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<td><strong>Tuesday, October 17th, 2017</strong></td>
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<tr>
<td>Plenary Session – 1</td>
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<tr>
<td>Power Electronics and Industry Applications</td>
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<td>Information Systems and Nondestructive Testing</td>
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<tr>
<td>Biological and Medical Physics</td>
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<td>Multiwavelength Astronomy and Astrophysics</td>
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<td>Power Electronics and Industry Applications</td>
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<td><strong>Friday, October 20th, 2017</strong></td>
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<td>Plenary Session – 3</td>
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<tr>
<td>Solid State Physics</td>
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<td>Nuclear and Plasma Physics</td>
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<td>Nano and Metamaterials</td>
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<td><strong>Saturday, October 21st, 2017</strong></td>
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<td>CS-oriented workshop</td>
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### TUESDAY, OCTOBER 17TH, 2017

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<tr>
<th>Time</th>
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| 09:30    | **PLENARY SESSION – 1**                             | Chairs: Daryna Pesina and Serhii Stepenko  
Location: Grand Reading Room, 2nd floor                                                    |
| 09:30    | OPENING CEREMONY                                    |                                             |
| 10:00    | VEHICLE ELECTRIFICATION IN IMPROVING COMFORT       |                                             |
| 10:45    | AND SAFETY IN AUTOMOBILES                           |                                             |
|          | Dr. Tomy Sebastian                                  |                                             |
|          | Halla Mechatronics, Michigan, USA                   |                                             |
| 10:45    | **EMERGING TOPICS IN OPTICS AND PHOTONICS**         |                                             |
| 11:30    | Prof. Gregory Quarles                               |                                             |
|          | OSA, Washington, D.C., USA                          |                                             |
| 11:30    | **COFFEE BREAK**                                    |                                             |
| 12:00    | INTERACTIVE LECTURE ON PUBLIC SPEAKING              |                                             |
| 12:00    | David Kuptsov                                       | “Public Speaking Polygon”                                                                 |
| 12:45    | **GROUP PHOTO. LUNCH**                              |                                             |
| 14:00    | **POWER ELECTRONICS AND INDUSTRY APPLICATIONS – 1** |                                             |
|          | Chair: Serhii Stepenko                              |                                             |
|          | Location: Grand Reading Room, 2nd floor             |                                             |
|          | R&D IN POWER ELECTRONICS FOR RENEWABLE ENERGY       |                                             |
|          | APPLICATIONS IN TALLINN UNIVERSITY OF TECHNOLOGY    |                                             |
|          | Serhii Stepenko                                     |                                             |
|          | Tallinn University of Technology, Estonia            |                                             |
|          | EXPERIMENTAL RESEARCH OF THE MANIPULATION PROCESS   |                                             |
|          | BY THE OBJECTS USING BERNOULLI GRIPPING DEVICES     |                                             |
|          | Roman Mykhaillyshyn, Volodymyr Savkiv, Frantisek    |                                             |
|          | Duchon, Mykhailo Mikhalishin                         |                                             |
|          | Ternopil Ivan Puluj National Technical University,  |                                             |
|          | Ternopil, Ukraine                                   |                                             |
|          | FORMING CONTROL OVER DISTRIBUTED SYSTEM OF          |                                             |
|          | TECHNOLOGICAL AGGREGATES OF CONCENTRATED ORE LINE   |                                             |
|          | Volodymyr Morkun, Natalia Morkun, Vitalii Tron      |                                             |
|          | SIHE "Kryvyi Rih National University", Kryvyi Rih,  |                                             |
|          | Ukraine                                             |                                             |
|          | NEURO-FUZZY IDENTIFICATION OF DRILLING CONTROL      |                                             |
|          | SYSTEM WITH ADAPTATION TO THE TYPE OF ROCK          |                                             |
|          | Volodymyr Morkun, Vitaliy Tron, Dmitriy Paranyuk    |                                             |
|          | SIHE "Kryvyi Rih National University", Kryvyi Rih,  |                                             |
|          | Ukraine                                             |                                             |
PE-IA-5  ENERGY BALANCE OF ELECTROMECHANICAL CONVERTERS WITH COMMON MASSIVE ROTOR
Mykola Zablodskiy, Volodymyr Gritsyuk, Yevgen Rudnev, Olga Timofeeva, Konstantin Khudobin
Donbas State Technical University, Lisichansk, Ukraine

PE-IA-6  OPERATING MODES OF COAXIAL-LINEAR ENGINE
Dmytro Sorokin, Andrii Zhiltsov
National University of Life and Environmental Sciences of Ukraine, Kyiv, Ukraine

PE-IA-7  PROTECTION OF ASYNCHRONOUS ELECTRIC MOTORS FROM SWITCHING OVERVOLTAGE
Dmytro Danylchenko, Sergey Shevchenko
National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine

PE-IA-8  ANALYSIS OF THE EFFICIENCY OF ENERGY TRANSFORMATION IN INDUCTION MOTOR ELECTRIC DRIVES WITH INDEPENDENT POWER SUPPLY
Danylo Trinchuk, National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Kyiv, Ukraine

PE-IA-9  ELECTRIC MACHINES FAULTS MONITORING SYSTEM WITH HYBRID ELECTRO-OPTIC CAPACITIVE MECHANICAL SENSORS
Ievgen Zaitsev
Institute of Electrodynamics NAS of Ukraine, Kyiv, Ukraine

16:00  16:30  COFFEE BREAK

16:30  18:30  POWER ELECTRONICS AND INDUSTRY APPLICATIONS – 2

PE-IA-10  A REVIEW OF VEHICLE-TO-GRID TECHNOLOGY & ITS IMPACT ON THE DISTRIBUTION NETWORK RELIABILITY
Mohammad Seif, Ibrahim Ibrahim
IEEE Industry Applications Society, Cairo, Egypt

PE-IA-11  MATCHING OF RENEWABLE SOURCE OF ENERGY GENERATION GRAPHS AND ELECTRICAL LOAD IN DISTRIBUTION ELECTRIC GRID
Sergii Kravchuk, Iryna Kotylko
Vinnytsya National Technical University, Vinnytsya, Ukraine

PE-IA-12  PLACEMENT OF DISTRIBUTED GENERATION CONSIDERING TOPOLOGY
Tetiana Kulko, Anatoliy Prystupa, Vadim Bodunov, Alexander Gai
Chernihiv National University of Technology, Chernihiv, Ukraine

PE-IA-13  DISTRIBUTION SCHEME OF NON-LINEAR SURGE ARRESTER AT WORK IN THE ZONE OF CURRENT CIRCUITS
Dmytro Danylchenko, Sergey Shevchenko, Oleksii Ganus
National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine
INFORMATION SYSTEMS AND NONDESTRUCTIVE TESTING – 1
Chairs: Liudmyla Frankevych and Victor Lysechko
Location: Reading Room 1, 2nd floor

IS-NT-1
OBJECTIVE AND SUBJECTIVE MUSIC QUALITY ASSESSMENT FOR SIGNALS LIMITED BY FREQUENCY BAND
Igor Kotvytskyi
National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Kyiv, Ukraine

IS-NT-2
METHOD OF SEGMENTATION AND RECOGNITION OF UKRAINIAN LICENSE PLATES
Andrii Radchenko, Volodymyr Kazymyr, Ruslan Zarovsky
Chernihiv National Technological University, Chernihiv, Ukraine

IS-NT-3
FAULT DIAGNOSIS OF POWER TRANSFORMER USING METHOD OF GRAPHIC IMAGES
Oleg Shutenko, Ivan Jakovenko
National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine

IS-NT-4
COMPARATIVE PERFORMANCE ANALYSIS OF NEURAL NETWORKS ARCHITECTURES ON H2O PLATFORM FOR VARIOUS ACTIVATION FUNCTIONS
Yuriy Kochura, Sergii Stirenko, Yuri Gordienko
National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Kyiv, Ukraine

PE-IA-14 PROTECTION OF OVERHEAD LINES OF MIDDLE CLASSES OF VOLTAGE FROM ATMOSPHERIC EXPOSURE
Dmytro Danylichenko, Sergey Shevchenko, Oleksii Ganus
National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine

PE-IA-15 INCREASING THE SMALL HYDROPOWER PLANTS EFFICIENCY IN UKRAINE THROUGH THE APPLICATION OF AUTOMATIC CONTROL SYSTEM MODES
Oksana Dovgalyuk, Nikolay Lukhtura, Sherali Saidov, Alexander Lazurenko
National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine

PE-IA-16 MATHEMATICAL MODEL OF TRANSIENT PROCESSES IN ELECTRIC NETWORKS IN PHASE COORDINATES
Serhii Lebedka, Mykhailo Petrovskyi, Ilya Diahouchenko, Yuri Veprik
Sumy State University, Sumy, Ukraine

PE-IA-17 OPTIMIZATION OF POWER TRANSMISSION MODE 750 KV
Vladimir Bondarenko, Oksana Dovgalyuk, Roman Bondarenko
National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine

PE-IA-18 ELECTRIC ENERGY ACCOUNTING AND POWER QUALITY IN ELECTRIC NETWORKS WITH PHOTOVOLTAIC POWER STATIONS
Ilia Diahouchenko, Vitalii Volokhin, Bogdan Derevyanko
Sumy State University, Sumy, Ukraine
A SCALABLE VHDL-IMPLEMENTATION TECHNIQUE OF THE BINARY ENCODER STRUCTURE INTO FPGA
Roman Yershov, Denys Yakosenko, Serhii Yatsenko
Chernihiv National University of Technology, Chernihiv, Ukraine

PERFORMANCE EVALUATION OF DISTRIBUTED COMPUTING ENVIRONMENTS WITH HADOOP AND SPARK FRAMEWORKS
Vladyslav Taran, Oleg Alienin, Sergii Stirenko, Yuri Gordienko
National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Kyiv, Ukraine

MARINE ELECTRIC GENERATING PLANTS CONTROL SYSTEMS SOFTWARE FUNCTIONAL TESTING
Mahmoud Al-Suod, Alexander Ushkarenko, Olga Dorogan
Admiral Makarov National University of Shipbuilding, Nikolaev, Ukraine

INFORMATIONAL SECURITY SYSTEM: CYRADAR OR CYBER SITUATIONAL AWARENESS
Valentine Nekhay, Vitaly Litvinov
Chernihiv National University of Technology, Chernihiv, Ukraine

THE SYSTEM OF INTELLECTUAL DATA ANALYSIS FORECASTING AND CONTROL OF INDUSTRIAL POLLUTANT EMISSIONS
Volodymyr Morkun, Natalia Morkun, Oleksandra Serdiuk, Oleksandr Suvorov
SIHE "Kryvyi Rih National University", Kryvyi Rih, Ukraine

COFFEE BREAK

INFORMATION SYSTEMS AND NONDESTRUCTIVE TESTING – 2

RAMAN SCATTERING DIAGNOSTICS OF MIXED Ag_xGa_xGe_{1-x}Se_2 (0.167≤X≤0.333) COMPOUNDS
Yevhenii Havryliuk, Volodymyr Dzhagan, Volodymyr Yukhymchuk, Alexander Litvinchuk, Mykhailo Valakh
Institute of Semiconductor Physics NAS of Ukraine, Kyiv, Ukraine

THERMOELASTICITY COMPONENT ANALYSIS IN GLASSES DURING RADIATION COOLING
Irina Minailova, Igor Matyash, Boris Serdega, Maksym Stetsenko, Lidiya Maksimenko
V. E. Lashkarev Institute of Semiconductor Physics NAS of Ukraine, Kyiv, Ukraine

PHYSICAL AND MECHANICAL PROPERTIES OF HIGH-STRENGTH STEEL JOINTS PRODUCED BY LASER WELDING
Liudmyla Markashova, Olena Berdnikova, Artemii Bernatskyi, Maksym Iurzhenko, Volodymyr Sydorets
E. O. Paton Electric Welding Institute NAS of Ukraine, Kyiv, Ukraine
IS-NT-13  CORRECTION OF THE OPERATING NOISE INFLUENCE ON THE CORRELATION COEFFICIENT DURING CORROSION PROCESS
Liudmyla Frankevych
Karpenko Physico-Mechanical Institute NAS of Ukraine, Lviv, Ukraine

IS-NT-14  METHOD FOR ULTRASONIC CONTROL OF A PARTICLE DENSITY DISTRIBUTION OF CRUSHED ORE
Vladimir Morkun, Natalia Morkun, Svitlana Hryshchenko
SIHE "Kryvyi Rih National University", Kryvyi Rih, Ukraine

IS-NT-15  OPTIMIZATION OF HIGH-ENERGY ULTRASOUND SOURCE PARAMETERS FOR CAVITATION DISINTEGRATION OF ORE FLOCCULES BEFORE FLOATATION
Volodymyr Morkun, Vitaliy Tron, Vita Ravinskaia
SIHE "Kryvyi Rih National University", Kryvyi Rih, Ukraine

IS-NT-16  FLOTATION PROCESS CONTROL AND OPTIMIZATION USING HIGH-ENERGY ULTRASOUND
Vladimir Morkun, Natalia Morkun, Andrey Pikilnyak
SIHE "Kryvyi Rih National University", Kryvyi Rih, Ukraine

IS-NT-17  THE DETECTION OF ACTUAL RESEARCH TOPICS IN PHYSICS FOR UKRAINIAN SCIENTIFIC GROUPS
Iryna Balagura, Dmytro Lande, Nadiia Dubchak
Institute for information recording of NAS of Ukraine, Kyiv, Ukraine

14:00  16:00
OPTICS AND PHOTONICS
Chair: Pavlo Krasov
Location: Reading Room 2, 3rd floor

OP-1  NEW TYPE OF PLASMONIC BIOSENSORS BASED ON MODULATION POLARIMETRY TECHNIQUE
Maksym Stetsenko, Svitlana Rudenko, Igor Matyash, Irina Minailova, Lidia Maksimenko
V. E. Lashkaryov Institute of Semiconductor Physics NAS of Ukraine, Kyiv, Ukraine

OP-2  RESONANCE SCATTERING AND ABSORPTION OF LIGHT BY A SILVER TUBE OF LARGE DIAMETER AND NANOSCALE THICKNESS
Elena Velichko
O. Ya. Usikov Institute for Radiophysics and Electronics NAS of Ukraine, Kharkiv, Ukraine

OP-3  ADOPTING OF DC MAGNETRON SPUTTERING METHOD FOR PREPARING SEMICONDUCTOR FILMS
Michail Kirichenko, Roman Zaitsev, Andrei Dobrozhan, Gennadiy Khrypunov, Mykola Kharchenko
National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine

OP-4  HYBRID SOLAR GENERATING MODULE
Roman Zaitsev, Michail Kirichenko, Gennady Khrypunov, Ruslan Migushchenko, Liliia Zaitseva
National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine
OP-5  HOLOGRAPHIC SCATTERING IN PHOTOREFRACTIVE CRYSTAL SN$_2$P$_2$S$_6$:SB
Yaroslav Skrypka
*Institute of Physics NAS of Ukraine, Kyiv, Ukraine*

OP-6  SYNTHESIS AND STRUCTURE FEATURES OF THE COMPOUNDS
Alina Slepets, Tetiana Voitenlko, Sergiy Nedilko, Mykola Zelenko, Oksana Chukova
*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*

OP-7  INCREASING OF OPTICAL RESOLUTION OF PHOTOS
Oleksandr Burlayenko, Oleksii Lukianchuk
*V. N. Karazin Kharkiv National University, Kharkiv, Ukraine*

OP-8  IMPROVING THE QUALITY OF DIGITAL INTERFEROGRAM
Yurii Kotsiuba, Halyna Petrovska, Volodymyr Fitio, Yaroslav Bobitski
*Lviv Polytechnic National University, Lviv, Ukraine*

OP-9  ONLINE MEASUREMENTS IN HIGH PRESSURE FLUIDS BY ATR-FTIR SPECTROSCOPY
Gurbuz Comak, Martyn Poliakoff
*Konya Necmettin Erbakan University, Konya, Turkey*

OP-10  MOLECULAR ORBITAL TOMOGRAPHY THROUGH HIGH ORDER HARMONIC EMISSION FROM NITROUS OXIDE N$_2$O GAS
Raffaele Prioriello, Giacomo Piazza
*Polytechnic University of Milan, Milan, Italy*

OP-11  ANNEALING TEMPERATURE EFFECT ON OPTICAL PROPERTIES OF TCO THIN FILMS OBTAINED BY SPIN-COATING METHOD FROM ZnO SOL-GEL
Meymoun Belaoui, Moustafa Debbab, Zakaria Bouzid, Nassera Ghellai, Nasr-Eddine ChabaneSari
*URMER, Tlemcen, Algeria*

OP-12  STUDY AND REALIZATION OF DYE-SENSITIZED SOLAR CELL USING STRAWBERRY JUICE
Moustafa Debbab, Zakaria Bouzid, Maymoun Belaoui, Nassera Ghellai, Nasr-Eddine ChabaneSari
*URMER, Tlemcen, Algeria*

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<tr>
<th>19:00</th>
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### WEDNESDAY, OCTOBER 18TH, 2017

**↓ Grand Reading Room**

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<td>09:30</td>
<td>SCIENTIFIC WRITING AND TRANSLATION: THE ART OF WORD-HUNTING</td>
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<td>10:30</td>
<td>BUILDING YOUR CAREER PATH</td>
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<td>11:00</td>
<td>COFFEE BREAK</td>
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<td>11:30</td>
<td>LIBRARY EXCURSION</td>
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<td>12:00</td>
<td>GRANT PROPOSALS WRITING</td>
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<td>14:00</td>
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<td>15:00</td>
<td>NATO GRANTS</td>
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<tr>
<td>15:15</td>
<td>NATO GRANTS</td>
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<td>15:45</td>
<td>COFFEE BREAK</td>
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<tr>
<td>15:45</td>
<td>SCIENTIFIC WRITING AND TRANSLATION: THE ART OF WORD-HUNTING</td>
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<tr>
<td>16:45</td>
<td>EUROPEAN UNION FUNDING FOR RESEARCH AND INNOVATION POSSIBILITIES</td>
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<td>17:30</td>
<td>EUROPEAN UNION FUNDING FOR RESEARCH AND INNOVATION POSSIBILITIES</td>
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<td>PANEL DISCUSSION</td>
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<tr>
<td>09:30</td>
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<tr>
<td>10:00</td>
<td>PUBLIC SPEAKING</td>
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<tr>
<td>10:00</td>
<td>COFFEE BREAK</td>
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<tr>
<td>12:30</td>
<td>LIBRARY EXCURSION</td>
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<td>12:00</td>
<td>GRANT PROPOSALS WRITING</td>
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<td>LUNCH</td>
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<td>14:00</td>
<td>GRANT PROPOSALS WRITING</td>
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<td>NATO GRANTS</td>
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<td>COFFEE BREAK</td>
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<td>15:00</td>
<td>EUROPEAN UNION FUNDING FOR RESEARCH AND INNOVATION POSSIBILITIES</td>
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<td>15:15</td>
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## THURSDAY, OCTOBER 19TH, 2017

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<td>09:30</td>
<td><strong>PLENARY SESSION – 2</strong></td>
<td>Chairs: Kateryna Arkhypova and Serge Yerin</td>
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<td><strong>Location:</strong> Grand Reading Room, 2nd floor</td>
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| 09:30 | **REMOTE SENSING USING GNSS BISTATIC RADAR OF** | Dr. Valery Zavorotny  
NOAA Earth System Research Laboratory, Boulder, Colorado, USA |
| 10:15 | **AMYLOID FIBRILS: THE EIGHTH WONDER IN THE** | DSci. Valeriya Trusova  
V. N. Karazin Kharkiv National University, Kharkiv, Ukraine |
| 11:00 | **PROTEIN UNIVERSE**                        |                                                                         |
| 11:00 | **COFFEE BREAK**                            |                                                                         |
| 11:30 | **MODULATION METHODS FOR ADVANCED POWER**   | Dr. Carlos Roncero-Clemente  
University of Extremadura, Badajoz, Spain                                  |
| 12:15 | **PHASED ANTENNA ARRAYS FEATURES ON THE EXAMPLE** | Serge Yerin  
Institute of Radio Astronomy NAS of Ukraine, Kharkiv, Ukraine |
| 12:15 | **PHASED ANTENNA ARRAYS FEATURES ON THE EXAMPLE** |                                                                         |
| 13:00 | **LUNCH**                                   |                                                                         |
| 14:00 | **BIOLOGICAL AND MEDICAL PHYSICS – 1**      | Chairs: Kateryna Arkhypova and Valeriya Trusova                            |
| 14:00 | **Location:** Grand Reading Room, 2nd floor |                                                                         |
| 14:00 | **Session Guest Talk**                      |                                                                         |
| 14:00 | **WHAT MAKES MICROWAVE DIELECTROMETRY VALUABLE** | Kateryna Arkhypova, Pavlo Krasov  
O. Ya. Usikov Institute for Radiophysics and Electronics NAS of Ukraine, Kharkiv, Ukraine |
| 14:00 | **DESIGNING OF BROADBAND MICROWAVE APPLICATOR FOR THE BRONCHIAL ASTHMA DIAGNOSIS DEVICE** | Ivan Semernik, Alexander Demyanenko, Yaroslav Nevstruev  
Southern Federal University, Taganrog, Russia |
| 14:00 | **THEORETICAL MODEL FOR CALCULATION ELECTROPHYSICAL PROPERTIES OF ERYTHROCYTES AND ITS APPLICATION IN BIOMECHANICS** | Liliya Batyuk, Natalia Kizilova, Ganna Chovpan  
Kharkiv National Medical University, Kharkiv, Ukraine |
| 14:00 | **DESIGNING THE DATABASE FOR MICROARRAY EXPERIMENTS METADATA** | Liliya Batyuk, Natalia Kizilova, Oleksandr Lykhenko, Alina Frolova, Maria Obolenska  
Institute of Molecular Biology and Genetics NAS of Ukraine, Kyiv, Ukraine |
BMP-5  THE NEGATIVE FEEDBACK CONNECTION IN THE HOMEOSTATIC SYSTEM OF CARBOHYDRATE EXCHANGE REGULATION
Yevgen Sokol, Stanislav Lapta, Iryna Oharkova, Olga Solovyova, Olga Goncharova
National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine

BMP-6  DETERMINATION OF THE PRODUCTIVITY OF A MEDICAL OZONE GENERATOR
Mykola Makhonin
National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine

BMP-7  USING 2.4 GHZ RADIO MODULE FOR TRANSMITTING SPIROMETERS DATA: HUMAN SAFETY TESTING
Serhiy Batachenko, Roman Tomashevskiy, Vadim Makarov
National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine

BMP-8  SYSTEM FOR RECORDING EVOKED POTENTIALS IN LIQUID BIOLOGICAL MATRIX
Roman Tomashevskyi, Yevhen Vikarii, Zinaida Dotsenko
National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine

15:45 16:15  COFFEE BREAK

16:15 18:00  BIOLOGICAL AND MEDICAL PHYSICS – 2

BMP-9  PROTNA-ASA DATA BASE: NEW VERSION INCLUDING INFORMATION ABOUT ELECTROSTATIC POTENTIAL OF DNA MINOR GROOVE
Mariia Zhitnikova
O. Ya. Usikov Institute for Radiophysics and Electronics NAS of Ukraine, Kharkiv, Ukraine

BMP-10  INTERCEPTOR ACTION OF CHLOROPHYLLIN IN THE LIGAND-DNA-CHLOROPHYLLIN SYSTEM
Anastasiia Skuratovska, Polina Pisklova
O. Ya. Usikov Institute for Radiophysics and Electronics NAS of Ukraine, Kharkiv, Ukraine

BMP-11  MOLECULAR DYNAMICS SIMULATIONS OF TERNARY SYSTEMS OF ETHIDIUM-FLAVIN MONONUCLEOTIDE-DNA
Kateryna Miroshnychenko
O. Ya. Usikov Institute for Radiophysics and Electronics NAS of Ukraine, Kharkiv, Ukraine

BMP-12  INTERACTION OF MAGNETITE NANOPARTICLES WITH ANTICANCER DRUG DOXORUBICIN
Daryna Pesina, Stanislav Polozov, Kateryna Plutenko
O. Ya. Usikov Institute for Radiophysics and Electronics NAS of Ukraine, Kharkiv, Ukraine
BMP-13  USING HYPERPOLARIZED XENON-129 IN MRI FOR CONTROLLING NANOTUBES MOVING
Oleksii Lukianchuk, Oleksandr Burlayenko
V. N. Karazin Kharkiv National University, Kharkiv, Ukraine

BMP-14  INFLUENCE OF THE TRANSVERSE GRADIENT MAGNETIC FIELDS INSTABILITY TO RECONSTRUCTION IN MR IMAGING
Andrii Netreba, Andrii Komarov
Taras Shevchenko National University of Kyiv, Kyiv, Ukraine

BMP-15  STATIONARY PHOTOTHERAPEUTIC DEVICE OF A.KOROBOV-V.KOROBOV BARVA-SDS FOR DIABETIC FOOT SYNDROME PROPHYLAXIS AND TREATMENT. CASE STUDY
Marina Yushkova, Anatoly Korobov, Vsevolod Korobov, Oksana Shevchenko
V. N. Karazin Kharkiv National University, Kharkiv, Ukraine

BMP-16  NUMERICAL MODELING OF SYNOVIAL FLUID LAYER
Tatiana Romanishina, Vera Deeva, Stepan Slobodyan, Svetlana Romanishina
Zhytomyr National Agroecological University, Zhytomyr, Ukraine

14:00 15:45  GEOSCIENCE AND REMOTE SENSING
Chairs: Sergiy Skuratovskiy
Location: Reading Room 1, 2nd floor

GRS-1  MODELING OF SCATTERING OF ELECTROMAGNETIC WAVES BY SNOW CRYSTALS
Ganna Veselovska, Grigoriy Khlopov
O. Ya. Usikov Institute for Radiophysics and Electronics NAS of Ukraine, Kharkiv, Ukraine

GRS-2  PRELIMINARY RESULTS OF THE MONITORING OF THE LOWER IONOSPHERE BASED ON THE ANALYSIS OF TWEEN-ATMOSPHERICS
Oleksii Krivonos, Alexander Shvets, Anna Hasanaliieva
O. Ya. Usikov Institute for Radiophysics and Electronics NAS of Ukraine, Kharkiv, Ukraine

GRS-3  MONITORING OF THE CO MOLECULE IN THE EARTH MESOSPHERE AT LATITUDE 50.0. RESULTS OF THE OBSERVED PERIOD FROM DECEMBER 2016 TO FEBRUARY 2017
Oleksii Patoka, Valerii Shulga, Ole Martin Christensen, Alexey Korolev, Valeriy Piddyachiy
Institute of Radio Astronomy NAS of Ukraine, Kharkiv, Ukraine

GRS-4  PROCESSING TECHNOLOGY OF MULTISPECTRAL REMOTE SENSING IMAGES
Vita Kashtan, Volodymyr Hnatushenko, Yana Shedlovska
Oles Honchar Dnipro National University, Dnipro, Ukraine
GRS-5 SATELLITE IMAGERY FEATURES FOR IMAGE SIMILARITY ESTIMATION
Yana Shedlovska, Volodymyr Hnatushenko, Vita Kashtan
Oles Honchar Dnipro National University, Dnipro, Ukraine

GRS-6 NEURAL NETWORK AND LOCAL LAPLACE FILTER METHODS APPLIED TO VERY HIGH RESOLUTION REMOTE SENSING IMAGERY IN URBAN DAMAGE CHANGES DETECTION
Daria Hordiiuk, Vladimir Hnatushenko
National Metallurgical Academy of Ukraine, Dnipro, Ukraine

GRS-7 SAR DATA PROCESSING WITH SPLINE APPROXIMATION OF SURFACE ON TRIANGULAR GRID
Kseniia Semenova
National Aviation University, Kyiv, Ukraine

GRS-8 UPDATING SOLAR ENERGY MAPS AND ANALYSIS OF THE COMPLEMENTARITY OF THIS SOURCE WITH WIND ENERGY IN ALGERIA
Zakaria Bouzid, Moustafa Debbab, Maymoun Belaoui, Nassera Ghellai
URMER, Tlemcen, Algeria

15:45 - 16:15 COFFEE BREAK

16:15 - 18:00 MULTIWAVELENGTH ASTRONOMY AND ASTROPHYSICS
      Chairs: Serge Yerin and Ivan Slyusarev
      Location: Reading Room 1, 2nd floor

MWA-1 THE TIME DELAYS IN GRAVITATIONALLY LENSED QUASARS
Ludmila Berdina, Victoria Tsvetkova
Institute of Radio Astronomy NAS of Ukraine, Kharkiv, Ukraine

MWA-2 USING FILTERING TO FIND LONG DURATION GRAVITATIONAL WAVES FROM NEUTRON STARS
Andrew Miller, Avi Vajpeyi, Pia Astone, Bernard Whiting
Università di Roma La Sapienza, INFN, University of Florida, Rome, Italy

MWA-3 LARGE MAIN BELT ASTEROIDS FAMILIES: ANALYSIS OF HOMOGENEITY
Ivan Slyusarev, Dmytro Shymkiv
V. N. Karazin Kharkiv National University, Kharkiv, Ukraine

MWA-4 ENERGY SPECTRUM AND FREQUENCY RANGE OF COHERENT RADIATION BY POSITRONS FORMING SHIFTED INTERPULSE OF CRAB PULSAR
Victor Kontorovich, Sergii Trofymenko
NSC “Kharkiv Institute of Physics and Technology”, Kharkiv, Ukraine
MWA-5  **ROTATION MEASURE OF INDIVIDUAL PULSES OF PSR J0243+6257**  
Oleg Ulyanov, Alisa Shevtsova, Viacheslav Zakharenko, Anastasiia Skoryk, Iaroslavna Vasylieva  
*Institute of Radio Astronomy NAS of Ukraine, Kharkiv, Ukraine*

MWA-6  **ANOMALOUSLY INTENSE PULSES AS A PULSAR MAGNETOSPHERE PROBES**  
Anastasiia Skoryk, Oleg Ulyamov, Alisa Shevtsova  
*Institute of Radio Astronomy NAS of Ukraine, Kharkiv, Ukraine*

MWA-7  **ANALYSIS OF THE TRANSIENT SIGNALS IN DECAMETER SURVEY OF THE NORTHERN SKY**  
Ihor Kravtsov, Vyacheslav Zakharenko, Iaroslavna Vasylieva, Sofia Mykhailova, Oleg Ulyanov  
*Institute of Radio Astronomy NAS of Ukraine, Kharkiv, Ukraine*

MWA-8  **STUDYING A SIMPLE GENERATOR OF PSEUDO-RANDOM NUMBERS FOR MODELING THE ASTRONOMICAL OBSERVATION SYSTEM**  
Yuriy Kornienko, Ilya Lyashenko  
*O. Ya. Usikov Institute for Radiophysics and Electronics NAS of Ukraine, Kharkiv, Ukraine*

**Guest Talk**  
MWA-9  **PRACTICAL APPLICATION OF SDR**  
Maksym Losev  
*KhackerSpace, Kyiv, Ukraine*

**14:00 – 15:45**  
**POWER ELECTRONICS AND INDUSTRY APPLICATIONS – 3**  
Chairs: Serhii Stepenko and Carlos Roncero-Clemente  
Location: Reading Room 2, 3rd floor

**Session**  
**Guest Talk**  
**PE-IA-19**  
**INTERLEAVED SINGLE-PHASE QUASI-Z-SOURCE INVERTER: HIGH POWER DENSITY AND OPERATION RANGE FOR PHOTOVOLTAIC APPLICATION**  
Carlos Roncero-Clemente  
*University of Extremadura, Badajoz, Spain*

**PE-IA-20**  
**COMPONENT DESIGN GUIDELINES FOR NEW SINGLE-STAGE BUCK-BOOST INVERTER WITH UNFOLDING CIRCUIT**  
Oleksandr Matiushkin, Oleksandr Husev, Carlos Roncero-Clemente, Sergey Ivanets, Artem Fesenko  
*CHERNIVIV National University of Technology, Cherniviv, Ukraine*

**PE-IA-21**  
**THE SPECIFICITY OF ELECTRICAL ENERGY STORAGE UNIT APPLICATION**  
Evgen Sokol, Volodymyr Zamaruiev, Bohdan Styslo, Mykola Makhonin  
*National Technical University "Kharkiv Polytechnical Institute", Kharkiv, Ukraine*

**PE-IA-22**  
**AN APPLICATION OF FUZZY VOLTAGE REGULATOR TO A STATIC EXCITATION SYSTEM OF A PHASE COMPUND SYNCHRONOUS GENERATOR**  
Andriy Kutsyk, Mykola Semeniuk, Oleksiy Kuznyetsov  
*Lviv Polytechnic National University, Lviv, Ukraine*
| 18:30 - 20:30 | LVIV WALKING TOUR |

**FRIDAY, OCTOBER 20TH, 2017**

| 09:30 - 11:00 | PLENARY SESSION – 3  
Chairs: Pavlo Krasov and Maksym Khruslov  
Location: Grand Reading Room, 2nd floor |

| 09:30 | ADVANCED AND NOVEL ACCELERATORS FOR DISCOVERIES  
Dr. Patric Muggli  
*Max Planck Institute for Physics, Munich, Germany* |

| 10:15 | GRAPHENE HETEROSTRUCTURES: ELECTRONIC PROPERTIES AND POTENTIAL APPLICATIONS  
Dr. Leonid Ponomarenko  
*Lancaster University, Lancaster, UK* |

| 11:00 - 11:30 | COFFEE BREAK |

| 11:30 - 13:15 | SOLID STATE PHYSICS – 1  
Chairs: Tetiana Rokhmanova and Evgen Melezhik  
Location: Grand Reading Room, 2nd floor |

| SSP-1 | EFFECT OF WEAK IMPURITIES ON CONDUCTIVITY OF UNIAXially STRAINED GRAPHENE  
Igor Sagalianov, Taras Radchenko, Valentyn Tatarenko, Yuriy Prylutskyy  
*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine* |

| SSP-2 | SYNTHESIS OF GRAPHENE OXIDE INKS FOR PRINTED ELECTRONICS  
Andrii Tencha  
*Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine* |
SSP-3 IMPURITY AND EXTERNAL MAGNETIC FIELD EFFECTS ON DENSITY OF ELECTRONIC STATES IN GRAPHENE LAYER Maryna Lazorenko, Taras Radchenko, Valentyn Tatarenko G. V. Kurdyumov Institute for Metal Physics NAS of Ukraine, Kyiv, Ukraine

SSP-4 STRUCTURAL ORGANIZATION OF LITHIUM PERCHLORATE SALT IN THE POLYMER SYSTEMS BASED ON EPOXY RESINS Liubov Matkovska, Maksym Iurzhenko, Gisele Boiteux Institute of Macromolecular Chemistry NAS of Ukraine, Kyiv, Ukraine

SSP-5 WELDING AND WELDED JOINTS OF THE HEAT-RESISTANT PLASTICS Maksym Iurzhenko, Valeriy Demchenko, Mykola Korab, Anatoliy Galchun, Volodymyr Kondratenko Institute of Macromolecular Chemistry NAS of Ukraine, Kyiv, Ukraine

SSP-6 INVESTIGATION OF CRYSTAL STRUCTURE AND ELECTROPHYSICAL PROPERTIES OF Ni-W ALLOYS: PERCOLATION PROCESSES Valerij Derevyanko, Marat Sunhurov, Tatyana Sukhareva, Vitaly Finkel, Yuriy Shakhov NSC “Kharkiv Institute of Physics and Technology”, Kharkiv, Ukraine

SSP-7 EVOLUTION OF VORTEX STRUCTURE OF TWO-LEVEL GRANULAR HIGH TEMPERATURE SUPERCONDUCTOR YBa$_2$Cu$_3$O$_{7-\delta}$ UNDER INFLUENCE OF TEMPERATURE, MAGNETIC FIELD, AND TRANSPORT CURRENT Valerij Derevyanko, Vitaly Finkel, Tatyana Sukhareva, Marat Sunhurov NSC “Kharkiv Institute of Physics and Technology”, Kharkiv, Ukraine

SSP-8 TO LANDAU DEFINITION OF THE EFFECTIVE HAMILTONIAN Kseniia Haponenko, Aleksander Sokolovsky Oles Honchar Dnipro National University, Dnipro, Ukraine

13:15 14:15 LUNCH

14:15 16:00 SOLID STATE PHYSICS – 2

SSP-9 MAGNETOTRANSPORT AND DIELECTRIC PROPERTIES OF BISMUTH-CONTAINING RARE-EARTH MANGANITES Nikita Liedienov, Aleksey Pashchenko, Igor Fesych, Dmitriy Tatarchuk, Vasyl Kladko O. O. Galkin Donetsk Institute for Physics and Engineering NAS of Ukraine, Kyiv, Ukraine
ON PHONON HYDRODYNAMICS OF DIELECTRICS
Sergey Sokolovskiy, Boris Dikarev
Prydniprovska State Academy of Civil Engineering and Architecture, Dnipro, Ukraine

NON-EQUILIBRIUM EFFECTS IN NANOSCALE TUNNEL CONTACTS WITH MANGANITES
Aleksandr Dyachenko, Vladimir Tarenkov, Vladimir Krivoruchko, Olha Boliasova, Mark Zalutskiy
O. O. Galkin Donetsk Institute for Physics and Engineering NAS of Ukraine, Kyiv, Ukraine

IMPURITY SELF-ENERGY IN THE STRONGLY-CORRELATED BOSE SYSTEMS
Galyna Panochko, Volodymyr Pastukhov, Ivan Vakarchuk
College of Natural Sciences, Ivan Franko National University of Lviv, Lviv, Ukraine

X-RAY LUMINESCENCE OF Tl₄CdI₆ CRYSTALS
Mykola Solovyov, Andriy Kashuba, Volodymyr Franiv, Andriy Franiv, Oleksandyr Futey
Ivan Franko National University of Lviv, Lviv, Ukraine

MAGNETORESISTANCE OF POLYCRYSTALLINE BI₁₋ₓSbx ALLOYS (X = 0 - 0.07)
Anna Doroshenko, Kateryna Martynova, Elena Rogacheva
National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine

MOSSBAUER SPECTROSCOPY OF IRRADIATED ZIRCONIUM ALLOYS
Olga Usatova, Valeriy Kirichenko, Vladislav Kobylnik
V. N. Karazin Kharkiv National University, Kharkiv, Ukraine

NUMERICAL SIMULATION OF 2DEG SCREENING FUNCTION IN HGTE-BASED QUANTUM WELLS FOR ARBITRARY VALUES OF WAVE-VECTOR AND FREQUENCY
Evgen Melezhik, Joanna Gumenjuk-Sichevska
V. E. Lashkaryov Institute of Semiconductor Physics NAS of Ukraine, Kyiv, Ukraine

COFFEE BREAK

SOLID STATE PHYSICS – 3

OBTAINING AND INVESTIGATION OF MULTICOMPONENT HEAT-RESISTANT COATINGS FOR GAS TURBINE ENGINE BLADES
Ielyzaveta Tymofieieva
NSC “Kharkiv Institute of Physics and Technology”, Kharkov, Ukraine
**SSP-18** ELECTRIC AND PHOTOELECTRIC PROPERTIES OF Cd$_{1-x}$Mn$_x$Te:In CRYSTALS FOR GAMMA-RADIATION DETECTORS
Oleksii Poluboiarov, Oleksii Voloshin, Sergei Sulima, Oleg Chugai
*Institute for Single Crystals NAS of Ukraine, Kharkiv, Ukraine*

**SSP-19** ELECTRICAL EROSION RESISTANCE OF SERIAL AND EXPERIMENTAL CONTACTS OF ELECTROMAGNETIC RELAYS SERIES RPL-2204
Anatolii Mrachkovskyi, Vitalii Nalyvaiko, Ivan Radko, Krystyna Fedorchenko
*National University of Life and Environmental Sciences of Ukraine, Kyiv, Ukraine*

**SSP-20** REFRACTIVE INDEX IN THE Tl$_3$TaS$_4$: NANOSCALE APPROACH
Olesya Bokotey
*Uzhhorod National University, Uzhhorod, Ukraine*

**SSP-21** OPTICAL APPLICATIONS OF Hg$_3$X$_2$Y$_2$ TYPE GYROTROPIC CRYSTALS
Olesya Bokotey
*Uzhhorod National University, Uzhhorod, Ukraine*

**11:30**
**13:15**

**MICROWAVE AND TERAHERTZ ELECTRONICS**
*Chairs: Pavlo Krasov*
*Location: Reading Room 1, 2nd floor*

**MTE-1** MAGNETIC FOCUSING SYSTEM FOR COMPACT THz CLINOTRONS
Sergey Kishko, Sergey Ponomareko, Yuriy Kovshov, Alexey Lihachev, Alexey Kuleshov
*O. Ya. Usikov Institute for Radiophysics and Electronics NAS of Ukraine, Kharkiv, Ukraine*

**MTE-2** 0.1 - 0.4 THz CLINOTRON TABLE-TOP MODULES FOR SPECTROSCOPY APPLICATIONS
Yuriy Kovshov, Sergey Ponomarenko, Sergey Kishko, Sergey Vlasenko, Aleksandr Lihachev
*O. Ya. Usikov Institute for Radiophysics and Electronics NAS of Ukraine, Kharkiv, Ukraine*

**MTE-3** GENERATION OF THz-FREQUENCY ELECTROMAGNETIC SIGNALS IN ANTIFERROMAGNETIC MULTILAYERED NANOSTRUCTURES BIASED BY A SPIN CURRENT
Olga Sulymenko, Oleksandr Prokopenko
*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*

**MTE-4** AUTOMATED EXPERIMENTAL SET-UP FOR MEASUREMENTS OF PARAMETERS OF VACUUM ELECTRON DEVICES IN MICROWAVE AND THz RANGES
Yuriy Kovshov, Alexander Likhachev, Sergiy Kishko, Sergiy Ponomarenko, Alexei Lukash
*O. Ya. Usikov Institute for Radiophysics and Electronics NAS of Ukraine, Kharkiv, Ukraine*
MTE-5  THE EFFECT OF ADDITIONAL LAYERS PARAMETERS ON THE MODIFIED BRAGG WAVEGUIDE CHARACTERISTICS
Yana Sashkova, Eugene Odarenko
Kharkiv National University of Radio Electronics, Kharkiv, Ukraine

MTE-6  INVESTIGATION OF THE METHODS TO CONTROL OF MICROWAVE DIODE CHAOS GENERATORS OUTPUT OSCILLATION
Ivan Semernik
Southern Federal University, Taganrog, Russia

MTE-7  GRADED BAND GAP InGaAs DIODES FOR TERAHERTZ APPLICATIONS
Kyrylo Prykhodko, Valeriy Zozulia, Oleg Botsula
V. N. Karazin Kharkiv National University, Kharkiv, Ukraine

MTE-8  ON TEMPERATURE DEPENDENCE OF MICROWAVE EFFECTIVE SURFACE IMPEDANCE OF THIN SUPERCONDUCTOR FILMS
Maksym Vovnyuk, Nikolay Cherpak
O. Ya. Usikov Institute for Radiophysics and Electronics NAS of Ukraine, Kharkiv, Ukraine

MTE-9  NEW METHOD FOR OBSERVATION FMR SPECTRA
Ilya Govorun, Aleksandr Leksikov
Federal Research Center Krasnoyarsk scientific center SB RAS, Krasnoyarsk, Russia

13:15  LUNCH  14:15

14:15  16:00  COMPUTATIONAL & EXPERIMENTAL ELECTROMAGNETICS - 1
Chairs: Maksym Khruslov and Victor Lysechko
Location: Reading Room 1, 2nd floor

EM-1  ELECTROMAGNETIC FIELD CALCULATION FOR TM MODES OF COAXIAL GYROTRON CAVITY
Tetiana Tkachova, Viktor Tkachenko, Vitaliy Shcherbinin
NSC "Kharkiv Institute of Physics and Technology", Kharkiv, Ukraine

EM-2  A NEW APPROACH OF THE INDUCTION MOTOR PARAMETERS DETERMINATION IN SHORT-CIRCUIT MODE BY 3D ELECTROMAGNETIC FIELD SIMULATION
Mykhailo Kotsur, Dmytro Yarymbash, Sergiy Yarymbash, Igor Kotsur
Zaporizhzhia National Technical University, Zaporizhzhia, Ukraine

EM-3  MAGNETIC FIELD CALCULATION OF CABLE LINE WITH TWO-POINT BONDED SHIELDS
Volodymyr Grinchenko, Oleksandr Tkachenko, Kostiantyn Chunikhin
Institute of Technical Problems of Magnetism NAS of Ukraine, Kharkiv, Ukraine
EM-4 CURRENT TUNABLE BARIUM AND STRONTIUM HEXAFERRITE MILLIMETER WAVE RESONATORS
Maksym Popov
*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*

EM-5 NEAR ACOUSTIC FIELD OF THE FINITE RIGID CONE
Victor Lysechko
*Karpenko Physico-Mechanical Institute NAS of Ukraine, Lviv, Ukraine*

EM-6 EXCITATION OF SUPER-GAUSSIAN MODES IN AN OPEN RESONATOR WITH A FOCUSING MIRROR COMPOSED OF PAIRED CYLINDRICAL REFLECTORS
Ievgen Kovalov, Volodymyr Miroshnichenko
*O. Ya. Usikov Institute for Radiophysics and Electronics NAS of Ukraine, Kharkiv, Ukraine*

EM-7 AXIALLY-SYMMETRIC WAVE DIFFRACTION FROM THE DISSECTION OF THE CONICAL WAVEGUIDE
Oleksiy Sharabura
*Karpenko Physico-Mechanical Institute NAS of Ukraine, Lviv, Ukraine*

EM-8 PASSIVE COMPRESSION OF OPTICAL PULSES IN UNIFORM ISOTROPIC AND DISPERSIVE MEDIUM
Maksym Maiboroda, Vadym Pazynin, Hanna Sliusarenko
*O. Ya. Usikov Institute for Radiophysics and Electronics NAS of Ukraine, Kharkiv, Ukraine*

16:00
16:30
COFFEE BREAK

16:30
18:00
COMPUTATIONAL & EXPERIMENTAL ELECTROMAGNETICS - 2

EM-9 DIFFRACTION BY MATERIAL STRIPS PLACED IN PARALLEL PLANES
Aleksandra Denisova, Mstislav Kaliberda, Sergey Pogarsky, Anna Rebrik
*V. N. Karazin Kharkiv National University, Kharkiv, Ukraine*

EM-10 DIFFRACTION BY THE SEMI-INFINITE KNIFE-TYPE GRATING OF MATERIAL STRIPS
Mstislav Kaliberda, Sergey Pogarsky, Leonid Lytvynenko
*V. N. Karazin Kharkiv National University, Kharkiv, Ukraine*

EM-11 MODELING MAGNETIC FIELD OF THE ELECTRIC MOTOR WITH CLOSED GROOVES INCLUDING NONLINEAR MAGNETIC CHARACTERISTICS
Andrii Zhyltsov, Viktoria Lyktej
*National University of Life and Environmental Sciences of Ukraine, Kyiv, Ukraine*

EM-12 PLANAR UWB SPIRAL ANTENNA WITH PERIPHERAL FEEDING BY COPLANAR WAVEGUIDE
Tamerlan Tsaliev, Serhii Siden
*O. S. Popov Odessa National Academy of Telecommunication, Odessa, Ukraine*
EM-13 NEAR RADIATION ZONE OF SIX SHORT IMPULSE RADIATORS
Vadim Plakhtii, Oleksandr Dumin, Oleksandr Prishchenko
V. N. Karazin Kharkiv National University, Kharkiv, Ukraine

EM-14 CONTROLLED MAGNETOHYDRODYNAMIC SEPARATION OF LIQUIDS IN A TRANSVERSE MAGNETIC FIELD
Yuriy Shabatura, Vitalij Atamanyuk, Oleksiy Kuznyetsov, Lidiya Parashchuk
Hetman Petro Sahaidachnyi National Army Academy, Lviv, Ukraine

EM-15 THE ELECTROMAGNETIC FIELD OF THE THREE-PHASE CYLINDRICAL INDUCTOR IF IT RUNS OFF WITH FREQUENCY CONVERTER IN NON-STATIONARY MODES
Igor Kondratenko, Andrii Zhiltsov, Andrii Bereziuk
National University of Life and Environmental Sciences of Ukraine, Kyiv, Ukraine

11:30 - 13:15 NUCLEAR AND PLASMA PHYSICS
Chairs: Maksym Khruslov
Location: Reading Room 2, 3rd floor

NPS-1 THE MINI ELITPC: RECONSTRUCTION AND IDENTIFICATION OF CHARGED PARTICLES TRACKS DURING BEAM TESTS AT IFIN-HH
Jan Bihalowicz
University of Warsaw, Warsaw, Poland

NPS-2 GENERALIZATION OF THE LANDAU-VLASOV KINETIC EQUATION FOR A DISSIPATIVE RANDOMLY DRIVEN SYSTEM
Vyacheslav Gorev, Alexander Sokolovsky
Oles Honchar Dnipro National University, Dnipro, Ukraine

NPS-3 MODES OF PLASMA-DYNAMICAL SYSTEM WITH CLOSED ELECTRON DRIFT AND OPEN WALLS
Alexey Goncharov, Andrew Dobrovolskiy, Irina Litovko, Iryna Naiko, Lily Naiko
Institute of Physics NAS of Ukraine, Kyiv, Ukraine

NPS-4 DEVELOPMENT OF COMPRESSOR TYPE OZONATOR BASED ON DIELECTRIC BARRIER DISCHARGE
Aleksandr Shchebetun, Viktor Krasnyj, Andrey Klosovskyj, Anton Taran, Alina Lozina
Kharkiv Institute of Plasma Physics, NSC “Kharkiv Institute of Physics and Technology”, Kharkiv, Ukraine

NPS-5 MASSES AND HALF-LIVES OF SUPERHEAVY ELEMENTS
Michal Palczewski
National Centre for Nuclear Research, Warsaw, Poland
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<th>Session</th>
<th>Title</th>
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<td>NPS-6</td>
<td>INTERFEROMETRY OF PLASMA BY INCLINED PROBING</td>
<td>Yuriy Kovtun, Yevhen Siusko, Anatoliy Skibenko, Evgeniy Skibenko</td>
<td>NSC &quot;Kharkiv Institute of Physics and Technology&quot;, Institute of Plasma Physics, Kharkiv, Ukraine</td>
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<td>NPS-7</td>
<td>COMPRESSION ZONE FORMATION IN PLASMA STREAMS GENERATED BY MAGNETO-PLASMA COMPRESSOR</td>
<td>Yuliia Volkova, Tetyana Cherednichenko, Marina Ladygina, Anna Marchenko, Dmytro Solyakov</td>
<td>V. N. Karazin Kharkiv National University, Kharkiv, Ukraine</td>
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<td>NPS-8</td>
<td>DYNAMICS OF ELECTRON IN TEM WAVE FIELD</td>
<td>Valentina Shpagina, Yuriy Grigoriev, Andrey Zelinskiy</td>
<td>NSC &quot;Kharkiv Institute of Physics and Technology&quot;, Kharkiv, Ukraine</td>
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<td>NPS-9</td>
<td>NUMERICAL CALCULATION OF THE SOFT X-RAY EMISSIVITY DISTRIBUTION IN THE U-3M TORSATRON</td>
<td>Olena Turianska</td>
<td>V. N. Karazin Kharkiv National University; Institute of Plasma Physics, NSC &quot;Kharkiv Institute of Physics and Technology&quot;, Kharkiv, Ukraine</td>
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<td>NPS-10</td>
<td>SPECTRA ANALYSIS OF RUNAWAY ELECTRON SYNCHROTRON RADIATION FOR THE RECENT EAST RUNAWAY EXPERIMENT</td>
<td>Volodymyr Bochko, Igor Pankratov</td>
<td>V. N. Karazin Kharkiv National University, Kharkiv, Ukraine</td>
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<td>NPS-11</td>
<td>THERMODYNAMICS SATURATION OF ZIRCONIUM ALLOY WITH 1% Nb USED FOR NUCLEAR FUEL CLADDING</td>
<td>Vasyl Trush</td>
<td>Karpenko Physico-Mechanical Institute NAS of Ukraine, Lviv, Ukraine</td>
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**Schedule**

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<td>13:15</td>
<td>LUNCH</td>
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<td>14:15</td>
<td>NANO- AND METAMATERIALS - 1</td>
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<tr>
<td>Location</td>
<td>Reading Room 2, 3rd floor</td>
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<tr>
<td>Chairs</td>
<td>Pavlo Krasov</td>
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**NM-1**

THE INVESTIGATION OF PHYSICAL-MECHANICAL PROPERTIES OF INTERMETALLIC NI-AL CATALYST WITH NANOSTRUCTURE

Yuriy Belokon, Karina Belokon, Aleksandr Zherebtsov, Aleksandr Fedchenok

Zaporizhzhia State Engineering Academy, Zaporizhzhia, Ukraine

**NM-2**

ENERGY DISSIPATION OF INTERACTING RIGID DIPOLES DRIVEN BY RF-FIELD IN A VISCOUS FLUID

Vladyslav Reva, Taras Lyutyty, Andriy Yermolenko

Sumy State University, Sumy, Ukraine
NM-3  DEFECT MODES IN A TWO-DIMENSIONAL PHOTONIC BANDGAP WIRE STRUCTURE
Dasha Yudina, Liubov Ivzhenko
V. N. Karazin Kharkiv National University, Kharkiv, Ukraine

NM-4  INVESTIGATION OF COEFFICIENT OF REFLECTION AND ROUGHNESS OF Ti AND TiN COATINGS DEPENDING ON DEPOSITION METHOD
Valeriy Taran, Renat Muratov, Anton Taran
Institute of Plasma Physics, NSC “Kharkiv Institute of Physics and Technology”, Kharkov, Ukraine

NM-5  SCATTERING OF ELECTROMAGNETIC WAVES BY A PEC BAR GRATING WITH A NONLINEAR DIELECTRIC DEFECT IN THE SLITS
Lyudmila Kochetova
O. Ya. Usikov Institute for Radiophysics and Electronics NAS of Ukraine, Kharkiv, Ukraine

NM-6  THE INVESTIGATION OF NANOSTRUCTURE FORMATION IN INTERMETALLIC G-TIAL ALLOYS
Yuriy Belokon, Aleksandr Zherebtsov, Karina Belokon
Zaporizhzhia State Engineering Academy, Zaporizhzhia, Ukraine

NM-7  MULTILAYER MODIFIED NH4NO3 GRANULES WITH 3D NANOPOROUS STRUCTURE: EFFECT OF THE HEAT TREATMENT REGIME ON THE STRUCTURE OF MACRO- AND MEZOPORES
Artem Artyukhov, Andrii Ivaniia, Nadiia Artyukhova, Jevgenijs Gabrusenoks
Sumy State University, Sumy, Ukraine

NM-8  SYNTHESIS AND MAGNETIC PROPERTIES OF COBALT FERRITE NANOPARTICLES PREPARED BY CONTACT LOW-TEMPERATURE NON-EQUILIBRIUM PLASMA METHOD
Ruslana Shpatakova
Ukrainian State University of Chemical Technology, Dnipro, Ukraine

16:00 16:30  COFFEE BREAK

16:30 17:45  NANO- AND METAMATERIALS - 2

NPS-9  PLASMONIC PROPERTIES OF SELFSIMILAR CLUSTER OF SILVER NANOWIRES
Nadiia Stognii, Nina Butenko, Nataliya Sakhnenko
Kharkiv National University of Radio Electronics, Kharkiv, Ukraine
CONSTRUCTION OF HIGH CONDUCTIVITY IN SI BY PBW TECHNOLOGY
Anatoliy Vasiljev, Oleg Kukharenko, Oleksandr Kozonushchenko, Taras Vasiliev, Mykola Tolmachov
Institute of High Technologies, Taras Shevchenko National University of Kyiv, Kyiv, Ukraine

POROUS NANOSTRUCTURED InP: PREPARATION AND PROPERTIES
Yana Suchikova, Sergey Onishchenko, Viola Vambol, Olexandr Kondratenko
Berdyansk State Pedagogical University, Berdyansk, Ukraine

FORMATION AND THE COLOUR DEVELOPMENT IN NANOCRYSTALLINE CoZn PHOSPHATE
Liudmyla Frolova, Alena Derimova
Ukrainian State University of Chemical Technology, Dnipro, Ukraine

THE INFLUENCE OF CONSTANT PHYSICAL FIELDS ON STRUCTURE AND PROPERTIES OF EPOXY COMPOSITES
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