

IEEE TRANSACTIONS ON INSTRUMENTATION AND MEASUREMENT

A PUBLICATION OF THE IEEE INSTRUMENTATION AND MEASUREMENT SOCIETY



JUNE 2010

VOLUME 59

NUMBER 6

IEIMAO

(ISSN 0018-9456)

REGULAR PAPERS

Algorithms, Artificial Intelligence, SOFT Computing and Informatics

- QoS Requirement in the Multimedia Transcoding Service Selection Process *M. S. Hossain and A. El Saddik* 1498
A Multisensor Intelligent Device for Real-Time Multiphase Flow Metering in Oil Fields *M. Meribout, N. Z. Al-Rawahi, A. M. Al-Naamany, A. Al-Bimani, K. Al-Busaidi, and A. Meribout* 1507

Instrumentation for and Measurement in Communication

- On the Spatial Averaging of Multiple Narrowband Electromagnetic Field Measurements: Methods and Uncertainty Estimation *D. I. Stratakis, A. I. Miaoudakis, V. G. Zacharopoulos, and T. D. Xenos* 1520
Experimental Investigation on Time Reversal Precoding for Space–Time Focusing in Wireless Communications *H. El-Sallabi, P. Kyritsi, A. Paulraj, and G. Papanicolaou* 1537

Controls and Control Systems Instrumentation and Measurement

- Linear Optical Encoder System With Sinusoidal Signal Distortion Below -60 dB *J. Rozman and A. Pleteršek* 1544

- ### Instrumentation for and Measurement of Electric Power Systems, Energy Metering, and Electric Power Quality
- Enhanced RBF Network for Recognizing Noise-Riding Power Quality Events *C.-C. Liao* 1550
A Divide-by-Difference-Filter Based Algorithm for Estimation of Generator Rotor Angle Utilizing Synchrophasor Measurements *P. Tripathy, S. C. Srivastava, and S. N. Singh* 1562

Uncertainty Analysis, Accuracy, Precision, and Parameter Estimation

- Composite Interpolated Fast Fourier Transform With the Hanning Window *K. F. Chen and S. L. Mei* 1571

Medical and Biomedical Instrumentation and Applications

- Instrument-Based Noncontact Doppler Radar Vital Sign Detection System Using Heterodyne Digital Quadrature Demodulation Architecture *C. Gu, C. Li, J. Lin, J. Long, J. Huangfu, and L. Ran* 1580

Measurement Techniques

- Posture Monitoring System for Context Awareness in Mobile Computing *J. Baek and B.-J. Yun* 1589
Compressed Sensing for Surface Characterization and Metrology *J. Ma* 1600
A Very High Sensitivity RF Pulse Profile Measurement System *J. B. Lai and C. G. Christodoulou* 1616
A Low-Cost Submicrolinear Incremental Encoder Based on 3×3 Fiber-Optic Directional Coupler *H. W. Chow, N. C. Cheung, and W. Jin* 1624
Multidimensional Fitness Function DPSO Algorithm for Analog Test Point Selection *R. Jiang, H. Wang, S. Tian, and B. Long* 1634
An Effective Framework to Evaluate Dynamic Partial Reconfiguration in FPGA Systems *K. Papadimitriou, A. Anyfantis, and A. Dallas* 1642

(Contents Continued on Page 1497)

请阅后放回:

排架号 E151 处



A Novel Technique for Acquisition and Presentation of Complex Vibration Waveforms	K. P. S. Rana, R. Singh, and K. S. Sayann	1652
An FPGA-Integrated Time-to-Digital Converter Based on Two-Stage Pulse Shrinking	R. Szplet and K. Klepacki	1663
An Innovative Method for Thermal Characterization of Automotive Electronic Devices Based on CNNs	L. Fortuna, M. Frasca, and G. M. Rivituso	1671
Metrology, Standards, and Calibration		
An Improved Helical Resonator Design for Rubidium Atomic Frequency Standards	J. Yang, Y. Zhang, X. Li, and L. Li	1678
Nondestructive Evaluation and Remote Sensing		
Wireless Communication and Power Supply Strategy for Sensor Applications Within Closed Metal Walls	H. Zangl, A. Fuchs, T. Bretterklaiber, M. J. Moser, and G. Holler	1686
Depth Evaluation of Shallow Surface Cracks in Metals Using Rectangular Waveguides at Millimeter-Wave Frequencies	A. McClanahan, S. Kharkovsky, A. R. Maxon, R. Zoughi, and D. D. Palmer, Jr.	1693
Optical Instrumentation, Measurement, and Systems		
A Specific Absorption Rate Measurement Method Using Fiber Optic Thermal Sensors	Y. Okano, T. Sato, and Y. Sugama	1705
Sensors, Sensor Fusion, and Transducers		
A Temperature Compensation Circuit for Thermal Flow Sensors Operated in Constant-Temperature-Difference Mode	C. Sosna, R. Buchner, and W. Lang	1715
AC Impedance Model of Array Electrodes in Multisensor Fusion System for Two-Phase Flow Measurement	X. Deng, Y. Chen, Z. Yan, and Z. Wei	1722
Signals, Systems, and System Identification		
Substrate Noise Coupling Mechanisms in Lightly Doped CMOS Transistors	S. Bronckers, G. Van der Plas, G. Vandersteen, and Y. Rolain	1727
High-Sensitivity Tracking of MOSFET Damage Using Dynamic-Mode Transient Measurements	L. J. Passmore, O. O. Awadelkarim, and J. P. Cusumano	1734
