

Moscow Technical University of Communications and Informatics (MTUCI)
Institute of Electrical and Electronics Engineers (IEEE)
Media Publisher Ltd

International Scientific Conference

**«2020 SYSTEMS OF SIGNALS GENERATING
AND PROCESSING IN THE FIELD
OF ON BOARD COMMUNICATIONS»**

(IEEE Conference # 48371)

19-20 March 2020

CONFERENCE PROGRAM

**Moscow
2020**

CONFERENCE ORGANIZERS

Moscow Technical University of Communications and Informatics (MTUCI)
Institute of Electrical and Electronics Engineers (IEEE)
Media Publisher Ltd

CONFERENCE SECTIONS *

1. Antennas and Radio Waves Propagation.
2. Navigation and Mathematical Algorithms of an Object Space Orientation.
3. Radiofrequency Applications.
4. Wire and Optical Communication and Control Systems.
5. Intelligent Transport Systems
6. Digital signal processing in on-board radio systems

* The reports in the program inside the sections are listed in alphabetical order by the name of the first author. By agreement with the chairman of the section, the order of reports may be changed
(Доклады в программе внутри секций перечислены в алфавитном порядке по фамилии первого автора. По согласованию с председателем секции порядок следования докладов может быть изменен).

CONFERENCE SCHEDULE

19 March 2020, Congress Center Avia-Plaza

9-30 — 10-00	Registration of participants (<i>регистрация участников</i>)
10-00 — 13-00	Conference sections (<i>работа секций конференции</i>)
13.00 — 14.00	Lunch (<i>обед</i>)
14.00 — 16.30	Plenary session (<i>пленарное заседание</i>)
16.30 — 19.00	Cocktail (<i>фуршет</i>)

20 March 2020, Congress Center Avia-Plaza

10-00 — 14-00	Conference sections (<i>работа секций конференции</i>)
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PLENARY SESSION
March 19, 2020 Congress Center Avia-Plaza

14-00 – 14-05

Opening speech

Rector MTUCI Sergey D. Erokhin

14-05 – 14-10

Welcoming Remarks

Roman Yu. Ivanyushkin,

*Branch Director of the IEEE Worldwide Limited in the Russian Federation,
Chair of Russian (Moscow) IEEE Circuits and Systems (CAS04) Chapter,
PhD, Associate Professor of Moscow Technical University of Communications and Informatics*

14-10– 14-55

**Report «PLANAR MULTI-BEAM LEAKY WAVE ANTENNAS
FOR RADAR AND COMMUNICATION»**

Kaloshin Vadim Anatolyevich

*Doctor of Science, IEEE Region 8, Chair of AP Moscow Chapter,
Vice-chair of MTT/ED/AES Moscow Chapter,
Kotelnikov Institute of Radio Engineering and Electronics of RAS, Moscow, Russia*

14-55 – 15-35

Report «GLOBAL SATELLITE INFORMATION SYSTEM»

Sergey S. Adzhemov, *MTUCI, Moscow, Russia*

Nikolay I. Moiseev, Lev E. Nazarov, Alexander I. Sigal,

JSC Academician M.F. Reshetnev Information Satellite Systems, Moscow, Russia

Alexander V. Pestryakov, *MTUCI, Moscow, Russia*

15-35 – 16-05

**Report «CREATING A UNIFIED INFORMATION SPACE IN DIGITAL
ECONOMY ON THE BASIS OF INNOVATIVE DEVELOPMENT
INFORMATION, MANAGEMENT AND TELECOMMUNICATION SYSTEMS»**

Sergey V. Kozlov,

*Federal State Institution «Federal Research Center «Informatics and Management»
of the Russian Academy of Sciences, Moscow, Russia*

Alexander N. Kubankov,

Moscow Technical University of Communication and Informatics, Moscow, Russia

16-05 – 16-15

Information message

**«CHANGING ROLES AND REQUIREMENTS FOR SCIENTIFIC
AND TECHNICAL PUBLICATIONS»**

Oleg V. Varlamov, *Doctor of Technical Sciences, MTUCI, Moscow, Russia*

ПОВЕСТКА ДНЯ ПЛЕНАРНОГО ЗАСЕДАНИЯ

19 марта 2020 г. Конгресс-центр Авиа-Плаза

14-00 – 14-05

Приветственное слово

ЕРОХИН Сергей Дмитриевич

Ректор МТУСИ

14-05 – 14-10

Приветственное слово

ИВАНЮШКИН Роман Юрьевич,

Branch Director of the IEEE Worldwide Limited in the Russian Federation,

Chair of Russian (Moscow) IEEE Circuits and Systems (CAS04) Chapter,

PhD, Associate Professor of Moscow Technical University of Communications and Informatics

14-10– 14-55

**Доклад «ПЛОСКИЕ МНОГОЛУЧЕВЫЕ АНТЕННЫ
ДЛЯ РАДИОЛОКАЦИИ И СИСТЕМ СВЯЗИ»**

Калошин Вадим Анатольевич

*д.т.н., IEEE Region 8, Chair of AP Moscow Chapter, Vice-chair of MTT/ED/AES Moscow Chapter,
Kotelnikov Institute of Radio Engineering and Electronics of RAS, Moscow, Russia*

14-55 – 15-35

Доклад «ГЛОБАЛЬНАЯ ИНФОРМАЦИОННАЯ СПУТНИКОВАЯ СИСТЕМА»

Аджемов Сергей Сергеевич, МТУСИ, Москва, Россия

Моисеев Николай Иванович, Назаров Лев Евгеньевич,

Сигал Александр Иосифович, АО ИСС, Москва, Россия

Пестряков Александр Валентинович, МТУСИ, Москва, Россия

15-35 – 16-05

**Доклад «ПРОЦЕССНЫЕ ОСНОВЫ СОЗДАНИЯ ЕДИНОГО
ИНФОРМАЦИОННОГО ПРОСТРАНСТВА ЦИФРОВОЙ ЭКОНОМИКИ
НА БАЗЕ ИННОВАЦИОННОГО РАЗВИТИЯ ИНФОРМАЦИОННЫХ,
УПРАВЛЯЮЩИХ И ТЕЛЕКОММУНИКАЦИОННЫХ СИСТЕМ»**

Козлов Сергей Витальевич,

Федеральное государственное учреждение «Федеральный исследовательский центр

«Информатика и управление» РАН, Москва, Россия

Кубанков Александр Николаевич,

Московский технический университет связи и информатики, Москва, Россия

16-05 – 16-15

**Информационное сообщение «ИЗМЕНЕНИЕ РОЛИ НАУЧНО-ТЕХНИЧЕСКИХ
ПУБЛИКАЦИЙ И ТРЕБОВАНИЙ К НИМ»**

Варламов Олег Витальевич, д.т.н., МТУСИ, Москва, Россия

SECTION 1
Antennas and Radio Waves Propagation

SECTION CHAIRMEN: **Vadim A. Kaloshin**, *Doctor of Sciences (Engineering), IEEE Region 8, Chair of AP Moscow Chapter, Vice-chair of MTT/ED/AES Moscow Chapter*

1. Sergey S. Adjemov, Nikita V. Belov, Vladimir N. Repinsky

Moscow Technical University of Communications and Informatics, Moscow, Russia

ISOLATION OF INTERFERING WAVE COMPONENTS IN A PHASED ARRAY

2. Evgenia A. Dyakova, Oleg V. Mentus

Space Systems Centre, Radio Research and Development Institute (NIIR)

USE OF FLEXIBLE PAYLOADS FOR RUSSIAN COMMUNICATION AND BROADCAST SATELLITES

3. Aleksandr V. Brega, *Moscow Technical University of Communications and Informatics, Moscow, Russia;*

Financial University under the Government of the Russian Federation, Moscow, Russia

Oksana V. Erokhina, *Financial University under the Government of the Russian Federation, Moscow, Russia*

INTELLIGENT TRANSPORT TECHNOLOGIES IN SMART CITIES

4. I. V. Golovkin, M. M. Tolkachev

Moscow Technical University of Communications and Informatics, Moscow, Russia

REVIEW METHODS FOR CALCULATING THE PATH LOSSES IN A CLOSED TRANS-HORIZON RADIO LINK

5. Dmitry V. Ivanov (Member IEEE), Vladimir A. Ivanov,

Nataliya V. Ryabova (Member IEEE), Aleksey A. Kislitsin, Andrey A. Chernov
Volga State University of Technology, Yoshkar-Ola, Russia

MITIGATION OF DISPERSION DISTORTIONS OF TRANSIONOSPHERIC COMMUNICATION CHANNELS WHEN TOTAL ELECTRON CONTENT MEASUREMENTS ARE CORRUPTED WITH STOCHASTIC ERROR

6. Victor I. Kalinichev, Vadim A. Kaloshin (*Member IEEE*), *Kotelnikov Institute of Radio Engineering and Electronics of RAS, Moscow, Russia*

Le Doan Trinh, Nguyen Cong The, *Moscow Institute of Physics and Technology (NIU), Dolgoprudny, Russia*

LEAKY WAVE ANTENNAS WITH WIDE SECTOR OF FREQUENCY SCANNING AND A FIXED BEAM

7. Vadim A. Kaloshin (*Member IEEE*), *Kotelnikov Institute of Radio Engineering and Electronics of RAS, Moscow, Russia*

Le Doan Trinh, *Moscow Institute of Physics and Technology (NIU), Dolgoprudny, Russia*

MULTI-BEAM TRIFOCAL WAVEGUIDE SLOT ANTENNA ARRAYS

Andrew S. Kryukovsky, Dmitry S. Lukin, Dmitry V. Rastyagaev

Russian New University, Moscow, Russia

RAY METHODS AND SPECIAL FUNCTIONS OF WAVE CATASTROPHES

8. Ivan V. Malygin, Alexander S. Luchinin, Anna A. Plesovskikh

Ural Federal University, Yekaterinburg, Russia

THE STUDY OF THE TOPOLOGICAL ELEMENTS OF THE PRINTED CIRCUIT BOARD AS AN ANTENNA WHEN RECEIVING GPS SIGNALS

9. Yuri B. Nechaev, *Voronezh State University, Voronezh, Russia*

Ilya V. Peshkov, *Bunin Yelets State University, Yelets, Russia*

AN APPROACH OF DOA-ESTIMATION ACCURACY IMPROVING VIA CONFORMAL ANTENNA ARRAYS WITH DIRECTIONAL EMITTERS

10. Anna S. Politaeva, Amir I. Sulimov (*Member IEEE*), **Arkadiy V. Karpov**

Kazan Federal University, Kazan, Russia

CALCULATION OF TOTAL ELECTRON CONTENT FOR SIMULATION OF METEOR-SCATTER RADIO LINKS

11. Mikhail V. Snastin, Elena M. Dobychina

Moscow Aviation Institute (National Research University), Moscow, Russia

CALIBRATION OF A PLANAR SCANNER FOR NEAR-FIELD ANTENNA MEASUREMENTS

12. Amir I. Sulimov (*Member IEEE*), **Maxim A. Sadovnikov, Aidar A. Galiev,**

Arkadiy V. Karpov, Oleg N. Sherstyukov (*Member IEEE*)

Kazan Federal University, Kazan, Russia

PREDICTABILITY ASSESS OF MULTIPATH PHASE USING ARIMA MODEL

13. Pavel A. Titovets

Moscow Technical University of Communications and Informatics, Moscow, Russia

**EXPERIMENTAL STUDIES OF METHODS FOR REDUCING THE NOISE
TEMPERATURE OF AXISYMMETRIC REFLECTOR ANTENNAS
OF SATELLITE COMMUNICATIONS**

**14. Alexey P. Vorontsov, Dmitry V. Bosomykin, Mikhail Yu. Maslov,
Alexey A. Gavrilov**

*Federal State Unitary Enterprise Radio Research and Development Institute, NIIR,
Moscow, Russia*

**ADAPTIVE COMPENSATION FOR INTERFERENCE UNDER RADIO
SIGNALS RECEPTION BY THE MULTIBEAM ANTENNA SYSTEM**

15. Olga I. Yastrebtsova

Moscow Technical University of Communications and Informatics, Moscow, Russia

SCAN BLINDNESS IN FINITE MICROSTRIP ANTENNA ARRAYS

SECTION 2.
**Navigation and Mathematical Algorithms
of an Object Space Orientation**

SECTION CHAIRMEN: Roman Yu. Ivanyushkin,

*PhD, Associate Professor of Moscow Technical University of
Communications and Informatics. Branch Director of the IEEE
Worldwide Limited in the Russian Federation.
Chair of Russian (Moscow) IEEE Circuits and Systems (CAS04)
Chapter*

1. Artyom S. Adzhemov (Member IEEE), Anastasiya Yu. Kudryashova
Moscow Technical University of Communications and Informatics, Moscow, Russia
**REDUCING DISTORTION WHEN APPLYING THE RATIONAL CHOICE
OF THE DIGITAL CONVERSION METHOD**

2. Irena V. Chernova
Moscow Technical University of Communications and Informatics, Moscow, Russia
SOME GENERALIZATION OF THE THEORY OF GENERATING FUNCTIONS

**3. Vladimir A. Dokuchaev, Victoria V. Maklachkova, Daria V. Makarova,
Lyubov V. Volkova**
Moscow Technical University of Communications and Informatics, Moscow, Russia
**ANALYSIS OF DATA RISK MANAGEMENT METHODS
FOR PERSONAL DATA INFORMATION SYSTEMS**

4. Anna V. Dolgopyatova, Anastasiya Yu. Kudryashova
Moscow Technical University of Communications and Informatics, Moscow, Russia
MODERN SATELLITE SOLUTIONS FOR INTERNET BROADCASTING

5. Svetlana S. Dymkova
Moscow Technical University of Communications and Informatics, Moscow, Russia
**CONJUNCTION AND SYNCHRONIZATION METHODS OF EARTH
SATELLITE IMAGES WITH LOCAL CARTOGRAPHIC DATA**

6. Svetlana F. Gorgadze, Tatiana M. Gut
Moscow Technical University of Communications and Informatics, Moscow, Russia
**ACCELERATED EVALUATION OF SPREAD SPECTRUM SIGNALS
SYNCHRONIZATION PARAMETERS**

7. Anastasiya Yu. Kudryashova, *Moscow Technical University of Communications and Informatics, Moscow, Russia*

Kristina V. Boychenko, *Architecture and IT University of Queensland, Brisbane, Australia*

Irina V. Boychenko, *Moscow Technical University of Communications and Informatics, Moscow, Russia*

**INTERACTIVE BUILT ENVIRONMENT IN SHAPING USERS.
ORIENTATION AND NAVIGATION IN SPACE**

8. Vitaly O. Lazarev (*Member IEEE*), **Grigoriy A. Fokin**

The Bonch-Bruевич Saint Petersburg State University of Telecommunications, Saint-Petersburg, Russia

**POSITIONING PERFORMANCE REQUIREMENTS EVALUATION
FOR GRID MODEL IN ULTRA-DENSE NETWORK SCENARIO**

9. Edward V. Sveshnikov, *Moscow Aviation Institute (National Research University), Moscow, Russia*

A. E. Sveshnikov, *LTD «CyberLing», Moscow, Russia*

**A METHOD OF CONSTRUCTING MULTIFUNCTIONAL SATELLITE
NAVIGATION SYSTEM, MONITORING AND MANAGEMENT USING
GROUND-BASED TRANSMITTER / RECEIVER POINTS**

**10. Evgeny V. Ukhanov, Roman V. Terekhin, Irina V. Chernova,
Oleg Yu. Perfilov, Mikhail Yu. Morozov**

Moscow Technical University of Communications and Informatics, Moscow, Russia

RADAR PORTRAIT OF A MOVING AIR TARGET FORMATION ALGORITHM

SECTION 3.
Radiofrequency Applications

SECTION CHAIRMEN: **Alexander V. Pestryakov**, *Doctor of Sciences (Engineering),
Dean of Radio and Broadcasting Faculty, Professor of Moscow
Technical University of Communications and Informatics*

1. Georgiy A. Alekseev, V. E. Martirosov

*Ministry of Science and Higher Education of the Russian Federation;
Moscow Aviation Institute (National Research University), Moscow, Russia*

**QPSK SIGNAL GENERATION BASED ON GLOBALLY LINEARIZED
SYNCHRONIZATION SYSTEM**

2. Oleg V. Arinin, Grigory M. Aristarkhov, Maksim P. Ivichev

Moscow Technical University of Communications and Informatics, Moscow, Russia

**HIGHLY SELECTIVE MICROSTRIP FILTERS BASED ON MULTI-STEP
COMB STRUCTURES WITH ADDITIONAL CROSS-COUPLING**

**3. Grigory M. Aristarkhov, Igor N. Kirillov, Andrey V. Markovsky,
Viktoriya A. Pustovalova**

Moscow Technical University of Communications and Informatics, Moscow, Russia

**COMPACT HIGHLY SELECTIVE MICROSTRIP FILTERS WITH FOLDED
HAIRPIN RESONATORS**

**4. Andrey B. Baev, Yury V. Kuznetsov, Maxim A. Konovalyuk,
Anastasia A. Gorbunova, Mikhail S. Nuzhnov**

Moscow Aviation Institute (National Research University), Moscow, Russia

**CYCLOSTATIONARY EVALUATION OF VOLTAGE CROSSTALK
BETWEEN PCB'S TRANSMISSION LINES**

5. Denis S. Chirov (Member IEEE), Yuri A. Kochetkov

Moscow Technical University of Communications and Informatics, Moscow, Russia

**ASSESSMENT OF THE ACCURACY OF DETERMINING THE COORDINATES
AND SPEED OF SMALL-SIZE UAV OF A MULTI-POSITION RADAR WITH
OMNIDIRECTIONAL ANTENNA ELEMENTS**

6. Denis V. Gadasin, Andrey V. Shvedov, Ilya S. Vakurin

Moscow Technical University of Communications and Informatics, Moscow, Russia

**DESIGNING WI-FI WIRELESS NETWORKS WITH HIGH DENSITY
OF SUBSCRIBER SERVICE**

7. Vladimir M. Gevorkyan, Sergey N. Mikhailin

National Research University Moscow Power Engineering Institute, Moscow, Russia

RECOMMENDATIONS FOR THE DRIFT THERMAL COMPENSATION OF THE OSCILLATOR FREQUENCY USING A DIELECTRIC RESONATOR

8. Gennady, N. Kazakov, Alexander M. Petrakov, Vyacheslav A. Shevtsov

Moscow Aviation Institute (National Research University), Moscow, Russia

RADIO MONITORING OF WIRELESS NETWORKS USING LORA DATA TRANSMISSION TECHNOLOGY

**9. Igor N. Kirillov, Grigory M. Aristarkhov,
Varvara S. Medvedeva, Alexey G. Shigontcev**

Moscow Technical University of Communications and Informatics, Moscow, Russia

MICROSTRIP FILTERS ON CODIRECTIONAL HAIRPIN RESONATORS WITH SPLIT WORKING ATTENUATION POLES

10. Alexander S. Konstantinov, Alexander V. Pestryakov,

Moscow Technical University of Communications and Informatics, Moscow, Russia

THE NEW NEURAL NETWORK BASED FRAMEWORK FOR FADING CHANNEL PREDICTION FOR 5G

11. Ilia R. Lavrukhin, Andrey A. Yelizarov (Member IEEE), Stepan V. Bashkevich

National Research University Higher School of Economics, Moscow, Russia

THE INFLUENCE OF FLEXIBLE BENDING ON THE ELECTRODYNAMIC CHARACTERISTICS OF RFID TAGS

**12. Ilya M. Lerner, Maxim A. Manerov, Rashid R. Fayzullin,
Sergei M. Chernyvsckii,**

*Kazan National Research Technical University n.a. A.N. Tupolev – KAI (KNRTU-KAI),
Kazan, Russia*

Vladimir I. Il'in

Kazan (Volga region) Federal University, Kazan, Russian Federation, Kazan, Russia

FEATURES OF CAPACITY OF COMMUNICATION CHANNEL WITH APSK-N SIGNALS, WHICH IMPLEMENTS THE THEORY OF RESOLUTION TIME

13. Alexey A. L'vov (Member IEEE), Artem Yu. Nikolaenko, Nina I. Melnikova, Natalia S. Vagarina,
Yuri Gagarin State Technical University of Saratov, Saratov, Russia
Mikhail S. Svetlov,
Institute of Precision Mechanics and Control of RAS, Saratov, Russia
**RADIO FREQUENCY IDENTIFICATION USING READER BASED
ON A MULTI-PORT JUNCTION**

14. Vladimir E. Martirosov, Georgiy A. Alekseev
Moscow Aviation Institute (National Research University), Moscow, Russia
SYNCHRONOUS METHODS OF BPSK SIGNAL GENERATION

15. Mikhail Yu. Morozov, Oleg Yu. Perfilov, Natalya V. Malyavina, Roman V. Terekhin, Irina V. Chernova
Moscow Technical University of Communications and Informatics, Moscow, Russia
**COMBINED APPROACH TO SSDF-ATTACKS MITIGATION
IN COGNITIVE RADIO NETWORKS**

16. Igor V. Nelin, Alexander A. Griбанov, Maxim S. Vinogradov
Moscow Aviation Institute (National Research University), Moscow, Russia
**IMPROVING THE EFFICIENCY OF INFORMATION TRANSMISSION
IN THE TROPOSPHERE COMMUNICATION LINE**

17. Danil I. Sapronov, Ilya V. Kamenskiy
Moscow Aviation Institute (National Research University), Moscow, Russia
**THE APPLICATION OF THE JOINT RANGE AND SPEED ESTIMATION
METHOD IN SHORT-RANGE RADARS USING ULTRA-WIDEBAND SIGNALS
WITH A PSEUDO-RANDOM FREQUENCY CODING**

18. Nikita D. Shmakov, Roman Yu. Ivanyushkin (Member IEEE)
Moscow Technical University of Communications and Informatics, Moscow, Russia
**RESEARCH OF AN ULTRA-WIDEBAND DISTRIBUTED AMPLIFIER
BASED ON FIELD-EFFECT TRANSISTORS**

19. Elena P. Stroganova, Sergey E. Grychkin,
Moscow Technical University of Communications and Informatics, Moscow, Russia
**FREQUENCY TUNING RANGE LIMITATION IN MICROWAVE
GENERATORS ON BIPOLAR ACTIVE DEVICE**

20. Evgeny V. Tonkikh, *Radio Research and Development Institute, Moscow, Russia*
Kseniya D. Burobina, *Radio Research and Development Institute; Moscow Technical University of Communications and Informatics, Moscow, Russia*
Alexey A. Shurakhov, *Radio Research and Development Institute, Moscow, Russia*
POSSIBLE APPLICATIONS OF SIXTH GENERATION COMMUNICATION NETWORKS

21. Oleg V. Varlamov, Viktor N. Gromorushkin
HIGH EFFICIENCY POWER AMPLIFIER FOR IOT APPLICATIONS: RF PATH
Moscow Technical University of Communications and Informatics, Moscow, Russia

22. Andrej A. Yelizarov (*Member IEEE*), **Aleksandr D. Kuznetsov, Igor V. Nazarov, Ilya R. Lavruhin**
National Research University «Higher School of Economics», Moscow, Russia
PROSPECTS FOR APPLICATIONS OF SMALL-SIZED ANTENNAS ON FLEXIBLE SUBSTRATES

23. Igor O. Yuskov, Elena P. Stroganova
Moscow Technical University of Communications and Informatics, Moscow, Russia
APPLICATION OF NEURAL NETWORK MODEL DESIGN FOR MONITORING WIRELESS COMMUNICATION NETWORKS

SECTION 4.
Wire and Optical Communication and Control Systems

SECTION CHAIRMEN: **Aleksey N. Nazarov**, *Doctor of Sciences (Engineering), professor, Moscow Institute of Physics & Technology, State University, Moscow, Russia*

Bayram G. Ibrahimov, *(Member IEEE), Doctor of Sciences (Engineering), professor, Azerbaijan Technical University, Baku, Azerbaijan*

1. Vadim V. Afanasiev, Sergey S. Loginov

Kazan National Research Technical University named after A. N. Tupolev – KAI, Kazan, Russia

FRACTIONAL POWER SPECTRUMS IN DIAGNOSTICS OF ON-BOARD ELECTRONIC EQUIPMENT OF MONITORING, MEASURING AND TEMPERATURE REGULATING SYSTEMS

2. Alexey N. Rudnev, Nikita A. Balyabin

Moscow Technical University of Communications and Informatics, Moscow, Russia

RESEARCH OF PROTECTION METHODS OF TELEMETRIC AND CONTROL INFORMATION WHILE TRANSMISSION THROUGH COMPUTER NETWORKS

3. Mikhail A. Boev, Hein Myat Ko, Sui Chunyu, Ye Naing Lin, Ye Kyaw Min,

Moscow Power Engineering Institute, Moscow, Russia

DESIGN OF OPTICAL CABLES INTENDED FOR LAYING INSIDE BUILDINGS AND ZONE COMMUNICATION

4. Vladimir A. Andreev, Vladimir A. Burdin (Member IEEE), Anton V. Bourdine, Kirill A. Volkov

Povolzhskiy State University of Telecommunications and Informatics, Samara, Russia

OPTICAL ANALOG NONLINEAR COMPENSATION FOR FIBER OPTIC LINK

5. Anshita Dhoot, A. N. Nazarov, Alireza Nik Aein Koupaei

Moscow Institute of Physics & Technology, State University, Moscow, Russia

A SECURITY RISK MODEL FOR ONLINE BANKING SYSTEM

6. Sergey D. Erokhin,

Moscow Technical University of Communications and Informatics, Moscow, Russia

ARTIFICIAL INTELLIGENCE FOR INFORMATION SECURITY

7. Dmitriy S. Fedorenko, Konstatin E. Legkov,

Military Space Academy named after A.F.Mozhaisky, St. Petersburg, Russia

**MODELING OF THE HIGH-ORBITAL SATELLITE REFLECTION SPECTRUM
BASED ON MATERIALS AND COATINGS LABORATORY REFLECTION
SPECTRA**

8. Alexander B. Goldstein, Vasily S. Elagin, Ilya A. Belozertsev, Anastasia V. Spirkina

*The Bonch-Bruевич Saint-Petersburg State University of Telecommunications,
Saint-Petersburg, Russia*

PROVIDING QOS FOR OTT SERVICES IN COMMUNICATION NETWORKS

**9. Bayram G. Ibrahimov (Member IEEE), Mehman H. Hasanov, (Member IEEE),
Nail T. Mardanov**

Azerbaijan Technical University, Baku, Azerbaijan

**RESEARCH AND ANALYSIS EFFICIENCY OPTICAL TELECOMMUNICATION
NETWORKS ON THE BASIS OPTICAL WDM AND DWDM TECHNOLOGIES**

10. Ivan S. Ignatikov, Irina A. Ovchinnikova, Izyaslav B. Peshkov,

Eduard Ya. Gecha, Peter A. Semenov, JSC VNIKP, Moscow, Russia

**RADIATION-RESISTANT OPTICAL CABLE FOR SPACE
TECHNOLOGY OBJECTS**

11. Vasily I. Kazakov, Oleg D. Moskaletz, Artur S. Paraskun (Member IEEE)

Saint Petersburg State University of Aerospace Instrumentation, Saint Petersburg, Russia

**SPECTRUM FORMING AND DETECTION IN THE SYSTEM OF MONITOR-
ING, BASED ON A DIFFRACTION GRATING**

12. Pavel S. Korolev, Anton I. Sosnin, Kirill D. Sedov

National Research University Higher School of Economics, Moscow, Russia

**DEPENDABILITY AND QUALITY SATELLITE TELECOMMUNICATION
EQUIPMENT IMPROVING AT THE PRODUCTION STAGE**

**13. Vladimir N. Korshunov, Moscow Technical University of Communications
and Informatics, Moscow, Russia**

Irina A. Ovchinnikova, RRDI for Cable Industry, Moscow, Russia

**Sergey S. Shavrin, Nadezhda A. Shishova, Moscow Technical University
of Communications and Informatics, Moscow, Russia**

Alexander Y. Tsym, FSUI "ZNIIS", Moscow, Russia

**SPECTRAL EFFICIENCY AND INFORMATION TRANSFER RATE
OVER OPTICAL FIBERS IN SPATIAL PARALLELISM**

14. Artem A. Kuznetsov, Ilnur I. Nureev, Konstantin A. Lipatnikov
*Kazan National Research Technical University named after A. N. Tupolev – KAI,
Kazan, Russia*

**FIBER OPTIC SENSORS WITH POLARIZATION MULTIPLEXING BASED
ON ADDRESSED FIBER BRAGG GRATINGS**

15. Yuri L. Leokhin, Timur D. Fatkhulin,
Moscow Technical University of Communications and Informatics, Moscow, Russia

**APPROACH TO ESTIMATING THE PROBABILITY OF PROVIDING
"CLOUD" SERVICES IN THE SDN**

**16. Oleg D. Moskaletz, Mikhail A. Vaganov, Vasily I. Kazakov, Aleksandr S. Kho-
mutov,**

Saint-Petersburg State University of Aerospace Instrumentation, Saint-Petersburg, Russia
**MEASUREMENT OF OPTICAL SPECTRUM BY A SPECTRAL DEVICE BASED
ON AN ACOUSTO-OPTIC TUNABLE FILTER WITH A STEPWISE TUNING
FREQUENCY**

**17. Alexey N. Nazarov, Alireza Nik Aein Koupaei, Anshita Dhoot,
Asyraf Azlan, Seyed Milad Ranaei Siadat,**

Moscow Institute of Physics and Technology, Moscow, Russia

MATHEMATICAL MODELLING OF INFRASTRUCTURE AS A SERVICE

18. Eduard L. Portnov, *Moscow Technical University of Communications and Informat-
ics, Moscow, Russia*

Rabenandrasana Jocelin, *University of Toliara, Toliara, Madagascar*

**THE CHOICE OF OPTICAL FIBER WITH THE BEST TRANSMISSION
CHARACTERISTICS**

19. Oleg I. Sheluhin, Denis V. Kostin, Mikhail G. Gorodnichev (Member IEEE)
Moscow Technical University of Communications and Informatics, Moscow, Russia

**MONITORING ANOMALOUS STATES OF COMPUTER SYSTEMS
BY INTELLECTUAL ANALYSIS OF DATA OF SYSTEM JOURNALS**

20. Sergey N. Stepanov, Mikhail S. Stepanov,

Moscow Technical University of Communications and Informatics, Moscow, Russia

Umer Mukhtar Andrabi,

Moscow Technical University of Communications and Informatics, Moscow, Russia;

Central University of Kashmir, Srinagar, Jammu and Kashmir, India

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Moscow Technical University of Communications and Informatics, Moscow, Russia;

University of Burundi, Bujumbura, Burundi

**RESERVATION BASED JOINT SERVICING OF REAL TIME
AND BATCHED TRAFFIC IN INTER SATELLITE LINK**

21. I. V. Stepanova, *Moscow Technical University of Communications and Informatics, Moscow, Russia*

Mohammed Omar Ahmed Abdolvasea, *Taiz University, Taiz, Yemen;*

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SHARING TETRA SYSTEM RESOURCES AND UNMANNED AERIAL VEHICLES

22. Dmitry A. Tarasov, Irina A. Ovchinnikova, Gennady I. Meschanov,

Vladimir N. Gordienko, *All-Russian Scientific Research and Development*

Cable Institute, Moscow, Russia

Aleksandr Yu. Tsym, *FSUI ZNIIS, Moscow, Russia*

QUARTZ-GLASS OPTICAL FIBRE TIME TO FRACTURE AT SMALL BENDING RADIUSES

23. Alexey N. Terekhov, Alla S. Korchagina,

Moscow Technical University of Communications and Informatics, Moscow, Russia

IMPROVED ACCURACY INTRUSIVE METHOD FOR SPEECH QUALITY EVALUATION BASED ON CONSIDERATION OF INTONATION IMPACT

24. Alexandr V. Timoshenko, *Radio Engineering Institute named after academician*

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Voronezh, Russia

Alexander M. Petrakov, *Moscow Aviation Institute (National Research University),*

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OPTIMAL BALANCE OF TELECOMMUNICATION SYSTEM RESOURCE IN CASE OF INFORMATION TECHNOLOGY IMPACTS

25. Augustin Vyukusenge, *University of Bujumbura, Bujumbura, Burundi;*

Moscow Technical University of Communications and Informatics, Moscow, Russia

Jocelin Rabenandrasana, *University of Toliara, Toliara, Madagascar;*

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POLARIZATION MODE DISPERSION EFFECTS ON SIGNAL QUALITY AND COMPENSATION METHODS

26. Alexander L. Zubilevich, Sergei A. Sidnev, Vladimir A. Tsarenko

Moscow Technical University of Communications and Informatics, Moscow, Russia

INCREASING THE EFFICIENCY OF USING REDUNDANT OPTICAL FIBERS IN CABLES OPERATED IN HARD-TO-REACH AREAS

SECTION 5. Intelligent Transport Systems

SECTION CHAIRMEN: **Marina V. Yashina**, *Doctor of Sciences (Physical and mathematical), Moscow automobile and road construction state technical University (Member IEEE)*

1. Veronika R. Brus, Lilia I. Voronova (*Member IEEE*), **Vyacheslav I. Voronov** *Moscow Technical University of Communications and Informatics, Moscow, Russia*
**NEURAL NETWORK CLASSIFICATION OF CARDIAC ACTIVITY
BASED ON CARDIOGRAM DATA FOR DRIVER SUPPORT SYSTEM**

2. Dmitrii A. Buslaev, *PAO "Radiophysics", Moscow, Russia*
Marina V. Yashina (*Member IEEE*), **Alexander G. Tatashev**,
Moscow Automobile and Road Construction University, Moscow, Russia;
Moscow Technical University of Communications and Informatics, Moscow, Russia
Nikolay P. Susoev, *Moscow Automobile and Road Construction University, Moscow, Russia*
ALGORITHM FOR IMPROVING OF GEO-LOCATION ACCURACY IN DISTRIBUTED MONITORING MOBILE SYSTEMS OF TRAFFIC FLOW CHARACTERISTICS

3. Mikhail G. Gorodnichev (*Member IEEE*), **Khizar A. Dzhabrailov**,
Ksenia A. Polyantseva, *Moscow Technical University of Communications and Informatics, Moscow, Russia*
Rinat A. Gematudinov, *Moscow Automobile and Road Construction University, Moscow, Russia*
ON AUTOMATED SAFETY DISTANCE MONITORING METHODS BY STEREO CAMERAS

4. Robert R. Gubaidullin, Timur A. Agliullin, Ilnur I. Nureev,
Airat Zh. Sakhabutdinov (*Member IEEE*),
Kazan National Research Technical University n.a. A.N. Tupolev-KAI, Kazan, Russia
Vladimir Ivanov, *Technische Universität Ilmenau, Ilmenau, Germany*
APPLICATION OF GAUSSIAN FUNCTION FOR MODELING TWO-FREQUENCY RADIATION FROM ADDRESSED FBG

5. Zoya V. Ilyichenkova, Svetlana M. Ivanova, *MIREA – Russian Technological University, Moscow, Russia*
Andrey Volkov, *Moscow Technical University of Communications and Informatics, Moscow, Russia*
Alla Yu. Ermakova, *MIREA – Russian Technological University, Moscow, Russia*
PREDICTION OF AUTONOMOUS OBJECTS POSITION USING NEURAL NETWORKS

6. S. V. Kozlov, E. A. Voronin

Federal State Institution «Federal Research Center «Informatics and Management» of the Russian Academy of Sciences, Moscow, Russia

MACHINE LEARNING METHODS FOR ASSESSING ECONOMIC SECURITY INDICATORS IN THE LIFE CYCLE OF ON-BOARD AUTOMATION SYSTEMS ON A GIVEN PLATFORM

7. Gennadiy V. Kustarev, *Moscow Automobile and Road Construction University, Moscow, Russia*

Vladimir F. Tishkin, *Moscow Automobile and Road Construction University, Moscow, Russia;*

RAS Keldysh Institute of Applied Mathematics, Moscow, Russia

Marina V. Yashina (*Member IEEE*), **Anastasia A. Izotova,** *Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia;*
Moscow Technical University of Communications and Informatics, Moscow, Russia

MATHEMATICAL MODEL OF RHEOLOGICAL DEFORMATIONS OF ASPHALT CONCRETE

8. Igor F. Mikhalevich

RUT (MITE), Moscow, Russia

METHODS ENSURING THE SECURITY OF SOFTWARE FOR INTELLIGENT TRANSPORT SYSTEMS

9. Oleg G. Morozov (*Member IEEE*), **Airat Zh. Sakhabutdinov** (*Member IEEE*), *Kazan National Research Technical University named after A.N. Tupolev-KAI, Kazan, Russia*

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Ilnur I. Nureev, *Kazan National Research Technical University named after A.N. Tupolev-KAI, Kazan, Russia*

Valentin Ivanov, *Technische Universität Ilmenau, Ilmenau*

INTERROGATOR FOR VIBRATION AND SHAPE MODE SENSING USING AN ADDRESS FIBER BRAGG GRATING ARRAY

10. Marina S. Moseva, *Moscow Technical University of Communications and Informatics, Moscow, Russia*

Marina V. Yashina (*Member IEEE*), **Elisey A. Nosov,** *Moscow Automobile and Road Construction State Technical University (MADI), Moscow, Russia*

DESIGN FEATURES OF THE ON-BOARD COMPLEX FOR IMAGE RECOGNITION TASKS IN DRIVER ASSISTANCE SYSTEMS (DAS)

11. Konstantin N. Pankov

Moscow Technical University of Communications and Informatics, Moscow, Russia

TESTING, VERIFICATION AND VALIDATION OF DISTRIBUTED LEDGER SYSTEMS

12. Airat Zh. Sakhabutdinov (Member IEEE), Oleg G. Morozov (Member IEEE),

Timur A. Agliullin, Robert R. Gubaidullin, Kazan National Research Technical University n.a. A.N. Tupolev-KAI, Kazan, Russia

Vladimir Ivanov, Technische Universität Ilmenau, Ilmenau, Germany

MODELING OF SPECTRUM RESPONSE OF ADDRESSED FBG-STRUCTURES IN LOAD SENSING BEARINGS

13. Yuri A. Vershinin (Member IEEE), Yao Zhan

School of Mechanical, Aerospace and Automotive Engineering, Coventry, United Kingdom

VEHICLE TO VEHICLE COMMUNICATION: DEDICATED SHORT RANGE COMMUNICATION AND SAFETY AWARENESS

14. Andrei G. Vladyko (Member IEEE), Vasiliy S. Elagin, Anastasia V. Spirkina,

Ilya A. Belozertsev, Elizaveta A. Aptrieva

The Bonch-Bruевич Saint-Petersburg State University of Telecommunications, Saint-Petersburg, Russia

BLOCKCHAIN MODELS TO IMPROVE THE SERVICE SECURITY ON BOARD COMMUNICATIONS

15. Yue Wang, East China University of Science and Technology, Shanghai, China;

Moscow Technical University of Communications and Informatics, Moscow, Russia

Lilia I. Voronova (Member IEEE), Vyacheslav I. Voronov, Moscow Technical University of Communications and Informatics, Moscow, Russia

DESIGN AND IMPLEMENTATION OF A REMOTE MONITORING HUMAN HEALTH SYSTEM

16. D. Wegerle, B. S. Kerner, M. Schreckenberger, University of Duisburg-Essen,

Duisburg, Germany

S. L. Klenov, Moscow Institute of Physics and Technology, Dolgoprudny, Russia

PREDICTION OF MOVING BOTTLENECK FOR SAFETY AUTONOMOUS DRIVING

17. Mikhail R. Yakimov

Moscow automobile and road construction state technical university (MADI), Moscow, Russia

THE USE OF VARIOUS INPUT DATA IN THE DESIGN OF PUBLIC TRANSPORT ROUTE NETWORKS

SECTION 6.

Digital signal processing in on-board radio systems

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Timofey Shevgunov, *Ph.D, Moscow Aviation Institute (National Research University), Moscow, Russia
Chair of MTT/ED/AES Chapter Moscow, Russia*

1. Valentin A. Abramov, Oleg B. Popov, Vladimir G. Taktakishvili (Member IEEE), Tatyana V. Chernysheva

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RESAMPLING IN AUDIO BROADCAST FORMATION PIPELINE

2. Vladimir A. Baranov, Mikhail U. Konyshev, Andrey A. Privalov, Alexandr A. Shestakov, *Radioavionica Corporation, St. Petersburg, Russia*

Valery I. Kurnosov, *Research Institute "Rubin", St. Petersburg, Russia*

VERIFICATION OF CRYPTOGRAPHIC ALGORITHMS BASED ON THE USE OF METHOD SIMULATION BINARY RANDOM SEQUENCES WITH SPECIFIED STATISTICAL PROPERTIES

3. Vyacheslav V. Borodin, Alexander M. Petrakov, Vyacheslav A. Shevtsov

Moscow Aviation Institute (National Research University), Moscow, Russia

INFLUENCE OF NODE RELIABILITY ON DATA EXCHANGE EFFICIENCY IN DISTRIBUTED MONITORING SYSTEMS WITH DYNAMIC TOPOLOGY

4. Alexey, D. Bykov, Vyacheslav I. Voronov, Lilia I. Voronova (Member IEEE), Ivan A. Zharov

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WEB APPLICATION DEVELOPMENT FOR BIOMETRIC IDENTIFICATION SYSTEM BASED ON NEURAL NETWORK FACE RECOGNITION

5. Nikolay. L. Dembitskiy, Sergey V. Polyakov,

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Alexander V. Timoshenko, *JSC "Radiotechnical Institute named after academician A.L. Mintsa, Moscow, Russia*

RECOGNITION OF ANALOG SIGNALS OF A GIVEN SHAPE USING CONTINUOUS PROCESSORS

6. George A. Dolin

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**OBJECT-ORIENTED REPRESENTATION OF MIXED MODELS KNOWLEDGE
IN THE DESIGN OF ELECTRONIC DEVICES IN CAD ELECTRA**

7. Sergey V. Dushin (*Member IEEE*), *Institute of Control Sciences of Russian Academy
of Sciences, Moscow, Russia*

Sergey S. Shavrin, *Moscow Technical University of Communications and Informatics,
Moscow, Russia*

**ROBUST ADAPTIVE FILTERING ALGORITHM FOR ECHO SIGNAL
INTERFERENCE SUPPRESSION IN SINGLE CARRIER DUPLEX
SATELLITE SYSTEMS**

8. Konstantin Yu. Gavrilov, Timofey Ya. Shevgunov (*Member IEEE*)

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**A NEW MODEL OF HUMAN RESPIRATION FOR ALGORITHM
SIMULATION MODELING IN RADAR APPLICATIONS**

9. Kirill V. Kamenskiy, Konstantin Yu. Gavrilov

Moscow Aviation Institute (National Research University), Moscow, Russia

**ANALYSIS OF DISTORTIONS IN THE DE-RAMPED LFM-CW SIGNAL
OF AN EXTENDED TARGET**

10. Dmitry S. Golenko, Mihail I. Sychev

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**MANEUVERING REENTRY TARGET TRACKING BY MEANS
OF PASSIVE RADAR**

11. Vladimir V. Ionov, Alexander V. Pestryakov

Moscow Technical University of Communications and Informatics, Moscow, Russia

**METHODS OF LABORATORY TESTING OF RADIOMETRICS
OF SPACE MONITORING SYSTEMS FOR MOBILE OBJECTS**

12. Vladimir L. Karyakin

Volga region state university of telecommunications and informatics, Samara, Russia

METHOD FOR ESTIMATING THE SFN STABILITY RESERVE

**13. Maxim A. Konovalyuk, Yury V. Kuznetsov, Andrey B. Baev,
Anastasia A. Gorbunova,**

Moscow Aviation Institute (National Research University), Moscow, Russia

**DIRECTION OF ARRIVAL ESTIMATION USING CYCLOSTATIONARY
PROPERTIES OF WI-FI SIGNALS**

14. Andrei S. Kuznetsov, Sergey N. Kuznetsov, Mikhail N. Ushkar

Moscow Aviation Institute (National Research University), Moscow, Russia

**AUTOMATION OF THE LEARNING PROCESS OF A NEURAL NETWORK
AS CLASSIFIER IN THE FORMATION OF A DESIGN BASIS OF COMPLEX
TRANSPORT SYSTEMS**

15. Vladislav I. Lipatkin, Elizaveta O. Lobova, Nikolay A. Kandaurov

Moscow Technical University of Communications and Informatics, Moscow, Russia

**WIDEBAND SIGNALS DISPERSION DISTORTIONS OPTIMUM
TRACKING COMPENSATOR BASED ON DIGITAL FILTER BANKS
USING FARROW FILTERS**

16. Evgeniy M. Lobov, Vladimir O. Varlamov, Kirill Yu. Sokolov

Moscow Technical University of Communications and Informatics, Moscow, Russia

**METHODS FOR INCREASING THE COMPUTATIONAL EFFICIENCY
OF THE ALGORITHM FOR CALCULATING THE COMPENSATOR
FOR NON-UNIFORMITY OF THE FREQUENCY RESPONSE
OF ANALOG FILTERS IN A HYBRID FILTER BANK**

17. Elizaveta O. Lobova

Moscow Technical University of Communications and Informatics, Moscow, Russia

**DETERMINING CHANNELS NUMBER IN THE DIGITAL FILTER BANK FOR
THE WIDEBAND SIGNALS DISPERSION DISTORTION COMPENSATION**

18. Sergey S. Loginov, Vadim V. Afanasiev

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Kazan, Russia*

**FRACTIONAL POWER SPECTRA IN DIAGNOSTICS OF NONLINEAR
DISCRETE LORENTZ AND CHUA SYSTEMS**

19. Grigory V. Malshakov

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**METHOD OF ACHIEVING INTEROPERABILITY OF APPLIED SOFTWARE
BASED ON THE ANALYSIS OF THEIR DATA**

20. Grigory V. Malshakov

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INTEROPERABILITY APPLICATION PACKAGE

21. Alexey M. Matveev, Nikolay L. Dembitskiy, Mikhail N. Ushkar

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**CONTINUOUS COMPUTING DEVICES FOR BUILT-IN DIAGNOSTIC SYSTEM
OF TRANSMIT/RECEIVE MODULE IN ACTIVE PHASED ARRAY RADAR**

22. Vladimir Yu. Mikhaylov, Roman B. Mazepa

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**APPLICATION OF FAST TRANSFORMATIONS IN GALOIS FIELDS
TO INCREASE EFFICIENCY OF RADIO CHANNEL RESOURCES USING**

23. Valery P. Orlov

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OBJECT TRACKING ALGORITHM BASED ON THE HARRIS DETECTOR

24. Vasily V. Prikhodko

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**THE CONCEPT OF PROGRAM-MODELING COMPLEX IN ORDER
TO CREATE A SYSTEM OF ANTI-JAMMING SATELLITE COMMUNICATIONS
SYSTEMS (RADIO LINKS TO “EARTH-SPACECRAFT”)**

25. Ludmila Ponomareva, Moscow City University, Moscow, Russia

Oxana Romashkova, Moscow State Linguistic University, Moscow, Russia

TRAINING OF SPECIALISTS IN ON-BOARD COMMUNICATION SYSTEMS

26. Aleksei M. Potashnikov, Igor V. Vlasuyk, Vasili V. Ivanchev, Andrei V. Balobanov,

Moscow Technical University of Communications and Informatics, Moscow, Russia

**THE METHOD OF REPRESENTING GRAYSCALE IMAGES IN PSEUDO
COLOR USING EQUAL-CONTRAST COLOR SPACE**

27. Alexander G. Samoylov, Sergey A. Samoylov, I. A. Al-Tahar, S. A. Nasir
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**AN ANALYSIS OF THE PROBABILITY OF ONE TYPE OF ERRORS
IN DIGITAL COMMUNICATION**

**28. Vyacheslav A. Shevtsov, Moscow Aviation Institute (National Research University),
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A. V. Timoshenko, Academician A. L. Mints Radiotechnical Institute, Moscow, Russia
**DETECTION OF SMALL-SIZED RADAR OBJECTS USING MULTI-SCANNING
OBSERVATION METHOD**

29. Irina S. Sineva (Member IEEE), Mikhail D. Molovtsev
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**AN INTEGRATED APPROACH TO THE REGRESSION PROBLEM
IN FOREST FIRES DETECTION**

**30. Konstantin K. Smirnov, Moscow Aviation Institute (National Research University),
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**Alexander V. Nazarov, Mikhail N. Ushkar, Moscow Aviation Institute (National Re-
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**METHODS OF DETECTING LATENT DEFECTS IN CELLS OF THE
SUPER-OPERATIVE MEMORY OF MICROCIRCUITS USED IN
THE DIGITAL SIGNAL PROCESSING SYSTEMS**

**31. Sergey V. Sokolov, North Caucasus branch of Moscow Technical University of
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Sergey O. Kramarov, Surgut State University (SurSU), Surgut, Russia
**Vladislav V. Kamenskiy, Olga I. Sokolova, Rostov State Transport University (RSTU),
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**SYNTHESIS OF WAVEGUIDE-OPTICAL ANALOG-TO-DIGITAL CONVERTER
FOR ULTRA-HIGH SPEED SYSTEMS OF INFORMATION PROCESSING**

32. Yuriy V. Vasilkov, *Yaroslavl state technical University, Yaroslavl, Russia*
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DIGITAL PROCESSING OF NOISY SIGNALS OF RADIO ENGINEERING SYSTEMS WITH THE SELECTION OF LINEAR AND HARMONIC COMPONENTS

33. Igor V. Vlasuyk, Aleksei M. Potashnikov,
Andrei V. Balobanov, Vladimir D. Fedorov
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ESTIMATION OF EFFICIENCY OF VIDEO SIGNALS PROCESSING ALGORITHMS IN TELEVISION CAMERAS WHEN TRANSMITTING MOVING OBJECTS

34. Vasiliy N. Yudin, Anton M. Volkov
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ACHIEVABLE ERROR LEVELS OF THE GONIOMETRIC LOCATION OF RADIATION SOURCES BASED ON THE LEAST SQUARES METHOD WITH AN INCREASE OF THE AMOUNT OF INFORMATION PROCESSED

35. Nikolay Yu. Zhiburtovich
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PRINCIPLES OF ELECTRONIC SYSTEM DESIGN FOR MAINTAINING HOMEOSTASIS IN COMPETITIVE ENVIRONMENT