Siberian Federal University
Tomsk IEEE Chapter & Student Branch
of the IEEE Russia Siberia Section

СИБИРСКИЙ ФЕДЕРАЛЬНЫЙ УНИВЕРСИТЕТ
SIBERIAN FEDERAL UNIVERSITY

INTERNATIONAL SIBERIAN CONFERENCE ON CONTROL AND COMMUNICATIONS (SIBCON–2011)

Sibcon 2011

SEPTEMBER 15–16, 2011
KRASNOYARSK, RUSSIA

Program

Welcome
Message from the General Chair

Dear Colleagues,

On behalf of the Siberian Federal University and members of the Scientific and Technical Program Committees, it is an honor and pleasure to invite you to participate in the 2011 International Siberian Conference on Control and Communications.

SIBCON-2011 is continuing its tradition in being the leading Conference in Siberia for control systems, compound semiconductors, RF devices and microwave circuit applications, and therefore the ideal event to keep up to date with the latest achievements in these fields. The Conference is dedicated to a broad range of high frequency related topics, ranging from semiconductor materials to mobile system applications and radar. The aim of the Conference is to promote the discussion of recent developments and trends to encourage the exchange of scientific and technical information on technology, modeling and simulation to present state-of-the-art results.

For the first time, the conference SIBCON-2011 will be located in the first Federal University of Russia - in Krasnoyarsk. This inaugural collaboration between the Tomsk IEEE Chapter & Student Branch and Siberian Federal University promises to be a historic milestone event promoting the interaction of wireless and control researchers with leading Siberian companies.

In our first affiliation with Tomsk IEEE, we will have the opportunity to participate in the Chapter events and also view exhibits in Krasnoyarsk, as the SIBCON-2011 conference will be conveniently co-located at the Krasnoyarsk Scientific Centers. The popular short courses provides a unique venue for learning and professional interaction in the interconnect area.

You will find the technical program of SIBCON very stimulating, informative and inspiring. The technical challenges and opportunities in control and communications are progressing at an unprecedented pace. New materials, architectures, communication mechanisms and process technology are needed, and new approaches are emerging in this rapidly evolving area to meet these challenges. The merging of technical research and business applications is increasingly important. In this reason, we include new topics as Geo-Physics, Neural Cybernetics, and Biophysics. The Program Committee has carefully considered an unusually wide range of high quality submissions to design a comprehensive program of technical papers, panels, and tutorial programs commensurate with this milestone for the IEEE activities.

I would like to thank all the participants, and all the members of organizing committee to make this conference fruitful. I want to mention that many members of International Program Committee have given many suggestions in the course of preparing this conference.

We also encourage you to plan ahead and take advantage of the wonderful opportunity to meet and exchange ideas with the largest gathering of engineering leaders. In addition, the Krasnoyarsk area offers many exciting tourist sites including national park Stolby, Divnogorsk, sites along Yenisey River etc. Krasnoyarsk is a beautiful green city with many historic spots and various natural view scopes. It is truly an outstanding array of attractions in addition to SIBCON. I guarantee you will have fun.

I look forward to seeing you in Krasnoyarsk.

Prof. G.S. Patrin
General Chair
Siberian Federal University

Welcome
Message from the Technical Program Chair

Dear Colleagues,

It is time for another continuation of tradition for SIBCON, the prime forum of Tomsk IEEE Chapter & Student Branch to share the latest academic and technical accomplishments in the fields of control, microwave, wireless, electron devices, and related areas. I would like to welcome all the participants, and especially, to express the warmest gratitude to all the paper presenters for sharing their valuable experiences with us, on behalf of the organizing committee of SIBCON-2011, Krasnoyarsk.

The technical program for the SIBCON Conference spans most of the key areas in control, wireless and mobile communications, from the physical properties up through the packing. Among the topics receiving, the largest numbers of papers for this year's conference were technology of microwave electron devices, signal processing, antennas, and networks systems. As is evident from just those categories alone, the technical program will almost assuredly provide some topics of interest for all attendees.

A total of 200 papers were received as a result of the open call, which is the highest number in SIBCON history. In keeping with the goal at SIBCON to become one of the quality conferences, the acceptance rate was less. Many reviewers have participated the paper review and selection processes. In addition, some papers concern Krasnoyarsk Scientific Center was invited.

The conference kicks off with a Plenary Session delivered by Prof. G.S. Patrin, General Chair of SIBCON. I could think of no better way to start this conference off than with an opportunity for all of us to share in the valuable insights into possibilities of Krasnoyarsk Scientific community to enter modern technologies into the commercial marketplace.

The Technical Program Committee prepared a rich, diverse, and up-to-date program that should satisfy your interest in learning about revolutionary and evolutionary developments in control, RF, and microwave fields and supporting technologies. Together with the high power keynote and executive sessions, conference tutorials, the overall program of SIBCON brings into focus the two threads of our topic: the convergence of circuit design and packing, and the integration of micro- and nanotechnologies. We also have an outstanding technical program for the conference, with papers on many important aspects of UWB systems: waveform design, channel modeling, multi-user techniques, performance bounds, wideband antennas and applications in communications and radar.

Many people expended a great deal of effort in order to put this technical program together. I would like to extend our sincere thanks and appreciation to the exceptional work rendered by all track chairs as well as the session chairs and TPC members. I would first like to thank Dr. Vasily S. Panko, one of technical co-chairs of the conference, for the excellent job he did with the regular sessions. Secondly, I would like to thank Prof. G.Ya. Shaidurov for gathering together the excellent community of Siberian Federal University. Further thanks go to all young participants submitted they papers on modern topics. Special thanks to sponsors – Radiosvyaz R&D and Geophysics R&D for their support and generous sponsorship. Finally, I would like to express my appreciation to leadership of SFU join us in this wonderful hospitality.

The Technical Program Committee and I look forward to seeing you here. We hope that you will enjoy the technical, cultural, and natural selections we are preparing for you. Welcome to SIBCON and welcome to Krasnoyarsk!

Oleg Stukach
Technical Program Chair
SIBCON 2011

Organized by

- Siberian Federal University;
- The Tomsk Chapter & Student Branch of the Institute of Electrical and Electronics Engineers, IEEE;
- GOLD (Graduates of the Last Decade) Affinity Group of the IEEE Russia Siberia Section;
- National Research Tomsk Polytechnic University;
- Vinnitsa National Research University (the Ukraine);
- Radiosvyaz R&D;
- Geophysics R&D;
- IEEE Russia Siberia Section.

Sponsors

- Russian Foundation for Basic Researches (RFBR), project 11-07-06056;
- SFU Radioelectronics R&D.

Technical Sponsors

- The IEEE
- The IEEE Electron Devices Society (ED-S);
- The IEEE Microwave Theory and Techniques Society (MTT-S);
- Tomsk IEEE Chapter & Student Branch.

Conference Chairman

Prof. G.S. PATRIN, Siberian Federal University

International Program Committee

Prof. O.V. Stukach, Russia
Dr. V.S. Panko, Russia
Prof. S.L. Fletcher, Canada
Dr. S.P. Lukyanov, Russia
Prof. A.D. Gelman, USA
Dr. V.N. Ushakov, Russia
Dr. T.M. Orzechowski, Poland
Prof. G.Ya. Shaidurov, Russia
Prof. J.R. de Marca, Brazil

Prof. Yu.P. Salomatov, Russia
Prof. A. Dziech, Poland
Prof. T. Ussmueller, Germany
Prof. A.N. Fionov, Russia
Prof. B.Yu. Kapilevich, Israel
Dr. S.N. Shabunin, Russia
Prof. J.A. Encinar, Spain
Dr. O.A. Kozhemyak, Russia
Prof. V.P. Ipatov, Russia
Dr. K.M. Stallo, Italy
Dr. F.H. Ali, UK
Dr. L.A. Fokin, Russia
Prof. R.M. Barnet, Germany
Prof. A.A. Shelupanov, Russia
Prof. R.V. Gupta, India

General Information

The IEEE-Siberian conference SIBCON-2011 aims to offer opportunities to learn and to share information on the latest advances in communications and control systems. It will be held in Krasnoyarsk, the Russian Federation, on September 15–16, 2011. The conference is organized by the IEEE on a regular basis in order to promote interdisciplinary discussion and interaction among scientists and engineers with an emphasis on the IEEE membership.

The conference is organized by the Tomsk Chapter & Student Branch of the Institute of Electrical and Electronics Engineers, the IEEE Russia Siberia Section, Siberian Federal University, with support of the Russian Foundation for Basic Researches (RFBR), and with the IEEE technical co-sponsorship.

The general goal is providing the possibility for quick and effective acquaintance of young specialists with modern achievements of leading scientific schools from various institutes. At present, there is a growing interest of foreign universities, scientific establishments, and various firms to scientific and technical possibilities of the Siberian regions and Institutions of High Education. Therefore, the beneficial cooperation with foreign partners must be carried out on the basis of regulated information changing, joint scientific projects' organizing, and investing in science.

Address of Organizing Committee and Correspondence

Dr. Vasily S. Panko
Siberian Federal University
office B-408, 28 Kirenskogo Str.,
Krasnoyarsk, 660074, Russia
Phone: +7–391–2912278
E-mail: sibcon@sfu-kras.ru
Web page: http://conf.sfu-kras.ru/sibcon

The Conference Topics

1. The Fundamental Problems of Communication and Control Theory.
2. Radar, Remote Sensing, and Propagation.
3. Nanotechnology, Semiconductor Materials, Sensors, and Electron Devices.
4. Neural Cybernetics, Biophysics, and Medical Electronics.
5. Radiophysics and Optics.
6. Geophysics.

Participation

To take part at the conference, it is necessary to send to Organizing Committee the full papers and to pay the registration fee. Each participant in the count of registration fee can present not more three papers.

Proceedings

The SIBCON proceedings will be published in English/Russian, containing all conference manuscripts, and will be distributed among conference participants, leading libraries, and international scientific centers. Also the conference papers in English will be published on the Web http://ieeexplore.ieee.org/. All accepted papers will be included in the conference proceedings. Additional copies of the Proceedings can be purchased.

Registration

Advance registration is performed through sending of full paper or paying of the registration fee. Final registration of participants will be held on sessions.

Copyright

It is necessary to sign and send to Organizing Committee the IEEE Copyright Form for every paper in Proceedings. The Copyright form may be downloaded from
http://www.ieee.org/publications_standards/publications/rights/copyrightmain.html or from the Tomsk Chapter site
http://ieee.tpu.ru/files/copyright.zip
http://www.comsoc.org/tomsk/files/copyright.zip

Publication Title is:
IEEE International Siberian Conference on Control and Communication (SIBCON-2011)

Submission of paper implies that the work has not been published before in its present form and that the author grants to the IEEE the copyright for publication of the paper.

Technical Program

The technical program will cover all aspects of control and communications: theory, fundamental studies, and applied studies. It will include plenary session and thematic sessions composed of oral presentations. Contributed papers will be 10 minutes in length, with 5 minutes for discussion. Invited papers will be 25 minutes, with 5 minutes for discussion. Multimedia projector will be available.

Guidelines for Oral Presentations

Please note that the overall time available for your presentation is limited to 10 minutes allowed for the actual presentation and 5 minutes for discussion. You should plan your presentation carefully. You should select your vocabulary to address as wide an audience as possible and avoid unfamiliar abbreviations or expressions. Your oral presentation should be performed and organized to answer the following questions:

Why was the project undertaken?
What was done?
What was learned?
What does it mean?

Remember, the three rules for an effective presentation are:

- Tell them what you are going to say (spend a few moments introducing your topic and what you intend to speak about).

- Tell them (deliver your talk, including the methods, results and conclusions)
- Tell them what you said (summarize the most important points of your lecture).

Please remember that the responsibility of having your paper ready for Presentation at the scheduled time is primarily in your hands as the presenter. Check the readability, completeness and order of your slides before your presentation. Arrive well in advance of the session, and acquaint yourself with the operation of the podium and location of the equipment. Conference staff will be present to assist you. There are no scheduled breaks in the agenda so it is mandatory that the presentations be loaded before the beginning of each session.

Be careful to speak in accordance with the sequence of your slides. Avoid making major modifications to your transparencies during your presentation. Do not use more than 1 slide per minute. Please stay within the time limit allocated for your presentation.

Technical equipment provided in the Conference room are:

Multimedia video projector;

Projection screen;

Standard multimedia PC with CD-ROM drive.

The operating system for session computers is Microsoft Windows XP and Vista. The available software is Microsoft Office XP (or newer) that includes Word, Excel, PowerPoint, Adobe Acrobat Reader, and Windows Media Player. Therefore, all presentations must be compatible with these packages. Slide and overhead projectors will not be available!

Transportation

All information about interesting trains and planes you can receive via e-mail or telephones of the Organizing Committee. Also look at the Web www.yemelyanovo.ru, krw.ru, rzd.ru.

Transport to the place of the conference:

From the Yemelyanovo Airport:

- «Riksha» taxi, tel.: +7(391)277-77-55 or online: http://ricksha.ru/
- By bus № 501 until “Mezhdugorodnij Avtovokzal” stop, and then by public city transport. Actual timetable you can find here: http://www.krasavtovokzal.ru/viewpage.php?page_id=2

From railway station:

- By bus 4, 14, 26, 34, 67 until “Robespiera” stop and then by bus 68 to “Gosuniversitet” stop;
- By bus 14 until “Zapadnij” (“Kopilova”) stop and then by bus 12, 68 to “Gosuniversitet” stop.

From the city center:

- By bus 12, 32, 68, 88, 90 to “Gosuniversitet” stop.

Accommodation

There is no problem in hotel reservation in Krasnoyarsk. The Organizing Committee has reserved sufficient number of rooms for participants for the period of the conference. To make a reservation, please apply by e-mail sibcon@sfu-kras.ru. To book the hotel room you don't need to pay a deposit. Room charge with bath, TV-set, and telephone is $40-100 approximately.

Hotels

"Krasnoyarsk Hotel" (гостиница «Красноярск»), 94 Uritskogo street
tel.: +7 (391) 274-94-03 Fax: +7 (391) 274-94-16
http://hotelkrs.ru
Bus stop "Teatr operi e baleta"

"Hotel OKTYABRSKAYA" (гостиница “Октябрьская»),
15 Mira avenue
tel.: +7 (391) 227-37-80, +7 (391) 227-19-16
http://www.hoteloctober.ru.
Bus stop "Gostinitsa Oktyabrskaya".

"Tri Medvedia" («Три медведя»), 11 Leningradskaya street
tel.: +7 (391) 290-09-91, fax: (391) 243-36-13
http://www.3bear.ru
Bus stop "Studgorodok"

"Dom uchonikh" («Дом ученых»), 16 Akademgorodok street
tel.: +7 (391) 249-47-09
http://www.krasdu.ru/
Bus stop "Dom uchonikh"

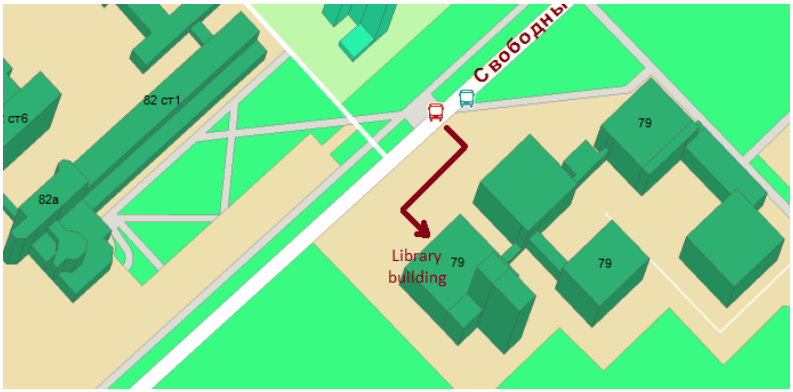
Information:

- Unified Krasnoyarsk inquiry service, tel.: +7(391) 201−11−11

- Airport Yemelyanovo, +7 (391) 277−79−99, +7(391) 255−59−99, http://www.yemelyanovo.ru.
- Railway Station "Krasnoyarsk", +7(391) 248−38−38, +7(391) 259−41−49, http://krw.ru.

Venue

The conference will be held in the Scientific Library building of the Siberian Federal University. Address: Svobodny Avenue, 79, office B-101 (Scientific Library Conference Hall).



Bus stop name is: “Gosuniversitet”

Krasnoyarsk

KRASNOYARSK is the center of the vast Krasnoyarsk region, it is the second biggest city in Siberia and a powerful industrial center. There are about 950,000 inhabitants. Krasnoyarsk was founded in 1628. The city lies along Yenisey River, one of the most beautiful and powerful rivers of Siberia. It is surrounded by mountains, giving a very interesting flavor to the city views.

Siberian Federal University is the biggest in Siberia. The university benefits from an investment of $650 million, including funding from the Government and businesses. With over 47,000 students and 3,329 lecturers, as well as 2,087 employees with Sc.D. and Ph.D. degrees, the University offers 230 programs at various university levels. SFU researchers are currently involved in a number of projects conducted together with the European Space Agency, NASA, European Council, National Institute for Environmental Studies (Japan), etc. Web site of SFU is www.sfu-kras.ru.

Krasnoyarsk also amazes with the hospitality of local people. Around the city people enjoy a wild and beautiful environment such as unique forms of the ancient rocks, crystal clear mountain and taiga rivers, mineral springs and lakes. Many square kilometers of the land are covered by deep conifer wood (taiga) visited only by hunters. A national park, "Stolby", is one of the most famous recreational sites in Siberia.

More about Krasnoyarsk may be learned at Web site www.ngs24.ru и www.newslab.ru.

Banquet

Join us for the "SIBCON Party" from 18:00 p.m. on the 16th of September. The dinner menu includes rissole, smokehouse fish, fry bread, dessert, frozen margaritas, beer, wine and non-alcoholic beverages. Environment, dancing, and bowling are provided. Please confirm your participation early!

Schedule and Scientific Program

September 15, 2011

Registration, 9:00 – 10:00

Hallway of Scientific library lecture hall.

Room A, 10:00 – 11:00
Plenary Session

Words of welcome,
Sergey V. Verkhovets, First Vice-Rector - Research and International Affairs

Foreword. SIBCON Conferences
Gennady.S. Patrin, General Chair

Benefits of SFU and IEEE Cooperation
Oleg Stukach,Technical Program Chair

Photography time, 11:00 – 11.15
Scientific library entrance

Coffee-break, 11:15 – 11:30
Hallway of Scientific library lecture hall.

Room A, 11:30 – 13:15
The Fundamental Problems of Communication and Control Theory

Space-Time Discretization in HF Receiving Multichannel Antenna Systems
V.S. Budyak, A.A. Vorfolomeev

Frequency domain subspace identification of discrete-time singular power spectra
Hüseyin Akçay

Speed & Flux estimation by Extended Kalman Filter for Sensorless Direct Torque Control of Saturated Induction Machine
Tahar Djellouli, Samir Moulahoum, Med Seghir Boucherit, Nadir Kabache

Design, Simulation and Implementation of a Full Bridge Series-Parallel Resonant DC-DC Converter using ANN controller
Mohammad Jafari, Mohsen Imanieh, Zahra Malekjamshidi

Implementation of a Full Bridge Series-Parallel Resonant DC-DC Converter using ANN and SSM controllers
Zahra Malekjamshidi, Mohammad Jafari, Mohsen Imanieh

Development and experimental investigation of digital MSK-signal receiver
Evgeny V. Kuzmin

Speed capability of PLL-system increase
Evgeny V. Kuzmin, Yana I. Senchenko

Joint Channel Coding and Cryptography for SMS
Ashok Kumar Nanda, Lalit Kumar Awasthi

Framework for Integration of Police Repositories
Tomasz Marcin Orzechowski, Andrzej Dziech, Andrzej Matiolański

Design, Modeling and Open-loop Control of a BCF Mode Bio-mimetic Robotic Fish
Abhra Roy Chowdhury, Bhuneshwar Prasad, Vinoth Kumar, Dr. Rajesh Kumar, Dr. S K Panda

The Convergence Prediction method for Genetic and PBIL-like algorithms with binary representation
Eugene A. Sopov, Sergey A. Sopov

Approximate Analytical Solution of the Bouc-Wen Hysteresis Model by the Fourier Transform
Denis V. Kozlov

Torsional Transfer Function of the Elastic Single-mass System
Denis V. Kozlov

Modeling and Simulation of Optimal Control Systems
Ia Mosashvili, Nino Mchedlishvili, Irma Davitashvili

Switching Element for Parallel Spatail Systems
D. Kutuzov, A. Utesheva

Building Automation of the Computer Systems of Management Reporting
Alexander N. Romanyuk, Svitlana V. Bevz, Sergii M. Burbelo

Room B, 11:30 – 13:15
Radiophysics and Optics

Results of Experimental Determination of Surface Electromagnetic Wave in Natural Conditions
Yu. B. Bashkuev, V. B. Khaptanov, and M. G. Dembelov

Interaction between Rating and Oscillatory Contour of the Resonant Nonlinear Parametrical Zone System in Higher Zones of Instability of Electromagnetic Oscillations
L.V. Cherckesova

Experimental Investigations of Characteristics of Asymmetric Parametrical System of Nonlinear Resonator
L.V. Cherckesova

Dependence of Nonlinear Resonator Parametrical Oscillations Amplitude from Rating Amplitude and Frequency
L.V. Cherckesova

Soil Moisture Measuring Technique in the Baikal Region for Validation of SMOS Mission
P. N. Dagurov, A.V. Dmitriev, V.L. Mironov, T.N. Chimitdorzhiev

Orbcomm Ground Segment for Mobile Satellite Communications
Stojce Dimov Ilcev

Implementation of Local Satellite Augmentation System (LSAS) for Airport Infrastructures
Stojce Dimov Ilcev

Code Division Multiple Access (CDMA) Applicable for Mobile Satellite Communications
Stojce Dimov Ilcev

Adjacent-Channel Interference Compensation Efficiency for Correlation Technique
Valery N. Bondarenko, Timur V. Krasnov

Tunable Resonant Microstrip Phase Shifter with the Magneto Dielectric Substrate
Konstantin V. Lemberg, Alexey M. Serzhantov

Room C, 11:30 – 13:15
Nanotechnology, Semiconductor Materials, Sensors, and Electron Devices

Acoustic Modes in Chalcogenide Layer As_2S_3 on rotated 128º Y-cut of Lithium Niobate Substrate
Rinat M. Taziev

A Simple Computation of Acoustic Fields in Electrodes
Rinat M. Taziev

Investigation of sensitivity and pulse characteristics of detectors based on GaAs, compensated with chromium, exposed to X-ray
R.R. Garaev, A.V. Tyazhev, O.P. Tolbanov, A.N. Zarubin, D.Y. Mokeev

Investigation of Spectral Responses of Interdigitated Photodetector Based on GaAs:Cr Structure
A.D. Lozinskaya, D.Yu. Mokeev, A.V. Tyazhev

The Research of Characteristics of Multichannel GaAs Detectors
Irena F. Nam, Sergey A. Ryabkov, Oleg P. Tolbanov, Anton V. Tyazhev

Detectors of γ -Quantum Based on Epitaxial GaAs:S,Cr Layers
M.D. Vilisova, V.P. Germogenov, I.V. Ponomarev, A.V. Tyazhev

Thermal Annealing Action on the Capacity-Voltage and Siemens-Voltage Characteristic Ga_2O_3-GaAs Structures
T.M. Yaskevich, A. N. Zarubin, V.M. Kalygina, Yu.S. Petrova, A. V. Tyazhev, S.Yu. Tsupiy

Dipole Radiators and Receivers of Terahertz Radiation Detectors Based on GaAs, Doped with Cr
M.S. Skakunov, S.Y. Sarkisov. O.P. Tolbanov

GaAs:Cr X-Ray Pixel Detectors
Andrey Zarubin, Dmitry Mokeev, Vladimir Novikov, Oleg Tolbanov, Anton Tyazhev

Properties of the Ga_2O_3 Films Obtained by Anodization
Y.S. Petrova, V.M. Kalygina, T.M. Yaskevich

Room D, 11:30 – 13:15
CST seminar
The seminar is focused on the simulation of complex electromagnetic systems in the areas of Microwaves&RF, EMC/EMI, EDA.

Lunchtime 13:15-14:30

Room A, 14:30 – 16:15
Radar, Remote Sensing, and Propagation

Use of Ships Radar for Improvement of Navigation in Rough Sea Condition
Denis Akmaykin, Dmitry Khomenko

Frequency Estimation Efficiency Improvement of Doppler Meter
A. Bekker, E. Rychkov, V. Patyukov

Design and Implementation Antenna for Small UAV
Nikita M. Boev

Geosteering Technology of Drilling Tool in a Layered Medium Oil and Gas Reservoir
M.I. Epov, V.L. Mironov, K.V. Muzalevskiy, I.N. Yeltsov

Hexagonal FSS for GLONASS/GPS antenna with improved axial ratio
Evgeny R. Gafarov, Yury P. Salomatov

Excess Ambiguity Resolution Algorithms Analysis in Interferometric Measurings of Satellite Radio Navigation Systems Signals
K.Y. Kostyrev, A.M. Aleshechkin

Метод временной привязки опорных станций наземной радионавигационной системы
А.М. Алешечкин, А.П. Романов

О количественной оценке деформации грунта по данным радарной интерферометрии ALOS - PALSAR
М.Е.Быков, Т.Н.Чимитдоржиев, А.И. Захаров

Особенности сверхкороткоимпульсной локации лесных сред
Б.Ч. Доржиев, О.Н. Очиров, А.В. Базаров

Room B, 14:30 – 16:15
Neural Cybernetics, Biophysics, and Medical Electronics

Влияние выбора показателя качества работы нейронных сетей на результат оценки их отказоустойчивости
С.Н. Данилин, М.В. Макаров, С.А. Щаников

Проблема аппаратной регистрации болевых ощущений в период сна
А.В. Селиванов, Г.Я. Шайдуров

Анализ и обработка текста
С.А. Федосин, Э.Э. Александров

Корреляционные связи между параметрами распределенных по территории Челябинска электромагнитных полей с сердечно-сосудистыми и онкологическими заболеваниями
Ю.С. Чагочкин

Использование вейвлетной фильтрации входного изображения для изучения механизмов нарушения сенсорно-перцептивных функций у больных шизофренией
И.И. Шошина, И.А. Перевозчикова, С.В. Пронин, Ю.Е. Шелепин

Image Processing in Research of Saliva
T. Victorova

The Information Reliability of Medical Services Using of Modern Communication
S. Panko, A. Mishurov

Development of the Electronic Digital Device for Determination of Optimal Period of Insemination of Animals

A. Osovskiy, A. Polkovnichenko

Room C, 14:30 – 16:15
Nanotechnology, Semiconductor Materials, Sensors, and Electron Devices

Электрооптическая мультистабильность в каплях холестерика, обусловленная эффектом ионной модификации межфазных границ
А.П. Гардымова, В.Я. Зырянов

ЯМР исследование релаксационных характеристик ядер ^{17}O и ^{23}Na в водном растворе NaCl с пониженным содержанием дейтерия при электромагнитном воздействии
М.Г. Барышев, Н.С. Васильев, С.С. Джимак, Д.В. Кашаев, Д.И. Шашков

A Gold Free Fully Cu/Ge Metalized GaAs pHEMT for the High Frequency Applications
E.V. Erofeev, V.A. Kagadei, A.I. Kazimirov

Численное исследование статических и высокочастотных свойств эллипсоидальных наночастиц пермаллоя
Андрей Изотов, Платон Соловьёв

Исследование ионнолегированных арсенидогаллиевых структур и преобразователей Холла на их основе
Г.Ф.Карлова, Л.П. Умбрас, М.С. Егунов

Измеритель диэлектрических параметров материалов на СВЧ при температуре до 420° С
В.Н. Егоров, М.В. Кащенко, В.Л. Масалов, Е.Ю. Токарева

Принцип анализа нановеществ сверхкороткими импульсами света
Б.С. Могильницкий, Г.В. Шувалов

Switching Delay of Avalanche S-Diodes in Circuit with Optical Drive
I.A. Prudaev, M.S. Skakunov, O.P. Tolbanov, S.S. Khludkov, K.M. Degtyarenko

Room D, 14:30 – 16:15
CST seminar
The seminar is focused on the simulation of complex electromagnetic systems in the areas of Microwaves&RF, EMC/EMI, EDA.

Coffee-break, 16:15 – 16.30
Hallway of Scientific library lecture hall.

Room B, 16:30 – 18:15
The Fundamental Problems of Communication and Control Theory

Research of static characteristics of converters of signals with a nonlinear control device
G. Vasilyev, I. Kurilov, S. Kharhuk

A New Family of Sequences with Zero Correlation Zone
Anton Gyunter

Анализ динамических режимов амплитудно-фазовых преобразователей при различных входных воздействиях
Г.С.Васильев, И.А.Курилов, С.М.Харчук

Flexible Telemetry Parameters Management System for Research and Development of Unmanned Platforms
Ivan V. Makarov

Динамическое построение маршрута движения транспортных средств
Ф.В. Саврасов, А.Ю. Дёмин, В. В. Гринемаер

Criterion Modeling in the Control Problems
Svitlana Bevz, Victoria Voytko, Sergii Burbelo, Inna Kruchok

Stochastic Asymptotic Boundedness of Genetic Regulatory Networks
Mohammad Mohamadian, Hamid Reza Momeni

Room C, 16:30 – 18:15
The Fundamental Problems of Communication and Control Theory

Гибридный способ дедупликации для резервного копирования данных
В.Г. Казаков, С.А. Федосин

Адаптивные асимптотически робастные инвариантные алгоритмы демодуляции сигналов для CDMA систем
В.А. Богданович, А. Г. Вострецов, Али М. Х. Исай

Анализ надёжности систем спутниковой связи с использованием математического аппарата цепей Маркова
М.В. Жуков, В.В. Золотухин

О параметрическом представлении нестационарных акустических сигналов
Ю.А. Кропотов, В.А. Ермолаев

Оптимальная дискретизация двумерных радиоизображений Солнца на основе модификации теоремы Котельникова - Шеннона
Б.И. Лубышев, А.Г. Обухов

Синтез системы управления технологическим процессом вытяжки оптических волокон
Р.Ш. Галиуллин

Quality Analysis of Signal Processing Using Digital Filters
Alexey V. Mokeev

Control of Inverted Pendulum System by using a new Robust Model Predictive Control Strategy
Meysam Ghanavati, Vahid Johari Majd, Malek Ghanavati

A new Robust Model Predictive Control Strategy for Rotational Inverted Pendulum System
Meysam Ghanavati, Saleh Mobayen, Vahid Johari Majd1

Banquet, 18:30 – 21:30

September 16, 2011

Room A, 10:00 – 11:45
The Fundamental Problems of Communication and Control Theory

Расчёт квазиполиномиальных режекторных фильтров на сосредоточенных элементах с учётом потерь
Н. Унру, В. Артюшенко, В. Горбач, А. Кубасов

Research of Noise Characteristics of Hybrid Frequency Synthesizers on the Basis of Direct Digital Synthesizers and PLL Systems
L.V. Romashova, A.V. Romashov, A.N. Fomichyov

Исследование зависимости времени решения СЛАУ итерационным методом от допуска обнуления при предфильтрации
В.К. Салов

Автоматизация процедур системного анализа
В.С. Симанков, И.А. Шпехт

Development of Active Magnetic Bearings Control System and Analysis of High-Speed Rotor Dynamics in Elastic Supports
Anastasia D. Stotskaya, Denis M. Filatov

Simulation Model of the Hybrid Adaptive Control System with the Fixed Parameter of Controller for an Asynchronous Engine
I.A. Sycheva, I.V. Sychev

Определение уровня интермодуляционных помех в системах импульсной ФАПЧ синтезаторов частот с дробными делителями частоты
А.В. Гречишкин, Т.В. Недомолкина, Н.М. Тихомиров

Методики определения быстродействия системы синтезаторов частот с ФАПЧ с элементами коммутации
Н.М. Тихомиров, А.В. Гречишкин, Т.В. Недомолкина

Intellectual Control Algorithm Interaction improvement by the Users Education Process of the Automation Education Systems
V.A. Uglev

Fuzzy Model Reference Control Using Type-2 Fuzzy Systems in Adaptation Mechanism
Otto Cerman, Petr Hušek

Разработка и исследование программного модуля для диагностирования навигационно-пилотажных датчиков необитаемых подводных аппаратов
В.Ф. Филаретов, А.Н. Жирабок, А.В. Зуев, З.А. Герасимов

Анализ детерминированных воздействий на нелинейную систему фазовой автоподстройки частоты на основе непрерывных кусочно-линейных функций
А.Ю. Юдаев, Д.И. Суржик

Применение многоканального режекторного фильтра
Н.Ф. Мязитов, В.В. Какоткин, К.В.Симонов

Theory of Full Information (Video-Information)
E.M. Yarichin

Informational Mechanism of Intellectual Technical Vision
E.M. Yarichin

Simulation Modeling of Operation for Computing Device with Programmed Logic
Aleksey Osovskiy

Multi-Path Routing Challenging Single-Path Routing in Wireless Mesh Networks
Pedram Ghahremanloo

Room B, 10:00 – 11:45
Radiophysics and Optics

Variation TEC in the Ionospheric Layer of the Earth in March 2011, in Japan
I. Sushkin

Предварительное экспериментальное моделирование разложения сверхкороткого импульса в семикаскадных модальных фильтрах
Е.С. Долганов, А.С. Дементьев

Направленное возбуждение диэлектрических резонаторов с азимутальными колебаниями
В.Н. Егоров, Е.Ю. Токарева

Создание антипода за счёт изменения расположения проводников на примере кабелей марки КГХЛ 1×2,5 и АПВ 4
М.В. Кокнаев, И.Г. Бевзенко

Измерение относительной диэлектрической проницаемости подложек СВЧ резонаторным методом
А.Ф. Копылов, Ю.П. Саломатов, А.А. Сенченко

Механизм управления характеристиками микрополосковой линии передачи на полупроводниковой подложке
Н.А. Копылова, А.Ф. Копылов

Обратное отражение от почвенного покрова в диапазоне дециметровых волн
Ю.Л. Ломухин, Е.Б. Атутов, В.П. Бутуханов, Б.В. Басанов

Room C, 10:00 – 11:45
Geophysics

Pulse Nonexplosive Sources for Seismic Exploration
Vladimir A. Detkov, George Y. Shaydurov

Аппаратно-программный комплекс для навигационного обеспечения сейсморазведочных работ на водных акваториях
Алексей Абдулхаков, Марат Валиханов, Вадим Какоткин, Юрий Фатеев, Георгий Шайдуров

Автоматизированная система геоакустической локации мобильными сейсмическими группами
М.С. Хайретдинов, С.А. Авроров

Автокомпенсационный алгоритм обработки сигналов естественного электромагнитного поля Земли для работы методом вызванной поляризации
В.С. Потылицын, Г.Я. Шайдуров

National Instruments seminar, 10:00 – 11.45
National Instruments technologies for electronics complex and electronics systems testing and development.

Coffee-break, 11:45 – 12:00
Hallway of Scientific library lecture hall.

Room A, 12:00 – 13:45
Radar, Remote Sensing, and Propagation

Разработка метода контроля качества спутниковой радионавигационной системы
Е.И. Кротова

Принципы определения дальности до объекта и его местоположения с использованием сверхширокополосных сигналов со ступенчатым изменением частоты
А.В. Мольков

Обработка ЛЧМ сигнала зондирования ионосферы в спектральной области
Алексей А. Колчев, Александр Е. Недопекин, Дмитрий Г. Шпак, Дмитрий В. Хобер

Эффективная реализация оператора дискретного прозрачного граничного условия для двумерного параболического уравнения
Анатолий В. Новиков, Юрий П. Акулиничев

Использование уточненной эфемеридно-временной информации для высокоточного определения координат потребителя в глобальных навигационных спутниковых системах
А.Н. Подкорытов

Research of Phase Noise of Direct Digital Synthesizers
V.V. Romashov, L.V. Romashova, K.K. Khramov

Narrowing the Bandwidth of Phase-Coded Pulses by Their Modifying in Radar Transmitter
V.V. Romashov, K.K. Khramov

Microwave Shielding Properties of Fiber Materials
N. Ounrou, A. Masliy, A. Vais, A. Medvedev

Исследование замкнутой кольцевой антенны для УКВ диапазона на модели мобильного объекта
В.Е. Зотов, В.И. Юдин

The Structure of Device Evaluation of Pavement
D. Thelih, O. Privalov, D. Kutuzov

Room B, 12:00 – 13:45
Radiophysics and Optics

Влияние захваченных электронов на фазовую скорость циркулярно-поляризованной волны
А.И. Матвеев

Hardware-Software Complex for Acoustic Emission Spectral Analyzing
Valeriy N. Ovcharuk, Qin Hongwu

Проектирование атмосферной линии связи в качестве резервной сети с учетом регионального аспекта на примере Забайкальского края
М.Ю. Попович

Регрессионная модель комплексной диэлектрической проницаемости воды из природных минерализованных водоемов Алтайского края
А.Н. Романов, А.Ю. Суковатова

О возможном влиянии минерализованных водоёмов на микроклимат
А.Н. Романов

Эффекты интерференции волновых полей в смежных геофизических средах
М.С. Хайретдинов, Г.М. Воскобойникова

Средняя интенсивность оптической волны при конической фокусировке в турбулентной атмосфере
И. П. Лукин

Когерентность оптических волн при конической фокусировке в турбулентной атмосфере
И. П. Лукин

Устойчивость вихревых бесселевых пучков в турбулентной атмосфере
И. П. Лукин

Room C, 12:00 – 13:45
Nanotechnology, Semiconductor Materials, Sensors, and Electron Devices

Electrical Properties $Bi_{24}(BiCo)O_{40}$
S.S. Aplesnin, M.N. Sitnikov, L.V. Udod, A. I. Galyas

Оптимизация технологических процессов получения проводящей плёнки InSnO
Н.Ю. Снежко, Д.С. Сватков, Т.Н Патрушева

Исследование оптических текстур и ориентационных структур в каплях нематика при температурной модификации поверхностного сцепления
В.С. Сутормин, А.В. Шабанов, В.Я. Зырянов

Пороговый характер электрооптического отклика пленки капсулированного полимером нематического жидкого кристалла при управлении ионно-сурфактантным методом
В.С. Сутормин, М.Н. Крахалев, В.Я. Зырянов

Состояние спинового стекла в твердом растворе $Sm_{0.25}Mn_{0.75}S$
С.С. Аплеснин, А.М. Харьков, Е.В. Еремин, В.В. Соколов

Comparison of Some Algorithms for Endpoint Detection for Speech Recognition Device Used in Cars
M. Kudinov

Low Noise Amplifier Working at Frequency Range 9-12 GHz
Umid Niyazov, Petra Stojsavljevic, Pedro Vizarreta

Laser Treatment of Aluminum Oxide Ceramics Substrates Surface for Micro-wave Hybrid IC's
Elena V. Savruk, Seraphim V. Smirnov

National Instruments seminar, 12:00 – 13:45
National Instruments technologies for electronics complex and electronics systems testing and development.

Lunchtime 13:45-15:00

Closing of Sibcon-2011 conference, 15:00 – 15:30

SFU Campus guided tour, 15:30 – 16:30

Krasnoyarsk sights tour, 16:30 – 19.00

SIBCON Session Matrix

15 September				
	Room A 1-01	Room B 3-01	Room C 3-07	Room D 3-13
9:00 – 10:00	Registration			
10:00 – 11:00	Plenary			
11:00 – 11:15	Photography time			
11:15 – 13:30	Coffee-break			
11:30 – 13:15	Funda-mental 1	Rphys 1	Nano 1	CST
13:15 – 14:30	Lunchtime			
14:30 – 16:15	Radar 1	NeurCyb	Nano 2	CST
16:15 – 16:30	Coffee-break			
16:30 – 18:15		Funda-mental 2	Funda-mental 3	CST
18:30 – 21:30	Banquet			
16 September				
	Room A 4-06	Room B 3-01	Room C 3-07	Room D 3-13
10:00 – 11:45	Funda-mental 4	Rphys 2	Geo	NI
11:45 – 12:00	Coffee-break			
12:00 – 13:45	Radar 2	Rphys 3	Nano 3	NI
13:45 – 15:00	Lunchtime			
15:00 – 15:30	Closing of Sibcon-2011 conference			
15:30 – 16:30	SFU Campus guided tour			
16:30 – 19:00	Krasnoyarsk sights tour			
17 September				
10:00-15:00	Sights tour Fun-park «Bobrovy log», «Stolby»			