

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

Young Scientists Conference

Modern Problems of Theoretical Physics

**December 22-24, 2010
Kyiv, Ukraine**

Program

Kyiv 2010

Chair

A.G. Zagorodny
Academician of the NAS of Ukraine, director of the BITP

Organizing Committee

Dr. S.M. Perepelytsya, Dr. D.A. Iakubovskiy, Dr. V.P. Kravchuk,
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Program Committee

Dr. S.M. Perepelytsya, Dr. D.A. Iakubovskiy, Dr. V.P. Kravchuk,
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Lectors

A.G. Zagorodny
Academician of the NAS of Ukraine, director of the BITP;

I.V. Simenog
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Applied Problems in Theoretical Physics, BITP;*

Yu.B.Gaididei
Prof. Dr., the head of the Department of Quantum Electronic, BITP;

Yu.V. Skrypnyk
*Dr., leading scientist of
G.V. Kurdyumov Institute for Metal Physics, NAS of Ukraine;*

Yu.V. Shtanov
Dr., senior researcher of the BITP.

Jury

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Prof. I.V. Simenog, Prof. Yu.B.Gaididei, Prof. M.I. Gorenshtein, Prof. S.N. Volkov,
Dr. V.I. Zasenkov, Dr. Yu.V. Skrypnyk, Dr. Yu.V. Shtanov, Dr. A.M. Boyarsky

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Z.I. Vakhnenko, Dr. S.M. Perepelytsya, Dr. D.A. Iakubovskiy,
D.V. Piatnytskyi, A.O. Slobodeniuk, O.M. Chernyak

Wednesday, December 22, 2010

8-30 – 9-30 *Registration*

9-30 *Opening of the Conference*

9-40 – 13-20 **Nuclear and Elementary-Particle Physics**

14-00 – 18-30 **Astrophysics and Cosmology**

18-30 *Welcome Party*

Thursday, December 23, 2010

9-00 – 13-40 **Condensed Matter and Nanomaterial Physics**

14-20 – 16-40 **Physics of Biological Macromolecules**

17-00 – 19-00 **Posters**

Friday, December 24, 2010

9-00 – 10-40 **Physics of Biological Macromolecules**

11-00 – 16-20 **Statistical Theory of Many-Body Systems**

16-40 *Jury consultation. Closing of the Conference*

17-00 *Foot excursion around evening Kyiv*

Wednesday, December 22, 2010

8-30 Registration

9-30 Opening of the conference

Prof. A.G. Zagorodny,

Academician of the NAS of Ukraine, director of the

Bogolyubov Institute for Theoretical Physics of the NAS of Ukraine

Nuclear and Elementary-Particle Physics (part I)

Chair: Prof. A.G. Zagorodny

9-40 I.V. Simenog

Lecture “Efimov effect and universality in the quantum systems of three particles”

Bogolyubov Institute for Theoretical Physics, NAS of Ukraine

10-40 D.A. Kulikov, A.P. Yaroshenko

O.1 “The symplectic extension of the Lorentz group and its implications for relativistic few-body problems”

Oles Honchar Dnipropetrovsk National University

11-00 D.V. Uvarov

O.2 “ $AdS_4 \times CP^3$ superstring and $D=3$ $N=6$ superconformal symmetry”

Akhiezer Institute for Theoretical Physics, NSC “Kharkov Institute of Physics and Technology”

11-20 Yu.A. Mishchenko, A.M. Gavrilik

O.3 “Composite Bose particles as deformed bosons”

Bogolyubov Institute for Theoretical Physics, NAS of Ukraine

11-40 COFFEE BREAK

Nuclear and Elementary-Particle Physics (part II)

Chair: Prof. M.I. Gorenshstein

12-00 O.I. Ivanytkyi, K.O. Bugaev, V.K. Petrov

O.4 “Calculation of the critical indices of quark-gluon bags with surface tension model”

Bogolyubov Institute for Theoretical Physics, NAS of Ukraine

12-20 A.A. Kozhushko, V.V. Skalozub

O.5 “Electroweak phase transition in the two Higgs doublet model”

Oles Honchar Dnipropetrovsk National University

12-40 **M.I. Haysak, I.L. Lamer, V.V. Onysko**
“Influence of the finite nuclear mass on the binding energy values of $^{1,3}\text{S}$
states of helium atom isotopes in adiabatic hyperspherical approach”
O.6 *Institute of Electron Physics, NAS of Ukraine, Uzhgorod*

13-00 **O.A. Borisenko, V.O. Chelnokov, I.E. Surjikov**
“Deconfinement phase transition in 3d U(1) lattice gauge theory”
O.7 *Bogolyubov Institute for Theoretical Physics, NAS of Ukraine*

13-20 **LUNCH**

Astrophysics and Cosmology (Part I)
Chair: Dr. A.M. Boyarsky

14-00 **A. Boyarsky, Yu. Shtanov, D. Iakubovskiy**
“Introduction to theory of the Early universe”
Lecture *Bogolyubov Institute for Theoretical Physics, NAS of Ukraine*

14-40 **A.G. Ivashko, A.M. Boyarsky**
“Sterile neutrino production in the early Universe”
O.8 *Taras Shevchenko National University of Kiev, Faculty of Physics*

15-10 **M.Ye.Sydorenko, A.M.Boyarsky**
“Cosmological magnetic fields in nuMSM”
Taras Shevchenko National University of Kiev, Faculty of Physics

15-40 **A. Elyiv**
“Modeling of gamma-ray-induced cascades in the extragalactic magnetic
O.9 field”
Main Astronomical Observatory, NAS of Ukraine

16-00 **A. Neronov, A. Taylor, Ie. Vovk**
“Evidence for strong extragalactic magnetic fields from Fermi
O.10 observations of TeV blazars”
ISDC Data Centre for Astrophysics, Switzerland

16-20 **COFFEE BREAK**

Astrophysics and Cosmology (Part II)

Chair: Dr. Yu. V. Shtanov

16-40 **K. Snizhko, A. Boyarsky, V. Cheianov**

“Quantum Hall effect and non-abelian statistics”

O.11 *Taras Shevchenko National University of Kiev, Faculty of Physics*

17-10 **M. Chernyakova, D. Malyshev, F. A. Aharonian, R. M. Crocker,
D. I. Jones**

O.12 “Galactic center at very high-energies”

Dublin Institute for Advanced Studies, Ireland

17-30 **Iu. Babyk**

“The X-ray study of the hot diffuse gas in the galaxy cluster ABELL
2744”

O.13 *Taras Shevchenko National University of Kiev, Faculty of Physics*

17-50 **D. O. Savchenko, Yu. V. Shtanov**

“Estimators for the statistical anisotropy of the CMB in the inflationary
universe”

O.14 *Bogolyubov Institute for Theoretical Physics, NAS of Ukraine*

18-10 **V.S. Kazemir, M.P. Korkina**

“T-solutions with negative pressure”

O.15 *Oles Honchar Dnipropetrovsk National University*

18-30 ***Welcome Party***

Thursday, December 23, 2010

Condensed Matter and Nanomaterial Physics (part I)

Chair: Prof. V.M. Loktev

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| 9-00 | Yu.V. Skrypnyk “Peculiarities of elementary excitations in graphen with impurities” Lecture <i>G.V. Kurdyumov Institute for Metal Physics, NAS of Ukraine, Kiev</i> |
| 10-00 | O.L. Kapitanchuk “Concentration of the charges in field-effect-doped fullerite” O.16 <i>Bogolyubov Institute for Theoretical Physics, NAS of Ukraine</i> |
| 10-20 | S.V. Marchenko, V.V. Zavalniuk “Density of electronic states of the carbon nanocones and the finite graphene cluster” O.17 <i>Odessa National University named after I.I.Mechnikov</i> |
| 10-40 | A.D. Suprun, S.V. Vasilyuk, V.M. Yaschuk “The possibility of soliton nanoconductivity in polyenes” O.18 <i>Taras Shevchenko National University of Kiev, Faculty of Physics</i> |
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11-00 COFFEE BREAK

Condensed Matter and Nanomaterial Physics (part II)

Chair: Dr. S.G. Sharapov

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| 11-20 | E.O. Petrenko, M.V. Makarets “Modeling of the Fast Electrons Transport in Solids” O.19 <i>Taras Shevchenko National University of Kiev, Faculty of Physics</i> |
| 11-40 | A.Iu. Maksymov, Iu.V. Gudyma “Escape from metastable state of spin-crossover compounds” O.20 <i>Yuriy Fedkovych Chernivtsi National University</i> |
| 12-00 | A. V. Kleshchonok, V.Yu. Reshetnyak, V. I. Zadorozhnyi, V. A. Tatarenko O.21 “Self-organization processes in magnetic nematic-based nanocolloids” <i>Taras Shevchenko National University of Kiev, Faculty of Physics</i> |
| 12-20 | M.A. Timchenko, A.V. Kats, I.S. Spevak “Custom energy partition between diffracted waves employing surface plasmon-polariton resonance” O.22 <i>Usikov Institute of Radiophysics and Electronics, NAS of Ukraine, Kharkiv</i> |
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| 12-40 | V. Lozovski, V. Piatnytsia |
| O.23 | “The analytical solution of Schrodinger equation for pyramid-like semiconductor quantum dot” <i>Institute of High Technologies, Taras Shevchenko National University of Kyiv</i> |

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| 13-00 | V.V. Zavalniuk |
| O.24 | “Influence of different types of defects on the graphene and carbon nanotubes phonon spectra” <i>Odessa National University named after I.I.Mechnikov</i> |

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| 13-20 | A.A. Chernyuk, V.I. Sugakov, V.V. Tomylko |
| O.25 | “Formation of the exciton condensed phases in double quantum wells in the presence of external harmonic potential” <i>Institute for Nuclear Research, NAS of Ukraine, Kiev</i> |

13-40 LUNCH

Physics of Biological Macromolecules (Part I)

Chair: Prof. S.N. Volkov

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| 14-20 | Yu. B.Gaididei |
| Lecture | “Conformational transformations induced by the charge-curvature interaction” <i>Bogolyubov Institute for Theoretical Physics, NAS of Ukraine</i> |

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| 15-20 | A.V. Glyakina, O.V. Galzitskaya, N.K. Balabaev |
| O.26 | “Exploration of mechanical properties of proteins using the method of molecular dynamics” <i>Institute of Mathematical Problems of Biology RAS, Pushchino, Russia</i> |

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| 15-40 | IS Voiteshenko, R.O. Zhurakivsky, L.A. Bulavin, D.M. Hovorun |
| O.27 | “Conformation analysis of low-molecular model of sugar-phosphate DNA chain” <i>Taras Shevchenko National University of Kiev, Faculty of Physics</i> |

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| 16-00 | V.G. Gumeniuk, N.V. Bashmakova, S.Yu. Kutovyy, V. M. Yashchuk, L.A.Zaika |
| O.28 | “Berberine-DNA binding” <i>Taras Shevchenko National University of Kiev, Faculty of Physics</i> |

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| 16-20 | A.V. Chalyi, G.V. Hrapiychuk, E.V. Zaitseva |
| O.29 | “Barodiffusion phenomena in mesoscale liquid systems in critical region” <i>Bogomolets National Medical University, Kyiv</i> |

16-40 COFFEE BREAK

Posters

17-00 – 19-00

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- P.1 **I.V. Uvarov, A.P. Yaroshenko**
“Angular momentum of the three-body system based on the SP(4,C) group”
Oles Honchar Dnipropetrovsk National University
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- P.2 **O. Borisenko, I. Surzhikov, V. Chelnokov**
“Numerical study of the phase transitions in the 2+1-dimensional Z(5) gauge theory on the lattice”
Bogolyubov Institute for Theoretical Physics, NAS of Ukraine
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- P.3 **D.V. Piatnytskyi, I.V. Simenog**
“Structure functions of ^4He nucleus”
Bogolyubov Institute for Theoretical Physics, NAS of Ukraine
-
- P.4 **G. Ivashchenko, V. I. Zhdanov, A. V. Tugay**
“Correlation function of quasars in real and redshift space from SDSS DR7: selection effects”
*Astronomical Observatory,
Taras Shevchenko National University of Kiev*
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- P.5 **L.V. Zadorozhna, B.I. Hnatyk**
“Electromagnetic emission bursts from the near-cusp regions of superconducting cosmic strings”
Bogolyubov Institute for Theoretical Physics, NAS of Ukraine
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- P.6 **I.A. Zinchenko, L.S. Pilyugin**
“Oxygen and nitrogen abundances in cool HII regions from Sloan Digital Sky Survey”
Main Astronomical Observatory, NAS of Ukraine
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- P.7 **K.B. Agiienko**
“Wolf-Rayet galaxies in SDSS DR7”
Main Astronomical Observatory, NAS of Ukraine
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- P.8 **T. Salivon, D. Iakubovskiy**
“Possible observation of cosmic rays diffusion inside supernova remnants”
Taras Shevchenko National University of Kiev, Faculty of Physics
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- P.9 **A.R. Kuzmak**
“Brachistochrone problem in the Schwarzschild metric”
Ivan Franko National University of Lviv
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- P.10 **V.O. Masliukh, B.I. Hnatyk**
“Hypernovae as accelerators of cosmic rays”
Taras Shevchenko National University of Kiev, Faculty of Physics
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| P.11 | <u>V.M. Sliusar, V.I. Zhdanov</u> “Source models in high amplification events of gravitational lens systems” <i>Taras Shevchenko National University of Kiev, Faculty of Physics</i> |
| P.12 | <u>D. Iakubovskiy, A. Boyarsky, O. Ruchayskiy</u> “Searching for dark matter in X-rays: how to check the dark matter origin of a spectral feature” <i>Bogolyubov Institute for Theoretical Physics, NAS of Ukraine</i> |
| P.13 | <u>O.B. Sushchov, B.I. Hnatyk, O.O. Kobzar, V.V. Marchenko</u> “The influence of galactic magnetic field on the propagation of the ultrahigh energy cosmic rays from Centaurus A” <i>Chernihiv Pedagogical University named after Taras Shevchenko</i> |
| P.14 | <u>A. V. Bogdan, B.I. Hnatyk</u> “Calculation of orbital motion in binary systems of black holes on the example of a quasar OJ287” <i>G.V. Kurdyumov Institute for Metal Physics, NAS of Ukraine, Kiev</i> |
| P.15 | <u>I.V. Boylo, I.B. Krasnyuk, R.M. Taranets</u> “Pinning influence on the magnetic flux behavior in type-II superconductors for the Anderson-Kim model” <i>Galkin Donetsk Institute for Physics and Technology, NAS of Ukraine</i> |
| P.16 | <u>M.V. Chizhov, M.V. Eingorn</u> “The electrostatic field in the two-dimensional region between uneven electrodes” <i>Odessa National University named after I. I. Mechnikov</i> |
| P.17 | <u>D.A. Kukusta, V.N. Antonov, A.N. Yaresko</u> “The electronic structure and X-ray magnetic dichroism in the Heusler alloy Co_2FeGa ” <i>G.V. Kurdyumov Institute for Metal Physics, NAS of Ukraine, Kiev</i> |
| P.18 | <u>V. Kurinnyy, G. Strilchuk</u> “Optical properties of nanocomposite films with inclusions commensurate to the size of the film” <i>Taras Shevchenko National University of Kiev, Faculty of Radiophysics</i> |
| P.19 | <u>M.A. Marchenko, V.N. Krivoruchko</u> “Griffiths phase, metal-insulator transition, magnetic and magnetoresistive properties of doped manganites” <i>Galkin Donetsk Institute for Physics and Technology, NAS of Ukraine</i> |
| P.20 | <u>D.Y. Panchenko</u> “The electronic structure of the Abrikosov vortex core and the pinning mechanism in the quantum limit” <i>Odessa National University named after I.I.Mechnikov</i> |
| P.21 | <u>Ye.M. Daskal, Yu. V. Gudyma</u> “Glauber dynamics of Ising-like model of the spin-crossover compounds” <i>Yuriy Fedkovych Chernivtsi National University</i> |

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| P.22 | <u>Yu. V. Chervonyi, I. S. Spevak, A. V. Kats</u> “Defining parameters of periodic structures realizing given energy redistribution between diffracted waves under double resonance conditions” <i>V.N. Karazin Kharkiv National University</i> |
| P.23 | <u>S.O. Ponomaryova, Yu.N. Koval</u> “Calculation of volume effect at phase transition in cerium” <i>G.V Kurdyumov Institute for Metal Physics, NAS of Ukraine, Kiev</i> |
| P.24 | <u>O.V. Pylypovskyi, D.D. Sheka</u> “Dynamics of point singularities in magnetic nanodots under the field influence” <i>Taras Shevchenko National University of Kyiv, Radiophysical faculty</i> |
| P.25 | <u>P.A. Sayko, I.P. Shapovalov</u> “Single-domain hysteresis in magnetics with tensor interactions” <i>Odessa National University named after I.I.Mechnikov</i> |
| P.26 | <u>A.O. Slobodeniuk</u> “Electronic properties of graphene at the presence of Aharonov-Bohms’s potential” <i>Bogolyubov Institute for Theoretical Physics, NAS of Ukraine</i> |
| P.27 | <u>Y.A. Suchikova, A.A. Konovalenko, A.S. Gaichyk</u> “The self-organization growth of pores on the surface of InP (111) (100) orientation” <i>Berdiansk State Pedagogical University, Berdyansk</i> |
| P.28 | <u>O.Yu. Zubkov, V.I. Marenkov</u> “Local 3D charge distributions in the vicinity of 3D nano-defects in metallic” <i>Odessa National University named after I.I.Mechnikov</i> |
| P.29 | <u>S.V. Vasylyuk, V.M. Yashchuk , A.D. Suprun, O.D. Kachkovsky, D. Melnyk</u> “Shape and location of charge waves in ionic polymethine systems in electric field” <i>Taras Shevchenko National University of Kiev, Faculty of Physics</i> |
| P.30 | <u>A. M. Volkov, V.P. Kravchuk</u> “Regular two-dimensional vortex-antivortex structures in planar ferromagnetics” <i>Taras Shevchenko National University of Kiev, Faculty of Radiophysics</i> |
| P.31 | <u>A.I. Olemskoi, O.V. Yushchenko, T.I. Zhilenko</u> “Hierarchical condensation near phase equilibrium” <i>Sumy State University</i> |
| P.32 | <u>S.M. Perepelytsya, G.M. Glibitskii, S.N. Volkov</u> “Influence of DNA conformational vibrations on the formation of anisotropic film textures” <i>Bogolyubov Institute for Theoretical Physics, NAS of Ukraine</i> |

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| P.33 | L.A. Bulavin, V.F. Korolovych, S.O. Arkhipov, L.Y. Poshyvailo “Geometry of the SWCNT aggregates from the dynamic light scattering data” <i>Taras Shevchenko National University of Kiev, Faculty of Physics</i> |
| P.34 | A.V. Kasprova, S.P. Senchurov, Yu.F. Zabashta “Mechanical relaxation in biopolymer keratin fibers treated with thioglycolic acid” <i>Taras Shevchenko National University of Kiev, Faculty of Physics</i> |
| O.34 | A.S. Buchelnikov, V.P. Evstigneev “Matrix model of non-cooperative interactions of aromatic compounds in multicomponent mixture” <i>Sevastopol National Technical University</i> |
| P.36 | R.V. Bogdanov “The computer simulation of the sputtering magnetron discharge: the energy distribution of impacting ions” <i>Taras Shevchenko National University of Kiev, Faculty of Radiophysics</i> |
| P.37 | I.O. Anisimov, Yu.N. Borokh “Transition radiation of the charged particle in the inhomogeneous plasma with the longitudinal magnetic field” <i>Taras Shevchenko National University of Kiev, Faculty of Radiophysics</i> |
| P.38 | A.A. Chepizhko “The relation between Kuramoto model of spontaneous synchronization and Vicsek model for self-propelled particles” <i>Odessa National University named after I.I.Mechnikov</i> |
| P.39 | Yu.M. Tolochkevich, T.E. Litoshenko, I.O. Anisimov “Dynamics of the modulated electron beam, injected into inhomogeneous plasma: 2.5D electromagnetic PIC simulation” <i>Taras Shevchenko National University of Kiev, Faculty of Radiophysics</i> |
| P.40 | S.K. Cheremnykh, O.V. Agapitov “MHD waves in the plasma system with dipole magnetic field configuration” <i>Space Research Institute, NAS & NSA of Ukraine, Kiev</i> |
| P.41 | R. Grytskiv, T.Bryk “Phonon study in carbon nanotubes using time autocorrelation functions” <i>Institute for Condensed Matter Physics, NAS of Ukraine, Lviv</i> |
| P.42 | T.V.Hvoz, Yu.V.Kalyuzhnyi “Phase behavior of a symmetrical binary fluid mixture. High temperature approximation” <i>Ivan Franko National University of Lviv</i> |
| P.43 | V. Blavats’ka, K. Haydukivska, Yu. Holovatch “Coil-to-rod” transitions in semiflexible polymers: numerical simulations” <i>Ivan Franko National University of Lviv</i> |

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| P.44 | V.O. Kharchenko “Structure formation processes induced by the ion sputtering in anisotropic system with additive noise” <i>Institute of Applied Physics, NAS of Ukraine, Sumy</i> |
| P.45 | <u>I.V. Kilina</u>, V.V. Datsyuk “Statistics of free electrons of a metal nanosphere” <i>Taras Shevchenko National University of Kiev, Faculty of Physics</i> |
| P.46 | V.T. Shvets, S.V. Kozitskii, <u>V.V. Kovalenko</u> “Effective pair interionic interaction in metallic hydrogen and helium” <i>Odessa State Academy of Refrigeration</i> |
| P.47 | <u>A. Pavlova</u>, A. Rovenchak “The critical temperature shift in the finite Bose-system with dimension $2 < D < 3$ ” <i>Ivan Franko National University of Lviv</i> |
| P.48 | <u>O.P. Ponomaryov</u>, I.O. Anisimov “Current cathode spot velocity” <i>Taras Shevchenko National University of Kiev, Faculty of Radiophysics</i> |
| P.49 | <u>O.V. Samchuk</u>, O.I. Kelnyk “Striation Structures’ Formation in Microplasma Discharge Inside the Dielectric Cell” <i>Taras Shevchenko National University of Kiev, Faculty of Radiophysics</i> |
| P.50 | A.V. Sokolov “Dynamic conductivity of coulomb systems. Post-Drude corrections” <i>Odessa National University named after I.I.Mechnikov</i> |
| P.51 | O.I. Gerasymov, <u>M.M. Somov</u> “The local structure of granular materials” <i>Odessa State Environmental University</i> |
| P.52 | <u>D.M. Tanygina</u>, I.O. Anisimov, S.M. Levitsky “Heating and collective motion of plasma during the beam-plasma instability development” <i>Taras Shevchenko National University of Kiev, Faculty of Radiophysics</i> |
| P.53 | <u>K.V. Taradiy</u>, D.A. Gavryushenko, P.A. Selischev “Influence of radiation on the thermodynamical properties of fluid systems” <i>Taras Shevchenko National University of Kiev, Faculty of Physics</i> |
| P.54 | <u>P.A. Yakunov</u>, D.A. Gavriushenko “One-layer adsorption from binary solution to non-uniform hard surface” <i>Taras Shevchenko National University of Kiev, Faculty of Physics</i> |
| P.55 | <u>I.M. Zadvornyyak</u>, B.M. Markovych “Calculation of two-particle correlator of spacebounded metal” <i>Lviv Polytechnic National University</i> |

Friday, December 24, 2010

Physics of Biological Macromolecules (part II)

Chair: Prof. E.G. Petrov

- 9-00** **K.G. Kravchuk, O.K. Vidybida**
“The influence of shunting inhibitory feedback on the output stream of a single neuron”
O.30
Bogolyubov Institute for Theoretical Physics, NAS of Ukraine
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- 9-20** **V. Korolovych, S. Arkhipov**
“Isothermal elastic modulus of water system with carbon nanotubes, functionalized by –COOH groups”
O.31
Taras Shevchenko National University of Kiev, Faculty of Physics
-
- 9-40** **P. Mahlaichuk**
“Water dimer properties. Modification of Stillinger-David potential”
O.32
Odessa National University named after I.I.Mechnikov
-
- 10-00** **G.V. Baryshnikov, B. F. Minaev, V.A. Minaeva, A.T. Podgornaya**
“DFT and QTAIM study of substituted and unsubstituted double rhodanine molecules”
O.33
Bohdan Khmelnytsky National University, Cherkasy
-
- 10-20** **T.Yu. Nikolaienko, L.A. Bulavin, D.M. Hovorun**
“The 2'-deoxythymidilic acid molecule *ab initio* conformational analysis”
P.35
Taras Shevchenko National University of Kiev, Faculty of Physics
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10-40 **COFFEE BREAK**

Statistical Theory of Many-Body Systems (part I)

Chair: Dr. V.I. Zasenko

- 11-00** **A.G. Zagorodny**
“Kinetic theory of effective grain interactions in dusty plasmas”
Lecture
Bogolyubov Institute for Theoretical Physics, NAS of Ukraine
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- 12-00** **O.P. Matveev**
“Raman scattering in the charge-density-wave phase of the Falicov-Kimball model with dynamical mean-field theory”
O.35
Institute for Condensed Matter Physics, NAS of Ukraine, Lviv
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- 12-20** **M. I. Topilko**
“Magnetocaloric effect in the spin-1/2 XX chain with three-site interactions”
O.36
Institute for Condensed Matter Physics, NAS of Ukraine
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| 12-40 | I.S. Bzovska “Temporal dynamics of the catalytic CO oxidation reaction” O.37 <i>Institute for Condensed Matter Physics, NAS of Ukraine, Lviv</i> |
| 13-00 | O.I. Gerasymov, A.Ya. Spivak “Kinetics of compaction for granular materials” O.38 <i>Odessa State Environmental University</i> |

13-20 LUNCH

Statistical Theory of Many-Body Systems (Part II)
Chair: Prof. B.I. Lev

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| 14-00 | <u>K.N. Kulik</u>, A.V. Tur, V.V. Yanovsky “Localized vortices as quasiparticles in two-dimensional hydrodynamics” O.39 <i>Institute for Single Crystals, NAS of Ukraine, Kharkiv</i> |
| 14-20 | Yu.L.Bolotin, <u>S.V.Slipushenko</u>, A.V.Tur, V.V.Yanovsky “Stochastic noise control in the systems with an intermittency” O.40 <i>Institute for Single Crystals, NAS of Ukraine, Kharkiv</i> |
| 14-40 | <u>S.O. Yesylevskyy</u>, V.M. Kharkyanen “Super-ions in the narrow nano-pores” O.41 <i>Institute of Physics, NAS of Ukraine, Kiev</i> |
| 15-00 | <u>A.P. Rebesh</u>, A.M. Gavriliuk “Interacting particle systems, μ -oscillators and μ -Bose gas model” O.42 <i>Bogolyubov Institute for Theoretical Physics, NAS of Ukraine</i> |
| 15-20 | <u>K.V. Grigorishin</u>, B.I. Lev “The self-consistent microscopic model of an energy spectrum of a superfluidity ^4He with the Hermitian form of Bogoliubov-Zubarev Hamiltonian” O.43 <i>Bogolyubov Institute for Theoretical Physics, NAS of Ukraine, Kiev</i> |
| 15-40 | A. Kozak “Y and T systems in GL(M N) superspin chains” O.44 <i>Bogolyubov Institute for Theoretical Physics, NAS of Ukraine</i> |
| 16-00 | A. Chernyak “Test-particle transport in external fields” O.45 <i>Bogolyubov Institute for Theoretical Physics, NAS of Ukraine</i> |

16-20 COFFEE BREAK

16-40 Jury consultation
Closing of the Conference

17-00 *Foot excursion around evening Kyiv*
