

2006 IEEE Sarnoff Symposium

**Princeton, NJ
27-28 March 2006**



IEEE Catalog Number:
ISBN 10:
ISBN 13:

CFP06PSS-PRT
1-4244-0002-3
978-1-4244-0002-7

Table of Contents

A qHLRT Modulation Classifier with Antenna Array and Two-Stage CFO Estimation in Fading Channels	1
<i>Hong Li, Yeheskel Bar-Ness, Ali Abdi, Wei Su</i>	
Optimal Training Sequences For Efficient MIMO Frequency-Selective Fading Channel Estimation	5
<i>Shuangquan Wang, Ali Abdi</i>	
Mitigating Deafness in Multiple Beamforming Antennas	9
<i>Vivek Jain, Dharma P. Agrawal</i>	
Peer-to-peer Wireless Sensor Network Data Acquisition System with Pipelined Time Division Scheduling	13
<i>Chellury Sastry, Chi Ma, Michael Loiacono, Nazif Tas, Vladimir Zahorcak</i>	
An Availability-Based Link QoS Routing for Mobile Ad hoc Networks	17
<i>Aniket Malvankar, Ming Yu, Ting Zhu</i>	
Potential for Intra-Vehicle Wireless Automotive Sensor Networks	21
<i>Tamer ElBatt, Cem Saraydar, Michael Ames, Timothy Talty</i>	
An Overlay Framework for QoS Management in Mobile Ad Hoc Networks	25
<i>Paul B. Jeon, Rajesh N. Rao, George Kesidis</i>	
Policy-Based Adaptive Routing in Mobile Ad Hoc Wireless Networks	29
<i>Suli Zhao, Dipankar Raychaudhuri</i>	
OFDMA: A Broadband Wireless Access Technology	33
<i>Hujun Yin, Siavash Alamouti</i>	
GPS Assisted Fast-Handoff Mechanism for Real-Time Communication	37
<i>Ashutosh Dutta, Sunil Madhani, Wai Chen</i>	
Sidelobe Level Reduction of BTS Array Antennas Using Genetic Based Element Positioning	41
<i>S. Ebadi, N. Amiri, K. Forooraghi</i>	
Particle Swarm Optimization for Routing and Wavelength Assignment in Optical Networks	43
<i>T.M. Rao, V. Anand</i>	
OSPF-Based Adaptive and Flexible Security-Enhanced QoS Provisioning	47
<i>Zhen Qin, Roberto Rojas-Cessa, Nirwan Ansari</i>	
A QoS Architecture of Integrating GEPON and WiMAX in the Access Network	51
<i>Yuanqiu Luo, Nirwan Ansari, Ting Wang, Milorad Cvijetic, Shinya Nakamura</i>	
Information Assurance in the SQoS Network	55
<i>Pitipatana Sakarindr, Nirwan Ansari, Roberto Rojas-Cessa</i>	
An Antenna Array for Ultra-Short Pulse and Ultra-Wideband Communication Systems	59
<i>Nan Ni, Haim Grebel</i>	
Analysis of Dielectric Lens - Adaptive Array Antennas for Shaped Beam Applications	63
<i>S. Ravishankar, Prakash Biswagar</i>	
A Harmonic-Rejecting Inset-Fed U-Slot Antenna for Rectenna Application	67
<i>Reza Dehbashi, Keyvan Forooraghi, Zahra Atlasbaf</i>	
Block Selective Repeat: A New ARQ Scheme for High Speed IrDA Links	70
<i>Alam Mohammad Shah, Shawkat Shamim Ara, Mitsuji Matsumoto</i>	
A Performance Comparison of IrBurst and IrOBEX for High-Speed Exchange of Large Data Contents	72
<i>Shawkat Shamim Ara, Alam Mohammad Shah, Mitsuji Matsumoto</i>	
Cognitive UWB-OFDM: Combining Ultrawideband with Opportunistic Spectrum Usage	75
<i>Huseyin Arslan, Mustafa E. Sahin</i>	

Table of Contents

MMSE Noise Power and SNR Estimation for OFDM Systems	79
<i>Tevfik Yucek, Huseyin Arslan</i>	
Comparison of Two Searchback Schemes for Non-Coherent TOA Estimation in IR-UWB Syst	83
<i>Ismail Guvenc, Huseyin Arslan</i>	
On the Statistics of Channel Models for UWB Ranging	87
<i>Hasari Celebi, Ismail Guvenc, Huseyin Arslan</i>	
Latent Electro-Static Damage in Vertical Cavity Surface Emitting Semiconductor Laser Arrays	91
<i>Robert Atkins, Casimer DeCusatis</i>	
A New Compact Broad Band Branch-Line Coupler Using Coupled Lines	94
<i>Zahra Atlasbaf, Keyvan Forooraghi</i>	
An Error Concealment Scheme For Entire Frame Losses For H.264/Avc.....	97
<i>Saurav K. Bandyopadhyay, Zhenyu Wu, Purvin Pandit, Jill M. Boyce</i>	
A non contact characterization technique of the defect states of high k dielectrics using THz radiation.....	101
<i>Amartya Sengupta, Aparajita Bandyopadhyay, John F. Federici, Haim Grebel</i>	
Interferometric terahertz imaging for detection of lethal agents using artificial neural network analyses.....	105
<i>Aparajita Bandyopadhyay, Alexander M Sinyukov, Amartya Sengupta, Dale E Gary, John F Federici, Robert B Barat, Zoi-Heleni Michalopoulou</i>	
Study of SIP-based VoIP Application Interworking with IPv4-IPv6 Transitioning Mechanisms	109
<i>S. Tomic, T. Hoeher, R. Menedetter, R. Maslenka, M. Banfield, R. Lauster</i>	
Analysis of Nonlinear Phenomena for Optical Soliton Transmission in DWDM Systems.....	113
<i>S. W. Bang, D. G. Daut</i>	
Performance Analysis of Collaborative Hybrid-ARQ Protocols over Fading Channels.....	117
<i>Igor Stanojev, Osvaldo Simeone, Yehekel Bar-Ness</i>	
Performance Evaluation of a Medium Access Control Protocol for IEEE 802.11s Mesh Networks.....	121
<i>Mathilde Benveniste, Zhifeng Tao</i>	
Load Balancing In All-Optical Overlaid-Star Tdm Networks.....	126
<i>Jun Zheng, Cheng Peng, Gregor V. Bochmann, Trevor J. Hall</i>	
On The Evolution Of Internet Routers.....	130
<i>Flavio Bonomi</i>	
An End-To-End IPTV Broadcast Service Network Architecture	134
<i>Bashar Bou-Diab, Bijan Raahemi</i>	
DIDD backoff scheme: An enhancement to IEEE 802.11 DCF under burst transmission errors.....	138
<i>P. Chatzimisios, V. Vitsas, A. C. Boucouvalas</i>	
Design of a 4.2-5.4 GHz Differential LC VCO using 0.35 μm SiGe BiCMOS Technology	142
<i>Onur Esame, Ibrahim Tekin, Yasar Gürbüz, Ayhan Bozkurt</i>	
Performance Evaluation of WDM Fiber Optic Frequency Distribution Systems.....	146
<i>Pushkar Chennu, Jennifer Doris Bratton, Mehdi Shadaram</i>	
Distributed Dynamic Resource Allocation for OFDMA Transmissions with Reuse Partitioning.....	151
<i>Aik Chindapol, Jian Cao</i>	
Influence of Temperature on Modeling Silicon MOSFETs for RF and Wireless Applications.....	155
<i>Robert H. Caverly, James A. Reifsnyder III</i>	
Integrating Fractional Congestion Control into SF-SCTP Design	159
<i>Jianping Zou, M. Umit Uyar, Mariusz A. Fecko, Sunil Samtani</i>	
Research and Implementation of Zero-Copy Technology in Linux	163
<i>Liu Tianhua, Zhu Hongfeng, Chang Guira, Zhou Chuansheng</i>	

Table of Contents

A Cavity Based High Power Solid State RF/Microwave Amplifier	167
<i>Bernard R. Cheo, Douglas A.Davids, Li-hsiang S. Cheo, Meng-K. Ke</i>	
A Study of Traffic Survivability Under Malicious Attacks	172
<i>Yen-Hung Hu, Mira Yun, Debra Tang, Hyeong-Ah Choi</i>	
Spatial Multiplexing in the Single-Relay MIMO Channel	176
<i>Pedro Coronel, Wolfgang Schott</i>	
Sub-Band Division Multiplexing (Sdm) And Its Applications	180
<i>William J. Miller, Yi Ling, Mark E. Laubach, Tracy Hall</i>	
A Robust Data-Aided Frequency Offset Estimator for Single-Frequency Signals	184
<i>Pakorn Ubolkosold, Otmar Loffeld, Stefan Knedlik, Franck Tchere</i>	
A Level-Crossing Sampling Scheme for both Deterministic and Stochastic Non-Bandlimited Signals	188
<i>Karen Guan, Andrew C. Singer</i>	
SIMO-NAR NEXT Canceller for DMT DSL-CPE: a Stochastic Shannon Capacity Perspective	191
<i>Laurent Pierrugues, Patrick Duvaut, Julien Pons, Arnaud Santraine</i>	
BER of Uplink Distributed Wireless Communication System with Linear Array Topology in Rayleigh Fading Channel	197
<i>Behrad Mahboobi, Said Nader Esfahani</i>	
A 10-20GHz Wide Locking Range Multi-Phase Generator PLL for 80Gb/s Serial Data Communication	202
<i>Young Uk Yim, Peter F. Curran, John F. McDonald</i>	
WiMAX over Free-Space Optics - Evaluating OFDM Multi-Subcarrier Modulation in Optical Wireless Channels	205
<i>Neda Cvijetic, Ting Wang</i>	
Reduced State M-ary Iterative Channel and Data Estimation without Prefilter using Proportionate Algorithm	209
<i>Thorben Detert, Romain Drauge, Isabella De Broeck, Ulrich Sorger</i>	
Analysis of a Novel Band-Stop Resonator by 3-D CFDTD Method	214
<i>Reza Dehbashi, Zahra Atlasbaf, Keyvan Forooraghi</i>	
A WDM Banyan Switching Network for Multicast Optical Cross-Connects	217
<i>Haiitham S. Hamza, Jitender S. Deogun</i>	
Performance Measurements of IEEE 802.11a Wireless LANs in presence of Ultra Wideband Interference	221
<i>Jai C. Dialani, Anita Patel, R. P. Jindal</i>	
Self-Protection of Turbo- and LDPC-Coded OFDM Systems against Non-Stationary Disturbances	225
<i>Julien Pons, Amitkumar Mahadevan, Patrick Duvaut</i>	
Baad: Bidirectional Arbitrated Adaptive Dfe	231
<i>Gang Wang, Jean-Pierre Ebert, Rolf Kraemer</i>	
a semi-blind watermarking scheme for images using a tree structure	235
<i>Ersin Elbasi, Ahmet M. Eskicioglu</i>	
A VPN-driven Infrastructure for Vertical Handovers	239
<i>Florian Evers, Jochen Seitz</i>	
Joint Transmit Precoding in Downlink of MISO MC-CDMA Systems	243
<i>S. Mohammad Razavizadeh, Masoum Fardis, Narges Noori</i>	
Degree and Link Failure Frequency Analysis for MANETs with Different Node Densities	247
<i>Ibrahim Hokelek, M. Umit Uyar, Mariusz Fecko</i>	
IPv6 Translation for IPv4 Embedded Systems	251
<i>Ed Jankiewicz, David Green, Marc E. Fiuczynski</i>	

Table of Contents

Run-time Estimation of the Number of Active Stations in IEEE 802.11 WLANs.....	255
<i>Ming Yu, Simon Y. Foo, Wei Su</i>	
Real-Time Scheduling for Scalable Video Coding Streaming System	259
<i>Kui Gao, Jiefu Zhai, Jiansong Li, Charles Wang</i>	
Applying a Novel Method to the Analysis of Asymmetrical Transverse Slit in Microstrip Line (Extended Summary).....	263
<i>Hirad Ghaemi</i>	
A Simple Approach To Analyze Asymmetrical Gaps Of Various Configurations In Microstrip Line.....	264
<i>Hirad Ghaemi</i>	
Analysis of Phase noise of RF signals in Analog Fiber Optic Systems	268
<i>Cecil Thomas, Virgilio Gonzalez, Ahmed Musa, Mehdi Shadaram</i>	
Spanning Tree Objective Functions And Algorithms For Wireless Networks.....	274
<i>Mike Morgan, Vic Grout</i>	
A Control Theoretic Analysis of Arbitration and Matching Schemes for Packet Switches.....	278
<i>Zhen Guo, Roberto Rojas-Cessa</i>	
New Flow Control Paradigm for Next Generation Networks1.....	282
<i>Jian Pu, Mounir Hamdi</i>	
An Efficient and Accurate Approach for Characterizing Non-Linear Capacitance in MESFET/HEMT Devices	286
<i>Stanley Henriquez, Caroline Karangu, Aderinto Ogunniyi, Carl White</i>	
Design of High-Speed Metal-Semiconductor-Metal Photodetectors by Finger Sizing Optimization.....	288
<i>Kan-Lin Hsiungy</i>	
Comparison of Modulation Formats for 40- Gbit/s DWDM Optical Fiber Transmission Systems with 50-GHz Channel Spacing	290
<i>Changyuan Yu, Lei Xu, Ezra Ip, Philip Nan Ji, Ting Wang, Shuji Murakami</i>	
A Fiber Optic Binary Switch for Aircraft Application.....	294
<i>Zhaoxia Xie, Henry F. Taylor</i>	
Independent Relays in Overlays for Reliable Enterprise IP Telephony	297
<i>B. Karacali, M. Karol, P. Krishnan, K. Kumar, J. Meloche</i>	
A Scheme of Private key Agreement Based on Delay Profiles in UWB Systems	301
<i>Akito KITAURA, Takenori SUMI, Kei TACHIBANA, Hisato IWAI, Hideichi SASAOKA</i>	
Effects of nonlinear high power amplifier on the area covered by WiMAX signal	307
<i>Gorazd Kandus, Tomaž Javornik, Igor Jelovcan, Sreco Plevel</i>	
Mixed-Signal Tone Detection for Modem Wakeup in ADSL	311
<i>Ahmed F. Shalash, Jack Kenney</i>	
A 1.2-V 8-mW 2.4-GHz CMOS RF Receiver IC for Low Power WPAN.....	315
<i>Ickjin Kwon, Seongsik Song, Jinho Ko</i>	
Transporting JPEG Images over MIMO Links in Ad-Hoc Networks: an Investigation	319
<i>Derek S. Morris, Oh-Ju Kwon</i>	
An Analog/Mixed-Signal Fft Processor For Wideband Ofdm Systems	323
<i>Mark Lehne, Sanjay Raman</i>	
Optimal Farrow Coefficients For Timing Recovery In QAM Demodulation Receiver.....	327
<i>Han Li, Qin Wang, ChengYoun Lu</i>	
Approximating Optimal Survivable Routing in WDM Optical Networks under a Scheduled Traffic Model	331
<i>Tianjian Li, Bin Wang</i>	

Table of Contents

A Baseband Transceiver for IEEE 802.16 OFDMA Downlink Communications.....	335
<i>Jung-Mao Lin, Hsi-Pin Ma</i>	
A Real-Time SNR Estimator for D-MPSK over Frequency-Flat Slow Fading AWGN Channels	339
<i>Yair Linn</i>	
Multi-Constrained Routing in Networks with Shared Risk Link Groups.....	347
<i>Xubin Luo, Bin Wang</i>	
On the Future of Optical Ring Networks.....	351
<i>Martin Maier</i>	
IP Spoofing Detection Approach(ISDA) for Network Intrusion Detection System	355
<i>SUI SONG, C. N. MANIKOPOULOS</i>	
CMOS Wideband Pulse Generators for UWB Transmitter Applications.....	359
<i>Jun Zhao, Christopher Maxey, Arvind Narayanan, Sanjay Raman</i>	
A Heuristic Algorithm Based on Tabu Search for Routing and Wavelength Assignment in Multicast Multi-Wavelength Multi-Fiber Networks.....	363
<i>K. Weesapen, A. Munjirungkoon, C. Prommak, L. Wuttisittikulkij</i>	
Challenges and Applications for Network-Processor-Based Programmable Routers.....	367
<i>Tilman Wolf</i>	
IP+Optical Technology for High-performance Backbone Network in Japan	371
<i>Naoaki Yamanaka</i>	
On The Evolution Of Internet Routers.....	375
<i>Flavio Bonomi</i>	
A Dynamic Secure QoS Routing Protocol for Wireless Ad Hoc Networks.....	379
<i>Ting Zhu, Ming Yu</i>	
Adjacent Frequency Coding Technique for Decreasing MB-OFDM UWB Interference to Other Radio Services	383
<i>Marilynn P. Wylie-Green</i>	
Technological Scaling and Impact on UWB Configurable RF Signal Source.....	387
<i>U. L. Rohde, A. K. Poddar</i>	
UWB Configurable YRO	391
<i>U. L. Rohde, A. K. Poddar</i>	
Angle of Arrival Estimation for Non-Circular Signals.....	395
<i>Amjad Salameh, Nizar Tayem</i>	
Distributed Dynamic Resource Allocation for OFDMA Transmissions with Reuse Partitioning.....	399
<i>Aik Chindapol, Jian Cao</i>	