Progress
In
Electromagnetics
Research M
Progress
In
Electromagnetics
Research M

Chief Editors: Weng Cho Chew and Sailing He

EMW Publishing
Cambridge, Massachusetts, USA
CONTENTS

Terminal Response of Twisted-Wire Pairs Excited by Nonuniform Electromagnetic Fields
Panagiotis J. Papakanellos and George P. Veropoulos ........................................... 1

Numerical Method of Computing the Impedance of a Twin High Current Busduct of Rectangular Hollow Conductors
Joanna Kolanska-Pluska, Pawel Jablonski, and Zygmunt Piatek ............................... 9

Accurate Method to Estimate EM Radiation from a GSM Base Station
Qing Qing He, Wan Chun Yang, and Yan Xia Hu ...................................................... 19

Accurate and Fast Extraction of the Bloch Eigenmodes of Fiber Gratings
Amir M. Jazayeri ........................................................................................................ 29

Parametric Instability of Surface Electron Cyclotron TM-Modes
Volodymyr O. Girka and Vitalii V. Iarko ................................................................. 39

Calculation Absorption Coefficient of a Weak Electromagnetic Wave by Confined Electrons in Cylindrical Quantum Wires in the Presence of Laser Radiation by Using the Quantum Kinetic Equation
Nguyen T. T. Nhan and Nguyen V. Nhan ................................................................. 47

A Quantitative Evaluation Method of Ground Control Points for Remote Sensing Image Registration
Wenting Ma, Jian Yang, Xia Ning, and Wei Gao ....................................................... 55

Designing Plane Wave Modulators Using 1DPC Nanostructure with r-GRIN Defect Layer
Kazem Jamshidi-Ghaleh and Farzaneh Bayat ........................................................... 63

On Solution for the Longitudinal Electromagnetic Waves Derived from the Jefimenko Wave Equation and Its Application to Wireless Power Transfer
Vladimir Onoochin .................................................................................................... 73

Coplanar-PGL Transitions on High Resistivity Silicon Substrate in the 57–64 GHz Band and Influence of the Probe Station on the Performances
Marjorie Grzeskowiak, Julien Emond, Gaelle Lissorgues, Stephane Protat, Frederique Deshours Elodie Richalot and Odile Picon ............................................................... 79

Energy Characteristics of a Slot Cut in an Impedance End-Wall of a Rectangular Waveguide and Radiating into the Space over a Perfectly Conducting Sphere
Sergey L. Berdnik, Victor A. Katrich, Yuriy M. Penkin, Mikhail V. Nesterenko and Svetlana V. Pshenichnaya ................................................................. 89

Design of Miniature Coil to Generate Uniform Magnetic Field
Nilangshu K. Das, Parthasarathi Barat, Soumak Dey, and Tammana Jayakumar ....... 99
Analysis of Scattering from Dielectric Rough Surfaces by Hybrid FEM/BIE
Runwen Xu, Lixin Guo, and Xiao Meng ................................................................. 107

Ultra-Wideband Antenna Arrays: Systems with Transfer Function and Impulse Response
Yvan Duroc ........................................................................................................... 117

A ‘Maximum Entropy’-Based Novel Numerical Methodology for Problems in Statistical Electromagnetics
Kausik Chatterjee ............................................................................................... 125

Synthesis of Simultaneous Multiple-Harmonic-Patterns in Time-Modulated Linear Antenna Arrays
Sujit K. Mandal, Gautam K. Mahanti, and Rowdra Ghatak ............................... 135

Full-Wave Analysis of Anisotropic Circular Microstrip Antenna with Air Gap Layer
Sami Bedra, Randa Bedra, Siham Benkouda, and Tarek Fortaki ......................... 143

Electric and Magnetic Fields Due to Massive Photons and Their Consequences
Arbab I. Arbab .................................................................................................... 153

Flat Far Field Lenses and Reflectors
Miguel Ruphuy, Zhao Ren, and Omar M. Ramahi ............................................ 163

Analytical Optimization of High Performance and High Quality Factor MEMS Spiral Inductor
Parsa Pirouznia and Bahram Azizollah Ganji .................................................... 171