

**7th International Conference**  
**PHYSICS OF LIQUID MATTER:**  
**MODERN PROBLEMS**



<http://plmmp.org.ua>

**PROGRAMME**

**May 27-30, 2016**

**Taras Shevchenko National University Of Kyiv**

**Bogolyubov Institute for Theoretical Physics  
of the National Academy of Sciences of Ukraine**

**Kyiv, Ukraine**

## **CONFERENCE CHAIRMAN:**

**Leonid A. Bulavin,**

Academician of the National Academy of Sciences of Ukraine,  
Taras Shevchenko National University of Kyiv  
<https://sites.google.com/site/leonidbulavin/>  
[http://www.researchgate.net/profile/Leonid\\_Bulavin](http://www.researchgate.net/profile/Leonid_Bulavin)

## **CONFERENCE CO-CHAIRMAN:**

**Anatoly G. Zagorodny,**

Academician of the National Academy of Sciences of Ukraine,  
Bogolyubov Institute for Theoretical Physics  
of the National Academy of Sciences of Ukraine

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Vergun L., Zabashta Y.

## Programme Summary

Date	Friday, May 27, 2016	Saturday, May 28, 2016	Sunday, May 29, 2016	Monday, May 30, 2016
Events	<b>9:00</b> Registration	<b>9:00–10:25</b> Oral reports	<b>9:00–10:25</b> Oral reports	<b>10:00</b> Roundtable
		<b>10:25 – 11:10</b> Coffee break	<b>10:25 – 11:10</b> Coffee break	
		<b>11:10 – 12:50</b> Oral reports	<b>11:10 – 12:50</b> Oral reports	
		<b>12:50 – 13:45</b> <b>Lunch</b>	<b>12:50 – 13:45</b> <b>Lunch</b>	
		<b>13:45 – 14:30</b> Poster session <b>1</b>	<b>13:45 – 14:30</b> Poster session <b>3</b>	
	<b>15:00</b> Conference opening	<b>14:40 – 15:55</b> Oral reports	<b>14:40 – 15:55</b> Oral reports	
	<b>15:15</b> Plenary session	<b>15:55 – 16:40</b> Coffee break & Poster session <b>2</b>	<b>15:55 – 16:40</b> Coffee break & Poster session <b>4</b>	
	<b>19:00</b> Conference opening banquet	<b>16:40 – 19:00</b> Oral reports	<b>16:40 – 19:00</b> Oral reports	
Place	<i>Conference hall, 36 Vasylkivska str.</i>	<i>Faculty of Physics, 4 Hlushkova ave.</i>	<i>Faculty of Physics, 4 Hlushkova ave.</i>	<i>'Red Building', 60 Volodymyrska Str.</i>

## Conference topics

1. Water, water systems and biomedical applications
2. Quantum liquids and solutions
3. Ionic and ionic-electronic liquids and solutions (molten salts and metals)
4. Polymer and biopolymer solutions
5. Mixtures of fullerenes, nanotubes, nanoplatelets with liquids
6. Colloidal systems: ferrofluids, nano-diamonds, fluids with self-organization; clay suspensions
7. Liquids at interfaces, under confinement, and in porous media
8. Radiative aspects of the physics of liquid state
9. Phase transitions and critical phenomena in liquids and liquid systems
10. Glass-forming liquids
- 11 (**Roundtable**). Small-angle neutron scattering and X-rays in liquids and liquid systems

## Oral Presentation Sessions

<i>sections:</i>	Room 100	Room 200	Room 209	Room 300	Room 500
<b>May 28,</b> Morning	6A	9A	7A	4A	
<b>May 28,</b> Afternoon	6B	9B	7B	4B and 5	10
<b>May 29,</b> Morning	1A	9C	2A	3A	6C
<b>May 29,</b> Afternoon	1B	2B and 9D		3B	

# THE CONFERENCE OPENING

May 27, 2016,  
Vasilkovskaya str, 36; Confernce Hall

15:00 Welcoming speech by  
Rector of Taras Shevchenko Kyiv National University,  
Academician of NASU **Leonid V. Hubersky**

15:15 Welcoming speech by  
Vice President of National Academy of Sciences of Ukraine,  
Academician of NASU **Anatoliy G. Zagorodniy**

15:30 Welcoming speech from  
the members of Conference Committees

## ***Plenary session***

Chairman Prof. Vladimir Tsukruk (USA)

15.50, 30 min.	PL-1	Lars G.M. Pettersson (Sweden)	THE STRUCTURAL ORIGIN OF ANOMALOUS PROPERTIES OF LIQUID WATER
16.25, 30 min.	PL-2	Peter Kopcansky (Slovakia)	MAGNETOFERRITIN AND ITS POTENTIAL BIO- APPLICATIONS
17.00, 30 min.	PL-3	Wolffram Schröer (Germany)	CRITICAL AND NON- CRITICAL MESOSCOPIC INHOMOGENEITIES IN SOLUTIONS OF THE PROTIC

IONIC LIQUID ETHYL  
AMMONIUM NITRATE AND  
ALCOHOLS

17.35, 30 min.	PL-4	Philip J. Camp (United Kingdom)	STRUCTURE, DYNAMICS, AND THERMODYNAMICS OF FERROFLUIDS
18.10, 30 min.	PL-5	Olexandr V. Chalyi (Ukraine)	DYNAMICAL ANOMALIES NEAR LIQUID-LIQUID PHASE TRANSITION

# Section 1. Water, water systems and biomedical applications

## Session 1A

May 29, 2016,  
Room 100; Faculty of Physics; 4 Glushkova ave.

Chairman: Prof. L. G.M. Pettersson (Sweden), Prof. V. Balevicius  
(Lithuania)

09:00, 20 min.	1-1.O	V.I. Bulavin, I.N. Vyunnik, Y.N. Lazareva	DIFFUSION AND MICROSCOPIC CHARACTERISTICS OF LENGTH, TIME AND RATE OF TRANSFER OF SINGLY CHARGED IONS in INFINITELY DILUTE AQUEOUS AND ALCOHOLIC SOLUTIONS
09:25, 20 min.	1-2.O	V.M. Garamus	STRUCTURE OF NANOVEHICLES FOR DRUG DELIVERY BY SAXS AND SANS
09:50, 20 min.	1-3.O	M.T. Horsch, M. Kohns, S. Reiser, H. Hasse	SOLVENT ACTIVITY IN ELECTROLYTE SOLUTIONS BY MOLECULAR SIMULATION OF THE OSMOTIC PRESSURE

**10:25 - 11:10 - Coffee Break**

11:15, 20 min.	1-4.O	N. Kizilova, J. Mizerski	MULTISCALE MODELING OF BLOOD FLOW IN ARTERIAL SYSTEMS AS COUPLED 3D, 2D AND 1D NEWTONIAN AND NON-NEWTONIAN FLOW MODELS
11:40, 20 min.	1-5.O	V.K. Koltover	NUCLEAR SPIN CATALYSIS: FROM PHYSICS OF LIQUID MATTER TO MEDICAL PHYSICS
12:05, 20 min.	1-6.O	K. Kristinaitytė, L. Dagys, J. Kausteklis, V. Klimavicius, I. Doroshenko, V. Pogorelov, N.R. Valevičienė, V. Balevicius	NMR AND FTIR STUDIES OF CLUSTERING OF WATER MOLECULES: FROM LOW- TEMPERATURE MATRICES TO NANO-STRUCTURED MATERIALS USED IN INNOVATIVE MEDICINE
12:30, 20 min.	1-7.O	I.A. Ar'ev	TAKING INTO ACCOUN DENSITY FLUCTUATIONS IN A SOLVENT IN A MODEL OF DISSOLUTION

### **Session 1B**

May 29, 2016,  
Room 100; Faculty of Physics; 4 Glushkova ave.

Chairman: Dr. V. Haramus (Germany), Dr. N. Kucerka (Russian  
Federation)

14:40, 20 min.	1-8.O	P.V. Makhlaichuk, N.P. Malomuzh	GENERALIZED SIMILARITY PRINCIPLE FOR
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CORRESPONDING STATES OF  
LOW-MOLECULAR LIQUIDS

15:05, 20 min.	1-9.O	V. Pobiedina, A. Yakunov	POSSIBILITY OF STUDYING PURE LIQUIDS WITH SPECKLES DECORRELATION METHOD
15:30, 20 min.	1-10.O	V. Pogorelov, I. Doroshenko, A. Ilchenko, B. Kryvenko, Y. Vaskivskiy, V. Sablinskas, V. Balevicius	CLUSTER STRUCTURE OF WATER

**15:55 - 16:40 - Coffee Break and Poster Session 4**

16:45, 20 min.	1-11.O	T. Tmenova, A. Veklich, V. Boretskij, Y. Cressault, F. Valensi, K. Lopatko, Y. Aftandilyants	OPTICAL EMISSION SPECTROSCOPY OF PLASMA OF UNDERWATER ELECTRIC DISCHARGE
17:10, 20 min.	1-12.O	I.V. Zhyganiuk	PHYSICAL NATURE OF CHEMICAL BOND
17:35, 20 min.	1-13.O	D.S. Ashbah, V.P. Gryshchuk, M.A. Yakymchuk	WATER AND HUMAN: NON- MEDICATION PREVENTION OF CARDIOVASCULAR, CANCER AND OTHER DISEASES OF CIVILIZATION

18:00, 1-14.O E.N. Shermatov  
20 min.

QUANTUM EFFECTS IN THE  
STRUCTURE AND  
PROPERTIES OF WATER

## Section 2. Quantum liquids and solutions

### Session 2A

May 29, 2016,  
Room 209; Faculty of Physics; 4 Glushkova ave.

Chairman: Prof. I. Vakarchuk (Ukraine), Prof. L. Jenkovszky (Ukraine)

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|-------------------------------------|-------|------------------------------------|--|
| 09:00,<br>20 min.                   | 2-1.O | I.N. Adamenko,<br>E.K. Nemchenko   | THE POLARIZATION OF<br>QUANTUM FLUID WITH<br>MOTION OF SUPERFLUID<br>COMPONENT RELATIVE TO<br>THE VORTICES                                   |
| 09:25,<br>20 min.                   | 2-2.O | V.A. Bakhvalova,<br>V.K. Chagovets | THE TRANSITION FROM<br>LAMINAR TO TURBULENT<br>FLOW AND THE<br>CAVITATION PROCESS IN<br>LIQUID SOLUTIONS OF $^3\text{He}$ -<br>$^4\text{He}$ |
| 09:50,<br>20 min.                   | 2-3.O | I.O. Vakarchuk,<br>G. Panochko     | THE SEPARATION ENERGY<br>OF THE IMPURITY ATOM IN<br>THE LIQUID $^4\text{He}$ WITH THE<br>DEFORMED HEISENBERG<br>ALGEBRA                      |
| <b>10:25 - 11:10 - Coffee Break</b> |       |                                    |  |
| 11:15,<br>20 min.                   | 2-4.O | V.D. Khodusov,<br>A.S. Naumovets   | FEATURES OF THE RAMAN<br>SCATTERING FROM A<br>ROTONS IN SUPERFLUID<br>HELIUM   |

11:40, 20 min.	2-5.O	Y.M. Poluektov, S.N. Shulga	BOSE-EINSTEIN CONDENSATION OF BOSON- FERMION MIXTURES CONSIDERED IN THE FRAMES OF THE SELF- CONSISTENT FIELD MODEL
12:05, 20 min.	2-6.O	Y.M. Poluektov, A.A. Soroka, S.N. Shulga	ACCOUNT OF THREE-BODY FORCES IN FERMI SYSTEMS USING THE SELF- CONSISTENT FIELD MODEL
12:30, 20 min.	2-7.O	A.N. Tarasov	ABOUT ANALYTICAL SOLUTIONS OF EQUATION FOR THE ORDER PARAMETER OF DENSE SUPERFLUID NEUTRON MATTER WITH ANISOTROPIC SPIN-TRIPLET P-WAVE PAIRING AT FINITE TEMPERATURES

### ***Session 2B***

May 29, 2016,  
Room 200; Faculty of Physics; 4 Glushkova ave.

Chairman: Dr. I. Adamenko (Ukraine), Prof. S. Yezhov (Ukraine)

14:40, 20 min.	2-8.O	M. Tomchenko	FRAGMENTED QUASICONDENSATE IN A ONE-DIMENSIONAL SYSTEM OF INTERACTING BOSONS
15:05, 20 min.	2-9.O	L. Jenkovszky, A. Sizhuk,	PHASE TRANSITION BETWEEN NUCLEAR LIQUID

S. Yezhov

AND PARTONIC GAS IN THE  
FRAMEWORK OF THE VAN  
DER WAALS EQUATION OF  
STATE

15:30,  
20 min.

2-10.O

D. Anchishkin,  
V. Vovchenko,  
V. Poberezhnyuk,  
M. Gorenstein

NON-GAUSSIAN  
FLUCTUATIONS IN VICINITY  
OF THE CRITICAL POINT

**15:55 - 16:40 - Coffee Break and Poster Session 4**

## Section 3. Ionic and ionic-electronic liquids and solutions (molten salts and metals)

### Session 3A

May 29, 2016,  
Room 209; Faculty of Physics; 4 Glushkova ave.

Chairman: Prof. W. Schröer (Germany), Dr. A. Yakymovych (Austria)

09:00, 30 min.	3-1.O	O.N. Kalugin, B.A. Marekha, V.A. Koverga, A.K. Adya, A. Idrissi	INTERPARTICLE INTERACTIONS, MICROSCOPIC STRUCTURE AND DYNAMICS IN THE MIXTURES OF ROOM TEMPERATURE IONIC LIQUIDS AND MOLECULAR SOLVENTS: A MULTITECHNIQUE APPROACH
09:35, 20 min.	3-2.O	V. Gorev, A. Sokolovsky	ON THE GRAD METHOD IN PLASMA
10:00, 20 min.	3-3.O	I.S. Vovchynskyi, Y.V. Kolesnik, Y.I. Filatov, O.N. Kalugin	MOLECULAR MODELLING ON SOLUTIONS OF 1-1`- SPIROBIPYRROLIDINIUM TETRAFLUOROBORATE IN ACETONITRILE
<b>10:25 - 11:10 - Coffee Break</b>			
11:15, 20 min.	3-4.O	A.S. Muratov, O.S. Roik,	CALCULATION OF DIFFRACTION CURVES OF

		V.O. Pivnitska, V.E. Sokol'skii, O.N. Miroshnikov, V.P. Kazimirov	TERNARY MELTS BASED ON DATA FOR BOUNDARY BINARY MELTS BY PSEUDO- BINARY MODEL
11:40, 20 min.	3-5.O	Y. Plevachuk, V. Sklyarchuk, P.Š. Sr, P. Švec, D. Janičkovič, A. Yakymovych, P. Šebo	EFFECTS OF NANOSIZED ADMIXTURES ON PHYSICAL PROPERTIES OF Sn-Ag-Cu ALLOYS
12:05, 20 min.	3-6.O	Y. Plevachuk, V. Sklyarchuk, A. Yakymovych	MICROSEGREGATION IN ION-ELECTRON LIQUIDS (1): MOLTEN METALS AND ALLOYS
12:30, 20 min.	3-7.O	A.V. Riabchunova , I.O. Gavriukova, A.A. Kyrychenko, O.N. Kalugin	THE MIXTURES OF THE ROOM TEMPERATURE IONIC LIQUIDS WITH PROPYLENE CARBONATE – NEW FUNCTIONAL MATERIALS FOR ELECTROCHEMISTRY

### **Session 3B**

May 29, 2016,  
Room 209; Faculty of Physics; 4 Glushkova ave.

Chairman: Prof. W. Schröer (Germany), Prof. O. Kalugin (Ukraine)

14:40, 30 min.	3-8.O	A. Yakymovych, H. Flandorfer, H. Ipser	HEAT EFFECTS ON MIXING OF Co WITH LIQUID Sn AND Sn-BASED ALLOYS
15:15,	3-9.O	O.S. Roik,	LOCAL ATOMIC STRUCTURE

20 min.		V.P. Kazimirov, V.E. Sokolskii, O.S. Muratov, O.V. Samsonnikov , S.N. Galushko	OF LIQUID Al-BASED ALLOYS WITH TM (Mn, Fe, Co, Ni, Cu) and Si.
15:40, 20 min.	3-10.O	I.V. Voroshylova, F. Teixeira, R. Costa, C.M. Pereira, M.N.D.S. Cordeiro	INTERACTIONS IN THE IONIC LIQUID [EMIM][FAP]: A COUPLED EXPERIMENTAL AND COMPUTATIONAL ANALYSIS
16:00, 20 min.	3-11.O	O.M. Yakovenko, V.P. Kazimirov, O.S. Roik, V.E. Sokol'skii, T.M. Mika	X-RAY DIFFRACTION STUDY OF AL-GE-Ni TERNARY ALLOYS IN LIQUID AND SOLID STATES

## Section 4. Polymer and biopolymer solutions

### Session 4A

May 28, 2016,  
Room 300; Faculty of Physics; 4 Glushkova ave.

Chairman: Dr. F.-S. Zhang (China), Dr. V. Korolovych (USA)

09:00, 30 min.	4-1.O	V.V. Tsukruk	DESIGNING BIONANOCOMPOSITE MICROCAPSULES FOR LIQUIDS AND SHELLS FOR SURFACES
09:35, 20 min.	4-2.O	O.P. Dimitriev	SOLVENT-INDUCED ARRANGEMENT OF POLY(3- HEXYLTHIOPHENE) CHAINS
10:00, 20 min.	4-3.O	A. Hubina, Y. Lobko, T. Yemel'yanova, I. Karpova, V. Sharoyko, V. Klepko	POLYSACCHARIDE HYDROGELS FILLED WITH MWCNT FOR BIOMEDICINE APPLICATION

#### 10:25 - 11:10 - Coffee Break

11:15, 20 min.	4-4.O	V.F. Korolovych, P.A. Ledin, A.V. Stryutsky, O.A. Sobko, V.V. Shevchenko, L.A. Bulavin, V.V. Tsukruk	SELF-ASSEMBLY OF THREE DIMENSIONAL POLYMERIC IONIC LIQUIDS IN AQUEOUS MEDIA
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11:40, 20 min.	4-5.O	L.A. Orel, L.V. Kobrina, S.I. Sinelnikov, S.V. Riabov	VINPOCETINE SOLUBILIZATION IN THE PRESENCE OF CYCLODEXTRIN DERIVATIVES
12:05, 20 min.	4-6.O	V.M. Yashchuk, V.Y. Kudrya	THE PECULIARITIES OF ELECTRONIC EXCITATION ENERGY TRANSFER IN BIOPOLYMERS
12:30, 20 min.	4-7.O	G. Franzese	CONTRIBUTION OF WATER TO BIOPOLYMER STABILITY IN SOLUTION AND STRATEGIES FOR DESIGN

### **Session 4B**

May 28, 2016,  
Room 300; Faculty of Physics; 4 Glushkova ave.

Chairman: Dr. F.-S. Zhang (China), Dr. V. Korolovych (USA)

14:40, 30 min.	4-8.O	F.-S. Zhang	ON THE CONFORMATIONAL CHANGES OF DNA AND PROTEINS IN DIFFERENT AQUEOUS ENVIRONMENTS
15:15, 20 min.	4-9.O	K. Siposova, P. Kopcansky, I. Haysak, V. Martishichkin, M. Sabolchiy, H. Vasylyeva	RADIATION ENHANCED DESTRUCTION EFFECT OF NANOPARTICLES ON PROTEIN AMYLOID FIBRILS

15:35, 4-10.O V.Y. Bardik, THE EFFECT OF WATER  
20 min. O.A. Grishina, DYNAMICS ON  
V.F. Korolovich, CONFORMATION CHANGES  
D.A. Nerukh, OF MAJOR BLOOD PLASMA  
N.P. Malomuzh, PROTEINS IN PRE-  
E.V. Lougovskoy, DENATURATION STAGE  
E.M. Makogonenk  
o

## Section 5. Mixtures of fullerenes, nanotubes, nanoplatelets with liquids

May 28, 2016,  
Room 300; Faculty of Physics; 4 Glushkova ave.

Chairman: Dr. L. Almasy (Hungary), Prof. L. Lisetski (Ukraine)

16:00, 20 min.	5-1.O	O.I. Gerasymov, F. Aliotta, C. Vasi	SEMIEMPIRICAL KIRKWOOD-BUFF INTERPRETATION FOR ISOTHERMAL COMPRESSIBILITY EXCESS OF LIQUID BINARY MIXTURES
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### 15:55 - 16:40 - Coffee Break and Poster Session 2

16:45, 20 min.	5-2.O	N.N. Kamneva, Y.T.M. Al- Shuuchi, A.I. Marynin, V.K. Klochkov, N.O. Mchedlov- Petrossyan	THE PROPERTIES OF THE NANOSIZED AGGREGATES OF FULLERENE C60 IN METHANOL AND THEIR INTERACTIONS WITH ELECTROLYTES
17:10, 20 min.	5-3.O	O.A. Kyzyma, M.V. Avdeev, L. Almasy, I.V. Mikheev, I.V. Koshlan, P. Blaha, Y.I. Prylutskyy, V.L. Aksenov,	STRUCTURE AND TOXICITY OF FULLERENES C60 AND C70 SOLUTIONS FOR BIOMEDICAL APPLICATIONS

L.A. Bulavin

17:35, 20 min.	5-4.O	L.N. Lisetski, S.S. Minenko, A.N. Samoilov, N.I. Lebovka, M.S. Soskin	LIQUID CRYSTAL MIXTURES CONTAINING PHOTOACTIVE AZOXY NEMATICS AND CARBON NANOTUBES AS COMPLEX MOLECULAR LIQUIDS
18:00, 20 min.	5-5.O	S. Artemenko, P. Krijgsman, V. Mazur	PHASE BEHAVIOR OF LIQUIDS EMBEDDED WITH GRAPHENE GENEALOGIC TREE NANOPARTICLES

## **Section 6. Colloidal systems: ferrofluids, nano-diamonds, fluids with self-organization; clay suspensions**

### **Session 6A**

May 28, 2016,  
Room 100; Faculty of Physics; 4 Glushkova ave.

Chairman: Dr. P. Camp (United Kingdom), Dr. A. Józefczak (Poland)

09:00, 30 min.	6-1.O	A. Józefczak, Z. Rozynek	THE USE OF ULTRASOUND IN THE CHARACTERIZATION OF MAGNETIC FLUIDS AND MAGNETIC EMULSIONS
09:35, 20 min.	6-2.O	A. Kyrychenko, D.A. Pasko, O.N. Kalugin	MOLECULAR DYNAMICS SIMULATIONS OF WATER- PROTECTING EFFECT OF POLY(VINYL ALCOHOL) ON A SILVER NANOPARTICLE
10:00, 20 min.	6-3.O	V. Kaurkovska, L. Bulavin, M. Vygonitskii, N. Lebovka	SIMULATION OF PATTERN FORMATION IN DRYING DROPLETS OF COLLOIDAL SUSPENSION OF UNORIENTED RODS (K- MERS)
<b>10:25 - 11:10 - Coffee Break</b>			
11:10, 30 min.	6-4.O	N.O. Mchedlov- Petrossyan, N.N. Kamneva,	THE INTERFACIAL ELECTRICAL POTENTIAL AND COLLOIDAL STABILITY

		V.V. Tkachenko, A.I. Marynin, E. Osawa	OF THE NANODIAMOND IN WATER
11:40, 20 min.	6-5.O	O.D. Lavrentovich	DYNAMICS OF COLLOIDS IN ANISOTROPIC FLUIDS
12:05, 20 min.	6-6.O	D. Mishagli	SOUND WAVES PROPAGATION IN DUSTY PLASMAS AND YUKAWA SYSTEMS WITHIN A CELL APPROACH
12:30, 20 min.	6-7.O	M.V. Manilo, N.I. Lebovka, S. Barany	ELECTROKINETIC BEHAVIOUR OF CARBON NANOTUBES IN AQUEOUS SOLUTION OF PEG-400

### **Session 6B**

May 28, 2016,  
Room 100; Faculty of Physics; 4 Glushkova ave.

Chairman: Prof. N. Mchedlov-Petrosyan (Ukraine), Prof. T. Panczyk  
(Poland)

14:40, 30 min.	6-8.O	M. Timko, M. Molcan, M. Rajnak, P. Kopcansky, M.V. Avdeev, V.I. Petrenko, V.M. Haramus	PHYSICAL PROPERTIES OF BACTERIALLY SYNTHESIZED MAGNETIC NANOPARTICLES
15:15, 20 min.	6-9.O	H.-J Mögel, M. Wahab,	SHEAR INDUCED STRUCTURE CHANGES AND

P. Schiller

NORMAL FORCES IN  
CONCENTRATED CLAY  
SUSPENSIONS

15:40,  
20 min.

6-10.O

V.I. Petrenko,  
L.A. Bulavin,  
L. Almasy,  
V.M. Garamus,  
P. Kopcansky,  
M.V. Avdeev

STRUCTURAL ASPECTS OF  
MAGNETIC FLUIDS  
STABILIZATION: NEUTRON  
SCATTERING  
INVESTIGATIONS

**15:55 - 16:40 - Coffee Break and Poster Session 2**

16:45,  
30 min.

6-11.O

T. Panczyk,  
L. Konczak,  
P. Wolski

COLLOID NANOPARTICLES  
AND CARBON NANOTUBES.  
WHAT CAN WE LEARN  
ABOUT THEIR BIOMEDICAL  
APPLICATION FROM  
MOLECULAR DYNAMICS  
SIMULATIONS

17:20,  
20 min.

6-12.O

V.Y. Rudyak

MOLECULAR DYNAMICS  
SIMULATION OF THE  
NANOFLUIDS EQUATION OF  
STATE

17:45,  
20 min.

6-13.O

S.I. Shulyma,  
B.M. Tanygin,  
V.F. Kovalenko,  
M.V. Petrychuk,  
V.I. Grygoruk

MAGNETO-OPTICAL  
EXTINCTION TREND  
INVERSION IN MAGNETIC  
FLUID

**Session 6C**

May 29, 2016,

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Room 500; Faculty of Physics; 4 Glushkova ave.

Chairman: Dr. M. Rawiso (France), Dr. M. Timko (Slovakia)

09:00, 30 min.	6-14.O	J. Bradley-Shaw	SELF-ASSEMBLY OF GLYCEROL MONOOLEATE REVERSE MICELLES
09:35, 20 min.	6-15.O	M.Y. Sushko	EFFECTIVE DIELECTRIC CONSTANT OF SYSTEMS OF PENETRABLE PARTICLES
10:00, 20 min.	6-16.O	P. Kopcansky	MAGNETIC FLUIDS AND THEIR COMPLEX SYSTEMS
<b>10:25 - 11:10 - Coffee Break</b>			
11:15, 20 min.	6-17.O	M.Y. Sushko	EFFECTIVE DIELECTRIC CONSTANT OF SYSTEMS OF PENETRABLE PARTICLES
11:40, 20 min.	6-18.O	I. Konko, M. Rawiso, N. Kutsevol	STRUCTURE OF AQUEOUS SOLUTIONS OF MODEL INTERPOLYELECTROLYTE COMPLEXES: A SAXS AND SANS STUDY
12:05, 20 min.	6-19.O	M. Manilo, N. Lebovka, S. Barany	ELECTROSURFACE PROPERTIES AND STABILIZATION OF CARBON NANOTUBE SUSPENSIONS BY SURFACTANTS AND MINERAL NANOPARTICLES
12:30, 20 min.	6-20.O	D.M. Chudoba, Y.E. Gorshkova,	FLNP JINR USER PROGRAM

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## **Section 7. Liquids at interfaces, under confinement, and in porous media**

### **Session 7A**

May 28, 2016,  
Room 209; Faculty of Physics; 4 Glushkova ave.

Chairman: Prof. H.-J. Mögel (Germany), Prof. M. Holovko (Ukraine)

09:00, 30 min.	7-1.O	H.-J Mögel, M. Wahab, T. Bier, P. Schiller	CAPILLARY FORCES AND VOLUME CHANGE IN MATERIALS WITH SMALL SLIT PORES
09:35, 20 min.	7-2.O	I.I. Fedirchuk, O.A. Nedybaliuk, V.Y. Chernyak	INFLUENCE OF LIQUID ON AVERAGE ENERGY OF ELECTRONS IN PLASMA OF ROTATING GLIDING DISCHARGE WITH WATER ELECTRODE
10:00, 20 min.	7-3.O	M. Holovko, O. Patsahan, T. Patsahan	VAPOUR-LIQUID PHASE COEXISTENCE AND CRITICAL PARAMETERS OF IONIC FLUIDS IN DISORDERED POROUS MEDIA
<b>10:25 - 11:10 - Coffee Break</b>			
11:15, 20 min.	7-4.O	V.N. Kondratyev, Y.V. Korovina, P. Blanchard	SENSORS WITH SUPERFERROMAGNETS

11:40, 20 min.	7-5.O	A.M. Kutsyk, O.O. Ilchenko, V.V. Obukhovsky	ATR-FTIR STUDY OF MUTUAL DIFFUSION IN DIETHYL ETHER/CHLOROFORM SOLUTIONS
12:05, 20 min.	7-6.O	A.I. Lesiuk, M.F. Lednei, O.S. Tarnavskyy	ELECTROOPTICAL EFFECT IN A PLANAR NEMATIC CELL WITH TUNABLE BOUNDARY CONDITIONS
12:30, 20 min.	7-7.O	A.D. Alekhin	INTERDEPENDENCE OF PROPERTIES OF SMALL CONFINED SYSTEMS AND MACRO-INHOMOGENEOUS SYSTEMS UNDER GRAVITY

### ***session 7B***

May 28, 2016,  
Room 209; Faculty of Physics; 4 Glushkova ave.

Chairman: Prof. N. Lebovka (Ukraine), Dr. V. Koltover (Russian  
Federation)

14:30, 20 min.	7-8.O	O.V. Rogankov, M.V. Shvets, V.B. Rogankov	ALTERNATE L/B-MODEL OF EFFECTIVE POROSITY FOR HYDROPHILIC (L) AND/OR HYDROPHOBIC (B) THIN PERMEABLE MEMBRANES
14:50, 20 min.	7-9.O	L.A. Bulavin, K.V. Cherevko, L.L. Jenkovszky, V.M. Sysoev, F.-	EVALUATION OF THE CURVATURE CORRECTION TO THE SURFACE TENSION COEFFICIENT FOR THE

		S. Zhang	LIQUID-LIKE SYSTEMS WITH STRONG INTERACTION
15:10, 20 min.	7-10.O	O.Y. Tkachenko, A.R. Kazachkov, V.A. Lykah, K.A. Minakova, E.S. Syrkin	LIQUID OSCILLATIONS IN THE SYSTEM OF ASSYMMETRIC COMMUNICATING VESSELS
15:30, 20 min.	7-11.O	O.I. Gichan, V.V. Pototskaya	MASS TRANSFER FUNCTION AND ORIGIN OF DYNAMIC INSTABILITIES AT ELECTRODE/ELECTROLYTE INTERFACE

**15:55 - 16:40 - Coffee Break and Poster Session 2**

## **Section 9. Phase transitions and critical phenomena in liquids and liquid systems**

### **Session 9A**

May 28, 2016,  
Room 200; Faculty of Physics; 4 Glushkova ave.

Chairman: Prof. R. Melnik (Canada), Dr. E. Apfelbaum (Russian  
Federation)

09:00, 9-1.O O. Adiguzel PHASE TRANSFORMATION  
20 min. AND REVERSIBILITY AND  
IRREVERSIBILITY IN SHAPE  
MEMORY ALLOYS

09:25, 9-2.O E.M. Apfelbaum, The CRITICAL POINTS OF  
20 min. V.S. Vorob'ev METALS AND ZENO-LINE  
SIMILARITY RELATIONS

09:50, 9-3.O O.S. Bakai LIQUID-GAS ASYMMETRY  
20 min. AND HETROPHASE  
FLUCTUATIONS

#### **10:25 - 11:10 - Coffee Break**

11:15, 9-4.O V.N. Bondarev CRITICAL CORRELATIONS IN  
20 min. REAL FLUIDS: THE LIQUIDS  
THEORY APPROACH OR THE  
LATTICE-GAS MODEL?

11:40, 9-5.O L.A. Bulavin, HIGH-DENSITY EQUATIONS  
20 min. V.M. Sysoev, OF STATE FOR A LATTICE  
M.V. Ushcats GAS

12:05, 20 min.	9-6.O	M. Kozlovskii, O. Dobush	THE STATE EQUATION OF THE CELL FLUID MODEL
12:30, 20 min.	9-7.O	O.Y. Gorobets, Y.I. Gorobets, V.P. Rospotniuk, V.I. Grebinaha, A.A. Kyba	LIQUID-LIQUID PHASE SEPARATION OF THE ELECTROLYTE DURING THE DEPOSITION OF METALS ON THE SURFACE OF FERROMAGNETIC METAL PLATE UNDER THE TWO- DOMAIN MAGNETIC SYSTEM

### **Session 9B**

May 28, 2016,  
Room 200; Faculty of Physics; 4 Glushkova ave.

Chairman: Prof. O. Adiguzel (Turkey), Prof. M. Kozlovskii (Ukraine)

14:40, 20 min.	9-8.O	K.M. Haponenko, A.I. Sokolovsky	NON-EQUILIBRIUM FREE ENERGY OF MAGNETIC
15:05, 20 min.	9-9.O	A.V. Khomenko, B.N.J. Persson, M.A. Khomenko	STATISTICAL REPRESENTATION OF ICE SURFACE PREMELTING AT RUBBING
15:30, 20 min.	9-10.O	Y. Kozitsky, M.P. Kozlovskii	A FIRST-ORDER PHASE TRANSITION IN A CONTINUUM CURIE-WEISS SYSTEM

### **15:55 - 16:40 - Coffee Break and Poster Session 2**

16:45,	9-11.O	V. Kulinskii	THE SURFACE TENSION OF
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20 min.			THE LIQUID-VAPOR INTERFACE OF THE LENNARD-JONES FLUIDS FROM THE ISING MODEL
17:10, 20 min.	9-12.O	I.M. Melnyk, V.A. Tatarenko, V.S. Kharchenko, S.S. Lugovskiy	RADII OF ATOMIC CLUSTERS IN LIQUID SYSTEM OF DYNAMIC LOCAL ORDER
17:35, 20 min.	9-13.O	D.M. Lytvynenko, Y.V. Slyusarenko	ON THE INFLUENCE OF LIQUID DIELECTRIC FILM THICKNESS ON THE CHARACTERISTICS OF SPATIALLY PERIODIC STRUCTURES IN A GAS OF CHARGED PARTICLES ABOVE ITS SURFACE

### **Session 9C**

May 29, 2016,  
Room 200; Faculty of Physics; 4 Glushkova ave.

Chairman: Prof. V. Ilyin (Israel), O. Chalyi (Ukraine)

09:00, 20 min.	9-14.O	N.P. Malomuzh, K.S. Shakun	SPECIFIC BEHAVIOR OF LIQUIDS NEAR THEIR SPINODALS
09:25, 20 min.	9-15.O	V.H. Meklesh, P. Kékicheff, L.A. Bulavin	EFFECT OF DISSOLVED POLYMER ON THE PROPERTIES OF LYOTROPIC LAMELLAR MESOPHASES
09:50,	9-16.O	O.V. Rogankov,	CAN THE BOYLE

20 min. V.B. Rogankov PARAMETERS BE DETERMINED UNAMBIGUOUSLY FOR REAL FLUIDS, LIQUID METALS AND IONIC LIQUIDS (ORGANIC OR NON-ORGANIC)?

**10:25 - 11:10 - Coffee Break**

11:15, 9-17.O V.V. Sagun, LIQUID-GAS PHASE  
20 min. A.I. Ivanytskyi, TRANSITION IN SU(2)  
D.R. Oliinychenko, GLUODYNAMICS  
, K.A. Bugaev

11:40, 9-18.O C.M. Scherbakov, IMPACT OF THE  
20 min. A.M. Morozovska FLEXOCOUPPING-TYPE  
LIFSHITZ INVARIANTS ON  
THE MODULATED PHASES:  
THERMODYNAMICS AND  
KINETICS

12:05, 9-19.O A.V. Shylin, EXCESS MOLAR VOLUMES  
20 min. V.V. Obukhovsky AND VISCOSITIES FOR THE  
BINARY MIXTURES OF  
CARBON TETRACHLORIDE,  
CHLOROFORM,  
DICHLOROFORM WITH  
ALCOHOL AT 298.15 K

12:30, 9-20.O M.Y. Sushko MOLECULAR LIGHT  
20 min. SCATTERING NEAR THE  
LIQUID-VAPOR CRITICAL  
POINT: INTERPLAY OF  
"TRADITIONAL" AND

“UNTRADITIONAL”  
SCATTERING MECHANISMS

**Session 9D**

May 29, 2016,  
Room 200; Faculty of Physics; 4 Glushkova ave.

Chairman: Prof. V. Ilyin (Israel), O. Chalyi (Ukraine)

16:45, 20 min.	9-21.O	P.P. Trokhimchuk k	HYDRODINAMICAL PROBLEMS IN RELAXED OPTICS
17:10, 20 min.	9-22.O	J. Vrabec, G. Guevara- Carrion, T. Janzen, Y.M. Muñoz- Muñoz	MUTUAL DIFFUSION OF BINARY LIQUID MIXTURES CONTAINING METHANOL, ETHANOL, ACETONE, BENZENE CYCLOHEXANE, TOLUENE AND CARBON TETRACHLORIDE
17:35, 20 min.	9-23.O	L.N. Yakub, E.S. Yakub	PHASE TRANSITIONS OF SIMPLE FLUIDS AT EXTREME CONDITIONS
18:00, 20 min.	9-24.O	P.A. Selyshchev, S.O. Akintunde	GROWTH OF AB-COMPOUND LAYER AS RESULT OF A+B CHEMICAL REACTION AT THE SOLID-LIQUID INTERFACE UNDER IRRADIATION
18:20, 20 min.	9-25.O	Y.G. Rudnikov, A.D. Alekhin	EQUATIONS OF SYMMETRIC ALGEBRA OF FLUCTUATION VARIABLES WITHIN

FLUCTUATION AREA FOR  
ANY LIMITED CRITICAL  
DIRECTIONS

## Section 10. Glass-forming liquids

May 28, 2016,  
Room 500; Faculty of Physics; 4 Glushkova ave.

Chairman: Prof. G. Jug (Italy), Prof. H. Koibuchi (Japan)

14:30, 30 min.	10-1.O	R. Melnik	NON-PERTURBATIVE APPROACHES TO LATTICE MODELS, GLASS-FORMING LIQUIDS, AND BIOLOGICAL NANOSTRUCTURES IN SOLUTIONS
15:00, 30 min.	10-2.O	V. Lubchenko	QUANTITATIVE THEORY OF THE STRUCTURAL GLASS TRANSITION
15:30, 20 min.	10-3.O	A. Krivchikov, Y.V. Horbatenko, N.A. Davydova, M. Drozd	GLASS TRANSITION AND CRYSTALLIZATION IN DEEPLY SUPERCOOLED LIQUID LAPONATE - TRIPHENYL PHOSPHITE NANOCOMPOSITE

### 15:55 - 16:40 - Coffee Break and Poster Session 2

16:40, 30 min.	10-4.O	H. Koibuchi	A GLASS PHASE IN FINSLER XY MODEL AND IN FLUID SURFACE MODEL FOR MEMBRANES
17:15, 30 min.	10-5.O	G. Jug	CELLULAR MODEL OF GLASS FORMATION AND

## GLASS STRUCTURE

17:50, 20 min	10-6.O	T.V. Tropin, G. Schulz, J.W.P. Schmelzer, C. Schick	INVESTIGATION AND THEORETICAL MODELING OF POLYSTYRENE GLASS TRANSITION IN A WIDE RANGE OF COOLING RATES
18:10, 20 min.	10-7.O	V. Dailidonis, V. Ilyin	CONFIGURATION OVERLAP IN A MODEL GLASS FORMER

# **Section 11 (roundtable). Small-angle neutron scattering and X-rays in liquids and liquid systems**

May 30, 2016,  
Room 205; 'Red Building'; 60 Volodymyrska Str.

## **Roundtable Co-Chairmen**

**Leonid V. Hubersky**

Academician of the  
National Academy of  
Sciences of Ukraine, Rector  
of Taras Shevchenko  
National University of Kyiv

**Victor A. Matveev**

Academician of the Russian  
Academy of Sciences, Director  
of the Joint Institute for  
Nuclear Research

### **ROUNDTABLE ORGANIZING COMMITTEE**

Aksenov V. (JINR), Avdeev M.(JINR), Shvetsov V. (JINR), Bulavin L.  
(Kyiv University), Grynyov B. (Institute for Scintillation Materials),  
Zagorodniy A. (Bogolyubov Institute for Theoretical Physics)

### **Roundtable programme overview:**

10:00 – 12:15	Opening Ceremony
12:15 – 13:00	Break and Informal discussions
13:00 – 15:00	Scientific reports (session 11A)
15:00 – 16:00	Lunch
16:00 – 18:00	Scientific reports (session 11B)

# May 30, 2016

Room 205; 'Red Building'; 60 Volodymyrska Str.

The roundtable opening ceremony

12:15 – 13:00      Break

## **Scientific reports (session 11A)**

Chairman Prof. Vladimir Tsukruk (USA), Prof. Peter Kopcansky  
(Slovakia)

13:00, 20 min.	11-1.O	T. Sun, F. Li	CONFOCAL SMALL ANGLE X-RAY SCATTERING TECHNOLOGY BASED ON CAPILLARY X-RAY OPTICS
13:20, 20 min.	11-2.O	M. Balasoiu, D. Soloviov, O. Ivankov, L. Almasy, S. Stolyar, R. Iskhakov	SANS AND SAXS INVESTIGATION OF FERRIHYDRITE BIOGENIC NANOPARTICLE SUSPENSIONS
13:40, 20 min.	11-3.O	L.A. Bulavin, D.V. Soloviov, A.I. Kuklin, L.N. Lisetski, A.O. Sadchenko, N.A. Kasian, O.V. Vashchenko	EFFECTS OF MEMBRANOTROPIC AGENTS ON DPPC MULTILAMELLAR STRUCTURES: COMPARATIVE DSC AND SAXS STUDIES
14:00, 20 min.	11-4.O	O.I. Ivankov, D.V. Soloviov,	NEW OPPORTUNITIES PROVIDED BY MODERNIZED

		A.V. Rogachev, P.K. Utrobin, Y.S. Kovalev, A.P. Sirotin, T.N. Murugova, D.V. Seliwerstova, T.B. Petukhova, A.S. Kirilov, M.I. Rulev, S.A. Kutuzov, A.G. Soloviev, V.I. Gordeliy, A.I. Kuklin	SMALL-ANGLE NEUTRON SCATTERING TWO- DETECTOR SYSTEM INSTRUMENT (YUMO) AND BIOCHEMLAB FOR THE PRELIMINARY SAMPLE PREPARATION AND CHARACTERIZATION
14:20, 20 min.	11-5.O	I. Konko, M. Rawiso, N. Kutsevol	STRUCTURE OF AQUEOUS SOLUTIONS OF MODEL INTERPOLYELECTROLYTE COMPLEXES: A SAXS AND SANS STUDY
14:40, 20 min.	11-6.O	A.I. Kuklin, D.V. Soloviov, O.I. Ivankov, A.V. Rogachev, Y.S. Kovalev, A.K. Islamov, A.G. Soloviev, A. Kirilov, A.P. Sirotin, V.I. Gordeliy	UNIQUE SMALL-ANGLE NEUTRON SPECTROMETER YUMO FOR NANOSTRUCTURAL STUDIES OF WIDE RANGE OF SAMPLES

**15:00 - 16:00 - Lunch**

**Scientific reports, session 11B**

Chairman Prof. Vladimir Tsukruk, USA, Prof. Peter Kopcansky,  
Slovakia

16:00, 20 min.	11-7.O	A.V. Nagorny, L.A. Bulavin, V.I. Petrenko, M.V. Avdeev, O.I. Ivankov, S.A. Solopan, O.V. Elenich, A.G. Belous, A.A. Veligzhanin, A.Y. Gruzinov, Y.V. Zubavichus	NEUTRON AND SYNCHROTRON INVESTIGATIONS OF AQUEOUS MAGNETIC FLUIDS
16:20, 20 min.	11-8.O	V.I. Petrenko, M.V. Avdeev, L. Balejckova, O.I. Ivankov, V.M. Garamus, L. Almasy, L.A. Bulavin, P. Kopcansky	ON THE IMPACT OF NANOPARTICLES ON THE STRUCTURAL STABILITY OF BIO-MACROMOLECULES
16:40, 20 min.	11-9.O	D.V. Soloviov, M.I. Rulev, L.A. Bulavin, Y.F. Zabashta, O.I. Ivankov, A.I. Kuklin	COMPREHENSIVE INVESTIGATIONS OF LIPID WATER SOLUTION ON SANS SPECTROMETER YUMO: HIGH PRESSURE SETUP
17:00,	11-	O.V. Tomchuk	STRUCTURAL

20 min.	10.O		INVESTIGATIONS OF DETONATION NANODIAMOND SUSPENSIONS BY SMALL- ANGLE NEUTRON SCATTERING
17:20, 20 min.	11- 11.O	P. Kopcansky	MAGNETIC FLUIDS AND THEIR COMPLEX SYSTEMS

## POSTER SESSIONS

### ***Poster session 1 (May 28, 2016; 13:45 - 14:30)***

3-1.P	A.D. Alekhin, Y.L. Ostapchuk, A.V. Voyteshenko, V.I. Kovalchuk, B.Z. Abdikarimov, Y.G. Rudnikov	IMPACT OF ADDING OF IONS AND LAPONITE ON THE VISCOSITY AND ON THE COEXISTENCE CURVE OF THE ISOBUTYRIC ACID – WATER SOLUTION IN THE VICINITY OF THE EXFOLIATION CRITICAL TEMPERATURE
3-2.P	S. Bielskute, K. Aidas, V. Klimavicius, G. Pitsevich, V. Balevicius	NMR AND QUANTUM CHEMISTRY STUDY OF INTERACTION OF WATER MOLECULES WITH IONS AND IONIC LIQUIDS: TOWARDS HETEROGENEITY AND FORMATION OF WATER

## POCKETS

- 3-3.P N.Y. Filonenko ESTIMATION OF CARBON SOLUBILITY IN IRON BORIDE  $Fe_2B$
- 3-4.P A.N. Grigoriev, T.V. Kleshchonok, I.V. Markov, B.S. Opryshko STRUCTURAL DYNAMICS PROPERTIES OF GAUSS AND YUKAWA 2D FLUIDS
- 3-5.P A.N. Grigoriev, T.V. Kleshchonok, I.V. Markov, D.V. Pavlenko ELASTIC PROPERTIES OF MODEL FLUIDS IN TIGHT BONDED HARD SPHERE APPROXIMATION
- 3-6.P V.A. Koverga, O.M. Korsun, O.M. Kalugin, A. Idrissi LOCAL STRUCTURE ORGANIZATION OF THE POLAR APROTIC SOLVENTS: A MOLECULAR DYNAMICS SIMULATION
- 3-7.P V.A. Koverga, O.M. Korsun, O.M. Kalugin, A. Idrissi LOCAL STRUCTURE ORGANIZATION OF THE POLAR APROTIC SOLVENTS: A MOLECULAR DYNAMICS SIMULATION
- 3-8.P V.O. Kozhanov, V.V. Lisnyak, A.N. Zaderko, O.Y. Boldyrieva, D.A. Stratiychuk INSIGHT ON THE PHYSICOCHEMICAL PROPERTIES OF PHOSPHATE IONIC MELTS
- 3-9.P U. Liudkevych, I. Shtablavyi, THERMAL EXPANSION OF LIQUID METALS

S. Mudry

- 3-10.P V.I. Lysov,  
T.L. Tsaregradskaya,  
G.V. Saenko,  
O.V. Turkov THE EXTENSION OF THERMAL  
STABILITY INTERVAL OF  
AMORPHOUS ALLOYS  
DUE TO INITIATION OF  
ASCENDING DIFFUSION
- 3-11.P D.O. Novikov,  
E.Y. Smortsova,  
V.N. Agieienko,  
O.N. Kalugin ION ASSOCIATION AND  
SOLVATION OF ZINC  
PERCHLORATE IN  
ACETONITRILE AT MOLECULAR  
LEVEL: CONDUCTOMETRY  
VERSUS MOLECULAR  
MODELLING
- 3-12.P V.H. Paschoal,  
M.C.C. Ribeiro TEMPERATURE AND  
CONCENTRATION EFFECTS ON  
THE HIGH-FREQUENCY  
COLLECTIVE DYNAMICS OF  
LITHIUM-IONIC LIQUIDS  
MIXTURES
- 3-13.P S.P. Rogalsky,  
K.Y. Fatyeyeva,  
S.M. Makhno,  
O.P. Tarasyuk,  
C. Chappey, S. Marais IONIC LIQUID-BASED PROTON  
CONDUCTING MEMBRANE FOR  
HIGH TEMPERATURE FUEL CELL  
APPLICATION
- 3-14.P S. Odinaev,  
D.M. Akdodov DETERMINATION OF THE  
REGION THE FREQUENCY  
DISPERSION OF THE  
COEFFICIENT THE THERMAL  
CONDUCTIVITY AND THE  
THERMAL MODULE OF  
ELASTICITY AQUEOUS

## ELECTROLYTE SOLUTIONS

- 3-15.P V.V. Shevchenko,  
M.A. Gumenna,  
A.V. Stryutsky,  
N.S. Klymenko,  
V.V. Klepko,  
V.F. Korolovych,  
P.A. Ledin,  
V.V. Tsukruk
- 3-16.P V. Sklyarchuk,  
A. Yakymovych,  
Y. Plevachuk,  
B. Sokoliuk
- 3-17.P Y. Smortsova, F.-  
A Miannay, A. Idrissi,  
O.N. Kalugin
- 3-18.P O.V. Solomenko,  
O.V. Solomenko,  
V.Y. Chernyak,  
D.K. Hamazin,  
V.V. Lendiel,  
D.O. Kalustova,  
A.M. Goryachko,  
I.P. Veremii,  
A.K. Trohimchuk
- 3-19.P A.B. Tolstogouzov,  
M.O. Vasylyev,  
S.P. Chenakin
- 3-20.P V.E. Sokol'skii,

REACTIVE PROTIC OLIGOMERIC  
IONIC LIQUIDS WITH TWO  
TYPES OF BASIC CENTERS

ELECTRICAL CONDUCTIVITY  
AND VISCOSITY OF LIQUID Sn-  
Ag-Cu ALLOYS WITH COBALT  
ADDITIONS

COUMARIN 153 SOLVATION  
DYNAMICS IN IMIDAZOLIUM  
IONIC LIQUIDS' MIXTURES  
STUDY: CATION ROLE

MICRODISCHARGE  
ATMOSPHERIC PRESSURE  
PLASMA-LIQUID SYSTEM

TOF-SIMS STUDY OF  
IMIDAZOLIUM IONIC LIQUIDS

THE ROLE OF THE SPINEL IN

	A.S. Davidenko, A.S. Roik, V.P. Kazimirov, I.A. Goncharov, V.I. Galinich	THE FORMATION OF THE STRUCTURE OF WELDING FLUXES
3-21.P	N. Atamas, I. Vornichesky	INFLUENCE OF HYDROPHOBIC PROPERTIES OF DISSOLVED SUBSTANCE TO THE LOCAL STRUCTURE OF THE IONIC LIQUID DMIM+/CL- AT 400K
4-1.P	V.S. Gerasimchuk, I.V. Gerasimchuk, N.I. Dranik	ADSORPTION OF POLYMER CHAINS IN THE SYSTEM WITH TWO INTERFACES SIMULATED BY NARROW POTENTIAL WELLS
4-2.P	O.A. Hrebnev, A.V. Bannikova, L.A. Bulavin, V.F. Korolovych	ALGINATE MICROSPHERES AS PLATFORM FOR ENCAPSULATION OF BIOACTIVE COMPOUNDS
4-3.P	O. Kharchenko, O. Krupka, V. Smokal, A. Kolendo	SYNTHESIS AND CHARACTERIZATION OF SIDE- CHAIN STYRYLQUINOLINE POLYMERS
4-4.P	O.V. Khorolskyi, O.P. Rudenko	CONCENTRATION REGIMES FOR POLYVINYL ALCOHOL SOLUTIONS IN DIMETHYL SULFOXIDE AND WATER
4-5.P	S.Y. Tkachev, O.M. Alekseev, V.Y. Bardik, K.M. Kovalov,	COMPLEX INVESTIGATION OF HYDROXYPROPYLCELLULOSE SOLUTIONS

M.M. Lazarenko

- 4-6.P V.B. Kovalska,  
M.Y. Losytskyy,  
M.V. Kuperman,  
E. Gumienna-  
Kontecka,  
O.A. Varzatskii,  
K.Y. Zhizhin,  
N.T. Kuznetsov
- 4-7.P V.Y. Kudrya,  
V.M. Yashchuk,  
I.Y. Dubey,  
K.I. Kovalyuk,  
O.I. Batsmanova,  
V.I. Mel'nik,  
G.V. Klishevich,  
T.I. Udod
- 4-8.P E.A. Lysenkov,  
V.V. Klepko,  
M.I. Lebovka
- 4-9.P A.V. Oliinik,  
Y.F. Zabashta,  
O.O. Brovko,  
L.Y. Vergun,  
T.F. Samoilenko,  
N.V. Iarova
- 4-10.P S.V. Vasylyuk,  
V.M. Yashchuk,  
A.O. Gerasov,  
Y.P. Kovtun,
- INTERACTIONS BETWEEN  
HALOGEN SUBSTITUTED BORON  
CLUSTERS AND ALBUMINS
- SPECTRAL PROPERTIES OF THE  
TELOMERE BIOPOLYMER  
FRAGMENTS
- PERCOLATION PHENOMENA IN  
POLYGLYCOL-CARBON  
NANOTUBES SYSTEMS
- THE PECULIARITY OF  
DIFFUSION OF MOLECULES OF  
THE GAS PHASE THROUGH  
OPTICALLY TRANSPARENT  
POLYMERIC FILMS AT  
MAGNETIC FIELDS  
INTERACTION
- CYANINE-LIKE NATURE OF  
ELECTRON TRANSITIONS IN  
MEROCYANINES DERIVATIVES  
DIETHYLAMINOCOUMARINE

M.P. Shandura,  
O.D. Kachkovsky

- 4-11.P S.V. Vasylyuk,  
V.M. Yaschuk,  
A.D. Suprun,  
O.D. Kachkovsky SHAPE AND LOCATION OF  
CHARGE WAVES IN IONIC  
POLYMETHINE SYSTEMS IN  
ELECTRIC FIELD
- 4-12.P L.Y. Vergun MECHANISM OF THE  
STRUCTURAL CHANGES IN THE  
LAYERS OF MUCUOS  
CONNECTIVE TISSUE DURING  
ELECTROWELDING
- 4-13.P L.Y. Vergun,  
Y.F. Zabashta,  
O.S. Svechnikova,  
G.G. Ignatyeva THE MOLECULAR MECHANISM  
OF DISORDER IN THE CARTILAGE  
CONNECTIVE TISSUE UNDER  
THE ACTION OF A MAGNETIC  
FIELD
- 4-14.P M. Vivcharyk,  
M. Iakhnenko,  
S. Levchenko,  
S. Chernykh,  
Z. Tkachuk MONITORING OF INTERFERON- $\alpha$   
(PEG) CONFORMATIONAL  
CHANGES CAUSED BY YEAST  
RNA
- 4-15.P A.S. Yefimenko,  
L.Y. Vergun REORIENTATION OF CHAIN  
MOLECULES OF GELATIN IN  
MAGNETIC FIELD
- 8-1.P A.S. Sizhuk,  
S.M. Yezhov THE EVALUATION OF THE  
LOCAL ABSORPTION  
COEFFICIENT OF THE SYSTEM  
OF ATOMS TAKING INTO  
ACCOUNT THE SHORT-RANGE  
INTERACTION

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| 8-2.P  | V.I. Marenkov  | THE RADIATIVE PROPERTIES OF THE CHARGE SUBSYSTEM OF THE PLASMA FLUID CONTAINING NANOPARTICLES OF HEAT-RESISTANT METALS                 |
| 10-1.P | L.M. Babkov,<br>J. Baran,<br>N.A. Davydova,<br>I.V. Ivlieva,<br>E.A. Ponezha | DESCRIPTION OF THE GLACIAL PHASE IN TRIPHENYL PHOSPHITE FROM INFRARED INVESTIGATION AND QUANTUM CHEMISTRY CALCULATION                  |
| 10-2.P | A.N. Grigoriev,<br>T.V. Kleshchonok,<br>I.V. Markov                          | MOLECULAR DYNAMICS SIMULATION OF O-XYLENE – P-XYLENE LIQUID MIXTURES AT LOW AND HIGH PRESSURES USING GROMACS                           |
| 10-3.P | O.P. Ivanenko,<br>N.M. Kompanichenko<br>, A.A. Omel'chuk                     | GLASS FORMATION WITH PARTIAL OR COMPLETE SUBSTITUTION OF SAMARIUM (II) FLUORIDE FOR BARIUM (LANTHANUM) FLUORIDES IN ZBNL GLASS SAMPLES |

**Poster session 2 (May 28, 2016; 15:55 - 16:40)**

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| 2-1.P | H. Hushvaktov,<br>A. Jumabaev,<br>U.N. Tashkenbaev,<br>A. Absanov,<br>G. Sharifov,<br>B.G. Hudayberdiev | ABOUT PROTON-ACCEPTOR AND PROTON-DONOR PROPERTIES OF PYRROLE MOLECULES. QUANTUM-CHEMICAL CALCULATIONS |
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2-2.P	Y.Y. Bezsmolnyy, V.A. Nikolaenko, S.S. Sokolov	ESTIMATION OF LATERAL SIZE OF INHOMOGENEITIES USING SURFACE ELECTRONS OVER SUPERFLUID HELIUM FILM
2-3.P	A.P. Birchenko, Y.Y. Fysun, N.P. Mikhin, E.Y. Rudavskii	TRAPPED LIQUID IN SOLID $^3\text{He}$ - $^4\text{He}$ SOLUTION: $^3\text{He}$ SELF- DIFFUSION
2-4.P	A. Gritsenko, K.A. Klokol, G.A. Sheshin	QUANTUM TURBULENCE AND QUASISTABLE LAMINAR FLOW HE II
2-5.P	I.A. Gritsenko, K.A. Klokol, G.A. Sheshin	FLOW OF SUPERFLUID HELIUM AT HIGH REYNOLDS NUMBER
2-6.P	A. Gritsenko, K.A. Klokol, G.A. Sheshin	KINETIC ENERGY DISSIPATION OF A TUNING FORK IMMERSSED IN SUPERFLUID HELIUM AT DIFFERENT TEMPERATURES
2-7.P	V.A. Nikolaenko, A.V. Smorodin, S.S. Sokolov	ANOMALOUS OF TRANSPORT OF THE SURFACE ELECTRONS OVER STRUCTURED SUBSTRATE COVERED BY HELIUM
2-8.P	V. Pastukhov	HIGH-DENSITY LIMIT OF QUASI- TWO-DIMENSIONAL DIPOLAR BOSE GAS
2-9.P	T.K. Salikhov, S.kh Davlatjonova	FEATURES OF THE OPTOACOUSTICS GENERATION OF THE FIRST AND SECOND SOUND IN SUPERFLUID

- SOLUTION  $^3\text{He}$ - $^4\text{He}$  BY THE  
GAUSSIAN PULSE OF THE  
LASER RADIATION
- 2-10.P T.K. Salikhov THE THEORY OF THE  
GENERATION OF THE IMPULSES  
THE FIRST AND SECOND  
SOUNDS IN SUPERFLUID  
HELIUM BY THE RECTANGULAR  
PULSE OF THE LASER BEAM
- 2-11.P N.E. Kornienko,  
O.O. Ilchenko,  
O.N. Korniienko THE CHANGE OF  
LONGITUDINAL-TRANSVERSE  
SPLITTING OF VIBRATIONAL  
 $\nu_5(\text{E})$   $\text{CHCl}_3$  BANDS IN  
SOLUTIONS WITH  $\text{CH}_3\text{OH}$
- 2-12.P A.S. Peletminskii,  
S.V. Peletminskii,  
Y.V. Slyusarenko BOSE-EINSTEIN CONDENSATION  
OF HETERONUCLEAR BOUND  
STATES FORMED IN A FERMI  
GAS OF TWO ATOMIC SPECIES:  
MICROSCOPIC APPROACH
- 6-1.P O.P. Artykulnyi,  
L.A. Bulavin,  
V.I. Petrenko,  
M.V. Avdeev,  
L. Rosta STRUCTURE INVESTIGATION OF  
POLY(ETHYLENE GLYCOL) –  
SODIUM OLEATE COMPLEX IN  
WATER SOLUTION BY SMALL-  
ANGLE NEUTRON SCATTERING  
AND NEUTRON  
REFLECTOMETRY
- 6-2.P M. Balasoiu,  
D. Soloviov,  
O. Ivankov, A.-  
M. Balasoiu-Gaina,  
S.N. Lysenko PARTICLE CONCENTRATION  
EFFECTS ON THE  
 $\text{CoFe}_2\text{O}_4/\text{LA}/\text{DDS-Na}/\text{H}_2\text{O}$   
FERROFLUID STRUCTURE

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| 6-3.P | T.Y. Nikolaienko  | MOLECULAR DYNAMICS<br>INVESTIGATION OF<br>COMPLEXATION OF<br>A DOXORUBICIN MOLECULE<br>WITH SODIUM OLEAT BILAYER                          |
| 6-4.P | V. Chumachenko,<br>N. Kutsevol,<br>I. Vynogradka,<br>L. Bulavin,<br>M. Rawiso | EFFECT OF GRAFTING<br>EFFICIENCY OF STAR-LIKE<br>POLYMERS ON SIZE<br>CHARACTERISTICS OF SILVER<br>SOLS SYNTHESIZED IN<br>POLYMER SOLUTION |
| 6-5.P | A. Dorosh,<br>A. Shevchuk,<br>O. Hutsol                                       | NEW TO THE RHEOLOGY OF<br>THIXOTROPIC PAINT SYSTEMS   |
| 6-6.P | B.O. Golichenko,<br>S.O. Kravchenko   | THE PROPERTIES OF THE<br>FLUORESCHEIN ADSORBED ON A<br>DIFFERENT SUBSTRATES<br>STUDIED BY MEANS OF<br>VIBRATIONAL SPECTROSCOPY            |
| 6-7.P | A.N. Grigoriev,<br>T.V. Kleshchonok,<br>I.V. Markov,<br>Y.V. Yevtushenko      | EQUATION OF STATE OF MODEL<br>LENNARD-JONES-GAUSS<br>MAGNETIC FLUID   |
| 6-8.P | T.O. Kuryliak,<br>O.O. Bochechka  | THE DISINTEGRATION OF<br>AGGLOMERATED<br>NANOPARTICLES OF POWDER<br>MIXTURE OF ACM 5 0.1/0 AND<br>TUNGSTEN TRIOXIDE WO <sub>3</sub>       |
| 6-9.P | G.B. Litinskii  | FRACTAL STRUCTURE OF  |

## DENSE POLAR SYSTEMS

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| 6-10.P | M.A. Lytvyn,<br>S.I. Mudry   | DENSITY AND SURFACE<br>TENSION OF NI-IN LIQUID<br>ALLOYS  |
| 6-11.P | T.V. Lyuty,<br>M.O. Pavlyuk,<br>S.I. Denisov                         | DIRECTED TRANSPORT OF<br>FERROMAGNETIC<br>NANOPARTICLES DUE TO THE<br>MAGNUS EFFECT   |
| 6-12.P | R.M. Melnyk,<br>N.I. Lebovka   | CHANGES IN ELECTRICAL<br>CONDUCTIVITY DURING<br>“COFFEE RING” FORMATION IN<br>DRYING DROPS  |
| 6-13.P | I.V. Pylypchuk,<br>P.P. Gorbyk,<br>T.Y. Nikolaienko,<br>D.V. Shelest | SYNTHESIS AND<br>CHARACTERIZATION OF<br>HYBRID CHITOSAN/MAGNETITE<br>NANOCOMPOSITE FLUIDS   |
| 6-14.P | S. Odinaev,<br>K. Komilov,<br>A.K. Zaripov                           | ABOUT THE CONCENTRATION<br>DEPENDENCE OF THE<br>VISCOELASTIC PROPERTIES OF<br>THE ELECTROCONDUCTIVE<br>MAGNETIC LIQUIDS   |
| 6-15.P | B. Opryshko,<br>A. Grygoriev   | DETERMINING THE<br>STRUCTURAL PROPERTIES OF<br>MODEL FLUIDS BY NUMERICAL<br>SOLUTION OF THE EQUATIONS<br>OF MOTION FOR THE FOURIER<br>COEFFICIENTS OF DENSITY<br>FLUCTUATIONS |
| 6-16.P | T. Sakhno,   | PREPARATION OF  |

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|        | V. Krykunova,<br>Y. Sakhno,<br>N. Barashkov,<br>D. Eisenberg   | FERROMAGNETIC LIQUID<br>CONTAINING MIXED IRON<br>OXIDE/MANGANESE OXIDE<br>NANOPARTICLES AND ITS USE<br>FOR MIXER STUDIES IN LIQUIDS<br>FEEDS |
| 6-17.P | S.I. Shulyma,<br>B.M. Tanygin,<br>V.F. Kovalenko,<br>M.V. Petrychuk  | FERROFLUID NUCLEUS PHASE<br>TRANSITIONS IN AN EXTERNAL<br>UNIFORM MAGNETIC FIELD   |
| 6-18.P | Y.V. Slyusarenko,<br>O.Y. Sliusarenko,<br>A.V. Chechkin  | REDUCED DESCRIPTION<br>METHOD IN THE KINETIC<br>THEORY OF ACTIVE PARTICLES<br>WITH INTERACTION   |
| 7-1.P  | Y. Chernolevska,<br>Y. Vaskivskiy,<br>I. Doroshenko,<br>V. Pogorelov   | EXPERIMENTAL STUDY OF<br>METHANOL CLUSTERS IN<br>ARGON AND NITROGEN<br>MATRICES  |
| 7-2.P  | D.O. Derecha,<br>Y.B. Skirta,<br>I.V. Gerasimchuk  | PHASE SEPARATION OF<br>ELECTROLYTE INFLUENCED BY<br>A MAGNETIZED ELECTRODE IN<br>A DC MAGNETIC FIELD   |
| 7-3.P  | A.S. Doroshkevich,<br>A.V. Shylo,<br>A.I. Lyubchuk,<br>T.Y. Zelenyak,<br>S.A. Synyakina,<br>K.T. Kholmurodov,<br>V.V. Sadilov,<br>T.E. Konstantinova,<br>V.I. Bodnarchuk | WATER ADSORPTION IN<br>NANOPOWDER SYSTEMS AS A<br>METHOD FOR ELECTRICITY<br>PRODUCING  |

7-4.P	V.I. Dvoretzka, D.A. Gavryushenko	THE OSMOTIC PRESSURE OF BINARY SOLUTION WITHIN CONFINED GEOMETRY
7-5.P	M.F. Ledney, O.S. Tarnavskyy, A.I. Lesiuk, V.Y. Reshetnyak	EQUILIBRIUM DIRECTOR DISTRIBUTIONS IN A NEMATIC CELL WITH RELIEF SURFACE
7-6.P	M.F. Ledney, O.S. Tarnavskyy, A.I. Lesiuk, V.Y. Reshetnyak	INTERACTION OF ELECTROMAGNETIC WAVES IN A PLANAR NEMATIC WAVEGUIDE
7-7.P	O.G. Lopatynska, A.M. Lopatynskiy, V.I. Chegel, L.V. Poperenko	OPTICAL STUDY OF THE TEMPERATURE INFLUENCE ON THE ENZYMATIC REACTION PROGRESS
7-8.P	V.V. Obukhovsky, A.M. Kutsyk, V.V. Nikonova	DIFFUSION IN LIQUID SOLUTIONS: TWO APPROACHES
7-9.P	O.A. Ozerov, E.K. Zholkovskiy, V.I. Kovalchuk	DYNAMICS OF ANALYTE BANDS IN PRESSURE DRIVEN AND ELECTROOSMOTIC FLOWS THROUGH SLIT MICRO- CHANNEL
7-10.P	A.V. Shylo, A.S. Doroshkevich, T.Y. Zelenyak, T.E. Konstantinova, K.T. Kholmurodov, A.H. Islamov	INFLUENCE OF AMBIENT HUMIDITY ON THE PROCESS OF SEALING OF NANOPOWDER DISPERSED SYSTEM BASED ON ZIRCONIA

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| 7-11.P | A.A. Gorjuk,<br>V.I. Mikhailenko,<br>A.Y. Popovskii                                      | THERMODYNAMIC PROPERTIES<br>OF EPITROPIC LIQUID<br>CRYSTALS   |
| 7-12.P | M.M. Lazarenko,<br>O.M. Alekseev,<br>N.V. Hoshlyk,<br>S.I. Bohvan,<br>Y.E. Grabovsky     | DISTRIBUTION OF<br>TOPOLOGICAL SOLITONS IN THE<br>RAMIFIED MOLECULES  |
| 7-13.P | A.R. Aleksandrenko,<br>M.M. Lazarenko,<br>O.M. Alekseev,<br>S.O. Alekseev,<br>V.V. Sirko | FEATURES OF THE<br>NANOSTRUCTURED 1-<br>OCTADECENE'S PHASE<br>TRANSITIONS WHILE THE PORE<br>SIZE CHANGES                                      |
| 7-14.P | R.V. Dinzhos,<br>N.M. Fialko,<br>V.M. Makhrovskiy  | THE INFLUENCE OF<br>MANUFACTURING<br>TECHNOLOGY AND TYPE OF<br>FILLER ON THERMAL<br>PROPERTIES OF<br>NANOCOMPOSITES BASED ON<br>POLYPROPYLENE |
| 7-15.P | S. Burian, M. Isaiev,<br>L. Bulavin  | TEMPERATURE DEPENDENCE OF<br>THE TOLMAN LENGTH OF THE<br>SURFACE OF TENSION   |

***Poster session 3 (May 29, 2016; 13:45 - 14:30)***

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| 5-1.P | L.V. Adamova,<br>E.V. Eremina,<br>K.B. Grzhegorzhevski<br>i, A.A. Ostroushko | INTERACTION OF<br>NANOCLUSTER<br>POLYOXOMETALATES WITH<br>LOW-MOLECULAR LIQUIDS OF |
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## DIFFERENT POLARITY

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| 5-2.P | T. Bezrodna,<br>I. Chashechnikova,<br>V. Nesprava,<br>N. Lebovka,<br>A. Goncharuk            | INTERFACE INTERACTION<br>EFFECTS ON THE STRUCTURE<br>AND ELECTROCONDUCTIVITY<br>PROPERTIES OF<br>NANOCOMPOSITES WITH<br>ORGANOMODIFIED<br>MONTMORILLONITE – CARBON<br>NANOTUBES PARTICLES |
| 5-3.P | V.A. Cherevko,<br>N.N. Kizilova  | SECOND ORDER VELOCITY SLIP<br>BOUNDARY CONDITIONS AND<br>FAHRAEUS-LINDQVIST EFFECT<br>IN NANOFLUIDS AND<br>MICROFLUIDS  |
| 5-4.P | A.N. Grigoriev,<br>T.V. Kleshchonok,<br>I.V. Markov  | A SIMPLE MONTE CARLO<br>ALGORITHM FOR AN<br>EFFECTIVE SIMULATION OF<br>HIGHLY SIZE ASYMMETRICAL<br>BINARY MIXTURES  |
| 5-5.P | A.N. Grigoriev,<br>V.V. Kleshchonok,<br>I.V. Markov,<br>O.S. Zimin                           | INVERSE MONTE CARLO<br>RESTORATION OF AN<br>EFFECTIVE INTERACTION<br>POTENTIAL OF BIG DISKS IN A<br>HIGHLY SIZE ASYMMETRICAL<br>BINARY MIXTURE  |
| 5-6.P | G. Ilnitskaya,<br>N. Oliinyk,<br>G. Bazaliy,<br>V. Timoshenko,<br>E. Ishchenko,<br>S. Gaidai | RECEPTION NANODIAMONDS<br>WITH CHEMICALLY<br>HOMOGENEITY SURFACE  |

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| 5-7.P  | O.Y. Khliyeva,<br>A.S. Nikulina,<br>M.P. Polyuganich,<br>S.S. Ryabikin,<br>V.P. Zhelezny | THE PREDICTION OF THE<br>DENSITY AND VISCOSITY OF<br>THE SYSTEM WATER / ETHANOL<br>/ PROPYLENE GLYCOL WITH<br>AL <sub>2</sub> O <sub>3</sub> NANOPARTICLES BASED<br>ON A LIMITED NUMBER OF<br>EXPERIMENTAL DATA |
| 5-8.P  | L. Konczak,<br>T. Panczyk  | INTERMOLECULAR<br>INTERACTIONS BETWEEN<br>CARBON NANOTUBES AND<br>COLLOIDAL NANOPARTICLES. A<br>MOLECULAR DYNAMICS STUDY  |
| 5-9.P  | V.P. Zhelezny,<br>T.L. Lozovsky,<br>M.A. Shimchuk,<br>I.V. Motovoy                       | AN EXPERIMENTAL<br>INVESTIGATION AND<br>MODELLING OF THE HEAT<br>CAPACITY FOR NANOFUIDS<br>ISOPROPANOL/ Al <sub>2</sub> O <sub>3</sub> ON THE<br>SATURATION LINE  |
| 5-10.P | V.P. Zhelezny,<br>T.L. Lozovsky,<br>M.A. Shimchuk,<br>I.V. Motovoy                       | THERMAL PROPERTIES AND<br>PHASE TRANSITIONS OF THE<br>NANOFUIDS ISOPROPANOL /<br>Al <sub>2</sub> O <sub>3</sub> IN SOLID PHASE  |
| 5-11.P | E.A. Lysenkov,<br>S.I. Bokhvan,<br>V.V. Klepko,<br>L.A. Bulavin                          | FEATURES OF PERCOLATION<br>TRANSITION IN POLYMER-<br>CARBON NANOTUBES SYSTEMS   |
| 5-12.P | I. Melnyk, L. Bulavin,<br>V. Kovalchuk,<br>K. Repnin,<br>N. Lebovka                      | TWO-STEP PERCOLATION IN<br>SUSPENION OF MULTIWALL<br>CARBON NANOTUBES   |

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| 5-13.P | T.V. Nagorna,<br>L.A. Bulavin,<br>D. Chudoba,<br>O.A. Kyzyma,<br>M.V. Avdeev                             | STRUCTURAL<br>CHARACTERIZATION OF<br>FULLERENE CLUSTERS IN<br>POLAR/NON-POLAR SOLVENTS<br>MIXTURES                        |
| 5-14.P | K.D. Shepeliuk,<br>V.E. Orel   | INTERACTION OF MAGNETIC<br>FIELD WITH NANOPARTICLES IN<br>A<br>PHANTOM OF MAMMARY GLAN<br>D WITH TUMOUR                   |
| 5-15.P | O.O. Sidorov,<br>N.V. Bashmakova,<br>V.M. Yashchuk,<br>V. Chumachenko,<br>N. Kutsevol                    | SPECTRAL PROPERTIES OF THE<br>SILVER NANOPARTICLES<br>IN THE DEXTRAN-<br>POLYACRYLAMIDE MATRICES                          |
| 5-16.P | L. Vanyorek,<br>R. Mészáros,<br>S. Bárány  | SURFACE AND<br>ELECTROSURFACE<br>CHARACTERIZATION OF<br>OXIDIZED BAMBOO LIKE<br>CARBON NANOTUBES                          |
| 5-17.P | V.I. Melnyk,<br>T.V. Bezrodna,<br>V.V. Nesprava,<br>G.V. Klishevich,<br>N.D. Curmei,<br>V.V. Shimanovska | LOW-TEMPERATURE<br>LUMINESCENCE AND PHASE<br>TRANSFORMATION OF 5CB<br>LIQUID CRYSTALS FILLEDLY<br>INORGANIC NANOPARTICLES |
| 5-18.P | P. Wolski, T. Panczyk  | pH CONTROLLED SELF-<br>ORGANIZATION OF<br>DOXORUBICIN AND SELECTED<br>DYES INSIDE A CARBON                                |

NANOTUBE. A MOLECULAR  
DYNAMIC STUDY

- 5-19.P V.I. Melnyk,  
T.V. Bezrodna,  
V.V. Nesprava,  
G.V. Klishevich,  
N.D. Curmei,  
V.V. Shimanovska  
LOW-TEMPERATURE  
LUMINESCENCE AND PHASE  
TRANSFORMATIONS OF 5CB  
LIQUID CRYSTALS FILLED BY  
INORGANIC NANOPARTICLES
- 9-1.P A.R. Aleksandrenko,  
M.M. Lazarenko,  
O.M. Alekseev  
FEATURES OF THE  
NANOSTRUCTURED 1-  
OCTADECENE'S PHASE  
TRANSITIONS WHILE THE PORE  
SIZE CHANGES
- 9-2.P O. Bénichou,  
M. Dudka,  
G. Oshanin,  
D. Shapoval  
EQUILIBRIUM PROPERTIES OF  
REACTIONS ON A CHAIN WITH  
CATALYTIC STRUCTURAL  
COMPONENTS
- 9-3.P O.I. Bilous,  
A.V. Chalyi  
ANOMALIES OF THE CRITICAL  
CONCENTRATION OF THE  
SOUND ABSORPTION SOLUTION  
H-PENTANOL NITROMETHANE
- 9-4.P O.I. Bilous  
BEHAVIOR OF VISCOSITY AND  
THE SPEED OF SOUND OF  
WATER SOLUTIONS 1,2-PROPYL  
ALCOHOL NEAR THEIR  
SINGULAR POINTS
- 9-5.P L.A. Bulavin,  
O.I. Bilous  
TEMPERATURE AND  
CONCENTRATION DEPENDENCE  
OF SOUND ABSORPTION OF  
WATER SOLUTIONS 1,2-PROPYL

ALCOHOL NEAR THEIR  
SINGULAR POINTS

- 9-6.P V. Chumachenko,  
N. Kutsevol,  
M. Rawiso STIMULI-RESPONSIBLE  
DEXTRAN-GRAFT-PNIPAM  
STAR-LIKE COPOLYMERS
- 9-7.P B.K. Eshchanov,  
S. Otajonov SPECTROSCOPIC STUDY OF  
INTERMOLECULAR DYNAMICS  
AND ENERGY DISTRIBUTION IN  
MOLECULAR SCATTERING OF  
LIGHT FROM ORGANIC LIQUIDS
- 9-8.P A.N. Galdina CRITICAL PROPERTIES OF HARD  
SQUARES MODEL
- 9-9.P D.K. Hamazin,  
I.P. Veremii,  
V.Y. Chernyak FEATURES OF ROTATING  
SLIDING DISCHARGE WITH AC  
POWER
- 9-10.P J. Kausteklis,  
V. Jočys, V. Aleksa,  
V. Balevičius DETERMINATION OF LIQUID  
CRYSTALLINE IONOGE L PHASE  
BORDERS IN [C10MIM][CL,  
BR]/H<sub>2</sub>O MIXTURES USING  
RAMAN SPECTROSCOPY
- 9-11.P O.P. Rudenko,  
A.N. Hetalo,  
O.V. Khorolskyi ABNORMAL BEHAVIOR OF  
KINEMATIC VISCOSITY OF  
FLUORINATED PRIMARY  
ALCOHOLS
- 9-12.P L.P. Klochko,  
D.A. Gavrushenko THE LIQUID CRYSTAL IN AN  
EXTERNAL FIELD NEAR  
CRITICAL POINT
- 9-13.P I.I. Narkevich, A WAY OF USING THE TWO-

	E.V. Farafontova	LEVEL MOLECULAR- STATISTICAL APPROACH IN CASE OF DESCRIPTION OF STRUCTURE AND THERMODYNAMIC CHARACTERISTICS OF HOMOGENEOUS MACROSCOPIC SYSTEMS AND SPHERICAL NANOPARTICLES
9-14.P	S.G. Orlovskaya, J.A. Shevchenko, M.S. Shkoropado	THE ROLE OF PHASE TRANSITIONS IN FORMATION OF TUNGSTEN OXIDE SUPERFICIAL STRUCTURES
9-15.P	S.G. Orlovskaya, M.S. Shkoropado, F.F. Karimova	THE INFLUENCE OF ELECTRIC FIELD ON MELTING OF OCTADECANE DROPLET
9-16.P	V.S. Ovechkin	CLUSTER THEORY OF THE DIELECTRIC-CONDUCTOR TRANSITION IN COULOMB GAS
9-17.P	O.I. Pursky	HEAT TRANSFER PROCESSES IN SIMPLE MOLECULAR SUBSTANCES AT CRYSTAL- LIQUID PHASE TRANSITION
9-18.P	S.A. Stetsenko, A.N. Hetalo, A.P. Rudenko	THE ACTIVATION ENERGY OF FLUORINE DERIVATIVES OF MONOHYDRIC ALCOHOLS
9-19.P	M.V. Stiranets, V.Y. Gotsulskiy, V.E. Chechko	REFRACTOMETRY OF WATER- ALCOHOL SOLUTIONS IN THE VICINITY OF THEIR PECULIAR POINTS

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| 9-20.P | Y. Vaskivskiy,<br>Y. Chernolevska,<br>I. Doroshenko,<br>V. Pogorelov  | SPECTROSCOPIC<br>INVESTIGATION OF PHASE<br>TRANSITIONS IN 1-NONANOL<br>AND 1-DECANOL  |
| 9-21.P | L.N. Yakub,<br>O.S. Bodiul  | THERMODYNAMIC PROPERTIES<br>OF METHANE AND ITS<br>DERIVATIVES ON THE MELTING<br>LINE  |
| 9-22.P | O.M. Zaymack,<br>O.V. Khorolskiy,<br>A.M. Khlopov   | LOW-FREQUENCY<br>DEPENDENCIES OF ELECTRIC<br>PROPERTIES OF SOME PRIMARY<br>ALCOHOLS   |
| 9-23.P | A.D. Alekhin,<br>Y.L. Ostapchuk,<br>A.V. Voytshenko,<br>V.I. Kovalchuk,<br>B.T. Yeleussinov,<br>A.G. Galichev,<br>O.I. Bilous,<br>Y.G. Rudnikov | COMPARISON OF THE CRITICAL<br>VISCOSITY EQUATIONS BASED<br>ON THE THEORY OF DYNAMIC<br>SCALING AND TAKING INTO<br>ACCOUNT OF THE SYSTEM<br>SPATIAL DISPERSION |
| 9-24.P | A.D. Alekhin,<br>B.Z. Abdikarimov,<br>O.T. Shimanskaya  | NONLINEAR PROPERTIES OF<br>CRITICAL FLUID AND<br>POSSIBILITIES OF ITS USING IN<br>THE NOVEL TECHNOLOGIES  |

**Poster session 4 (May 29, 2016; 15:55 - 16:40)**

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| 1-1.P | B. Angelova,<br>V.M. Garamusb,<br>M. Drechslerc, | STRUCTURAL ANALYSIS OF<br>NANOPARTICULATE CARRIERS<br>FOR ENCAPSULATION OF |
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	A. Angelovad	MACROMOLECULAR DRUGS
1-2.P	D. Babich, A. Kulsky, A. Yakunov	POSSIBLE NON-THERMAL EFFECTS IN ORGANIC DYES SOLUTIONS UNDER MILLIMETER WAVE IRRADIATION
1-3.P	L.A. Bulavin, Y.F. Zabashta, B.V. Batsak	APPLYING MAGNETIC RESONANCE TOMOGRAPHY FOR DETERMINATION OF HYDRODYNAMIC CHARACTERISTICS OF NON- STATIONARY BLOOD FLOW
1-4.P	A.O. Buslov, S. Makarchuk, W. Grange, P. Hébraud	DEVELOPMENT OF A TRACTION FORCE MICROSCOPY EXPERIMENTAL SETUP FOR A CELL FORCES INVESTIGATION
1-5.P	A. Dorosh, O. Hutsol	DIFFUSION-AVERAGED WATER STRUCTURE ACCORDING TO ROENTGENOGRAPHY AND VISCOMETRY
1-6.P	I. Doroshenko, V. Pogorelov, O. Kovalkova, E. Kozlovskaya, G. Pitsevich, L.G.M. Pettersson	PERMUTATIONAL SYMMETRY OF LIBRATIONAL AND TRANSLATIONAL COORDINATES OF WATER IN TETRAHEDRALLY H-BONDED STRUCTURES
1-7.P	S.L. Golovynskyi, I.I. Golovynska, T.Y. Ohulchanskyy	TOWARDS OPTICAL PERMEABILITY OF BIOLOGICAL TISSUES IN NEAR INFRARED REGION

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| 1-8.P  | A. Gromov,<br>I. Stoloka,<br>A. Dovgaliuk,<br>Y. Myagchenko  | OPTIMIZATION METHODS OF<br>VISUAL OBJECTS'<br>OBSERVATION IN A<br>SCATTERING COLORED LIQUIDS   |
| 1-9.P  | K.Y. Khanchych,<br>Y.A. Melnyk,<br>V.Y. Gotsulskiy   | EVOLUTION OF THE<br>PARAMETERS OF THE LIGHT<br>SCATTERED IN DILUTE WATER-<br>GLUCOSE SOLUTIONS   |
| 1-10.P | N.E. Kornienko,<br>O.M. Kutsay,<br>A.D. Rud  | IR SPECTROSCOPY OF WATER<br>PROPERTIES IN<br>NANODIAMOND<br>AGGLOMERATES   |
| 1-11.P | I. Doroshenko,<br>V. Pogorelov,<br>O. Doroshenko,<br>T. Tupeko,<br>E. Kozlovskaya,<br>A. Malevich,<br>G. Pitsevich | IN SEARCH OF THE BEST WAY<br>FOR CALCULATION OF WATER<br>CLUSTERS POTENTIAL ENERGY<br>SURFACE WITH LIMITED<br>DIMENSION  |
| 1-12.P | I. Doroshenko,<br>V. Pogorelov,<br>O. Doroshenko,<br>A. Radko,<br>E. Kozlovskaya,<br>G. Pitsevich                  | AB INITIO DFT STUDY OF THE<br>DONOR-ACCEPTOR PROPERTIES<br>AND ANHARMONICITIES OF THE<br>O-H VIBRATIONS IN DIMERS<br>AND HETERODIMERS OF H <sub>2</sub> O,<br>H <sub>2</sub> O <sub>2</sub> AND CH <sub>3</sub> OH MOLECULES |
| 1-13.P | D. Kravchenko,<br>K. Ogorodnik,<br>Y. Myagchenko   | EFFECT OF ACTIVATED WATER<br>ON LIGHT SCATTERING AND<br>MUTAROTATION IN SOLUTIONS<br>OF MONOSACCHARIDES  |

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| 1-14.P | L.V. Kuzmenko,<br>M.Y. Losytskyy,<br>A.B. Shcherbakov,<br>V.M. Yashchuk,<br>N.F. Gamaleia                                 | CEF3:TB NANOPARTICLES -<br>CTAB SHELL – CHLORIN<br>E6 ENERGY TRANSFER<br>NANOSYSTEM  |
| 1-15.P | M.Y. Losytskyy,<br>L.O. Vretik,<br>O.A. Nikolaeva,<br>A.I. Marynin,<br>N.F. Gamaleia,<br>V.M. Yashchuk                    | FORMATION OF THE<br>POLYSTYRENE-<br>DIPHENYLOXAZOLE-CHLORIN<br>ENERGY TRANSFER<br>NANOSYSTEM   |
| 1-16.P | P.V. Makhlaichuk,<br>V.N. Makhlaichuk   | NATURE OF THE KINEMATIC<br>SHEAR VISCOSITY FOR LOW-<br>MOLECULAR LIQUIDS WITH<br>AVERAGED POTENTIAL OF<br>LENNARD-JONES TYPE                         |
| 1-17.P | H.D. Manko,<br>Y.O. Myagchenko,<br>V.P. Gryshchuk,<br>O.V. Slobodyanyuk   | COMPARISON<br>EKSTRAHUYUCHYH<br>PROPERTIES CATHOLYTE OF<br>DIFFERENT ORIGIN FOR THE<br>PREPARATION OF AQUEOUS<br>SOLUTIONS OF DYES NATURAL<br>ORIGIN |
| 1-18.P | O.R. Mishchuk,<br>V.Y. Pogorelov,<br>I.Y. Doroshenko,<br>O.O. Ilchenko,<br>Y.V. Pilgun,<br>A.M. Kutsyk,<br>V.V. Strelchuk | POLARIZED COMPONENTS OF<br>RAMAN SPECTRA IN WATER AT<br>DIFFERENT TEMPERATURES   |
| 1-19.P | V. Mykhailyk,   | ON THE HEAT CAPACITY OF  |

	N. Lebovka	BOUND WATER IN BENTONITE
1-20.P	L.A. Bulavin, Y.F. Zabashta, L.Y. Vergun, K.O. Ogorodnik, F.F. Demudyuk	THE TURBULENCE OF AN AQUEOUS SOLUTION OF GLUCOSE UNDER THE INFLUENCE OF A MAGNETIC FIELD
1-21.P	I. Doroshenko, V. Pogorelov, A. Sosnovsky, A. Malevich, E. Kozlovskaya, G. Pitsevich	LIBRATIONAL MODES OF WATER MOLECULES IN TETRAHEDRALLY H-BONDED STRUCTURES CONSIDERED AS LARGE AMPLITUDE MOTION
1-22.P	I. Doroshenko, V. Pogorelov, A. Paltsev, E. Kozlovskaya, G. Pitsevich	EFFECTS OF CORRELATION AND EXCHANGE ENERGY ON STRUCTURAL AND SPECTRAL PROPERTIES OF O-O BRIDGE IN SOME PEROXIDES
1-23.P	V.V. Prorok, P.J. White, C.F.V. Mason, O.I. Dacenko, L.A. Bulavin, L.Y. Melnichenko, L.V. Poperenko	TIME DEPENDENCE OF <sup>137</sup> Cs CONCENTRATION IN THE SOIL SOLUTIONS AT FIELD CONDITIONS IN THE 10-KM EXCLUSION ZONE OF THE CHORNOBYL NUCLEAR POWER PLANT
1-24.P	A.O. Sadchenko, L.V. Budianska, O.V. Vashchenko, N.A. Kasian	SEARCH FOR RELATIONSHIP BETWEEN PARAMETERS OF GUEST MOLECULES AND THEIR EFFECTS ON MODEL PHOSPHOLIPID MEMBRANES
1-25.P	O.V. Saienko,	THERMODYNAMIC

	R.O. Saienko	CHARACTERISTICS OF A VISCOUS CURRENT OF WATER SOLUTIONS OF POLYOLS
1-26.P	R. Savchuk, S. Kutovyy, A. Ginda, L. Zaika	THE BINDING OF AMITIZINOBERAMID TO DNA
1-27.P	M. Shcherbakova, V. Gryshchuk, Y. Myagchenko	EVALUATION OF EFFICIENCY OF CATALYST WATER APPLICATION FOR THE EXTRACTION OF COLORANTS FROM FIBROUS MATERIALS
1-28.P	L. Bulavin, Y. Zabashta, L. Vergun, K. Ogorodnik, A. Shpiruk	THE LIGHT SCATTERING OF AQUEOUS SOLUTION IN A MAGNETIC FIELD
1-29.P	T.D. Pardis, M.T. Dove, R.W. Pickersgill	FATAL FAMILIAL INSOMNIA; THE INABILITY TO SLEEP
1-30.P	T.D. Pardis, R.W. Pickersgill, M.T. Dove	ROSEMARY LEAF EXTRACT AS NATURAL SUBSTITUTE TO PARABENS IN COSMETIC PRODUCTS
1-31.P	A.S. Topchylo, Y.O. Myagchenko	SPECTROSCOPIC AND POLARIMETRIC STUDIES OF THE ISOMERIC FORMS OF LACTOSE
1-32.P	A.S. Topchylo, Y.O. Myagchenko	SPECTRA-POLARIMETRIC PROPERTIES OF LACTOSE

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| 1-33.P | E.N. Tsurko   | SPECIFIC CATION AND ANION EFFECTS ON BIOMOLECULE SOLVATION IN SOLUTIONS OF TWO- AND THREE-BASIC AMINO ACIDS AND THEIR SALTS |
| 1-34.P | M.V. Timofeev   | MODEL POTENTIALS FOR INTERPARTICLE INTERACTIONS BETWEEN WATER AND ALCOHOLS MOLECULES BELONGING METHANOL SERIES              |
| 1-35.P | O.V. Vashchenko,<br>A.O. Sadchenko,<br>L.V. Budianska   | HYDRATION PROPERTIES OF DRUG COMPOUNDS BY THE EVIDENCE OF THERMOGRAVIMETRY ANALISYS   |
| 1-36.P | A. Vasylieva,<br>I. Doroshenko,<br>Y. Vaskivskiy,<br>V. Pogorelov,<br>V. Sablinskas,<br>V. Balevicius | TEMPERATURE-DEPENDENT FTIR SPECTRA OF WATER IN AR MATRIX AND IN CONDENSED STATE   |
| 11-1.P | S. Lysovenko  | GENERATION OF DYNAMIC STRUCTURE MODELS OF METALS USING QUASIFORCE METHOD  |
| 11-2.P | Y.A. Salimov,<br>A.V. Slobodyanyuk,<br>E.B. Rusanov,<br>Y.M. Markitanov                               | POLYMORPH MODIFICATIONS OF C <sub>18</sub> H <sub>17</sub> F <sub>3</sub> N <sub>2</sub> O <sub>4</sub> S                   |