

MONDAY, 3 JUNE

8:00-10:00

REGISTRATION

10:00-10:15

OPENING OF THE CONFERENCE
Director of the B.Verkin ILTPE NASU
Academician of the National Academy of Sciences of Ukraine
Sergey Gnatchenko

Conference hall	Plenary lectures of invited speakers
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Chair

Yuliya Savina

10:15-10:55

Alexander Vasiliev,
STRUCTURAL AND MAGNETIC PHASE TRANSITIONS IN NOVEL LOW DIMENSIONAL METALOXIDE $K_2Mn_3(VO_4)_2(CO_3)$

Low Temperature Physics and Superconductivity Department of the Physics Faculty, M.V. Lomonosov Moscow State University, Moscow, Russia

10:55-11:35

Olga Volkova,
LOW TEMPERATURE PHASE TRANSITION IN $(NO)Cu(NO_3)_3$

Low Temperature Physics and Superconductivity Department of the Physics Faculty, M.V. Lomonosov Moscow State University Moscow, Russia

11:35-11:50

 **Coffee Break**

Conference hall	Low Temperature Magnetism, Spintronics
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Chair

Oksana Kravchyna

11:50-12:05

PHONONIC AND MAGNETIC EXCITATIONS IN WARWICKITE Mn_2BO_4
Afanasiev O.¹, Gnezdilov V.P.¹, Pashkevich Yu.G.², Lemmens P.³, Bezmaternykh L.N.⁴, Ovchinnikov S.G.⁴

¹*B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine*

²*Donetsk Institute for Physics and Engineering named after O.O. Galkin of the NASU, Donetsk, Ukraine,*

³*Institute for Condensed Matter Physics, Braunschweig, Germany*

⁴*L.V. Kirensky Institute of Physics, Krasnoyarsk, Russia*

12:05-12:20

THE NATURE OF FARADAY EFFECT IN TERBIUM IRON BORATE
Pashchenko M.I.¹, Bedarev V.A.¹, Savina Yu.O.¹, Pashchenko V.O.¹, Bezmaternykh L.N.², Temerov V.L.²

¹*B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine*

²*L.V. Kirensky Institute of Physics, Siberian Branch of Russian Academy of Sciences, Krasnoyarsk, Russian Federation*

12:20-12:35

THE FERROMAGNETIC CORRELATIONS ACROSS THE CHARGE ORDERING IN $Nd_{2/3}Ca_{1/3}MnO_3$

Kravchyna O.¹, Fertman E.¹, Dolya S.¹, Desnenko V.¹, Kajňaková M.², and Feher A.²

¹*B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine*

²*P. J. Šafárik University, Košice, Slovakia*

12:35-12:50

MAGNETIC PROPERTIES OF THE SINGLE-ION MAGNET $CsNd(MoO_4)_2$
Tkáč V.¹, Tibenská K.², Orendáčová A.¹, Orendáč M.¹, Anders A.G.³, Feher A.¹

¹*Institute of Physics, P. J. Šafárik University, Košice, Slovakia*

²*Technical University in Košice, Slovakia*

³*B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine*

- 12:50-13:05 **EXCHANGE BIAS PROBLEM IN THE SIMPLE CONTINUOUS MODEL**
Grechnev A.G., Kovalev A.S., Pankratova M.L.
B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
- 13:05-13:20 **ANISOTROPY MAGNETIC STATIC AND DYNAMIC PROPERTIES OF ANTIDOT LATTICES OF TRIANGULAR DOTS/ANTIDOTS**
Marchenko A.I.
Donetsk Institute for Physics and Engineering named after O.O. Galkin of the NASU, Donetsk, Ukraine

**Hall
"Helium"****Low Temperature Materials Science**

- Chair *Olena Vatazhuk*
- 11:50-12:05 **LOW-TEMPERATURE ACOUSTIC PROPERTIES IN NANOSTRUCTURED AND ANNEALED Zr SAMPLES**
Vatazhuk E.N.
B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
- 12:05-12:20 **MOLAR HEAT CAPACITY AND THERMAL CONDUCTIVITY OF SINGLE CRYSTALS OF $Zn_{1-x}Mg_xSe$ SUBSTITUTION SOLID SOLUTION**
Kapustnik A.K., Kovalenko N.O.
Institute for Single Crystals, STC "Institute for Single Crystals", Kharkiv, Ukraine
- 12:20-12:35 **THE LOW TEMPERATURE JUMP-LIKE PLASTIC DEFORMATION OF ULTRA-FINE-GRAINED Al-Li**
Zabrodin P.A., Geidarov V.G.
B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
- 12:35-12:50 **HYSTERESIS BEHAVIOR OF NANOTRIBOLOGICAL SYSTEM IN THE BOUNDARY FRICTION MODE**
Zaskoka A.M., Lyashenko I.A.
Sumy State University, Sumy, Ukraine
- 12:50-13:05 **ANOMALOUS BEHAVIOR OF THE YIELD STRENGTH, σ_0 , OF THE $Al_{0.5}CoCrCuFeNi$ HIGH ENTROPY ALLOY AT ULTRALOW TEMPERATURES**
Laktionova M. O.¹, Tabachnikova E. D.¹, Shumilin S.E.¹, Tikhonovsky M.A.², Tortika A.S.²
¹ *B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine*
² *National Science Center «Kharkiv Institute of Physics and Technology» NASU, Kharkiv, Ukraine*
- 13:05-13:20 **EFFECT OF GRAIN SIZE DISTRIBUTION ON LOW TEMPERATURE DUCTILITY OF BULK NANOCRYSTALLINE TITANIUM**
Smolianets R.V.
B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
- 13:20-14:00 **Lunch**

**Conference
hall****Plenary lectures of invited speakers**

- Chair *Oleksandr Afanasiev*
- 14:00-14:40 **Alexander Tovstolytkin,
INTERFACIAL EFFECTS IN MAGNETIC NANOSTRUCTURES:
HARD TO PROBE, EASY TO USE**
Institute of magnetism of the NASU (Kyiv, Ukraine)

- Chair *Oleksandr Afanasiev*
- 14:40-14:55 **TUNNELING MAGNETORESISTANCE AND INDIRECT MEASUREMENT OF THE MAGNETOCALORIC EFFECT IN LANTHANUM DEFICIENT MANGANITE $\text{La}_{0.8}\text{Ag}_{0.1}\text{MnO}_3$**
Gamzatov A.G., Kamilov I.K.
Amirkhanov Institute of Physics, Dagestan Scientific Center of RAS, Makhachkala, Russia
- 14:55-15:10 **ELECTRONIC PART OF THE ENTROPY CHANGE AT THE MAGNETIC PHASE TRANSITION IN FeRh ALLOYS DOPED WITH d-METALS**
Chirkova A.M.^{1,2}, Volegov A.S.², Gerasimov E.G.¹, Kazantsev V. A.¹,
Baranov N.V.^{1,2}, Krupskaya Y.³, Mohamed M. R. A.³, Büchner B.³
¹*Institute of Metal Physics, Ural Branch of the RAS, Ekaterinburg, Russia*
²*Institute of Natural Sciences, Ural Federal University, Ekaterinburg, Russia*
³*Leibniz Institute for Solid State and Materials Research Dresden, Dresden, Germany*
- 15:10-15:25 **INFLUENCE OF MAGNETOELASTIC INTERACTION ON STATIC AND DYNAMIC PROPERTIES OF THE FERROMAGNET WITH LARGE INCLINED ANISOTROPY**
Krivtsova A.V., Meleshko A.G., Fridman Yu.A.
Taurida National V.I. Vernadski University Simferopol, Ukraine
- 15:25-15:40 **SPIN-CURRENT INDUCED PERIODICAL STRUCTURES IN FERROMAGNETIC NANOWIRES**
Volkov O.M.¹, Kravchuk V.P.², Sheka D.D.¹, Gaididei Y.B.²
¹*Taras Shevchenko National University, Kiev, Ukraine.*
²*Bogolyubov Institute for Theoretical Physics, Kiev, Ukraine*
- 15:40-15:55 **THE BREAKING OF THE VORTEX POLARITY SWITCHING SYMMETRY BY THE SURFACE ANISOTROPY**
Pylypovskyi O. V.¹, Sheka D. D.¹, Kravchuk V. P.², Gaididei Y.²
¹*Taras Shevchenko National University, Kyiv, Ukraine*
²*Bogolyubov Institute for Theoretical Physics, Kyiv, Ukraine*
- 15:55-16:10 **MAGNETIC ORDERING AND MACROSCOPIC DYNAMICS OF SYSTEMS WITH THE SPIN S=1**
Kovalevsky M.Y.^{1,2}, Glushchenko A.V.¹
¹*Kharkiv Institute of Physics and Technology Kharkiv, Ukraine*
²*Belgorod State University, Belgorod, Russia*
- 16:10-16:25 **$\text{Cu}(\text{tn})\text{Cl}_2$ – A SPIN 1/2 QUASI-TWO-DIMENSIONAL ANTIFERROMAGNET**
Tarassenko R.¹, Orendáčová A.¹, Čížmár E.¹, Mat’áš S., Orendáč M.¹, Potočňák I.³,
Siemensmeyer K.², Zvyagin S.⁴, Wosnitza J.⁴ and Feher A.¹
¹*Institute of Physics, P.J. Šafárik University, Košice, Slovak Republic*
²*Helmholtz-Zentrum Berlin, Berlin, Germany*
³*Institute of Chemistry, P.J. Šafárik University, Košice, Slovak Republic*
⁴*Dresden High Magnetic Field Laboratory (HLD), Helmholtz-Zentrum Dresden-Rossendorf and TU Dresden, Germany*


16:25-16:40




16:40-17:40


POSTER SESSION – I

TUESDAY, 4 JUNE

Conference hall	Plenary lectures of invited speakers
Chair	<i>Oleksii Bludov</i>
10:00-10:40	Roman Puzniak, SINGLE CRYSTALS OF CHALCOGENIDES AND THE IMPACT OF GROWTH CONDITIONS, CHEMICAL SUBSTITUTIONS, AND PRESSURE ON THEIR SUPERCONDUCTING STATE PROPERTIES <i>Institute of Physics, Warsaw, Poland</i>
10:40-11:20	Szewczyk Andrzej, LYERED COBALTITES: THERMAL PROPERTIES, PHASE TRANSITIONS (AND POTENTIAL APPLICATION IN FUEL CELLS?) <i>Institute of Physics, Warsaw, Poland</i>
11:20-11:35	 Coffee Break
11:35-12:15	Akhmed Aliev, MAGNETOCALORIC PROPERTIES OF HEUSLER ALLOYS <i>Amirkhanov Institute of Physics, Daghestan Scientific Center RAS, Makhachkala, Russia</i>
Conference hall	Electronic properties of conducting and superconducting systems
Chair	<i>Andrey Kiyko</i>
12:15-12:30	MEISSNER HOLES AND AVALANCHE FLUX PENETRATION IN SINGLE CRYSTAL OF MgB₂ Chabanenko V. ¹ , <u>Kuchuk E.</u> ¹ , Yurchenko V.V. ² , Karpinski J. ³ , Puźniak R. ⁴ ¹ <i>A. Galkin Donetsk Institute for Physics and Engineering, NASU, Donetsk, Ukraine</i> ² <i>Department of Physics, University of Oslo, Oslo, Norway</i> ³ <i>Laboratory for Solid State Physics, Zurich, Switzerland</i> ⁴ <i>Institute of Physics, PAS, Warsaw, Poland</i>
12:30-12:45	RECONSTRUCTION OF A TRUE SURFACE FERMI CONTOUR WITH STM Khotkevych N.V. <i>B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine</i>
12:45-13:00	WOHLLEBEN EFFECT IN YRh₄B₄ <u>Terekhov A.V.</u> ^{1,2} , Khristenko E.V. ¹ , Khlybov E.P. ³ , and Zaleski A.J. ² ¹ <i>B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine</i> ² <i>W.Trzebiatowski Institute of Low Temperature and Structure Research, Wroclaw, Poland.</i> ³ <i>L.F.Vereshchagin Institute for High-Pressure Physics, Troitsk, Russia.</i>
13:00-13:45	Lunch
13:45-14:30	Institute Excursion
Conference hall	Plenary lectures of invited speakers
Chair	<i>Yuriy Yerin</i>
14:30-15:10	Gennadiy Grechnev, ELECTRONIC STRUCTURE AND MAGNETIC PROPERTIES OF NOVEL LAFeASO- AND FESE-BASED SUPERCONDUCTORS <i>B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine</i>

Conference hall	Electronic properties of conducting and superconducting systems
Chair	<i>Yuriy Yerin</i>
15:10-15:25	<p>PSEUDOGAP AND LOCAL PAIRS IN CUPRATE HTS'S <u>Tkachenko M.A.</u>¹, Sidorov S.L.², Solovjov A.L.¹. ¹<i>B. Verkin Institute for Low Temperature Physics and Engineering NASU Kharkiv, Ukraine</i> ²<i>O.O. Galkin Donetsk Institute for Physics and Engineering NASU, Donetsk, Ukraine</i></p>
15:25-15:40	<p>NONLINEAR ANISOTROPIC MAGNETORESISTIVE RESPONSE IN NIOBIUM MICROSTRIPS WITH AN ARRAY OF UNIAXIAL GROOVES <u>Dobrovolskiy O.V.</u>^{1,2}, Huth M.¹, Shklovskij V.A.^{2,3} ¹<i>Physikalisches Institut, Goethe-University, Frankfurt/Main, Germany</i> ²<i>Karazin Kharkiv National University, Kharkiv, Ukraine</i> ³<i>Institute of Theoretical Physics, NSC-KIPT, Kharkiv, Ukraine</i></p>
15:40-15:55	<p>TUNABLE TRANSPARENCY OF LAYERED SUPERCONDUCTORS PLACED INSIDE A VACUUM WAVEGUIDE Rokhmanova T.N. <i>A.Ya. Usikov Institute for Radiophysics and Electronics NAS of Ukrain, Kharkiv, Ukraine</i></p>
15:55-16:10	<p>HYSTERETIC LOSS MINIMUM IN COLINEAR AC AND DC MAGNETIC FIELDS SUBJECTED PERPENDICULAR TO THE PLANE OF HTSC SUPERCONDUCTING TAPES <u>Maievskiy E.A.</u>¹, Ciszek M.^{1,2} ¹<i>Institute of Low Temperature and Structure Research, Polish Academy of Sciences, Wroclaw, Poland</i> ²<i>Wroclaw University of Technology, Faculty of Mechanical and Power Engineering, Wroclaw, Poland</i></p>
16:20-17:00	Round Table <i>Hall "Helium"</i>
Chair	<p><i>Mariia Pashchenko</i> Mariia Pashchenko, OSA and SPIE, “OSA and SPIE Student Chapters. How it works for Ukrainian students and young scientists” <i>ILTPE NASU, Ukraine</i></p> <p>Sergii Rodionov and Anastasiya Moskaltsova, IEEE Kharkiv Branch, “About IEEE Mission and benefits for students and scientists” <i>IRE NASU, Ukraine</i></p> <p>Simone Babuin, Dr., Invited lecturer “Research in superfluid turbulence at the Joint Low Temperature Laboratory in Prague (Charles University and Institute of Physics ASCR)” <i>Institute of Physics ASCR, Prague, Czech Republic</i></p>
17:00-17:30	 Coffee Break
17:00-18:00	Poster Section – II

WEDNESDAY, 5 JUNE

Conference hall	Plenary lectures of invited speakers
Chair	<i>Mariia Pashchenko</i>
10:00-10:40	Andrzej Wisniewski, TUNABLE MAGNETIC PROPERTIES OF COBALTITE NANOPARTICLES <i>Institute of Physics, Warsaw, Poland</i>
10:40-11:20	Simone Babuin, QUANTUM TURBULENCE OF SUPERFLUID HELIUM-4 <i>Institute of Physics ASCR, Prague, Czech Republic</i>
11:20-11:40	 Coffee Break
Conference hall	Physics of Nanostructures and Low Dimensional Systems
Chair	<i>Maxim Barabashko</i>
11:40-11:55	ELECTRICAL AND STRUCTURAL PROPERTIES OF ZnO-REALIZATION OF p-TYPE ZnO FILMS AND p-n HOMO-JUNCTIONS <u>Snigurenko D.</u> ¹ , Kopalko K. ¹ , Krajewski T. A. ¹ , Jakiela R. ¹ , Witkowski B. S. ¹ , Godlewski M. ^{1,2} , Paszkowicz W. ¹ , Guziewicz E. ¹ ¹ <i>Institute of Physics, Polish Acad. of Sciences, Warsaw, Poland</i> ² <i>Dept. of Mathematics and Natural Sciences College of Science Cardinal S. Wyszyński University, Warsaw, Poland</i>
11:55-12:10	OPTICAL AND TRANSPORT PROPERTIES OF ZINC OXIDE LAYERS GROWN BY THE LOW TEMPERATURE ATOMIC LAYER DEPOSITION (ALD) PROCESS <u>Krajewski T.A.</u> ¹ , Dybko K. ¹ , Nowakowski P. ¹ , Luka G. ¹ , Snigurenko D. ¹ , Jakiela R. ¹ , Witkowski B.S. ¹ , Wachnicki L. ¹ , Kaminska A. ¹ , Suchocki A. ^{1,2} , Guziewicz E. ¹ , Godlewski M. ^{1,3} ¹ <i>Institute of Physics, Polish Academy of Sciences, Warsaw, Poland</i> ² <i>Institute of Physics, University of Bydgoszcz, Bydgoszcz, Poland</i> ³ <i>Dept. of Mathematics and Natural Sciences, College of Science Cardinal Stefan Wyszyński University, Warsaw, Poland</i>
12:10-12:25	TEMPERATURE DEPENDENCE OF LUMINESCENCE OF ZnSe NANOCRYSTALS IN PORES OF SiO₂ MATRICES <u>Kononets N.V.</u> , Seminko V.V., Aslanov A., Masalov A.A., Malyukin Y.V. <i>Institute for Scintillation Materials NASU, Kharkiv, Ukraine</i>
12:25-12:40	PHASE COMPOSITION, STRUCTURE AND MORPHOLOGICAL STABILITY OF SPHERICAL SUBMICRON-SIZED (Y_{1-x}Eu_x)₂O₃ PARTICLES <u>Bezkravnyy O.S.</u> , Yermolayeva Yu.V. <i>Institute for Single Crystals of NASU, Kharkiv, Ukraine</i>
12:40-12:55	STRUCTURAL INHOMOGENEITY OF NEAR-SURFACE LAYERS OF SINGLE-CRYSTAL WAFERS MADE OF GADOLINIUM GALLIUM GARNET Kovalenko O.V. <i>Kharkiv National University, Kharkiv, Ukraine</i>

- 12:55-13:10 **ANOMALOUS GROWTH OF THERMOPOWER OF EPITAXIAL GRAPHENE FORMED ON SEMICONDUCTOR SUBSTRATE**
 Alisultanov Z.Z.^{1,2}
¹*Amirkhanov Institute of Physics of Daghestan Scientific Center of RAS, Makhachkala, Russia*
²*Dagestan States University, Russia, Makhachkala*

Hall "Helium" Quantum Liquids and Quantum Crystal, Cryocrystals

- Chair *Oleksandr Danylchenko*
- 11:40-11:55 **PLASMA OSCILLATIONS IN QUASI-ONE-DIMENSIONAL NON-DEGENERATE QUANTUM WIRE OVER LIQUID HELIUM**
Degtiarov I.A., Sokolov S.S.
B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
- 11:55-12:10 **VISUALIZATION OF HE II FLOW AROUND CYLINDER**
Chagovets T.V.^{1,2}
¹*Institute of Physics ASCR, Praha, Czech Republic*
²*National High Magnetic Field Laboratory, Tallahassee, USA*
- 12:10-12:25 **LONG-RANGE INTERACTION INFLUENCE ON VOLUME VIBRATION ZONES AND SURFACE WAVES IN CUBIC CRYSTALS**
 Klochko M.
B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
- 12:25-12:40 **PHASE TRANSITIONS IN SURFACE STATE ELECTRON SYSTEM OVER LIQUID HELIUM**
Nasyedkin K.A., Syvokon V.E.
B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
- 12:40-12:55 **CONTRIBUTION OF SECOND SOUND AND DISSIPATIVE MODES TO HEAT FLOW PRODUCED BY OSCILLATING HEAT SOURCE**
 Nemchenko K.E., Rogova S.Yu.
V. N. Karazin Kharkiv National University, Kharkiv, Ukraine
- 12:55-13:10 **ON THE DIPOLE MOMENTS OF VORTEX PAIRS IN TWO-DIMENSIONAL SUPERFLUID SYSTEMS** 78
 Shevchenko S.I.¹, Rukin A.S.¹, Konstantinov A.M.²
¹*B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine*
²*National Technical University KhP, Kharkiv, Ukraine*
- 13:10-14:00 **Lunch**

Conference hall Physics of Nanostructures and Low Dimensional Systems (continue)


- Chair *Sergii Poperezhai*
- 14:00-14:15 **THE QUASI 2D CONDUCTING SYSTEM BASED ON SILICON CRYSTAL WITH CrSi₂ NANOCRYSTALLITES BURIED IN THE (111) Si PLANE**
 Berkutov I.B.¹, Andrievskii V.V.¹, Komnik Yu.F.¹, Mirzoiev I.G.¹, Galkin N.G.², Goroshko D.L.²
¹*B. Verkin Institute for Low Temperature Physics and Engineering of the National Academy of Sciences of Ukraine, Kharkiv, Ukraine*
²*Institute of Automation and Control Processes of the Far Eastern Branch of RAS, Vladivostok, Russia*
- 14:15-14:30 **SYMMETRY BREAKING IN ONE DIMENSION ELECTRON GAS ON DISORDERED HOST-LATTICE**
 Pastur L.A., Slavin V.V., Kryvchikov O.O.
B. Verkin Institute for Low Temperature Physics and Engineering, Kharkiv, Ukraine

- 14:30-14:45 **STRUCTURAL AND PHASE TRANSFORMATIONS IN C/Si MULTILAYER FILMS DURING ANNEALING**
Zhuravel I.O., Bugayev Ye.A., Konotopsky L.E., Zubarev E.M., Sevryukova V.A., Kondratenko V.V.
National Technical University KhPI, Kharkiv, Ukraine
- 14:45-15:00 **ESTIMATION OF THE DIFFUSION COEFFICIENTS GOVERNING THERMAL STABILITY OF AMORPHOUS PHASES WHICH HAVE AN APTITUDE FOR NANOCRYSTALLIZATION**
Kovalenko O.V., Rassolov S.G., Maksimov V.V., Popov V.V.
Donetsk Institute of Physics & Engineering of the NASU, Donetsk, Ukraine
- 15:00-15:15 **ON THE TIME LENGTH OF SMALL-SIZED WATER DROPLETS' FREEZING IN A LIQUID NITROGEN MEDIUM IN THE PROCESS OF CRYOGRANULATION**
Belukov S.V.¹, Kimens P.Yu.¹, Korolkov A.V.², Sapozhnikov V.B.¹
¹*Environmental and Chemical Engineering Institute, Moscow State University of Mechanical Engineering, Moscow, Russia*
²*Moscow State Forest University, Mytishchi-5, Moscow Region, Russia*
- 15:15-15:30 **PLASMON RESONANCE SHIFT DUE TO TIME VARIATIONS IN REFRACTIVE INDEX OF OUTER MEDIUM OF SILVER NANOWIRE**
Stognii N.P., Sakhnenko N.K.
Kharkiv National University of Radio Electronics, Kharkiv, Ukraine
- 15:30-15:45 **QUASI-PARTICLE SPECTRA OF CARBON NANOFILMS**
Kotlyar O.V.
B. Verkin Institute for Low Temperature Physics and Engineering, Kharkiv, Ukraine
- 15:45-16:00 **NONLINEAR EFFECTS IN THE 1D ELECTRICAL TRANSMISSION LINES**
Laptev D.V., Bogdan M.M.
B. Verkin Institute for Low Temperature Physics and Engineering, Kharkiv, Ukraine
- 16:00-16:15 **MAJORANA FERMIONS AND PERSISTENT CURRENT IN KITAEV MODEL**
Ilinskaya O.A.¹, Parafilo A.V.²
¹*V. N. Karazin National University, Kharkiv, Ukraine*
²*B. Verkin Institute for Low Temperature Physics and Engineering, Kharkiv, Ukraine*

17:30-20:00

WELCOME PARTY**THURSDAY, 6 JUNE****EXCURSION**

FRIDAY, 7 JUNE

Conference hall	Plenary lectures of invited speakers
Chair	<i>Denis Laptev</i>
10:00-10:40	Alexandr Bibik, ADVANCED OPTICAL DIAGNOSTICS FOR THE STUDY OF FLUIDS - TECHNIQUES, CONCEPTS AND PRINCIPLES <i>Georgia Institute of Technology, Atlanta, Georgia, USA</i>
10:40-11:20	Anna Shestopalova, HOW PROTEINS «READ» DNA: THE TASK FOR PHYSICISTS <i>IRE of the NASU, Kharkiv, Ukraine</i>
11:20-12:00	Evgenij Syrkin, RESONANCE PHONON TRANSPORT THROUGH INTERFACE BETWEEN TWO SOLID MEDIA <i>B.Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine</i>
12:00-12:30	 OSA-SPIE Coffee Break

Conference hall	Optics and Spectroscopy, Photonics Optical Investigations at Low Temperatures
Chair	<i>Tatyana Gaydamak</i>
12:30-12:45	NANOPOROUS SOLID SiO₂ MATRIX WITH INCORPORATED DYE MOLECULES <u>Plaksy A.G.</u> , <u>Bezkravnaya O.N.</u> , <u>Pritula I.M.</u> <i>Institute for Single Crystals, SSI "Institute for Single Crystals", NASU</i>
12:45-13:00	TERAHERTZ PHOTOLUMINESCENCE FROM n-GaN EPITAXIAL LAYERS UNDER CONTINUOUS-WAVE INTERBAND PHOTOEXCITATION AT HELIUM TEMPERATURES <u>Bobylev A.V.</u> ^{1,2} , <u>Zahar'in A.O.</u> ¹ , <u>Andrianov A.V.</u> ¹ ¹ <i>A.F. Ioffe Physical Technical Institute, Saint-Petersburg, Russia</i> ² <i>Saint-Petersburg State Polytechnical University, Saint-Petersburg, Russia</i>
13:00-13:15	CONTROL OF LUMINESCENT CHARACTERISTICS OF MOLECULAR AGGREGATES BY EXCITON-PLASMON INTERACTION <u>Pereverzev N.V.</u> , <u>Malukin Y.V.</u> , <u>Sorokin A.V.</u> <i>Institute for scintillation materials NASU of Ukraine</i>
13:15-13:30	LOW-FREQUENCY VIBRATION SPECTRUM OF THE CRYSTAL CsDy(MoO₄)₂ <u>Poperezhai S.M.</u> , <u>Bondar N.S.</u> , <u>Kut'ko V.I.</u> <i>B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine</i>

Hall "Helium"	Low Temperature Physics of Macromolecules, Biophysics.
Chair	<i>Eugenia Usenko</i>
12:30-12:45	INVESTIGATION OF INTERACTION OF NITROGEN BASES OF NUCLEIC ACIDS WITH OLYGOMERS OF POLYETHERS <u>Zobnina V.G.</u> , <u>Boryak O.A.</u> , <u>Kosevich M.V.</u> <i>B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine</i>

- 12:45-13:00 **THERMODYNAMICS OF DNA METALLIZATION INDUCED BY Zn²⁺, Ni²⁺ AND Co²⁺ IONS**
Usenko E.L., Valeev V.A., Sorokin V.A.
B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
- 13:00-13:15 **ENHANCEMENT OF PHOTOLUMINESCENCE INTENSITY OF DNA-WRAPPED SEMICONDUCTING SWNTs**
Kurnosov N.V., Leontiev V.S., Karachevtsev V.A.
B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
- 13:15-13:30 **GLUCOSE OXIDASE IMMOBLIZATION ON CARBON NANOTUBE SURFACE: AFM AND MOLECULAR DYNAMICS STUDY**
Karachevtsev M.V.¹, Lytvyn O.S.²
¹*B. Verkin Institute for Low Temperature Physics and Engineering, Kharkiv, Ukraine*
²*V. Lashkaryov Institute of Semiconductor Physics, Kyiv, Ukraine*
- 13:30-13:45 **INFLUENCE OF TEMPERATURE ON STABILITY OF CARBON NANOTUBE:POLY(C) AGGREGATES ASSOCIATED WITH CATIONIC PORPHYRIN: MOLECULAR DYNAMICS STUDY**
Zarudnev E.S., Karachevtsev V.A.
B. Verkin Institute for Low Temperature Physics and Engineering, Kharkiv, Ukraine

14:00-14:30

Closing

14:30-15:00

Lunch

15:00

Concert of Classical Music

Section Low Temperature Magnetism, Spintronics

- P1 THE ESR SPECTRUM OF NANODIAMONDS**
Dergachev K.G.¹, Kobets M.I.¹, Khatsko E.N.¹, Vaisnoras R.²
¹*B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine*
²*Vilnius Pedagogical University Faculty of Physics and Technology, Vilnius, Lithuania*
- P2 DYNAMIC AND STATIC PROPERTIES OF STRONGLY ANISOTROPIC FERROMAGNET WITH MECHANICAL BOUNDARY CONDITIONS**
Gorelikov G.A., Fridman Yu.A.
V.I. Vernadskiy Taurida National university, Simferopol, Ukraine
- P3 SPIN-GLASS POLYAMORPHISM?**
Rykova A.I., Sirenko V.A., Yeremenko A.V.
B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
- P4 SPECIFIC OF DYNAMICS OF THE ANISOTROPIC SPIN NEMATIC**
Butrim V.I.¹, Moiseyenko D.D.¹, Ivanov B.A.²
¹*Taurida National V.I. Vernadski University, Simferopol Ukraine*
²*Institute of Magnetism of NASU, Kiev, Ukraine*
- P5 SYNTHESIS AND EMR STUDIES OF $\text{Fe}_x\text{Ga}_{1-x}\text{BO}_3$ SINGLE CRYSTALS**
Seleznyova K.¹, Strugatsky M.¹, Yagupov S.¹, Postivey N.¹, Artemenko A.², Kliava J.³
¹*Taurida National V.I. Vernadski University, Simferopol Ukraine*
²*ICMCB, UPR CNRS 9048, Pessac cedex, France*
³*LOMA, UMR 5798 Université Bordeaux I-CNRS, Talence cedex, France*
- P6 THERMAL PROPERTIES OF QUASI 1D SPIN SYSTEM β -TeVO₄**
Savina Yu.¹, Bludov O.¹, Pashchenko V.¹, Szewczyk A.²
¹*B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine*
²*Institute of Physics of PAS, Warsaw, Poland*
- P7 MAGNETOELASTIC PROPERTIES OF $\text{Nd}_{0.6}\text{Dy}_{0.4}\text{Fe}_3(\text{BO}_3)_4$**
Bilych I.V.¹, Zhekov K.R.¹, Zvyagina G.A.¹, Zvyagin A.A.¹, Gudim I.A.², Eremin E.V.²
¹*B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine*
²*L.V. Kirensky Institute for Physics, Siberian Branch of the Russian Academy of Sciences, Krasnoyarsk, Russia*
- P8 MAGNETOCALORIC PROPERTIES OF HEUSLER ALLOYS**
Khanov L.N.¹, Aliev A. M.¹, Batdalov A.B.¹, Drobosyuk M.O.²
¹*Amirkhanov Institute of Physycs of Daghestan Scientific Center RAS Makhachkala, Russia,*
²*Chelyabinsk State University, Chelyabinsk, Russia*
- P9 PECULIARITIES OF MAGNETIC AND THERMAL PROPERTIES OF SINGLE CRYSTAL OF α -Cr₃(PO₄)₂**
Bludov O.¹, Savina Yu.¹, Pashchenko V.¹, Szewczyk A.²
¹*B. Verkin Institute for Low Temperature Physics and Engineering of NASU, Kharkiv, Ukraine*
²*Institute of Physics of PAS, Warsaw, Poland*

Section Low Temperature Materials Science

- P10 MICROMECHANICAL PROPERTIES OF ULTRAFINE-GRAINED ALLOY Al-3.8 at.% Li**
Rusakova A.V., Zabrodin P.A.
B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine

- P11** **LOW-TEMPERATURE MECHANICAL PROPERTIES OF ULTRAFINE GRAINED TITANIUM ALLOY OBTAINED BY TWIST EXTRUSION**
Psaruk I.A.¹, Tabachnikova E.D.¹, Beygelzimer Y.E.², Kulagin R.Y.²,
Abramova E.²
¹ *B. Verkin Institute for Low Temperature Physics and Engineering, Kharkiv, Ukraine*
² *Donetsk Institute for Physics and Engineering named after O.O.Galkin of the National Academy of Sciences of Ukraine, Donetsk, Ukraine*
- P12** **EFFECT OF CRYOGENIC QUASI-HYDROSTATIC EXTRUSION ON THE MICROSTRUCTURE AND PROPERTIES OF HIGH-PURITY TITANIUM**
Kutniy K.V., Tikhonovsky M.A., Khaimovich P.A., Kislyak I.F., Okovit V.S.,
Rudycheva T.Y.
National Science Center "Kharkiv Institute of Physics and Technology", Kharkiv, Ukraine
- P13** **DEPENDENCE OF Ag AND Ni NANOPARTICLE FRICTION ON SHEAR DIRECTION ON GRAPHENE**
Khomenko A.V.^{1,2}, Prodanov N.V.^{1,3,4}, Khomenko M.A.¹
¹ *Sumy State University, 2, Rimsky Korsakov Str., 40007 Sumy, Ukraine*
² *Peter Grünberg Institut-1, Forschungszentrum-Jülich, 52425 Jülich, Germany*
³ *Jülich Supercomputing Centre, Institute for Advanced Simulation, Jülich, Germany*
⁴ *Dept. of Materials Science and Engineering, Universität des Saarlandes, Saarbrücken, Germany*

Section	Electronic Properties of Conducting and Superconducting Systems
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| P14 | THE THERMOPOWER AND NERNST COEFFICIENTS ANALYSIS IN $Y_{1-2x}Ca_xPr_xBa_2Cu_3O_y$ SYSTEM
<u>Dubrovin R. M.</u> , <u>Komarova O. S.</u> , <u>Martynova O. A.</u> , <u>Gasumyants V. E.</u>
<i>Saint Petersburg State Polytechnical University, Saint-Petersburg, Russian Federation</i> |
| P15 | RESISTIVE STATE AND PHASE-SLIP LINES IN MgB_2 FILMS
<u>Dudar I.S.</u> , <u>Pokhila A.S.</u> , <u>Sivakov A.G.</u>
<i>B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine</i> |
| P16 | THE STUDY OF THE ITINERANT ELECTRON MAGNETISM OF Fe-BASED SUPERCONDUCTORS BY THE PROXIMITY EFFECT
<u>Chiang Yu.N.</u> ¹ , <u>Dzyuba M.O.</u> ¹ , <u>Shevchenko O.G.</u> ¹ , <u>Vasiliev A.N.</u> ²
¹ <i>B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine</i>
² <i>Lomonosov Moscow State University, Moscow, Russian Federation</i> |
| P17 | ANALYSIS OF KFe_2As_2 POINT CONTACT SPECTRA IN THE THERMAL REGIME
<u>Gamayunova N.V.</u> , <u>Naidyuk Yu.G.</u>
<i>B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine</i> |
| P18 | MAGNETOCALORIC EFFECT IN $Ln_{1-x}R_xMnO_3$ (Ln=La, Pr; R=Ag, K) MANGANITES
<u>Gamzatov A.G.</u> , <u>Aliev A.M.</u>
<i>Amirkhanov Institute of Physics, Dagestan Scientific Center of RAS, Makhachkala, Russia</i> |
| P19 | FeSe – PIEZOMAGNETIC
<u>Gaydamak T.N.</u> ¹ , <u>Zvyagina G.A.</u> ¹ , <u>Zhekov K.R.</u> ¹ , <u>Bilich I.V.</u> ¹ , <u>Chareev D.A.</u> ²
¹ <i>B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine</i>
² <i>Institute of Experimental Mineralogy, Chernogolovka, Moscow Region, Russia</i> |
| P20 | ELECTRIC CONDUCTIVITY OF POINT-CONTACT SENSORS UNDER ACTION OF COMPOSITE GAs MEDIA
<u>Golovko S.A.</u> ¹ , <u>Gudimenko V.A.</u> ¹ , <u>Klimkin A.S.</u> ² , <u>Pospelov A.P.</u> ³ ,
<u>Kamarchuk G.V.</u> ¹
¹ <i>B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine</i>
² <i>V. Karazin Kharkiv National University, Kharkiv, Ukraine</i>
³ <i>National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine</i> |

- P21 AMPLIFICATION AND ATTENUATION OF THE TRANSMITTED SIGNAL BY QUBIT'S DRESSED STATES.**
Karpov D.S.¹, Shevchenko S.N.²
¹ V.N. Karazin Kharkiv National University, Kharkiv, Ukraine
² B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
- P22 PERCOLATION EFFECTS IN SUPERCONDUCTOR – HALF METAL COMPOSITES**
Kononenko V.V., Tarenkov V.Yu., D'yachenko A.I.
 O. Galkin Donetsk Institute for Physics and Engineering NASU, Donetsk, Ukraine.
- P23 SEARCH FOR STIMULATED EMISSION AND ABSORPTION OF PHOTONS IN SmCo₅ - Cu POINT CONTACTS CAUSED BY INVERSE SPIN PUMPING**
Konopatskyi B.L., Naidyuk Yu.G., Balkashin O.P., Fisun V.V.
 B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
- P24 ELECTRONIC STRUCTURE AND MAGNETIC PROPERTIES OF LAYERED SUPERCONDUCTORS BASED ON NICKEL AND IRON.**
Logosha A.V., Grechnev G.E.
 B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
- P25 ELECTRONIC STRUCTURE AND MAGNETIC PROPERTIES OF FeGe₂**
Lyogenkaya A. A., Grechnev G. E.
 B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
- P26 MAGNETIC SUSCEPTIBILITY OF RARE-EARTH BORIDES RB₄ (R = Ce, Sm, Yb)**
Zhuravleva I.P., Fedorchenko A.V., Panfilov A.S.
 B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine

17:20-18:30

POSTER SESSION – II

Tuesday, 4 June

Section

Quantum Liquids and Quantum Crystals, Cryocrystals

- P1 DISORDERED INCLUSIONS IN HCP MATRIX ³He-⁴He: NUCLEAR SPIN-LATTICE RELAXATION**
Birchenko A.P., Mikhin N.P.
 B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
- P2 SECON SOUND SENSORS BASED ON NUCLEPORUS MEMBRANE AS A POSSIBLE WAY TO STUDY OF THE ELECTRIC ACTIVITY OF HE II**
 Chagovets T. V. ^{1,2}
¹ Institute of Physics ASCR, Praha, Czech Republic
² National High Magnetic Field Laboratory, Tallahassee, USA
- P3 INTERACTION BETWEEN OSCILLATING QUARTZ TUNING FORKS IMMERSSED IN SUPERFLUID HELIUM AT LOW TEMPERATURE**
Gritsenko I.¹, Sheshin G.¹, Nikonkov R.²
¹ B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
² V. N. Karazin Kharkiv National University, Kharkiv, Ukraine
- P4 ANOMALOUS LOW TEMPERATURE “POST-DESORPTION” FROM SOLID NITROGEN**
Khyzhniy I.V.¹, Savchenko E.V.¹, Uyutnov S.A.¹, Ponomaryov A.N.³,
 Gumenchuk G.B.², Bondybey V.E.²
¹ B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
² Lehrstuhl für Physikalische Chemie II TUM, München, Germany

³ Helmholtz Zentrum Dresden-Rossendorf, Dresden, Germany

- P5 THE ANOMALOUS BEHAVIOR OF THE DIELECTRIC SUSCEPTIBILITY OF THE ADAMANTANONE POLYCRYSTAL NEAR PHASE TRANSITIONS**
 Zhekov K.R.¹, Kolodyazhnaya M.P.², Zvyagina G.A.¹, Vdovichenko G.A.¹, Krivchikov A.I.¹
¹ B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
² National Technical University KhP, Kharkiv, Ukraine
- P6 PLASTIC FLOW OF SOLID HELIUM THROUGH POROUS MEMBRANE**
Lisunov A.A., Maidanov V.A., Rubanskyi V.Yu., Rubets S.P., Zhuchkov V.A.
 B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
- P7 COMPARATIVE ANALYSIS OF N₂-Ar, CO-Ar CRYOALLOYS ON BASE OF CLUSTER MODEL**
Mysko N.S., Danchuk V.V., Solodovnik A.A.
 B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
- P8 ELASTIC PROPERTIES OF Xe AT HIGH PRESSURE IN THE MODEL OF DEFORMABLE ATOMS**
Pilipenko E.A.¹, Troitskaya E.P.¹, Chabanenko Val.V.¹, Zhikharev I.V.^{1,2} and Gorbenko Ie.Ie²
¹ Donetsk A.A. Galkin Physics and Technology Institut, NASU, Donetsk, Ukraine
² Lugansk Taras Shevchenko National University, Lugansk, Ukraine
- P9 THERMAL CONDUCTIVITY OF CO-N₂ SOLID SOLUTION AT DIFFERENT NITROGEN CONCENTRATIONS**
Romanova T.V., Stachowiak P., Jeżowski A.
 Institute for Low Temperature and Structure Research, PAS, Wroclaw, Poland
- P10 RELAXATION PROCESSES AND ANNEALING IN SOLID HELIUM**
Rubanskyi V.Yu., Lisunov A.A., Rubets S.P.
 B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
- P11 CONTINUOUSLY OPERATING ⁴He EVAPORATION CRYOSTAT FOR RESISTANCE THERMOMETER CALIBRATION**
 Golovko A.A.², Lisunov A.A.¹, Rubanskyi V.Yu.¹, Rubets S.P.¹, Shevchenko F.A.¹, Sherbachenko R.I.¹
¹ B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
² National Technical University KhP, Kharkiv, Ukraine
- P12 HEAT TRANSFER OF CYCLIC MOLECULAR COMPOUNDS**
Sagan V.V., Konstantinov V.A., Revyakin V.P. and Zvonareva A.V.
 B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
- P13 THE ISOMERIC EFFECT IN THE LOW TEMPERATURE THERMAL CONDUCTIVITY OF SOLID BUTYL ALCOHOL**
Sharapova I.V., Vdovichenko G.A., Krivchikov A.I., Romantsova O.O.
 B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
- P14 GLASS-LIKE PROPERTIES OF MONOCLINIC PHASES OF CBr_nCl_{4-n}, n=0,1,2, STUDIED BY LOW TEMPERATURE THERMAL CONDUCTIVITY**
Vdovychenko G.A., Sharapova I.V., Krichikov A.I.
 B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine
- P15 ISOCHORIC THERMAL CONDUCTIVITY OF SOLID CYCLOPENTANE**
Zvonaryova A.V., Konstantinov V.A., Revyakin V.P., Sagan V.V.
 B. Verkin Institute for Low Temperature Physics and Engineering NASU, Kharkiv, Ukraine

Section**Optics and Spectroscopy, Photonics
Optical Investigations at Low Temperatures**

- P16** **HYDROGEN-BONDED ALCOHOL CLUSTERS IN ARGON AND NITROGEN MATRICES**
Doroshenko I., Pogorelov V.¹, Sablinskas V.²
¹ *National Taras Shevchenko University of Kyiv*
² *Vilnius University, Sauletikio, 9-3, Vilnius, Lithuania*
- P17** **OPTICAL PROPERTIES OF ITO THIN FILM**
Simshag I. A.¹, Nicolaenko Y. M.², Tikhii A.A.¹
¹ *Luhansk Taras Shevchenko National University, Luhansk, Ukraine*
² *Donetsk Institute for Physics and Engineering named after O.O.Galkin, NASU*
- P18** **PHASE-SPACE EVOLUTION OF COHERENT-STATE OPTICAL PULSES IN A ONE-DIMENSIONAL WAVEGUIDE COUPLED TO A QUBIT**
Stolyarov E.V., Chumak O.O.
Institute of Physics of National Academy of Sciences, Kiev, Ukraine

Section**Low Temperature Physics of Macromolecules, Biophysics**

- P19** **SPECTROSCOPIC STUDY OF THE INTERACTION BETWEEN INORGANIC NANOPARTICLES OF VARIOUS SIZES AND SHAPES AND THE ORGANIC CARBOCYANINE DYES**
Tkacheva T.N.¹, Yefimova S.L.¹, Ropakova I.Yu.², Klochkov V.K.¹, Sorokin A.V.¹, Malyukin Yu.V.¹
¹ *Institute for Scintillation Materials NASU, Kharkiv, Ukraine*
² *V.N. Karazin Kharkiv National University, Kharkiv, Ukraine*
- P20** **INSIGHT INTO AMYLOID FIBRILLIZATION KINETICS OF APOLIPOPROTEIN A-I N-TERMINAL MUTANT FRAGMENTS**
Girysh M.S.¹, Vus K.O., Gorbenko G.P.¹, Adachi E.², Mizuguchi C.², Saito H.²
¹ *V. N. Karazin Kharkiv National University, Kharkiv, Ukraine*
² *The University of Tokushima 1-78-1 Shomachi, Tokushima, Japan*

Section**Physics of Nanostructures and Low Dimensional Systems**

- P21** **QUANTUM EFFECTS IN THE KINETICS OF GAS SORPTION BY BUNDLES OF SINGLE-WALLED CARBON NANOTUBES**
Basnukaeva R.M., Dolbin A.V., Esel'son V.B., Gavrilko V.G., Manzhelii V.G., Vinnikov N.A., Danilchenko B. A. and Uvarova I.Yu.
¹ *B. Verkin Institute for Low Temperature Physics and Engineering of the NASU, Kharkiv, Ukraine*
² *Institute of Physics of the NASU, Kiev, Ukraine*
- P22** **DYNAMICS OF CH₄ MOLECULES TRAPPED IN CAVITIES OF FULLERITE C₆₀.**
Bagatskii M. I., Barabashko M. S., Sumarokov V. V.
B. Verkin Institute for Low Temperature Physics and Engineering, Kharkiv, Ukraine
- P23** **POINT-CONTACT COMPLEX FOR INVESTIGATION OF POINT-CONTACT SENSORS**
Savitsky A.V.¹, Zaika A.S.¹, Pletnev A.M.¹, Gudimenko V.A.¹, Pospelov A.P.², Kamarchuk G.V.¹
¹ *B. Verkin Institute for Low Temperature Physics and Engineering, Kharkiv, Ukraine*
² *National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine*
- P24** **SIZE DEPENDENCE OF COMPOSITION OF FREE Ar-Kr CLUSTERS**

Konotop O.P., Danylchenko O.G., Kovalenko S.I., Samovarov V.N.
B. Verkin Institute for Low Temperature Physics and Engineering of the NASU, Kharkiv, Ukraine

- P25 SELF-ORGANIZATION AND FORMATION OF ADATOM ADSORPTION STRUCTURE IN DYNAMIC FORCE MICROSCOPY**
Khomenko A.V., Krasulya B.O.
Sumy State University, Sumy, Ukraine
- P26 SHAPE EFFECTS IN ANTIFERROMAGNETIC NANOPARTICLES**
Kondovych S.V., Gomonay H.V.
National Technical University of Ukraine "KPI", Kyiv, Ukraine
- P27 EFFECT OF ELECTROMAGNETIC RADIATION ON THE PHASE COMPOSITION OF CLUSTERED CN_x FILMS.**
Ivakhnenko N.N.^{1,3}, Badekin M.Y.², Karpenko T.V.³
¹ *Donetsk Physicotechnical, Institute, National Academy of Science of Ukraine, Donetsk, Ukraine*
² *Ukrainian Scientific-Research Institute of Engineering and Technical Survey. Donetsk Branch, Donetsk, Ukraine*
³ *Donetsk National University of Economics and Trade after M. Tugan-Baranovsky, Donetsk, Ukraine*
- P28 EVOLUTION CLUSTER STRUCTURE IN (Nd_{0.7}Sr_{0.3})_{1-x}Mn_{1+x}O_{3±δ} SOLID SOLUTIONS.**
Ivakhnenko N.N.^{1,3}, Badekin M.Y.², Churepko O.V.³
¹ *Donetsk Physicotechnical, Institute, National Academy of Science of Ukraine, Donetsk, Ukraine*
² *Ukrainian Scientific-Research Institute of Engineering and Technical Survey. Donetsk Branch, Donetsk, Ukraine*
³ *Donetsk National University of Economics and Trade after M. Tugan-Baranovsky, Donetsk, Ukraine*
- P29 CLASSIFICATION OF THIN FILMS WITH RESPECT TO IMPURITY SEGREGATION**
Davydova I.M., Melnik T.N., Yurchenko V.M.
Donetsk Institute for Physics and Engineering named after A.A. Galkin, NASU, Donetsk, Ukraine
- P30 COLLECTIVE MAGNONIC MODES LOCALIZED NEAR 2D MAGNETIC DOT ARRAY BOUNDARY**
Bondarenko P.V., Ivanov B.A.
Institute of Magnetism NAS and MESYS, Kyiv, Ukraine
- P31 ROOM-TEMPERATURE FERROMAGNETISM IN INTERCALATED LAYERED CRYSTALS**
 Bakhtinov A.P., Boledzyuk V.B. and Kudrynskyi Z.R.
Frantsevich Institute for Problems of Materials Science, NASU, Chernivtsi Branch, Chernivtsi, Ukraine