

IEEE TRANSACTIONS ON INSTRUMENTATION AND MEASUREMENT

A PUBLICATION OF THE IEEE INSTRUMENTATION AND MEASUREMENT SOCIETY

OCTOBER 2010

VOLUME 59

NUMBER 10

IEIMAO

(ISSN 0018-9456)



SPECIAL SECTION ON THE 2009 IEEE INTERNATIONAL WORKSHOP ON MEDICAL MEASUREMENTS AND APPLICATIONS

GUEST EDITORIAL

Special Section on the 2009 IEEE International Workshop on Medical Measurements and Applications	<i>D. Grimaldi and S. Rapuano</i>	2486
--	-----------------------------------	------

SPECIAL SECTION PAPERS

Probing the Control Processes of the Motor System	<i>D. Méary, L. Leocani, R. Chieffo, M. Comola, G. Comi, and G. Baud-Bovy</i>	2488
A New Hand-Measurement Method to Simplify Calibration in CyberGlove-Based Virtual Rehabilitation	<i>J. Zhou, F. Malric, and S. Shirmohammadi</i>	2496
Assessment of a Breast Mass Identification Procedure Using an Iris Detector	<i>A. Mencattini, G. Rabottino, M. Salmeri, and R. Lojaco</i>	2505
A Wireless Measurement System for Estimation of Human Exposure to Vibration During the Use of Handheld Percussion Machines	<i>R. Morello, C. De Capua, and A. Meduri</i>	2513
Implementation and Characterization of a Medical Ultrasound Phased Array Probe With New Pb-Free Soldering Materials	<i>M. Catelani, V. L. Scarano, and F. Bertocci</i>	2522
A Smart ECG Measurement System Based on Web-Service-Oriented Architecture for Telemedicine Applications	<i>C. De Capua, A. Meduri, and R. Morello</i>	2530
An Automatic System for Skeletal Bone Age Measurement by Robust Processing of Carpal and Epiphysal/Metaphysal Bones	<i>D. Giordano, C. Spampinato, G. Scarciofalo, and R. Leonardi</i>	2539
AR-REHAB: An Augmented Reality Framework for Poststroke-Patient Rehabilitation	<i>A. Alamri, J. Cha, and A. El Saddik</i>	2554
Physiological Parameters Measurement Based on Wheelchair Embedded Sensors and Advanced Signal Processing	<i>O. A. Postolache, P. M. B. S. Girao, J. Mendes, E. C. Pinheiro, and G. Postolache</i>	2564
Measurement of Heart Rate Variability Using an Oscillometric Blood Pressure Monitor	<i>S. Ahmad, M. Bolic, H. Dajani, V. Groza, I. Batkin, and S. Rajan</i>	2575
A Texture-Based Image Processing Approach for the Description of Human Oocyte Cytoplasm	<i>T. M. A. Basile, L. Caponetti, G. Castellano, and G. Sforza</i>	2591
Objective Assessment of Olfactory Function Using Functional Magnetic Resonance Imaging (fMRI)	<i>S. Borromeo, J. A. Hernández-Tamames, G. Luna, F. Machado, N. Malpica, and A. Toledano</i>	2602

请阅后放回:

(Contents Continued on Page 2485)

排架号 E151 处



REGULAR PAPERS

A/D and D/A Conversion, Analog, and Digital Instrumentation

Input-Dependent Integral Nonlinearity Modeling for Pipelined Analog-Digital Converters S. Medawar, P. Händel, N. Björzell, and M. Jansson 2609

Analog and Digital Data, Image, and Signal Processing

Software PLL Based on Random Sampling M. O. Sonmaillon, R. Urteaga, and F. J. Bonetto 2621
An Automatic System for the Real-Time Characterization of Vehicle Headlamp Beams Exploiting Image Analysis A. Bevilacqua, A. Gherardi, and L. Carozza 2630

Instrumentation for and Measurement in Communications

Prototype of an Automatic Digital Modulation Classifier Embedded in a Real-Time Spectrum Analyzer L. De Vito, S. Rapuano, and M. Villanacci 2639

Instrumentation for and Measurement of Electric Power Systems, Energy Metering, and Electric Power Quality

Accuracy Analysis of Algorithms Adopted in Voltage Dip Measurements D. Gallo, C. Landi, and M. Luiso 2652

Built-in Self-Test, Design-for-Testing, Fault Diagnosis, and Fault-Tolerance

Circuit Implementation of a Supply Current Spectrum Test Method M. G. Dimopoulos, A. D. Spyronasios, D. K. Papakostas, D. K. Konstantinou, and A. A. Hatzopoulos 2660
Online Validation of Multiphase Flowmeters Using Simple Capacitance Sensors A. Abou-Arkoub, R. Thorn, and A. Bousbaine 2671
Detection of Motor Bearing Outer Raceway Defect by Wavelet Packet Transformed Motor Current Signature Analysis E. C. C. Lau and H. W. Ngan 2683

Imaging Techniques and Instrumentation

Quantitative Microwave Imaging for Breast Cancer Detection Using a Planar 2.45 GHz System T. Henriksson, N. Joachimowicz, C. Conessa, and J.-C. Bolomey 2691

Measurement of Materials and Applications

Simple Low-Cost System for Thickness Measurement of Metallic Plates Using Laser Mouse Navigation Sensor N. N. Ali Charniya and S. V. Dudul 2700

Mechatronics, Industrial Applications, and Robotics

Color-Based Monocular Visuo-inertial 3-D Pose Estimation of a Volant Robot N. Kyriakoulis and A. Gasteratos 2706

Measurement Techniques

A Strict-Time Distributed Architecture for Digital Beamforming of Ultrasound Signals J. Camacho, O. Martínez, M. Parrilla, R. Mateos, and C. Fritsch 2716
A New Circuit Topology for the Realization of Very Low Noise, High Stability Voltage Sources C. Ciofi, G. Scandurra, and G. Cannata 2724
Performance Evaluation of Automotive Radars Using Carrier-Phase Differential GPS S. Zeng 2732
A Novel Versatile Precision Full-Wave Rectifier P. P. Sahu, M. Singh, and A. Baishya 2742

RF, Microwave, Millimeter Wave, and Tera-Hertz

An Improved Reflectometric Method for Soil Moisture Measurement Exploiting an Innovative Triple-Short Calibration E. Piuze, A. Cataldo, G. Cannazza, and E. De Benedetto 2747
Optically Modulated Probe for Precision Near-Field Measurements H. Memarzadeh-Tehran, J.-J. Laurin, and R. Kashyap 2755

Sensors, Sensor Fusion, and Transducers

Interfacing Differential Capacitive Sensors to Microcontrollers: A Direct Approach F. Reverter and Ó. Casas 2763

Time and Frequency Domain Circuits and Systems

Analysis of Harmonic Energy Distribution Portfolio for Digital-to-Frequency Converters L. Xiu, C.-W. Huang, P. Gui 2770
Frequency-Domain Analysis of Effects of a Diverged Interconnect Design Involved in High-Speed Front-End Electronics H. Lim 2779