

INTERNATIONAL CIVIL AVIATION ORGANIZATION
NATIONAL ACADEMY OF SCIENCES OF UKRAINE
MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
NATIONAL AVIATION UNIVERSITY

PROGRAM

OF THE THIRD WORLD CONGRESS
"AVIATION IN THE XXI-st CENTURY"

*"SAFETY IN AVIATION
AND SPACE TECHNOLOGY"*



УКРАЇНОПУХ
UkrSATSE



EUROCONTROL



ARMATS



SELEX
Sistemi Integrati

аеролінгва
англійська мова для авіаперсоналу

ADAMANT

September 22-24, 2008
Kyiv, Ukraine

**INTERNATIONAL CIVIL AVIATION ORGANIZATION
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OF THE THIRD WORLD CONGRESS
“AVIATION IN THE XXI-st
CENTURY”
*“SAFETY IN AVIATION
AND SPACE TECHNOLOGY”***

September 22-24, 2008

KYIV

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The Third World Congress “AVIATION IN THE XXI-st CENTURY” - "Safety in Aviation and Space Technology"

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J. Modelski President-Elect of IEEE MTT Society; Institute of Radioelectronics, Warsaw University of Technology, Poland

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I. Nicolaescu Military Technical Academy, Bucharest, Romania
A. Nosich Institute of Radio-physics and Electronics NASU, Kharkov, Ukraine

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I. Fuller	EUROCONTROL(Aeronet)
A. Junior	DLR (Aeronet)
A. Joselzon	Airbus (Aeronet, CEAS)
A. Näs	FOI (Aeronet, X-Noise)
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SCHEDULE OF THE THIRD WORLD CONGRESS
"AVIATION IN THE XXI CENTURY" –
"Safety in Aviation and Space Technology"

22.09.2008

8.00-10.00	Registration of participants
10.00-10.30	Greetings
10.30-11.30	Plenary session
11.30-12.00	Coffee-break
12.00-13.00	Plenary session
13.00-14.00	Lunch
14.00-18.00	NAU facilities visiting, State Aviation Museum
14.15-18.00	MRRS Sessions
18.00	Welcome Party

23.09.2008

9.00-13.00	Symposia Sessions
13.00-14.00	Lunch
14.15-17.00	Symposia Sessions
16.00	NAU facilities visiting, State Aviation Museum
17.00	Meetings and discussions

24.09.2008

9.00 - 14.00	Symposia Sessions
14.00	Closing Session

PLENARY SESSION

September, 22th,
Monday 10⁰⁰-13⁰⁰

Inauguration

10:00-10:30

Mykola Kulyk, National Aviation University, Ukraine

Maxym Strikha, Ministry of Education and Science, Ukraine

Roberto Sorrentino, European Microwave Association

Oleksandr Davydov, State Aviation Administration, Ukraine

10:30-10:45 Innovation activity in NAU

Mykola Kulyk, Volodymyr Kharchenko, National Aviation University, Ukraine

10:45-11:00 Prospects of aviation development and new technologies in aircraft construction

Dmitry Kyva, ANTONOV ASTC, Ukraine

11:00-11:15 Perm Engine Companies Group Profile and Future Development Considerations

Alexander Inozemtsev, Perm Engine Companies Group, Russia

11:15-11:30 Conception of flight accident prevention of passenger airplanes

G. Novozhilov, M. Neymark, L. Tsesarskiy, JSC „Ilyushin Aviation Complex”, Russia

11:30-12:00 Coffee-break

12:00-12:15 Forecast of aviation development in Poland

Zygmunt Gardziński, The State University in Chelm, Poland

12:15-12:30 A-SMGCS, Level-4, First Project Realization in the World: Incheon International Airport, Korea

Wolfgang Hatzack, Honeywell Airport Systems GmbH, Germany

12:30-12:45 Basic tasks and measures of the national scientific and technical program of Ukraine in 2008-2012

Valeriy Komarov, National Space Agency of Ukraine, Ukraine

13:00-14:00 Lunch

SYMPOSIUM 1

FLIGHT SAFETY AND CONTINUED AIRWORTHINESS

Chairman – **V. Shmarov**, National Aviation University, Ukraine

Secretary – **E. Sapeliyk**, National Aviation University, Ukraine.

SESSION A

New methods of aircraft maintenance and retrofitting.

Information support of aircraft in service life time

Chairman – **S. Dmitriev**, National Aviation University, Ukraine.

Secretary – **E. Sapeliyk**, National Aviation University, Ukraine.

**23 September, 10⁰⁰,
room 11.229.**

1. The method for an estimation of the aviation safety level on the basis of imitating modeling

A. Grekhov, S. Dmytriyev, E. Shevtsova, National Aviation University, Ukraine

2. Investigation of hydraulic control systems regulators

V. Boutko, Ye. Syabryuk, National Aviation University, Ukraine

3. Forecasting operating changes of the technical state of electromagnetically driven valves at the stage of designing

Ju. Rukynich, A. Sitnikov, Ja. Fedoruchko, Kiev Central Design Bureau of Valves, Ukraine

A. Kucher, G. Zajonchkovsky, National Aviation University, Ukraine

4. Application of effective programs of maintaining TU-154M aircraft airworthiness in the aircraft maintenance centers

A. Itskovich, I. Faynburg, Moscow State University of CA, Russian Federation

V. Shapkin, A. Gromov, A. Semin, State Scientific and Research Institute of CA, Russian Federation

A. Grishin, "Tupolev" Open Stock Company, Russian Federation

5. Numerical analysis of periodic pulsation interactions of external flow on cylinder's aerodynamics and heat-exchange
V. Ushakov, G. Filipsons, N. Sidenko, Riga Technical University, Aviation Institute, Latvia
V. Gopeyenko, Information Systems Management Institute, Latvia
6. Development of minimum equipment lists ensuring safe aircraft flights
N.N. Smirnov, N.P. Smirnov, Moscow State Technical University of Civil Aviation, Russia
7. Comparison of the wear activation energy (E^P) "ИХ15" in fuel "TC-1" with analogous value "TC-1*" of A long-term storage
A. Bogdanovich, National Aviation University, Ukraine
8. Influence of the neutral environment on thermal loading of structural members of brake wheels and their durability
V. Dokuchayev, A. Tugarinov, Yu. Kazarinov, National Aviation University, Ukraine
9. Management processes of technical operation of aviation technics
V. Burlakov, D. Popov, O. Yurchenko, I. Slepuhina, N. Korsunencko, National Aviation University, Ukraine
10. Features of realisation of a complex control-calculated method in processes of diagnosing of composite dynamical objects aircraft technicians
E. Sapeliyk, National Aviation University, Ukraine
Y. Chokha, Aviation enterprise "DB Vertical", Ukraine
11. A concept of an aircraft engine health monitoring platform
L. Zhuravlova, National Aviation University, Ukraine
12. Algorithm of diagnosing jet engine at in combined damaged units of a flowing part
A. Popov, I. Kinashchuk, V. Nechiporuk, National Aviation University, Ukraine

13. Algorithm of building three dimensional magnetohydrodynamic model for submerged nozzle-liner electromagnetic stirrer system of continuous caster

A. Kuchaev, National Aviation University, Ukraine

SESSION B

Parametric diagnostics and deferent condition monitoring

Chairmen – **S. Ignatovich**, National Aviation University, Ukraine

V. Astanin, National Aviation University, Ukraine

Secretary – **M. Karuskevich**, National Aviation University, Ukraine

**23 September, 10⁰⁰,
room 11.220.**

1. Multipurpose data acquisition system for investigation of mechanical properties of materials

V. Astanin, P. Vynogradskyy, National Aviation University, Ukraine

2. KT-112 “Cadet” Light helicopter from Ukraine

A. Barinov, L. Makarov, Aviation enterprise "DB Vertical", Ukraine

3. Service life substantiation for light helicopter main rotor composite blades

P. Gorobets, ANTONOV ASTC, Ukraine

L. Makarov, Y. Shepelyuk, Aviation enterprise "DB Vertical", Ukraine

4. Metal fatigue process investigation by the interfere nanoprofilometer

S. Ignatovich, V. Zakiev, S. Yutskevych, National Aviation University, Ukraine

5. Extrusion-intrusion pattern as an indicator of accumulated fatigue damage

M. Karuskevich, E. Korchuk, T. Maslak, National Aviation University, Ukraine

6. Aviation industry on the land of the Lublin province /Poland/ in years 1918-1939

Zygmunt Gardziński, The state university in Chelm, Poland

7. Health and Usage Monitoring System (HUMS) for Helicopters

I. Makienko, Diagnostic Departmen RSL Electronics, Israel

8. Non-destructive inspection of aircraft composite plates by using immersion ultrasonic method

Müge Armatlı Kayrak, Anadolu University, School of Civil Aviation, Turkey

9. Experimental study of microturbine engine for man and unmanned aircraft

Onder Turan, T. Hikmet Karakoc, Anadolu University, School of Civil Aviation, Turkey

10. Fuel consumption estimation of commercial turbopfans

T. Hikmet Karakoc, Onder Turan, Anadolu University, School of Civil Aviation, Turkey

11. The stress-strain state of aviation thin-slab structure elements of under impact load

V. Astanin, M. Borodachov, S. Bogdan, National Aviation University, Ukraine

12. Material impact strength researches in the context of civil aviation safety

V. Astanin, G. Olefir, National Aviation University, Ukraine

SESSION C

Aircraft and engines durable: to and life cycle

Chairman – **M. Kulyk**, National Aviation University, Ukraine

Secretary – **K. Kapitanchuk**, National Aviation University, Ukraine

**23 September, 10⁰⁰,
room 1.105.**

1. Optimisation of processes of airline logistics
O. Kucher, Mustafa A.S. Mustafa, National Aviation University, Ukraine
2. Air transport integration process management
M. Kulyk, A. Tamargazin, I. Linik, National Aviation University, Ukraine
3. Cracked blade presence influence on bladed disk dynamic response
V. Kharyton, Jean-Pierre Laine, Fabrice Thouverez, ECL, France
O. Kucher, National Aviation University, Ukraine
4. Technological aspects of development of electronic trainer for acquisition of skills and abilities on a start and testing of aviation engine
Y. Belykh, Air company "Aeroflot", Russia
V. Naida, A. Pozolotin, Moscow State University of CA, Russia
5. Exergoeconomic assessment of aircraft turbofan engines
Enis T. Turgut, T. Hikmet Karakoc, Anadolu University, School of Civil Aviation, Turkey
Arif Hepbasli, Ege University, Faculty of Engineering Department of Mechanical Engineering, Turkey
6. Optimization of parameters of turbofan aft-fan engine
V. Panin, L. Volyanskaya, National Aviation University, Ukraine
L. Morozov, ANTK, Ukraine
7. Crisis of viscous flow in airfoil cascade
Y.M. Tereshchenko, Y.Y. Tereshchenko, I. Antonuk, National Aviation University, Ukraine
8. Indirect thrust measurement during the ground tests of the turbo-prop engines
M. Kupchyk, National Aviation University, Ukraine

9. The complex approach to the decision forming of aviation gas turbine engine technical condition

P. Abdullayev, A. Yakushenko, A. Mirzoyev, National Aviation Academy, Azerbaijan

SESSION D

Surface engineering and aircraft parts repair

Chairman – **M. Kindrachuk**, National Aviation University, Ukraine

Secretary – **V. Labunec**, National Aviation University, Ukraine

23 September, 10⁰⁰,
room 2.306.

1. Triboengineering of composite electrolytic gradient coatings
A. Kornienko, L. Lopata, National Aviation University, Ukraine
M. Luchka, Frantsevych Institute for Problems of Materials Science of NAS of Ukraine

2. Tribological problems of aircraft safety
E. Kulkhavyi, A. Kryzanovskyi, National Aviation University, Ukraine

3. Metallophysics of wearing friction sliding in the presence of abrasive material
V.I. Dvoruk, M.V. Kindrachuk, National Aviation University, Ukraine

4. Fretting-resistance of aircraft tribological assembly details in the conditions of alternating loads
G. Tsybanov, Institute of strength problems in the name of G.S. Pisarenko of NAN Ukraine, Ukraine
V. Marchuk, V. Zhiginas, National Aviation University, Ukraine

5. Monitoring of friction node tribological parameters in conditions of mass removing
M. Svirid, V. Lubyaniy, V. Paraschanov, S. Zanjko, National Aviation University, Ukraine

6. Fatigue crack indication by lamb wave non-destructive testing
I. Pavelko, V.Pavelko, Aviation Institute of Riga Technical University, Latvia

7. Fatigue crack indication by lamb wave non-destructive testing
I.Pavelko, V.Pavelko, S.Kuznetsov, E.Ozolins, I.Ozolins, Aviation Institute of Riga Technical University, Latvia

SESSION E

Automation of the energy complexes and management on transport.

Chairman – **A. Samkov**, National Aviation University, Ukraine
Secretary – **E. Tachinina**, National Aviation University, Ukraine

**23 September, 10⁰⁰,
room 10.117.**

1. Features of calculation of the established modes of the cascade asynchronous machine

D. Krasnoshapka, A. Skalyga, National Aviation University, Ukraine

2. Aspects the application gas suppression assemblies at the compressor station

V. Kazak, D. Shevchuk, I. Roman, National Aviation University, Ukraine

3. Automatic control of process of design of the asynchronous muff with massive ferromagnetic cartridge case on the secondary rotor

D. Krasnoshapka, T. Mazur, National Aviation University, Ukraine

4. Aerodynamic characteristics of an on the ground mounted vertical air jet behind the directing vanes of aerodynamic propeller

V. Ushakov, N. Sidenko, Riga Technical University, Aviation Institute, Latvia

5. Development of numerical methods for solving Navier-Stokes equations in primitive variables formulation

S. Martynenko, A. Markov, M. Sharov, L. Yanovskiy, Central Institute of Aviation Motors n.a. P.I. Baranov, Russia

6. Modernization methodology of Ukrainian civil aviation park

O. Samkov, A. Visochansky, National Aviation University, Ukraine

7. Development of algorithm of generation of advisory information for crew under evolution of abnormal condition in flight

E. Tachinina, National Aviation University, Ukraine

E. Tachinin, Antonov ASTC, Ukraine

8. Resource – constrained project scheduling task and their application for conflict scenarios modelling

O. Lysenko, E. Tachinia, National Aviation University, Ukraine

V. Slobodianyuk, MCEPMO, Ukraine

9. Base complex of radio electronic equipment of an-148 airplane

V. Vorob'ev, National Aviation University, Ukraine

A. Kiselev, ASTK O.K.Antonov, Ukraine

**23 September, 14³⁰,
room 10.117.**

10. Computer certification of the robust control algorithm

A. Lysenko, National Aviation University, Ukraine

P. Kirchu, National Technical University “KPI”, Ukraine

11. Optimization methodology of financing projects on the basis of immune algorithm clonal selection

O. Samkov, National Aviation University, Ukraine

V. Lytvynenko, I. Lomavatsky, J. Zaharchenko, Kherson national technical university, Ukraine

12. Probabilistic dynamic model of estimation of fail-safe feature bothing ergatic interface

V. Vorobyev, V. Zakharchenko, S. Enchev, V. Tikhonov, National Aviation University, Ukraine

13. Numerical investigations of transsonic axial compressor stage
F. Kirchu, O. Drach, N. Kachur, National Aviation University, Ukraine

14. Method of evaluation of reliability and vitality of difficult electroenergy systems of air-ports
V. Neret, National Aviation University, Ukraine

15. Informational providing of technical operation “on condition”
A. Aslanyan, A. Belskaya, National Aviation University, Ukraine

16. Statistical methods of control of technical state of equipment of channel of electric power system
B. Martinyuk, National Aviation University, Ukraine

SYMPOSIUM 2

DIAGNOSTIC SYSTEMS IN AEROSPACE TECHNOLOGIES

Chairman – **S. Filonenko**, National Aviation University, Ukraine

co-Chairman – **V. Kvasnikov**, National Aviation University, Ukraine

**22 September, 15⁰⁰,
room 11.311.**

1. Acoustic emission method in diagnostic of a designs condition
S. Filonenko, National Aviation University, Ukraine

2. The modelling of acoustic emission radiation at normal wear
S. Filonenko, V. Stadnychenko, A. Stakhova, National Aviation University, Ukraine

3. System engineering of management by information processes of national aviation university
P. Pavlenko, A. Muzhyk, National aviation university, Ukraine

4. Management of data flows and control of overload in aeronautical telecommunication networks
N. Vinogradov, I. Zhukov, N. Guziy, National Aviation University, Ukraine

5. The system of control aerial vehicles
A.M.Pashayev, F.D.Kasimov, E.T. Qazarkhanov, National Academy of Aviation, Azerbaijan
6. Veracity of measurements in heterogeneous air & space complexes
V. Ignatov, S. Kudrenko, National Aviation University, Ukraine
7. Multicriterion routing in computer networks
O.P. Martynova, National Aviation University, Ukraine
8. Comparative analysis of modeling adequacy of the nonstationary traffic in telecommunication networks
V. Ignatov, Wu Zijuan, National Aviation University, Ukraine
9. Methods of data processing by sensors of traffic monitoring
R. Lobus, National Aviation University, Ukraine
10. Method of management of productivity of the equipment for the automated systems of industrial purpose
P. Pavlenko, V. Treityak, National Aviation University, Ukraine
11. Pilot's skills predicting systems for flight safety
N. Shibitskaya, G. Timofeeva, National Aviation University, Ukraine
12. Designing local area networks that has a "voice/video/text" traffic
K. Yakovishin, National Aviation University, Ukraine
13. The information-measuring monitoring system of water-black oil emulsions burning process
V Kvasnikov, V. Osadchiy, National Aviation University, Ukraine
14. Working out of the technique of definition of the lapse of parameters of vibrational diagnostic of gas-turbine plants
V. Kvasnikov, S. Uvarov, A. Perederko, National Aviation University, Ukraine

15. The systems of measuring synthesis of cylinder
I. Cherednikov, National Aviation University, Ukraine
A. Borisov, Chernigov State Technological University, Ukraine
16. Organization of quantum key distribution devices
Gnatyuk S.O., Kinzeryaviy V.M., Korchenko O.G., Pacira E.V.,
Kovaliova I.L., National Aviation University, Ukraine
17. Realization of parallel uniform cryptographic devices on matrix
Kinzeryaviy V.M., Gnatyuk S.O., Korchenko O.G.,
Pacira E.V., Kovaliova I.L., National Aviation University, Ukraine

SYMPOSIUM 3

AIR TRAFFIC MANAGEMENT SECURITY AND SAFETY

Chairman – **V. Kharchenko** National Aviation University, Ukraine

SESSION A

Communication, navigation, surveillance /air traffic management (CNS/ATM)

Chairman – **V. Konin**, National Aviation University, Ukraine

23 September, 10⁰⁰,
room 11.321.

1. Applied problems of service technological systems designing
V. Kharchenko, V. Melkumyan, T. Malyutenko, National Aviation
University, Ukraine
2. A prediction of aircraft position in satellite navigation receiver for
instrument landing system
J. Bialy, A. Fellner, J. Cwiklak, H. Jafarnik, J. Kozuba, The State
School of Higher Education in Chelm, Poland
3. Ways and methods of transfer navigation information in real time
V. Kondratuk, T. Malyutenko, National Aviation University,
Ukraine

4. Application of the Aerodrome Control Tower simulator in conditions of National Aviation University

V. Kharchenko, National Aviation University, Ukraine

5. Initial analysis of the ornithology situation concerning airfield in the aspect of bird strike to aircraft

J. Cwiklak, A. Fellner, H. Jafernik, The State School of Higher Education in Chelm, Poland

**23 September, 14⁰⁰,
room 11.321.**

6. Analysis of technical and cultural factors influencing “air traffic controller – pilot” communication loop

V. Kharchenko, Yu. Chynchenko, National Aviation University, Ukraine

7. Formation of air traffic controller team on the basis of the multi-aspect model of the individual characteristics

V. Kolotusha, S. Rudas, National Aviation University, Ukraine

8. Leading aviation personnel to ICAO level four

O. Petrashchuk, AEROLINGUA Training Centre, Ukraine

9. Some aspects of automation safety flight system in civil aviation of Ukraine

V. Kharchenko, O. Alexeiev, National Aviation University, Ukraine

10. Airport zone air traffic control multiposition locating system

K. Naumenko, National Aviation University, Ukraine

11. The spatial adaptive antenna lattice of satellite radio navigational systems

S. Demchenko, National Aviation University, Ukraine

12. Defense from unauthorized interfere to the air traffic management

O. Slyniaev, National Aviation University, Ukraine

SESSION B

Computer aided design

Chairman - **V. Sineglazov**, National Aviation University, Ukraine
co-Chairman - **M. Mukhina**, National Aviation University, Ukraine

**22 September, 15⁰⁰,
room 5.411.**

1. The new methods of signal spectrum definition
V. Sineglazov, O. Krasnousova, Y. Egorshin, National Aviation University, Ukraine
2. Imitating modeling of dynamics of virtual objects
E. Chumachenko, N. Khimina, National Aviation University, Ukraine
3. The development of the automated projecting system of gas distributed networks
V. Sineglazov, A. Fedosenko, National Aviation University, Ukraine
4. Voltmeters: solartron models 7065, 7071, and 7081 ADC analysis
I. Sergeyev, National Aviation University, Ukraine
5. Quality assessment criteria of electronic charts and technical means of their visualization
S. Ilnytska, S. Borsuk, National Aviation University, Ukraine
6. Parametrical identification of models of errors of inertion system of navigation in a mode of integration with satellite navigating system
N. Filyashkin, T. Lukinova, National Aviation University, Ukraine
7. Algorithm of visual tracking of contrast moving objects
M. Mukhina, National Aviation University, Ukraine
8. To the matter on sensors' selection of automatic systems
A. Ablesimov, National Aviation University, Ukraine

9. Biological databases as chain in algorithms for ecological monitoring of fauna

E. Klyuchko, Z. Klyuchko, A. Lizunova, National Aviation University, Ukraine

10. Interconnection of effects of peak and latitudinal impulsive modulation in the process of deep print and his influence on quality of making of document in calcs-technology

O. Sitnik, O. Yurchenko, National Aviation University, Ukraine

11. Influential development principles and characteristics of the controllers on the information visualization systems in cockpit of the plane in order to increase the level of flight safety

O. Sitnik, L. Sitnianskikh, National Aviation University, Ukraine

SESSION C

Navigation, control and flight management systems

Chairman - **A. Tunik**, National Aviation University, Ukraine

co-Chairman - **O. Sushchenko**, National Aviation University, Ukraine

**22 September, 15⁰⁰,
room 6.205.**

1. Evolutionary optimal control

V. Apostolyuk, National Aviation University, Ukraine

2. Phase filter synthesis for coherently optical transformer

V. Zemlyanskyi, O. Chudesov, National Aviation University, Ukraine

3. Methods of antiphase symmetric space filtration (ASSF) of laser Doppler anemometer (LDA)

V. Zemlyanskyi, National Aviation University, Ukraine

4. Ergatic control system with stabilization circuit of biological component

V. Azarskov, S. Polishchuk, S. Fatyeyeva, National Aviation University, Ukraine

5. The analytics of flights as the processes of the interaction between a human and a machine from the point of view of new discoveries

E. Hohlov, Y. Grishchenko, National Aviation University, Ukraine

6. Adaptive digital feedforward/feedback control concept applied to designing an aircraft autotracking radar

V. Azarskov, L. Zhiteckij, O. Sushchenko, National Aviation University, Ukraine

7. Created control rules "knowledge base" intellectual system for increasing plane controllability in typical damages condition on the flight

D. Shevchuk, National Aviation University, Ukraine

8. Combination of fuzzy and crisp control in the airborne robust multivariable systems

A. Tunik, M. Touat, M. Komnatska, National Aviation University, Ukraine

9. Calculation of Doppler displacement of frequency for the radio engineering systems exploited in high breadths

V. Novikov, V. Borsoev, V. Torishiy, National Aviation University, Ukraine

10. A new mathematical technology of compression and quick decompression of videoimages

V. Shutko, National Aviation University, Ukraine

11. The Doppler radio-locating signals processing

V. Shutko, National Aviation University, Ukraine

12. Non-linear model of biological system investigation

E. Aznakaev, D. Melnikov, National Aviation University, Ukraine

13. 3D navigation for an unmanned aerial vehicle (UAV)

V. Khimin, O. Slobodyan, Iman Sadeghzadeh, National Aviation University, Ukraine

14. Measuring optoelectronic method of phases difference of infra- and low -frequency ranges

V. Tronko, A. Skrypets, O. Slobodyan, National Aviation University, Ukraine

15. Computer laboratories for complex research of radar

S. Kostina, National Aviation University, Ukraine

16. The method for an estimation of flight crews professional level on flight simulators

I. Serdiuk, National Aviation University, Ukraine

17. Computer audit system for pilot physical state determination upon analysis of handwritten text

V. Morzhov, J. Galla, National Aviation University, Ukraine

18. Reengineering of the legacy software: the air simulator case study

N. Sidorov, V. Nedovodeev, E. Sidorov, V. Khomenko, National Aviation University, Ukraine

19. Main tasks of professional training computerization for aircraft pilots

V. Morzhov, E. Romanov, Y. Yermachkov, National Aviation University, Ukraine

SYMPOSIUM 4
AVIATION CONGRESS SCHOOL
of young scientists in problems of
ENVIRONMENT PROTECTION FROM CIVIL AVIATION
IMPACT

Chairman – **O. Zaporozhets**, National Aviation University, Ukraine

co-Chairman – **V. Tokarev**, National Aviation University, Ukraine

**23 September, 9⁰⁰,
room 5.601**

1. Investigation and Research of Environmental and Chemmotological Problems of Civil Aviation in the National Aviation University

Oleksandr Zaporozhets, Professor, Vadim Tokarev, Professor, Sergiy Bojchenko, Professor, Grigoriy Franchuk, Professor, National Aviation University, Kyiv, Ukraine

Session 1 – Environment protection zoning of the airports

2. Aircraft Noise Mapping in the Ukraine – the First Step to the Nationwide Airport Noise Impact Model

Olena Konovalova, Assistant Professor, National Aviation University, Kyiv, Ukraine

3. Gaining Information Methodology for Airport's Sanitary-Hygienic Zone Project Development

Olga Chushikina, Researcher, Oleg Kartyshev, Researcher, Center of Ecological Safety of Civil Aviation, Russia, Moscow

4. Definition of Public Safety Zones in the Vicinity of International Airport “Kyiv” (Zhulyany)

Inna Gosudarska, Assistant, National Aviation University, Kyiv, Ukraine

5. Accuracy and Uncertainty of Aircraft Noise Modelling

Grigoriy Golembievskiy, Assistant Professor, National Aviation University, Kyiv, Ukraine

6. Simplified Methods of Aircraft Noise Modelling and Assessment

Olena Bondarenko, Student, National Aviation University, Kyiv, Ukraine

7. Assessment of Electro-Magnetic Fields Inside Airport Area

Valentyn Glyva, Doctorant, Andriy Lukjanchikov, Aspirant, National Aviation University, Kyiv, Ukraine

Session 2 – Operational aircraft noise impact reduction

8. Complex Assessment of the Environmental Impact of Noise and Pollutant Emissions in the Airport Vicinity

Kateryna Kazhan, Aspirant, National Aviation University, Kyiv, Ukraine

9. Optimization Strategies to Reduce Aircraft Noise Impact

Olena Konovalova, Assistant Professor, National Aviation

University, Kyiv, Ukraine,

Salah Khardi, PH.D. - HDR, INRETS, Bron, France

10. CNS/ATM Support for Aircraft Noise Impact Reduction Around the Airports

Dmytriy Babejchuk, Reseracher, Olga Veklenko, Student, National Aviation University, Kyiv, Ukraine

11. Current International Practice for Aircraft Environmental Levies and Penalties in Airports. Recommendations for Airports in Russian Federation

Aleksandr Korolkov, Center of Ecological Safety of Civil Aviation, Russia, Moscow

12. Grounds for Aircraft Noise Levies in the Ukraine

Oleksandr Zaporozhets, Professor, Marina Gordeeva, Aspirant, National Aviation University, Kyiv, Ukraine

Session 3 - Air/water/soil pollution in airports

13. Numerical Modelling of Air Pollution Dispersion from the Aircraft and Other Airport Pollutant Sources

Yuriy Medvedev, Aspirant, Center of Ecological Safety of Civil Aviation, Russia, Moscow

14. Numerical Simulations of Dispersion by Jets of the Aircraft Engine Gaseous Emissions

Kateryna Synylo, Assistant, National Aviation University, Kyiv, Ukraine

15. Water Pollution by Anti-Acing Liquids and their Treatment in Airports

Volodymyr Pavlysh, Assistant Professor, Oleksandr Zaporozhets, Professor, National Aviation University, Kyiv, Ukraine

16. New Ecologically-Sound Anti-Acing Liquids for Airports

Olena Rudenko, Assistant, Asja Solovejkina, Resercher, National Aviation University, Kyiv, Ukraine

17. Modelling of the Toxicity Dependence on the Subsoil Water Quality in the Airport Area

Svitlana Madgd, Assistant, Grigoriy Franchuk, Professor, National Aviation University, Kyiv, Ukraine

Session 4 – Environmental performances of the fuels, lubricants & technical liquids

18. Aviation energetic unit based on fuel cells with thermochemical heat regeneration

L. Yanovskiy, A. Baykov, N. Varlamova, Central Institute of Aviation Motors, Russia

19. The Place and the Role of Chemmotology as a Science in the General System of Knowledge

Sergiy Boychenko, Professor, Olexandr Aksyonov, Professor, National Aviation University, Kyiv, Ukraine

20. Quality and ecological safety of aviation fuels

Larisa Chernyak, Assistant, Kseniya Akinina, Student, National Aviation University, Kyiv, Ukraine

21. PET-Bottles Recycling Technology as a Way of Waste Inimization

Oksana Vovk, Assistant Professor, Kseniya Akinina, Student, National Aviation University, Kyiv, Ukraine,

Natalia Shevchuk, Assistant Professor, NTUU «Kiev Polytechnic Institute»

22. Technology of Thermal Processing of Solid Domestic Wastes

Irina Vlasyuk, Student, Kseniya Akinina, Student, National Aviation University, Kyiv, Ukraine

23. Environmental Safety of Airport Fuel Supply System

Margarita Radomska, Aspirant, National Aviation University, Kyiv, Ukraine,

Valentin Myndyuk, Aspirant, National University of Oil and Gas, Ivano-Frankivsk, Ukraine,

Grigoriy Franchuk, Professor, National Aviation University, Kyiv, Ukraine

24. Problem of Obtaining Hydrogen From Coal

Mykola Zakharchuk, Student, Oksana Vovk, Assistant Professor,

Nataliya Zakharchuk, Assistant, National Aviation University, Kyiv, Ukraine

25. Research Perspectives Types of Environmentally Safe Adsorbents

Larisa Chernyak, Assistant, Sergiy Boychenko, Professor, National Aviation University, Kyiv, Ukraine

26. «Biofuel» for Aviation

Evgen Novoselov, Assistant Professor, National Aviation University, Kyiv, Ukraine,

Volodymir Semenov, Assistant Professor, NTUU «Kharkiv Polytechnic Institute»

27. The Impact of the Copper Content in the Modified Zeolites on Structural-Group Fractions Diesel Fuel Depot

A.Kobylyansky, Institute for Sorption and Problems of Endoecology,

V.Strelko, Institute for Sorption and Problems of Endoecology,

R.Leboda, University M. Curie-Sklodovska, Lublin, Poland,

***N.Vihrestyuk, UkrNDINP “MASMA” Kyiv, Ukraine, V.Lapko,
Institute for Sorption and Problems of Endoecology***

Session 5 – Green aviation industry

28. Analysis of the Problem of Air Pollution From Aviation Industry
***Iryna Vasiljeva, Assistant, National Aviation University, Kyiv,
Ukraine***

29. Change of the Aircraft Parts Surface Condition Under the
Influence of Aerosol Gas-Dynamic Suspension Cleaning
***Yevgen Bovsunovskiy, Assistant, Grigoriy Franchuk, Professor,
National Aviation University, Kyiv, Ukraine***

30. Analysis of Isotropic Actuator Application for Excitations
Compensation
***Vitaliy Makarenko, Aspirant, National Aviation University, Kyiv,
Ukraine***

31. Building Acoustic Design in Conditions of Aircraft Noise Close
to the Sanitary-Hygienic Limits
***Vadim Zakharov, Yuriy Zakharov, Pridneprovskaya Architecture
Academy, Dnipropetrovsk, Ukraine***

32. Estimation Methods for Acoustic Improvement of Rooms Using
Measurements of Reverberation Time
***Yulija Shevchenko, Student, National Aviation University, Kyiv,
Ukraine***

33. Utilization of Tires as Complex Decision of Power-Deficit
Problem
***Oksana Vovk, Assistant Professor, Yulija Nikitchenko, Aspirant,
National Aviation University, Kyiv, Ukraine***



IEEE MICROWAVES, RADAR AND REMOTE SENSING SYMPOSIUM (MRRS-2008)

Chairman – **F. Yanovsky**, National Aviation University, Ukraine
Coordinator – **Yu. Averyanova**, National Aviation University, Ukraine

MRRS 2008 OPENING CEREMONY

22 September, 13³⁰-14⁰⁰,
room 1-001.

1. **M. Kulyk**, Rector of the National Aviation University
2. **F. Yanovsky**, MRRS-2008 Chairman
3. **R. Sorrentino**, President of EuMA
4. **A. Nosich**, IEEE Representative

SESSION A2 - ADVANCES IN ANTENNA TECHNIQUES

Chairpersons: G. Vandenbosch, N. Popenko

22 September, 14⁰⁰-16⁰⁰,
room 1-001.

1. Integrated Hardware Reduction Schemes for Retrodirective Array Architectures (**invited**)
Tatsuo Itoh, Darren Goshi, University of California, Los Angeles, USA
2. Reconfigurable Reflectarrays based on RF MEMS Technology (**invited**)
Roberto Sorrentino, University of Perugia, ITALY
3. Dual Band Reconfigurable Slot Antenna with High Frequency Ratio
T. Debogovic, A. Karabelj, J. Bartolic, University of Zagreb, Zagreb, Croatia
4. Comparison of two configurations of a four-reflector beam-waveguide for a large space communication facility
Andrey A. Nosich, Kharkiv National University, Kharkiv, Ukraine

Ronan Sauleau, Yuriy V. Gandel, Université de Rennes Rennes Cedex, France

5. On realization of the transition radiation antenna

S.D. Prijmenko, L.A. Bondarenko, National Science Center. "Kharkov Institute of Physics and Technology", Kharkov, Ukraine

SESSION B2 - SCATTERING AND ABSORPTION IN RADAR
Chairpersons: P. Bezousek, O. Drobakhin

22 September, 14⁰⁰-16⁰⁰,
room 1-002.

1. Coherent Scattering from Distributed Targets **(invited)**

Wasył Wasyłkiwskyj, The George Washington University, USA
Jimmy Alatishe, US Naval Research Laboratory, Washington, DC, USA

2. Status of Advanced Scattering Distortion System Analysis for Nav aids and Radar - Examples of A380 and Wind Turbines **(invited)**

Gerhard Greving, Wolf-Dieter Biermann, Rolf Mundt, NAVCOM Consult, Marbach, Germany

3. Material parameter measurements for Radar Absorbent Material developments **(invited)**

Lajos Nagy, Budapest University of Technology and Economics, Hungary

4. Analysis of Generalized Polarimetric Measurement Equations for Stokes Polarimetry Techniques

Sergey N. Savenkov, Yevgeny A. Oberemok, Alexander S. Klimov, Kiev Taras Shevchenko University, Ukraine

SESSION A3 - SEMI-ACTIVE AND PASSIVE SYSTEMS

Chairpersons: W. Wasylkiwskyj, I. Ivanchenko

22 September, 16²⁰-18⁴⁰,
room 1-001.

1. Coherent Multilateration Systems (**invited**)

Pavel Bezousek, Vladimir Schejbal, University of Pardubice, Czech Republic

2. A Compact Highly Sensitive Radiometer for Thermal Sounding of Atmosphere in 5 mm Band (**invited**)

V.B.Khaikin, Special Astrophysical Observatory of RAS/NRTT Lab, St.Petersburg, Russia

V.N.Radzikhovskiy, S.E.Kuzmin, SRC "Iceberg", Kiev, Ukraine

S.V.Shlenzin, The Special Astrophysical Observatory of RAS/NRTT Lab, St.Petersburg, Russia

A.V.Shaposhnikov, Central Aerological Observatory, Dolgoprudny, Russia

3. Interactive-mode X-Band Direction-Finder

Sergey Radionov, Igor Ivanchenko, Usikov Institute for Radiophysics and Electronics of the National Academy of Sciences of Ukraine, Kharkov, Ukraine

Alexey Korolev, Institute of Radioastronomy of the National Academy of Sciences of Ukraine, Kharkov, Ukraine

Nina Popenko, Usikov Institute for Radiophysics and Electronics of the National Academy of Sciences of Ukraine, Kharkov, Ukraine

4. PaRaDe – Passive Radar Demonstrator Family Development at Warsaw University of Technology

Mateusz Malanowski, Krzysztof Kulpa, Jacek Misurewicz, Warsaw University of Technology, Warsaw, Poland

5. Wide Range Time of flight Camera for outdoor surveillance

Falie Dragos, Vasile Buzuloiu, University Polytechnica of Bucharest, Romania

6. Analysis of the Availabilities of Multilateration Surveillance System in Kiev (Boryspil) Airport

Inna Konchenko, National Aviation University, Ukraine

SESSION B3 - ELECTROMAGNETIC FIELDS AND GUIDED WAVES

Chairpersons: R. Sorrentino, S. Malyshev,

**22 September, 16²⁰-18⁴⁰,
room 1-002.**

1. Microwave Study of Ferroelectrics in Waveguide **(invited)**

Y. Poplavko, V. Molchanov, V. Pashkov, Y. Prokopenko, V. Kazmirenko, A. Yeremenko, National Technical University of Ukraine, Kiev, Ukraine

2. Quasi-Optical Sapphire Resonators for Millimeter Wave Impedance Characterization of High-T_C Superconducting Thin Films **(invited)**

N.T. Cherpak, A.A. Barannik, S.A. Bunyaev, A. Usikov Institute for Radiophysics and Electronics, National Academy of Sciences of Ukraine, Kharkiv, Ukraine

3. Amplification of Space Charge Waves of Millimeter Wave Range in Transversely Inhomogeneous n-GaN Films

V. Grimalsky, S. Koshevaya, F. Diaz-A., J.A. Hernandez-P., Autonomous University of Morelos (UAEM), Mexico

4. Simulation of Electromagnetic Wave Propagation Through Dielectric Waveguide with P-I-N Control Element

I. Moroz, Rivne Pedagogical University, Rivne, Ukraine
S. Koshevaya, V. Grimalsky, Autonomous University of Morelos (UAEM), Mexico
A. Kotsarenko, Centro de Geociencias en Juriquilla (CGEO), Querétaro, México
J. Escobedo –A., Autonomous University of Morelos (UAEM), Mexico

5. Microwave Oscillations in a Cavity with Dispersive Double Negative Medium

M. S. Antyufeyeva, A. Yu. Butrym, Kharkov Karazin University, Kharkiv, Ukraine

O.A. Tretyakov, Gebze Institute of Technology, Turkey

6. Hybrid Oscillations in Composite Resonators with Uniaxial Hexaferrites

T. G. Chamor, L. V. Chevnyuk, A. Yu. Gorpynyuk, V. I. Kostenko, National Taras Shevchenko University, Kiev, Ukraine

SESSION A4 - NEW TECHNOLOGIES IN ELECTRONICS

Chairpersons: A. Kawalec, S. Kostina

**23 September, 9⁰⁰-10⁵⁰,
room 1-001.**

1. System-in-a-Package Technology for 3D Integration of Radar Modules (**invited**)

**G. Vandenbosch, Katholieke Universiteit Leuven, Leuven, Belgium
S. Brebels, X. Sun, G. Carchon, G. Posada, IMEC, HRFP group, Leuven, Belgium**

***L. Dussopt, CEA Grenoble, LETI/DCIS/SMOC, Grenoble, France
M.-A. Dubois, CSEM, RF & piezo components, Microelectronics, Neuchâtel, Switzerland***

W. De Raedt, IMEC, HRFP group, Leuven, Belgium

2. High-speed Photodiodes for Microwave and Millimeter-wave Systems (**invited**)

Sergei Malyshev, Alexander Chizh, Yury Vasileuski, B.I. Stepanov Institute of Physics of National Academy of Sciences of Belarus, Minsk, Republic of Belarus

3. High-Temperature Superconductor-Films Microstrip Band-Pass Filters for Extreme Working Conditions

Igor V. Korotash, Eduard M. Rudenko, Institute of Metal Physics, NAS of Ukraine, Kyiv, Ukraine

4. Quantum Interference in Transistors

Timur A. Shutenko, Odessa National Academy of Telecommunications, Odessa, Ukraine

Igor L. Aleiner, Boris L. Altshuler, Columbia University, New York NY, USA

SESSION B4 - DATA AND IMAGE PROCESSING

Chairpersons: K. Kulpa, I. Prokopenko

**23 September, 9⁰⁰-10⁵⁰,
room 1-002.**

1. Comparisons of 3 Dimensional Temperature Distributions of mm and IR Images (**invited**)

Jung-Young Son, Daegu University Kyungsan, Kyungbuk, Korea

Vladimir P. Guschin, Alexander G. Denisov, State Research Center of Superconductive Radioelectronics "Iceberg", Kiev, Ukraine

Seok-Won Yeom, Dae-Hyun Jung, Daegu University Kyungsan, Kyungbuk, Korea

2. Microwave Multifrequency Radar Images of Electrodynamics Objects

O. O. Drobakhin, V. V. Alekseev, A. I. Chekh, Dnepropetrovsk National University, Dnepropetrovsk, Ukraine

3. An Automatic Approach to Lossy Compression of Images Corrupted by Poisson Noise

V.V. Lukin, M.S. Zriakhov, N.N. Ponomarenko, National Aerospace University, Kharkov, Ukraine

Arto Kaarna, Lappeenranta University of Technology, Lappeenranta, Finland

4. Edge-Preserving Piecewise-Constant Image Restoration via Method of Minimum of Extension

Oleg S. Antropov, Dnepropetrovsk National University, Dnepropetrovsk, Ukraine

5. Microwave Fourier-Holography Approach Improvement via Minimum Duration Amplitude Multifrequency Data Extrapolation
Oleg S. Antropov, Valentine F. Borulko, Oleg O. Drobakhin, Sergey M. Vovk, Dnepropetrovsk National University, Dnepropetrovsk, Ukraine

SESSION A5 – RADAR SIGNAL PROCESSING

Chairpersons: L. Ferro-Famil, V. Lukin

**23 September, 11¹⁰-13⁰⁰,
room 1-001.**

1. The CLEAN Type Algorithms for Radar Signal Processing
(invited)
Krzysztof Kulpa, Warsaw University of Technology, Warsaw, Poland
2. Modification of Newton-Kantorovich Iteration Procedure for Piecewise-Constant Real Permittivity Profile Reconstruction
Sergey G. Alexin, Oleg O. Drobakhin, Vladimir O. Tkachenko, Dnepropetrovsk National University, Dnepropetrovsk, Ukraine
3. Spectral Estimation by the Model of Autoregressive Moving Average and its Resolution Power
I. G. Prokopenko, A.J. Churina, National Aviation University, Kiev, Ukraine
4. Radar pulse trains classification
Andrzej Pieniężny, Military University of Technology, Warsaw, Poland
5. Nonparametric method for estimating the spoken language sound multivariate probability function
Zhanna Bokal, Rustem Sinitsin National Aviation University, Kiev, Ukraine

SESSION B5 - REMOTE SENSING OF THE ATMOSPHERE

Chairpersons: I. Nicolaescu, D. Vavriy

23 September, 11¹⁰-13⁰⁰,
room 1-002.

1. Weather Radar - Recent Developments and Trends (**invited**)
Dusan Zrnica, NOAA/National Severe Storms Laboratory, USA
2. The Estimate of Instantaneous Power of Polarization Spectrum Components in Polarimetric Weather Radars
Yu. Averyanova, A. Averyanov, F. Yanovsky, National Aviation University, Kiev, Ukraine
3. Use of Spectral Differential Reflectivity at Remote Sensing of Precipitation
Vitaliy Marchuk, National Aviation University, Kiev, Ukraine
4. Multivariate Algorithm for Dangerous Turbulence Detection in Weather Formations
Ya. Ostrovsky, National Aviation University, Kiev, Ukraine
5. Recent Researches in the in the Field of Weather Radar at the National Aviation University
Felix Yanovsky, National Aviation University, Kiev, Ukraine

SESSION A6 - ANTENNA ANALYSIS AND MEASUREMENTS

Chairpersons: T. Itoh, N. Cherpak

23 September, 14²⁰-16³⁰,
room 1-001.

1. 2-D Analysis and Synthesis of Dielectric Lens Antennas with Boundary Integral Equations (**invited**)
A.V. Boriskin, A.I. Nosich, Institute of Radiophysics and Electronics NASU, Kharkiv, Ukraine
R. Sauleau, University of Rennes, Rennes, France
2. Quasi-Loop Antenna for SAW RFID Device
Mateusz Pasternak, Jerzy Pietrasinski, Military University of Technology, Warsaw, Poland

3. Test results of a compact smooth-walled spline-profile horn at 30-38 GHz for radio astronomy application

Roman Chernobrovkin, Nina Popenko, Usikov Institute for Radiophysics and Electronics of the National Academy of Sciences of Ukraine

Vladimir Khaikin, Special Astrophysical Observatory of Russian Academy of Sciences/NRTT Lab, St.Petersburg, Russia

Christophe Granet, BAE Systems Australia, Australia

4. Monopole Antenna with Plug-Shape Ground plane

M. Khruslov, I. Ivanchenko, N. Popenko, Usikov Institute for Radiophysics and Electronics of the National Academy of Sciences of Ukraine, Kharkov, Ukraine

5. Near-Field Measurements in the Microwave and Millimetre Ranges

I. Ivanchenko, D. Ivanchenko, Usikov Institute for Radiophysics and Electronics of the National Academy of Sciences of Ukraine, Kharkov, Ukraine

Alexey Korolev, Institute of Radioastronomy of the National Academy of Sciences of Ukraine, Kharkov, Ukraine

M. Khruslov, Nina Popenko, Usikov Institute for Radiophysics and Electronics of the National Academy of Sciences of Ukraine, Kharkov, Ukraine

6. Analysis of the Parameters of Asymmetrical Dual Feeding Full Wave Dipole Antenna

Yahya S. H. Khraisat, Al-Balqa Applied University/ Al-Huson university College, Jordan

Khedher A. Hmood, A. Anwar, Universiti Sains Malaysia Seri, Ampangan, Penang, Malaysia

SESSION B6 - SYNTHETIC APERTURE RADAR

Chairpersons: L. Nagy, G. Khlopov

23 September, 14²⁰-16³⁰,
room 1-002.

1. Remote sensing of urban areas from polarimetric SAR data using Time-Frequency and spectral analysis methods **(invited)**

Laurent Ferro-Famil, University of Rennes, France

2. High-Accuracy Doppler Measurements for Airborne SAR Imaging **(invited)**

D. M. Vavriv, O. O. Bezvesilny, V. V. Vynogradov, Institute of Radio Astronomy of NAS of Ukraine, Kharkov, Ukraine

3. Multilook Technique for Dominant Scatterer Removal in SAR Images

K. Kulpa, J. Misiurewicz, Warsaw University of Technology, Warsaw, Poland

P. Samczynski, M. Smolarczyk, Telecommunications Research Institute, Warsaw, Poland

4. New Difference Doppler Centroid Estimation Method with High Space Resolution

Ievgeniia V. Dukhopelnikova, Institute of Radioastronomy NAS Ukraine, Kharkiv, Ukraine

5. The Coherent MapDrift Technique Robustness to Low SNR SAR Data

Piotr Samczynski, Telecommunications Research Institute Warsaw, Poland

SESSION A7 - ADVANCES IN RADAR SYSTEMS

Chairpersons: G. Greving, M. Pasternak

23 September, 16⁵⁰-18⁵⁰,
room 1-001.

1. Advances in Millimetre Wave FMCW Radar **(invited)**

Patrick Beasley, QinetiQ, UK

2. Procedures to improve the performances of SFCW radar used for landmine detection **(invited)**

***Ioan Nicolaescu, Military Technical Academy, Bucharest Romania
Piet van Genderen, Delft University of Technology, Delft,
The Netherlands***

3. Target Tracking Using Radar and Direction Finder

***Jacek Karwatka, Telecommunications Research Institute,
Warszawa, Poland***

4. An Adaptive Kalman Filter for Radar Tracking Application

Van Tho Dang, National Aviation University, Kiev, Ukraine

SESSION B7 - IMPROVEMENT OF SYSTEM CHARACTERISTICS

Chairpersons: I. Balajti, Yu. Poplavko

**23 September, 16⁵⁰-18⁵⁰,
room 1-002.**

1. Global stability analysis and stabilization of power amplifiers **(invited)**

***Almudena Suárez, University of Cantabria, Santander
Sangeun Jeon, David Rutledge, California Institute of
Technology, Pasadena***

2. More Efficient ATR System Using the Decision Fusion between HRR and Video Imaginary

***Iulian-Constantin VIZITIU, Ioan NICOLAESCU, Military
Technical Academy, Bucharest, Romania***

3. Bandwidth Suppression in mm-wave Photonic Structure with Magnetic “Defect”

***M. V. Mozhyrovskiy, V.V. Oliynyk, Taras Shevchenko Kiev
National University, Kiev, Ukraine***

4. Computation Method of Mutual Impact Coefficient of the Quarter-wave Wire Antennas Placed on Airplane Wire-grid Model
Alexander V. Vishnevsky, National Aviation University, Kiev, Ukraine

SESSION A8 - REMOTE SENSING OF THE EARTH AND ATMOSPHERE

Chairpersons: D. Zrnic, Yu. Averyanova

**24 September, 9⁰⁰-10⁴⁰,
room 1-001.**

1. An Airborne P-Band Ice Sounding Radar: RF Technologies and Novel Solutions (**invited**)

Viktor Krozer, Carlos Cilla Hernandez, Jens Vidkjar, Jordan Dall, Technical University of Denmark, Kgs. Lyngby, Denmark

2. Remote Sensing for Systems of Active Impact on Clouds (**invited**)

G.I. Khlopov, Institute of Radio-Physics and Electronics of National Academy of Science of Ukraine

N.V. Sirota, Crimean paramilitary service of active impact on hydrometeorological processes, Autonomous republic of Crimea, Simferopol, Ukraine

S.I. Khomenko, V.E. Morozov, O.A. Vojtovich, Institute of Radio-Physics and Electronics of National Academy of Science of Ukraine

3. Radar Determination of Probable Icing-in-Flight

Alexander Pitertsev, National Aviation University, Kiev, Ukraine

4. Regional Analytical Algorithm of Sea Chlorophyll Concentrations Retrieving from Sea Reflectance

E.N. Korchemkina, E.B. Shybanov, M.E. Lee, Marine

Hydrophysical Institute of NAS of Ukraine, Sevastopol, Ukraine

5. Massive Sulphide Deposits Exploration by used Remote Sensing Technique “ASTER IMAGERY”

Ali Mohammed Ali Asiri , King Abdulaziz City for Science & Technology (KACST), Kingdom of Saudi Arabia

SESSION B8 - INFORMATION SYSTEMS AND SIGNALS

Chairpersons: J. Y. Son, A. Pieniezny

**24 September, 9⁰⁰-10⁴⁰,
room 1-002.**

1. Forward Transmission over a Multipath Faded Channel in a DS CDMA System

Abdel-Rahman Al-Qawasmi, Communications and Electronics Department, Philadelphia University, Jordan
Ayman Al-lawama, Mutah University, Karak– Jordan

2. Noise Modeling for Global Satellite Aeronavigation Systems

N. Kasperovych, V. Shvets, Y. Ostrovsky, National Aviation University, Kiev, Ukraine

3. Organization of Programmed Means for Dynamic Scenes Visualization and Analysis in Real-Time Geoinformation Complexes
Viktor A. Borodin, National Aviation University of Ukraine, Kiev, Ukraine

4. Multi-Switch Satellite Digital System (MSDS)

Yahya S.H. Khraisat, Al-Balqa Applied University/ Al-Huson university College, Jordan

5. Mathematical modeling of the cardiac electrical signals formation

E. Aznakayev, E. Melnikov, National Aviation University of Ukraine, Kiev, Ukraine

SESSION A9 - NON-INFORMATION APPLICATIONS

Chairpersons: V. Scheibal, E. Aznakaev

24 September 11⁰⁰-11⁵⁰,
room 1-001.

1. Application of Microwave Radiation in Incinerator
V. I. Naidenko, D. S. Shumakov, National Technical University of Ukraine “Kiev Polytechnic Institute”, Kiev, Ukraine
2. Electromagnetic energy application for soil infectious diseases sterilization
V. Karpovich, A. Ermolovich, G. Volinets, I. Kostukevich, Belarussian State University, Minsk, Belarus

SESSION B9 - LOGISTICS AND ORGANIZATION OF RADAR MEASUREMENTS

Chairpersons: A. Suarez, J. Misiuriewicz

24 September, 11⁰⁰-11⁵⁰,
room 1-002.

1. Performance Measurements of the Radar “In Situ” (invited)
Istvan Balajti, NATO Maintenance and Supply Agency, Luxembourg
2. Organization of Computer Experiment for Radar Research
S. S. Kostina, National Aviation University of Ukraine, Kiev, Ukraine

MRRS 2008 CLOSING CEREMONY

24 September 12⁰⁰-13⁰⁰,
room 1-001.

M. Kulyk, Rector of NAU, **F. Yanovsky**, MRRS-2008 Chairman,
R. Sorrentino, President of EuMA, **A. Nosich**, IEEE Representative
EuMA and IEEE Awards

SYMPOSIUM 5
ECONOMICS IN AVIATION

Chairman – **V. Shchelkunov**, National Aviation University, Ukraine
co-Chairman – **V. Matveev**, National Aviation University, Ukraine
M. Novykova, National Aviation University, Ukraine

22 September, 14³⁰,
room 2-401.

1. Modern trend of globalization process in aviation industry
O. Lozhachevska, V. Matveev, M. Novykova, N. Kravchuk,
National Aviation University, Ukraine

2. Prospects of corporate management by innovative development
M. Lutskiy, U. Simonenko, V. Davydenko, National Aviation
University, Ukraine

3. Formation of basic transport provision principles
L. Lytvynenko, V. Novak, National Aviation University, Ukraine

4. Main issues of airport management and development in Ukraine
T. Akimova, National Aviation University, Ukraine

5. Peculiarities of improvement unique oversized air loads
classification
T. Gabrielova, S. Lytvynenko, National Aviation University,
Ukraine

6. Interim evaluation of investment project effectiveness
O. Tovkun, Kiev National University of Trade and Economics,
Ukraine
N. Tupitsin, National Aviation University, Ukraine

7. Personnel management problems in civil aviation of Ukraine
G. Zhavoronkova, N. Otlivaskaya, National Aviation University,
Ukraine

8. Directions of strategic development of Ukrainian civil aviation

M. Yanchuk, National Aviation University, Ukraine

9. Business aviation in today's economy

Iu. Kozitska, National Aviation University, Ukraine

10. Economics in aircraft design

G. Yun, National Aviation University, Ukraine

11. Economic Problems Solving Through Aviation

A. Vinyukov-Proshchenko, F. Sharifov, National Aviation University, Ukraine

12. Information systems in airport terminal management

Ferhan Kuyucak, Anadolu University - School of Civil Aviation, Turkey

13. Fleet planning and selection of multi engine aircraft: case of Anadolu University School of Civil Aviation.

Ünal Battal, Anadolu University, School of Civil Aviation, Turkey

SYMPOSIUM 6

HUMAN FACTOR IN AVIATION

Chairman – **V. Sestakovs**, Aviation Institute of Technical University, Latvia

co-Chairman – **A. Gudmanian**, National Aviation University, Ukraine

SESSION A

Achievements and trends human factor optimization and psychological support in Aviation

Chairman – **V. Sestakovs**, Aviation Institute of Technical University, Latvia

co-Chairman – **O. Petrenko**, National Aviation University, Ukraine

**23 September, 10⁰⁰,
room 8.103.**

1. Problems with implementation of a quality management system in the field of aviation personnel training

M.S. Kulyk, A.V. Polukhin, O.V. Solomentsev, A.M. Ovsyankin, O.M. Polulyakh, National Aviation University, Ukraine

2. Components of human factor

N. Dreimanis, V. Sestakovs, Aviation Institute of Technical University, Latvia

3. The impact of the specific professional experience of pilots from the former soviet republics on the implementation of world flying standards

O. Budnikov, "Aerosvit" Airline, Ukraine

4. Ways of CRM training programs efficiency enhancement

A. Petrenko, National Aviation University, Ukraine

5. Assurance of operators quality system

E. Saldeniece, V. Sestakovs, Aviation Institute of Technical University, Latvia

6. Quality assurance systems for civil aviation

E. Saldeniece, V. Sestakovs, Aviation Institute of Technical University, Latvia

7. Adoptability in aviation training systems

V. Sineglazov, S. Borsuk, National Aviation University, Ukraine

8. Psychological peculiarities of multi-pilot crew simulator training

***A. Sosnenko, A. Taran, Antonov ASTC, Ukraine
V. Gorbunov, National Aviation University, Ukraine***

9. New solutions to the problem of the psychological support of an operator's safety

A. Malkhazov, National Aviation University, Ukraine

10. The elements of the subjective analysis, the possibility of the training process problems application

V. Kasyanov, Y. Guz, V. Pakhnenko, I. Prohorenko, National Aviation University, Ukraine

SESSION B

English proficiency of pilots and air traffic controllers as a safety aspect

Chairman – capt. **R.A. Pérez**, Aviation SIMCOM-ATC, México

co-Chairman – **A. Gudmanian**, National Aviation University, Ukraine

**24 September, 10⁰⁰,
room 8.1412.**

10. Testing on aviation communicative proficiency: an integral evaluation in a second-language context

Capt. R.A. Pérez, G. Bejarle, J.E. Méndez, Aviation SIMCOM-ATC & Universidad Autónoma de Baja California, México

11. Efficient communication in aviation: linguistic control of shared problem solving

G. Fesenko, National Aviation University, Ukraine

12. Pilots and air traffic controllers English training

T. Tarnavska, National Aviation University, Ukraine

13. Aviation English: language requirements

Yu. Korchenyuk, National Aviation University, Ukraine



X-NOISE



**X-Noise, Aeronet and CEAS
Symposium on Aviation Environmental Tradeoffs and
Interdependencies**

**In the framework of the
Third Congress of “Aviation in XXI Century”**

October 7th and 8th 2008

Objectives of the Symposium:

- Present an overview of the European situation, research efforts and priorities on:
 - Technology
 - Policy
 - Operations
 - Capacity
 - Tools (to support the above four areas)
- Offer an international perspective
- Stimulate international cooperation and synergies
- Identify key parameters for quantification and implications of tradeoffs:
 - Comparing impacts (environmental factors versus monetization)
 - Influence on CAEP goals (technology, operational, global)
- Open questions submitted by symposium participants upon registration will be discussed in break-out sessions. The audience will be split in three break-out groups dealing with different areas:
 - Technology tradeoffs
 - Operational tradeoffs and environmental capacity
 - Tools and policy issues

Participants

Participants from a number of key international actors in the air transport system will be invited to contribute to the symposium:

- Manufacturers
- Research Establishments
- Universities
- Airlines
- Airports and Air Navigation Service Providers
- Policy makers

PROGRAMME

Tuesday October 7th

Registration and coffee	08.30–09.30
Opening	09.30–09.45
Welcome by CAA and NAU	
Technology (chaired by D. Collin – Snecma)	10.00-11.00
Alain Joselzon (Airbus) – Trade-offs in Future Propulsion Systems	
Jim Skalecky (FAA) – CLEEN Project	
Speaker TBD – NEWAC EC Project	
Jean-Jacques Korsia (Snecma) – VITAL EC Project	
Coffee and posters	11.00–11.30
Policy (chaired by Urs Ziegler – FOCA)	11.30–13.00
Michael Mann (UK) on monetization	
Gregg Fleming (Volpe) – US view	
Urs Ziegler (FOCA) - ANCAT view	
Christina Sares (Arlanda) – an airport view	
Lunch	13.00–14.00
Operations (chaired by Delia Dimitriu – MMU)	14.00–15.30
John-Paul Clarke (Georgia Institute of Technology)- PARTNER Project 4 , Continuous Descent Arrival	
Delia Dimitriu (MMU/CATE) & Julien Onoboni, (Sogeti/Airbus) – CDA case-studies in Europe and Asia: improving the implementation	
Ivan de Lépinay (ENVISA) - Assessment of tradeoffs in operations	
Martin Schaefer (DLR)- Influence of low noise departure and arrival procedures on low-altitude NOx emissions	
Coffee and posters	15.30 – 16.00

Capacity (chaired by Paul Brok – NLR) 16.00 – 17.30

Ian Fuller (EUROCONTROL) – Airport and airspace capacity – the Air Traffic Management perspective

Dick Bergmans (NLR) – Amsterdam Airport Schiphol environmental capacity future case studies

Dave Raper (ECATS/OMEGA/CATE) – Airport air quality (AAQ) impacting environmental capacity

Ante de Wolf (To70) – Environmentally Responsible Air Transport (EU FP6 ERAT project)

Dinner 19.30

Wednesday October 8th

Tools (chaired by Chris Eyers - QinetiQ) 9.00 – 10.15

Modelling activities in Europe

Michael Hepting (DLR) – EU FP7 E-TEAM EU project proposal

Ayce Celikel (ENVISA) – Eurocontrol Toolset for Environmental Sustainability Assessment

Modelling activities in North America

Gregg Fleming (Volpe) – A Comprehensive Tool Suite for the Assessment of the Environmental Aspects of Aviation

Introduction of break out sessions Paul Brok (NLR) 10:15 – 10:30

Coffee and posters 10.30 – 11.00

Technology moderated by Alain Jospelzon (Airbus) and Dominique Collin (Snecma) 11.00 – 13.00

Policy and Tools moderated by Ian Fuller (Eurocontrol) and Chris Eyers (QinetiQ) 11.00 – 13.00

Operations and Capacity moderated by Delia Dimitriu (MMU/CATE) and Paul Brok (NLR) 11.00 – 13.00

Lunch	13.00 – 14.00
Wrap up and follow up moderated by Martin Hagström (FOI) and Delia Dimitriu (MMU/CATE)	14.00 – 15.00
Presentation of ANERS 2009 – John-Paul Clarke (Georgia Institute of Technology)	15.00 – 15.10
Coffee	15.10–15.30
Visit to University and Aviation Museum	15.30–17.00
Boat trip	19.30

ROUND TABLE

Up-to-date questions concerning education, cooperation and business for improvement labor

23 September, 11⁰⁰-14⁰⁰
Building 8a, room 8.107


ROUND TABLE MEETING

Line of the relationships development between Ukrainian and European Union Aeronautical products Designers and Manufacturers


24 September, 11⁰⁰-14⁰⁰
Building 7, room 7.102



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