

## Table of Contents

Distanced Observation of Magnetic Field Anomalies During Periods of Power Failure and Applications in Remote Classification of Electrical Activity <i>Christopher Duncan, Olga Gkoutouna, and Ron Mahabir</i>	1
Dynamic Mode AFM Measurement of CMUT Diaphragm Deflection Profile <i>Sazzadur Chowdhury</i>	5
Design and Modelling of a Piezoelectric Road Energy Harvester <i>Bin Wei and Rahul Iyer</i>	11
VLC Connected Cooperative Driving <i>Manuel Augusto Vieira, Manuela Vieira, Paula Louro, and Pedro Vieira</i>	17
SAW-based Differential Sensor Exploiting Metalloporphyrins Properties For The Selective Measurement Of Carbon Monoxide <i>Meddy Vanotti, Sacha Poisson, Valerie Soumann, Valentin Quesneau, Stephane Brandes, Nicolas Desbois, Jian Yang, Laurie Andre, Claude P. Gros, and Virginie Blondeau-Patissier</i>	23
Geolocation and Wayfinding in Complex Buildings Using Visible Light Communication <i>Manuela Vieira, Manuel Augusto Vieira, Paula Louro, Pedro Vieira, and Alessandro Fantoni</i>	28
Tuning of Magnetic Properties of Magnetic Microwires by Post-Processing <i>Paula Corte-Leon, Valentina Zhukova, Mihail Ipatov, Juan Maria Blanco, and Arcady Zhukov</i>	34
Surface Acoustic Waves Sensors Based Lithium Niobate And Quartz For Particulates Matter Measurements <i>Fatima-Ezzahraa Dbibih, Valerie Soumann, Jean-Marc Cote, and Virginie Blondeau-Patissier</i>	40
Simultaneous Localization and Communication Methods Using Short-time and Narrow-band Acoustic Signals <i>Masanari Nakamura, Hiromichi Hashizume, and Masanori Sugimoto</i>	42
Polymer Photonic Crystal Membrane for Human Body Thermoregulation <i>Mohamed Boutghatin, Salim Assaf, Michele Carette, Vincent Thomy, Abdellatif Akjouj, Bahram Djafari-Rouhani, and Yan Pennec</i>	49
Bi-Directional Communication Between Infra-Structure and Mobile Device Based on Visible Light Communication <i>Paula Louro, Manuela Vieira, and Manuel Augusto Vieira</i>	52
Multi-Sensor Data Fusion and Artificial Neural Network to Estimate the Velocity of Sportive Turfgrass in Putting Green Areas <i>Lorena Parra, Pedro V. Mauri, Jaime Lloret, Salima Youşfi, and Jose F. Marin</i>	58

A CPW-SIW Planar Dual-Band Antenna for ISM Applications <i>Radhoine Aloui, Zied Houaneb, Hassen Zairi, Fermin Mira, and Ignacio Llamas-Garro</i>	64
Simulation Model of the Integrated Hall Element Implemented in Verilog-A <i>Damjan Bercan and Janez Trontelj</i>	69
Optimization Analysis of the Integrated Micro-coil Geometry Parameters Influence on the Uniformity of the Magnetic Field Distribution <i>Miha Gradisek and Janez Trontelj</i>	75
On Wafer Characterisation of the Analog Anisotropic Magnetoresistance Sensor <i>Janez Trontelj ml.</i>	80
Inverse Convolution Method for Periodic Media Under Deterministic and Stochastic Condition <i>Xuefeng Li, Mohamed Ichchou, Abdelmalek Zine, Noureddine Bouhaddi, and Christophe Droze</i>	84
Device for Hemodynamic Parameters Measurement in Veterinary Medicine of Small Animals <i>Jan Havlik and Jakub Vitacek</i>	86
Performance Evaluation of High-Accuracy Time Synchronization Sensor Device Using Indoor GNSS Time Information Delivery System for Structural Health Monitoring of Buildings and Civil Infrastructures <i>Narito Kurata, Tsutomu Sano, Makoto Ishii, Satoru Ishida, and Masaki Tanaka</i>	90
Comparison Between Electrical Impedance and Optical Spectroscopy for a Field Soil Analysis <i>Olga Chambers and Janez Trontelj ml.</i>	97
Monitoring Outdoor Air Quality Using Personal Device to Protect Vulnerable People <i>Luca Rampini and Fulvio Re Cecconi</i>	103
Elemental GMR Sensors for Neuromorphical Applications <i>Jorge Gomez, Candid Reig, Maria-Dolores Cubells-Beltran, Fernando Pardo, Jose-Antonio Boluda, Francisco Vegara, Sofia Abrunhosa, and Susana Cardoso</i>	109