

A. ADVANCED SIGNAL PROCESSING FOR COMMUNICATIONS

Technical Program Committee

Chair: Tomohiko Taniguchi, *Fujitsu, Japan*

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Naohisa Ohta, *Sony, Japan*

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Ron Smith, *TRW, USA*

Sponsoring Technical Committee: Signal Processing and Communications Electronics

A01 CHANNEL ESTIMATION 1

Monday 29 April 2002

8:50 - 10:20

Belasco, 5th Floor

Session Chair: Tomoaki Ohtsuki, *Tokyo University of Science, Japan*

A01-1 Fast and Robust Blind-Equalization

Based on Cyclic Prefix

P. P. Vaidyanathan, Bojan Vrcelj, *California Institute of Technology, USA*

A01-2 Finite-Alphabet Constant-Amplitude Training Sequence for Multiple-Antenna Broadband Transmissions

C. Fragouli, N. Al-Dhahir, W. Turin, *AT&T Shannon Laboratory, USA*

A01-3 Higher Order Statistical Approach for Channel Estimation Using Matrix Pencils

Jing Liang, Zhi Ding, *University of California at Davis, USA*

A01-4 Multipath Channel Estimation for the Uplink of a DS-CDMA System

A. A. D'Amico, U. Mengali, M. Morelli, *University of PISA, Italy*

A02 CHANNEL ESTIMATION 2

Monday 29 April 2002

10:40 - 12:10

Belasco, 5th Floor

Session Chair: Tomoaki Ohtsuki, *Tokyo University of Science, Japan*

A02-1 Blind Channel and Carrier Offset Estimation in Multiuser CDMA

Hongyi Fu, *University of Waterloo, Canada*, Samir Attallah, *Curtin University of Technology, Australia*

A02-2 Channel Estimation for HIPERLAN/2 with Transmitter Diversity

Slimane Ben Slimane, *Royal Institute of Technology, Sweden*

A02-3 Low Complexity High Resolution Subspace-based Delay Estimation for DS-CDMA

Gunnar Fock, Peter Schulz-Rittich, Andreas Schenke, Heinrich Meyr, *Aachen University of Technology, Germany*

A02-4 Maximum Likelihood Frequency Estimation in Multipath Rayleigh Sparse Fading Channels

Y. V. Zakharov, T. C. Tozer, *University of York, UK*, V. M. Baronkin, N. N. Andreev *Acoustics Institute, Russia*

A03 EQUALIZATION AND SYNCHRONIZATION 1

Monday 29 April 2002

13:40 - 15:10

Belasco, 5th Floor

Session Chair: Jaafar Elmighani, *University of Wales Swansea, UK*

A03-1 A High-Speed Architecture for CMA Blind Equalizer

Kenji Ueda, Hiroshi Ochi, James Okello, *Kyusyu Institute of Technology, Japan*, Yoshio Itoh, *Tottori University, Japan*

A03-2 Bayesian Blind Turbo Receiver for Coded OFDM Systems with Frequency Offset and Frequency-Selective Fading

Ben Lu, *Texas A&M University, USA*, Xiaodong Wang, *Columbia University, USA*

A03-3 Maximum Likelihood Estimation of OFDM Carrier Frequency Offset

Biao Chen, Hao Wang, *Syracuse University, USA*

A03-4 Noise Optimized Eigenfilter Design of Time-Domain Equalizers for DMT Systems

Andre Tkacenko, P. P. Vaidyanathan, *California Institute of Technology, USA*

A04 EQUALIZATION AND SYNCHRONIZATION 2

Monday 29 April 2002

15:30 - 17:00

Belasco, 5th Floor

Session Chair: Jaafar Elmighani, *University of Wales Swansea, UK*

A04-1 Blind Adaptive MIMO Decision

Feedback Equalization using Givens Rotations
George Ginis, Yeheskel Bar-Ness, John M. Cioffi, *Stanford University, USA*

A04-2 Equalization of a Dynamic Channel with Forward Error Correction using an Adaptive Precoder

Martin Glavin, Edward Jones, *National University of Ireland, Galway, Ireland*

A04-3 MMSE Performance of Carrierless AM/PM Receiver with DFEs in Presence of Data-like Cross-Talks

J. Gao, Y. H. Leung, *Curtin University of Technology, Australia*

A04-4 Recovery of ISI Channels using Multiresolution Wavelet Equalization

Dimitri Cariolaro, Lorenzo Favalli, *Università di Pavia, Italy*

A05 CHANNEL ESTIMATION 3

Tuesday 30 April 2002

10:40 - 12:10

Belasco, 5th Floor

Session Chair: Jaafar Elmighani, *University of Wales Swansea, UK*

A05-1 Adaptive Baum-Welch Algorithms for Frequency-Selective Fading Channels

Mauri Nissilä, *VTT Electronics, Finland*, Subbarayan Pasupathy, *University of Toronto, Canada*

A05-2 Multiscale Iterative LBG Clustering for SIMO Channel Identification
Fred Daneshgaran, *California State University, Los Angeles, USA*, Massimiliano Laddomada, *Politecnico di Torino, Italy*

A05-3 Performance Analysis of DA and DD Multiuser Tap Weight Estimators for Short Code DS-CDMA Systems

M. Guenach, L. Vandendorpe, *Université Catholique de Louvain, Belgium*

A05-4 Performance of the LMS Algorithm on the Estimation of the Time-varying Channels

Juraci F. Galdino, Ernesto L. Pinto, *Instituto Militar de Engenharia, Brazil*, Marcelo S. de Alencar, *Universidade Federal da Paraíba, Brazil*

A06 MULTIMEDIA SIGNAL PROCESSING

Tuesday 30 April 2002

13:40 - 15:10

Belasco, 5th Floor

Session Chair: Naohisa Ohta, *Sony, Japan*

A06-1 A Coordinated Multiple Description Scalar Quantizer and Error Concealment Algorithm for Error Resilient Video Streaming over Lossy Channels

Yen-Chi Lee, Yucl Altunbasak, Russell M. Mersereau, *Georgia Institute of Technology, USA*

A06-2 A Fast Full Search Block Matching Algorithm using Three Window Search Based on the Statistical Analysis of the Motion Vectors

A. Sharifinejad, H. Mehrpour, *The University of New South Wales, Australia*

A06-3 A Rate Control Algorithm Based on Adaptive R-Q Model for MPEG-1 to MPEG-4 Transcoding in DCT Domain

Kwang-deok Seo, Jae-kyoon Kim, *Korea Advanced Institute of Science and Technology, Korea*, Seong-cheol Heo, *Digital Streams Technology, Inc., Korea*

A06-4 Speech Coding Translation for IP and 3G Mobile Integrated Network

Yasuji Ota, Masanao Suzuki, Masakiyo Tanaka, Shigeru Sasaki, *Fujitsu Laboratories Ltd., Japan*, Yoshiteru Tsuchinaga, *Fujitsu Kyushu Digital Technology Ltd., Japan*

A07 EQUALIZATION AND SYNCHRONIZATION 3

Tuesday 30 April 2002

15:30 - 17:00

Belasco, 5th Floor

Session Chair: Yumin Lee, *National Taiwan University, Taiwan*

A07-1 A Decision-Feedback Equalizer with Tentative Chip Feedback for the Downlink of Wideband CDMA

Jingnong Yang, Ye Geoffrey Li, *Georgia Institute of Technology, USA*

A07-2 Blind Channel Identification and Equalization for Precoded Communication Systems

Xiaohua Li, Taewoo Han, *State University of New York at Binghamton, USA*

A07-3 On the Convergence of a New Joint DFE and Decoding Procedure for Blind Decision Directed LMS Equalization

C. M. Panazio, J. M. T. Romano, *State University of Campinas, Brazil*

A07-4 The Effect of Channel Estimator Memory Mismatch on the Performance of MLSE in Wireless Data Communications
Yumin Lee, Jyh-Hau Chen, *National Taiwan University, Taiwan*

A08 ADAPTIVE ANTENNAS 1

Wednesday 01 May 2002
8:50 - 10:20

Belasco, 5th Floor

Session Chair: M.N.S. Swamy, *Concordia University, Canada*

A08-1 A Fast Neural Beamformer for Antenna Arrays
K.-L. Du, M. N. S. Swamy, *Concordia University, Canada*, K. K. M. Cheng, *The Chinese University of Hong Kong, China*

A08-2 An Iterative Blind Cyclostationary Beamforming Algorithm
K.-L. Du, M. N. S. Swamy, *Concordia University, Canada*

A08-3 A Novel Optimum SINR Beamforming in Flat Fading Macrocells
Fabrizio Sellone, Letizia Lo Presti, *Politecnico di Torino, Italy*

A08-4 Channel Capacity Enhancement Using Virtual Array Elements in Smart Antenna Systems
Chae-Hyun Lim, Sung-Hoon Moon, Dong-Seog Han, *Kyungpook National University, Korea*, Young-Il Kim, *Korea Telecom, Korea*

A09 ADAPTIVE ANTENNAS 2

Wednesday 01 May 2002
10:40 - 12:10

Belasco, 5th Floor

Session Chair: M.N.S. Swamy, *Concordia University, Canada*

A09-1 A New Low-Complexity Beamformer-Rake Receiver for WCDMA
Fakhrul Alam, Brian D. Woerner, *Virginia Polytechnic Institute and State University, USA*, Donghee Shim, *LG Electronics Inc., Korea*

A09-2 Beamforming in Combination with Space-Time Diversity for Broadband OFDM Systems
Armin Dammann, Ronald Raulefs, Stefan Kaiser, *German Aerospace Center (DLR), Germany*

A09-3 On Multicell Interference and Capacity of the CDMA Forward Link with Tracking Beam Antennae
Yiping Wang, Mehmet Yavuz, Ashvin Chheda, *Nortel Networks, USA*

A09-4 On the Use of Lattice Algorithm for Adaptive Antennas
Haidong Wu, Jiangzhou Wang, *The University of Hong Kong, Hong Kong*

A10 ADAPTIVE SIGNAL PROCESSING

Wednesday 01 May 2002
10:40 - 12:10

Edison, 5th Floor

Session Chair: Yumin Lee, *National Taiwan University, Taiwan*

A10-1 Effective Interference Suppression Using Short Overlapping Regions of Data and SVD
Pertti Henttu, *University of Oulu, Finland*

A10-2 Frame Selection Algorithm with Adaptive FFT Input for OFDM Systems
Jung-Jin Kim, Young-Jae Ryu, Hae-Sock Oh, Dong-Seog Han, *Kyungpook National University, Korea*

A10-3 Non-Data Aided Feedforward Estimation of PSK-modulated Carrier Frequency Offset
Y. Wang, E. Serpedin, *Texas A&M University, USA*, P. Ciblat, *Ecole Nationale Supérieure de Télécommunications, France*

A10-4 Non-Data-Aided Signal-to-Noise-Ratio Estimation
Ami Wiesel, Jason Goldberg, Hagit Messer, *Tel Aviv University, Israel*

A11 MULTIRATE AND MULTICARRIER COMMUNICATIONS

Wednesday 01 May 2002
13:40 - 15:10

Belasco, 5th Floor

Session Chair: Naohisa Ohta, *Sony, Japan*

A11-1 Bit Error Rate Calculation for a Multiband Non Coherent On-Off Keying Demodulation
F. Guilloud, J. L. Danger, ENST, France, E. Boutillon, *Université de Bretagne Sud, France*

A11-2 Channel Interpolation and MMSE Multi-Input Multi-Output Frequency-Domain DFE for Wireless Data Communications Using OFDM
Yumin Lee, Pichieh Huang, *National Taiwan University, Taiwan*

A11-3 Design of Redundant FIR Precoders for Arbitrary Channel Lengths Based on an MMSE Criterion
Alfred Mertins, *University of Wollongong, Australia*

A11-4 Pre- and Post-Processing for Optimal Noise Reduction in Cyclic Prefix Based Channel Equalizers
Bojan Vrcelj, P. P. Vaidyanathan, *California Institute of Technology, USA*

A12 DIVERSITY AND INTERFERENCE SUPPRESSION 1

Wednesday 01 May 2002
13:40 - 15:10

Edison, 5th Floor

Session Chair: Ron Smith, *TRW, USA*

A12-1 Pseudo-Orthogonal Multibeam-Time Transmit Diversity for OFDM-CDMA
Masaaki Fujii, *Fujitsu Laboratories, Ltd., Japan*

A12-2 Error Probability for MC-CDMA in Nakagami-m Fading Channels using Equal Gain Combining
Zexian Li, Matti Latva-aho, *University of Oulu, Finland*

A12-3 Jammer Mitigation in DS-CDMA Array System Using Independent Component Analysis
Tapani Ristaniemi, *University of Jyväskylä, Finland*, Karthikesh Raju, Juha Karhunen, *Helsinki University of Technology, Finland*

A12-4 100% Channel Reuse in Orthogonal Multiple-Access Systems
P. Monsen, *PM Associates, USA*

A13 DIVERSITY AND INTERFERENCE SUPPRESSION 2

Wednesday 01 May 2002
15:30 - 17:00

Belasco, 5th Floor

Session Chair: Ron Smith, *TRW, USA*

A13-1 A Blind Adaptive Receiver for Interference Suppression and Multipath Reception in Long-Code DS-CDMA
Arash Mirbagheri, Young C. Yoon, *University of Waterloo, Canada*

A13-2 Constrained Adaptive Space-Time Diversity Receivers for Multiuser WCDMA Systems
Hayoung Yang, Branka Vucetic, *The University of Sydney, Australia*, Daesik Hong, Changeon Kang, *Yonsei University, Korea*

A13-3 Fuzzy Adaptive Parallel Interference Cancellation and Vector Channel Prediction for CDMA in Fading Channels
Shu-Ming Tseng, *National Taipei University of Technology, Taiwan*, Yibin Zheng, *University of Virginia, USA*, Yao-Teng Hsu, Meng-Chou Chang, *Chang Gung University, Taiwan*

A13-4 Performance Comparison of Multiple-Symbol Differential Detection and Optimum Combining
Debang Lao, Alexander M. Haimovich, *New Jersey Institute of Technology, USA*