

# IEEE TRANSACTIONS ON INSTRUMENTATION AND MEASUREMENT

A PUBLICATION OF THE IEEE INSTRUMENTATION AND MEASUREMENT SOCIETY



DECEMBER 2016

VOLUME 65

NUMBER 12

IEIMAO

(ISSN 0018-9456)

---

EDITORIAL

Editor-in-Chief's Year-End Message .....	<i>A. Ferrero</i>	2658
Message From the Incoming Editor-in-Chief .....	<i>S. Shirmohammadi</i>	2660

LIST OF REVIEWERS

2016 Reviewers List .....		2662
---------------------------	--	------

REGULAR PAPERS

**Algorithms, Artificial Intelligence, SOFT Computing and Informatics**

A New Method Based on Stochastic Process Models for Machine Remaining Useful Life Prediction .....	<i>Y. Lei, N. Li, and J. Lin</i>	2671
--	----------------------------------	------

**Instrumentation for Measurement in Communications**

A Novel Method for Phase Noise Measurement Based on Cyclic Complementary Autocorrelation ....	<i>M. D'Arco and L. De Vito</i>	2685
---	---------------------------------	------

**Uncertainty Analysis, Accuracy, Precision and Parameter Estimation**

Wavelet-Based Improvements for Inertial Sensor Error Modeling .....	<i>S. Guerrier, R. Molinari, and Y. Stebler</i>	2693
Uncertainty Issues in Direct and Indirect Efficiency Determination for Three-Phase Induction Motors: Remarks About the IEC 60034-2-1 Standard .....	<i>G. Bucci, F. Ciancetta, E. Fiorucci, and A. Ometto</i>	2701
Efficient Implementation of Least Squares Sine Fitting Algorithms .....	<i>B. Renczes, I. Kollár, and T. Dabóczy</i>	2717

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

Detectability of Degraded Joint Discontinuities in HV Power Lines Through TDR-Like Remote Monitoring .....	<i>F. de Paulis, C. Olivieri, A. Orlandi, and G. Giannuzzi</i>	2725
Internal Leakage Detection in Electrohydrostatic Actuators Using Multiscale Analysis of Experimental Data .....	<i>A. Maddahi, W. Kinsner, and N. Sepehri</i>	2734

**Medical and Biomedical Instrumentation and Applications**

Development of a Navigation Tool for Revision Total Hip Surgery Based on Electrical Impedance Tomography .....	<i>Z. Ren and W. Q. Yang</i>	2748
--	------------------------------	------

(Contents Continued on Page 2657)



---

<b>Measurement Techniques</b>	
An <i>In Situ</i> Measurement System for Characterizing Orbital Debris .....	2758
..... <i>M. A. Tsao, H. T. Ngo, R. D. Corsaro, and C. R. Anderson</i>	
A Novel Compensation Algorithm for Thickness Measurement Immune to Lift-Off Variations Using Eddy Current Method .....	2773
..... <i>M. Lu, L. Yin, A. J. Peyton, and W. Yin</i>	
The Effect of Amplitude Modulation on the Axial Resolution of Doppler-Based Ultrasonic Topography Measurement .....	2780
..... <i>J. R. Gatabi, S. Das, and F. Forouzabakhsh</i>	
Minimum Circumscribed Circle and Maximum Inscribed Circle of Roundness Deviation Evaluation With Intersecting Chord Method .....	2787
..... <i>F. Liu, G. Xu, L. Liang, Q. Zhang, and D. Liu</i>	
<b>Networking, Networks and Sensor Networks</b>	
Structure Regularized Traffic Monitoring for Traffic Matrix Estimation and Anomaly Detection by Link-Load Measurements .....	2797
..... <i>Q. Zhang and T. Chu</i>	
<b>Optical Instrumentation, Measurement and Systems</b>	
3-D Reconstruction Algorithm of Flame Based on Inversion Calculation of Thermal Radiation .....	2808
..... <i>Z. Wei, Y. Li, Z. Li, S. Song, and B. Li</i>	
<b>RF, Microwave, Millimeter Wave and Tera-Hertz</b>	
Analysis of Nonideal Effects and Performance in Magnetic Positioning Systems .....	2816
..... <i>V. Pasku, A. De Angelis, M. Dionigi, A. Moschitta, G. De Angelis, and P. Carbone</i>	
<b>Sensors, Sensor Fusion and Transducers</b>	
Simultaneous Lever-Arm Compensation and Disturbance Attenuation of POS for a UAV Surveying System .....	2828
..... <i>M. Zhong, Q. Cao, J. Guo, and D. Zhou</i>	
Fabrication and Characterization of an MOEMS Gyroscope Based on Photonic Bandgap Materials .....	2840
..... <i>C. Trigona, B. Andò, and S. Baglio</i>	
Dynamic Multidimensional Scaling Algorithm for 3-D Mobile Localization .....	2853
..... <i>W. Cui, C. Wu, W. Meng, B. Li, Y. Zhang, and L. Xie</i>	
<b>Signals, Systems and System Identification</b>	
Nonautoregressive Nonlinear Identification of IPMC in Large Deformation Situations Using Generalized Volterra-Based Approach .....	2866
..... <i>M. Annabestani, N. Naghavi, and M. M. Nejad</i>	
2016 INDEXES .....	2873

---