

TUESDAY, JUNE 21, 2016

- 9:30-10:00** **Opening Ceremony**
- 10:00-11:00** **Plenary Session**
- INV.1 **High Power THz Technologies Opened by High Frequency Gyration Covering Sub-THz to THz Region**
Prof. Toshitaka Idehara¹, A. Kuleshov^{1,2}, E. Khutoryan^{1,2}, Y. Tatematsu¹,
 Y. Matsuki³, T. Fujiwara³, S. Asai⁴, T. Suehara⁴, T. Yamazaki⁴, A. Miyazaki⁴
¹Fukui, Japan; ²Kharkiv, Ukraine; ³Osaka, Japan; ⁴Tokyo, Japan
- INV.2 **Inverse Problems of Electromagnetic Sounding: Gradient Medium and Periodic Boundary**
Dr. Nataliya Yashina¹, A. Brovenko¹, P. Melezhik¹, A. Poyedinchuk¹, A. Vertiy²
¹Kharkiv, Ukraine; ²Astana, Kazakhstan
- 11:00-11:30** **Coffee Break**
- 11:30-13:00** **Plenary Session**
- INV.3 **Ground-Based Millimeter-Wave Ozone Monitoring in Moscow during Sudden Stratospheric Warmings**
Dr. Sergey Rozanov, E. Kropotkina, S. Solomonov, A. Ignatyev, A. Lukin
 Moscow, Russia
- INV.4 **High-frequency Methods for Applied Problems of Electromagnetic Wave Scattering**
Prof. Oleg Sukharevsky, V. Vasilets, S. Nechitailo, G. Khlopov
 Kharkiv, Ukraine
- INV.5 **Techniques of Measuring Reflectance in Free Space in the Microwave Range**
Prof. Oleg Drobakhin, M. Andreev, D. Saltykov
 Dnipropetrovsk, Ukraine
- 13:00-14:00** **Lunch**
- 14:00-15:30** **Session Scientific, Industrial and Biomedical Applications - 1**
- A-1 **Narrow Band Small Size Microwave Filters**
Alexander Strizhachenko, A. Zvyagintsev, S. Shulga
 Kharkiv, Ukraine
- A-2 **Sensitivity Investigation of Coupled-Line Microwave Sensor on Dielectric Material-Under-Test**
Ilona Piekarz, J. Sorocki, S. Gruszczynski, K. Wincza
 Krakow, Poland
- A-3 **Compact Microstrip Coupled-Line Directional Coupler Realized in Thick-Film Technology**
Jakub Sorocki, I. Piekarz, S. Gruszczynski, K. Wincza
 Krakow, Poland

- A-4 **Submillimetric Localization of Microwave Diagnostics and Modification of Objects of Various Nature**
Andrey Levchenko, I. Bondarenko, Yu. Gordienko
Kharkiv, Ukraine
- A-5 **Simplified Three-Strip Coupled-Line Section as Microwave Sensor for Dielectric Materials Measurement**
Ilona Piekarz, J. Sorocki, K. Wincza, S. Gruszczynski
Krakow, Poland
- A-6 **Differentially Excited Coupled-Line Sensor for Small Dielectric Samples Detection**
Jakub Sorocki, I. Piekarz, K. Wincza, S. Gruszczynski
Krakow, Poland
- 15:30-16:00 Coffee Break**
- 16:00-17:45 Session Scientific, Industrial and Biomedical Applications - 2**
- A-7 **Calibration Method of Microwave Measurement System for Dielectric Samples Detection**
Ilona Piekarz, J. Sorocki, K. Wincza, S. Gruszczynski
Krakow, Poland
- A-8 **Miniaturized Microstrip Marchand Balun and Coupled-Line Section as Microwave Sensor for Dielectric Material Detection**
Jakub Sorocki, I. Piekarz, K. Wincza, S. Gruszczynski
Krakow, Poland
- A-9 **Main Expressions for Analysis of Signals and Noise of FM Autodyne Radar**
Alexandr Vasyliiev¹, G. Ermak¹, V. Noskov², K. Ignatkov², A. Chupahin²
¹*Kharkiv, Ukraine;* ²*Ekaterinburg, Russia*
- A-10 **Peculiarities of Signal and Noise Characteristics of FMCW Autodyne Radar**
Alexandr Vasyliiev¹, G. Ermak¹, V. Noskov², K. Ignatkov², A. Chupahin²
¹*Kharkiv, Ukraine;* ²*Ekaterinburg, Russia*
- A-11 **Analysis of Measurement Error of Porous Dielectric Permittivity**
Maxim Vovnuyk, R. Bilous, O. Khazov, I. Skuratovskiy, A. Shakhova
Kharkiv, Ukraine
- A-12 **THz Modeling of Influence of Parallelepiped Surface Defects on Optical Ellipsometry Measurements**
Alexey Galuza, A. Belyaeva, I. Kolenov
Kharkiv, Ukraine
- 17:45-18:30 Poster Session Scientific, Industrial and Biomedical Applications**
- A-13 **Vision-Based Expert System for Road Line and Vehicle Detection**
 Andrey Goloborodko
Kyiv, Ukraine

- A-14 **Use of Electromagnetic Wave Refraction for Multicomponent Gas-metal Plasma Diagnostics**
Yuri Kovtun, E. Skibenko, A. Skibenko, A. Ozerov, I. Pinos, E. Syus'ko
Kharkiv, Ukraine
- A-15 **Decision Making Concept to Create Complex Technical Systems**
Mihail Kalaev¹, P. Bushmelev¹, N. Yurkov¹, A. Poltavsky²
¹*Penza, Russia;* ²*Moscow, Russia*
- A-16 **Absorption of Microwave Radiation in a Thin Conducting Fibers and Protective Screens Creation**
Nikolai Kokodii, M. Kaydash, V. Timaniuk, N. Gorobets, V. Kiyko
Kharkiv, Ukraine
- A-17 **Interferometry of Plasma With the Use of the Microwave Ray Refraction**
Evgeniy Syus'ko, Yu. Kovtun, A. Skibenko, E. Skibenko
Kharkiv, Ukraine
- A-18 **Ultrashort Pulsed Electric Fields Induce Action Potentials in Neurons When Applied at Axon Bundles**
Sergii Romanenko, D. Arnaud-Cormos, P. Leveque, R. O'Connor
Limoges, France
- A-19 **Melanoma CADE based on ABCD rule and Haralick Texture Features**
Volodymyr Ponomaryov, J. A. Almaraz-Damian, E. Rendon-Gonzalez
Mexico City, Mexico
- A-20 **Automatic Lung Nodule Segmentation and Classification in CT Images Based on SVM**
Volodymyr Ponomaryov, E. Rendon-Gonzalez
Mexico City, Mexico
- A-21 **Stimulating Effect of the Terahertz Band Electromagnetic Radiation**
Anatolii Fisun, N. Briuzginova, S. Sirenko, Yu. Kamenev, I. Bilous
Kharkiv, Ukraine
- A-22 **Waveguide-coaxial Resonator with a Wide Frequency Tuning**
Raisa Bilous, A. Motornenko, O. Khazov, I. Skuratovskiy, A. Shakhova
Kharkiv, Ukraine
- A-23 **Particularities of Double-Diode Autodyne Characteristics**
Gennadiy Ermak¹, V. Noskov², K. Ignatkov², A. Chupahin²
¹*Kharkiv, Ukraine;* ²*Ekaterinburg, Russia*
- A-24 **Double-Diode Autodyne of 8mm-Range on Gunn Diodes**
Gennadiy Ermak¹, A. Varavin¹, V. Noskov²
¹*Kharkiv, Ukraine;* ²*Ekaterinburg, Russia*
- A-25 **Mathematical Model of FM Autodyne Radar**
Gennadiy Ermak¹, A. Vasyliiev¹, V. Noskov², K. Ignatkov², A. Chupahin²
¹*Kharkiv, Ukraine;* ²*Ekaterinburg, Russia*
- A-26 **Audiometer Controlled by Brain Waves**
Gloria Mariela Callejas Sanchez, F. Gallegos-Funes, I. Cosme Cisneros
Districto Federal, Mexico

- A-27 **An Equivalent Circuit Method for Analysis of the Microwave Drying Kinetics**
Alexey Manturov, T. Dunaeva
Saratov, Russia
- A-28 **Using the Digital Microphotography for Mucociliary Clearance Assessment**
Gleb Mareev, O. Mareev, I. Ermakov, Yu. Kulyaeva, T. Danilova, A. Manturov
Saratov, Russia
- A-29 **Automated System “KERN-DP” of Anisotropy Ultrasound Measurements Data Treatment**
Yuriy Onanko, S. Vyzhva, A. Shabatura, G. Prodayvoda, A. Onanko, R. Homenko
Kyiv, Ukraine
- A-30 **Spectral Investigation of Magnetite Nanoparticles Interaction with Charged Drugs**
Arthur Vakula, E. Bereznyak, N. Gladkovskaya, E. Dukhopelnikov, A. Herus, S. Tarapov
Kharkiv, Ukraine
- A-37 **Two Frequency Heterodyne Interferometer Based on Phase Locked 2 - Millimeter Wave Transceivers**
Nikita Varavin¹, F. Zacek¹, J. Zajac¹, G. Ermak², A. Varavin², A. Vasilev², A. Fateev², A. Zorenko³
¹Prague, Czech Republic; ²Kharkiv, Ukraine; ³Kyiv, Ukraine

14:00-15:30 Session Radio Astronomy and Earth's Environment Study - 1

- B-1 **Decameter Pulsars and Transients Survey of the Northern Sky. Observations and Data Processing**
Ihor Kravtsov, V. Zakharenko, I. Vasylieva, O. Ulyanov, A. Shevtsova, A. Skoryk, S. Mykhailova
Kharkiv, Ukraine
- B-2 **Spatial Structure of Five Star Forming Regions: 121.28+0.65, 34.403+0.233, 77.462+1.759, 99.982+4.17 and 37.427+1.518**
Oleksii Patoka¹, V. Shulga¹, L. Pirogov², I. Zinchenko², P. Zemlyanukha², M. Thomasson³
¹Kharkiv, Ukraine; ²Nizhny Novgorod, Russia; ³Onsala, Sweden
- B-3 **Frequency Drift Rates of Decameter “Drift Pair” Bursts**
Yaroslav Volvach, A. Stanislavsky
Kharkiv, Ukraine
- B-4 **Effect of Solar Flares on Schumann Resonance Frequencies**
Alexander Shvets¹, A. Nickolaenko¹, V. Chebrov²
¹Kharkiv, Ukraine; ²Petropavlovsk-Kamchatski, Russia
- B-5 **AC and DC Global Electric Circuit and the Height Profile of Atmospheric Conductivity**
Alexander Nickolaenko¹, I. Kudintseva¹, M. Rycroft², A. Odzimek³
¹Kharkiv, Ukraine; ²Bath, U.K.; ³Warsaw, Poland

- B-6 **Determining the Intensity of a Point-like Source, Observed with an Extended Source as the Background: Modeling and Computer Experiment**
Sergey Skuratovskiy, Yu. Kornienko
Kharkiv, Ukraine
- 15:30-16:00 Coffee Break**
- 16:00-17:45 Session Radio Astronomy and Earth's Environment Study - 2**
- B-7 **Sub-Doppler Spectroscopy of the Acetaldehyde and Methylamine Molecules**
Igor Krapivin, A. Meshcheryakov, V. Ilyushin, E. Alekseev
Kharkiv, Ukraine
- B-8 **Microwave Spectrometer for Rydberg State Atoms: Last Improvements**
Artem Tkachev, N. Pogrebnyak, S. Dyubko, E. Alekseev, A. Meshcheryakov
Kharkiv, Ukraine
- B-9 **An Ultra-Low-Power Multi-Octave Deep-Cooled Amplifier for Superconducting Single-Photon Detectors**
Alexey Koroley, V. Shulga, O. Turutanov
Kharkiv, Ukraine
- B-10 **Fourier-Spectrometer FFTS-160 Based on FPGA for Spectral Observation of Trace Gases in Atmosphere**
Yurii Karelin, V. Shulga, A. Antyufeyev, V. Myshenko
Kharkiv, Ukraine
- B-11 **Comparative Analysis of Methods for Estimation of Parameters of the Ionosphere by Tweek Atmospherics**
 Alexey Krivonos
Kharkiv, Ukraine
- 17:45-18:30 Poster Session Radio Astronomy and Earth's Environment Study**
- B-12 **Influence of Neutral Winds on the Formation of the F2-region of the Middle-Latitude Magnetically Quiet Ionosphere**
 Sergii Grinchenko
Kharkiv, Ukraine
- B-13 **The Study of Influence of the Tool Bending on the Turning Accuracy in the Dynamical Cutting Models**
 Irina Manturova
Saratov, Russia
- B-14 **The Bipolar Nature of the Movement in the Star-Forming Region IRAS 05553+1631**
Aleksandr Antyufeyev, V. Shulga, O. Patoka
Kharkiv, Ukraine

- B-15 **Methodical Features Detected of Dark Objects by Using Gravitational Refraction**
Sergey Yegorov, A. Yegorov, V. Yegorov, L. Yelenskaya
 Kharkiv, Ukraine

14:00-15:30 Session Vacuum Electronics - 1

- Inv.C-1 **The Qualitative Theory of Electron Beam Formation in a Surface Wave Magnetron (Invited Talk)**
 Gennadiy Churyumov
 Kharkiv, Ukraine
- Inv.C-2 **Spatial-Harmonic Magnetrons with Cold Secondary-Emission Cathode: Advances and Challenges (Invited Talk)**
Dmitriy Vavriv¹, V. Naumenko¹, K. Schünemann²
¹Kharkiv, Ukraine; ²Hamburg, Germany
- C-3 **Investigation of Starting Position of the Magnetron with Cold Cathode**
Volodymyr Markov, V. Naumenko
 Kharkiv, Ukraine
- C-4 **Operation Modes of the Relativistic Magnetron at Millimeter Wavelengths**
Victor Sinitsin, N. Gadetsky, V. Korenev, A. Lebedenko, I. Magda, O. Melezhik, A. Shtanko, M. Volovenko, S. Terekhin, A. Tishchenko
 Kharkiv, Ukraine

15:30-16:00 Coffee Break

16:00-17:45 Session Vacuum Electronics - 2

- C-5 **Diffraction Radiation Oscillator with the Asymmetric Open Resonant System**
Vladimir Miroshnichenko, I. Kovalov
 Kharkiv, Ukraine
- C-6 **Development of Compact CW Clinotrons for DNP-NMR Spectroscopy**
Sergey Ponomarenko, Yu. Kovshov, S. Kishko, Y. Novikova-Korotun, E. Khutoryan, A. Kuleshov
 Kharkiv, Ukraine
- C-7 **Waveguide Output for 130 GHz CW Clinotron**
Sergey Kishko, S. Ponomarenko, Yu. Kovshov, A. Kuleshov
 Kharkiv, Ukraine
- C-8 **Two-Stream Superheterodyne Free Electron Lasers as Formers of Ultrashort Electromagnetic Clusters**
Iurii Volk¹, A. Lysenko¹, V. Kulish²
¹Sumy, Ukraine; ²Kiev, Ukraine
- C-9 **Stabilizations of Gyrotron Frequency and Power by PID Double Feedback Control on the Acceleration and Anode Voltages**
Eduard Khutoryan^{1,2}, T. Idehara¹, A. Kuleshov^{1,2}, Y. Tatematsu¹, Y. Yamaguchi¹, Y. Matsuki³, T. Fujiwara³
¹Fukui, Japan; ²Kharkiv, Ukraine; ³Osaka, Japan

C-10 **Eigenmodes of a Gyrotron Cavity with Anisotropic Impedance Surface**
Vitalii Shcherbinin
Kharkiv, Ukraine

C-11 **Coupled Mode Theory for Longitudinally Inhomogeneous Impedance Waveguides**
Aleksandr Maksimenko¹, G. Zaginaylov¹, K. Schunemann²
¹*Kharkiv, Ukraine*; ²*Hamburg, Germany*

17:45-18:30 Poster Session Vacuum Electronics

C-12 **The Quantum Dynamics of Natural Distributed Oscillatory Systems**
Alexander Gritsunov
Kharkiv, Ukraine

C-13 **Specific Features of Electrodynamic Characteristics for Double-row Periodic Systems Based on Diffraction Bar Gratings**
Vladyslav Shubnikov, G. Vorobyov, M. Petrovskyi, A. Ruban, O. Prokopchuk
Sumy, Ukraine

C-14 **Gyrotron FU II for a Radiation Source of THz ESR Spectroscopy with a High Field Pulse Magnet**
Toshitaka Idehara¹, I. Ogawa¹, S. Mitsudo¹, Y. Fujii¹, M. Hagiwara², T. Kida²,
M. Takata²
¹*Fukui, Japan*; ²*Osaka, Japan*

18:30 Welcome Party

WEDNESDAY, JUNE 22, 2016

- 10:00-11:00 Plenary Session**
- INV.6 **Resonant All-Dielectric Planar Metamaterials**
Dr. Vyacheslav Khardikov
Kharkiv, Ukraine
- INV.7 **Diffraction of the THZ Radiation at Semiconductor and Metal Gratings. Theory and Experiment**
Prof. Ivan Spevak
Kharkiv, Ukraine
- 11:00-11:30 Coffee Break**
- 11:30-12:30 Plenary Session**
- INV.8 **NMR & MW Techniques for Detection of Explosive and Illicit Materials**
Prof. Bulat Rameev^{1,2}, B. Aktaş¹
¹*Gebze-Kocaeli, Turkey*; ²*Kazan, Russia Federation*
- INV.9 **Atomic Functions Theory: 45 Years Behind**
Prof. Victor Kravchenko¹, O. Kravchenko¹, V. Pustovoit¹, D. Churikov¹,
V. Volosyuk², V. Pavlikov²
¹*Moscow, Russian Federation*; ²*Kharkiv, Ukraine*
- 12:30-13:30 Lunch**
- 13:30-15:30 Session Scientific, Industrial and Biomedical Applications - 3**
- A-31 **Optical Coherence Tomography Imaging with a Planar Broadband Light Beam**
Simeon Zhyla¹, V. Volosyuk¹, P. Hunziker², O. Morozov², O. Volosyuk²
¹*Kharkiv, Ukraine*; ²*Basel, Switzerland*
- A-32 **Pre-Sowing Seeds Treatment by Microwave**
Nadzeya Pushkina, V. Karpovich
Minsk, Republic of Belarus
- A-33 **The Role of Water and its Complexes in Biological Effect Created by Weak Combined Magnetic Field**
Nadezhda Sheykina
Kharkiv, Ukraine
- A-34 **Optical Coherence Tomography of Semitransparent Media: Analysis of the Method**
Simeon Zhyla¹, V. Volosyuk¹, P. Hunziker², O. Morozov², O. Volosyuk²
¹*Kharkiv, Ukraine*; ²*Basel, Switzerland*
- A-35 **Investigation of Possibilities of Medical Nanorobots Manufacturing**
Mykola Khodakovskiy, A. Zolot, V. Budnyk
Kyiv, Ukraine

- A-36 **Modification of Cellular Effects of Exposure to Gamma-Radiation by Microwaves and Magnetic Field**
Konstantin Kuznetsov, D. Miroshnik, Y. Shckorbatov, O. Nikolov, N. Kolchigin
Kharkiv, Ukraine
- 15:30-16:00 Coffee Break**
- 16:00-17:45 Session Antennas, Waveguide and Integrated Circuits - 1**
- D-1 **Complex Comparison of Measured Parameters of Small-Aperture Antennas at Millimeter Waves Band**
 Nikolay Ruzhentsev
Kharkiv, Ukraine
- D-2 **Dispersion Characteristics of Planar Dielectric Waveguide - Grating System**
Anatolii Hnatovskyi, O. Kusaykin, S. Provalov
Kharkiv, Ukraine
- D-3 **Accurate Simulation of 2D Periodic Structures Excitation by an Obliquely Incident Plane Wave**
 Hanna Sliusarenko
Kharkiv, Ukraine
- D-4 **A Waveguide Slot Array Antenna Design for X-Band Radar**
 Yunus Emre Yamac, A. Kizilay
Istanbul, Turkey
- D-5 **BSP Step for Complex Target RCS Measuring or Calculation**
Alexander Maslovskiy, M. Legenkiy, M. Antyufeyeva
Kharkiv, Ukraine
- D-6 **Single-Layer 4 x 4 Nolen Matrix Integrated with 4 x 4 Antenna Array Operating at 24 GHz**
Jakub Sorocki, I. Piekarz, I. Slomian, S. Gruszczynski, K. Wincza
Krakow, Poland
- 17:45-18:30 Poster Session Antennas, Waveguide and Integrated Circuits**
- D-7 **Investigation of Radiation Characteristics of Fresnal Antenna**
Valeriy Magro, V. Morozov
Dnipropetrovsk, Ukraine
- D-8 **Propagation Characteristics of the Signals in the Printed Conductors with Allowance for Temperature Influence**
Nickolay Goryachev, P. Andreev, N. Yurkov
Penza, Russia
- D-9 **Nonequidistant Two-Dimensional Antenna Arrays are Based on Magic Squares**
Vladislav Lutsenko, I. Popov, I. Lutsenko, L. Yiyang, A. Mazurenko
Kharkiv, Ukraine

- D-10 **Waveguide Junction with Controllable Power Division**
Sergey Berdnik, Yu. Penkin, V. Katrich, M. Nesterenko
Kharkiv, Ukraine
- D-11 **Waveguide-Slot Coupling Element Partially Filled with Dielectric**
Andrey Lyakhovsky, L. Yatsuk, A. Lyakhovsky, V. Katrich
Kharkiv, Ukraine
- D-12 **Whispering Gallery Mode Resonator Unit for Low Phase-Noise Oscillators**
Alexander Shubny¹, A. Barannik¹, V. Skresanov¹, V. Glamazdin¹, M. Natarov¹,
 V. Zolotarev¹, N. Cherpak¹, Y. He², L. Sun², J. Wang², Y. Bian², X. Wang²
¹*Kharkiv, Ukraine;* ²*Beijing, China*
- D-13 **Fabry-Perot Open Resonator Application for the Investigations of a Weak Anisotropy in Dielectric Films**
Mikhail Natarov, V. Skresanov, A. Shubny, V. Glamazdin
Kharkiv, Ukraine
- D-14 **Energy Characteristics of Wire Vibrator Connecting a Rectangular Waveguide and the Free Half Space Through a Small Hole**
Natalya Blinova, L. Yatsuk, V. Sachko
Kharkiv, Ukraine
- D-15 **Waves in An Infinite Array of Groove Waveguides**
 Alexander Svezhentsev
Kharkiv, Ukraine
- D-16 **The Development of the Antenna of Science and Technology, Based on the Solution of the Integral Equations for the Current Distribution**
 Viktor Ovsyanikov
Dnipropetrovsk, Ukraine
- D-17 **Compact Polarization Plane Rotator by an Arbitrary Angle**
 Dmitry Kulik
Kharkiv, Ukraine
- D-18 **Radial Electric Dipole Inside Finite Maxwell Medium**
Leonid Pazynin, H. Sliusarenko, V. Pazynin
Kharkiv, Ukraine
- D-19 **Electromagnetic Waves in the Searchlight Beam of Antenna Arrays Large Electrical Size**
Nikolay Gorobets, A. Lebedev
Kharkiv, Ukraine
- 13:30-15:30 Session Solid State devices, Waves in Semiconductors and in Solid State Structures, Radiospectroscopy - 1**
- E-1 **Microwave Spectrum of N-Methylformamide**
Artur Meshcheryakov¹, V. Ilyushin¹, E. Alekseev¹, R. Motienko², L. Margules²
¹*Kharkiv, Ukraine;* ²*Villeneuve d'Ascq, France*

E-2 **The Torsional Fundamental Band and Submillimeter Wave Spectrum of Acetone**
Iuliia Armieieva¹, V. Ilyushin¹, O. Dorovskaya¹, E. Alekseev¹, M. Tudorie²,
 R. Motienko³, L. Margules³, B. Drouin⁴, O. Pirali⁵
¹Kharkiv, Ukraine; ²Brussels, Belgium; ³Villeneuve d'Ascq, France; ⁴Pasadena, USA;
⁵Gif-sur-Yvette, France

E-3 **Investigation of Microwave Power Generation of Pulse Double-Drift Si IMPATT Diodes Operating in Short Part of Millimeter Wave Lengths**
Andrey Bychok, A. Zorenko
 Kyiv, Ukraine

E-4 **Designing a THz Receiver Based on 2DEG-Detector and QCL as a Local Oscillator**
 Victor Pogrebnyak
 Buffalo, USA

E-5 **THz Transport Properties and Noises in QW Channel of MCT Hot-electron Bolometer**
Joanna Gumenjuk-Sichevska, E. Melezhik, F. Sizov
 Kyiv, Ukraine

15:30-16:00 **Coffee Break**

16:00-17:45 **Session Solid State devices, Waves in Semiconductors and in Solid State Structures, Radiospectroscopy - 2**

E-6 **Tunable Bandpass Filter Based on Single-Crystal Platelet of BaFe₁₂O₁₉ in Multidomain Area**
Artem Nikytenko, L. Chevnyuk, V. Grygoruk, V. Kostenko, V. Romaniuk
 Kyiv, Ukraine

E-7 **Application of Double-Diode Autodynes in Control Systems for Technological Processes**
Anton Varavin¹, G. Ermak¹, A. Fateev¹, V. Noskov², K. Ignatkov², A. Chupahin²
¹Kharkiv, Ukraine; ²Ekaterinburg, Russia

E-8 **Experimental Studies of the 8-mm Wave Gunn Diode Autodynes**
 Alexander Gritsunov
Anton Varavin¹, G. Ermak¹, A. Fateev¹, V. Noskov², K. Ignatkov², A. Chupahin²
¹Kharkiv, Ukraine; ²Ekaterinburg, Russia

E-9 **Synthesis and Characterization of Tetrahedrite Compounds for Thermoelectric Applications**
Dmitrii Shulgin¹, G. Mozhukhin¹, B. Rameev^{1,2}, A. Guler³, C. Boyraz³
¹Gebze-Kocaeli, Turkey; ²Kazan, Russia; ³Istanbul, Turkey

E-10 **Dielectric Losses of High-Resistivity Semiconductor Materials in EHF-Band at Cryogenic Temperatures**
Roman Golovashchenko, V. Derkach, Ye. Ostryzhnyi, A. Plevako, S. Tarapov,
 E. Alekseev
 Kharkiv, Ukraine

- E-11 **Open Resonator for Powers Combining in the Millimeter and Submillimeter Ranges**
Igor Kuz'michev¹, V. Yeryomka¹, A. May²
¹Kharkiv, Ukraine; ²Kyiv, Ukraine

17:45-18:30 Poster Session Solid State devices, Waves in Semiconductors and in Solid State Structures, Radiospectroscopy

- E-12 **Analysis of Bragg "Phase Grating" as the Balancing Bloch Spin Waves**
 Lyubov Nechaj
 Kharkiv, Ukraine
- E-13 **Surface Helicons in a Structure With Graphene Monolayer Lying on a 3D Plasma**
Yuriy Averkov, V. Yakovenko
 Kharkiv, Ukraine
- E-14 **Microwave Phase-Locking of Two Weakly-Coupled Spin-Torque Nano-Oscillators with Random Eigen Parameters**
Olga Sulymenko, O. Prokopenko
 Kyiv, Ukraine
- E-15 **Microwave Signal Detection by a System of Two Independent Spin-Torque Microwave Detectors**
Petro Artemchuk, O. Prokopenko
 Kyiv, Ukraine
- E-16 **Acoustic Birefringence at Electromagnetic Excitation of Sound in Iron Borate Crystals**
Valeryi Khizhnyi, A. Korolyuk, T. Khizhnaya
 Kharkiv, Ukraine
- E-17 **Estimation of Complex Permittivity of the Medium on Frequency and Steepness of Autogenerator Electronic Tuning**
Vladislav Lutsenko, E. Krivenko, I. Popov
 Kharkiv, Ukraine
- E-18 **Simulation of the Electron Magnetic Resonance Peak Shape for Fe₃O₄ Nanopowder**
Tatyana Kalmykova¹, A. Vakula¹, S. Nedukh¹, S. Tarapov¹, A. Belous²,
 O. Yelenich²
¹Kharkiv, Ukraine; ²Kyiv, Ukraine
- E-19 **Diffraction and Plasmon Phenomena in Semiconductor Nanostructure Systems**
 Valeriy Abdulkadyrov
 Kharkiv, Ukraine
- E-20 **Dielectric Illuminators for Millimeter-Wave Near-Field Microscopy**
Yevhenii Ostryzhnyi, V. Derkach, R. Golovashchenko
 Kharkiv, Ukraine
- E-21 **Influence of Absorbent Layer on Nonlinear Microwave Properties of HTS-Based Coplanar Waveguide**
Alexander Lavrinovich, A. Gubin
 Kharkiv, Ukraine

- E-22 **Design and Simulation of an X-band Solid State Power Amplifier**
Wahid Yaqoob Malik, T. Hayat, M. Naveed
Islamabad, Pakistan
- E-23 **Opportunity of Solid-State Oscillator Stabilization by Shielded Dielectric Resonator**
Alexander Kogut, R. Dolia, S. Nosatiuk, Ye. Shulha
Kharkiv, Ukraine
- E-24 **MM-Wave Range Oscillator with a Multi-Mirror Open Resonator**
Anatolii Fisun, O. Bilous, O. Sukhoruchko
Kharkiv, Ukraine
- E-25 **Heterostructure-Based Diode with the Cathode Static Domain**
Oleg Botsula, K. Prykhodko
Kharkiv, Ukraine
- E-26 **Calculation of Autodyne Radar Noise Parameters**
Alexandr Vasyliiev¹, G. Ermak¹, V. Noskov², K. Ignatkov², A. Chupahin²
¹*Kharkiv, Ukraine;* ²*Ekaterinburg, Russia*
- E-27 **Dependence of Processing Speed on the Autodyne Operation Mode**
Alexandr Vasyliiev¹, G. Ermak¹, V. Noskov², D. Mishin²
¹*Kharkiv, Ukraine;* ²*Ekaterinburg, Russia*
- E-28 **Mathematical Model of Double-Diode Autodyne**
Gennadiy Ermak¹, A. Vasyliiev¹, V. Noskov², K. Ignatkov², A. Chupahin²
¹*Kharkiv, Ukraine;* ²*Ekaterinburg, Russia*
- E-29 **High-Resolution Computer-Controlled Oscillator of 2-mm Wave-Range for the Low Temperature Dielectrometer**
Roman Golovashchenko, A. Plevako, Ye. Ostryzhnyi, V. Derkach, A. Meshcheryakov, E. Alekseev
Kharkiv, Ukraine
- E-30 **Precision Temperature Measurement Unit for the Low Temperature Dielectrometer**
Yevhenii Ostryzhnyi, R. Golovashchenko, N. Zaetz, A. Plevako, V. Derkach
Kharkiv, Ukraine
- 13:30-15:30 Session Artificial Materials: Metamaterials and Composite Structures, Terahertz Technologies - 1**
- INV.F-1 **Resonant Interaction of Electromagnetic Waves in the Defective Photon Crystal Bordering on Conducting Medium (Invited Talk)**
Nikolay Beletskii, S. Borysenko
Kharkiv, Ukraine
- F-2 **Chiral Properties of Bulk Metamaterial with Metallized Polylactide Helical Elements**
Sergey Polevoy, S. Tarapov
Kharkiv, Ukraine

- F-3 **Influence of Structural Inhomogeneity on Tamm State Frequency for Bounded Planar Photonic Crystal**
Aleksey Girich, S. Tarapov, O. Kravchuk
Kharkiv, Ukraine
- F-4 **Crossed Metallic Gratings as Metasurface with Tuned Crossing Angle**
Liubov Ivzhenko, S. Polevoy, S. Tarapov, V. Yachin
Kharkiv, Ukraine
- F-5 **Electromagnetic Properties of Dielectric Multilayer Periodic Structures with Inclusions of Gain Medium**
 Nataliia Sydorчук
Kharkiv, Ukraine
- F-6 **Multilevel Structured Experiment Design Regularization Approach for Computational Enhancement of Compressed Radar/SAR Imagery**
Yuriy Shkvarko¹, J. Amao¹, K. Lukin², G. Garcia-Torales³
¹Zapopan, Mexico; ²Kharkiv, Ukraine; ³Guadalajara, Mexico
- F-7 **Application of Optical Spectral Interferometry for Thin Film Thickness Measurement**
Dmytro Tatyanko, K. Lukin, A. Pikh
Kharkiv, Ukraine
- 15:30-16:00 Coffee Break**
- 16:00-17:45 Session Artificial Materials: Metamaterials and Composite Structures, Terahertz Technologies - 2**
- F-8 **Spatial Distribution of the Microwave Field in Mue-near-zero Planar Hyperbolic Metamaterial**
Mykhailo Milyaev, S. Nedukh, K. Zybaha, S. Tarapov
Kharkiv, Ukraine
- F-9 **Impact of Major Carrier Concentration in Silicon on Transparence of Photonic Crystal**
Borys Chernyshov, S. Tarapov
Kharkiv, Ukraine
- F-10 **Dispersion Relations for Bulk and Surface Polaritons in a Magnetic-Semiconductor Superlattice**
Illia Fedorin, V. Fesenko, V. Tuz
Kharkiv, Ukraine
- F-11 **Strip Gratings on Dielectric Substrates Electrodynamic Parameters Measurement in the THz Range**
Stanislav Andrenko, Yu. Kamenev, S. Masalov
Kharkiv, Ukraine
- F-12 **A Method of Loss Determination in 1D Gratings in the THz Range**
Stanislav Andrenko, Yu. Kamenev
Kharkiv, Ukraine

- F-13 **Research and Development into Sub-THz Quasioptics at IRE NASU and Modelling Challenges**
Sergey Mizrakhy
Kharkiv, Ukraine

17:45-18:30 Poster Session Artificial Materials: Metamaterials and Composite Structures, Terahertz Technologies

- F-14 **Plasmon Resonances in Two-Layered Circular Graphene Shells**
Elena Velichko, A. Nickolaenko
Kharkiv, Ukraine
- F-15 **The Metal Dielectric Waveguides in the Terahertz Range**
Martin Ayvazyan
Yerevan, Armenia
- F-16 **InBN and GaBN Graded Gap Gunn Diodes at Different BN Distribution**
Igor Storozhenko, M. Kaydash, A. Yaroshenko, Yu. Arkusha
Kharkiv, Ukraine
- F-17 **Applying of the Flat Circular Metal Gratings as Spherical Output Mirrors of Terahertz Lasers**
Vladimir Radionov, M. Dzyubenko, V. Maslov
Kharkiv, Ukraine
- F-18 **A Review of Microwave Metamaterial Structures Classifications and Applications**
Iryna Buriak, V. Zhurba
Sumy, Ukraine
- F-19 **Eigenmodes and Polarization Rotation in the Conjugate Stacked Structures**
Andrey Perov, A. Kirilenko, V. Derkach
Kharkiv, Ukraine
- F-20 **Microwave Photonic Band Gap Coaxial Line**
Arthur Vakula, S. Polevoy, M. Nakhimovych, S. Nedukh, S. Tarapov
Kharkiv, Ukraine
- F-21 **Two Screens with Rectangular Holes, as Fabry-Perot Resonator**
Igor Kuz'michev, A. Gribovsky
Kharkiv, Ukraine
- F-22 **Plane Wave Scattering from a Double-Periodic Gyrotropic Layer**
Vladimir Yachin, T. Zinenko
Kharkiv, Ukraine
- F-23 **Resonant Scattering and Third-Harmonic Generation by Cubically Polarizable Grating Structures**
Vasyl Yatsyk¹, M. Yatsyk¹, L. Angermann²
¹*Kharkiv, Ukraine*; ²*Clausthal-Zellerfeld, Germany*
- F-24 **Theorem of Two-Layer Magnetic Composite for Antenna Substrate Application**
Oleg Rybin, S. Shulga
Kharkiv, Ukraine

18:30 Kharkiv Walking Tour

THURSDAY, JUNE 23, 2016

- 9:30-10:30 Plenary Session**
- INV.10 **Compressed Sensing for Imaging Radar and Radar Tomography**
Prof. Vito Pascazio
Napoli, Italy
- INV.11 **Millimeterwave Noise Radar Tomography**
Prof. Konstantin Lukin, P. Vyplavin, V. Palamarchuk, V. Kudryashev, S. Lukin,
P. Sushchenko, N. Zaets, L. Yurchenko, D. Tatyanko, A. Shelekhov, O. Zemlyaniy,
Yu. Shyian
Kharkiv, Ukraine
- 10:30-11:00 Coffee Break**
- 11:00-12:30 Plenary Session**
- INV.12 **On the Nature and General Regularities of Optical Activity in Planar-Chiral Double-Layer Metamaterials**
Prof. Anatoliy Kirilenko, S. Prosvirnin, A. Perov, S. Steshenko, V. Derkach,
N. Kolmakova, S. Prikolotin, D. Kulik
Kharkiv, Ukraine
- INV.13 **Superconducting Photonic Crystals**
Prof. Igor Lyubchanskii¹, N. Dadoenkova^{1,2}, Yu. Dadoenkova^{1,2,3}, A. Zabolotin^{1,4},
M. Krawczyk⁵
¹Donetsk, Ukraine; ²Ulyanovsk, Russian Federation; ³Veliky Novgorod, Russian Federation; ⁴Yuzhno-Sakhalinsk, Russian Federation; ⁵Poznań, Poland
- INV.14 **Stepped Frequency Continuous Wave Ground Penetrating Radar Applications**
Prof. Vladimir Sugak
Kharkiv, Ukraine
- 12:30-13:30 Lunch**
- 13:30-15:30 Session Antennas, Waveguide and Integrated Circuits - 2**
- D-20 **Ultra-Wideband Tapered-U-Shape Microstrip Patch Antenna**
Ilona Piekarz, J. Sorocki, S. Gruszczynski, K. Wincza
Krakow, Poland
- D-21 **Coupled-Line Directional Couplers Realized in Combined Laminate and Thick-Film Technologies**
Ilona Piekarz, J. Sorocki, K. Wincza, S. Gruszczynski
Krakow, Poland
- D-22 **Permittivity Measurements for Dielectric Lens and Dielectric Rod Antenna Designs**
Sergey Panin¹, İ. Unal¹, A. Sayıntı¹, T. Ozturk², M. Tekbaş³
¹Gebze-Kocaeli, Turkey; ²Karabuk, Turkey; ³Karaman, Turkey

- D-23 **Modeling of THz Detector Antenna on Conductive Substrate**
Mykola Sakhno, J. Gumenjuk-Sichevska, F. Sizov
Kyiv, Ukraine
- D-24 **The Matrix Radiometric System for the Imaging of Ground Objects in the Millimeter Band**
Viktor Bykov¹, S. Bykov¹, A. Grichanyuk¹, N. Kolchigin¹, V. Krayushking¹,
 G. Osinovy², V. Radzikhovsky³, T. Berezhnaya¹
¹*Kharkiv, Ukraine;* ²*Dnipropetrovsk, Ukraine;* ³*Kyiv, Ukraine*
- D-25 **Directivity Characteristics Research of Scanning and Multibeam Reflector Antennas by the Current Method of Physical Diffraction Theory**
Nikolay Gorobets, V. Kiyko, V. Gorobets
Kharkiv, Ukraine
- D-26 **Wave Processes in the Near-Field Zone of Large Aperture Antenna**
Nikolay Gorobets, Ye. Ovsyannikova
Kharkiv, Ukraine
- D-27 **Field Regions of Impulse Current Radiator of Small Size**
Vadim Plakhtii, O. Dumin, V. Katrich, O. Dumina
Kharkiv, Ukraine
- 15:30-16:00 Coffee Break**
- 16:00-18:00 Session Antennas, Waveguide and Integrated Circuits - 3**
- D-28 **Optimization of Shielding Effectiveness of Coaxial Double Braided Screens in Contact**
 Bektas Colak¹, O. Cerezci², N. Ari³, S. Helhel⁴
¹*Karabuk, Turkey;* ²*Sakarya, Turkey;* ³*Zurich, Switzerland;* ⁴*Antalya, Turkey*
- D-29 **Forward Looking Ground Penetrating Radar with Synthetic Antenna Aperture for Buried Explosive Hazards Detection**
Vladimir Sugak, A. Bukin, N. Reznichenko, A. Djadooei
Kharkiv, Ukraine
- D-30 **Directivity of Large Antenna Arrays**
Anna Bulgakova, N. Gorobets, V. Katrich, V. Lyaschenko
Kharkiv, Ukraine
- D-31 **On the “Tree” ELF Vertical Electric Antenna**
Elena Velichko, A. Nickolaenko
Kharkiv, Ukraine
- D-32 **Approach to the Design of Wideband Antenna Arrays with Decreased Coupling Between Elements**
Jakub Sorocki, I. Piekarz, I. Slomian, S. Gruszczynski, K. Wincza
Krakow, Poland
- D-33 **On the Characteristic Equation for the Dielectric-Loaded Circular Waveguide**
 Sergiy Steshenko
Kharkiv, Ukraine

- D-34 **Involving the Higher Modes into Attenuation Pole Generation. Spectral Approach**
Lyudmila Mospan, S. Prikolotin, A. Kirilenko
Kharkiv, Ukraine

13:30-15:30 Session Wave Propagation, Radar, Remote Sensing and Signal Processing - 1

- G-1 **Research of Scattering Characteristics of Snow Crystals**
Ganna Veselovska, G. Khlopov
Kharkiv, Ukraine
- G-2 **An Algorithm for Recognition of Hydrometeors by Polarimetric Radar Data Based on the Information Theory**
Irina Vasil'eva, A. Popov
Kharkiv, Ukraine
- G-3 **Polarization Transfer Functions of Remote Sensing Objects**
Masha Bortsova, A. Popov
Kharkiv, Ukraine
- G-4 **Retrieval of Rain Intensity by Three-frequency Radar Sensing**
Anna Linkova, G. Khlopov
Kharkiv, Ukraine
- G-5 **An Algorithmic Method of Solving Inverse Problems of Reconstruction of the Macrostructure Scattering Media**
Sergiy Melnyk, S. Melnik
Kharkiv, Ukraine
- G-6 **Satellite Image Super-Resolution Using Overlapping Blocks via Sparse Representation**
Volodymyr Ponomaryov, V. Alvarez-Ramos, R. Reyes-Reyes, F. Gallegos-Funes
Mexico City, Mexico
- G-7 **Schumann Resonances in High Latitudes**
Dashinima Ayurov, Yu. Bashkuev
Ulan-Ude, Russia
- G-8 **The Project of Joint Investigations of Millimetre Waves Propagations for Ukrainian Advanced 5G Communication Lines**
Alexander Tsopa, V. Leonidov, N. Ruzhentsev, A. Zarudniy, V. Pavlikov, V. Ivanov, Yu. Maleshenko
Kharkiv, Ukraine

15:30-16:00 Coffee Break

16:00-18:00 Session Wave Propagation, Radar, Remote Sensing and Signal Processing - 2

- G-9 **SAR Imaging Techniques for Ground Penetrating Impulse Radar**
Sinem Nimet Solak, M. Orhan, A. Turk
Istanbul, Turkey

- G-10 **SAR Tomography of Forested Areas: An APES-Based Virtual Beamforming Approach**
Yuriy Shkvarko¹, G. Martin del Campo¹, K. Lukin², A. Reigber³
¹Zapopan, Mexico; ²Kharkiv, Ukraine; ³Oberpfaffenhofen, Germany
- G-11 **FPGA-based Time-Integrating Multichannel Correlator for Noise Radar Applications**
Sergey Lukin¹, K. Lukin², O. Zemlyaniy², D. Tatyanko², V. Pascazio¹
¹Napoli, Italy; ²Kharkiv, Ukraine
- G-12 **Method of Correlation-Spectrum Analysis for Target Identification**
Oleg Sytnik, I. Vyazmitinov
 Kharkiv, Ukraine
- G-13 **Quantum Radar vs Noise Radar**
 Konstantin Lukin
 Kharkiv, Ukraine
- G-14 **A Two-Stage Procedure of Radar Target Detection**
 Vladimir Galushko
 Kharkiv, Ukraine
- G-15 **ATI SAR Simulation Shows Signatures of Complex Objects**
Alexey Kovorotniy¹, M. Balaban¹, V. Gorobets¹, F. Kivva¹, Yu. Goncharenko²,
 G. Farquharson², A. Jessup²
¹Kharkiv, Ukraine; ²Seattle, USA
- G-16 **Structural Synthesis of Radiometric Systems for Topography**
Cuong Vu Ta¹, V. Volosyuk¹, V. Kravchenko²
¹Kharkiv, Ukraine; ²Moscow, Russia
- 18:00-19:00** **Poster Session** **Wave Propagation, Radar, Remote Sensing and Signal Processing**
- G-17 **Phase Locked Loop Combined System of Voltage Controlled Oscillator**
Maxim Vonsovitch, K. Scherbina, V. Pechenin
 Kharkiv, Ukraine
- G-18 **Investigation of Calibration Aspects of Fully and Compact Polarimetric SAR Systems**
Abdullah Algafsh, M. Inggs, A. Mishra
 Riyadh, Kingdom of Saudi Arabia
- G-19 **Compression Ratio Prediction for DCT-Based Coder**
Ruslan Kozhemiakin¹, S. Abramov¹, V. Lukin¹, B. Djurović², I. Djurović²
¹Kharkiv, Ukraine; ²Podgorica, Montenegro
- G-20 **Research of the Underlying Surface by Radiation of Global Navigation Satellite System**
Dmitriy Popov, V. Lutsenko, I. Lutsenko
 Kharkiv, Ukraine
- G-21 **Signatures of Acousto-Electromagnetic Portraits of Aerodynamic and Terrestrial Mechanical Objects**
Vladislav Lutsenko, I. Lutsenko, I. Popov, A. Sobolyak
 Kharkiv, Ukraine

- G-22 **Use of Information About the Distribution of Intensity for Image Restoration While Observing Through Turbid Media**
Vladislav Lutsenko, E. Krivenko, I. Popov
Kharkiv, Ukraine
- G-23 **Watermarking Algorithm for Authentication and Self-Recovery of Tampered Images Using DWT**
Rogelio Reyes-Reyes, J. Molina-Garcia, V. Ponomaryov, C. Cruz-Ramos
Mexico City, Mexico
- G-24 **Creating of Ku-band Radiometr Using Satellite Low Noise Block**
Dmytro Khalameyda, I. Mytsenko
Kharkiv, Ukraine
- G-25 **Intensive Spin-Wave Propagation in Band Gaps of a Perpendicularly Magnetized Magnonic Crystal**
Andrey Drozdovskii¹, A. Stashkevich^{1,2}, B. Kalinikos¹, A. Ustinov¹
¹*St. Petersburg, Russia*; ²*Villetaneuse, France*
- G-26 **Image Reconstruction in Complex Media by the Fourth Moment Wavelet**
Volodymyr Ponomaryov, B. Carvajal-Gamez, A. Moreno-Cervantes, F. Gallegos-Funes
Mexico City, Mexico
- G-27 **Signal Processing in NMR/NQR Detection on the Base of Pattern Signal**
Georgy Mozzhukhin¹, G. Kupriyanova², I. Mershiev², S. Molchanov²
¹*Gebze-Kocaeli, Turkey*; ²*Kaliningrad, Russia*
- G-28 **Spectral Features of a Dielectric Layer in Paraxial Approximation**
Olha Kuryzheva, A. Tkach, A. Nerukh
Kharkiv, Ukraine
- G-29 **Study of Root-MUSIC Method on the Problem of Elevation Angles Estimation over the Sea in the Conditions of Multipath and Thermal Noise Interferences**
 Yuriy Pedenko
Kharkiv, Ukraine
- G-30 **Feature Enhanced Radar Imaging Via Neural Network Computing-Based Sensor Fusion**
Yuriy Shkvarko¹, J. Lopez¹, K. Lukin², S. Santos³, G. Garcia-Torales³
¹*Zapopan, Mexico*; ²*Kharkiv, Ukraine*; ³*Guadalajara, Mexico*
- G-31 **Energy Detection of Radio-Signals with Real-Time Estimation of Bayesian Likelihood Ratio**
Anton Karlov, G. Pevtsov, A. Yatsutsenko, Yu. Trofimenko, M. Bortsova
Kharkiv, Ukraine
- G-32 **Testing the Speed of FFT/IFFT Using the NVIDIA Graphics Cards**
Oleg Ulyanov, M. Plakhov, A. Shevtsova, A. Skoryk, V. Tkachev, O. Ulyanova
Kharkiv, Ukraine

- G-33 **Control of the Current Flow Rate in Free-Flow Water Passages**
Andrey Odnovol, B. Zhukov
Kharkiv, Ukraine
- G-34 **Correlation Factor of Interfrequency Intervals in a Layered Microwave Cavity Dielectric Resonator**
Zoya Eremenko, E. Ganapolskii, Yu. Tarasov, I. Volovichev, E. Kuznetsova,
 L. Shostenko
Kharkiv, Ukraine
- G-35 **Bispectral-Based Signal Processing Technique for Digital Communication System**
Viktoria Naumenko, V. Solodovnik, A. Totsky, A. Zelensky
Kharkiv, Ukraine
- G-36 **Analysis of the CA CFAR Algorithm as Applied to Detection of Stationary Gaussian Signals Against a Normal Noise Background**
 Vladimir Galushko
Kharkiv, Ukraine
- G-37 **New Method for Generation of Binary Pseudo- Random Sequences with Quasiperfect Autocorrelation**
Valery Shcherbakov, K. Lukin
Kharkiv, Ukraine
- G-38 **Measurement of Range and Speed of High-Speed Targets by Millimeter wave Pulse Radar**
Anatoly Mogyla, G. Khlopov
Kharkiv, Ukraine
- G-39 **Experimental Study of Atmosphere Turbulence by Using Bicoherence-Based Signal Processing Technique**
Victoria Naumenko, A. Totsky, G. Khlopov, O. Voitovich
Kharkiv, Ukraine
- G-40 **Modelling and Calculation of Reflection and Transmission Characteristics from Water Foam Specimens in kind of Layered Structure**
 Leonid Filins'kyi
Dnipropetrovsk, Ukraine
- G-41 **Investigation of Ambiguity Function of Ultra-Wideband Radiometric Complexes with Multi-Antenna System**
Kiem Nguyen Van¹, V. Volosyuk¹, K. Nezhalskaya¹, V. Kravchenko²
¹*Kharkiv, Ukraine*; ²*Moscow, Russia*
- G-42 **Multifactor Authentication System Based on Biometrics and Radio Frequency Identification**
Volodymyr Ponomaryov, J. Basilio-Ramirez, H. Perez-Meana
Mexico City, Mexico
- G-43 **Improved Nonlocal Means Using Preclassified Windows**
Isabel Hernandez-Gutierrez¹, F. Gallegos-Funes¹, A. Rosales-Silva¹,
 V. Ponomaryov¹, V. Kravchenko²
¹*Ciudad de Mexico, Mexico*; ²*Moscow, Russia*

- G-44 **Description of Nonstationary Non-Gaussian Processes Using Finite Atomic Functions**
Vladislav Lutsenko¹, I. Lutsenko¹, I. Popov¹, L. Yiyang¹, V. Kravchenko²
¹Kharkiv, Ukraine; ²Moscow, Russia
- G-45 **Optimal Reception of Signals Propagating in Media with Absorption and Dispersion**
Vladislav Lutsenko, I. Lutsenko, I. Popov, A. Sobolyak
 Kharkiv, Ukraine
- G-46 **Chromaticity Improvement in Images with Poor Lighting Using the Multiscale-Retinex MSR Algorithm**
Mario Dehesa¹, A. Rosales-Silva¹, F. Gallegos-Funes¹, V. Ponomaryov¹, V. Kravchenko²
¹Ciudad de Mexico, Mexico; ²Moscow, Russia
- 13:30-15:30 Session Electromagnetic Theory and Numerical Simulation - 1**
- H-1 **Analytical-Numerical Method for Solving Problems of Electromagnetic Wave Diffraction by the Local Cylindrical Inhomogeneity**
Nataliya Yashina, A. Brovenko, P. Melezhik, A. Poyedinchuk
 Kharkiv, Ukraine
- H-2 **Non-Hermitian Hamiltonian Approach for Electromagnetic Wave Propagation and Dissipation in Dielectric Media**
 Konstantin Zloshchastiev
 Durban, South Africa
- H-3 **Convergence Properties of the Generalized Mode-Matching Technique**
Igor Petrusenko¹, Yu. Sirenko²
¹Dnipropetrovs'k, Ukraine; ²Kharkiv, Ukraine
- H-4 **Analysis of the H-polarized Electromagnetic Wave Diffraction by an Infinite Periodical Strip Grating without One Strip**
Mstislav Kaliberda, S. Pogarsky, L. Lytvynenko
 Kharkiv, Ukraine
- H-5 **Excitation of Waves in a Semiconductor Cylinder with 2D-Gas on the Side Surface by a Charged Particle moving along the Spiral Path around the Cylinder**
Anatolii Dormidontov, Yu. Prokopenko, V. Yakovenko
 Kharkiv, Ukraine
- 15:30-16:00 Coffee Break**
- 16:00-18:00 Session Electromagnetic Theory and Numerical Simulation - 2**
- H-6 **Spectral Properties of 3-D Spherical Microwave Resonator by Using FDTD Simulation**
Anna Boguslavska, Z. Eremenko
 Kharkiv, Ukraine

- H-7 **Three-Frequency Resonances in Single-Mode Systems**
Anastasiiia Nimets^{1,2}, D. Vavriv¹, K. Schuenemann²
¹Kharkiv, Ukraine; ²Hamburg, Germany
- H-8 **Pulse Surface Wave in Closed Circular Waveguide with Dielectric Rod**
Maxim Legenkiy, A. Butrym
Kharkiv, Ukraine
- H-9 **Scattering of Electromagnetic Waves by a PEC Bars Grating with a Broken Periodicity of Piecewise Homogeneous Dielectric Filling of its Slits**
Lyudmila Kochetova, S. Prosvirnin
Kharkiv, Ukraine

18:00-19:00 Poster Session Electromagnetic Theory and Numerical Simulation

- H-10 **Definition Permittivity of Weakly Concentrated Solutions in the Microwave Range**
Maksym Khruslov, D. Ivanchenko, I. Ivanchenko, N. Popenko, V. Plakhtiy
Kharkiv, Ukraine
- H-11 **Radiophysical Method of Calculation of Radiative Equilibrium in Atmosphere**
Leonid Kniazkov
Kharkiv, Ukraine
- H-12 **Plasmon-Polariton Excitations on Surfaces with Fluctuating Impedance**
Denis Iakushev, Yu. Tarasov, O. Usatenko
Kharkiv, Ukraine
- H-13 **The Effect of Perforating the Corner Reflector on Maximum Radar Cross Section**
Abdullah Al gafsh, M. Inggisy, A. Mishra
Riyadh, Kingdom of Saudi Arabia

19:00 MSMW'2016 Banquet

FRIDAY, JUNE 24, 2016

9:30-11:30	Session	Wave Propagation, Radar, Remote Sensing and Signal Processing – 3
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- G-47 **Texture Region Detection by Trained Neural Network**
Alexey Naumenko¹, S. Krivenko¹, V. Lukin¹, K. Egiazarian²
¹*Kharkiv, Ukraine;* ²*Tampere, Finland*
- G-48 **A Comparative Study on the Calibration of Frequency Domain Reflection Measurements for a Compact Test Chamber**
 Bektas Colak
Karabuk, Turkey
- G-49 **Creation a Radar Absorbing Materials and Coatings on the Basis of Nanostructured Carbon**
Nikolai Liubetski, V. Karpovich, V. Rodionova, O. Rabinovich, A. Malinovski
Minsk, Belarus
- G-50 **Measurement of Parameters of Metal-Dielectric Coaxial Structures Using Coupled Biconical Resonators**
Oleg Drobakhin, M. Andreev, D. Saltykov
Dnipropetrovsk, Ukraine
- G-51 **Wave Propagation in Foam Specimens and a Definition of their Dielectric Characteristics**
 Leonid Filins'kyy
Dnipropetrovsk, Ukraine
- G-52 **The Absence of Fixed Cut-off Frequencies in a Circular Layered Waveguide with Lossy Liquid**
Zoya Eremenko, E. Kuznetsova
Kharkiv, Ukraine
- G-53 **Optimal Structural Synthesis of Multi-Antenna Ultra-Wideband Radiometric Complex**
Vladimir Pavlikov¹, Kiem Nguyen Van¹, O. Tymoshchuk²
¹*Kharkiv, Ukraine;* ²*Kyiv, Ukraine*
- G-54 **Synthesis of Optimal Multiantenna Radiometric 3D Mapping Complexes**
Cuong Vu Ta¹, V. Volosyuk¹, O. Tymoshchuk²
¹*Kharkiv, Ukraine;* ²*Kyiv, Ukraine*

11:30-12:00 **Coffee Break**

9:30-11:30	Session	Microwave Superconductivity
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- INV.I-1 **Laser Scanning Microscopy of Superconducting Electromagnetic Metamaterials (Invited Talk)**
Alexander Zhuravel¹, A. Ustinov^{2,3}, S. Anlage⁴
¹*Kharkiv, Ukraine;* ²*Karlsruhe, Germany;* ³*Moscow, Russia;* ⁴*Maryland, USA*

- I-2 **Imaging Microwave Response of rf-SQUID Metasurface in dc Magnetic Field**
Alexander Zhuravel¹, A. Ustinov^{2,3}, M. Trepanier⁴, D. Zhang⁴, S. Anlage⁴
¹Kharkiv, Ukraine; ²Karlsruhe, Germany; ³Moscow, Russia; ⁴Maryland, USA
- I-3 **Effect of DC Magnetic Field on Reflectivity of Layered Superconductors**
Tetiana Rokhmanova, Z. Maizelis, S. Apostolov, A. Shmat'ko, V. Yampol'skii
 Kharkiv, Ukraine
- I-4 **Interference Method of Definition of Energy Gap and Relaxation Time of Superconducting State**
Stanislav Bondarenko, V. Koverya, A. Krevsun, S. Link
 Kharkiv, Ukraine
- I-5 **Electrodynamics Features and Design of Filter Based on HTS E-plane Insert in a Cross Waveguide**
Alexander Barannik¹, V. Skresanov¹, N. Cherpak¹, V. Glamazdin¹, A. Shubny¹,
 Y.-S. He², L. Sun²
¹Kharkiv, Ukraine; ²Beijing, China
- I-6 **Measurement Resonance Frequency and Quality-Factor of Resonant Cavity of Tesla-type in Superconducting Regime**
Viktor Karpovich¹, N. Liubetski¹, S. Maximov¹, V. Rodionova¹, N. Azaryan²,
 Yu. Budagov², D. Demin², G. Shirkov², S. Demyanov¹, V. Kniga¹, I. Pobol¹,
 S. Yurevich¹
¹Minsk, Belarus; ²Dubna, Russia
- I-7 **On Possibility of Creating HTS Microstrip Quasi-Optical Resonator**
Nickolay Cherpak¹, A. Barannik¹, V. Glamazdin¹, Y.-S. He², L. Sun², Y. Bian²,
 J. Wang²
¹Kharkiv, Ukraine; ²Beijing, China
- 11:30-12:00 Coffee Break**
- 12:00-13:30 Plenary Session**
- INV.15 **Spectral Polarimetric Method for Remote Sensing of Natural Environment**
 Prof. Felix Yanovsky
 Kiev, Ukraine
- INV.16 **Active-Passive Remote Sensing of Clouds and Liquid Precipitation**
Dr. Grygoriy Khlopov, O. Voitovych, S. Khomenko, A. Linkova, G. Veselovska,
 V. Kabanov, T. Tkacheva
 Kharkiv, Ukraine
- INV.17 **Modern Progress in the Area of Cylindrically Conformal Antennas: Theory, Design and Experiment**
Dr. Alexander Svezhentsev¹, V. Volski², S. Yan², Ping Jack Soh³,
 G. Vandenbosch²
¹Kharkiv, Ukraine; ²Leuven, Belgium; ³Perlis, Malaysia
- 13:30-14:00 Closing Ceremony**
- 18:30 Attendance of Philharmonic**