

2006 IEEE International Symposium on Signal Processing and Information Technology

**Vancouver, BC, Canada
28-30 August 2006**

Volume 1 of 2



IEEE Catalog Number:
ISBN:

06EX1455
0-7803-9753-3

**Copyright © 2006 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 republications permission, write to IEEE Copyrights Manager, IEEE Operations Center, 445 Hoes Lane, Piscataway, New Jersey USA 08854. All rights reserved.

IEEE Catalog Number: 06EX1455
ISBN: 0-7803-9753-3
Library of Congress: 2006927954

Additional Copies of This Publication Are Available from:

IEEE Service Center
445 Hoes Lane
Piscataway, NJ 08854
IEEE Service Center
445 Hoes Lane
Piscataway, NJ 08854
Phone: (800) 678-IEEE
 (732) 981-1393
Fax: (732) 981-9667
E-mail: customer-service@ieee.org

Optimal Filter Design For Multiple Sclerosis Lesions Segmentation from Regions of Interest in Brain MRI	1
<i>Mohsen Ghazel, Anthony Traboulsee, Rabab K. Ward</i>	
Semi-Automated Segmentation of Multiple Sclerosis Lesions in Brain MRI using Texture Analysis	6
<i>Mohsen Ghazel, Anthony Traboulsee, Rabab K. Ward</i>	
Hybrid Spot Segmentation in Four-Channel Microarray Genotyping Image Data	11
<i>Mohsen Abbaspour, Rafeef Abugharbieh, Mohua Podder, Ben W. Tripp, Scott J. Tebbutt</i>	
Breast Tumor Microwave Simulator Based on a Radar Signal Model.....	17
<i>Daniel Flores-Tapia, Gabriel Thomas, Abas Sabouni, Sima Noghianian, Stephen Pistorius</i>	
Influence of the LPC filter upon the perception of breathiness and vocal effort	23
<i>Karl I. Nordstrom, Peter F. Driessen, Glen A. Rutledge</i>	
Pain Recognition Using Artificial Neural Network.....	28
<i>Md. Maruf Monwar, Siamak Rezaei</i>	
A Novel Image Authentication Scheme based on Contourlets and Error Control Coding.....	34
<i>Nadia Baaziz, Ali Bouzidi, Audrey Ravoux</i>	
A Novel Digital Watermarking Method for Commercial Bills Based on a Class of Orthogonal Function Systems	40
<i>Jiancheng Zou, Wenqi Zhong, Rabab K. Ward</i>	
NIR Optical-Property Images of Heterogeneous Intra-lipid Phantom	44
<i>Min-Chun Pan, Chien-Hung Chen, Min-Cheng Pan</i>	
Parameters Relation of Quantization-based Watermarking Algorithms	49
<i>Changzhen Xiong, Junyi Xu, Jiancheng Zou</i>	
Dark Frame Correction Via Bayesian Estimator in the Wavelet Domain.....	55
<i>Jan Švihlík, Petr Páta</i>	
Measuring the Geometrical Parameters of Steel Billets during Molding Process using Image Processing.....	59
<i>A. Ahmadi Shah, A. Azizi, B. Vosoughi Vahdat, M. Sahraeian, N. Mohammadiha</i>	
High Powered Cluster Heads for Extending Sensor Network Lifetime	64
<i>Malka N. Halgamuge, Kotagiri Ramamohanarao, Moshe Zukerman</i>	
Robust Detection Algorithms for Time Reversal Matched Field Processing	70
<i>Amir Asif, Qian (Amy) Bai</i>	
Visual Servoing for an Inverted Pendulum Using a Digital Signal Processor	76
<i>E.S. Espinoza-Quesada, L.E. Ramos-Velasco</i>	
Time Reversal Matched Field Processing: An Analytical Justification	81
<i>Amir Asif, Qian (Amy) Bai, Jose M. F. Moura</i>	
Efficient Determination of Optimal Smoothing Parameters in Spline Approximations	87
<i>Hiroyuki Kano, Hiroyuki Fujioka, Clyde F. Martin</i>	
A New Signal Compression Algorithm Using AllPass Extraction And Its Use In Image Compression And Coding.....	91
<i>M. F. Fahmy, G. Fahmy</i>	
A Stochastic Model for DNA Sequences Using Prescribed Nucleotide and Length Distributions	95
<i>Stuart FV A. Bergen, Andreas Antoniou</i>	
Analysis and Recognition of Esophageal Speech	101
<i>Alfredo Mantilla, Héctor Pérez-Meana, Jorge Treviño, Patricia Ortal</i>	
MRI Brain Extraction with Combined Expectation Maximization and Geodesic Active Contours.....	107
<i>Albert Huang, Rafeef Abugharbieh, Roger Tam, Anthony Traboulsee</i>	
A Robust Shape Extraction Method for the Medical Image Application	112
<i>Pan Lin, Sheng Zhen Cai, ZuMao Weng</i>	

Co-registration and fusion of CT and SPECT images.....	116
<i>Lisa Tang, Ghassan Hamarneh, Anna Celler</i>	
Adaptive Neuro-Fuzzy Inference Systems for Extracting Fetal Electrocardiogram	122
<i>Khaled Assaleh</i>	
Efficient Breadth-First Implementation of the Wavelet Transform	127
<i>Michael D. Adams</i>	
Design of 6-Band Tight Frame Wavelets With Limited Redundancy.....	133
<i>A. Farras Abdelnour</i>	
Spectral Density Driven Wavelet representation of 2-D images.....	138
<i>Lalit K. Jiwani, S.D. Joshi, G.S. Visweswaran</i>	
Multiple Misfire Identification by a Wavelet-based Analysis of Crankshaft Speed Fluctuation	144
<i>Matteo Montani, Nicolo Speciale</i>	
New basis orthonormalization procedure of the linear non-uniform spline scaling and wavelet spaces	149
<i>A. Zergainoh</i>	
Investigating and Validation Numerical Measures of Corneal Topographic Data in LASIK Surgery Outcome Using Wavelet Transform.....	153
<i>Mohammad Rezazadeh Iman, Maghooli Keivan, Hashemi Taba Masih, Raadi Azadeh</i>	
A Spatiotemporal Edge-Preserving De-Noising Method for High-Quality Video	157
<i>Alireza Nasiri Avanaki</i>	
SWT based Composite Method for Fingerprint Image Enhancement	162
<i>K. V. Kale, R. R. Manza, S. S. Gornale, P. D. Deshmukh, Vikas Humbe</i>	
3-D Active Shape Image Segmentation Using a Scale Model.....	168
<i>Seong-Jae Lim, Yo-Sung Ho</i>	
DPC VS TDMA IN SISO BROADCAST CHANNELS: A PRACTICAL COMPARISON	174
<i>G.R. Mohammad-Khani, S. Lasaulce, J. Dumont</i>	
Feasibility of Extracting Sea Surface Current by HF-SAR	180
<i>Wenhu Xue, Mingmin Zhang, Jinsong Tang, Shuzong Han</i>	
A Fast Block Motion Estimation Algorithm Using Gray Code Kernels	185
<i>Yair Moshe, Hagit Hel-Or</i>	
An Elliptical Level Set Method for Automatic TRUS Prostate Image Segmentation.....	191
<i>Nezamoddin N. Kachouie, Paul Fieguth, Shahryar Rahnamayan</i>	
Effects of Mid-Sagittal Plane Perturbation and Image Interpolation on Corpus Callosum Area Calculation	197
<i>Omer Ishaq, Ghassan Hamarneh, Roger Tam, Anthony Traboulsee</i>	
Semi-Automatic Prostate Segmentation of MR Images Based on Flow Orientation.....	203
<i>Maryam Samiee, Gabriel Thomas, Reza Fazel-Rezai</i>	
Prostate Tissue Characterization via Ultrasound Speckle Statistics.....	208
<i>Luca De Marchi, Nicola Testoni, Nicol Speciale</i>	
Is Information Transfer Rate a Suitable Performance Measure for Self-paced Brain Interface Systems?	212
<i>Mehrdad Fatourechi, Steven G. Mason, Gary E. Birch, Rabab K. Ward</i>	
Locating Peaks in Proteomic Mass Spectral Data Using the Morel-Helmholtz Principle.....	217
<i>Earl W. Fergusson, Arjuna Flenner, Gary Hower, Yoko Murata, Guck T. Ooi, Sun H. Pai, Duane Schwartzwald, Alan Van Nevel</i>	
A Statistical Thresholding Method for Cell Tracking	222
<i>Nezamoddin N. Kachouie, Paul Fieguth, John Ramunas, Eric Jervis</i>	
A Novel Genetic Algorithm for Optimization of FRM Digital Filters over DBNS Multiplier Coefficient Space Based on Correlative Roulette Selection	228
<i>Sai Mohan Kilambi, Behrouz Nowrouzian</i>	

A Computation-Aware Scheme for Motion Estimation in MPEG-4	232
<i>Yung-Hsin Chang, Jin-Jang Leou</i>	
Design of Radix 4 SRT Dividers for Single Precision DSP in Deep Submicron CMOS Technology	236
<i>Tung N. Pham, Earl E. Swartzlander, Jr.</i>	
AN FPGA IMPLEMENTATION OF HIERARCHICAL MOTION ESTIMATION FOR EMBEDDED OBJECT TRACKING	242
<i>Michael McErlean</i>	
Area-Efficient FIR Filter Design on FPGAs using Distributed Arithmetic	248
<i>Patrick Longa, Ali Miri</i>	
Compact Implementation of a Sum-of-Sinusoids Rayleigh Fading Channel Simulator	253
<i>Amirhossein Alimohammad, Bruce F. Cockburn</i>	
Using Compressed B+-trees for Line-based Database Indexes	258
<i>Hung-Yi Lin, Chin-Ling Chen</i>	
Multi-resolution Edge Detection Based on Alpha-stable Model in SAR Images Using Translation-Invariance Contourlet Transform	264
<i>Jiayu Chen, Hong Sum</i>	
Robust Estimation of Radar Pulse Modulation	271
<i>Jarmo Lunden, Visa Koivunen</i>	
Fast Adaptive Update Rate for Phased Array Radar Using IMM Target Tracking Algorithm	277
<i>H. Benoudnine, M. Keche, A. Ouamri, M. S. Woolfson</i>	
Automatic Target Recognition Based on High-Resolution Range Profiles with Unknown Circular Range Shift	283
<i>Jeng-Kuang Hwang, Kun-Yo Lin, Yu-Lun Chiu, Juinn-Horng Deng</i>	
An Alternative Target Density Function For Radar Imaging	289
<i>A. Demirkol, L. Acar, R.S. Woodley, E. Emre</i>	
A Unified Language Model Architecture for Web-based Speech Recognition Grammars	294
<i>Wesley Holland, Daniel May, Julie Baca, Georgios Lazarou, Joseph Picone</i>	
SPECTRAL FREQUENCY TRACKING FOR CLASSIFYING AUDIO SIGNALS	300
<i>Toru Taniguchi, Mikio Tohyama, Katsuhiko Shirai</i>	
Single Carrier Interference Cancellation for Digital Radio Mondiale (DRM)	304
<i>Christof Jonietz, Wolfgang H. Gerstaecker, Patrick Nickel, Gerd Kilian, Albert Heuberger, Wolfgang Koch</i>	
Speaker Verification Using Narrow-band Envelope Correlation Matrices	310
<i>S. Gotoh, M. Kazama, M. Tohyama, Y. Yamasaki</i>	
Hierarchical Segmentation of Presentation Videos through Visual and Text Analysis	314
<i>Honglin Li, Aijuan Dong</i>	
Formants Measurement for Esophageal Speech Using Wavelets with Band and Resolution Adjustment	320
<i>B. Garcia, I. Ruiz, J. Vicente, A. Alonso</i>	
Data Compression Technique for Digital Holograms using a Temporally Scalable Coding Method for 2-D Images	326
<i>Young-Ho Seo, Hyun-Jun Choi, Jin-Woo Bae, Ji-Sang Yoo, Dong-Wook Kim</i>	
Suboptimal Karhunen-Loève Transform for Compression of Astronomical Images	332
<i>Petr Páta</i>	
Window Architecture for Deblocking Filter in H.264/AVC	338
<i>Chung-Ming Chen, Jian-Ping Zeng, Chung-Ho Chen, Chao-Tang Yu, Yu-Pin Chang</i>	
Simultaneous Textured Image Decomposition and Discrimination Preserving Large-Scale Structure	343
<i>R. Shahidi, C. Moloney</i>	
Adaptive Down-Scaling Techniques for JPEG-Based Low Bit-Rate Image Coding	349
<i>Ana-Maria Sevcenco, Wu-Sheng Lu</i>	

Robust Feature Extraction Using Multiresolution Local Pattern Information.....	355
<i>Zhuo Liu, Shigeo Wada</i>	
ON THE SPIHT-BASED MULTISPECTRAL IMAGE COMPRESSION	359
<i>Fouad Khelifi, Ahmed Bouridane, Fatih Kurugollu</i>	
Noise Variance Estimation In Signal Processing.....	364
<i>David Makovoz</i>	
Local Orthogonal Discriminate Bases to Hybrid SVM/Self-adaptive HMM Classifier for Discrete Word Speech Recognition	370
<i>Saeid Rahati Quchani, Kambiz Rahbar</i>	
New Insights into Wigner Distributions of Deterministic and Random Analytic Signals	374
<i>Kajetana M. Snopek</i>	
Identification of Non-Minimum Phase Transfer Function Components	380
<i>T. J. Moir, J. Jeong</i>	
A Non Probabilistic Algorithm Based on Karhunen-Loeve Transform for the Recognition of Stochastic Signals	385
<i>Francesco Gianfelici, Claudio Turchetti, Paolo Crippa</i>	
Fuzzy Expert System for Object Labeling Integrated with Probabilistic Learning	391
<i>Hewayda M. Lotfy, Adel S. Elmaghraby</i>	
A Tunable, Efficient, Specialized Multidimensional Range Query Algorithm	397
<i>Randall Cook, Markus Cremer</i>	
A Consensus Text Summarizer Based on Meta-Search Algorithms	403
<i>Vishal Thapar, Ahmed A. Mohamed, Sanguthevar Rajasekaran</i>	
Improving Query-Based Summarization Using Document Graphs.....	408
<i>Ahmed A. Mohamed, Sanguthevar Rajasekaran</i>	
A Novel Sorting Algorithm Based on Guessing Function	411
<i>Sheng Bao, You Xu, De-Shun Zheng, Zhen-Dong Zhao</i>	
Using Transfer Matrix Method to Study the Acoustic Property of Drill Strings.....	415
<i>Chun-Yan Wang, Wen-Xiao Qiao, Wei-Qiang Zhang</i>	
PERSIAN/ARABIC TEXT FONT ESTIMATION USING DOTS	420
<i>Mohammad Hassan Shirali-Shahreza, Sajad Shirali-Shahreza</i>	
ON EQUALIZATION OF BONE CONDUCTED SPEECH FOR IMPROVED SPEECH QUALITY	426
<i>Kazuhiro Kondo, Tomoe Fujita, Kiyoshi Nakagawa</i>	
Spatial Sound Rendering Using Measured Room Impulse Responses.....	432
<i>Yan Li, Peter F. Driessen, George Tzanetakis, Steve Bellamy</i>	
A Bayesian Estimator for Non-intrusive Speech Quality Evaluation in Psychoacoustic Domain	438
<i>Guo Chen, Vijay Parsa</i>	
A Leap-type High-speed Match for Digital Music Search	442
<i>Junjie Zhang, Yadong Wu</i>	
Temporal Error Concealment Algorithm Using Multi-Side Boundary Matching Principle	448
<i>Chung-Yen Su, Chia-Hao Huang</i>	
A Fast Parametric Snake Model with Enhanced Concave Object Extraction Capability	454
<i>K. W. Sum, Paul Y. S. Cheung</i>	
Integrating Local Correlation and Interframe Continuity for Robust Foreground Object Segmentation	458
<i>Chuanxu Wang, Xiangguang Zhang, Chunfeng Yuan, Liang Zhou, Yun Liu</i>	
Concave and Convex Area on Planar Curve for Shape Defect Detection and Recognition.....	462
<i>Musa Mokji</i>	
Modelling and Prediction of Cyclostationary Chaotic Time Series Using Vector Autoregressive Models.....	468
<i>Feng Xi, Zhong Liu</i>	

A Metric for Identifying System Exploitation using Buffer Overflow	474
<i>Michelle Allgeier, Ahmed Desoky</i>	
Integrating Predictable Planning and Unpredictable	
Dynamics in Network Utility Maximization: An Improved Quota-Based Market Model	478
<i>Jun Wang, Victor C. M. Leung</i>	
A Fair Transaction Model in Mobile Commerce	484
<i>Chin-Ling Chen, Hung-Yi Lin, Yu-Yi Chen, Jinn-Ke Jan</i>	
Compensation of Memory-Effects in PDM-based Transmitters for Digital Audio Broadcast	490
<i>Scott H. Melvin, Jacek Ilow</i>	
Reconfigurable Platform Evaluation Through Application Mapping And Performance Analysis	496
<i>Sohaib Majzoub, Resve Saleh, Hassan Diab</i>	
A Sphere Decoding Algorithm for MIMO Channels.....	502
<i>Chin-Yun Hung, Tzu-Hsien Sang</i>	
Bilateral Filtering of Diffusion Tensor MR Images	507
<i>Ghassan Hamarneh, Judith Hradsky</i>	
DTMRI Segmentation using DT-Snakes and DT-Livewire	513
<i>Ghassan Hamarneh, Judith Hradsky</i>	
An Efficient Multiple Description Coding Scheme for the Scalable Extension of H.264/AVC (SVC)	519
<i>Hassan Mansour, Panos Nasiopoulos, Victor Leung</i>	
Minimal Capture Sets for Multi-Exposure Enhanced-Dynamic-Range Imaging.....	524
<i>Neil Barakat, Thomas E. Darcie</i>	
An Efficient Re-quantization Error Compensation for MPEG2 to H.264 Transcoding	530
<i>Qiang Tang, Panos Nasiopoulos, Rabab Ward</i>	
Modeling of Loss-Distortion in Hierarchical Prediction Codecs	536
<i>Hassan Mansour, Panos Nasiopoulos, Vikram Krishnamurthy</i>	
A Bayesian Approach To Flux Correction In Extragalactic Source Detection	541
<i>Diego Herranz, Jos Luis Sanz, Marcos Lopez-Caniego, Joaquin Gonzalez-Nuevo</i>	
A Robust Hierarchical Digital Modulation Classification Technique: using Linear Approximations	545
<i>Syed M. Baarrij, Fahad Nasir, Saad Masood</i>	
Comparative Analysis of Spatial Covariance Matrix Estimation Methods in OFDM Communication Systems	551
<i>Alexander Maltsev, Roman Maslennikov, Alexey Khoryaev</i>	
Linear feature vector compression using Kullback-Leibler distance.....	556
<i>Holger Crysandt</i>	
Formant estimation of whispered speech based on spectral segmentation.....	562
<i>Gong Chenghui, Zhao Heming, Lü Gang, Liu Jianxin</i>	
Detecting Fatigue From Voice Using Speech Recognition	567
<i>H.P. Greeley, E. Friets, J.P. Wilson, S. Raghavan, J. Picone, J. Berg</i>	
A NOVEL LOWCOMPLEXITY VQ-BASED SINGLE CHANNEL SPEECH SEPARATION TECHNIQUE.....	572
<i>M. H. Radfar, R. M. Dansereau, A. Sayadiyan.</i>	
Experiments on Partial Encryption Performance for Image Sets	578
<i>ZuYing Wang, Ping Luo, Xiaobo Li</i>	
Modular-Based Classifier for Phoneme Recognition.....	583
<i>Abbas Ahmadi, Fakhri Karray, Mohamed Kamel</i>	
RESONANT BANDWIDTH ESTIMATION OF VOWELS USING CLUSTERED-LINE SPECTRUM MODELING FOR PRESSURE SPEECH WAVEFORMS	589
<i>O. Yasojima, Y. Takahashi, M. Tohyama</i>	

A Distributed Prototyping Environment for Human Language Technology	594
<i>Theban Stanley, Julie Baca, Miao Liu, Joseph Picone</i>	
Metrics to Evaluate Internet Pricing Schemes	600
<i>Jun (Dana) Wang, Kin Fun Li</i>	
The Use of the Galois lattice for the extraction and the visualization of the spatial association rules	606
<i>R. Marghoubi, A. Boulmakoul, K. Zeitouni</i>	
Efficient Execution of Real-Time Tasks	612
<i>Reda Ammar, Ahmed Hussein, Abeer Hamdy</i>	
ALGORITHM OF DYNAMIC ROUTING FOR AD HOC NETWORKS	618
<i>Adele naief al fawaeer</i>	
COMBINING DECODED-AND-FORWARDED SIGNALS IN GAUSSIAN COOPERATIVE CHANNELS	622
<i>B. Djeumou, S. Lasaulce, A. G. Klein</i>	
Improving Bone-Conducted Speech Quality via Neural Network	628
<i>Tetsuya Shimamura, Jun'ichiro Mamiya, Toshiki Tamiya</i>	
Optimum Structures for Sample Rate Conversion from CD to DAT and DAT to CD Using Multistage Interpolation and Decimation	633
<i>Mahdi Mottaghi-Kashitban, Saeed Farazi, Mahrokh G. Shayesteh</i>	
A Reduced-Complexity Sub-Maximum-Likelihood Detection Method for MIMO Systems	638
<i>T. Whitworth, D.C. McLernon, M. Ghogho</i>	
Blind Separation of Anechoic Under-determined Speech Mixtures using Multiple Sensors	642
<i>Rayan Saab, Ozgur Yilmaz, Martin J. McKeown, Rafeef Abugharbieh</i>	
Second-Order-Statistics-Based Blind Source Separation for Non-Stationary Sources with Stationary Noise	647
<i>Akira Tanaka, Hideyuki Imai, Masaaki Miyakoshi</i>	
Dual-Microphone Speech Dereverberation in a Noisy Environment	651
<i>Emanuel A. P. Habets, Sharon Gannot, Israel Cohen</i>	
What ICA Provides for ECG Processing: Application to Noninvasive Fetal ECG Extraction	656
<i>Reza Sameni, Christian Jutten, Mohammad B. Shamsollahi</i>	
An Enhanced Binaural 3D Sound Localization Algorithm	662
<i>Fakheredine Keyrouz, Klaus Diepold</i>	
Efficient use of signal-free samples for DOA estimation and detection in colored noise	666
<i>Karl Werner, Magnus Jansson</i>	
Photometric Stereo Using Four Surface Normal Approximations and Optimal Normalization of Images	672
<i>Osamu Ikeda</i>	
A SYSTEM FOR MELODY EXTRACTION FROM VARIOUS HUMMING INPUTS	680
<i>Liang Gao, Yadong Wu</i>	
Design and Simulation of a Life Detection System Based on Detection of the HEart Beat Using Doppler Frequency	685
<i>A. Izadi, Z. Ghatan, B. Vosoughi Vahdat, F. Farzaneh</i>	
ADAPTIVE QUADRATIC INTERPOLATION METHODS FOR LIFTING STEPS CONSTRUCTION	691
<i>Joel Sol, Philippe Salembier</i>	
Implementation of High Data Rate Stream Parsing with Data Aligning Mechanism	697
<i>Todor Mladenov Mladenov, Fahad Ali Mujahid, Eungu Jung, Dongsoo Har</i>	
A Low Complexity Simulation Algorithm for TH-UWB MMSE RAKE Receiver	702
<i>Marina Marjanovic, José Manuel, Pérez Borrillo</i>	
Optimum Throughput Constrained Opportunistic Scheduling in Cellular Data Networks	708
<i>Syed Hussain Ali, Ki-Dong Lee, Victor C.M. Leung</i>	

An Efficient Path Precomputation Technique for QoS Routing	714
<i>Hanan H. Elazhary, Swapna S. Gokhale, Reda A. Ammar</i>	
A Survey for QoS and Power Management Algorithms in Wireless Transmission.....	720
<i>Ahmed H. Salem, Anup Kumar, Adel S. Elmaghraby</i>	
Enhanced QoS for Real-time Multimedia Delivery over the Wireless Link using RFID Technology	728
<i>Randa El-Marakby, Mythili Enugula</i>	
Multiscale Timing Estimation for Ad Hoc Networks	735
<i>Jung-Jae Chao</i>	
Statistical Analysis of Fourier Transform Estimates: Monte Carlo and Stratified Sampling	739
<i>Elias Masly</i>	
ML Detection in MIMO Communication Systems with Imperfect Channel Knowledge.....	745
<i>Ahmad A. Farhoodi, Mehrzad Biguesh</i>	
Affine Precoding and Decoding MIMO Frequency-selective Fading Channel for Estimation and Source Detection	749
<i>N. N. Tran, D. H. Pham, H. D. Tuan</i>	
Highly Efficient Sparse Multipath Channel Estimator with Optimal Chu-sequence Preamble for MIMO Frequency-Domain DFE Receiver.....	755
<i>Jeng-Kuang Hwang, Rih-Lung Chung, Meng-Fu Tsai</i>	
ROBUST MULIUSER DFES BASED ON HYBRID MMSE AND ML FOR MULTIPATH FADING CHANNELS	760
<i>Tan-Jan Ho</i>	
A Pseudo-Hilbert Scan for Arbitrarily-Sized Cuboid Region	764
<i>Jian ZHANG, Sei-ichiro KAMATA</i>	
Investigation on the Extended Angular-Velocity Vold-Kalman Order Tracking.....	770
<i>Min-Chun Pan, Cheng-Xue Wu</i>	
Automated Assessment of Erythrocyte Disorders Using Artificial Neural Network.....	776
<i>Saif Zahir, Rejaul Chowdhury, Geoffrey W. Payne</i>	
A Hybrid 2-3-3 Bits-Based Image Encoding Scheme.....	781
<i>Saif Zahir, Rejaul Chowdhury</i>	
A New Efficient Context-Based Relative-Directional Chain Coding	787
<i>Lele Zhou, Saif Zahir</i>	
Video Tracking Of 2D Face Motion During Speech	791
<i>Adriano Vilela Barbosa, Eric Vatikiotis-Bateson</i>	
HIERARCHICAL MOTION ESTIMATION FOR EMBEDDED OBJECT TRACKING.....	797
<i>Michael McErlean</i>	
An Efficient Statistical Intra-mode Prediction Method for H.264	803
<i>Duane Storey, Panos Nasiopoulos</i>	
Adaptive Video Motion Estimation Algorithm via Estimation of Motion Length Distribution and Bayesian Classification	807
<i>Mahdi Asefi, Mohamed-Yahia Dabbagh</i>	
A New Diamond-Arc-Hexagon Search Algorithm for Fast Block Motion Estimation.....	811
<i>Han-Ting Lin, Jen-Shiun Chiang</i>	
Temporal Motion Prediction for Fast Motion Estimation in Multiple Reference Frames.....	817
<i>G Nageswara Rao, PSSBK Gupta</i>	
DIRECTIONS AND RECENT ADVANCES IN PAPR REDUCTION METHODS	821
<i>Hanna Bogucka</i>	
Amplifier Efficiencies of OFDM Systems with Peak Power and Envelope Variance Reduction.....	828
<i>Hideki Ochiai</i>	

SOCP Approach for OFDM Peak-to-Average Power Ratio Reduction in the Signal Adding Context	834
<i>Sidki'eta Zabre, Jacques Palicot, Yves Louet, Christian Lereau</i>	
An Overview of Peak-to-Average Power Ratio Reduction Techniques for OFDM Systems	840
<i>Luqing Wang, Chmtha Tellambura</i>	
Power Spectral Density and Cubic Metric for the OFDM/OQAM Modulation	846
<i>Alexandre Skrzypczak, Pierre Siohan, Jean-Philippe Javardin</i>	
Robust and Accurate Image Registration with Pixel Selection.....	851
<i>Masao Shimizu, SoonKeun Chang, Masatoshi Okutomi</i>	
Large Array Beamforming via Semidefinite Programming	857
<i>H.G. Hoang, H.D. Tuan, B. Vo,</i>	
A Reversible Data Hiding Scheme for 3D Point Cloud Model	863
<i>Hao Luo, Zhe-Ming Lu, Jeng-Shyang Pan</i>	
Design of High-Performance Filter Banks for Image Coding.....	868
<i>Di Xu, Michael D. Adams</i>	
Piecewise Constant Reconstruction Using a Stochastic Continuation Approach	874
<i>M. C. Robini, I. E. Magnin</i>	
Computation of Long Time Cross Ambiguity function using reconfigurable HW.....	879
<i>Antonin Hermanek, Michal Kune, Michal Kvasnicka</i>	
Motion estimation method through adaptive deformable variable-sized rectangular meshes using warping function	884
<i>Vianney Muñoz-Jimenez, Anissa Zergainoh, Jean-Pierre Astruc</i>	
Inverse Halftoning Method of Error Diffused Images Using Look-Up Table with State Reduction	890
<i>Makoto Kitamura, Fumitaka Ono</i>	
Robust Feature Extraction Using Spectral Peaks of the Filtered Higher Lag Autocorrelation Sequence of the Speech Signal	896
<i>G. Farahani, S.M. Ahadi, M.M. Homayounpour, A. Kashi</i>	
Edge Sensitive Block Motion Estimation Employing Partial Ridgelet Distortion Search.....	902
<i>Mohammad Eslami, Emadeddin Fatemizadeh</i>	
Adaptive Block Motion Prediction	908
<i>Abouzar Eslami, Massoud Babaeizadeh</i>	
A Speech Recognition System Based on Dynamic Characterization of Background Noise	914
<i>Francesco Beritelli, Salvatore Casale, Alessandra Russo, Salvatore Serrano</i>	
A PSEUDO-HILBERT SCAN FOR ARBITRARILY-SIZED CUBOID REGION	920
<i>Jian ZHANG, Sei-ichiro KAMATA</i>	
Localization of Hot Spots in Proteins Using Digital Filters.....	926
<i>Parameswaran Ramachandran, Andreas Antoniou</i>	
Cascade-Form Multiplierless FIR Filter Design Using Orthogonal Genetic Algorithm	932
<i>Sabbir U. Ahmad, Andreas Antoniou</i>	
Flaw Shape Characterization in 3D Volume Visualization in Ultrasonic Testing	938
<i>Vaclav Matz, Radislav Smid, Marcel Kreidl, Jiri Kerka</i>	
Diffusion Geodesic Path: A Common Feature for Automatic Image-Map Registration.....	944
<i>Li Tian, Sei-ichiro Kamata</i>	
Morphological Filter Assisted Low Amplitude Impulse Detector	950
<i>S.D. Meier, P.J. Moore</i>	
Audio Watermarking for Covert Communication through Telephone System	955
<i>Ehsan Tavakoli, Bijan Vosoughi Vahdat, Mohammad Bagher Shamsollahi, Reza Sameni</i>	
Automatic Correction of the 3D Orientation of the Brain Imagery	960
<i>Xin Liu, Celina Imielinska, S.Connolly Jr., A. D'Ambrosio</i>	