2010 IEEE 11th International Symposium on Spread Spectrum Techniques and Applications

(ISSSTA 2010)

Taichung, Taiwan 17 – 20 October 2010



IEEE Catalog Number: ISBN:

CFP10767-PRT 978-1-4244-6013-7

Session Index

LS1-Mo-1: Relay Channels

LS1-Mo-2: Detection and Estimation

LS1-Mo-3: CDMA

LS1-Tu-1: OFDM

LS1-Tu-2: Medical ICT

LS1-Tu-3: Ranging and Location

ES2-We-1: UWB

LS1-We-1: Spread Spectrum

LS1-We-2: Sequences

LS1-We-3: Signal Processing for Communications

LS1-Mo-1: Relay Channels

Low Complexity Decoder Design of Non-Binary LDPC Codes in Amplify-And-Forward Relay Networks with 1 Cooperative Diversity

Yier Yan, Ying Guo, Moon Ho Lee

Finite-SNR Diversity-Multiplexing Trade-off of Dual Hop Relay Channels

Ying Liu, Prathapasinghe Dharmawansa, Matthew R. McKay, Khaled Ben Letaief

The Cramer-Rao Bound for Channel Estimation in Block Fading Amplify-and-Forward Relaying Networks

Nico Aerts, Iancu Avram, Marc Moeneclaey

Feedback-Aided Pilot Placement for Amplify-and-Forward OFDM Relay Links

Kuang-Yu Sung, Y.-W. Peter Hong, Chi-chao Chao

LS1-Mo-2: Detection and Estimation

Encoder-controller design for control over the binary-input Gaussian channel Lei Bao, Mikael Skoglund

Accurate BER Analysis of Square OSTBCs With Imperfect Channel Estimation in Arbitrarily Correlated
Rayleigh Fading
Lennert Jacobs, Marc Moeneclaey

23

A Simple Precoding-Based Blind Channel Estimation for Space-Time Block-Coded Single-Carrier With Frequency-Domain Equalization Systems <i>Yi-Sheng Chen</i>	39
An Adaptive SC-FDE Transmission Enhancing Frequency Diversity Benefit Ryouhei Kaneko, Yunhan Wang, Fumiaki Maehara	45
LS1-Mo-3: CDMA	
SIMO MC-CDMA Multiuser Detectors: A DSP Implementation Approach Leonardo D. Oliveira, B. A.Angélico, P. J. E. Jeszensky, T. Abrão	50
A Novel Differentially Coherent PN Code Acquisition Detector for DS-CDMA Communication Systems Teng-Shih Tsai, Chih-Hung Lee	55
Frequency division (FD)-based CDMA system which permits frequency offset Tohru Kohda, Yutaka Jitsumatsu, Kenjiro Fujino, Kazuyuki Aihara	61
Performance Analysis of Double-Weight O-CDMA Scheme With Adjustable Bit Power Han-Yun Chu, Chih-Hao Chen, Guu-Chang Yang, Cheng-Yuan Chang, Wing C. Kwong	67
Trellis Ternary Coding Scheme for 2-D OCDMA System Maw-Yang Liu, Zhi-Wei Wang	71
LS1-Tu-1: OFDM	
On the Optimal Sum Capacity for OFDM With On/Off Power Allocation and Imperfect Channel Estimation Wiroonsak Santipach	75
Low complexity estimation of multiple frequency offsets using optimized training signals Tommi Koivisto, Visa Koivunen	81
Partial data spreading, an efficient and inexpensive approach to combating frequency selectivity in coded OFDM transmission Shengqiang Guo, Paul Walter Baier	87
Phase noise estimation and compensation for OFDM systems: a DCT-based approach <i>Jabran Bhatti, Nele Noels, Marc Moeneclaey</i>	93
LS1-Tu-2 : Medical ICT (Invited Session)	
Continuous ECG Data Gathering by a Wireless Vital Sensor – Evaluation of Its Sensing and Transmission Capabilities – Hiroto Sugano, Shinsuke Hara, Tetsuo Tsujioka, Shigeyoshi Nakajima, Tadayuki Inoue, Kazuhide Takeuchi,	98

Hajime Nakamura

Medical ICT Serving Society Matti Hämäläinen, Jari Iinatti, Timo Jämsä	103
Study of Signal Propagations at 2.45GHz for Wireless BAN Applications Grace H.H. Sung, Takahiro Aoyagi, Kiyoshi Hamaguchi, Ryuji Kohno	108
UWB Systems for Body Area Networdks Marco Hernandez, Ryuji Kohno	112
WRAP: A Weighted Random Value Protocol for Multiuser Wireless Body Area Network Ching Yao Huang, MeiLing Liu, ShihHeng Cheng	116
LS1-Tu-3: Ranging and Location	
Novel Multi-Correlation Differential Detection for Improving Detection Performance in DSSS <i>Yun Lu, Adolf Finger</i>	120
Platoon Characteristics of Automatic Vehicle Speed Control for Vehicles Equipped with DS-UWB Radar Junzoh Tsuchiya, Masayuki Hayashi, Ryuji Kohno	125
A Threshold-Based MIMO TOA Location Estimation for Cellular Systems Tomofumi Yabu, Shinsuke Hara, Radim Zemek, Thomas Derham	131
Study of Human Body Detection for Health Care using UWB-IR in Indoor Environments Katsuhiro Yamashina, Naoyuki Matsuda, Kenichi Takizawa, Tetsushi Ikegami	136
ES2-We-1: UWB	
A Study on Multi-User Access in Energy Detection UWB-IR Receiver Masaya Sasaki, Junpei Ohno, Hiroyoshi Ohno, Kohei Ohno, Makoto Itami	141
MISO Time Reversal and Constrained Least Squares Pre-Equalizer Ultra-wideband Systems B. A. Angélico, P. M. S. Burt, P. J. E. Jeszensky, T. Abrão	147
Design of A High-Spectral-Efficiency MIMO MB-OFDM UWB Baseband Transceiver <i>Jian-Chen Liao, Yuan-Wei Wu, Hsi-Pin Ma</i>	151
A study on routing selection for avoiding interference in UWB ad-hoc networks Tatsuya Soejima, Chika Sugimoto, Ryuji Kohno	155
LS1-We-1 : Spread Spectrum	
A Study on the Code Acquisition and Tracking Systems Using Pseudo-ternary M-sequences <i>Ryo ENOMOTO</i> , <i>Hiromasa HABUCHI</i>	160
Bit-Error Rates of MIMO-SESS over Rayleigh Fading Channels Shichuan Ma, Lim Nguyen, Won Mee Jang, Yaoqing (Lamar) Yang	165

Performance of Self-Encoded Spread Spectrum under Pulsed-Noise Jamming Poomathi Duraisamy, Lim Nguyen	170
Impact of Difference in WBAN Channel Models on UWB System Performance Harri Viittala, Matti Hämäläinen, Jari Iinatti	175
LS1-We-2 : Sequences	
Relatively Prime Length Spreading Sequences for DS-CDMA Naoya Kitamura, Masanori Hamamura	181
A Construction Method of Maximum Length NFSR Sequences Based on Linear Equations Daisaburo Yoshioka	185
Chaos Codes vs. Orthogonal Codes for CDMA Ihan Martoyo, Philip, Andi Susanto, Eddy Wijanto, Herman Kanalebe, Kuniwati Gandi	189
A New M-ary Sequence Family Constructed from Sidel'nikov Sequences Jung-Soo Chung, Jong-Seon No, Habong Chung	194
A Novel Construction of Zero Correlation Zone Sequences Based on Boolean Functions Yu-Shuen Tang, Chao-Yu Chen, Chi-chao Chao	198
LS1-We-3: Signal Processing for Communications	
Decision-Oriented MSE-based Narrow-band Interference Suppression for MB-OFDM UWB Communications Yuan-Wei Wu, Hsi-Pin Ma	204
Frequency Estimator using Newton's Method Tohru Kohda, Kohnosuke Ogiwara, M. Tahir Abbas Khan, Kazuyuki Aihara	209
Reduced Support Vector Machine Detector for Chaos-Based CDMA Systems Johnny W. H. Kao, Stevan M. Berber, Vojislav Kecman	215
Throughput Performance Enhancement for Multiuser Diversity OFDMA Using MMSE Equalization without Guard Interval Yuta Ida, Chang-Jun Ahn, Takeshi Kamio, Hisato Fujisaka, Kazuhisa Haeiwa	221