa National University, Faculty of Physics
-
- P.45. O.I. Gerasymov, A.Ya. Spivak**
 “Asymmetric waves transportation in 1D granular chain”
Odesa State Environmental University
-
- P.46. E.V. Stolyarov, O.O. Chumak**
 “Photon distribution function approach for optical pulse propagation in nonlinear optical fiber” *Institute of Physics, NAS of Ukraine*
-
- P.47. D.M. Tanygina, I.O. Anisimov, S.M. Levitsky**
 “Formation of charged particles’ flows in the background plasma at the initial stage of the beam-plasma instability”
Taras Shevchenko National University of Kyiv, Faculty of Radiophysics
-
- P.48. K. V. Taradiy, D. A. Gavryshenko**
 “Influence of radiation emission on liquid and gas systems”
Taras Shevchenko National University of Kyiv, Faculty of Physics
-
- P.49. P.A. Yakunov, D.A. Gavriushenko**
 “Simulation of one-layer adsorption to non-uniform hard surface”
Taras Shevchenko National University of Kyiv, Faculty of Physics
-

Nuclear and Elementary-Particle Physics

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- P.50. A.V. Gulov, A.A. Kozhushko, V.V. Skalozub**
 “The model-independent observable for abelian Z’ searches at the Tevatron” *Dnipropetrovsk National University*
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- P.51. A. R. Kuzmak**
“Brachistochrone problem for two spin-1/2 particles in a 2-dimension basis”
Ivan Franko National University of Lviv
-
- P.52. G.I.Gakh, M.I. Konchatnij, I.S. Levandovsky, N.P. Merenkov**
“About the possibility to measure the circular polarization of high energy photon in reaction $\gamma + e^- \rightarrow e^+ + e^- + e^-$ ”
V.N. Karazin Kharkiv National University
-
- P.53. O.P. Lyashchenko, Yu.A. Sitenko**
“Scalar vacuum polarization in background of singular magnetic and gravitational fields”
Bogolyubov Institute for Theoretical Physics, NAS of Ukraine
-
- P.54. V.V. Sagun, A.I. Ivanytskyi and K.A. Bugaev**
“The statistical multifragmentation model with the dimensional hierarchy of singularities”
Bogolyubov Institute for Theoretical Physics, NAS of Ukraine
-
- P.55. V.M. Gorkavenko, Yu.A. Sitenko, O.B.Stepanov**
“Casimir force induced by impenetrable flux tube of finite radius”
Bogolyubov Institute for Theoretical Physics, NAS of Ukraine
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- P.56. D.A. Kulikov, I.V. Uvarov**
“Oscillator model for the nucleon resonances based on the symplectic extension”
Dnipropetrovsk National University
-
- P.57. O.A. Borisenko, V.O. Chelnokov, I.E. Surzhikov**
“A renormalization group based on finite width lattice strip decomposition”
Bogolyubov Institute for Theoretical Physics, NAS of Ukraine
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Friday, December 23, 2011

Statistical Theory of Many-Body Systems (part I)

Chair: Volodymyr I. Zasenko

9-45	I.M. Mryglod
	“Complex dynamics of simple liquids: theory and computer modeling”
Lecture	<i>Institute for Condensed Matter Physics, NAS of Ukraine, Lviv</i>
10-45	V.A. Buts, I.K. Kovalchuk, <u>D.V. Tarasov</u>, A.P. Tolstoluzhsky
	“Peculiarities of chaotic and regular dynamics of waves in plasma”
O.35	<i>Akhiezer Institute for Theoretical Physics, NSC “Kharkiv Institute of Physics and Technology”</i>
11-00	<u>Yu.M. Tolochkevich</u>, T.E. Litoshenko, I.O. Anisimov
	“Dynamics of the charged bunches in homogeneous plasma”
O.36	<i>Taras Shevchenko National University of Kyiv, Faculty of Radiophysics</i>
11-15	B.I. Lev, <u>V.B. Tymchyshyn</u>, A.G. Zagorodny
	“Influence of charging current on the grain velocity in plasmas”
O.37	<i>Bogolyubov Institute for Theoretical Physics, NAS of Ukraine</i>
11-30	O.I. Gerasymov, <u>M.M. Somov</u>
	“Structure of soft materials (granular systems and dusty plasma) in mesoscale”
O.38	<i>Odessa State Environmental University</i>
11-45	COFFEE

Statistical Theory of Many-Body Systems (part II)

Chair: Bohdan I. Lev

12-00	<u>T.V. Hvozd</u>, Yu.V. Kalyuzhnyi
	“Phase behavior of binary dimerizing hard core Yukawa mixture”
O.39	<i>Institute for Condensed Matter Physics, NAS of Ukraine</i>
12-15	<u>O.M. Tovkach</u>, S.B. Chernyshuk, B.I. Lev
	“Theory of elastic interaction between colloidal particles in a nematic cell placed in an external field”
O.40	<i>Bogolyubov Institute for Theoretical Physic, NAS of Ukraine</i>
12-30	O.V. Yushchenko, <u>A.Yu. Badalyan</u>
	“Theoretical description of collective motion of active nanoparticles”
O.41	<i>Sumy State University, Department of Nanoelectronics</i>

12-45 **I.O.Vakarchuk, H.I. Panochko**
“One-particle density matrix of the system “Bose-liquid + impurity” in
O.42 the limit of low temperatures”
Ivan Franko National University of Lviv, Faculty of Physics

13-00 **V.V. Mikhnyuk**
“Conditions of stability in two-dimensional quantum systems of three
O.43 charged particles”
Bogolyubov Institute for Theoretical Physics, NAS of Ukraine

13-15 **LUNCH**

Nuclear and Elementary-Particle Physics (part I)

Chair: IvanV. Simenog

14-00 **V.M. Kolomietz**
“Non-markovian nuclear processes”
Lecture *Kyiv Institute for Nuclear Research, NAS of Ukraine*

15-00 **V. L. Litnevsky, G. I. Kosenko, F. A. Ivanyuk, V. V. Pashkevich**
“The account of the shell structure and spatial orientation of colliding
O.44 nuclei in the fusion-fission processes”
Joint Institute for Nuclear Research, Dubna

15-15 **A.V. Bednyakov, D.I. Kazakov, S.H. Tanyildizi**
“SUSY Enhancement of Heavy Higgs Production”
O.45 *Joint Institute for Nuclear Research, Dubna*

15-30 **Y.N. Klopot, A.G. Oganesian, O.V. Teryaev**
“Quark-hadron duality, axial anomaly and transition form factors of
O.46 pseudoscalar mesons”
Joint Institute for Nuclear Research, Dubna

15-45 **O.N. Moroz**
“Towards precise calculation of transport coefficients in the hadron gas.
O.47 The shear and the bulk viscosities”
Bogolyubov Institute for Theoretical Physics, NAS of Ukraine

16-00 **COFFEE**

Nuclear and Elementary-Particle Physics (part II)
Chair: Mark. I. Gorenstein

16-15 **Y.Davygora**

“Particle physics at the Large Hadron Collider (A Review).”

O.48

Ruperto Carola University of Heidelberg

16-30 **A.I. Ivanytskyi, K.A. Bugaev**

“On possible existence of the non-Fisher universality classes”

O.49

Bogolyubov Institute for Theoretical Physics, NAS of Ukraine

16-45 **I.Zagladko, A.Duviryak**

“Yukawa-like model in the direct interactions theory: problems of

O.50

Poincare invariance and S-matrix unitarity”

Institute for Condensed Matter Physics, NAS of Ukraine

17-00 **V.M. Shapoval, Yu.M. Sinyukov**

“Principal problems of correlation femtoscopy for small systems”

O.51

Bogolyubov Institute for Theoretical Physics, NAS of Ukraine

17-15 **O. Borisenko, I. Surzhikov, V. Chelnokov**

“New development in numerical simulation of 3D Z(5) and Z(7) gauge models”

O.52

Bogolyubov Institute for Theoretical Physics, NAS of Ukraine

17-30 **Jury Consultation**

17-45 **Closing of the Conference**

18-00 ***Foot excursion around evening Kyiv***
