

**2017 IEEE MICROWAVES, RADAR
AND REMOTE SENSING SYMPOSIUM
(MRRS-2017)**

TECHNICAL PROGRAM

**Kiev, UKRAINE
August 29-31**

29 August, 2017 – TUESDAY

8.00 –	MRRS 2017 REGISTRATION	Building 1, Foyer
9.00 – 9.10	OPENING CEREMONY	Assembly Hall, Building 1
9.10 – 9.40	INVITED TALK 1 Polarization imaging for remote sensing <i>Amine Birmak, Ashfaq Ahmed, Xiaojin Zhao</i>	Assembly Hall, Building 1
9.40 – 11.00	SESSION 1:RS REMOTE SENSING Chair: Sergey Kolomiets, Russia	Assembly Hall, Building 1
9.40 – 10.00	Experimental PDF of Simple Radar Pulses Scattered on Rarefied Media <i>Sergey Kolomiets and Andrey Gorelik</i> , Moscow Institute of Physics and Technology, Russia	
10.00 – 10.20	GPR Application for the Road Pavements Surveys <i>Dmitry Batrakov, Mariya Antyufeyeva, and Oleksandr Antyufeyev</i> , V. N. Karazin Kharkiv National University, Ukraine <i>Angelika Batrakova</i> , Kharkiv National Automobile and Highway University, Ukraine	
10.20 – 10.40	Polarization feature estimate when reflection from liquid hydrometeors <i>Yuliya Averyanova, Anna Rudiakova, and Felix Yanovsky</i> , National Aviation University, Ukraine	
10.40 – 11.00	The fuzzy logic based algorithm for prediction of aircraft icing and hail zones <i>Alexander Pitertsev, Igor Braun, and Felix Yanovsky</i> , National Aviation University, Ukraine	
11.00– 11.40	COFFEE-BREAK AND GENERAL PHOTOGRAPHY	
11.40 – 13.30	SESSION 2:PAS PASSIVE AND ACTIVE RADAR SYSTEMS, ACOUSTICS, AND RADIOACOUSTICS Chair: Vladimir Pavlikov, Ukraine	Assembly Hall, Building 1
11.40 – 12.00	UWB Active Aperture Synthesis Radar: The Operating Principle and Development of the Radar Structural Scheme <i>Vladimir Pavlikov, Valerii Volosyuk, Semen Zhyla, Huu Nguyen Van, and Kiem Nguyen Van</i> , National Aerospace University Kharkiv Aviation Institute, Ukraine	

12.00 – 12.20	Algorithm of Passive Acoustic Locator Data Processing for Flying Vehicle Detection and Tracking <i>Yevhen Chervoniak, Felix Yanovsky, and Rustem Sinitsyn</i> , National Aviation University, Ukraine
12.20 – 12.40	A TDOA Disambiguation Technique Using Trajectory Analysis <i>Mohammad Samizadeh Nikoo and Fereidoon Behnia</i> , Sharif University of Technology, Iran
12.40 – 13.00	Comparison of Dicke and ratio type modulation radiometers <i>Vladimir Pavlikov, Alexey Odokiyenko and Anton Sobkolov</i> , National Aerospace University Kharkiv Aviation Institute, Ukraine
13.00– 13.20	On the influence of microphone array geometry on the behavior of hypercomplex adaptive filters <i>Francesca Ortolani, Michele Scarpiniti, Danilo Communiello, and Aurelio Uncini</i> , Sapienza University of Rome, Italy
13.20– 14.20	LUNCH
14.20 – 16.00	SESSION 3:SP-I SIGNAL AND DATA PROCESSING I Chair: Ievgen Gorovyi, Ukraine Assembly Hall, Building 1
14.20 – 14.40	DOA Estimation of Low Altitude Target Based on Bounded Component Analysis Algorithm <i>Eren Babatas and Alper T. Erdogan</i> , Koç University, Turkey
14.40 – 15.00	GLR Detector in Gaussian Interference Environment with Auto-Regressive Spectrum in Single Channel of High-Frequency Surface Wave Radar <i>Maryam Nezamabadi and Mohammad Moniri</i> , Islamic Azad University, Iran
15.00 – 15.20	Comparative analysis of deep neural networks and support vector machines for automatic target recognition <i>Ievgen Gorovyi</i> , Ukraine
15.20 – 15.40	Automatic modulation recognition and classification for digital modulated signals based on ANN algorithms <i>Shahnaz Almaspour and Mohammad Moniri</i> , Islamic Azad University, Iran
15.40 – 16.00	Maximum a posteriori Estimator of the Harmonic Signal Frequency <i>Iurii Chyrka and Igor Omelchuk</i> , National Aviation University, Ukraine

16.00–
16.20

COFFEE-BREAK

16.20 –
17.40

SESSION 4:SP-II
SIGNAL AND DATA PROCESSING II

**Assembly Hall,
Building 1**

Chair: Igor Prokopenko, Ukraine

16.20 –
16.40

Robust Methods and Algorithms of Signal Processing
Igor Prokopenko, National Aviation University, Ukraine

16.40 –
17.00

GLR Detector in Gaussian Interference Environment with Auto-Regressive Spectrum in Multi-Channel of High-Frequency Surface Wave Radar

Maryam Nezamabadi, and Mohamad Reza Moniri, Islamic Azad University, Iran

17.00 –
17.20

Stable Detection Algorithms for Radar Application

Igor Prokopenko, Yuri Khmelko and Yulia Petrova, National Aviation University, Ukraine

17.20 –
17.40

Differences in measurements with separate use of frequencies L1 and L2 for the application of satellite navigation in near-Earth space

Fedir Shyshkov, Valeriy Konin and Olexii Pogurelskiy, National Aviation University, Ukraine

17.40 –
18.30

**EXCURSION AT MUSEUM OF NATIONAL AVIATION
UNIVERSITY, AND EDUCATIONAL HANGAR**

18.30 –

WELCOME PARTY

29.08.2017 TUESDAY

30 August, 2017 – WEDNESDAY

8.30 – 9.00	INVITED TALK 2 From Radiography to Tomography 3D Sensor Array Receptors <i>Sergey Miroshnychenko, Nevgasymyi A.A.,</i> Teleoptic PRC	Assembly Hall, Building1
9.00 – 10.00	SESSION 5:RA RADAR APPLICATIONS: BIOMEDICAL, SECURITY AND DEFENSE, AUTOMOTIVE, INDUSTRIAL Chair: Ievgen Zaitsev, Ukraine	Assembly Hall, Building1
9.00 – 9.20	Thin Coal Layer Thickness Estimation using MUSIC Algorithm <i>Shweta B. Thomas and Lakshi Prosad Roy,</i> National Institute of Technology, Rourkela, India	
9.20 – 9.40	Determination of response characteristic of capacitive coplanar air gap sensor <i>Ievgen Zaitsev and Anatolii Levytskyi,</i> The Institute of Electrodynamics of the NAS of Ukraine, Ukraine	
9.40 – 10.00	Signals from a Moving Object of Autodyne Radars with Linear Frequency Modulation <i>V. Kryzhanovskiy, G. Ermak,</i> O. Ya. Usikov Institute for Radio Physics and Electronics, Ukraine <i>Ya. Noskov,</i> Ural Federal University, Russia <i>S. M. Smolskiy,</i> National Research University “Moscow Power Engineering Institute”, Russia	

10.00–
10.40

COFFEE-BREAK AND POSTER SESSION

Calibration of RapidScat Scatterometer

Ruaa Alsabah, Ali Al-Sabbagh, and Josko Zec, Florida Tech, USA

Excitation of Short Monopulses in Nitride Films Under Negative
Differential Conductivity

Volodymyr Grimalsky, Svetlana Koshevaya, Julian Sanchez-S., Autonomous
University of State Morelos, Mexico

Yuriy Rapoport, Taras Shevchenko National University of Kyiv, Ukraine

Airborne interferometric radar with 2D frequency domain
synthesizing

Boris Fedotov, I. Chernyakhovsky National Defense University of Ukraine,
Ukraine

Sergey Stankevich, Scientific Centre for Aerospace Research of the Earth,
Ukraine

Increasing of Operation Speed of Digital Eddy Current Defectoscopes Based on Frequency Synthesizer

Victor Bazhenov and Anatoliy Protasov, National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Ukraine

Different Geometries of Electromagnetic Superheterodyne Amplification in Nitride Films

Svetlana Koshevaya, Volodymyr Grimalsky, Jesus Escobedo, Edvaart Jatirian-F., Autonomous University of State Morelos, Mexico
Yuriy Rapoport, Taras Shevchenko National University of Kyiv, Ukraine

Leaf area index estimation of forest using Sentinel-1 C-band SAR data

Sergey Stankevich, Anna Kozlova, Iryna Piestova and Mykola Lubskiy, Scientific Centre for Aerospace Research of the Earth, Ukraine

10.40 – 13.00	SESSION 6:IP IMAGE PROCESSING, TARGET CLASSIFICATION AND IDENTIFICATION Chair: Mykhail Uss, Ukraine	Assembly Hall, Building1
10.40 – 11.00	Performance Analysis of Similarity Measures Between Multichannel Optical and Multipolarization Radar Images Mykhail Uss, Vladimir Lukin , National Aerospace University, Ukraine Benoit Vozel, Kacem Chehdi , University of Rennes 1, France	
11.00 – 11.20	Detection of moving targets in automotive Radar with distorted ego-velocity informations Christopher Grimm, Ridha Farhoud, Tai Fei, Ernst Warsitz, and Reinhold Haeb-Umbach , Hella KGaA Hueck & Co., Germany	
11.20 – 11.40	Reconstruction of the Thermal Field Image from Measurements in Separate Points Anatoliy Protasov , National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Ukraine	
11.40 – 12.00	Remote Sensing, Spectral Brightness And Heuristic Criterion For Class Recognition Alexandr Arkhipov , Scientific Centre for Aerospace Research of the Earth Institute of Geological Sciences NAS, Ukraine Nikolaj Glazunov , National Aviation University, Ukraine, Ukraine Anna Khyzhnyak , Scientific Centre for Aerospace Research of the Earth Institute of Geological Sciences NAS, Ukraine	
12.00 – 12.20	Discrimination of Target and Chaff based on Symmetric Feature with Marine Application Zarei Nadali , Imam Housein Comprehensive University, Iran Mohammad Mahdi Nayebi , Sharif University of Technology, Iran	

12.20 – 12.40	Locally adaptive edge preserving filter for radar image denoising <i>Andrey Rubel, Vladimir Lukin</i> , National Aerospace University Kharkiv Aviation Institute, Ukraine <i>Lik-Kwan Shark</i> , University of Central Lancashire, United Kingdom
12.40– 13.00	Detection of Radar Targets Moving with Acceleration <i>Volodymyr Galushko, and Dmytro Vavriv</i> , Institute of Radio Astronomy, Ukraine
13.00– 14.00	LUNCH
14.00 – 15.40	SESSION 7: SAR–I SAR AND ISAR I Chairs: Vladimir Lukin, Ukraine Anna Rudiakova, Ukraine Assembly Hall, Building 1
14.00 – 14.20	Blind Estimation of Speckle Characteristics for Sentinel Polarimetric Radar Images <i>Victoriya Abramova, Sergey Abramov, Vladimir Lukin</i> , National Aerospace University Kharkiv Aviation Institute, Ukraine <i>Karen Egiazarian</i> , Tampere University of Technology, Finland
14.20 – 14.40	Small Baseline InSAR Modules to Observe Time–Series Land Surface Changes (Case Study at Mt. Bromo) <i>Arliandy Pratama Arbad, Yosuke Aoki, Wataru Takeuchi</i> , Industrial Institute of Science The University of Tokyo, Japan <i>Achmad Ardy</i> , Lampung University, Indonesia
14.40 – 15.00	Design, Deployment and Localization of Bi–directional Corner Reflectors for TerraSAR–X <i>Adnan Saeed and Olaf Hellwich</i> , TU-BERLIN, Germany
15.00 – 15.20	25 GHz Short Range Radar System Design for Synthetic Aperture Radar Imaging <i>Ahmet Kizilay, Ahmet Serdar Turk, Husamettin Uysal, Alper Caliskan, Yunus Emre Yamac</i> , Yildiz Technical University, Turkey <i>Melek Orhan</i> , Istanbul Technical University, Turkey
15.20 – 15.40	ISAR Imaging with Wideband V–FM Signals <i>Xiaoxia Xie, Xiaoyi Pan, Zhaoyu Gu, Shaoqi Dai, Jiyuan Chen</i> , National University of Defense Technology, China
15.40– 16.00	COFFEE–BREAK

16.00 – 17.20	SESSION 8:SAR-II SAR AND ISAR II Chair: Sergey Stankevich, Ukraine	Assembly Hall, Building1
16.00 – 16.20	Road Junction Identification in High Resolution Urban SAR Images Based on SVM <i>Jianghua Cheng</i> , National University of Defense Technology, China	
16.20 – 16.40	Transmitter Power Comparison between Incoherent Noise and Coherent Deceptive Jamming against Synthetic Aperture Radar <i>Yongcai Liu, Wei Wang, Shaoqi Dai, Bin Rao and Guoyu Wang</i> , National University of Defense Technology, China	
16.40 – 17.00	SAR data processing with spline approximation of surface on triangular grid <i>Kseniia Semenova</i> , National Aviation University, Ukraine	
17.00 – 17.20	SAR interferogram de-noising by an adaptative wavelet thresholding <i>Chelbi Salim and Mekhmoukh Abdenour</i> , Bouira university, Algeria	
17.30 –	EXCURSION	

31 August, 2017 – THURSDAY

8.30 – 9.00	<p>INVITED TALK 3 Adapting the Method of Analytical Regularization to Computational Wave Optics <i>Alexander Nosich</i>, Institute of Radio-Physics and Electronics NASU, Ukraine</p>	<p>Assembly Hall, Building1</p>
9.00 – 10.20	<p>SESSION 9:MMW <u>MILLIMETER AND SUB-MILLIMETER WAVE SYSTEMS</u> Chair: Mariya Antyufeyeva, Ukraine</p>	<p>Assembly Hall, Building1</p>
9.00 – 9.20	<p>Plural Three-Wave Resonances of Space Charge Wave Harmonics in Transit Section of Klystron-type Two-Stream FEL with Helical Electron Beam <i>Alexander Lysenko, Iurii Volk, Anastasiia Serozhko</i>, Sumy State University, Ukraine <i>Oleksandr Rybalko</i>, Technical University of Denmark, Denmark</p>	
9.20 – 9.40	<p>Plane Circular Gradient Grating that Combines the Functions of a Spherical Mirror and a Focusing Lens <i>Mikhail Dzyubenko</i>, Ya. Usikov Institute of Radiophysics and Electronics of NASU, Ukraine <i>Vyacheslav Maslov</i>, V.N.Karazin Kharkiv National University, Ukraine <i>Eugene Odarenko</i>, Kharkiv National University of Radio Electronics, Ukraine <i>Vladimir Radionov</i>, Ya. Usikov Institute of Radiophysics and Electronics of NASU, Ukraine</p>	
9.40 – 10.00	<p>Effects of Axial Magnetic Field Strength on Radiation Efficiency of Plasma-Beam Superheterodyne Free Electron Laser of Dopplertron Type <i>Alexander Lyssenko, Galyna Oleksiienko and Andrey Pavlov</i>, Sumy State University, Ukraine</p>	
10.00 – 10.20	<p>Localized field enhancement in slow-wave modes of modified Bragg waveguide <i>Yana Sashkova and E Odarenko</i>, Kharkiv National University of Radio Electronics, Ukraine</p>	
10.20– 10.50	<p>COFFEE-BREAK</p>	

10.50 – 12.30	SESSION 10:MS MATH MODELING AND SIMULATION Chair: Anatoliy Protasov, Ukraine	Assembly Hall, Building1
10.50 – 11.10	Efficient Algorithm for Image Compression to Further Orthogonal Range Searching <i>Viktor Borodin</i> , Kiev National University, Ukraine	
11.10 – 11.30	Passive Acoustic Graphene Nanosensor Construction <i>Emir Aznakayev, Diana Aznakayev and Taras Borodii</i> , National Aviation University, Ukraine	
11.30 – 11.50	Extension of a TSMFM Fast Integral Equation Solver for the Characterization of Planar-3D Structures with Vertical Components <i>Thomas Vaupel</i> , Fraunhofer Institute for High Frequency Physics and Radar Techniques FHR, Germany	
11.50 – 12.10	Development of a Discrete Orthogonal Method for Determining the Phase Shift between High-Frequency Radio Impulse Signals <i>Anatoliy Protasov</i> , National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Ukraine	
12.10 – 12.30	Object Detection with Passive Acoustic Graphene Nanosensor <i>Emir Aznakayev, Nikolai Bidnyi, Diana Aznakayeva, and Taras Borodii</i> , National Aviation University, Ukraine	
12.30– 12.50	Role of Electron Relaxation Time in the Resonance Behavior of a Graphene Strip Grating in a Slab <i>Zinenko Tatiana</i> , Institute of Radio-Physics and Electronics NASU, Ukraine	
12.50– 13.50	LUNCH	
13.50 – 15.10	SESSION 11:EMT-I ELECTROMAGNETIC FIELDS, ANTENNA THEORY, SCATTERING AND RCS I Chair: Yuliya Averyanova, Ukraine	Assembly Hall, Building1
13.50 – 14.10	A Continued Fraction Method for Modeling and Inversion of Triaxial Induction Logging Tool <i>Gaoyang Zhu, Chen Xiang, Fanmin Kong and Kang Li</i> , Shandong University, China	

14.10 – 14.30	Microwave Staring Correlated Imaging Based on 3– dimensional Randomly Distributed Antenna Array <i>Yuanyue Guo and Hongmin Li</i> , University of Science and Technology of China	
14.30 – 14.50	Specific RCS for On–Ground Radiolocation Target <i>Alexander Maslovskiy and Maxim Legenkiy</i> , V.N. Karazin Kharkiv National University, Ukraine	
14.50 – 15.10	Airborne Directional Antennas <i>Leonid Sibruk, R Zadorozhnii, D Bondarenko and I Syniak</i> , National Aviation University, Ukraine	
15.10– 15.30	COFFEE–BREAK	
15.30 – 16.50	SESSION 12:EMT–II ELECTROMAGNETIC FIELDS, ANTENNA THEORY, SCATTERING AND RCS II Chair: Rustem Sinitsyn, Ukraine	Assembly Hall, Building 1
15.30 – 15.50	Emission Characteristics Measurement of Phased Array Transmitter Based on Ultra–Wideband Dual Polarized Vivaldi Array <i>Donglin Su, Bo Tian, Zihua Zhao and Fan Zhang</i> , School of Electronics and Information Engineering, Beihang University, China	
15.50 – 16.10	The Computation of the Electromagnetic Scattering By Using The Complex Line Source Type Green’s Function in the Method of Moments <i>Deniz Kutluay and Taner Oğuzer</i> , Dokuz Eylül University, Turkey	
16.10 – 16.30	A new hybrid approach for nanoscale antennas in quantum regions <i>Chen Xiang, Qimeng Ren, Fanmin Kong and Kang Li</i> , Shandong University, China	
16.30 – 16.50	A Novel Method for Interference Cancellation Using Polarization Filter <i>Tohid Tonekaboni, Yaser Norouzi and Ahad Rajabi</i> , Amirkabir University of Technology, Iran	
17.00 – 17.30	CLOSING CEREMONY AND AWARDS	
18.00 –	SYMPOSIUM DINNER	