

# **2017 13th International Conference on Advanced Technologies, Systems and Services in Telecommunications (TELSIKS 2017)**

**Nis, Serbia  
18-20 October 2017**



**IEEE Catalog Number: CFP17488-POD  
ISBN: 978-1-5386-1801-1**

**Copyright © 2017 by the Institute of Electrical and Electronics Engineers, Inc.  
All Rights Reserved**

*Copyright and Reprint Permissions:* Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

***\*\*\* This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP17488-POD
ISBN (Print-On-Demand):	978-1-5386-1801-1
ISBN (Online):	978-1-5386-1800-4

**Additional Copies of This Publication Are Available From:**

Curran Associates, Inc  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: (845) 758-0400  
Fax: (845) 758-2633  
E-mail: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

# TABLE OF CONTENTS

## PLENARY SESSION

<b>PL.1</b>	<b>Near- and Far-Field Wireless Power Transfer .....</b>	<b>3</b>
Z. Popovic		
<i>University of Colorado Boulder, USA</i>		

## ORAL SESSIONS

### COMPUTATIONAL ELECTROMAGNETICS

Invited papers:

<b>CEM.1</b>	<b>Reducing the Complexity of Near-Field Scanning of Stochastic Fields .....</b>	<b>11</b>
D. Thomas, M. Baharuddin, C. Smartt, G. Gradoni, G. Tanner, S. Creagh		
<i>University of Nottingham, UK</i>		
<b>CEM.2</b>	<b>Modeling of Stochastic Electromagnetic Fields .....</b>	<b>15</b>
J. Russer		
<i>Technical University of Munich, Germany</i>		
<b>CEM.3</b>	<b>Efficient 2D Electromagnetic Solution of Scattering from Electrically Large Platform .....</b>	<b>25</b>
J. Music, D. Olcan*, B. Kolundžija*		
<i>WIPER-D d.o.o., Belgrade, Serbia</i>		
* <i>University of Belgrade, Serbia</i>		

Regular papers:

<b>CEM.4</b>	<b>1D Localization of Highly Correlated Mobile Stochastic EM Sources Using Neural Model .....</b>	<b>33</b>
Z. Stanković, N. Dončov, I. Milovanović*, B. Milovanović*		
<i>University of Niš, Serbia</i>		
* <i>University Singidunum, Serbia</i>		
<b>CEM.5</b>	<b>Phase Integral Approach to Wave Propagation in Continuously Graded Models of Flat Lenses .....</b>	<b>38</b>
M. Dalarsson, Z. Jakšić*		
<i>Linnaeus University, Sweden</i>		
* <i>Institute of Chemistry, Technology and Metallurgy, Belgrade, Serbia</i>		
<b>CEM.6</b>	<b>Improving Shielding Effectiveness of a Metallic Enclosure at Resonant Frequencies .....</b>	<b>42</b>
N. Nešić, B. Milovanović*, N. Dončov**, S. Rupčić***, V. Mandrić-Radivojević***		
<i>College of Applied Technical Sciences, Niš, Serbia</i>		
* <i>University Singidunum, Serbia</i>		
** <i>University of Niš, Serbia</i>		
*** <i>University of Osijek, Croatia</i>		

### BROADCASTING AND MULTIMEDIA

Invited paper:

<b>BM.1</b>	<b>Tesla's Contribution to Radio Engineering .....</b>	<b>49</b>
D. Drajić		
<i>University of Belgrade, Serbia</i>		

Regular papers:

<b>BM.2</b>	<b>Objectives and Performance of H.265/HEVC Video Coding Standard .....</b>	<b>53</b>
U. Burnik		
<i>University of Ljubljana, Slovenia</i>		

<b>BM.3</b>	<b>Multimedia Broadcasting in Multi-Access Edge Computing .....</b>	<b>57</b>
	E. Pencheva	
	<i>Technical University of Sofia, Bulgaria</i>	
<b>BM.4</b>	<b>Virtual Reality Modelling and Simulation of the Tesla's Radio Controlled Boat .....</b>	<b>61</b>
	V. Vučković, A. Stanišić, S. Le Blond*	
	<i>University of Niš, Serbia</i>	
	* <i>University of Bath, UK</i>	
<b>BM.5</b>	<b>Influence of the Parameters of the DVB-S/S2 Standards on the Capacity of a Satellite Transponder.....</b>	<b>65</b>
	P. Spalević, B. Jakšić, I. Milovanović*, M. Veinović*, M. Petrović	
	<i>University of Priština, Serbia</i>	
	* <i>University Singidunum, Serbia</i>	
<b>BM.6</b>	<b>One Method of Optimizing an Expert System Using Native Client on a TV Platform .....</b>	<b>69</b>
	L. Erdeljanović, S. Stefanović, N. Veljković, I. Petrović	
	<i>RT-RK Computer Based Systems, Novi Sad, Serbia</i>	
<b>BM.7</b>	<b>Android Multimedia Environment Extension with Support for Adaptive Transport Protocol .....</b>	<b>73</b>
	V. Kosjer, N. Popović, N. Fimić, N. Šoškić	
	<i>RT-RK Computer Based Systems, Novi Sad, Serbia</i>	
<b>BM.8</b>	<b>Low Memory Consumption DTV (ATSC) Software Solution for Embedded TV Devices .....</b>	<b>77</b>
	M. Ilić, D. Vidaković, J. Filipović	
	<i>RT-RK Computer Based Systems, Novi Sad, Serbia</i>	

## ANTENNAS AND PROPAGATION

Invited papers:

<b>AP.1</b>	<b>Design Considerations for Implantable and Wearable Antennas .....</b>	<b>83</b>
	A. Skrjervik, M. Bosiljevac*, Z. Sipus*	
	<i>Ecole Polytechnique Fédérale de Lausanne, Switzerland</i>	
	* <i>University of Zagreb, Croatia</i>	
<b>AP.2</b>	<b>Advances Antennas for the Next Generation of Wireless Access.....</b>	<b>87</b>
	B. Jokanović, V. Milošević, M. Radovanović*, N. Bošković	
	<i>Institute of Physics Belgrade, Serbia</i>	
	* <i>University of Belgrade, Serbia</i>	

Regular papers:

<b>AP.3</b>	<b>Fractal Dipole Antennas Based on Hilbert Curves with Different Line-to-Spacing Ratio .....</b>	<b>95</b>
	V. Radonić, G. Mišković*, V. Crnojević-Bengin	
	<i>BioSense Institute, Novi Sad, Serbia</i>	
	* <i>Technical University Wien, Austria</i>	
<b>AP.4</b>	<b>Compact Efficient UWB Antenna Based on Multiple Slots.....</b>	<b>99</b>
	H. Aslani, A. Elkorany*, A. Radwan*	
	<i>Polytechnic University of Milan, Italy</i>	
	* <i>Menofia University, Egypt</i>	
<b>AP.5</b>	<b>Fractal Antenna over EBG Structure for UHF RFID Applications .....</b>	<b>101</b>
	A. Slavov, P. Petkov	
	<i>Technical University of Sofia, Bulgaria</i>	
<b>AP.6</b>	<b>Study of Dielectric Substrate Effect on Modelling CPW-Fed Slot Antenna Arrays.....</b>	<b>105</b>
	M. Milijić, A. Nešić*, B. Milovanović**	
	<i>University of Niš, Serbia</i>	
	* <i>IMTEL communications, Belgrade, Serbia</i>	
	** <i>University Singidunum, Serbia</i>	

<b>AP.7</b>	<b>Propagation of Radio Waves in the Presence of a Combined Tropospheric Duct .....</b>	<b>109</b>
V. Permyakov, M. Mikhailov, Y. Borodko		
<i>National Research University, "Moscow Power Engineering Institute", Russia</i>		

## INTERNET TECHNOLOGIES

Invited papers:

<b>IT.1</b>	<b>Vision and Enabling Technologies of Tactile Internet Realization .....</b>	<b>113</b>
Z. Bojković, B. Bakmaz, M. Bakmaz		
<i>University of Belgrade, Serbia</i>		
<b>IT.2</b>	<b>An Overview of Current Security and Privacy Issues in Modern Telecommunications .....</b>	<b>119</b>
A. Jevremović, M. Veinović, G. Šimić*		
<i>University Singidunum, Serbia</i>		
*Military Academy, University of Defense in Belgrade, Serbia		

Regular papers:

<b>IT.3</b>	<b>Web Service Interfaces for Intra-Cell Terminal Activity .....</b>	<b>124</b>
E. Pencheva, I. Atanasov, P. Penchev*, V. Trifonov		
<i>Technical University of Sofia, Bulgaria</i>		
*Faculty of Electrotechniques and Electronics, Bulgaria		
<b>IT.4</b>	<b>Software Systems for Processing and Analysis of Big Data and Event Streams .....</b>	<b>128</b>
A. Stojnev, D. Stojanović		
<i>University of Niš, Serbia</i>		
<b>IT.5</b>	<b>Packet Interleaving and Its Influence on the VoIP Connection Quality.....</b>	<b>132</b>
A. Lebl, M. Mileusnić, M. Stanić, D. Mitić, V. Matić, Ž. Markov		
<i>IRITEL doo Beograd, Serbia</i>		
<b>IT.6</b>	<b>The Distributed Denial of Service Attacks (DDoS) Prevention Mechanisms on Application Layer .....</b>	<b>136</b>
K. Bhosale, M. Nenova, G. Iliev		
<i>Technical University of Sofia, Bulgaria</i>		
<b>IT.7</b>	<b>An Approach of DNS Protection Against DDoS Attacks .....</b>	<b>140</b>
I. Georgiev, K. Nikolova		
<i>Technical University of Sofia, Bulgaria</i>		

## MICROWAVE TECHNIQUE

Invited paper:

<b>MT.1</b>	<b>Air-Filled Substrate Integrated Waveguide – A Flexible and Low Loss Technological Platform.....</b>	<b>147</b>
A. Ghiotto, F. Parment, T. Martin, T.-P. Vuong*, K. Wu**		
<i>University of Bordeaux, France</i>		
*Grenoble Institute of Technology (INPG), France		
**Polytechnique Montréal, Canada		

Regular papers:

<b>MT.2</b>	<b>Theoretical Comparison Between Calibration Standards Using Straight and Bended CPW's .....</b>	<b>150</b>
K. Hamze, D. Pasquet*, P. Descamps*, E. De Ledinghen		
<i>Presto Engineering Europe, France</i>		
*Normandie Université ENSICAEN/CRISMAT/UMR, France		
<b>MT.3</b>	<b>Forward-Wave 0 dB Directional Coupler Based on Microstrip-Ridge Gap Waveguide Technology .....</b>	<b>154</b>
S. Birgermajer, N. Janković, V. Crnojević-Bengin, M. Bozzi*, V. Radonić		
<i>BioSense Institute, Novi Sad, Serbia</i>		
*University of Pavia, Italy		

<b>MT.4</b>	<b>General Properties of Multistage Bandpass Filters with Antiparallel Configuration.....</b>	<b>158</b>
S. Jovanović, V. Pantović*, B. Milovanović**		
<i>IMTEL communications, Belgrade, Serbia</i>		
* <i>Faculty of Business Economics and Entrepreneurship, Serbia</i>		
** <i>University Singidunum, Serbia</i>		
<b>MT.5</b>	<b>Thermal Characterization of High-Power GaN HEMTs up to 65 GHz .....</b>	<b>162</b>
A. Petrocchi, G. Crupi*, V. Vadalà**, G. Avolio, A. Raffo**, D. Schreurs, A. Caddemi*, G. Vannini**		
<i>KU Leuven University, Belgium</i>		
* <i>University of Messina, Italy</i>		
** <i>University of Ferrara, Italy</i>		
<b>MT.6</b>	<b>Neural Procedure for Microwave MOSFET Modelling Versus Bias and Gate Length.....</b>	<b>166</b>
Z. Marinkovic, G. Crupi*, D. Schreurs**, A. Caddemi*, V. Marković		
<i>University of Niš, Serbia</i>		
* <i>University of Messina, Italy</i>		
** <i>KU Leuven University, Belgium</i>		
<b>MT.7</b>	<b>Modeling and Analysis of the Frequency Dependence of Class-E Outphasing.....</b>	<b>170</b>
P. Brehm, T. Barton		
<i>University of Colorado Boulder, USA</i>		
<b>MT.8</b>	<b>An Ultra-Wideband Sensing Board for IoT .....</b>	<b>174</b>
A. Petrocchi, A. Raffo*, G. Avolio, K. Lukasik, D. Resca**, G. Vannini*, S. Lemey***, O. Caytan***,		
S. Agneessens***, H. Rogier***, D. Schreurs		
<i>KU Leuven University, Belgium</i>		
* <i>University of Ferrara, Italy</i>		
** <i>Microwave Electronics for Communications (MEC), Italy</i>		
*** <i>University of Ghent, Belgium</i>		

## SIGNAL PROCESSING

Invited paper:

<b>SP.1</b>	<b>Linear Fuzzy Space with Applications .....</b>	<b>181</b>
D. Obradović, Z. Konjović, E. Pap		
<i>University Singidunum, Serbia</i>		

Regular papers:

<b>SP.2</b>	<b>Chebyshev Polynomials of the Second Kind in Filter Design.....</b>	<b>191</b>
B. Stošić, V. Pavlović		
<i>University of Niš, Serbia</i>		
<b>SP.3</b>	<b>Towards Enabling Measurement of Similarity of Acoustical Environments Using Mobile Devices .....</b>	<b>195</b>
I. Jokić, S. Jokić*, V. Delić, Z. Perić**		
<i>University of Novi Sad, Serbia</i>		
* <i>ECG for Everybody, Serbia</i>		
** <i>University of Niš, Serbia</i>		
<b>SP.4</b>	<b>Image Coding Algorithm Based on Modified Block Truncation Coding and Delta Modulation.....</b>	<b>199</b>
Z. Perić, N. Simić, M. Savić*		
<i>University of Niš, Serbia</i>		
* <i>University of Priština, Serbia</i>		
<b>SP.5</b>	<b>Design of Switched Quasi-Logarithmic Quantizer for Gaussian Source with Variable Length Codes.....</b>	<b>203</b>
N. Vučić, Z. Perić, M. Dinčić		
<i>University of Niš, Serbia</i>		
<b>SP.6</b>	<b>Nonlinear Anisotropic Diffusion-Based Structural Inpainting Framework.....</b>	<b>207</b>
T. Barbu		
<i>Romanian Academy, Iasi Branch, Romania</i>		

<b>SP.7</b>	<b>Feature Extraction and Automatic Detection of Martian Impact Craters from 3D Meshes .....</b>	<b>211</b>
N. Christoff, A. Manolova, L. Jorda*, J.-L. Mari*		
<i>Technical University of Sofia, Bulgaria</i>		
<i>*Aix-Marseille Université(CNRS), France</i>		

## WIRELESS COMMUNICATIONS

Invited paper:

<b>WC.1</b>	<b>High Accuracy APS for Unmanned Aerial Vehicles .....</b>	<b>217</b>
F. Franco, J. Esteban, J. Villadangos*		
<i>University of Extremadura, Spain</i>		
<i>*University of Alcalá, Spain</i>		

Regular papers:

<b>WC.2</b>	<b>A New Block-Structure Modeling Technique for RF Power Amplifiers in a <math>2 \times 2</math> MIMO System.....</b>	<b>224</b>
M. Alizadeh, D. Rönnow, P. Händel*, M. Isaksson		
<i>University of Gävle, Sweden</i>		
<i>*Royal Institute of Technology (KTH), Sweden</i>		
<b>WC.3</b>	<b>Base Station Transmission Power Optimization in Interference-Limited Cellular Networks for Maximum Energy Efficiency.....</b>	<b>228</b>
S. Bandopadhyaya, S. Samal*, S. Dora**, V. Poulikov*		
<i>BML Munjal University, India</i>		
<i>*Technical University of Sofia, Bulgaria</i>		
<i>**Silicon Institute of Technology, Odisha, India</i>		
<b>WC.4</b>	<b>Performance Evaluation of Throughput Averaging Methods for the Proportional Fair Algorithm in Indoor Mobile Networks .....</b>	<b>232</b>
V. Stoynov, Z. Valkova-Jarvis		
<i>Technical University of Sofia, Bulgaria</i>		
<b>WC.5</b>	<b>Implementation of a High Resolution Stepped Frequency Radar on a USRP .....</b>	<b>236</b>
V. Kafedziski, S. Pecov		
<i>Ss Cyril and Methodius University, Macedonia</i>		
<b>WC.6</b>	<b>Outage Probability of Energy Harvesting DF Relay Systems in Generalized-K Fading .....</b>	<b>240</b>
V. Blagojević, A. Cvetković*		
<i>University of Belgrade, Serbia</i>		
<i>*University of Niš, Serbia</i>		
<b>WC.7</b>	<b>Analysis of Possible Wi-Fi Interferences of Wireless Communications Implemented in Vehicular Environments .....</b>	<b>244</b>
R. Gheorghiu, V. Iordache, I. Badescu		
<i>University Politehnica of Bucharest, Romania</i>		
<b>WC.8</b>	<b>Field Testing of Bluetooth and ZigBee Technologies for Vehicle-to-Infrastructure Applications .....</b>	<b>248</b>
R. Gheorghiu, V. Iordache, M. Minea, A. Cormos		
<i>University Politehnica of Bucharest, Romania</i>		

## TELECOMMUNICATION NETWORKS

Invited papers:

<b>TN.1</b>	<b>Flexible C-RAN: Radio Technology for 5G .....</b>	<b>255</b>
L. Gavrilovska, V. Rakovic, A. Ichkov, D. Todorovski, S. Marinova		
<i>Ss Cyril and Methodius University, Macedonia</i>		
<b>TN.2</b>	<b>Flexible Cross-Technology Offloading Using SDN.....</b>	<b>265</b>
C. Zarafetas, N. Makris, A. Apostolaras, T. Korakis, L. Tassiulas*		
<i>University of Thessaly, and Centre for Research and Technology Hellas, Greece,</i>		
<i>*Yale University, USA</i>		

Regular papers:

<b>TN.3</b>	<b>On the Development of Energy-Efficient Communications for Marine Monitoring Deployments .....</b>	<b>271</b>
	G. Kazdaridis, P. Symeonidis, I. Zographopoulos, T. Korakis, K. Klun*, N. Kovac*	
	<i>University of Thessaly, Greece</i>	
	<i>*National Institute of Biology, Slovenia</i>	
<b>TN.4</b>	<b>Neural Network Routing Implementation Using CUDA Technology.....</b>	<b>275</b>
	S. Zoican, R. Zoican, D. Galatchi	
	<i>University Politehnica of Bucharest, Romania</i>	
<b>TN.5</b>	<b>Cost Analysis of Provider's Partial Cloud Migration .....</b>	<b>279</b>
	B. Mikavica, A. Kostić-Ljubisavljević, V. Radonjić-Đogatović	
	<i>University of Belgrade, Serbia</i>	
<b>TN.6</b>	<b>Load Balanced Birkhoff-von Neumann Switch with Output Congestion Detection .....</b>	<b>283</b>
	S. Đurković, Z. Čića	
	<i>University of Belgrade, Serbia</i>	
<b>TN.7</b>	<b>On the Usability of Bluetooth in V2I Based Communications for Extended Infrastructure Support.....</b>	<b>287</b>
	R. Gheorghiu, M. Minea, V. Iordache	
	<i>University Politehnica of Bucharest, Romania</i>	

**TELECOMMUNICATIONS TECHNIQUES**

Invited papers:

<b>TT.1</b>	<b>Multidimensional Coded Modulation for Wireless Communications Beyond 5G .....</b>	<b>293</b>
	I. Djordjevic, S. Zhang*, T. Wang*	
	<i>University of Arizona, USA</i>	
	<i>*NEC Laboratories America, Inc., USA</i>	
<b>TT.2</b>	<b>Stochastic Resonance in Iterative Decoding: Message Passing and Gradient Descent Bit Flipping.....</b>	<b>300</b>
	P. Ivaniš, S. Brkić, B. Vasic*	
	<i>University of Belgrade, Serbia</i>	
	<i>*University of Arizona, USA</i>	
<b>TT.3</b>	<b>Generic Architectures for Uniformly Reweighted APP Decoders.....</b>	<b>308</b>
	V. Ilić, E. Dupraz*, B. Vasic**	
	<i>Mathematical Institute of the Serbian Academy of Sciences and Art, Serbia</i>	
	<i>*ITM Atlantique, France</i>	
	<i>**University of Arizona, USA</i>	

Regular papers:

<b>TT.4</b>	<b>OAM-Based Physical-Layer Security Enabled by Hybrid Free-Space Optical-Terahertz Technology .....</b>	<b>317</b>
	I. Djordjevic, S. Zhang*, T. Wang*	
	<i>University of Arizona, USA</i>	
	<i>*NEC Laboratories America, Inc., USA</i>	
<b>TT.5</b>	<b>Real-Time Adaptive LDPC Coded APSK for Aeronautical Telemetry .....</b>	<b>321</b>
	D. Zou, I. Djordjevic	
	<i>University of Arizona, USA</i>	
<b>TT.6</b>	<b>Analytical Approach in Evaluation of Outage Probability of DF Based Hybrid Satellite-Terrestrial FSO Cooperative System.....</b>	<b>326</b>
	M. Petković, G. Đorđević*, Z. Marjanović*	
	<i>University of Novi Sad, Serbia</i>	
	<i>*University of Niš, Serbia</i>	

## POSTER SESSIONS

### RF & MICROWAVE TECHNIQUES, ANTENNAS AND PROPAGATION

Regular papers:

- PO1.1 VHF Quadrature Hybrid Coupler with the Crossed Strips .....** 335  
V. Crnadak, S. Tasić\*  
*University of Belgrade and IMTEL communications, Serbia*  
*\*IMTEL communications, Belgrade, Serbia*
- PO1.2 Bandpass Filter Design with Active Inductor by Means of Wave Digital Approach.....** 339  
A. Leoni, L. Pantoli, G. Leuzzi, V. Stornelli, B. Stošić\*  
*University of L'Aquila, Italy*  
*\*University of Niš, Serbia*
- PO1.3 An Approach for AI-Based Filters Design by Means of Neural Networks .....** 343  
A. Leoni, L. Pantoli, Z. Marinkovic\*, V. Stornelli, G. Leuzzi  
*University of L'Aquila, Italy*  
*\*University of Niš, Serbia*
- PO1.4 Multi-Bias Equivalent Circuit for MOSFET Modelling .....** 347  
G. Crupi, Z. Marinkovic\*, D. Schreurs\*\*, V. Marković\*, A. Caddemi  
*University of Messina, Italy*  
*\*University of Niš, Serbia*  
*\*\*KU Leuven University, Belgium*
- PO1.5 Wave Approach to Noise Modeling of Scaled On-Wafer GaAs HEMTs.....** 351  
V. Đorđević, E. Cardillo\*, Z. Marinkovic\*\*, O. Pronić-Rančić\*\*, A. Caddemi\*, V. Marković\*\*  
*Innovation Centre of Advanced Technologies (ICAT), Niš, Serbia*  
*\*University of Messina, Italy*  
*\*\*University of Niš, Serbia*
- PO1.6 Controlled Coefficient Adaptation in Linearization of PA by Modified Baseband Signal .....** 355  
A. Atanasković, N. Maleš-Ilić, A. Đorić\*  
*University of Niš, Serbia*  
*\*Innovation Centre of Advanced Technologies (ICAT), Niš, Serbia*
- PO1.7 Contribution to the Electrostatic Analysis of Biisotropic Mediums of Tellegen Type .....** 359  
Ž. Mančić, S. Ilić  
*University of Niš, Serbia*
- PO1.8 Consideration of TLM Modelling on Example of Cylindrical Rectangular Microstrip Antenna Modelling.....** 363  
T. Dimitrijević, J. Joković, N. Dončov, B. Milovanović\*, M. Kostić\*\*  
*University of Niš, Serbia*  
*\*University Singidunum, Serbia*  
*\*\*Innovation Centre of Advanced Technologies, Niš, Serbia*
- PO1.9 Strip Horn for Operation at 9-15 GHz Range.....** 367  
N. Popović, P. Manojlović  
*IMTEL communications, Belgrade, Serbia*
- PO1.10 A Novel Method for Calculating Radiation Patterns of Phased Array Antennas with an Increased Interelement Spacing.....** 370  
V. Gusevsky, A. Klementyeva, A. Komarov  
*National Research University, "Moscow Power Engineering Institute", Russia*

## TELECOMMUNICATION TECHNOLOGIES, NETWORKS AND SYSTEMS

Regular papers:

<b>PO2.1</b>	<b>Performance of Multi-Hop Relaying Networks with SSC Diversity at the Destination .....</b>	377
	A. Panajotović, N. Sekulović*, A. Cvetković, D. Milović	
	<i>University of Niš, Serbia</i>	
	<i>*College of Applied Technical Sciences, Niš, Serbia</i>	
<b>PO2.2</b>	<b>Outage and Ergodic Capacity Analysis of Wireless Networks with Selfish Cooperation.....</b>	381
	A. Cvetković, J. Anastasov, D. Milović, D. Milić, Z. Marjanović	
	<i>University of Niš, Serbia</i>	
<b>PO2.3</b>	<b>Performance Monitoring Challenges in HFC Networks .....</b>	385
	M. Simaković, I. Masnikosa, Z. Čića	
	<i>University of Belgrade, Serbia</i>	
<b>PO2.4</b>	<b>Laboratory Model of Stepped Frequency Continuous Wave Radar .....</b>	389
	G. Antonijević, S. Simić*	
	<i>The Army of Serbia, 126th brigade, Serbia</i>	
	<i>*Military Academy, University of Defence, Belgrade, Serbia</i>	
<b>PO2.5</b>	<b>SIR Based LCR Performance Analysis of Hybrid SC Diversity Reception in Mobile Wireless Networks over Composite Fading Channel .....</b>	393
	Č. Stefanović, D. Đošić, M. Simonović, D. Milić, V. Milenović, M. Stefanović	
	<i>University of Niš, Serbia</i>	

## INFORMATION AND COMMUNICATIONS TECHNOLOGIES

Regular papers:

<b>PO3.1</b>	<b>Heuristic-Modified Region Filling Algorithms for A-B Connection Searching Problem .....</b>	399
	V. Vučković, B. Arizanović	
	<i>University of Niš, Serbia</i>	
<b>PO3.2</b>	<b>Security Point of View of Asp.Net Application .....</b>	403
	M. Medenica, Đ. Dihovični	
	<i>Tehnical College, Belgrade, Serbia</i>	
<b>PO3.3</b>	<b>Expanding Lua Interface to Support HTTP/HTTPS Protocol.....</b>	407
	I. Stanivuk, V. Bjelić*, T. Samardžić*, Đ. Simić*	
	<i>University of Novi Sad, Serbia</i>	
	<i>*RT-RK Computer Based Systems, Novi Sad, Serbia</i>	
<b>PO3.4</b>	<b>Implementation of User Settings Control with Lua C API .....</b>	411
	M. Berić, V. Bjelić*, Đ. Simić*, N. Fimić*	
	<i>RT-RK Computer Based Systems, Banja Luka, Bosnia&amp;Herzegovina</i>	
	<i>*RT-RK Computer Based Systems, Novi Sad, Serbia</i>	
<b>PO3.5</b>	<b>Comparison Analysis of Standard Disk Partitioning and LVM Based Disk Partitioning on Linux Systems .....</b>	415
	M. Božić, M. Đukić, D. Narančić, I. Pap	
	<i>RT-RK Computer Based Systems, Novi Sad, Serbia</i>	
<b>PO3.6</b>	<b>One Solution for the Weight Measurement Process Update Using Embedded Computer .....</b>	419
	M. Đukić, P. Jelić, M. Bulajić, D. Narančić	
	<i>RT-RK Computer Based Systems, Novi Sad, Serbia</i>	
<b>PO3.7</b>	<b>Implementation of DTV User Interaction Concept with Content Recommendations .....</b>	423
	P. Petrović, N. Vranić, M. Lutovac-Banduka, V. Mihić	
	<i>RT-RK Computer Based Systems, Novi Sad, Serbia</i>	

<b>PO3.8</b>	<b>Testing of FlexRay Communication and Error Processing Using Dedicated Tools in Automotive Industry .....</b>	<b>427</b>
	U. Jović, N. Lajić*, D. Ačanski*, D. Spasojević*	
	<i>University of Novi Sad, Serbia</i>	
	<i>*RT-RK Computer Based Systems, Novi Sad, Serbia</i>	
<b>PO3.9</b>	<b>Process Schedule Optimisation According to Event Chains on Automotive Embedded Platforms.....</b>	<b>431</b>
	A. Korać, V. Ilić, N. Kovačić, D. Samardžija, B. Pavković	
	<i>RT-RK Computer Based Systems, Novi Sad, Serbia</i>	
<b>PO3.10</b>	<b>Validation of Process Execution on Automotive Embedded Devices.....</b>	<b>435</b>
	N. Kovačić, V. Ilić, A. Korać, A. Zejak, B. Pavković	
	<i>RT-RK Computer Based Systems, Novi Sad, Serbia</i>	
<b>PO3.11</b>	<b>Synthesis of the Proportional Integral Controller for a Non-Minimum Phase High Order System by Using the Lambert W Function.....</b>	<b>439</b>
	Z. Jovanović, R. Gerov*	
	<i>University of Niš, Serbia</i>	
	<i>*School of Agriculture with a student's dormitory Rajko Bosnić, Serbia</i>	
<b>PO3.12</b>	<b>Monitoring and Classification of Nonlinear Loads Based on Artificial Neural Networks .....</b>	<b>443</b>
	M. Andrejević-Stošović, D. Stevanović*, M. Dimitrijević	
	<i>University of Niš, Serbia</i>	
	<i>*Innovation Centre of Advanced Technologies (ICAT), Niš, Serbia</i>	
<b>PO3.13</b>	<b>An Application of Dental X-ray Image Enhancement.....</b>	<b>447</b>
	V. Georgieva, A. Mihaylova, P. Petrov	
	<i>Technical University of Sofia, Bulgaria</i>	
<b>PO3.14</b>	<b>Analysis of Calibration and Verification Indirect Methods of Ultrasonic Flowmeters .....</b>	<b>451</b>
	S. Gerasimov, V. Glushnev, N. Serov	
	<i>National Research University "Moscow Power Engineering Institute", Russia</i>	
<b>PO3.15</b>	<b>Comments on Objective Quality Assessment of JPEG Images with Visible Differences .....</b>	<b>455</b>
	B. Bondžulić, B. Pavlović, M. Andrić, V. Petrović*	
	<i>Military Academy, University of Defence in Belgrade, Serbia</i>	
	<i>*University of Novi Sad, Serbia</i>	