SURVEY/REVIEW PAPER

Built-in Self-Test, Design-for-Testing, Fault Diagnosis and Fault-Tolerance
Tacholess Speed Estimation in Order Tracking: A Review With Application to Rotating Machine Fault Diagnosis .................. S. Lu, R. Yan, Y. Liu, and Q. Wang 2315

SPECIAL SECTION ON THE 2018 IEEE SENSORS APPLICATIONS SYMPOSIUM

GUEST EDITORIAL
Special Section on the 2018 IEEE Sensors Applications Symposium ........................................ G. S. Gupta and V. Bilas 2333

SPECIAL SECTION PAPERS

Acoustics and Ultrasonics Instrumentation and Measurements

Embedded and Low-Power Systems
A Measurement Strategy to Assess the Optimal Design of an RFID-Based Navigation Aid .......................................................... B. Andò, S. Baglio, V. Marletta, R. Crispino, and A. Pistorio 2356

Measurement Techniques
Instantaneous Rotation Speed Measurement System Based on Variable Reluctance Sensors for Torsional Vibration Monitoring .................................. T. Addabbo, M. Di Marco, A. Fort, E. Landi, M. Mugnaini, V. Vignoli, and G. Ferretti 2363

Optical Instrumentation, Measurement and Systems

Sensors, Sensor Fusion and Transducers

(Contents Continued on Page 2313)
Nondestructive Evaluation and Remote Sensing
High-Density Large-Scale TMR Sensor Array for Magnetic Field Imaging ......................... C. Ye, Y. Wang, and Y. Tao 2594

RF, Microwave, Millimeter Wave and Tera-Hertz
Design and Implementation of a High-Sensitivity and Compact-Size IFM Receiver .......... H. Rahimpour and N. Masoumi 2602

Sensors, Sensor Fusion and Transducers
Sensory Fusion of Magnetoinertial Data Based on Kinematic Model With Jacobian Weighted-Left-Pseudoinverse and Kalman-Adaptive Gains ................................................................. M. Mihelj, J. Podobnik, and M. Munih 2610
In Situ Measurement of Oil Slick Thickness ................................................................. M. Saleh, G. Oueidat, I. H. Elhajj, and D. Asmar 2635
3-D Printed Integrated and Automated Electro-Microfluidic Viscometer for Biochemical Applications ................................................................. Puneeth S. B., S. A. Puranam, and S. Goel 2648

SHORT PAPERS

Effects of Mechanical Pressure on the Tangent Delta of MV Cable Joints .... A. Ghaderi, A. Mingotti, L. Peretto, and R. Tinarelli 2656

RF, Microwave, Millimeter Wave and Tera-Hertz
Blind Separation of Doppler Human Gesture Signals Based on Continuous-Wave Radar Sensors ................................................................. Z. Gu, J. Wang, F. Shen, K. Xu, D. Ye, J. Huangfu, C. Li, and L. Ran 2659
Impact of Noise Bandwidth on Noise Figure ................................................................. A. Sheldon, L. Belostotski, G. Messier, and A. Madanayake 2662
Wideband Substrate-Integrated Cavity-Backed Elliptical Slot for Microwave Synthetic Aperture Imaging ................................................................. X. Xingyu and M. A. Abou-Khousa 2665

Sensors, Sensor Fusion and Transducers
A Parallel Attitude-Heading Kalman Filter Without State-Augmentation of Model-Based Disturbance Components ..... J. K. Lee 2668

Virtual Measurements and Systems and Synthetic Instrumentation
Automatic Generation of Synthetic LiDAR Point Clouds for 3-D Data Analysis ........ F. Wang, Y. Zhuang, H. Gu, and H. Hu 2671